Marine Corps Air Station Beaufort
Lowcountry Council of Governments

Joint Land Use Study 2015

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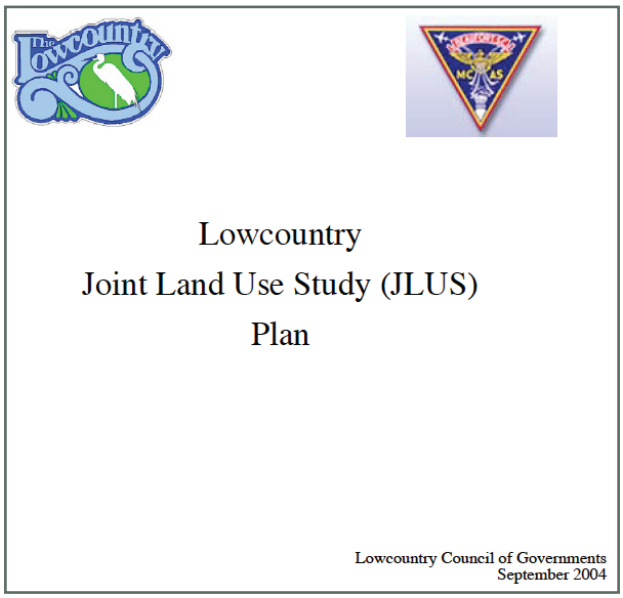
Executive Summary

I. What is a Joint Land Use Study?

Joint Land Use Studies help military communities and military installations become aware of the impacts they have on each other and become accustomed to collaborating with each other on land use issues. The Studies also develop strategies for each to use in order to lessen those impacts for the greater good. These strategies help both groups ensure that land uses around the installation are compatible with the mission, which is important for the installation's longevity, as well as for the economy of the local community and the safety and quality of life of civilians. The Study does not require local communities to adopt any particular tool but rather summarizes the options available should they wish to put any into place.

The Department of Defense's Office of Economic Adjustment (OEA) funds Joint Land Use Studies, with a financial contribution by the local community and an administering agency, which, in this case, is the Lowcountry Council of Governments (LCOG). After a formal bid process, the LCOG selected White & Smith Planning and Law Group, with partners Marstel-Day, LLC and Benchmark CMR, Inc. (the "JLUS Project Team"), to complete the Study for MCAS Beaufort. This JLUS was developed between March 2014 and March 2015.

This JLUS report is the result of an extensive public planning process conducting through local planning processes during


Lowcountry
Joint Land Use Study (JLUS)
Plan

Lowcountry Council of Governments
September 2004

that time. It involved Beaufort County, the City of Beaufort, and the Town of Port Royal (the "JLUS Jurisdictions"), Marine Corps Air Station Beaufort, the Lowcountry Council of Governments, and other key stakeholders, and sought the input of the public at large. A Policy Committee and a Technical Committee oversaw the Study. A JLUS for nearby Marine Corps Recruit Depot Parris Island was prepared simultaneously and resulted in a separate JLUS Study.

A Joint Land Use Study was completed for the Air Station in 2004 with the support of the JLUS Jurisdictions in order to promote compatible land uses around MCAS. That JLUS resulted in several protective measures being put into place, such as the adoption of airport overlay districts by all of the JLUS Jurisdictions to limit incompatible development near the installation, and the adoption of a Transfer of Development Rights (TDR) program by Beaufort County to divert some development potential away from the installation. This JLUS builds on that earlier study, taking into account expected future impacts, and makes additional recommendations about initiatives the installation and each JLUS Jurisdiction could take to further protect the mission of the Air Station if they desire to do so.

II. Goals and Objectives of the 2015 MCAS Beaufort Joint Land Use Study

The primary *goal* of a Joint Land Use Study is to preserve long-term land use compatibility between the military installation and the local communities. This provides a mutual benefit to both groups by helping to protect the mission of the installation and by ensuring that the installation's impacts on the surrounding communities are as minimal as possible.

The primary *objectives* of this Joint Land Use Study were to:

A. Increase Awareness

One objective was to provide a forum for those who collaborated on this Study—military officials, local governments, and other members of the public and private sectors—to develop an increased understanding and appreciation of the needs and plans of the other.

B. Encourage Collaboration

Many of the Study's recommendations involve cooperative efforts by both MCAS Beaufort and the local communities. Therefore, another objective of the Study was to encourage these groups to collaborate on its development in order to make it easier for them to collaborate on other issues in the future.

C. Maintain or Augment Land Use Compatibility

A third objective was to develop strategies that both MCAS Beaufort and the local communities could use to further protect the mission of the Air Station and local quality of life.

It is hoped that in meeting these three objectives—increasing awareness, encouraging collaboration, and providing strategies for maintaining or augmenting land use compatibility—this Study will provide guidance to the installation and local communities about how they can work together to protect the best interests of all.

III. What's Happening At and Around MCAS Beaufort?

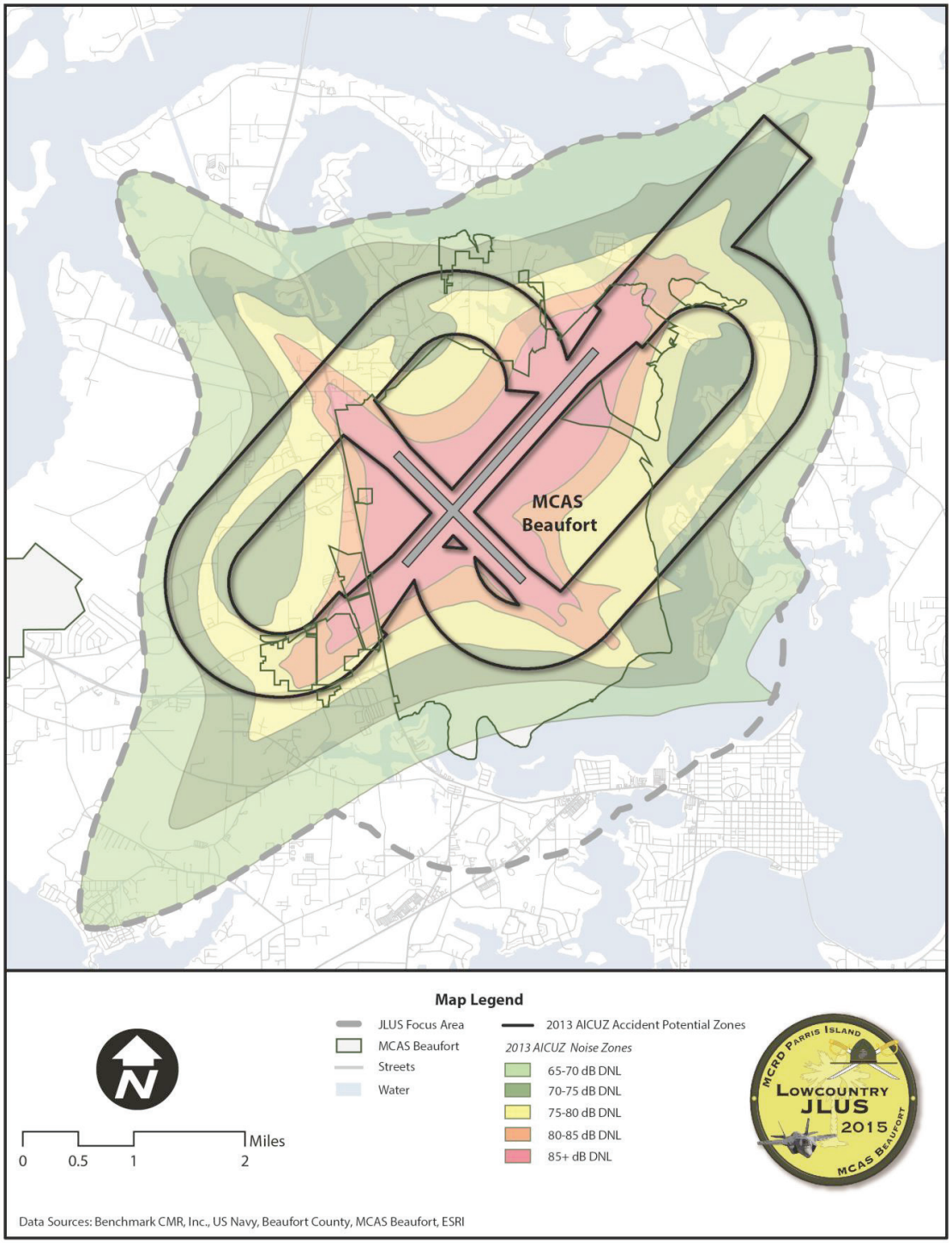
MCAS Beaufort is located off the coast of South Carolina in Beaufort County. The installation includes three components: a 6,949-acre main site and the 971-acre Laurel Bay Family Housing area, both located within the boundaries of the City of Beaufort, and the 5,183-acre Townsend Bombing Range (TBR), an air-to-ground bombing range located in McIntosh County, Georgia. Locally, along with MCRD Parris Island and the Naval Hospital Beaufort, MCAS Beaufort is part of the Tri-Command Installations. The Air Station was annexed into the City of Beaufort in 1999.

Nicknamed "Fightertown East," the Air Station has major strategic value to the Marine Corps. It currently hosts all Marine Corps F/A-18 air operations on the East Coast, serving as an operational base for Marine Aircraft Group 31 (MAG-31). In 2010, the Department of the Navy choose the installation to host three F-35B Joint Strike Fighter (JSF) operational squadrons and a Pilot Training Center (PTC). Specifically, 88 F-35B aircraft were proposed to replace the 84 authorized Marine Corps F/A-18s and the 24 other aircraft at MCAS Beaufort. This transition began in 2014 and is expected to be complete by the mid-2020s.

Aircraft traffic and its associated impacts, such as noise and accident potential, are expected to increase as a result of this change. While much land use in the immediate area of the Air Station is rural, with low-density residential uses, or is undeveloped, in some cases, nearby land uses may be considered incompatible with the impacts associated with accident potential zones and noise zones. Many of these impacts can be mitigated, however, by incorporating noise level reduction standards into new construction, which is already required.

The installation and local communities already use a variety of methods to address issues of encroachment. For example, the installation has worked to preserve more than 3,000 acres of land from development, and all three of the JLUS Jurisdictions have adopted AICUZ ordinances that contain airport overlay districts that require compatible development near the Air Station. Additionally, Beaufort County has developed a Transfer of Development Rights (TDR) program to provide for the reduction of development potential within the areas of military influence around the Air Station.

This Study considers what options are available to the installation and the local communities to further protect the mission of MCAS Beaufort from incompatible land uses if they choose to do so.



Combined 2013 AICUZ Aircraft Operational Impacts

IV. Joint Land Use Study: an Overview

The JLUS report contains six chapters and a series of Appendices. Each is described briefly here.

Chapter 1: Purpose and Process

Chapter 1 explains the purpose of the Joint Land Use Study and the process that was used to develop this report. It also gives an overview of the entire report.

Chapter 2: Background

In order to inform the land use compatibility analysis in the next chapter, Chapter 2 gives background about MCAS Beaufort's operations and prior efforts at addressing issues of encroachment, as well as general information about what those issues of encroachment are.

The Marine Corps currently takes steps to mitigate its noise impacts on the community, and will continue to do so with the introduction of the F-35B. Mitigation currently includes:

- **Avoidance of prolonged periods of high-powered run-ups;**
- **Adherence to FAA regulations to maintain minimum altitudes; and**
- **A noise complaint/inquiry program.**

Chapter 3: Land Use Compatibility Analysis

This Chapter reviews issues of compatibility between MCAS Beaufort and the lands within the JLUS Focus Area. The two greatest impacts are in the areas of aircraft noise and accident potential, although other impacts include small arms noise, surface danger, and safety related to the storage of munitions and the operations of the Air Station's demolition range.

Chapter 4: MCAS Beaufort and the Community: The Road Ahead

Chapter 4 looks at how the transition to the F-35B aircraft will affect the local communities, and how future growth and development within the local communities will affect the Air Station. This informs the strategies and tools that are described and prioritized in the next two chapters.

Chapter 5: Existing Policies and Available Tools

Chapter 5 summarizes the South Carolina statutes that give local governments the authority to plan for and to regulate land use. It also summarizes possible new legislation that could affect local land use planning in the future. The Chapter then lists the common types of land use regulations used by the state's military communities and summarizes the particular tools that each of the JLUS Jurisdictions has chosen to use to date to encourage compatible land uses around the Air Station.

Chapter 6: JLUS Implementation Plan

This Chapter prioritizes several land use tools that the JLUS Jurisdictions may wish to employ to encourage ongoing compatibility with the Air Station. This prioritization is based on input from the stakeholders, the public at large, and the recommendations of the JLUS Policy Committee. An Implementation Matrix describes each tool, the likely parties that would be responsible for adopting and administering it, and its expected implementation timeframe.

Appendices

The Appendices include the public survey taken during the study; an overview of the existing airport overlay zones for each JLUS Jurisdiction; a "Strengths, Weaknesses, Opportunities, and Threats" (SWOT) Analysis conducted to identify key areas of need; notes from the public meetings, public comments received during the Study, and a series of policy recommendations designed to increase activity in Beaufort County's TDR program.

V. Implementation Strategies Identified in the JLUS

The gradual shift from the F-18 as the primary training aircraft to the F35-B will create different noise impacts on the off-base community. However, this gradual shirt also means that the mission of the Air Station is more important than ever, as it is the only host for this aircraft on the East Coast. Therefore, the JLUS Policy Committee has identified several strategies that the Air Station, the JLUS Jurisdictions, and other key stakeholders could use to mitigate current land use compatibility issues where they exist and to further ensure compatible land use around the installation in the future.

It will be up to each community to decide which particular tools are appropriate to protect MCAS from encroachment after additional public deliberation on the question. The process typically follows the joint land use study process and will provide an opportunity for stakeholders to participate in the crafting of recommended implementation tools to ensure their appropriate to each of the jurisdictions affected.

The following chart summarizes the tools that the Policy Committee recommended for consideration following the study, which are discussed in greater detail and included in the "JLUS Implementation Matrix" in Chapter 6.

Category	Implementation Tool or Activity	0-2 Years	2-5 Years	More Than 5 Years
Community-wide Coordination	Form JLUS Implementation Committees	✓		
	Establish JLUS website and social media pages	✓		
	Supplement existing communication outlets	✓		
	Monitor impacts by and to base	✓	✓	✓
	Formalize coordination between base and utilities; update JLUS as needed	✓	✓	✓
	Research key land use issues	✓	✓	✓
Military Outreach	Hold open house and workshops; MCAS to attend local government meetings	✓	✓	✓
	Evaluate noise complaint program	✓	✓	✓
	Monitor impacts of the installation on local schools.	✓	✓	
	Inform community of flight patterns	✓	✓	✓
	Coordinate with small business	✓	✓	✓
	Coordinate with economic development agencies	✓	✓	✓
Land Use Planning & Environmental Resources	Monitor environmental impacts	✓	✓	✓
	Update JLUS Jurisdictions' Comprehensive Plans	✓	✓	
	Update growth and annexation policies		✓	
Military-Local Government Coordination	Amend overlay ordinances to codify requirement to notify installation prior to specific land use changes	✓		
Amendments to Existing Overlay Ordinances	Update overlays with updated F-35B noise zones	✓		
	Evaluate expansion of performance standards beyond current overlay boundaries	✓		
	Evaluate "family compound" exemption	✓		
	Increase awareness about disclosure forms	✓		
	Create interim disclosure areas during transition to F-35B	✓	✓	✓
	Confirm local building departments are complying with disclosure requirements; alternatives for enforcement	✓		
	Evaluate possible disclosure/notice for manufactured homes	✓		
Transferable Development Rights (TDR) Program	Identify and fund agency to administer TDR program	✓		
	Direct funds from 2009 Military Base Task Force grant to identified agency for implementation activities	✓		
	Establish a TDR Bank	✓		
	Identify and publicize point of contact for TDR program	✓		
	Make TDR forms, applications, and implementation material publicly available	✓		

The tools are organized under the following broad categories.

A. Community-Wide Coordination

Because the coordination of land use issues by multiple local governments and the Marine Corps is a complex process, the JLUS Policy Committee found it important that any succeeding implementation process include input at the Policy Level, Technical Level, and Citizen Input throughout. Therefore, similar to the process used during the JLUS process, Chapter 6 recommends a Policy Level committee to guide implementation, with the expert support of a Technical Level Committee. However, building on the JLUS process, Chapter 6 establishes channels for citizen input through the existing Metropolitan Planning Commission, created since the 2004 Joint Land Use study for the Air Station.

B. Military Outreach

In addition to the collaborative efforts with the local communities, the Study identified several measures that MCAS Beaufort could use to augment communication with the local governments and various segments of the citizenry on its own. These include the use of open houses, evaluating opportunities to ensure its noise complaint process is user-friendly and responsive, to keep the community informed of ongoing mission impacts or anticipated changes, and further outreach to the business and economic development communities.

All communication by the installation should help the public better understand its mission and operations, and should help the installation better understand the concerns and questions of the public – in a timely manner. It is anticipated that this will perpetuate an ongoing relationship of mutual respect and sensitivity between the groups that has existing historically.

C. Land Use Planning & Environmental Resources

MCAS Beaufort also may wish to further address land use compatibility from its end to the extent possible. For their part, the local jurisdictions may consider including information from this Study in their next Comprehensive Plan updates, which are done every five years in South Carolina. Comprehensive Plans in the state are not regulatory in nature but rather serve as a vision for the community for its future growth and development. Incorporating information from the Joint Land Use Study, particularly pertaining to its recommendations regarding new programs, policies, and regulations, would help this vision encourage compatibility between the local communities and MCAS Beaufort.

The local governments may also consider updating their growth and annexation policies to ensure that they are compatible with the mission at MCAS Beaufort. Finally, the Policy Committee felt it important that the Air Station continue to monitor any on- or off-base impacts on the natural environment and natural resources.

D. Military-Local Government Coordination

The local jurisdictions also may consider amending their overlay ordinances to codify the requirements of the state's Federal Defense Facilities Utilization Integrity Protection Act, which mandates that local governments provide notice to military installations in advance of making certain land use decisions within 3,000 feet of their boundaries. During the Study it appeared that this level of coordination already is occurring, but the Policy Committee recommends codification of the process and the criteria for military review and comments.

E. Existing Overlay Ordinances

The local jurisdictions may consider making several substantive changes to their existing overlay districts in addition to incorporating the mandatory notice provision mentioned above. The most notable, of course, is updating existing maps to reflect the noise contours associated with the incoming F-35B squadrons. Also, the Policy Committee recommended consideration by the JLUS Jurisdictions of adopting consistent height and intrusion regulations (*see* "Prohibited Impacts" and "Height Restrictions," in Appendix B, "Current Marine Corps Air Station Overlay District Regulations, by Jurisdictions"). Finally, finding it important to maintain for policy reasons the family compound exemption currently in the overlays, the Committee, felt is also important to monitor the impact of that exemption on compatibility and safety over time.

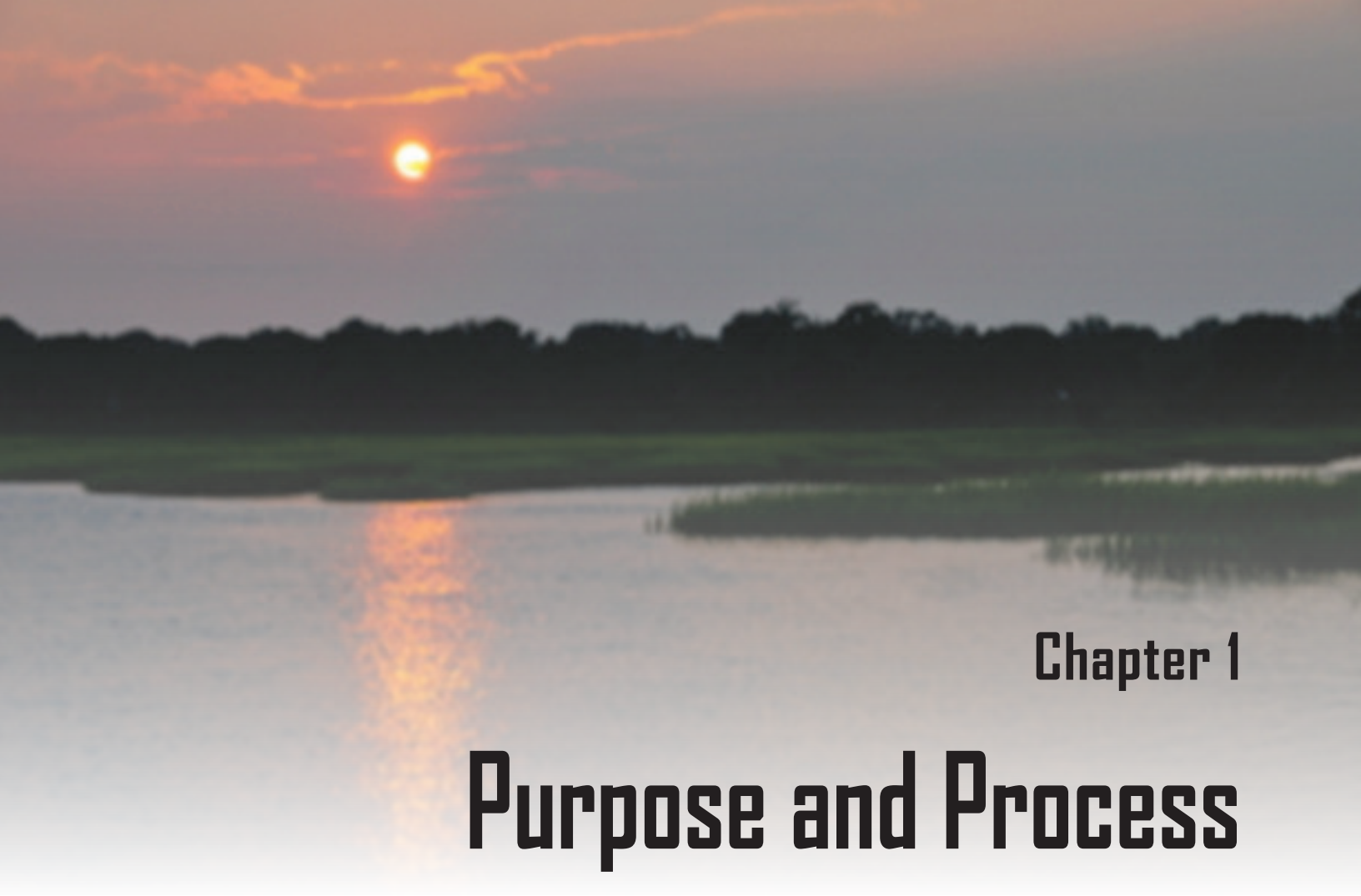
With respect to the existing real estate disclosure requirements, the Committee emphasized enforcement and awareness in the community to ensure that the requirements in this regard, which were adopted in 2006, are being properly complied with by the local real estate community and the JLUS Jurisdictions.

F. Transferable Development Rights (TDR)

Beaufort County adopted a Transferable Development Rights program in 2011; however, since that time, not TDRs had been purchased or transferred. Therefore, as part of this project, the JLUS Project Team identified tools to effectuate (a) full implementation; and (b) increased incentives for activity.

Key among these tools is the designation and funding of an agency to oversee the program and to establish the TDR Bank. The communities have funds available through a state grant in 2009 for implementation activities, which also should include identifying and publicizing a point of contact for the program and making forms and applications publicly available. These forms and applications were prepared as part of this project.

In addition to the implementation framework described in Chapter 6, Appendix F includes detailed recommendations for "jump starting" the TDR program and encouraging participation by the community.



Chapter 1

Purpose and Process

Chapter 1 will familiarize the reader with:

- how Joint Land Use Studies are conducted in military communities nationwide
- the goals and objectives of this JLUS
- the community planning process and outreach efforts undertaken to accomplish this JLUS
- the JLUS Focus Area and the lands covered by the study
- the major components of the final JLUS report

This Joint Land Use Study (JLUS), developed between March 2014 and March 2015, is for the Marine Corps Air Station Beaufort. The Study examined land use compatibility between the Air Station and nearby local communities—primarily, Beaufort County and the City of Beaufort, but also the Town of Port Royal (the JLUS Jurisdictions).

The primary impacts on the community from the Air Station include aircraft noise and accident potential, while the primary impact on the Air Station from the community include future growth and development in it vicinity. However, both the Air Station and the local communities have taken significant steps in the past to protect each other from these impacts, including adoption by all three JLUS Jurisdictions of an overlay zone that limits land uses within the Air Station's impact areas to compatible land uses with appropriate noise level reduction construction.

This JLUS was prepared pursuant to a joint planning process that also resulted in a JLUS for the Marine Corps Recruit Deport Parris Island. That process resulted in a separate published study for each installation.

The Study, nonetheless, includes a prioritized list of additional tools available to ensure ongoing compatibility as a new mission is gradually established at Marine Corps Air Station Beaufort.

I. What is a Joint Land Use Study?

Joint Land Use Studies help military communities and military installations become aware of the impacts they have on each other, and they help develop strategies for each to use to lessen those impacts for the greater good. This helps both groups ensure that land uses around the installation are compatible with its mission. Collaborating on land use issues also helps protect the safety of citizens and ensures that they are able to maintain a good quality of life over time.

In the past, military installations were usually located in rural areas, so impacts by the installation on the local communities, and vice versa, were of lesser scope than they often are today, when suburban and urban development has inched ever closer to the installations. Communities across the country have turned to Joint Land Use Studies for help in addressing this change.

Since 1985, more than 100 Joint Land Use Studies have been completed and more than 50 currently are underway around the country. The Lowcountry Council of Governments conducted a Joint Land Use Study for the Marine Corps Air Station Beaufort in 2004 that serves as a precursor to this Study.

The Department of Defense's Office of Economic Adjustment (OEA) funds Joint Land Use Studies, with a financial contribution by the local community and an administering agency, which in this case is the Lowcountry Council of Governments (LCOG). After a formal bid process, the LCOG selected White & Smith Planning and Law Group, with partners Marstel-Day, LLC and Benchmark CMR, Inc. (the "JLUS Project Team") to complete the Study for MCAS Beaufort.

This JLUS report is the result of an extensive, year-long public planning process in the local communities. Local stakeholders, landowners in the Study area, and the public at large all had many opportunities to give input into the plan. A list of stakeholders interviewed during the Study as well as general information about the Study's public outreach campaign are provided below.

This report provides relevant background information in terms of demographics and land uses in the Study area, identifies potential land use conflicts there, and develops and prioritizes tools that the local communities and MCAS Beaufort can use to encourage compatibility between civilian land uses and the military operations. The Joint Land Use Study does not require local communities to adopt any particular tool but rather summarizes the options available should they wish to put any into place. The JLUS Policy Committee recommended an implementation framework, set out in Chapter 6, to facilitate community dialogue after the JLUS and prior to the development or adoption of any particular tool.

II. Study Goals and Objectives

According to the Office of Economic Adjustment, the dual objectives of Joint Land Use Studies are:

- To encourage cooperative land use planning between military installations and the surrounding communities so that future growth and development are compatible with military missions; and
- To seek ways to reduce the operations' impacts on adjacent land.

The Studies meet these objectives by cataloguing existing and potential land use compatibility issues between an installation and local communities, identifying prospective tools they could use to overcome or reduce any identified incompatibilities, and creating a plan for the future coordination of land use issues.

The JLUS for MCAS Beaufort was designed with these particular outcomes in mind:

A. Increase Awareness

Paramount to future collaborative efforts between the Air Station and local communities is for each to have an understanding and appreciation of the needs and plans of the other. For example, a sensitivity to the operations and mission of MCAS Beaufort by the local communities will help inform decisions they make that could affect the installation. Likewise, an understanding of the effects it has on the local communities, as well as expected future growth patterns in the area, will help the Air Station make decisions about its operations going forward. For these reasons, the JLUS process involved a year collaborative planning by military officials, local governments, and other members of the pubic and private sectors.

B. Encourage Collaboration

Many of the tools that MCAS Beaufort and the local communities have available to ensure continued land use compatibility involve cooperative efforts by both. For this reason, the process of developing the Study intentionally encouraged collaboration among stakeholders, including the Marine Corps, to lay a foundation for additional collaborative efforts in the future. For the same reason, some of the recommendations of the Study are intentionally designed to encourage ongoing collaboration between the installation and local communities.

C. Maintain or Augment Land Use Compatibility

The JLUS examines issues of land use compatibility between MCAS Beaufort and the local communities in order to develop additional strategies that both could use to further protect the mission of the Air Station and local quality of life. Joint efforts to ensure as much compatibility between the military and civilian uses as possible will be important as the base transitions to the F35-B aircraft over roughly the next decade.

III. The JLUS Focus Area

In order to focus the scope of their compatibility analyses, the JLUS Committees established a Focus Area, shown in Figure 1-1. The JLUS Focus Area is based upon the known military operational impacts that the participating communities have identified through the 2013 AICUZ Study, the 2003 AICUZ Study, the 2004 Joint Land Use Study, and local knowledge of land use, growth patterns and military operational impacts.

The Focus Area covers lands within the 65 dB+ DNL noise contour as established in the 2013 AICUZ, as well as those areas that fall within one mile of the Air Station boundary but outside of the 65+ dB DNL noise contour, where it falls less than one mile from the boundary. The JLUS Focus Area includes lands that are regulated in terms of land use by both Beaufort County and the City of Beaufort.

Figure 1-1: **MCAS Beaufort Joint Land Use Focus Area**

IV. The JLUS Process

The development of this Study was a year-long community undertaking. Between March 2014 and March 2015, members of MCAS Beaufort and representatives from several local governments (primarily the JLUS Jurisdictions but also Hilton Head Island and the Town of Bluffton), utilities, governmental agencies, business groups, and environmental groups, came together to discuss issues of land use compatibility and the base. Two Steering Committees—the Policy Committee and the Technical Committee, the members of which are identified in the Acknowledgement section of this report—were formed to help guide the discussion. In addition to these key stakeholders, the public gave input into the Study through a series of public meetings, which are described below. The notes from these meetings are included in Appendix D.

The Joint Land Use Study process included three major components, which are described below: an evaluation of existing conditions; a land use compatibility analysis; and the development of the study and implementation options. The JLUS Project Team (White & Smith Planning and Law Group, Benchmark Planning, and Marstel-Day, LLC), at the direction of the Steering Committees, facilitated the completion of each component using input by key community stakeholders and the public at large.

A. Evaluation of Existing Conditions

The Evaluation of Existing Conditions included site visits, background document review, and meetings with the public and key stakeholders in the community and at MCAS Beaufort. The JLUS Project Manager identified the Study's stakeholders, who were interviewed by the JLUS Project Team between March 17 and 20, 2014.

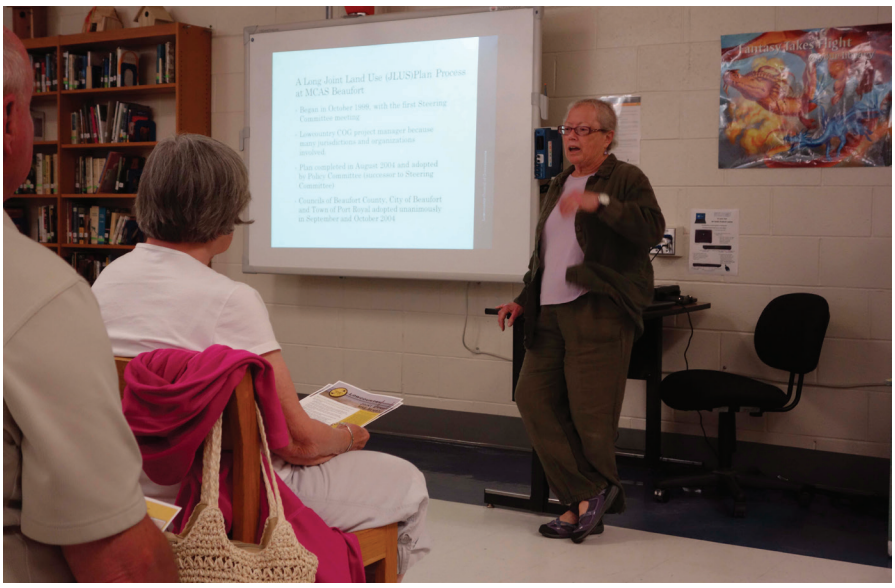
Additionally, the Project Team conducted a Public Survey in order to better understand the public's view of MCAS Beaufort and its role in the community. The JLUS Project Team kicked off the survey using a live-polling exercise during the first public kick-off meeting on May 22, 2014. Members of the public entered their responses to questions electronically and were able to view the responses of others in real time. In addition to being conducted during the first kick-off meeting, the survey was available for completion in hardcopy form and online at the project website through July 31, 2014.

Ginnie Kozak, the JLUS Project Manager, also met with the City of Beaufort Neighborhoods Association to familiarize neighborhood leaders with the survey and to distribute it in hardcopy to those in attendance. The survey also was available through several churches in the JLUS Focus Area and through local media, including the Beaufort Gazette and the Gullah Sentinel. Local civic organizations including the Rotary Club, Exchange Club, AAUW (Beaufort Chapter), and the Lady's Island Business and Professional Association, also were contacted directly to ensure their members were aware of the survey and of the JLUS process. Finally, the surveys were made available in hardcopy at the County libraries and a link to the survey was provided on the County library website. The full results of the Survey are presented as Appendix A.

The JLUS Project Team also performed a SWOT (Strengths, Weakness, Opportunities, and Threats) Analysis during this initial stage of the Study, which is included as Appendix C. SWOT Analyses are used to evaluate how internal and external factors affect an organization's objectives, in this case, compatible land use associated with MCAS Beaufort. The SWOT analysis established the foundation for the recommendations set forth in Chapter 6, by allowing the Project Team to match available land use tools with those the Steering Committees and public felt most likely to be appropriate in this specific context.

B. Land Use Compatibility Analysis

The JLUS Project Team prepared a Land Use Compatibility Analysis for the lands within the JLUS Focus Area, which is set forth in Chapter 3 of the Study. The analysis examines the current and future state of compatibility between operations occurring at MCAS Beaufort and civilian land use and development activity in its immediate vicinity. It summarizes the known impacts of MCAS Beaufort on the surrounding communities, which primarily include aircraft noise and accident potential zones,



although some issues related to small arms noise, surface danger, and safety relative to the storage of munitions and operation of the Air Station's demolition range are also reviewed.

C. Development of the Study and Implementation Options

The third phase of the Study used the background information collected about the communities and the analyses described above to develop options for the JLUS Jurisdictions to consider if they wish to further protect MCAS Beaufort from encroachment and the community from Air Station impacts. The available options range from the regulatory (for example, augmented overlay zoning) to the non-regulatory (for example, purposeful communication initiatives). A spectrum of options is presented to give the local communities a complete picture of alterative ways to address land use compatibility issues. Each community will individually decide which, if any, are appropriate for it to adopt in the future, most likely, through the implementation framework recommended by the JLUS Policy Committee.

V. The JLUS Public Outreach Campaign

As mentioned above, the JLUS process sought feedback from not only key stakeholders but also general community members who impact and whom MCAS Beaufort impacts, such as nearby residents, business owners, landowners, and other interested parties. Therefore, the components of the public outreach campaign involved not only stakeholder interviews, but also public meetings, informational brochures, a project website, and a Facebook page.

A. Stakeholder Interviews

The JLUS Project Team held a series of one-on-one, face-to-face interviews with key community stakeholders between March 17 and 20, 2014, and by teleconference at different times in order to accommodate participant availability and schedules. Among those interviewed were:

- Beaufort County
- City of Beaufort
- Town of Port Royal
- Marine Corps Recruit Depot Parris Island
- Marine Corps Air Station Beaufort

- Beaufort Jasper Water & Sewer Authority
- SCANA/SCE&G
- Beaufort Regional Chamber of Commerce
- Beaufort County Association of Realtors
- Developer, Real Estate, and Finance Stakeholders
- Coastal Conservation League
- Beaufort County Open Land Trust
- Lowcountry Economic Alliance
- Town of Bluffton
- Town of Hilton Head Island

B. Public Meetings and Input

The Project Team held three public input meetings during the development of the Study. Each of the public outreach meetings was advertised in the local media (including on radio stations WSAV and WJCL), the project website, and the project Facebook page.

The first public kick-off meeting took place on May 22, 2014, at Battery Creek High School. During this meeting, the Project Team explained to the public the purpose of conducting the Joint Land Use Study, the process that would be used to complete it, and the products that would result from it. The Project Team also explained the opportunities that would occur throughout the process for the public to give input into the Study, which, as aforementioned, started during the meeting with a live-polling exercise, and the ways that those who were interested could keep apprised of the status of the Study over the coming months.

On November 20, 2014, the second public input session took place at the Technical College of the Lowcountry on Ribault Road in Beaufort. The JLUS Project Team presented a history of military planning in the community, the results of the Public Survey, the initial MCAS Beaufort Land Use Compatibility Analysis, and an overview of regulations adopted by the JLUS Jurisdictions following the 2004 Joint Land Use Study at MCAS Beaufort. An opportunity for public comment also was provided and good public input was received.

Public meetings were held throughout the development of the study to educate the community about the purpose of the JLUS and to seek public input about land use compatibility and other issues.

A final community workshop was held on March 19, 2015 in an open house format at the Shed in Port Royal. Tables and information stations were set up for both the Air Station JLUS and the Marine Corps Recruit Depot JLUS, for which a separate Joint Land Use Study also was being finalized.

Members of the JLUS Project Team, the Policy Committee, and the Technical Committee were on-hand to discuss the public review draft of the Joint Land Use Study one-on-one with those in attendance. The Team also invited additional written comments for the benefit of the Policy Committee, which was to meet the following week." A number of additional comments were received and provided directly to the Policy Committee prior to its final meeting on March 27, 2015, at which it recommended final changes and finalized the JLUS report.

Following each public outreach meeting, presentation materials and meeting notes were posted to the project website. The notes from these meetings, including comments received, are included as Appendix D.

In addition to the general public outreach meetings, the local JLUS Project Manager, Ginnie Kozak of the LCOG, met with the City of Beaufort's Neighborhood Association in July 2014 to make sure that neighborhood leaders were familiar with the JLUS process and aware that the Public Survey was available for completion. About 25 people attended that meeting.

Throughout the Study, the public was invited to provide additional written input to the JLUS Project Manager at anytime. This afforded the public time to submit more detailed comments, as well as an opportunity for those who were unable to attend a particular meeting to provide direct input. The project website and Facebook page (which are described below) invited such additional written input, as did the JLUS Project Team leader, Tyson Smith, at each public input session. The written comments submitted by the public to the Project Team are included here as Appendix E.

This public input informed the SWOT Analysis, included as Appendix C, and the recommendations of the Policy Committee, which are set forth Chapter 6.

C. Informational Brochures

The Project Team prepared and distributed two informational brochures during the Study. The first introduced the community to the JLUS process and outlined what it could expect from the Joint Land Use Study effort. This brochure was distributed at the public kick-off meeting on May 22, 2014, and was made available on the project website throughout the Study.

At the conclusion of the JLUS, a second informational brochure was prepared to give an overview of the final report, direct the reader to other available JLUS resources, and define the next steps for the community.

The brochures were made available to the JLUS Jurisdictions and agency representatives on each of Policy and Technical Committees, and were made publicly available on the project website, as well as in hardcopy form upon request.

LOWCOUNTRY JOINT LAND USE STUDY

WHAT IS THE LOWCOUNTRY JOINT LAND USE STUDY?

The Lowcountry Joint Land Use Study (JLUS) is a 13-month cooperative planning effort, which includes:

- An assessment of existing land use conditions near both MCAS Beaufort and MCRD Parris Island, to include potential perceived incompatible land uses, if any;
- An assessment of potential future civilian and military land use conditions, to include projected incompatible uses, if any;
- A Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis that provides a framework for assessing existing and future conditions and prioritizing recommendations; and
- Strategies to promote compatible land use planning around the Marine Corps installations and the surrounding communities.

The study is being administered by the Lowcountry Council of Governments and co-funded through a grant from the Department of Defense (DOD), Office of Economic Adjustment (OEA). The effort is, in part, a follow-up to a JLUS for MCAS Beaufort completed in 2004, as well as a separate JLUS for MCRD Parris Island, its first. Separate planning analyses will be conducted for MCAS Beaufort and MCRD Parris Island.

The Lowcountry JLUS can benefit both the Marine Corps installations and the surrounding region by:

- Preserving long-term land use compatibility between the installations and the surrounding communities;
- Sustaining the operational mission of the Marine Corps in Beaufort County while protecting the quality of life of nearby residents and businesses;
- Enhancing communication and coordination among local and regional stakeholders; and
- Integrating the growth plans of the communities in the region with Marine Corps' plans and mission operations.

IS THE LOWCOUNTRY JLUS BEING CONDUCTED BY THE MARINE CORPS?

No, although the Marine Corps is a stakeholder in the process, which also includes the Lowcountry Council of Governments, Beaufort County, the City of Beaufort, the Town of Port Royal, the State of South Carolina, and other affected public and private-sector stakeholders.

HOW LONG WILL THE PROJECT TAKE?

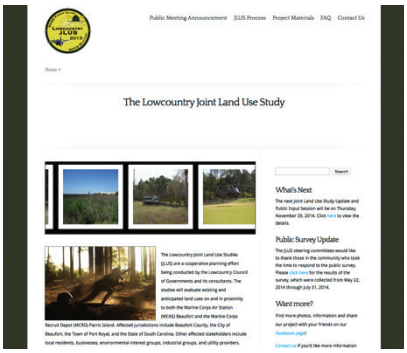
The Lowcountry JLUS is expected to be complete in February 2015. Implementation of any actions recommended in the JLUS, should the community wish to take that step, would follow completion of this study and would follow community-wide consideration and input and action by local decision-makers.

WHAT IS THE PURPOSE OF THE JLUS?

The purpose of the JLUS is to promote compatible land use, growth, and economic development in the region near both MCAS Beaufort and MCRD Parris Island, to protect public safety and quality of life, and to sustain the mission of the Marine Corps in Beaufort County in the long-term. Compatible land use planning can be defined as the balance between the needs and interests of the community and the needs and interests of the Marine Corps installations. In order to assess compatibility, the project team will identify current or potential encroachment issues, which may include noise, endangered species/critical habitat, safety/security, air or water quality, energy development, and frequency spectrum interference, among other potential issues.

JLUS Informational brochures were provided in hardcopy and for download from the Project Website

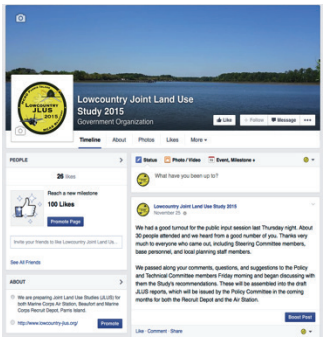
D. Project Website



A Project Website was maintained throughout the Study to keep the public up to date on progress and opportunities for input

The Project Team created a project website that gave general information about the purpose and objectives of the Study, contained an up-to-date summary of the JLUS process as it progressed, and served as a central, public location for key Study products and materials. These products and materials included copies of public presentations, surveys, committee minutes, and other key documents. The website also regularly indicated "next steps" so that community members could stay informed about outreach and input efforts during the Study, and it provided contact information for people to ask questions or make comments throughout the Study.

E. Facebook Page



The Project Team also maintained a Facebook Page

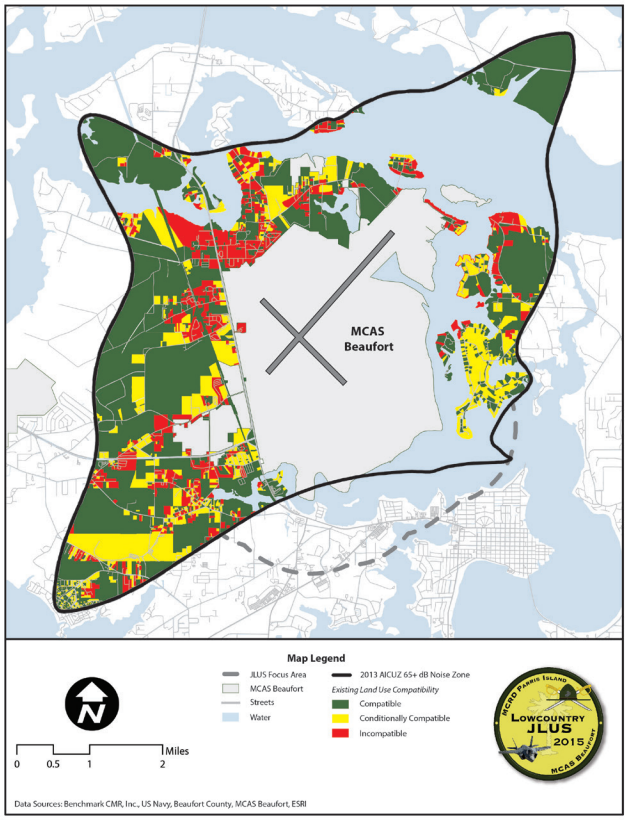
The JLUS Project Team also maintained a Facebook page as another way to keep the public updated about the Study as it progressed. Posts included information about upcoming public input sessions, how to submit surveys and written comments to the Project Team, and updates about the status of the Study. The Project Team also used the Facebook page to link people back to the project website for more information at critical points in the process, such as when the results of the public surveys were posted and drafts of the report made available.

VI. Overview of the JLUS Report

The Joint Land Use Study consists of six chapters on the purpose of the Study and the process for conducting it (Chapter 1), a background assessment of the Air Station and the community (Chapter 2), a Land Use Compatibility Analysis (Chapter 3), possible land use issues the installation and community many experience in the future (Chapter 4), existing land use policies and tools used to ensure compatibility of land uses (Chapter 5), and a prioritization of additional polices and tools the communities could use if desired to further protect the mission of MCAS Beaufort (Chapter 6). The report also includes several appendices, such as a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, that inform the discussion in the preceding chapters. The following briefly describes each of the chapters of the report that follow Chapter 1.

Chapter 2: Background

Chapter 2 provides the necessary background on the operations of the Air Station and its effects on the larger community, as well as the effects that the community has on it, to help inform the discussion of land use compatibility in Chapter 3. In addition to discussing MCAS Beaufort's mission and its current and future operations, this Chapter also looks at plans that MCAS Beaufort has developed in the past to deal with issues of encroachment, such as the 2004 JLUS, and steps it has taken in the past to minimize encroachment issues, such as land acquisition. This chapter also looks at growth issues in the area and how they impact the installation, as well as how the installation affects the environment and cultural resources of the area.



Chapter 3: Land Use Compatibility Analysis

This chapter reviews issues of compatibility within the JLUS Focus Area. The most significant issues relate to aircraft noise (particularly at the 65-80 dB DNL levels, since the majority of noise at higher levels is contained within the boundary of MCAS Beaufort) and accident potential (a significant portion of the accident potential zones lie outside of the MCAS Beaufort boundary, although much of that area is consumed by road right-of-way or water bodies).

Notably, this Chapter compares differences between the F-18 noise zones, which are changing with the ongoing introduction of the F-35B aircraft. It also looks at existing and projected land uses in these areas of noise and accident potential impacts. Finally, the Chapter reviews other impacts, such as small arms noise, surface danger zones, and safety zones associated with the storage of munitions and the operation of the Air Station's demolition range.

Chapter 4: MCAS Beaufort and the Community: The Road Ahead

The most significant change in the years ahead to both MCAS Beaufort and the local communities is the transition to the F-35B aircraft over roughly the next decade. These aircraft have noise impacts that are different than the current F-18 primary aircraft used at the Air Station, so different lands will be affected than was the case with the F-18. Chapter 4 looks at this transition and what it means for the local communities. It also examines potential community impacts on the Air Station, such as increased population and additional land development. It briefly describes strategies used by the JLUS Jurisdictions to address issues of encroachment, such as the Transferable Development Rights program, the establishment of growth boundaries, and the purchase of conservation easements, which are further elaborated in Chapter 5.

Chapter 5: Existing Policies and Available Tools

In order to examine the options available for the JLUS Jurisdictions to promote compatibility around the Air Station, Chapter 5 first looks at the state statutory framework for local government land use regulations, as well as at proposed legislation that may change that regulatory authority in the future. The Chapter then summarizes common types of land use regulations in the state's military communities as well as the particular tools that each of the JLUS Jurisdictions has chosen to use to date to encourage military compatibility. Following the 2004 JLUS, the JLUS Jurisdictions adopted many land use compatibility tools; at this time, they could elect to enhance their existing tools and adopt additional ones in order to further ensure land use compatibility going forward. Chapter 5 describes the adoption by the Town of Port Royal and Beaufort County of "form-based," community codes, which occurred during preparation of the JLUS. At the time the JLUS was completed, a similar code was pending consideration at the City of Beaufort.

Chapter 6: JLUS Implementation Plan

Chapter 6 lists recommended land use tools for the JLUS Jurisdictions and the Air Station, prioritizing them based on input from the stakeholders, the public at large, and the recommendations of the JLUS Policy Committee. It briefly sets out the most salient factors related to land use on and near the Air Station, summarizing the background from earlier chapters to give the Implementation Matrix context.

The Matrix then describes each tool, the likely parties that would be responsible for adopting and administering it, and its expected implementation timeframe. While this Study recognizes that each local community will need to decide for itself which tools are appropriate for it to implement, if any, Chapter 6 provides a framework for implementing the Study's various recommendations for any community that chooses to do so.

Appendices

Finally, in order to supplement understanding of the potential tools discussed in Chapters 5 and 6, several relevant documents have been included as appendices to the report. These include:

A. Public Survey Results
B. Current MCAS Beaufort Overlay District Regulations, by Jurisdiction
C. Strengths, Weaknesses, Opportunities, and Threats Analysis
D. Public Meeting Notes
E. Public Written Comments Submitted
F. Transferable Development Rights Next Steps and Policy Concepts
G. Local Governments' Resolutions of Support for an Outlying Landing Field

Chapter 2

Marine Corps Air Station Beaufort and the Community: Background

Chapter 2:

- the current land use impacts of the community on MCAS Beaufort and of the MCAS on the community
- public outreach and coordination efforts currently in place related to land use and changes in land use regulations and planning under South Carolina law
- the land use relationship between the Air Station and the surrounding community and each of the JLUS jurisdictions
- the natural and cultural resources on and around MCAS Beaufort
- recent economic and demographic trends in the region

I. Marine Corps Air Station (MCAS) Beaufort Region

A. General

MCAS Beaufort is located in coastal South Carolina, approximately 70 miles southwest of Charleston and approximately 40 miles northeast of Savannah. The installation consists of a 6,949-acre main site and the 971-acre Laurel Bay Family Housing area, approximately three miles to the west. Both are within the boundaries of the City of Beaufort, in Beaufort County. The installation also includes the 5,183-acre Townsend Bombing Range (TBR), an air-to-ground bombing range located in McIntosh County, Georgia, approximately 70 miles to the southwest. The Air Station was annexed into the City of Beaufort in 1999.

Within the local area are two other military installations, Marine Corps Recruit Depot (MCRD) Parris Island and Naval Hospital Beaufort, located approximately 13 miles south and ten miles southeast of MCAS Beaufort, respectively. MCRD Parris Island is approximately 8,095 acres in size and is the Marine Corps recruit training location for males from the eastern U.S. and all females.[1] Located on 127 acres, Naval Hospital Beaufort (NHB) provides medical, surgical, and emergency services to active duty and retired Navy and Marine Corps personnel and dependents. Together, these three installations (MCAS Beaufort, MCRD Parris Island, and NHB) are referred to as the Tri-Command Installations.

Located on Port Royal Island, the City of Beaufort is the county seat of Beaufort County and a principal city of the Hilton Head Island-Bluffton-Beaufort Metropolitan Statistical Area (MSA). The City of Beaufort also includes land annexed from Lady's Island. The JLUS Jurisdictions referred to within this document include all or portions of the City of Beaufort, Beaufort County, and the Town of Port Royal.

Established in 1711, the City of Beaufort is known for its historic architecture dating from the early 18th Century. In 1969, the entire 304-acre area of the city's original development was listed on the National Register of Historic Places. This was followed by its designation as a National Historic Landmark in 1973. This historic character is reflected in the local economy of Beaufort County, with tourism; and retirement and second homes, three of its primary industries. The most significant component of the local economy is the military, with MCAS Beaufort, MCRD Parris Island and Naval Hospital Beaufort providing direct employment to 8,400 military and civilian personnel in 2012.[2]

Selected Public Survey Results

A large majority of respondents classified the training at MCAS Beaufort (88.7%) as "important" or "very important."

Land use surrounding MCAS Beaufort is a mix of undeveloped and developed land, ranging from low- to high-density. It is comprised of community commercial, light industrial, neighborhood mixed use (residential and neighborhood retail), preserved lands, regional commercial, rural community, rural/undeveloped, and schools. Water bodies and marshlands are also prominent within the local area, bordering MCAS Beaufort directly to the north and east.[3] The installation is also bordered by rural/undeveloped land to the north, northeast and west. Developed land use is adjacent to MCAS Beaufort, with neighborhood mixed use to the northwest, east, southeast and southwest. Community commercial and regional commercial land uses are located, respectively, on the northwest and south boundaries of the installation. Light industrial uses at the City of Beaufort Industrial Park border MCAS Beaufort to the west. Laurel Bay Housing is bordered by rural/undeveloped land to the north and south and by water to the west. Developed land use includes light industrial to the east and mixed neighborhood uses to the east and south.[4]

Given MCAS Beaufort's close proximity to residential, commercial and industrial neighbors; it is important to facilitate and strengthen engagement opportunities between the installation and the JLUS Jurisdictions.

B. MCAS Beaufort

1. Importance of MCAS Beaufort to USMC Mission

In 2010 the Final F-35B East Coast Basing Environmental Impact Statement (EIS) was completed. In accordance with the Record of Decision (ROD), the Department of the Navy made the decision to locate three F-35B Joint Strike Fighter (JSF) operational squadrons and a Pilot Training Center (PTC) at MCAS Beaufort. Described as a "next generation aircraft", the F-35B is intended to replace the legacy F/A-18A/C/D (F/A-18) Hornet and AV-8B Harrier aircraft in the Second Marine Aircraft Wing (MAW) currently located at MCAS Beaufort and MCAS Cherry Point, North Carolina.[5] The full transition to F-35B operations is expected to be completed by 2023.[6]

As the designated host installation of three operational F-35B squadrons and the PTC, MCAS Beaufort will continue its role in providing critical support to Marine Corps combat capability and mission readiness. The Air Station has strategic value to the Marine Corps due to its support of the new operational and flight training regimen. Although a different primary aircraft will be present, the arrival of the F-35B aircraft will not change the fundamental mission of MCAS Beaufort.[7]

2. MCAS Beaufort Mission

Today, MCAS Beaufort supports the operations of the 2nd MAW, attached II Marine Expeditionary Force (MEF) units and the MCRD Parris Island/ Eastern Recruiting Region. Its mission is, "to continue supporting establishment operations in support of 2nd Marine Aircraft Wing (MAW), attached II MEF units, and Marine Corps Recruit Depot Parris Island/Eastern Recruiting Region in order to set the conditions for the enduring success of our supported commands and their missions."[8]

MCAS Beaufort currently hosts all Marine Corps F/A-18 air operations on the East Coast, serving as an operational base for Marine Aircraft Group 31 (MAG-31). It provides support to the MAG-31, its squadrons and Marine Corps support units. The MAG-31 reports to the 2nd MAW, based at MCAS Cherry Point, North Carolina. Its mission is, "to conduct anti-air warfare and offensive air support operations from advanced bases, expeditionary airfields, or aircraft carriers, and conduct such other air operations as directed."[9] The mission of the 2nd MAW is "to conduct air operations in support of the Marine Forces to include offensive air support, antiair warfare, assault support, aerial reconnaissance, electronic warfare, and control of aircraft and missiles. As a collateral function, the MAW may participate as an integral component of naval aviation in the execution of such other Navy functions as the Fleet Commander may direct."[10]

MCAS Beaufort support also includes providing a variety of support services, including basic facility services, business and support functions, housing and accommodations, and quality of life.[11]

3. MCAS Beaufort Aircraft Operations

a. Current Operations

MCAS Beaufort is currently the home of the Marine Corps' Atlantic Coast fixed-wing, fighter-attack aircraft assets, including seven F/A-18 Hornet fighter-attack squadrons, under the MAG-31. This includes the VMFAT-501 "Warlords", the first F-35B squadron that arrived at MCAS Beaufort in July 2014, and six other squadrons. They are:

- VMFA-115 "Silver Eagles;"
- VMFA-122 "Werewolves;"
- VMFA (AW)-224 "Bengals;"
- VMFA-251 "Thunderbolts;"
- VMFA-312 "Checkerboards;" and
- VMFA (AW)-533 "Hawks".[12]

MCAS Beaufort also hosts two other MAG-31 squadrons. The Marine Wing Support Squadron 273 (MWSS-273) provides aviation ground support, including internal airfield communications, weather services, expeditionary airfield services, aircraft rescue and firefighting, aircraft and ground refueling, essential engineering services, motor transport, messing, chemical defense, security and law enforcement, airbase commandant functions, and explosive ordinance disposal.[13] The Marine Aviation Logistics Squadron 31 (MALS-31) provides aviation logistics support, personnel, guidance, planning, and direction.[14]

Other tenants at MCAS Beaufort are:

- Marine Air Control Squadron-2 (MACS-2), Detachment "A";
- Combat Logistics Company-23 (CLC-23);
- Pacific Missile Test Center-Detachment (PMTC Det);
- NHB: MCAS Beaufort Branch Medical Clinic;
- South Carolina Army National Guard;
- Naval Criminal Investigative Service; and
- Naval Surface Warfare Center.[15]

The Headquarters and Headquarters Squadron (H&HS), another unit at MCAS Beaufort, supports combat readiness and quality of life with responsibility for Air Traffic Control (ATC), weather forecasts, military police, communications, legal services, meals, pay and accounting, aircraft rescue and firefighting support, and explosive ordnance disposal. It has the following mission, "supporting and enhancing the combat readiness of the Marine squadron located at MCAS Beaufort and improving the quality of life for military personnel, their families and the work force assigned to MCAS Beaufort."[16]

In addition to the F/A-18 and F-35B, other aircraft at MCAS Beaufort include the UC-12M Huron twin-turboprop aircraft and a variety of transient aircraft (those not permanently stationed at MCAS Beaufort).

Aircraft operations at MCAS Beaufort occur in the following areas: the airfield, airspace, and training areas. The airfield, called Merritt Field, is tower-controlled and located at 37 feet above mean sea level (MSL). It is comprised of two runways, 5/23 (12,202 feet in length) and 14/32 (7,999 feet in length).[17] Hours of operation are Monday through Thursday (7:00 A.M. – 11:00 P.M.), Friday (7:00 A.M.-6:00 P.M.) and Sunday (4:00 P.M. – 6:00 P.M.).[18] It is closed on Saturday, and on federal holidays. Hours may be extended or reduced, as needed for training.

Airspace used by MCAS Beaufort for operational training is characterized as either controlled airspace or as Special Use Airspace (SUA). Controlled airspace has ATC services provided and SUA has limitations placed upon its use, such as the restriction of non-military aircraft.[19] The majority of training at MCAS Beaufort occurs in SUA training areas, such as

- Restricted Areas;
- Warning Areas (W-Areas);
- Military Operating Areas (MOAs).

Restricted and Warning Areas contain restrictions on non-military aircraft due to hazardous or potentially hazardous conditions. MOAs are defined airspace areas used to separate military training from non-military flights. In addition to SUA, training also occurs in Military Training Routes (MTRs) specialized areas where high speed low-level training occurs.[20]

There are three Beaufort MOAs and one W-area within the local area. The MOAs are adjacent to each other, with Beaufort MOA 2 in the center, over the Air Station, and MOA 1 to the east and MOA 3 to the west. Each MOA has a lower elevation of 100 feet MSL, with the following upper elevations:

- Beaufort MOA 1 - 10,000 feet MSL
- Beaufort MOA 2 - 7,000 feet MSL
- Beaufort MOA 3 - 2,000 feet MSL[21]

The W-area, W-74, is adjacent to Beaufort MOA 1 an extending three nautical miles from the coastline. The airspace starts the surface level and extends up 10,000 feet MSL.

Training ranges include small arms firing ranges on the Air Station and two training ranges within the region, the TBR, in McIntosh County, Georgia, and the Beaufort Tactical Training Range (TTR) located southwest of MCAS Beaufort, off the Georgia Coast. The TTR is located within W-157 and is comprised of eight offshore towers. TBR is operated by the Georgia Air National Guard, Combat Readiness Center in Savannah, Georgia. It serves as the main training area, providing air combat and bombing training. SUA within the TBR is referred to as the "Coastal Airspace Complex". It is comprised of a restricted area (R-3007) that connects to coastal MOAs and MTRs in the area.

Current baseline conditions for MCAS Beaufort were analyzed as part of the F-35B East Coast Basing EIS. Authorized airfield operations at MCAS Beaufort were estimated at 62,001. This figure is based upon departures, arrivals, and pattern work generated by nine F/A-18 squadrons, including seven Marine Corps squadrons and two Navy squadrons. It also includes operations from other based and transient aircraft.

Historical data on annual aircraft operations at MCAS Beaufort, as presented in the 2013 AICUZ Study, are shown in Figure 2-1. Data was provided from 2003, when the total operations peaked at 42,794, to 2012, when total operations were 38,042. Operations include aircraft based at MCAS Beaufort and also transient aircraft. Differences between historical data and authorized airfield operations (62,001) are due to the number of squadrons included. Authorized operations are based on the authorization of nine F/A-18 squadrons while historical data is based on operational squadrons, which have generally been lower than the full authorization due in part to multiple overseas deployments. The Marine Corps Air Station reported

during the JLUS study that there were 22,600 annual operations in 2013 and 13,771 in 2014. According to the base, the recent lower levels of flight operations are due to high operational tempo from continuous overseas deployments.

Figure 2-1: **Annual Aircraft Operations on MCAS Beaufort**

Calendar Year	Based Aircraft Operations	Transient Aircraft Operations	Total Operations
2012	37,303	739	38,042
2011	26,696	1,028	27,997
2010	32,307	810	33,117
2009	32,310	1,039	33,349
2008	27,084	1,042	28,126
2007	34,158	1,228	35,385
2006	30,678	1,145	31,823
2005	39,619	1,145	40,764
2004	40,818	931	41,749
2003	41,239	1,555	42,794

Source: *Air Installations Compatible Use Zones Study for MCAS Beaufort*, United State Department of the Navy, Naval Facilities Command Atlantic, Norfolk, Virginia, 2013.

With regard to personnel, current baseline conditions for MCAS Beaufort, as indicated by the F-35B East Coast Basing EIS, are shown in Figure 2-2. Authorized military personnel total 1,821. This includes officers and enlisted personnel.

Figure 2-2: **Authorized Military Personnel on MCAS Beaufort**

Officers	Enlisted	Total Military Personnel
229	1,592	1,821

Source: *Final United States Marine Corps F-35B East Coast Basing Environmental Impact Statement (EIS)*, October 2010.

b. Future Operations

Nicknamed, "Fightertown East", as the current home of the F/A-18 and the future home of the F-35B, MCAS Beaufort is the "premier air station" on the East Coast.[22] Future operations at MCAS Beaufort include a transition from the F/A-18 to the F-35B Joint Strike Fighter (JSF) Lightning II aircraft. As outlined in the F-35B Basing EIS, 88 F-35B aircraft are proposed to replace the 84 authorized Marine Corps F/A-18s, and the 24 other based aircraft, at MCAS Beaufort. This transition, which began in 2014, is expected to be completed in 2023, with the F/A-18 operational squadrons being deactivated over that timeframe. The PTC would be established between 2014 and 2018.

With the arrival of F-35B aircraft, operations are expected to increase.[23] Proposed airfield operations are expected to total 106,030 annually. This represents an increase of 44,029 from the authorized total of 62,001.

The Marine Corps currently takes steps to mitigate its noise impacts on the community, and will continue to do so with the introduction of the F-35B. Mitigation currently includes:

- Avoidance of prolonged periods of high-powered run-ups;
- Adherence to FAA regulations to maintain minimum altitudes; and
- A noise complaint/inquiry program.

Authorized and proposed military personnel on MCAS Beaufort are shown in Figure 2-3. These figures are from the F-35B Basing EIS. Proposed military personnel are expected to total 1,593 annually. This represents a decrease of 228 from the authorized total of 1,821. According to the F-35 Basing EIS, the proposed personnel total does not include PTC pilots, estimated at 78, nor any changes in civilian or contractor personnel due to the fact that precise figures were not available.

The capabilities of the F-35B to perform Short Take-Off and Vertical Landing (STOVL) operations require the construction of new operational areas. An Amphibious Assault Ship Training Facility is to be constructed, comprised of the additional facilities (landing areas, and landing pads), as shown in Figure 2-4 below.

Figure 2-3: **Authorized and Proposed Military Personnel on MCAS Beaufort**

Officers		Enlisted		Total Military Personnel	
Authorized	Proposed	Authorized	Proposed	Authorized	Proposed
229	203	1,592	1,390	1,821	1,593

Source: *Final United States Marine Corps F-35B East Coast Basing Environmental Impact Statement (EIS)*, October 2010.

Figure 2-4: **Projected F-35B Operational Areas on MCAS Beaufort**

Facility	Description	Dimensions/Location
Landing Helicopter Deck (LHD) Training Facility	Land-based amphibious assault ship LHD landing area used to simulate at-sea landings on ships.	840-foot runway Parallel to Runway 5/23, on the north side
Forward Base Operations (FBO)Landing Area	Landing area simulates FBO conditions for training on arrival and departure procedures.	3,000-foot runway Parallel to Runway 5/23, on the south side
Vertical Landing (VL) Pads	Five concrete VL pads designed to accommodate vertical thrust of aircraft from STOVL operations.	Adjacent to the runways

Source: *Air Installations Compatible Use Zones Study for MCAS Beaufort*, United State Department of the Navy, Naval Facilities Command Atlantic, Norfolk, Virginia, 2013

II. Encroachment Planning and History

A. Definition

There are many complementary definitions of encroachment. The Department of Defense's (DOD) Office of Economic Adjustment (OEA) defines encroachment broadly as incompatible development, which may include uses that adversely affect safety, public health, and welfare, as well as those that produce noise, smoke, dust, excessive light, electromagnetic interference, and vibration, which impair the military mission.

The Marine Corps identifies encroachment as, "a serious threat to the readiness of the Marine Corps."[24] Marine Corps Order 1011.22B, Policies and Procedures for Encroachment Control Management, also describes the threat of encroachment as, "Continued population growth, increased levels of environmental regulations, and incompatible development around military installations, operational ranges, and training areas can create resource (land, air, water, radio frequency spectrum) uses that are incompatible with current and future military testing, training and general mission activities."[25]

Generally, encroachment refers to any factors that degrade – or have the potential to degrade – the mission capability of a military facility, installation, operational range, training area, associated special use airspace (SUA), or other areas where the military conducts and plans future testing, training, and general mission activities. The most common example of encroachment is that of physical development of lands directly adjacent to the military installation whereby residents or users of that land are not supportive of the negative impacts associated with military testing and training (e.g., safety, noise, and dust concerns) and, therefore, push to limit military operations. In addition to urban development, endangered species/critical habitat, safety/security, air or water quality, energy development, and frequency spectrum interference are among other potential encroachment issues affecting the sustainability of military missions.

The military attempts to mitigate these encroachment impacts through service-level programs, like the JLUS program, in order to manage encroachment through established local collaborative land use planning processes. The goal of the JLUS is to preserve long-term land use compatibility between the military installation and the surrounding communities. Compatible land use planning can be defined as the balance between the needs and interests of the community and the needs and interests of the military installation.

B. MCAS Beaufort Encroachment Management Program

1. Program Overview

Encroachment management at MCAS Beaufort is the primary responsibility of the Community Plans and Liaison Officer (CPLO), who reports directly to the installation's Commanding Officer (CO). In order to prevent encroachment and achieve compatible land use in the local area, the CPLO engages with a variety of external stakeholders, including other federal agencies, state and local governments, community organizations, conservation organizations, and the business community.

Encroachment management, among other things, may include the acquisition of land areas located within the accident potential and noise zones in the local area, surrounding MCAS Beaufort. Land acquisition is performed through fee simple ownership, the purchase of development and conservation rights, and other land conservation partnerships. In the 1990s, over 400 acres of land were purchased within the Accident Potential Zones (APZs) and noise zones with Military Construction (MILCON) funding.[26] Lands and conservation easements have also been acquired through a partnership between the MCAS Beaufort and the Beaufort County Rural and Critical Lands Preservation Program (RCLPP). In addition, by working with partners from the

Lowcountry Conservation Forum, a coalition of land conservation and environmental agencies formed to address land preservation, MCAS Beaufort had several encroachment partnering and Readiness and Environmental Protection Initiative (REPI) projects from 2004 to 2005. The result was the protection of over 250 acres of land from incompatible development, including 21 acres within the Air Installation Compatible Use Zone (AICUZ).[27]

In 2006, MCAS Beaufort became the first Marine Corps Installation to complete an encroachment assessment. The goal of this prototype assessment was to identify encroachment concerns and develop a plan to address them. As a result, 3,000 acres of land were identified for encroachment partnering and land acquisition. MCAS Beaufort has implemented assessment actions by working with partners such as Beaufort County, the City of Beaufort, the South Carolina Department of Natural Resources, the Beaufort County Open Land Trust, and the Trust for Public Lands. As of 2012, the installation had used REPI and other encroachment management tools to preserve over 3,127 acres of land.[28]

In 2009, the MCAS encroachment assessment was updated in order to identify and plan for current encroachment issues. The 2009 assessment includes an action plan, with the following objectives identified to sustain the MCAS Beaufort mission:

- Maintain economic interdependence between Beaufort County and the Marine Corps amidst the county's rapid demographic changes;
- Enhance base relevance by strengthening MCAS Beaufort's cooperation with the community on social, environmental, educational and other issues; and
- Blunt the negative impacts anticipated by a change in base mission.[29]

The 2009 assessment continues to be implemented by the CPLO and the CPLO office. This includes developing strategies to address encroachment threats identified in the plan, including changing demographics, such as rapid population growth and population shifts; increasing stormwater management requirements; and the impacts of climate change.[30]

2. 2004 Lowcountry Joint Land Use Study (JLUS)

The 2004 Lowcountry JLUS was initiated in 1999 with the support of the three JLUS jurisdictions: Beaufort County, City of Beaufort, and Town of Port Royal. The councils of the local jurisdictions all passed resolutions, stating that, "continued operation of the Marine Corps Air Station (MCAS) Beaufort is important to the local economy and the Lowcountry regional economy and that its future operational capacity should be protected."[31] After the JLUS was begun in 1999, it was put on hold, temporarily, in order to accommodate new noise and safety data. This included a 2003 update of the 1994 MCAS Beaufort AICUZ Plan in order to capture current baseline conditions, including the decommissioning of Marine Corps squadrons and the addition of two Navy F/A-18 squadrons.[32]

The following participants contributed to the development of the 2004 Lowcountry JLUS: Beaufort County, the City of Beaufort, the Town of Port Royal, MCAS Beaufort, and the Lowcountry Council of Governments (LCOG), who also served as the study grantee and sponsor. The stated goal of the JLUS program was, "to develop a cooperative plan to maintain continued economic development to determine how best to cooperatively ensure the continued economic development of the area while maintaining the present and future integrity of operations and training at MCAS Beaufort."[33] Work on the study was guided by the following objectives:

- To protect the health and safety of residents living or working near military installations;
- To preserve long-term land use compatibility between the installation and the surrounding community;
- To integrate the local jurisdictions' comprehensive plans and implementing ordinances and codes with those land use compatibility recommendations and consistently with each other; and
- To encourage the continuation of the cooperative spirit and good relations between the local base command and local community officials.[34]

Both policy and technical committees were established for the study, comprised of elected officials and planning department staff, respectively. The committees developed the following objectives for land use compatibility:

- To maintain a balance among:
  - Property ownership interests in existing land uses, activities and structure
  - Property ownership interests in future uses, activities and structures
  - Protection of public, community and military interests;
- To support future land use compatibility;
- To discourage further land use incompatibility;
- Over time to mitigate existing land use incompatibility if and where feasible.[35]

The 2004 JLUS was prepared in order to promote compatible land uses within the local MCAS Beaufort area, by balancing economic growth with mission sustainment. The study addressed land uses that were identified by the 2003 MCAS Beaufort AICUZ Plan as incompatible with the installation mission. These areas included noise sensitive areas, located within noise contours (Noise Zones 2 or 3); areas located within APZs that contained a high concentration of people; and areas that interfered with safe air operations.[36]

A variety of tools available to address development within noise and safety zones and to achieve compatible land use in the MCAS Beaufort area were discussed in the 2004 JLUS with regard to their effectiveness, including the disclosure of AICUZ boundaries in real estate transactions, which now is a local requirement (see Appendix B). The goal of real estate disclosures is to inform buyers when a property for purchase or rent is located within an AICUZ noise contour or APZ. Its effectiveness is dependent upon the use of accurate data and understanding of the information contained in the disclosure by the parties involved.

Land use planning by municipalities within the local area is another land use tool for promoting compatible land use and

includes the development of comprehensive plans and zoning ordinances that contain airport overlay districts (AODs) requiring compatible land uses in noise contours or APZs. As a result of the 2004 JLUS process, AODs are currently in place within each of the JLUS jurisdictions.

Local zoning ordinances also address nonconforming uses, which are land uses or structures that do not comply with current land use or building regulations. Nonconforming uses may be reduced over time by limiting the extent of repairs and restoration, and other restrictions on their continuation. Local zoning ordinances in the Beaufort area vary with regard to the extent of these limitations. Beaufort County and Port Royal have adopted noise attenuation building standards, which require the use of construction techniques to limit noise impacts from military aircraft. It includes methods such as adding insulation, using insulated windows, and making proofing exterior walls against sound transmission.

The recommendations presented in the 2004 JLUS were based either upon the continuation and improvement of existing compatible land use tools or the initiation and implementation of new tools, as shown in Figure 2-5. Most of the recommendations from the 2004 JLUS have since been implemented, and are highlighted in the table.

Recommendations that have not been implemented, or which might be augmented, were identified by the 2015 JLUS Steering Committees and, as the committees deemed appropriate, have been included in the recommendations in Chapter 6.

Figure 2-5: **2004 JLUS Recommendations**

Continuation and Improvement	Initiation and Implementation
Improve existing community relations and education programs to inform citizens on JLUS plan implementation.	Develop and implement a coordinated "AICUZ Overlay District" within the three JLUS jurisdictions.
Enhance and standardize AICUZ disclosure process for all real estate transactions including sale/purchase and rental/lease.	Ensure existing land uses and structures continue as legal nonconforming uses. Adopt a uniform approach and regulations to protect property owners while transitioning to compatibility.
Maintain user-friendly and regularly-updated website with AICUZ and JLUS information and implementation updates.	Encourage existing property owners to make their structures compatible. Assistance measures should be included as part of JLUS implementation.
Disseminate information about the JLUS and its implementation through ongoing media relations.	Establish a Citizen Advisory Committee to ensure input is incorporated in ongoing JLUS planning and implementation.[37]
Acquire development rights and land within the AICUZ footprint through continuation of MCAS Beaufort, Beaufort County, Rural and Critical Lands Board and property owner partnerships.	Incorporate additional noise attenuation measures into the existing uniform building code for new construction used by local jurisdictions.
Provide frequent updates on schedules of aircraft training and other operations, to local media and also post on relevant web sites linked to the MCAS Beaufort site.	Work with local construction and development companies to ensure familiarity with noise attenuation measures, how to incorporate them cost-effectively and how to market them as a benefit to clients and prospective clients.
Continue to develop and implement noise abatement measures for MCAS Beaufort operations.	Arrange pre-planning phase meetings for subdivisions and large developments with MCAS Beaufort's Community Plans and Liaison office to ensure that AICUZ-compatible land uses are incorporated.[38]
N/A	Work with lending institutions to ensure that lending policies and practices are appropriate for APZ and Noise Zones.
N/A	Monitor growth and change in Beaufort County and at MCAS Beaufort to determine if there is a significant impact to AICUZ boundaries and JLUS policies and modify accordingly.
N/A	Establish a JLUS Implementation Committee to monitor and guide the implementation of JLUS policies.[39]
N/A	Utilize the provisions of the recently enacted South Carolina legislation to protect military installations from encroachment.

Source: *Lowcountry Joint Land Use Study (JLUS) Plan*, Lowcountry Council of Governments, September 2004.

3. Land Acquisition

Beaufort County has extensive acreage under preservation. As of 2010, the total amount of preserved land countywide was approximately 37,919 acres, or 16.1 percent of the county's total 235,496 acres.[40] Much of this land was preserved by the RCLPP, the county's primary mechanism for preserving land. Administered by the Beaufort County Open Land Trust, the RCLPP has now preserved over 22,000 acres across Beaufort County since 2000.[41] MCAS Beaufort has established effective partnerships with the RCLPP and other land conservation entities.

a. MCAS Beaufort Acquisitions

In 2011, MCAS Beaufort proposed the land acquisition of 807.56 acres through the purchase of fee simple ownership and restrictive easements. The purpose of the land acquisition was to address encroachment from development occurring within the AICUZ footprint. The Environmental Assessment for the land acquisition noted that population growth in Beaufort County was high, making it, "one of the South's fastest growing counties."[42] Development has been predominantly focused in the area south of the Broad River, along the U.S. Highway 278 corridor, with the conversion of farms to suburban type development patterns.

Prior to 2011, MCAS Beaufort had secured ownership of many areas within the AICUZ footprint. This included all four of the airfield clear zones, most of APZ 1 on the approach and departure ends of the primary runway, and a portion of the APZ 2 Field Carrier Landing Practice (FCLP) flight tracks.[43] The 2011 land acquisition proposal included parcels located in APZ I and II, Noise Zones (NZ) I and II, and additional parcels within the local area. Included within this area were F/A-18 Field Carrier Landing Practice (FCLP) flight tracks and approach and departure flight tracks.[44] Funding continues to be sought in order to effectuate these acquisitions.

b. MCAS Beaufort and Joint Acquisitions

The community surrounding MCAS Beaufort has long shown support of the installation's mission and has taken proactive steps to protect the viability of the installation and its economic contribution to the region. As a result of the 2004 Lowcountry JLUS, the City of Beaufort, Beaufort County, and the Town of Port Royal adopted AICUZ ordinances that identified AICUZ airport overlay districts, which limited certain types of development within the AICUZ footprint. Beaufort County also developed a Transfer of Development Rights (TDR) program to provide partial compensation for property owners affected by the AICUZ ordinances.

Notably, residents of Beaufort County have approved four bond referenda for the RCLP Program since 2002, providing a total of nearly $130 million. The fourth referendum passed on November 4, 2014, during the JLUS, authorizing $20 million in funding. The RCLPP has conserved over 22,000 acres through the purchase of conservation easements or fee simple land acquisition and is designed to manage growth, encourage private land conservation, and preserve the rural character of the county. The program has also been used to help create natural buffers against incompatible development around MCAS Beaufort. These efforts demonstrate the community's commitment to maintaining the Marine Corps' presence in the region and the collaborative nature in which the Marine Corps and the community can address land use compatibility challenges.

i. **Conservation Organizations:** Since 1971 the Beaufort County Open Land Trust has preserved thousands of acres in Beaufort and the surrounding counties of Bamburg and Hampton, South Carolina. The organization has supported the Beaufort County's RCLPP, by managing its land acquisition projects. Many of the preservation projects of the Beaufort County Open Land Trust are in support of MCAS Beaufort's land conservation efforts, including the Clarendon Planation, located west of the Air Station, which involved three phases of acquisition. Clarendon Phases I and II involved acquisition of 583 acres along the marsh areas of Let Out Creek. Clarendon Phase III, and other recent land acquisitions of the Beaufort County Open Land Trust, is shown in Figure 2-6.

Figure 2-6: **Recent Beaufort County Land Trust Land Acquisitions**

Project Name	Acreage	Property Owner
Broadmarsh	53	Shelley Rule
Clarendon Phase III	321	The Kennedy Family
The Green	1	John and Molly Gray
Summerland Plantation	47	Wilson Sanders
Palmer	27	Margaret Palmer

Source: Open Land Trust, Website, http://www.openlandtrust.com/land-protection/recent-successes, accessed September 29, 2014

ii. **Local Government:** The RCLPP has preserved approximately 22,000 acres of land since 2000. Funding was initially authorized with a $40 million bond approved by Beaufort County voters in 2000. Additional bonds were approved by voters in 2006, 2012, and 2014 with a $50 million bond, $25 million bond, and $20 million bond, respectively. RCLPP land preservation has been achieved through fee simple purchase or by a purchase or donation of development rights for the purpose of conservation, parks, buffers, scenic vistas, and for preservation of valuable economic and natural resource. The program is managed by the Beaufort County Open Land Trust through contracted services and administered by Beaufort County Council.

In 2011, the RCLPP secured the preservation of the Ihly Farm 63-acre through a $2 million conservation easement. The farm is located on McCauley Creek on the southern border of the ACE Basin, east of US Highway 21 and south of Whale Branch Creek.[45] The cost of the purchase was shared between the DOD and MCAS Beaufort (through the REPI program) and Beaufort County RCLPP with an even split. This project brought the total number of preserved acres by the partnership between the Marine Corps and Beaufort County to 1,623.

Figure 2-7: **RCLPP and MCAS Beaufort Land Acquisitions Projects**

Project Name	Acreage	Description
Winn Property	69	A restrictive easement was placed on the property while the landowner retains fee title and use of the land for agricultural purposes. The land has been placed in the County Open Space Preserve system.
Lucky Parcel	79	The county obtained fee title ownership while the Marine Corps gained a restrictive easement. A hiking trail will likely be built on the property.
Battey–Wilson Parcel	63.55	The county obtained fee title ownership while the Marine Corps gained a restrictive easement. Maritime forest that exists on the property is being protected.
Rathbun Parcel	28	Both the Marine Corps and the County obtained an easement on the Rathbun Parcel. The owner will continue to use the land for agricultural purposes.
Amgrey Donation	24	This tract was donated to the County, generating tax credit benefits for the landowner.
McLeod Property	399	Beaufort County and the Air Station collaborated to purchase development rights and place a conservation easement on this property. The Beaufort County Open Land Trust maintains the easement.
Oak Mulligan Property	157	MCAS Beaufort and the county shared the cost for a restrictive easement on this property

Also, in 2011, development rights and a conservation easement were purchased on a 584-acre Coosaw Plantation. The purchase, which will prevent the parcel from being developed, was a partnership of RCLPP and DOD, with $2,493,000 purchase price inclusive of a $1,660,000 DOD contribution and an $833,000 Beaufort County contribution. The property is located in northern Beaufort County on Chisholm Island within the MCAS AICUZ footprint.[46]

Additional joint land acquisition projects, between MCAS Beaufort and Beaufort County, which occurred prior to 2011, are summarized in Figure 2-7 below.

4. Existing Public Communication and Outreach Interactions

MCAS Beaufort has a positive relationship with Beaufort County, as well with the public at large. The community is generally supportive of the installation's mission and the overall presence of the Marine Corps in the region. MCAS Beaufort has a strong role in the social fabric of the civilian community and is a significant part of the region's identity, particularly in concert with MCRD Parris Island and Beaufort Naval Hospital. Community leaders are committed to protecting the installation, recognizing it as a major direct and indirect economic vehicle in the county.

The CPLO and Public Affairs Office engage in a variety of public outreach efforts throughout the local community. MCAS Beaufort provides frequent updates on aircraft operations to the local media. In addition, the MCAS Beaufort website features approximately 1-4 news articles per month on training. In 2009, an MCAS Beaufort Facebook page was created. Maintained by the Public Affairs Office, it features daily updates on training exercises, historical events and profiles, community engagement events, and services available to base personnel and their families. The Jet Stream is another official publication of MCAS Beaufort. It is a weekly newspaper with news, sports and lifestyle sections that provides information to MCAS Beaufort personnel and the local community with both hard copy and online versions.

There are a variety of community support organizations in the local area, including the Beaufort Military Enhancement Committee (MEC). The mission of the MEC is to enhance the military-community relationship in Beaufort County. Its members are appointed by local government, the Beaufort Regional Chamber of Commerce and the South Carolina Military Task Force.

Annual events such as the MCAS Beaufort Air Show provide an opportunity for all members of the community to learn about aircraft that operate at the Air Station such as the F/A-18. The air show is typically held on an annual basis in the spring. The 2015 air show is scheduled for April 11-12, 2015 and features the Navy's Blue Angels.

Much coordination is accomplished with local governments and citizens. The Air Station held numerous public meetings for

public education and input for the F-35B EIS process and most recently, the new AICUZ study. They participate in neighborhood meetings and have participated in discussions and meetings for the Civic Master Plan, the Form Based Code rewrites, the Northern Beaufort County Regional Plan, and Metro Planning Commission meetings. MCAS Beaufort is very active in the Northern Regional Plan Implementation Committee, a forum that promotes resolving incompatible land use issues. Further, MCAS Beaufort is engaged with the Beaufort County Board of Adjustment for variances in the Airfield Overlay District.

5. *Installation and Community Impacts and Issues*

As an active Marine Corps training base and air station, MCAS Beaufort, and the surrounding local community, have the potential to be impacted by a variety of factors, including traffic, affordable housing, noise and flight patterns, and environmental concerns. Land use is intrinsic to many of these factors.

Selected Public Survey Results

Respondents listed the following as the top three ways they get their information about the installations: 1) newspapers, radio, television, 2) from someone who works or trains at the installation, or 3) from general discussion in the community.

The community has taken many proactive steps to encourage compatible land use around the Marine Corps installations in Beaufort County. The adoption of policy (e.g., AICUZ ordinances) and the use of programs (e.g., RCLPP) to support the compatibility around the military installations represent an opportunity to continue and strengthen collaborative land use planning efforts in the future.

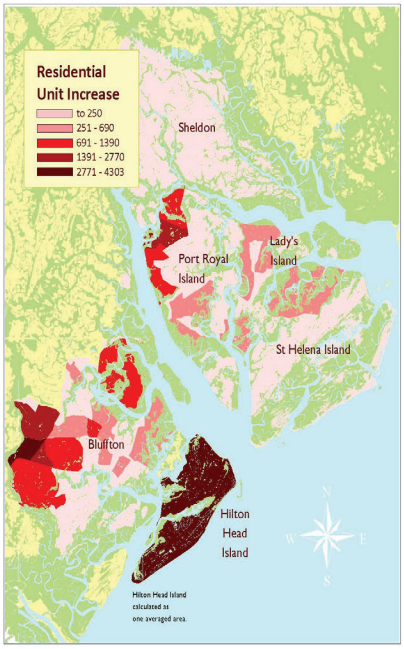


Figure 2-8: **Residential Unit Increases Around MCAS Beaufort**

The Northern Beaufort County Regional Plan Implementation Committee provides a forum through which MCAS Beaufort may engage with community leaders on topics of mutual concern, including compatible land use, noise, regional development proposals, economic development, stormwater management, rural lands conservation, and concerns about sea level rise. While additional, more targeted forums may be appropriate for specific issues, the existing networks allow for consistent, coordinated engagement when appropriate.

Accelerated population growth in Beaufort County has paralleled burgeoning tourism and retirement-related service industries, diluting the Marine Corps' once dominant impact on the county's economy. Because of the significant population growth over the last 30 years in the Hilton Head and Bluffton areas, the southern portion of Beaufort County has picked up an extra seat on County Council, shifting the political center of gravity away from the northern portion of the county. This may result in a new County Council whose focus tends towards tourism-related interests that could create conflicts with military training missions. The effects of this dynamic population shift are still unknown, yet highlight the need for the Marine Corps to engage with its local partners in a way that is mutually supportive.

a. **Land Use Trends:** The majority of land use in the immediate area of the Air Station is residential or rural, undeveloped.[47] While these areas are generally low in density, in some cases they contain land uses that are incompatible with APZs and noise zones.[48] Higher density uses, including mixed-use residential areas, which include local retail establishments, are located predominantly south of the installation, in such areas as downtown Beaufort and Pleasant Point on Lady's Island.

   Lower density residential areas are located along Laurel Bay Road, and along Brickyard Creek, across from the Air Station. According to the Beaufort County Comprehensive Plan, the majority of rural areas in Beaufort County are located in the Sheldon area north of the Whale Branch River, on St. Helena Island, on the northern portion of Lady's Island, and along SC 170 south of the Broad River.[49] Industrial uses are located primarily in the City of Beaufort Industrial Park, west of the Air Station. The majority of commercial uses are clustered along US 21 Business, south of the installation. A commercial corridor extends along the highway from the Parris Island Gateway area to the Greenlawn Drive area.

   Future land use in the MCAS Beaufort area is expected to conform to current development patterns. It is anticipated that low and medium residential and light commercial and industrial uses will continue to be developed within existing land use areas. In terms of density and the potential for incompatible land use, higher density development is anticipated in areas to the northwest, west, and southwest of the installation.[50] As noted in the County's Comprehensive Plan, currently, more rural land remains in the northern portion of the county. All but 11% of the land area in the southern portion of the county is either committed to future development or preserved from development.[51] It is important to note that land acquisition efforts have focused within these areas, in order to obtain compatible land use.[52] Existing and future land use patterns, relative to the anticipated impacts of the F-35B aircraft are detailed in Chapter 3.

   One of the most significant development trends since the adoption of the County's 1997 Comprehensive Plan has been the amount of acreage that has been annexed into municipalities. Beaufort County is home to five municipalities: The City of Beaufort, the Towns of Bluffton, Port Royal, Hilton Head

Island, and Yemassee. Each of these communities, along with the county, maintains its own individual comprehensive plan and land use regulations. The percentage of land within the municipal boundaries has grown from 11.4% to 31.7% within the past ten years.[53]

b. **Affordable Housing and Schools:** The lack of affordable housing and the desire to access Southern Beaufort County schools has caused some MCAS Beaufort personnel to look beyond Northern Beaufort County, the City of Beaufort, and the Town of Port Royal for housing. This has driven demand up in other parts of the County and increases transportation time and costs for those traveling to and from the Air Station. It also may contribute to transportation demands in the JLUS Focus Area.

Selected Public Survey Results

37 individuals stated that the noise from MCAS Beaufort was "so bad I wish I could move."

Development patterns are also influenced by the housing needs of MCAS Beaufort personnel residing within the local area. According to the Beaufort County Comprehensive Plan, Air Station personnel living off the installation have historically resided in the City of Beaufort, the Town of Port Royal, Lady's Island, and unincorporated Port Royal Island.[54] Newer developments in the Shell Point and Burton areas have provided moderately priced housing options. Recent trends include strong residential growth in the southern portion of Beaufort County, in the Bluffton area. See Figure 2-8 above. Anecdotally, during the JLUS study, it was reported that many MCAS personnel have located in the southern county areas seeking affordable, new construction and educational opportunities.

MCAS Beaufort provides financial contributions to the local school systems. Defined as the Federal Impact Aid program, it disburses impact aid payments to local educational agencies (school districts) that are financially burdened by federal activities. These school districts face special challenges — they must provide a quality education to the children living on Federal lands (MCAS Beaufort, MCRD Parris Island and the Naval Hospital) and meet the requirements of the No Child Left Behind Act, while sometimes operating with less local revenue than is available to other school districts, because the Federal property is exempt from local property taxes.

c. **Noise Impacts:** Noise impacts occur both on the installation, and off the installation, within the local community. The level of impact is generally related to the proximity of the noise source. Noise generated from MCAS Beaufort is predominantly from aircraft operations, specifically, maintenance run-ups and flight operations.[55] Noise inquiries, received by the Air Station vary from year to year. In 2010, 58 were received.[56] This is an increase from the two previous years, 2009 and 2008, when 18 were received in each year.[57] MCAS Beaufort works to actively mitigate noise impacts. A variety of techniques are employed on-base for new facilities in order to reduce noise, including optimal siting of facilities, use of noise attenuation in new construction, and construction of indoor testing facilities.[58] Off-base efforts include land acquisition and compatible land use planning.

d. **Environmental Impacts:** Training activities at MCAS Beaufort have the potential to create environmental impacts. These may include impacts to water quality and natural resources, including protected species. In accordance with the Sikes Act, training at MCAS Beaufort is conducted in a way that provides for sustainable, healthy ecosystems, complies with applicable environmental laws and regulations, and provides for no net loss in the capability of military installation lands to support the military mission. At this time, there are no significant environmental concerns that *prohibit* any training activities on MCAS Beaufort.

Selected Public Survey Results

A large majority of respondents recognize the installations' contributions to the regional economy as either "substantial" or "very substantial". More than 75% of respondents believe that the local community must take action to ensure that the economic contributions of the installations are sustained and enhanced.

III. Economic Context

A. Economic Characteristics of the Region

In addition to the Tri-Command military installations that include MCAS Beaufort, the top economic sectors in the local economy include service industries, tourism, and the retirement and vacation home industries.[59] Construction jobs, supported by the retirement and vacation home industries, vary in number based upon cycles in the housing industry.[60] According to the LCOG, during the nation-wide housing boom, construction jobs totaled 5,535 in 2007. This number was down to 3,111 in 2013.

According to economic data from the U.S. Census for 2012, the industry that employs the largest percentage of the Beaufort County civilian worker population is educational services, and health care, and social assistance. This industry employs 13,181 people, nearly 20 percent of the employed civilian population.[61] As shown in Figure 2-9, three additional industries within Beaufort County, also employee over ten percent of the population. They include entertainment and food services, management, and retail. Together, these top four industrial sector employers account for more than half of the county's civilian employment,

with a combined total of 62 percent. Construction and real estate account for 9 percent and 6.1 percent of industry employment, respectively. This is a reflection of the importance of tourism and second homes to the Beaufort County economy. Other top-ten employers include other services, public administration, manufacturing, and information.

As shown in Figure 2-10, Beaufort County experienced rapid civilian job growth between 2000 and 2010 from 47,862 jobs to 61,870 jobs. This growth has continued, with an estimated 73,106 civilian jobs, as of 2012, an increase of nearly 53 percent from 2000. Job growth at the county level far outpaced that of the state for the same time period, with South Carolina's civilian employment growing just ten percent between 2000 and 2012, from 1.8 million to 2 million jobs statewide.

Figure 2-9: **Top Ten Industries in Beaufort County 2012**

Industry	Employment	Percentage of Workforce
Educational Services, and Health Care and Social Assistance	13,181	19.5%
Arts, Entertainment, and Recreation, and Accommodation and Food Services	10.806	16%
Professional, Scientific, and Management, and Administrative and Waste Management Services	9,500	14.1%
Retail Trade	8,348	12.4%
Construction	6,134	9.1%
Finance and Insurance, and Real Estate and Rental and Leasing	4,251	6.3%
Other Services, Except Public Administration	3,668	5.4%
Public Administration	3,506	5.2%
Manufacturing	3,420	5.1%
Information	1,983	2.9%

Source: U.S. Census, American FactFinder, Selected Economic Characteristics, 2012 American Community Survey 1-Year Estimates, Beaufort County, South Carolina.

Figure 2-10: **Civilian Labor Force Employment for Beaufort County and South Carolina**

Location	2000	2010	2012 Estimate	2000-2012: Percentage Change
Beaufort County	47,862	61,870	73,106	52.7%
South Carolina	1,824,700	1,955,035	2,007,569	10%

Source: U.S. Census, American FactFinder, Selected Economic Characteristics, 2012 American Community Survey 1-Year Estimates, Beaufort County, South Carolina.

B. Economic Impact of MCAS Beaufort

MCAS Beaufort is a major contributor to the local and state economy both through direct impacts (e.g., employee compensation and local procurements) and indirect impacts (e.g., local spending attributed to military personnel). The Air Station significantly impacts several industry sectors, including health care, real estate, food services, and retail goods.

1. Economic Contributions to Local/Regional Economy

MCAS Beaufort is an important economic generator for the local and state economies. The installation is one of the top employers in the area, with the military contributing to over 50 percent of the economy in northern Beaufort County.[62] According to a report prepared by the University of South Carolina in January 2015, the Air Station generated a total of $767 million in economic activity statewide and supported 7,069 jobs, with approximately $360 million in annual labor income.[63]

With over 4,200 military personnel, civilian and dependents, MCAS Beaufort is one of the region's top employers, having a significant economic impact in the region.[64] The economic impact of MCAS Beaufort is due not only to the direct effect of employment but also from the multiplier effect from the payroll for active duty and inactive duty, and civilians; military retirement and disability pay; and procurement. As shown in Figure 2-11, for Beaufort and Jasper Counties, the total economic impact (or output) of MCAS Beaufort employment is estimated at nearly $608 million for FY 2014.[65]

Figure 2-11: **Economic Impact of MCAS Beaufort in Beaufort and Jasper Counties for FY 2014 (in Millions of Dollars)**

Description	Employment	Labor Income	Output
Direct Effect	4,226	$230.0	$416.9
Multiplier Effect	2,416	$114.7	$190.7
Total	6,642	$344.7	$607.6

Source: *The Economic Impact of South Carolina's Military Community: A Statewide and Regional Analysis,* Prepared at the request of the South Carolina Military Base Task Force by: University of South Carolina, Darla Moore School of Business, Division of Research, January 2015.

IV. Demographic Context

A. Historic Growth Trends

According to LCOG, Beaufort County "experienced unprecedented growth, development, and change between 1990 and 2005."[66] Although growth slowed from 2007 to 2010, following national trends, economic and population growth continued to strengthen again in 2012.

MCAS Beaufort is located within two of the JLUS Jurisdictions, the City of Beaufort and Beaufort County. An additional JLUS Jurisdiction is the Town of Port Royal. As shown in Figure 2-12, these three JLUS Jurisdictions contained a total estimated population of 187,228 residents. The majority of these residents, 87 percent, were in unincorporated Beaufort County, with 162,233 residents. The City of Beaufort and the Town of Port Royal contain 8 and 6 percent of the JLUS Jurisdiction population total, respectively. With regard to population growth, JLUS Jurisdictions have outpaced the state with an average of 36.3 percent growth from 2000 to 2010. The strong growth occurring within the JLUS Jurisdictions provides an opportunity for MCAS Beaufort to work with the surrounding communities in order to shape the direction of future growth.

B. Projected Population Growth

Beaufort County is projected to continue strong population growth into the future. This growth is expected to outpace the growth statewide. As shown in Figure 2-13, the county is projected to increase in population by 33% from 2010 to 2030 from 162,233 to 215,300. For the same time period, the state of South Carolina is expected to grow at 18%, from just over 4.5 million to nearly 5.5 million.

Figure 2-12: **Population Change, 1990-2020**

Jurisdiction	1990	2000	2010	2020 Estimate	Percentage Change 2000-2010	Percentage Change 2000-2020
City of Beaufort	9,576	12,789	14,317	18,652	11.9%	30.3%
Town of Port Royal	2,966	3,950	10,678	N/A	63%	N/A
Beaufort County	86,425	120,937	162,233	185,220	34.1%	14.2%
JLUS Jurisdiction Total	**98,967**	**137,676**	**187,228**	**N/A**	**36.3% (Average)**	**N/A**
South Carolina	3,486,703	4,011,832	4,625,364	5,020,400	15.3%	8.5%

Source: *Air Installations Compatible Use Zones Study for MCAS Beaufort,* United State Department of the Navy, Naval Facilities Command Atlantic, Norfolk, Virginia, 2013, page 2-19, (USCB 2009 and 2010 and City of Beaufort)

Figure 2-13: **Population Change, 2010-2030**

Location	2010 Population	2030 Population Estimate	Percentage Change 2010-2030
Beaufort County	162,233	215,300	33%
State of South Carolina	4,625,364	5,451,700	18%

Source: U.S. Census Bureau, Census 2010, www.sccommunityprofiles.org. Population projections calculated by South Carolina Budget and Control Board, Office of Research and Statistics.

Figure 2-14: **2010 Population Density of Urban and Rural Areas**

Location	Urban Population	Urban Population as Percentage of Total	Rural Population	Rural Population as Percentage of Total
Beaufort County	130,360	80%	31,873	20%
South Carolina	1,423,307	66.6%	714,376	33.4%

Source: U.S. Census, American FactFinder, Urban and Rural Universe: Total population 2010 Summary File 1, Beaufort County, South Carolina.

Figure 2-15: **Population Density of Beaufort County**

Year	Population Density (People per Square Mile)	Population Density (Housing Units per Square Mile)
2000	206	103
2010	281.5	161.4

Source: U.S. Census, American FactFinder, 2000 Census and 2010 Census, Beaufort County, South Carolina.

C. Population Density

Strong growth within the JLUS Jurisdictions impacts land use and density. Currently, the land use in Beaufort County is predominantly non-agricultural. According to data from the U.S. Department of Agriculture's National Agricultural Statistics Service, in 2010, Beaufort County had 137 farms, with an average size of 308 acres, totaling 42,177 acres.[67] This acreage amounts to approximately 11 percent of the county's land area, of approximately 368,819 total acres. This predominance of non-agricultural land use is also reflected within the breakdown of county population living within urban and rural areas. As shown in Figure 2-14, according to the U.S. Census, Beaufort County had 130,360 residents (or 80 percent) living within urban areas and just 31,873 residents (or 20 percent) within rural areas.

Population density for Beaufort County has increased over time, along with population growth. As shown in Figure 2-15, the 2010 population density is 281.5 people per square mile and 161.4 housing units per square mile. This represents an increase from the 2000 population density of 206 people per square mile and 103 housing units per square mile.

V. MCAS Beaufort's Environmental Resources Context

A. Environmental Compliance Program

MCAS Beaufort must comply with all applicable environmental compliance program requirements, as specified in the Marine Corps' Environmental Compliance and Protection Manual (MCO P5090.2A 21 May 2009).

1. Air Quality Management

Air quality management requirements include compliance with all federal, state, and local laws, regulations, and ordinances on Marine Corps active and reserve installations and activities. This includes all air quality and emissions requirements for stationary,

mobile, and fugitive sources of emissions. Requirements include: Clean Air Act (CAA) requirements for the prevention of accidental releases of hazardous and extremely hazardous substances (EHSs) including Risk Management Plans; annual air emissions reporting requirements under the Toxic Release Inventory (TRI) provisions; use of ozone depleting substances (ODSs) and ODS reserve, and ODS reduction requirements; radon policy; and the Marine Corps Asbestos Safety Program and workplace policy.

2. Hazardous Waste Management

Hazardous waste management requires compliance with statutory and regulatory requirements. This includes compliance with the Resource Conservation and Recovery Act (RCRA) program, which may be enforced by federal or state government.

3. Water Quality Management

Water quality management includes compliance with federal water pollution control requirements under the Clean Water Act (CWA). It includes regulatory compliance for sanitary or industrial wastewater discharges; stormwater runoff; nonpoint source pollution; sewage sludge generation; and facilities involved in the transfer, storage, and transportation of petroleum, oil, and lubricants (POL), and hazardous materials which may involve discharge or runoff. Compliance with the national federal permit program under the CWA is the National Pollutant Discharge Elimination System (NPDES) is required, as administered by the Environmental Protection Agency (EPA). The base no longer holds permits for their water and wastewater treatment plants. They were transferred to the Beaufort Jasper Water and Sewer Authority.

4. Installation Restoration Program

The installation restoration program requires the identification, investigation, and clean up or control of hazardous substance (HS) releases from past waste disposal operations and spills at Marine Corps installations. It includes compliance with Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA).

5. Solid Waste Management and Resource Recovery

Solid waste management and resource recovery requires compliance with statutory and procedural requirements such as the Solid Waste Disposal Act (SWDA) for solid waste (SW) disposal, waste minimization, recycling, and resource recovery requirements. Regulated activities include thermal processing of 50 tons or more per day of municipal-type SW; storage or collection of residential, commercial, and institutional SW; the sourcing of separate materials for recovery; the purchase of products that contain recycled materials; operation land disposal sites or use commercial off-site landfills for SW disposal; and the generation of solid waste recycling revenue.

B. Natural Resource Management Program

There are five federally-listed threatened or endangered species on MCAS Beaufort, including the American alligator, bald eagle, pondberry, southeastern myotis, and wood stork. However, the presence of these species does not currently impact mission operations at the installation. MCAS Beaufort's value as an air installation is enhanced because its training space is largely unimpeded by environmental constraints.

Responsibility for the management of natural resources at MCAS Beaufort is that of the Logistics Officer (G-4). The G-4 supervises and manages the Natural Resources and Environmental Affairs Officer (NREAO). The NREAO directs and coordinates the natural resources management program, supervising the natural resources manager (NRM) and the conservation law enforcement officer (CLEO).

The Integrated Natural Resources Management Plan (INRMP) guides the management of natural resources on MCAS Beaufort over a ten-year time period. It is reviewed annually, with a five-year update and approval cycle. The INRMP is the responsibility of the MCAS Beaufort Commanding Officer.

1. Wetlands

MCAS Beaufort contains both freshwater and estuarine wetlands. The larger wetlands are estuarine, and located along Brickyard and Albergottie Creeks. The freshwater wetlands are smaller in size and include forested and non-forested wetlands. Vegetation in the freshwater wetlands is comprised of overstory vegetation and, potentially, midstory and shrub layers, including:

- Overstory: slash or loblolly pine, Chinese tallow, blackgum, and/or red maple overstory;
- Midstory: smaller examples of the overstory species; and
- Shrub Layer: bitter gallberry, wax myrtle, and briars.

The estuarine wetlands include smooth cordgrass and salt-meadow areas. Vegetation found in these areas includes

- black needlerush, saltgrass, and sea oxeye; and
- other species, including various bulrushes and sedges[68]

2. Threatened and Endangered Species

MCAS Beaufort provides important habitat for a number of animal species. The wetland areas provide habitat for rails, blackbirds, wading birds, raccoon, otter, alligator, wood stork, osprey and bald eagle.[69] Creeks and rivers on the installation provide habitat for flounder, sheepshead, black drum, black sea bass, pin fish, croaker, spotted sea trout, channel bass, whiting, rock bass, mullet, ladyfish, and immature stages of many other species. Local waters in the area contain oysters, hard clams, shrimp, and blue crabs.[70]

As shown in Figure 2-16, threatened and endangered animal species known to reside on MCAS Beaufort include a federally listed threatened species, the American alligator found in the

permanent and semi-permanent freshwater wetlands.[71] A state-listed endangered species, the Bald Eagle, is known to nest on the installation.[72] In addition, the federally listed endangered species, the Wood Stork, has been observed as a migrant species, flying over Laurel Bay.[73] The Southeastern Myotis, a threatened state species, is a confirmed resident having been captured at Laurel Bay by a state biologist. Finally, one federally-listed plant species, Pondberry, has been confirmed on MCAS Beaufort at four different locations.[74]

For a complete list of federal and state-listed threatened or endangered animal and plant species that occur or potentially occur on MCAS Beaufort, see Figure 2-16, below.

Figure 2-16: **Federal and State Listed Threatened and Endangered Animal Species That Occur or Potentially Occur on MCAS Beaufort**

Species Name	Scientific Name	Federal Status	State Status	Occurrence and Habitat
American Alligator	*Alligator mississippiensis*	Threatened due to Similarity of Appearance		Confirmed Resident
Flatwood Salamander	*Ambystoma cingulatum*	Threatened	Endangered	Unlikely Resident
Dwarf siren	Pseudobranchus striatus		Threatened	Possible Resident
Spotted Turtle	Clemmys guttata		Threatened	Possible Resident
Eastern Diamondback	*Crotalus adamanteus*	Candidate		Likely Resident
Piping Plover	*Charadrius melodus*	Threatened	Threatened	Unlikely Migrant or Occasional Visitor
Wilson's Plover	Charadrius wilsonia		Threatened	Possible Migrant or Occasional Visitor / Possible Resident
Swallow-tailed Kite	Elanoides forficatus		Endangered	Likely Migrant or Occasional Visitor
American Peregrine Falcon	*Falco peregrinus anatum*		Endangered	Possible Migrant or Occasional Visitor
Bald Eagle	Haliaeetus leucocephalus		Endangered	Confirmed Migrant
Wood Stork	*Mycteria Americana*	Endangered	Endangered	Confirmed Migrant
Red-Cockaded Woodpecker	*Picoides borealis*	Endangered	Endangered	Possible Resident
Least Tern	Sterna antilarum		Threatened	Likely Migrant or Occasional Visitor/ Possible Resident
Bachman's Warbler	*Vermivora bachmanii*	Endangered	Endangered	Unlikely Migrant or Occasional Visitor
Bachman's Sparrow	Aimophiola aestivalis		Of Concern, State	Possible Resident
West Indian Manatee	*Trichechus manatus*	Endangered	Endangered	Possible Migrant or Occasional Visitor
Southeastern Myotis	Myotis austroriparius		Threatened	Confirmed Resident
Rafinesque's Big-eared Bat	Corynorhinus rafinesquii		Endangered	Possible Migrant or Occasional Visitor/ Possible Resident
Northern Yellow Bat	Lasiurus intermedius		Of Concern, State	Possible Resident
Atlantic Sturgeon	*Acipenser oxyrinchus*	Endangered	Endangered	Possible Migrant or Occasional Visitor
Shortnose Sturgeon	*Acipenser brevirostrum*	Endangered	Endangered	Possible Migrant or Occasional Visitor

Source: *Integrated Natural Resources Management Plan for the Marine Corps Air Station Beaufort*, Beaufort, South Carolina, 2013

3. Wastewater Management

Water resources are important to the economy of Beaufort County, given the importance of tourism, recreation, and commercial fishing. Water quality standards are maintained by cooperation between MCAS Beaufort and local utilities. Water quality improvement has resulted from consolidation of MCAS Beaufort's water and wastewater treatment system with the Beaufort-Jasper Water and Sewage Authority (BJWSA). In 2008, BJWSA took over operation of the MCAS Beaufort water and wastewater utility systems, including making necessary upgrades to aging components of the existing infrastructure. A new system was developed with $42 million in funding from the U.S. Department of the Navy. It involved closure of the MCAS Beaufort wastewater treatment plant and use of the BJWSA's Port Royal Island Water Reclamation Facility (PRIWRF). This consolidation has resulted in the reduction of National Pollutant Discharge Elimination Systems (NPDES) program permits to one wastewater discharge site located near the J.E. McTeer Bridge. Due to water quality improvement, the South Carolina Department of Health and Environmental Control will now consider reclassifying Albergotti Creek and a portion of the Beaufort River to allow oyster and shellfish harvesting.[75] In 2014, a Municipal Separate Storm Sewer Systems (MS4) permit area was designated by the South Carolina Department of Health and Environmental Control (DHEC) for the southern portion of Beaufort County. South of the Broad River, the MS4 permit area is comprised of the Towns of Bluffton and Hilton Head.[76] The Beaufort County Stormwater Implementation Committee (SWIC) is evaluating options for the MS4 permit application. In addition, Beaufort County is funding a study of its current stormwater programs in order to develop a one to two year work plan.[77]

4. Stormwater Management

Water quality is of vast importance to Beaufort County. It is seen as the lifeblood of the area's recreation, fishing, and tourism industries, as well as a key factor in the high quality of life of the county's residents. Beaufort County has levied a stormwater management fee on all property owners, to include both the Marine Corps installations in the county. Marine Corps counsel, however, believes that the language in the stormwater management ordinance effectively renders the fee a tax and, since a local entity may not tax the federal government, the Marine Corps should be exempt from paying the management fee. Though not directly related to encroachment issues, this issue remains a source of community-military friction for some. In addition, there is a possibility of more stringent stormwater requirements in the future, especially if efforts to list Port Royal Sound as an Estuary of National Significance are successful.

5. Coastal Zone Management

In compliance with the federal Coastal Zone Management Act (CZMA), the Marine Corps must ensure that activities occurring within the coastal zone, or having a direct affect upon it, are consistent with approved coastal zone management programs.[78] The state of South Carolina has a Coastal Zone Management Program (SC CZMP), which was established in 1977 under the 1972 federal Coastal Zone Management Act guidelines.[79] The program is a partnership with federal, state, and local governments to address environmental and historical and archaeological property protection. The regulatory authority for SC CZMP is under the South Carolina DHEC Office of Ocean and Coastal Resource Management (DHEC-OCRM) as authorized under the state's Coastal Tidelands and Wetlands Act. It involves the management of development in critical areas, which include coastal waters, tidelands, and beach/dune systems, and beaches. This is accomplished through a permitting and certification program that affects the eight coastal counties, within the state, including Beaufort. The MCAS Beaufort INRMP is consistent with the South Carolina Coastal Zone Management Plan (CZMP).[80]

C. Climate Change and Sea Level Rise

Climate change has been identified as a potential concern for operational and installation sustainability. The threat of sea level rise, increased temperatures, drought events, and increased storm frequency and severity has far-reaching implications for both MCAS Beaufort and the neighboring communities. These potential climate-induced effects have the potential to impact MCAS Beaufort's facilities and infrastructure, in turn hindering the installation's ability to effectively perform operations and mission-related training. The low-lying topography of the South Carolina lowcountry makes the area especially vulnerable to even slight rises in sea level.

In 2009, Task Force Climate Change (TFCC) was established by the Chief of Naval Operations in order to address the impact of a "changing Arctic and global environment".[81] In addition to a plan to address climate change in the Arctic, the TFCC also developed a plan to address its impact on other regions, including installations. The document, *U.S. Navy Climate Change Roadmap,* identifies objectives for observing, predicting, and adapting to climate change during the Fiscal Year (FY) 2010-2014 time period.

The Climate Change Roadmap identifies climate change as a security threat. It acknowledges that climate change is impacting installations and access to resources worldwide. The intent of the document is to address the Navy's climate change concerns, in the near-term, mid-term, and ongoing, as follows:

- Near-term (FY10-11): develop partnerships to respond to climate change, assess effects of climate change, monitor the Navy's carbon footprint reduction achieved through Task Force Energy's (TFE) energy security initiatives
- Mid-term (FY12-12): address sea level rise impacts on infrastructure and real estate through strategic investments, develop and implement installation adaptation strategies to address water resource challenges, consider impact of climate change on future missions and force structure
- Ongoing: maintain awareness of the areas in which climate change impacts and knowledge require more understanding

and may be significant for the Navy, including ocean acidification, abrupt climate change, and geoengineering.[82]

The Roadmap references the southeast and coastal areas, such as the MCAS Beaufort region. Specifically, drought in the southeast is identified as a challenge to water resource management; a sea level rise and storm surge in coastal areas is expected to increase the frequency of inundation of coastal infrastructure.

Given its coastal location, MCAS Beaufort likely is susceptible to a variety of impacts of climate change. They include sea level rise and increased storm surge.

VI. MCAS Beaufort's Cultural Resources Program

The site of MCAS Beaufort has a long history and adds to the region's overall historic resources. The acreage occupied by MCAS Beaufort was formerly the site of several prominent Lowcountry plantations and, during the Revolutionary War, British troops landed at what is now the Laurel Bay Housing area and battled American troops at Gray's Hill. The Beaufort area also played prominently in the Civil War when it served as a staging area for both Confederate and Union troops.

A. Historical Relevance to the Region

MCAS Beaufort has considerable historical relevance in the region. The site of the Air Station and Laurel Bay Housing has been inhabited by settlements for over 10,000 years.[83] Native Americans established seasonal camps in the area in order to utilize the area's estuarine resources. European exploration of the area began in the 1500s. The French established Charlesfort in 1562 on the site of the current location for MCRD Parris Island. It later became the site of the Spanish colony of Santa Elena in 1566. The area was not permanently settled until the 1700s. The City of Beaufort was founded by the English in 1711. The city became known for shipbuilding and trade. Crops including cotton, indigo, and rice were cultivated on large-scale plantations, with slave labor. During the American Revolution, the area was occupied periodically by the British, including Port Royal Island. In the post-Civil War period of the late 1800s, plantation lands were subdivided into smaller parcels. Agriculture continued, with many areas under cultivation by newly-freed African slaves. Cultivation changed at the turn of the Century with cotton giving way to food crops and forests being harvested for lumber. In the 1940s, lands were obtained by the Navy for construction of a Naval Air Station, which later became MCAS Beaufort.

In 1943, the Civil Aeronautics Authority established Naval Air Station Beaufort. During World War II, anti-submarine patrol squadrons conducted advanced training and operations. After the war, in 1946, the installation was deactivated. It was reactivated in 1956 as a Marine Corps Auxiliary Airfield. It was designated a Marine Corps Air Station in 1960. In 1975, the airfield was named Merritt Field after retired MGen. Louis G. Merritt, USMC.

B. Archeological/Architectural Resources

MCAS Beaufort completed an update to its Integrated Cultural Resources Management Plan (ICRMP) in 2007. The ICRMP is a five-year plan regarding installation management of cultural resources in compliance with statutory, and other, requirements. Part of the installation master plan, the ICRMP is a decision document that allows for the integration of cultural resource requirements with ongoing mission activities so the availability of mission-essential land is maintained and compliance with requirements is achieved.

The first survey of archaeological resources at MCAS Beaufort was done in 1980. Almost the entire installation and housing area has been surveyed, with the exception of the cantonment area, moat areas that border runways, and the yards of housing areas. Additional surveys to comply with Section 106 of the National Historic Preservation Act (NHPA) will be done in these areas, as projects are planned for previously undisturbed areas. All reports have been filed with the Natural Resource and Environmental Affairs Office (NREAO) at MCAS Beaufort and at the South Carolina Institute of Archaeology and Anthropology (SCIAA).[84]

A total of 186 archaeological sites have been identified at MCAS Beaufort and the Laurel Bay housing area to date.[85] In addition, fourteen sites at TBR have been identified. With regard to National Register of Historic Places (NRHP) eligibility, the following determination has been made:

- 12 sites were found to be eligible for the NRHP;
- 30 sites were found to be potentially eligible for the NRHP; and
- 144 sites were found not eligible for the NRHP.

One of these sites is currently listed on the NRHP. The Tabby Ruin, or Tabby Wall site, is within the Laurel Bay Housing area. Located along the Broad River, the long tabby wall is considered a property line between two plantations owned by the Barnwell family – the Woodward Plantation and Laurel Bay Plantation.[86]

Architectural resources at MCAS Beaufort and the Laurel Bay housing area have also been surveyed extensively. A 2001 survey evaluated all structures at both locations. At MCAS Beaufort, a

total of seven buildings were identified as over 50 years of age; however, none of these met NRHP criteria. Periodic evaluations are recommended to be conducted every five-years, to evaluate additional structures meeting the age criteria. Additionally, evaluations and/or coordination with the South Carolina State Historic Preservation Office should be conducted on an as-needed basis when demolitions of structures or buildings 45- 50 years old are planned or proposed.[87]

C. Relationship with Native American Tribes

As part of the management of cultural resources, MCAS Beaufort coordinates construction activities and access to cultural sites by working cooperatively with a number of Native American Tribes. Tribes are included in distributions of plans and documents that may affect Native American lands.

In 2001, MCAS Beaufort began annual meetings with Native American tribes. In March 2005, the Air Sir Station became the first Marine Corps installation to sign a Memorandum of Understanding (MOU) with a Native American tribe. The MOU was signed in Oklahoma by the MCAS CO Col. Harmon Stockwell with the leaders of three Creek Nation tribal towns, Thloptlocco, Alabama-Quassarte, and Kialegee. During that time period MOUs were also signed with the five Native American tribes referred to as the Five Civilized Tribes, American Indian nations that lived in the Southeastern U.S. before their displacement. They include the Cherokee, Chickasaw, Choctaw, Muscogee (Creek) and Seminole Nations. The MOUs discuss the discovery and excavation of archaeological materials. In September 2005 members of the Cherokee Nation, the Seminole Nation of Oklahoma, and Muscogee (Creek) Nation visited MCAS Beaufort.

Chapter 3

Land Use Compatibility Analysis

Chapter 3 describes:

- the current and projected training and operational footprints for the training mission at MCAS Beaufort within the JLUS Focus Area and by JLUS Jurisdiction
- existing and future land uses within the JLUS Focus Area around MCAS Beaufort
- land use compatibility within the JLUS Focus Area based on the anticipated F-35B mission footprint

I. Introduction

The Land Use Compatibility Analysis is intended to provide insight into the current and future state of compatibility between operations occurring at Marine Corps Air Station Beaufort and civilian land use and development activity in the area surrounding the Air Station. As this analysis is being conducted only a short time after the release of an Air Installations Compatible Use Zones Study for the Air Station (2013 AICUZ), the data and assumptions used in this study track closely with those used in the AICUZ in order to maintain a degree of consistency between the two. The Land Use Compatibility Analysis does, however, seek to offer a somewhat different perspective on land use compatibility and provide additional insight into the current and future state of compatibility between the Air Station and the neighboring civilian communities.

A. Joint Land Use Study Focus Area

In order to narrow the geographic scope of the compatibility analysis, the JLUS Policy and Technical committees established a JLUS "Focus Area". The JLUS Focus Area (see Figure 3-2) is based upon the known military operational impacts that the participating communities have identified through the 2013 AICUZ, previous AICUZ studies, and Joint Land Use studies, as well as local knowledge of land use, growth patterns and military operational impacts. The selected JLUS Focus Area includes the area that is within the 65 dB+ DNL noise contour as established in the 2013 AICUZ, as well as those areas that fall within one mile of the Air Station boundary, but which are outside of the 65+ dB DNL noise contour.

B. JLUS Focus Area Jurisdictional Distribution

The JLUS Focus Area falls within the territorial jurisdiction (for land use regulatory purposes) of both Beaufort County and the City of Beaufort (see Figure 3-3). The distribution of jurisdiction between the city and county is shown in Figure 3-1 below. Since this study is focused primarily on land use in the civilian communities, the Air Station, although within the City of Beaufort, is extracted from the City's jurisdiction statistics in order to better demonstrate the proportional distribution of regulatory responsibility between the city and county. Similarly, water areas were extracted from each jurisdiction' s total and listed separately in the table.

Figure 3-1: **JLUS Focus Area Jurisdictional Distribution**

Jurisdiction	Acres	Square Miles	% of Focus Area
Beaufort County	9,091.8	14.2	39.2%
City of Beaufort	1,457.4	2.3	6.3%
County + City	**10,549.2**	**16.5**	**45.5%**
MCAS Beaufort	5,973.2	9.3	25.8%
Water	6,664.5	10.4	28.7%
Total	**23,186.9**	**36.2**	**100.0%**

II. MCAS Beaufort Air Operations Impacts (2013 AICUZ)

In the selection of the JLUS Focus Area, a primary concern was ensuring that the major "off-station" impacts associated with air operations at MCAS Beaufort were included in the study area. These impacts, which are the basis of regulation for the city and county AICUZ overlay districts, are related to aircraft operational noise and aircraft accident potential. The noise zones and accident potential zones that are identified in the 2013 MCAS Beaufort AICUZ are incorporated into this study, and form the basis for the majority of the analysis that was conducted. These impacts are further described below.

A. Aircraft Operational Noise

The 2013 AICUZ identifies areas on and around the Air Station that are subject to high noise potential. The contours, or gradient, associated with high noise potential correlates with the expected noise levels that will be generated by aircraft operations (primarily F-35B Joint Strike Fighter) in the year 2023, when the Air Station is projected to have fully transitioned from flying F/A-18 aircraft. As this is forward looking, the full noise potential, as shown in the 2013 AICUZ, will emerge gradually as F-35B squadrons become operational and F/A-18 squadron's transition out of service.

The noise contours established in the 2013 AICUZ (see Figure 3-6) are based on the average day-night noise level that is projected to be generated by aircraft operations at the Air Station. Since the contours are based on *average* sound levels (expressed as *X dB DNL*), individual exposure levels from a single aircraft operation may be higher or lower than the level indicated by the noise contour at any particular location. Individual instances of exposure will also vary based upon meteorological conditions, time of day, and other factors that influence noise perception.

For the purposes of this study, the area contained within the 65+ dB DNL noise contour (see Figure 3-6) was chosen as the basis of analysis for aircraft noise impacts. The 2013 AICUZ does extend its analysis out to the 60+ dB DNL contour, but since the basis of regulation, compatibility guidelines, and the 2004 JLUS utilize the 65+ dB DNL contour, it was selected for this study to maintain a consistent approach. A statistical breakdown of the area covered by the noise contours is shown in Figure 3-4 below.

As Figure 3-4 demonstrates, the proportional share of the "off-station" extent of each of the noise zones is inversely correlated with the degree of impact, meaning that areas within the higher noise zones are more concentrated within the Air Station's boundary than outside of it. While the majority of the area covered by the 65-70, 70-75 and 75-80 dB DNL contours is outside of the Air Station's boundary, approximately 75% of the area of the 80-85 dB DNL contour and over 95% of the area of the 85+ dB DNL contour is within the boundary of MCAS Beaufort.

Figure 3-2: **MCAS Beaufort Joint Land Use Study Focus Area**

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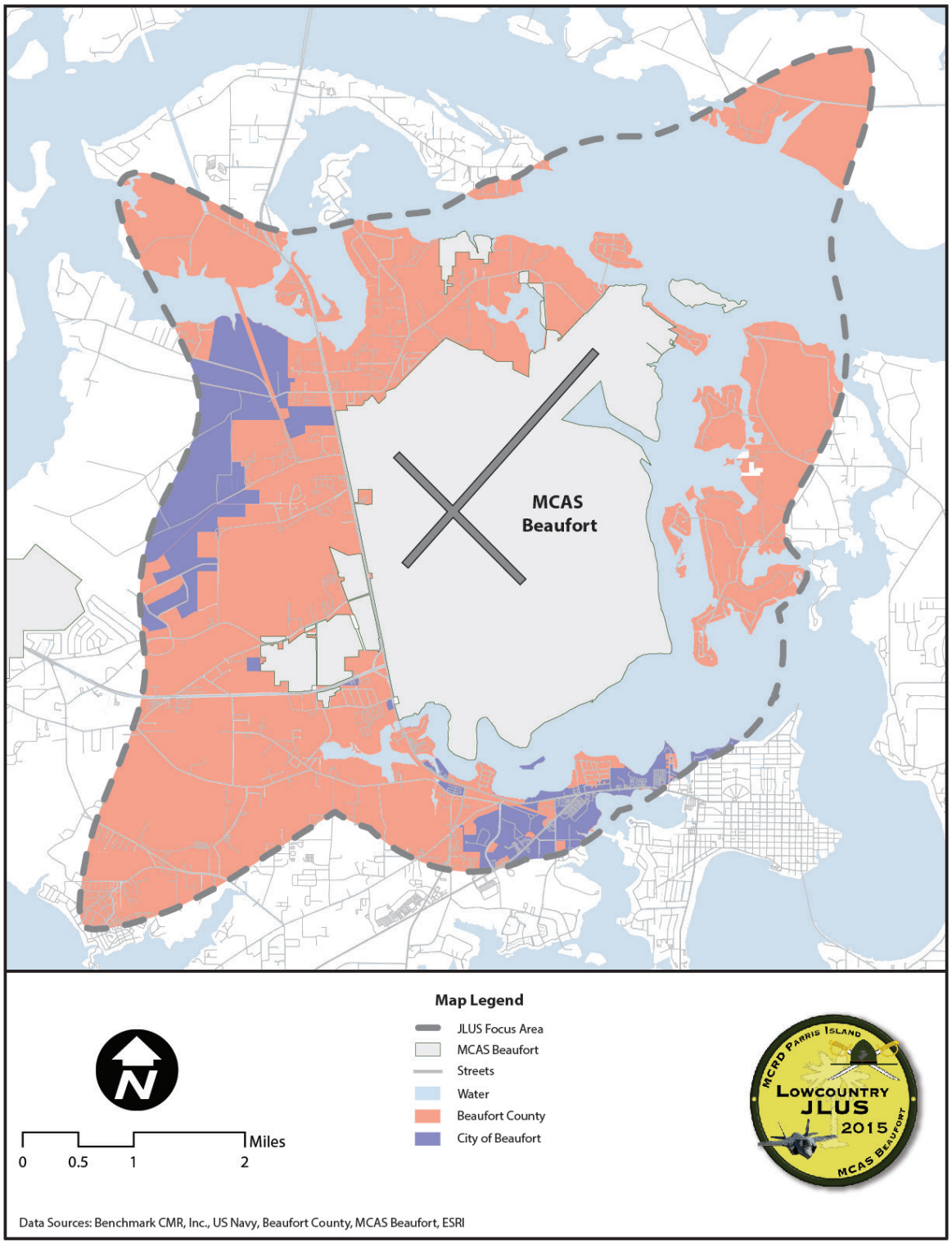

Figure 3-3: **Local Government Jurisdiction in JLUS Focus Area**

Figure 3-4: **2013 AICUZ Noise Zones (65+ dB DNL)**

Noise Zone (dB DNL)	On-Station Acres	Off-Station Acres	Combined Acres	% Off-Station
65-70	216	4,151	4,367	95.1%
70-75	388	3,189	3,577	89.2%
75-80	874	1,698	2,572	66.0%
80-85	1,039	341	1,380	24.7%
85+	2,333	98	2,431	4.0%
Total	4,850	9,477	14,327	66.1%

B. Aircraft Accident Potential

The areas identified in the 2013 AICUZ as being within aircraft accident potential zones (APZ) are shown in Figure 3-7. The APZs consist of a "Clear Zone", within which the highest degree of accident potential exists, and two additional zones, known as APZ 1 and APZ 2, which indicate areas of decreasing risk for accident potential. The size and configuration of these zones, which are associated with military airfields, is dictated by the classification of the runway(s) and the typical flight tracks and operational profile of aircraft operating from the airfield.

While over half of the area covered by the APZs falls outside of the Air Station's boundary, nearly all of the most critical of the APZs, the Clear Zones (CZ), fall within its boundary (the small amount of off-station acreage is primarily road right-of-way). The same is true for APZ 1, the second most critical zone, whose combined acreage falls primarily (nearly two-thirds) within the Air Station's boundary. Although a significant portion of APZ 2 falls outside of the Air Station boundary, a good deal of the area covered by APZ 2 is over water, particularly in the northeastern portion of the JLUS Focus Area. Statistics related to the on and off-station area covered by the APZs is shown in Figure 3-5 below.

C. Combined Aircraft Operational Impacts

The combined extent of the area covered by aircraft noise contours and the accident potential zones is shown in Figure 3-8. As the map shows, there is a strong correlation between the higher noise levels and areas within APZs. Since many of the compatibility issues area similar between noise and accident potential, this coincidence serves to limit the amount of land area where a higher degree of regulation may be necessary to achieve compatibility.

Figure 3-5: **Aircraft Accident Potential Zones**

Accident Potential Zone	On-Station Acres	Off-Station Acres	Combined Acres	% Off-Station
Clear Zone (CZ)	510	11	521	2.1%
APZ 1	836	511	1,347	37.9%
APZ 2	717	3,319	4,036	82.2%
Total	2,063	3,841	5,904	65.1%

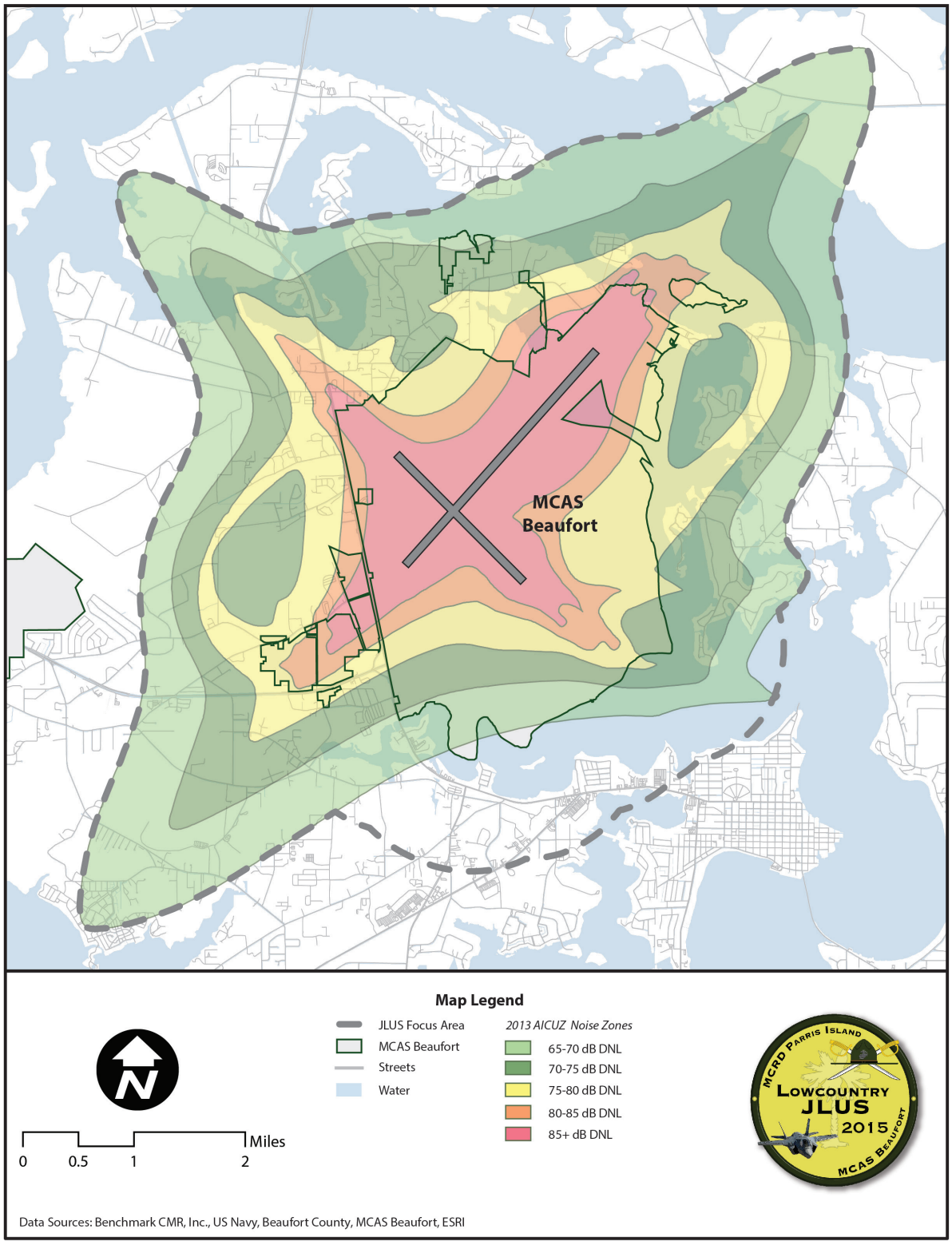

Figure 3-6: **2013 AICUZ Aircraft Noise Contours (DNL)**

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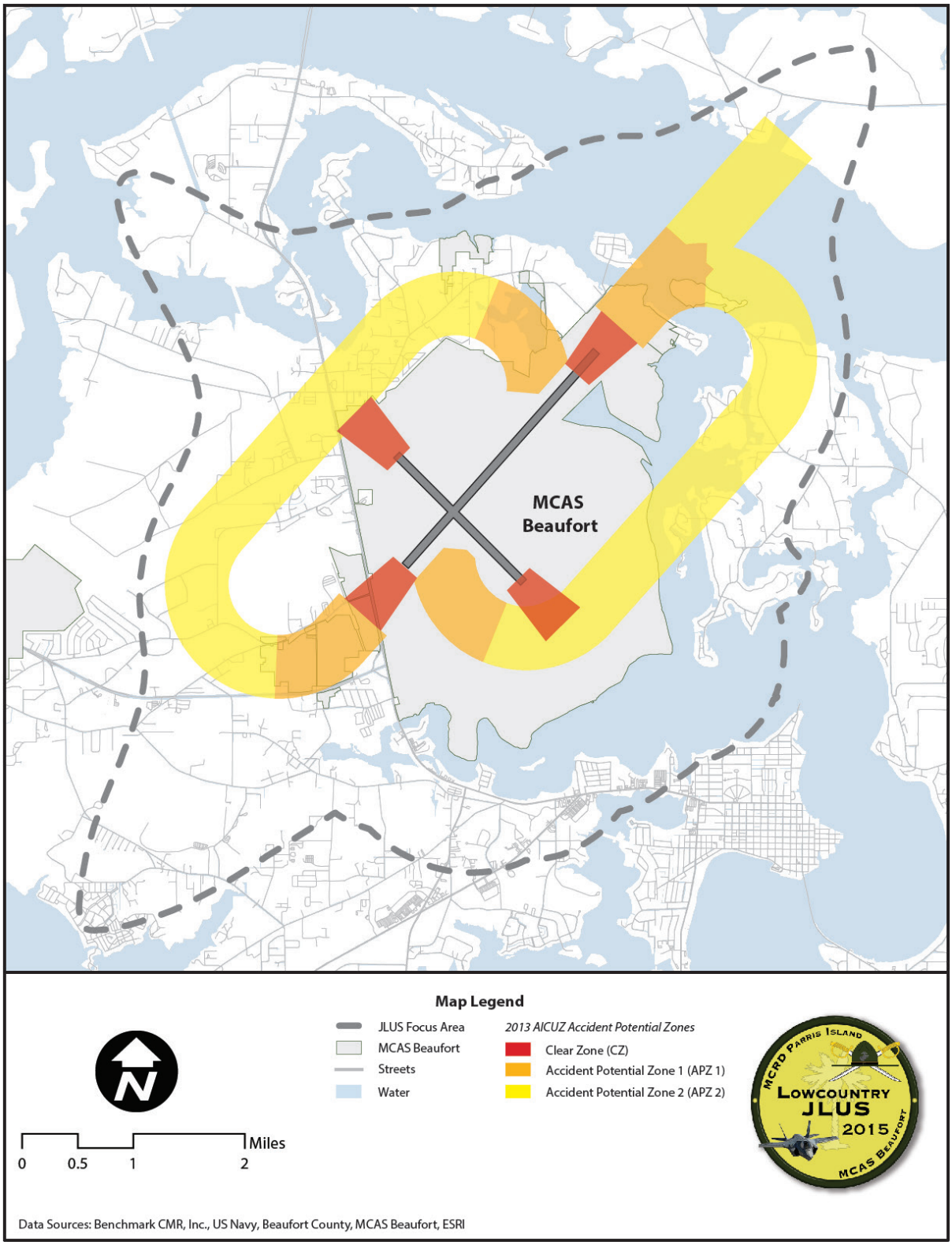

Figure 3-7: **2013 AICUZ Accident Potential Zones (APZ)**

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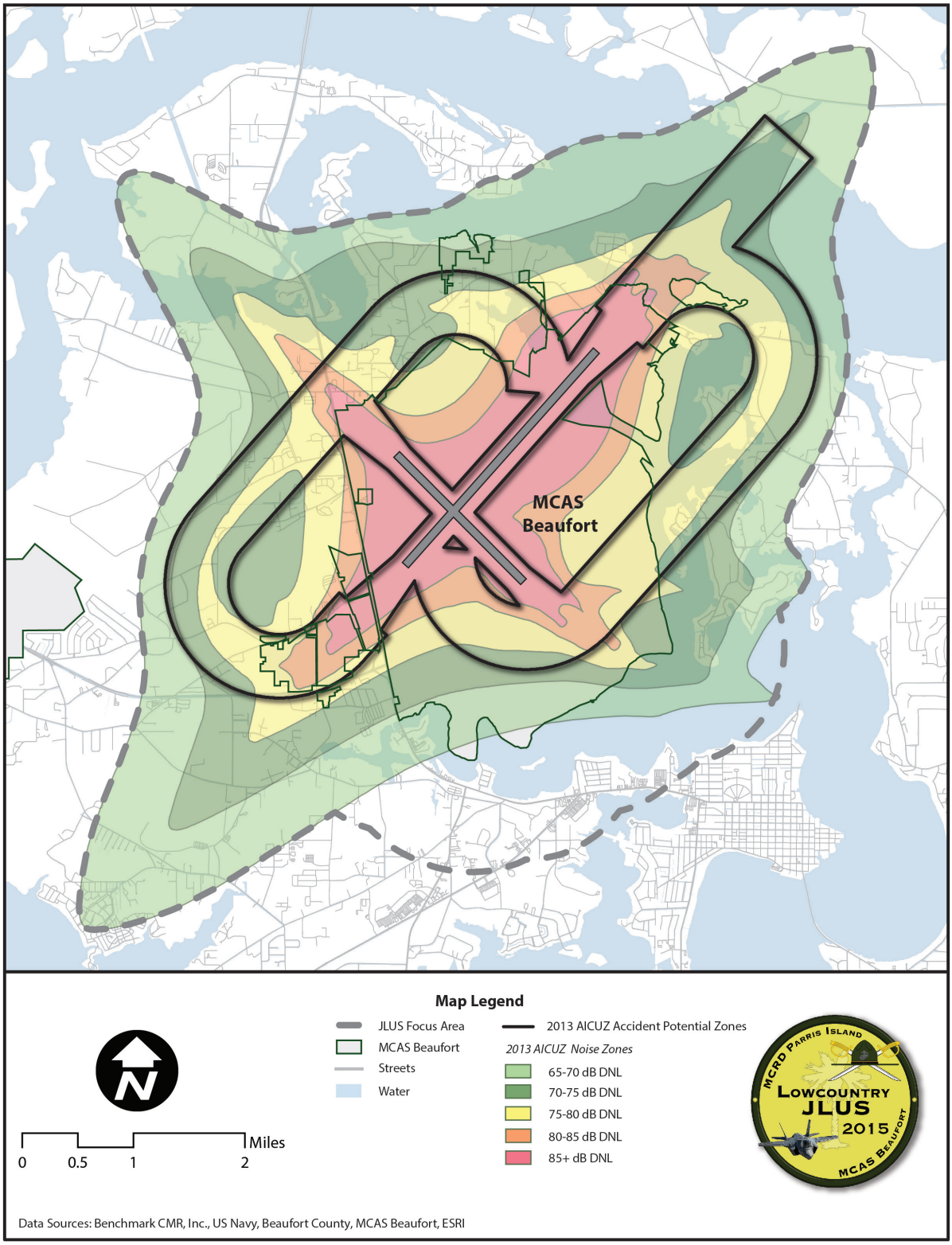

Figure 3-8: **Combined 2013 AICUZ Aircraft Operational Impacts**

III. Current Basis of Compatibility Regulation (2003 AICUZ)

A. Aircraft Operational Noise

Land use compatibility with military aircraft operations at MCAS Beaufort is promoted and protected through a regulatory environment (primarily zoning) that is based on the results of the 2003 AICUZ study for MCAS Beaufort. This study, which was also the basis for land use compatibility recommendations in the 2004 JLUS, utilized noise contours associated with aircraft (F/A-18) and a mission (operational squadrons) that are now in transition. The spatial extent of the 2003 AICUZ noise contours is shown in Figure 3-10, and Figure 3-9 below provides a statistical breakdown of the on and off-station coverage of the 2003 noise zones.

As Figure 3-10 shows, the 2003 noise contour associated with the 65-70 dB DNL level extends outside of the JLUS Focus Area, which coincides with the outer boundary of the 2013 AICUZ 65+ dB DNL contour. Figure 3-9, above, details the extent of each of the 2003 AICUZ noise contours within the JLUS Focus Area. Much like the 2013 AICUZ noise contours, the highest noise levels from the 2003 AICUZ are confined primarily to areas that fall within the Air Station boundary. A more detailed examination of the difference between the 2003 and 2013 AICUZ noise contours is provided in the following Section.

B. Aircraft Accident Potential

No changes were noted between the APZ areas that are currently in use as the basis for promoting land use compatibility and the APZ areas that are established in the 2013 AICUZ.

C. Compatible Use Regulations

The combined noise contours and APZs from the 2003 AICUZ have been utilized by the city and county to promote compatible land use around MCAS Beaufort. The geographic extent of the compatible use regulations based on those impacts is shown in relation to the JLUS Focus Area in Figure 3-11.

Figure 3-9: **2003 AICUZ Noise Zones (65+ dB DNL within JLUS Focus Area)**

Noise Zone (dB DNL)	On-Station Acres	Off-Station Acres	Combined Acres	% Off-Station
65-70	226	2,961	3,187	92.9%
70-75	558	2,675	3,233	82.7%
75-80	1,426	1,474	2,900	50.8%
80-85	1,260	105	1,365	7.7%
85+	1,379	4	1,383	0.3%
Total	**4,849**	**7,219**	**12,068**	**59.8%**

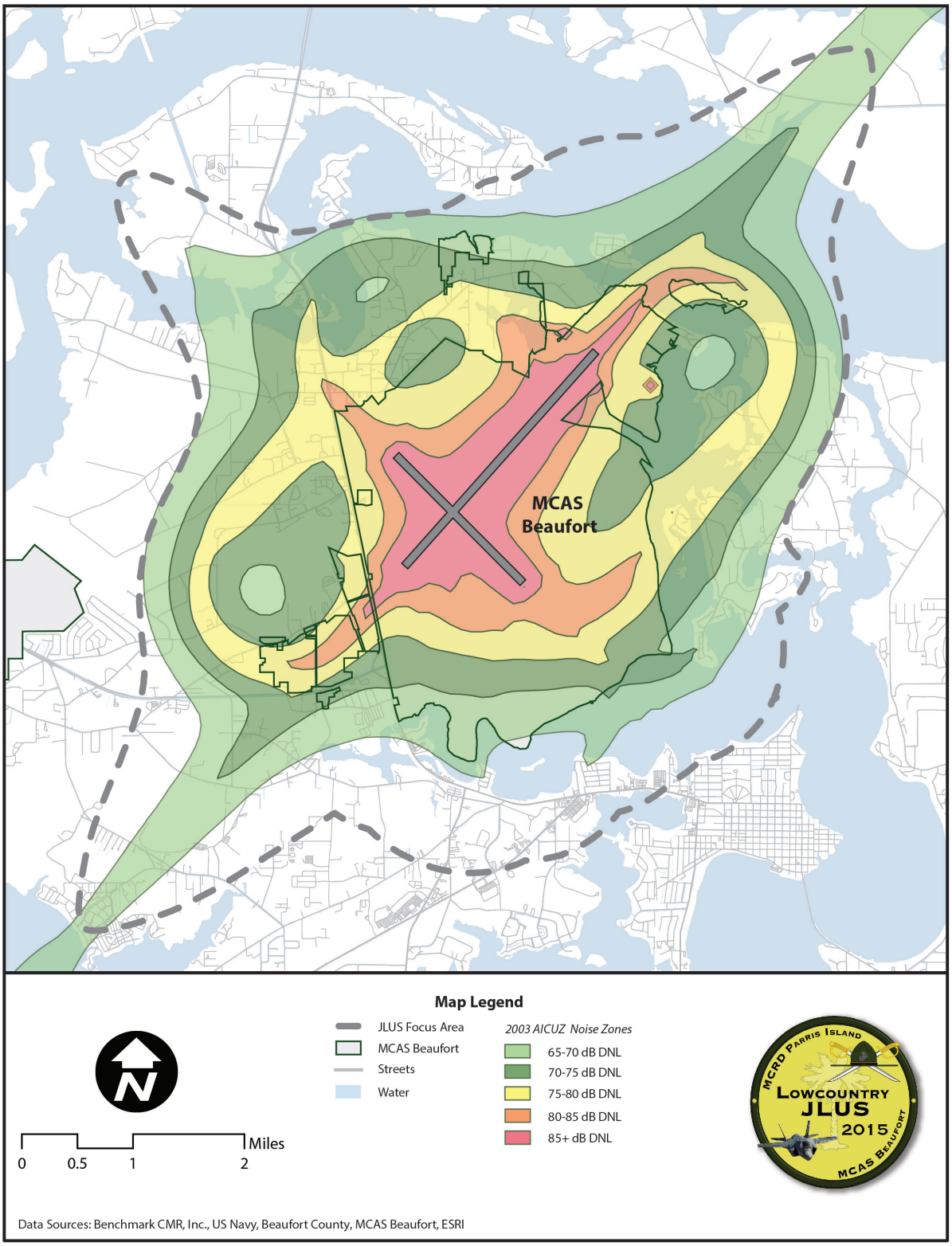

Figure 3-10: **2003 AICUZ Aircraft Noise Contours (F/A-18)**

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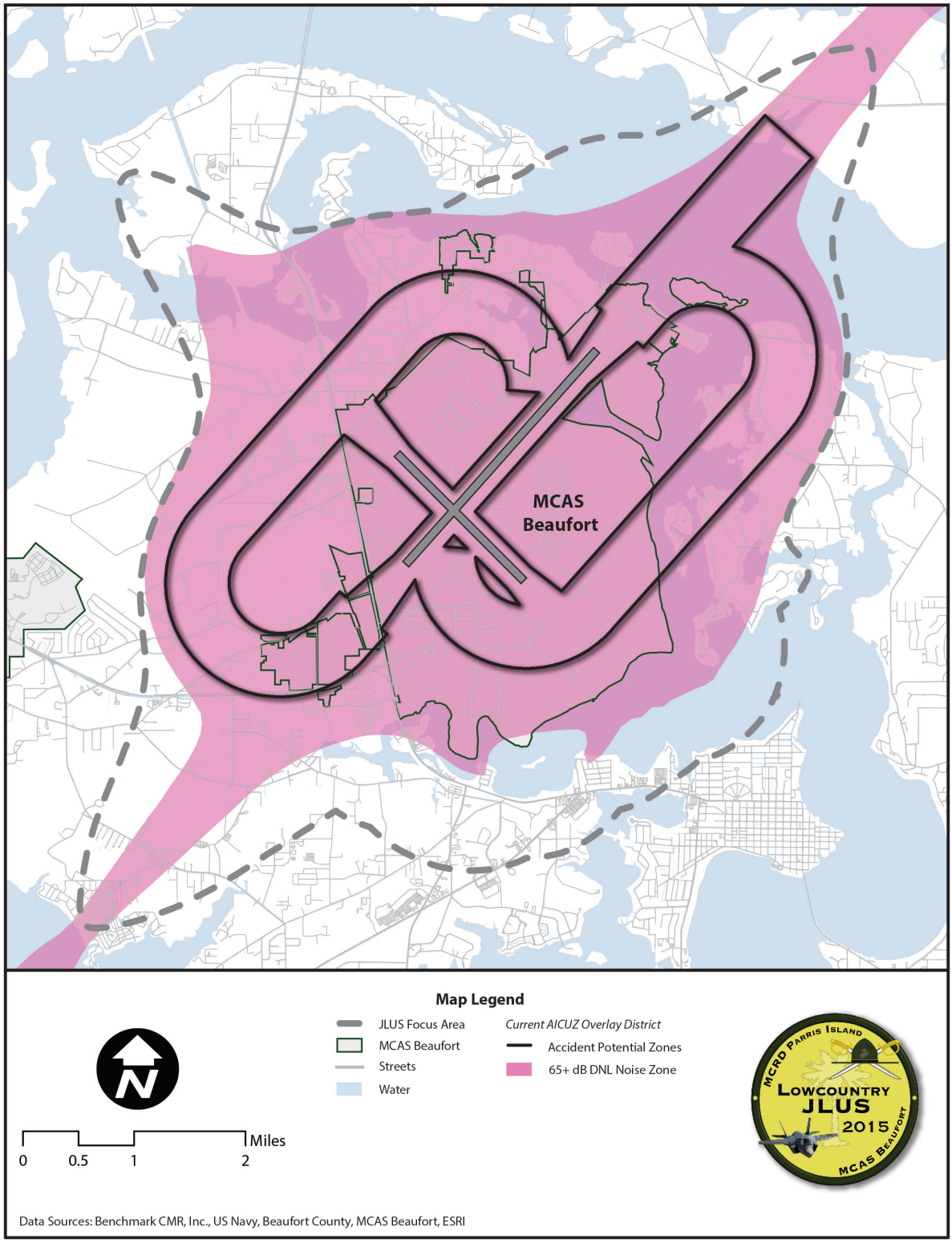

Figure 3-11: **Extent of Compatible Use Regulation (2003 AICUZ Basis of Regulation**

IV. Comparison of 2003 and 2013 AICUZ Noise Contours

The 2003 and 2013 AICUZ noise contours (65+ dB DNL), shown previously in Figures 3-10 and 3-6, respectively, have geographic extents that differ significantly from each other, particularly as it relates to the elongated 65-70 dB DNL contour established in the 2003 AICUZ versus the much more compact 65-70 dB DNL contour established in the 2013 AICUZ. Figure 3-12, below, provides a statistical analysis of the differences between the two AICUZ noise zones (65 dB+ DNL) with respect to the area outside of the Air Station boundary within the JLUS Focus Area. All acreage calculations for the noise zones for the F-18 and the F-365B were localized based on County parcel-level data, which resulted in some variance from the data used by the Navy in its studies. The Policy Committee noted the importance of using consistent data sources and assumptions, where possible, during any subsequent intergovernmental and regional planning initiatives.

In addition to an increase of over 2,250 additional acres falling in the 2013 noise zones within the JLUS Focus Area (a 31% increase), there were noticeable shifts in the spatial extent of the coverage of most of the noise zones between the two studies. Of particular note is the increase in the off-station acreage covered by the highest noise contour (85+ dB DNL) between the 2003 and 2013 studies. The most significant change observed is the difference between the amount of off-station property covered by the 65-70 dB DNL contour inside of the JLUS Focus Area, with a nearly 1,200 acre increase in the area covered by the 2013 AICUZ noise contours as compared to the 2003 AICUZ contours.

Figure 3-12: **Comparison of 2003 and 2013 AICUZ Off-Station Noise Impacts within the JLUS Focus Area**

Noise Zone (dB DNL)	Off-Station Acres		Change 2003 -2013 (Acres)
	2003	2013	
65-70	2,961	4,151	1,190
70-75	2,675	3,189	514
75-80	1,474	1,698	224
80-85	105	341	236
85+	4	98	94
Total	**7,219**	**9,477**	**2,258**

The map in Figure 3-13 details the differences in the area that falls within the 65+ dB noise zone inside of the JLUS Focus Area between the 2003 and 2013 AICUZ studies. As the map shows, the greatest changes observed between the two data sets occurred in the northeastern and southwestern portions of the JLUS Focus Area, where the outer edge of the noise zones expanded greatly. A similar, but smaller expansion occurred in the northwestern portion of the Focus Area, while only a small expansion occurred in the southeast. These changes are examined more closely in the following Section, with a particular focus on the changes in the regulatory "noise zone" areas.

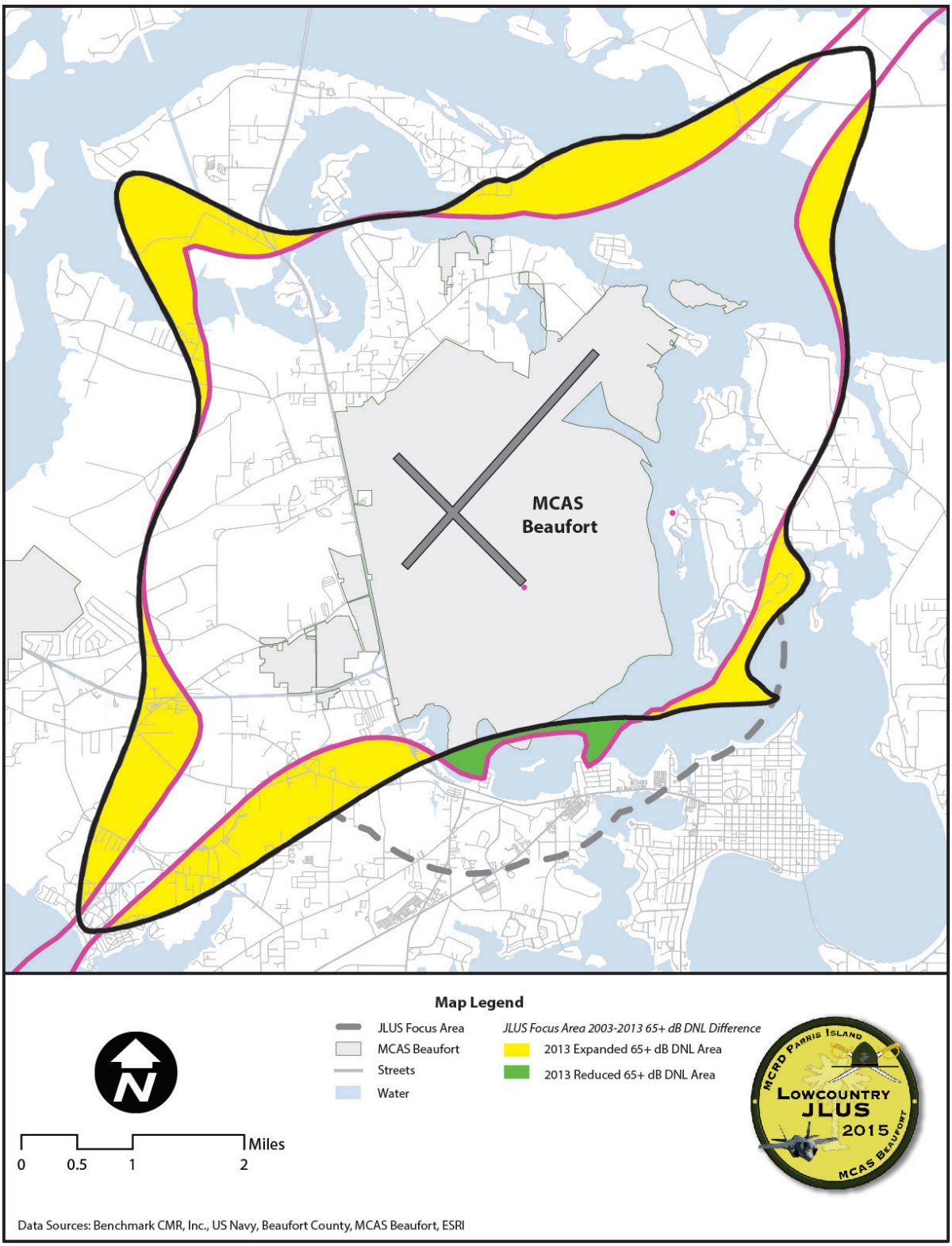

Figure 3-13: **Comparison of 2003 and 2013 AICUZ 65+ dB DNL Contour**

V. Comparison of 2003 and 2013 AICUZ Regulatory Noise Zones

The jurisdictions (Beaufort County and the City of Beaufort) that are currently enforcing compatible use regulations have generalized the noise contour areas for the purpose of regulating land use and development density in accordance with the compatibility guidelines established in OPNAVINST 11010.36C / MCO 11010.16 (Navy and Marine Corps AICUZ Program). Since the extent of the noise contours associated with the regulatory noise zones has changed, this would theoretically bring about a change in local regulation to promote future land use compatibility. For comparison purposes, the previously discussed changes in the noise contours have been translated into the local regulatory noise zones. Figure 3-14 details the changes in the area covered by each of the local regulatory noise zones.

As the table demonstrates, the amount of area within the JLUS Focus Area that is potentially subject to the lowest degree of regulation, Noise Zone 2a, is larger by approximately 1,200 acres. The amount of off-station acreage in the JLUS Focus Area covered by noise zones 2b and 3 each increased by over 500 acres. The total increase is over 2,250 acres, or an increase of approximately one-third in total area covered within the JLUS Focus Area.

The spatial extent of the noise zones that correspond to the noise contours established in the 2003 and 2013 AICUZ studies is shown in the maps in Figures 3-15 and 3-16, respectively. Following that are maps (Figures 3-17 to 3-20) which compare the extent of the area covered by each noise zone as established in the 2003 and 2013 AICUZ studies, including a map detailing areas within the aggregated Zone 2 area (includes Zones 2a and 2b). In addition to showing the expansion of the width and contraction of the length of Zone 2a between the 2003 and 2013 AICUZ studies, the most notable spatial change shown in the maps is the elimination of the Noise Zone 2a "doughnut holes" that were present in the 2003 AICUZ study in the western, northern and northeastern portions of the 2003 Noise Zone 3 area (see Figure 3-20). The maps also detail how the spatial extent of the Noise Zone 2b "doughnut holes" within Noise Zone 3 changed size and shape between the 2003 and 2013 AICUZ studies.

Figure 3-14: **Comparison of 2003 and 2003 Off-Station AICUZ Noise Zones within the JLUS Focus Area**

Overlay Noise Zone *(Noise Contour)*	Off-Station Acres (JLUS Focus Area)		Change 2003 -2013 (Acres)
	2003	2013	
Noise Zone 2a *(65-70 dB DNL)*	2,961	4,151	1,190
Noise Zone 2b *(70-75 dB DNL)*	2,675	3,189	514
Noise Zone 3 *(75+ dB DNL)*	1,583	2,137	554
Total	7,219	9,477	2,258

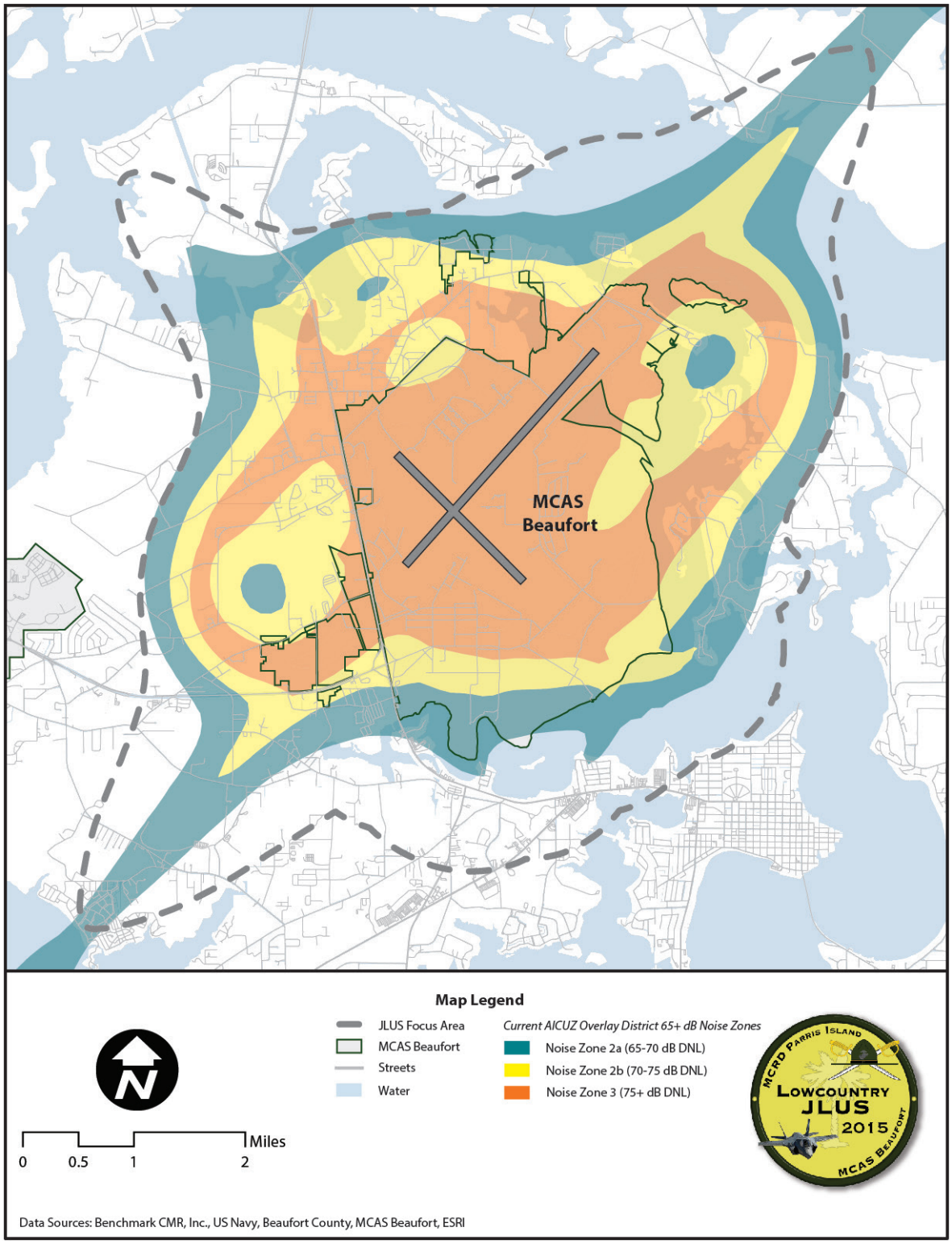

Figure 3-15: **Regulatory Noise Zones Based on 2003 AICUZ Noise Contours**

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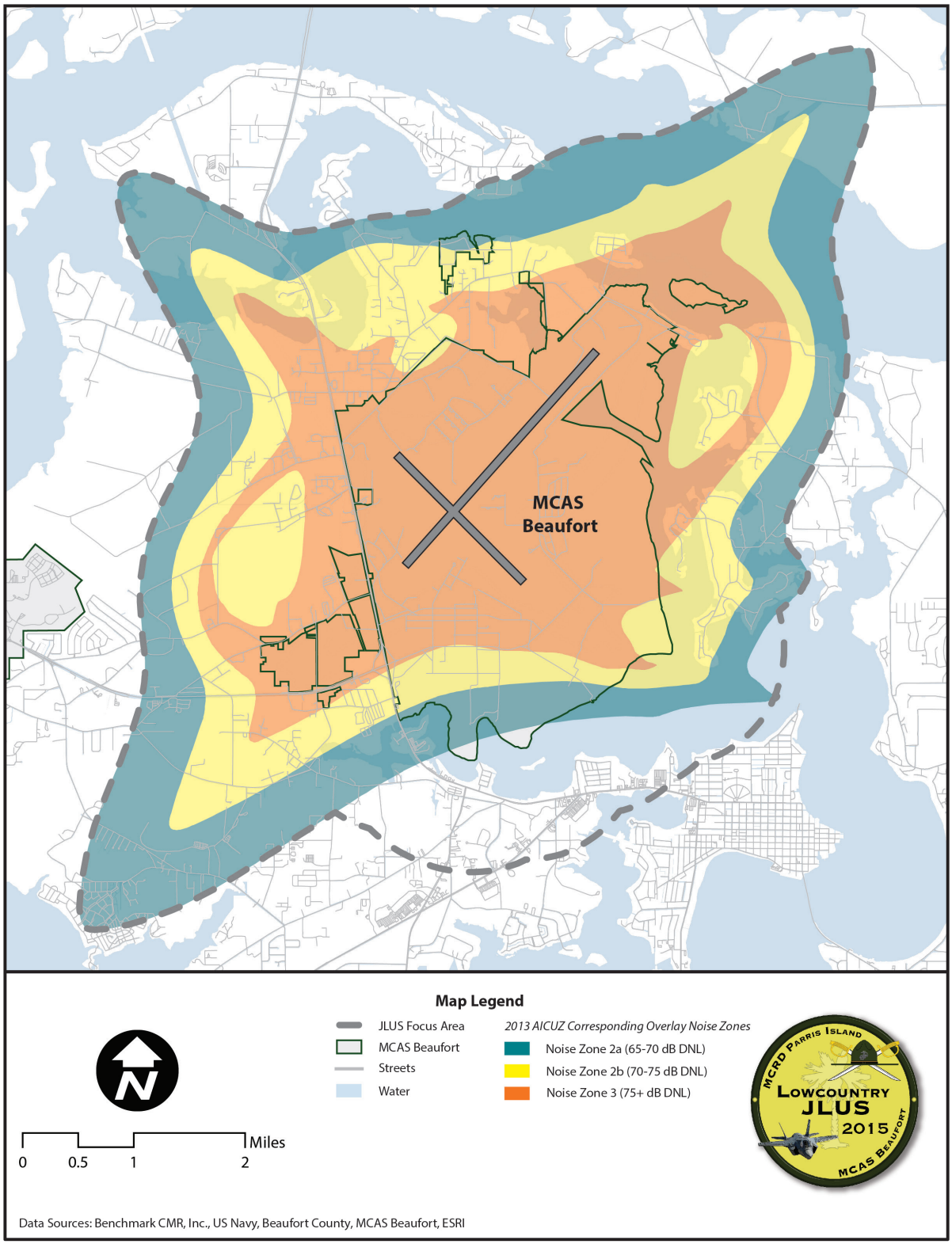

Figure 3-16: **Potential Regulatory Noise Zones Based on 2013 AICUZ Noise Contours**

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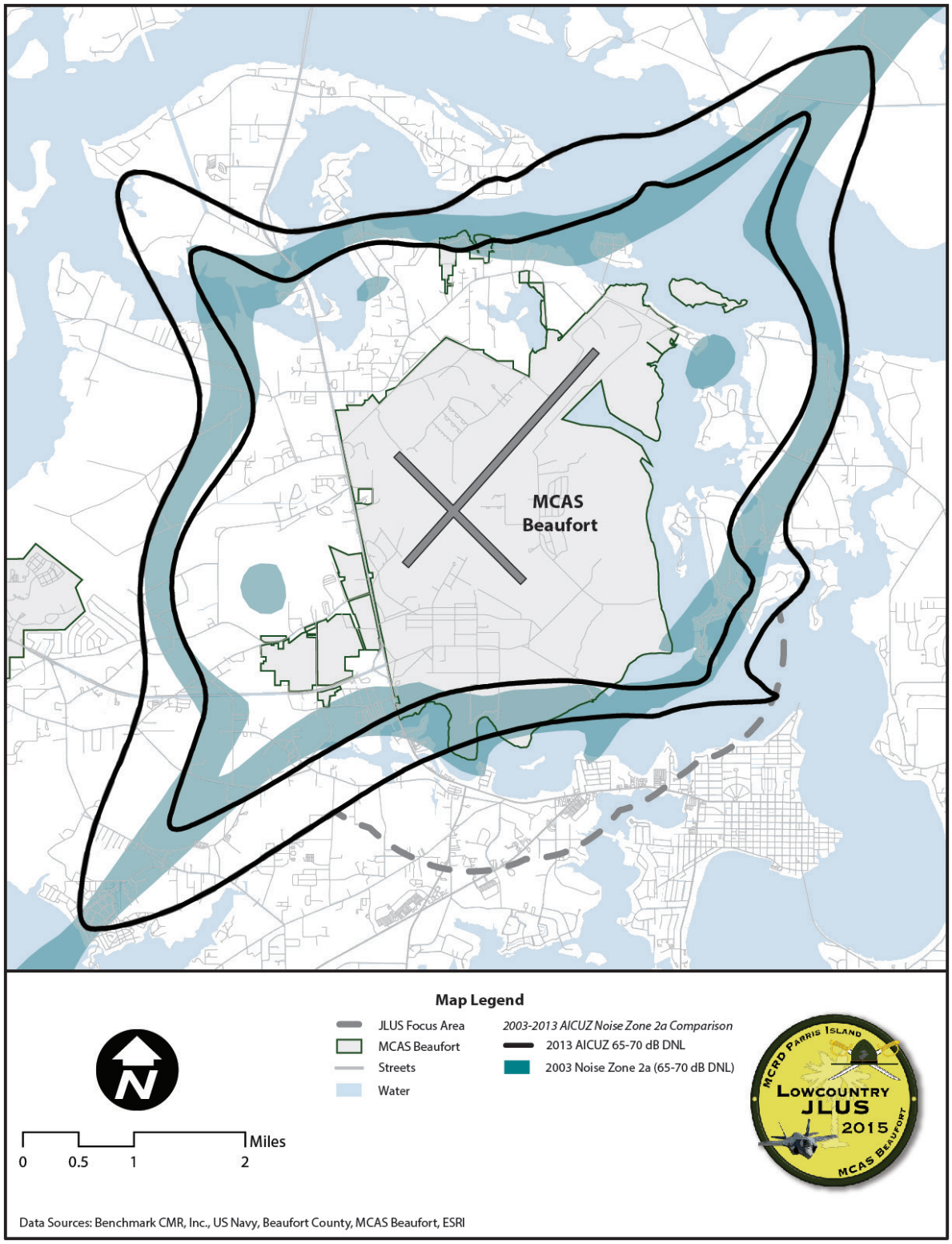

Figure 3-17: **Comparison of 2003 and 2013 AICUZ 65-70 dB DNL Contours**

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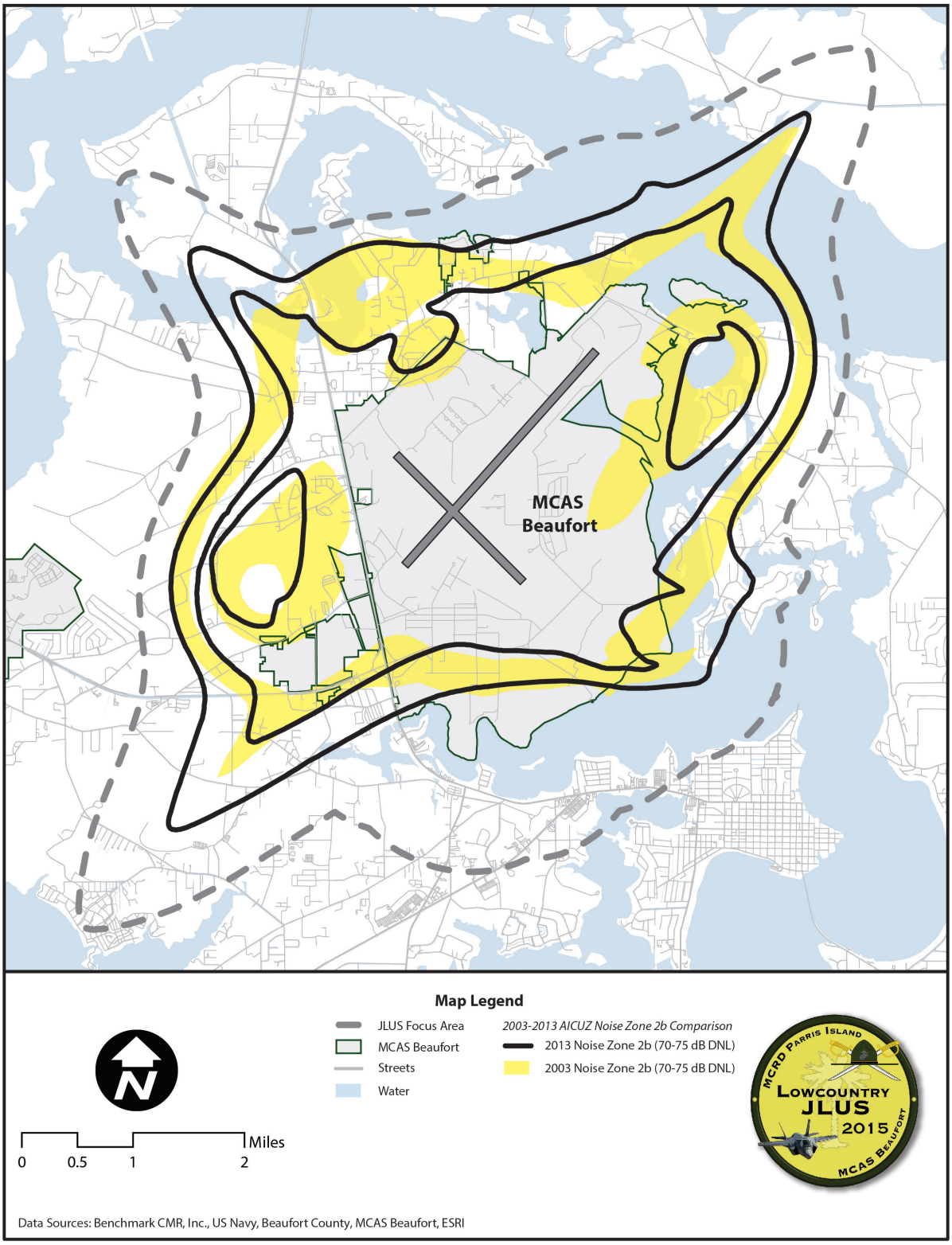

Figure 3-18: **Comparison of 2003 and 2013 AICUZ 70-75 dB DNL Contours**

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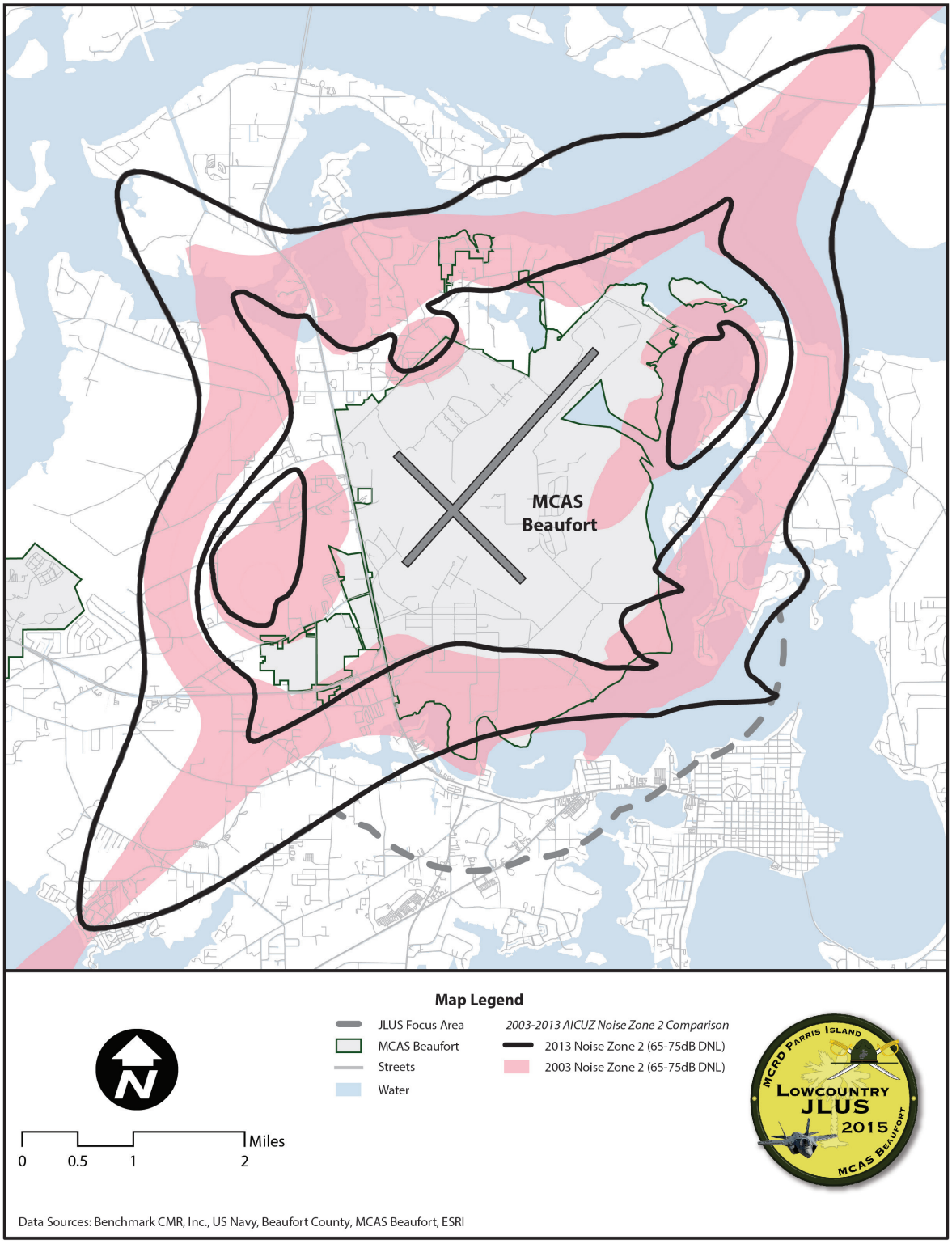

Figure 3-19: **Comparison of 2003 and 2013 AICUZ 65-75 dB DNL Contours**

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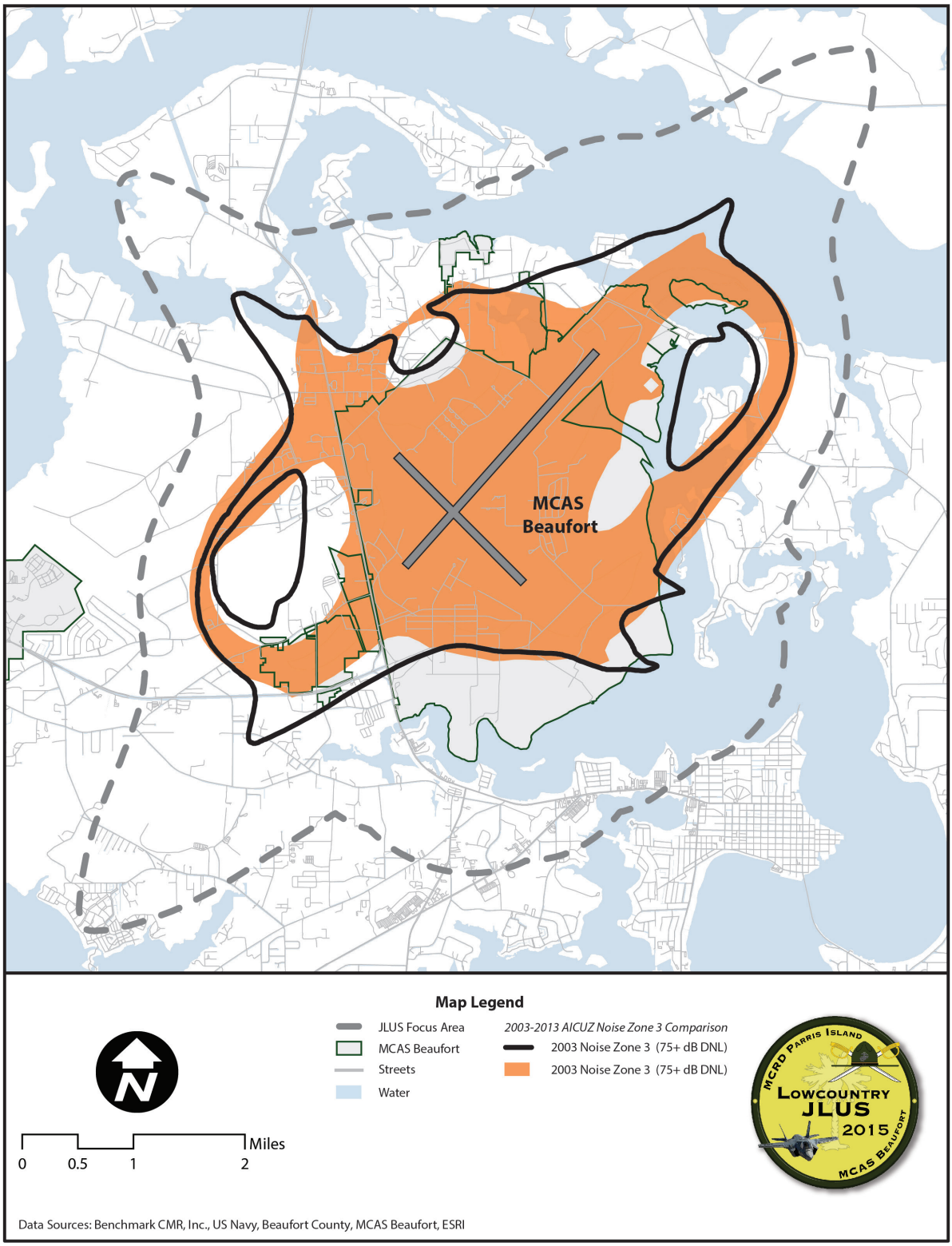

Figure 3-20: **Comparison of 2003 and 2013 AICUZ 75+ dB DNL Contours**

VI. JLUS Focus Area Land Use Summary

The following is a summary of land use patterns within the JLUS Focus Area. This Section is divided into a summary of existing land use patterns, land subdivision patterns, and the established future land use pattern for the area. Following Sections of the analysis will examine each of these in more detail for the area within the 2013 AICUZ 65 dB+ DNL contour and the Accident Potential Zones. Data for the existing land use summary is based on existing land use data from the *2010 Beaufort County Comprehensive Plan*, and future land use data is based on the *Northern Beaufort County Regional Plan*. These data sets were chosen to maintain consistency between the Joint Land Use Study and the *2013 AICUZ Study* for the purposes of this general analysis.

A. Generalized Existing Land Use Pattern

Observations of the generalized existing land use pattern (see Figure 3-24) reveal a landscape that can be divided into three basic "character" areas. The first of these is the urbanized commercial corridor that extends along US 21 Business in the southern portion of the Focus Area from Parris Island Gateway in the west to the Greenlawn Drive area in the east. The second area has a generally suburban residential character. This area is divided between the southwestern portion of the Focus Area, where it occupies the area along and south of Laurel Bay Road, and the eastern portion of the Focus Area along Brickyard Creek, across from the Air Station. The final character area is the rural area that extends north from Laurel Bay Road and encompasses the remaining quadrants of the Focus Area. This last area, while generally rural in character, and with large amounts of undeveloped acreage, does contain some isolated highway commercial areas and industrial development, particularly along US 21. This area is also characterized by a number of rural residential neighborhoods whose density is similar to that of suburban or urban residential densities found elsewhere in the Focus Area. Many of the residential uses in the rural areas are manufactured (mobile) homes, both in parks and on individual lots or in family compounds. The general existing land use categories are described below, and a statistical breakdown of their distribution is shown in Figure 3-21.

2010 Beaufort County Comprehensive Plan Existing Land Use Categories

The generalized existing land use categories detailed in the previous table and shown on the map in Figure 3-24 were used in the development of the 2013 AICUZ Study, and have been incorporated into the JLUS for consistency. The following is a description of those generalized existing land use categories, as established in Table 4-2 of the 2010 Beaufort County Comprehensive Plan:

- **Rural / Undeveloped**: Areas that are undeveloped or have a rural character, regardless of planned future development.

Figure 3-21: **JLUS Focus Area Generalized Existing Land Use Summary**

Existing Land Use	Acres	% of Focus Area
Rural / Undeveloped	7,492.8	71.1%
Neighborhood Mixed	1,904.3	18.1%
Community Commercial	48.4	0.5%
Regional Commercial	518.6	4.9%
Light Industrial	439.6	4.2%
Preserved Lands	131.5	1.2%
Total	**10,535.2**	**100.0%**

- **Neighborhood Mixed**: Single and multi-family residential neighborhoods and small-scale commercial and service uses supported by those neighborhoods.
- **Community Commercial**: Commercial uses that serve nearby residential areas, such as grocery-anchored shopping centers.
- **Regional Commercial:** Uses of a size and scale that attract customers from throughout the region.
- **Light Industrial:** Uses including business parks, distribution, assembly, manufacturing and utility uses.
- **Preserved Lands:** Public parks as well as conserved or protected lands under either public or private ownership.

B. Land Subdivision

The degree of land subdivision within the JLUS Focus Area (see Figure 3-25) varies widely, from large rural tracts to urban scale residential lots. The more intensively subdivided areas are found in locations that are consistent with the existing land use data – generally associated with the urban character area in the southern portion of the Focus Area and with the suburban areas in the southwestern and eastern portions of the study area. Surprisingly, concentrations of densely subdivided land are also found in the "rural" portions of the Focus Area. Two of the largest concentrations of densely subdivided land are found in very close proximity to the Air Station, with the larger of the two located along the northern Air Station boundary along Bruce K. Smalls Drive. The other area is located in the vicinity of Parker Drive, just across US 21 from the Air Station's western boundary. Both of these areas contain a significant number of lots that are less than 0.5 acre in size, and many more that are smaller than one acre in size. The largest undivided parcels are found, generally, along the western fringe of the Focus Area, away from major transportation routes and the urban portions of the Focus Area. A statistical analysis of land subdivision patterns in the JLUS Focus Area is shown in Figure 3-22.

Figure 3-22: **JLUS Focus Area Land Subdivision Summary**

Parcel Size (acres)	Number	Acres	% of Focus Area
Less than 0.5	2,136	558.2	5.3%
0.5 - 1	1,235	844.9	8.1%
1 - 3	838	1,282.9	12.2%
3 - 10	381	1,922.6	18.3%
Greater than 10	160	5,879.8	56.1%
Total	**4,750**	**10,488.4**	**100.0%**

C. Future Land Use

The future land use pattern that has been established for the area (see Figure 3-26) in the Northern Beaufort County Regional Plan is largely consistent with the existing land use patterns found in the area. Future land use designations in the southern part of the Focus Area are the most intensive, with a large amount of land designated for "regional commercial" use, as well as significant amounts of land designated for "urban residential" growth. Areas that fall within the 2003 AICUZ 65+ dB DNL line have been generally designated for "low density residential" growth, except where nonresidential uses (industrial, commercial etc.) are designated. Residential areas outside of the 2003 AICUZ boundary and outside of the highly developed southern portion of the Focus Area are generally assigned the "neighborhood residential" designation, indicating a medium density growth pattern. The most significant departure from the established existing land use pattern is the designation of the large industrial growth area that is north of Shanklin Road on the west side of US 21 across from the Air Station. If fully developed, this would more than double the amount of industrial land in the Focus Area (from 4.2% to 10.7%). The future land use categories are described below, and a statistical breakdown of their distribution is shown in Figure 3-23.

Northern Beaufort County Regional Plan Future Land Use Categories

- **Rural:** Rural areas outside of the urban service area characterized by agricultural lands, low-density residential development and small scale supporting commercial land uses.
- **Low Density Residential:** Areas within the MCAS Beaufort noise and accident potential zones.
- **Neighborhood Residential:** Primarily residentially developed areas (2 dwelling units / acre) with small scale supporting commercial uses.
- **Urban Residential:** Future residential development at similar densities that are found within municipal areas, typically 2-4 dwelling units/acre.
- **Community Commercial:** Small scale commercial areas serving nearby residential neighborhoods.
- **Regional Commercial:** Commercial development containing uses of a type and size that attract customers from throughout the region.
- **Core Commercial:** Dense, pedestrian scale commercial development, such as what is found in a downtown area.
- **Light Industrial:** Development including business parks, distribution, assembly, manufacturing and utility uses.
- **Preserved Lands:** Public parks as well as conserved or protected lands under either public or private ownership.

Figure 3-23: **JLUS Focus Area Future Land Use Summary**

Future Land Use	Acres	% of Focus Area
Rural	648.3	6.2%
Low Density Residential	5,365.8	51.1%
Neighborhood Residential	1,710.2	16.3%
Urban Residential	589.1	5.6%
Community Commercial	89.4	0.9%
Regional Commercial	472.9	4.5%
Core Commercial	74.0	0.7%
Light Industrial	1,128.5	10.7%
Preserved Lands	432.1	4.1%
Total	**10,510.3**	**100.0%**

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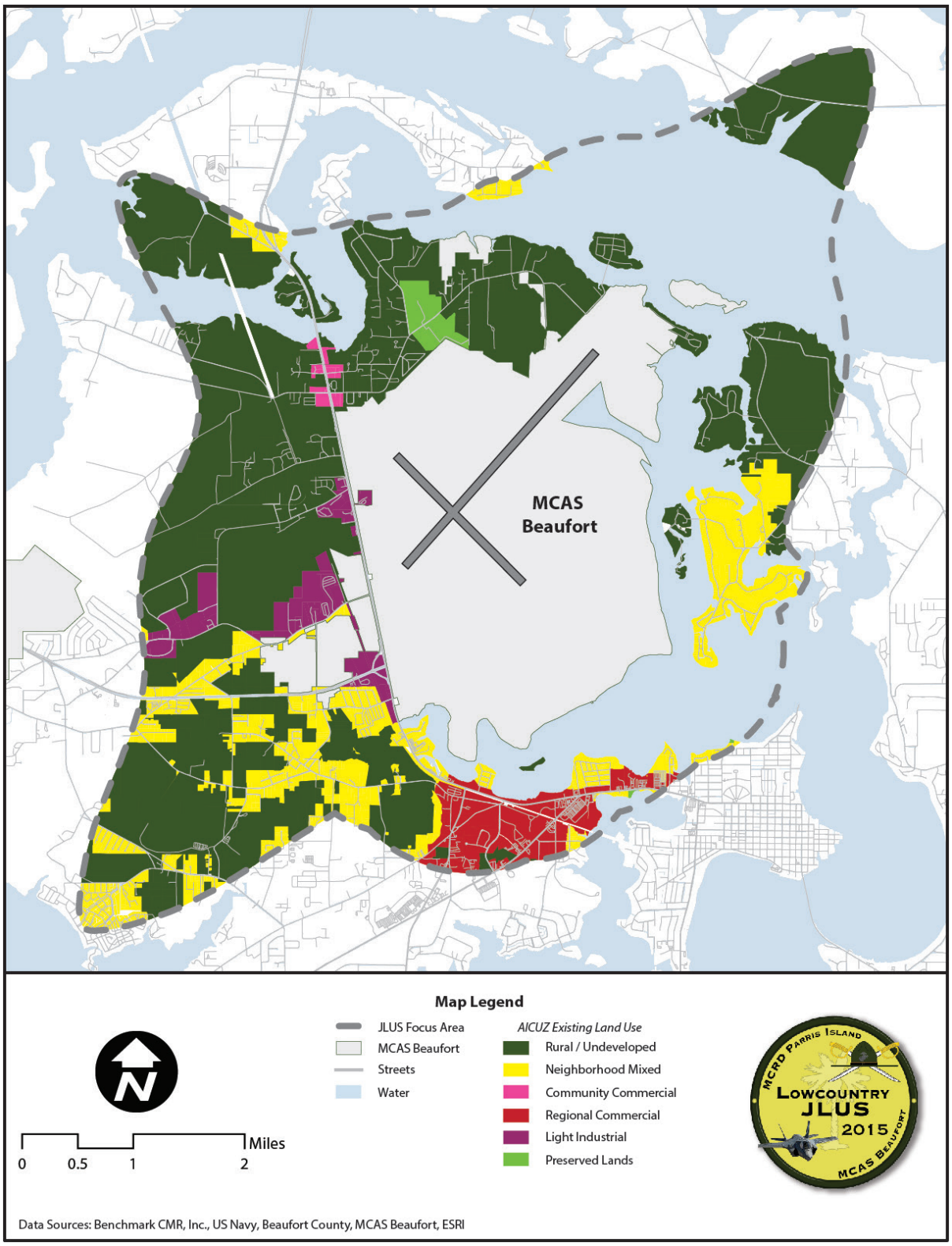

Figure 3-24: **JLUS Focus Area Generalized Existing Land Use Pattern**

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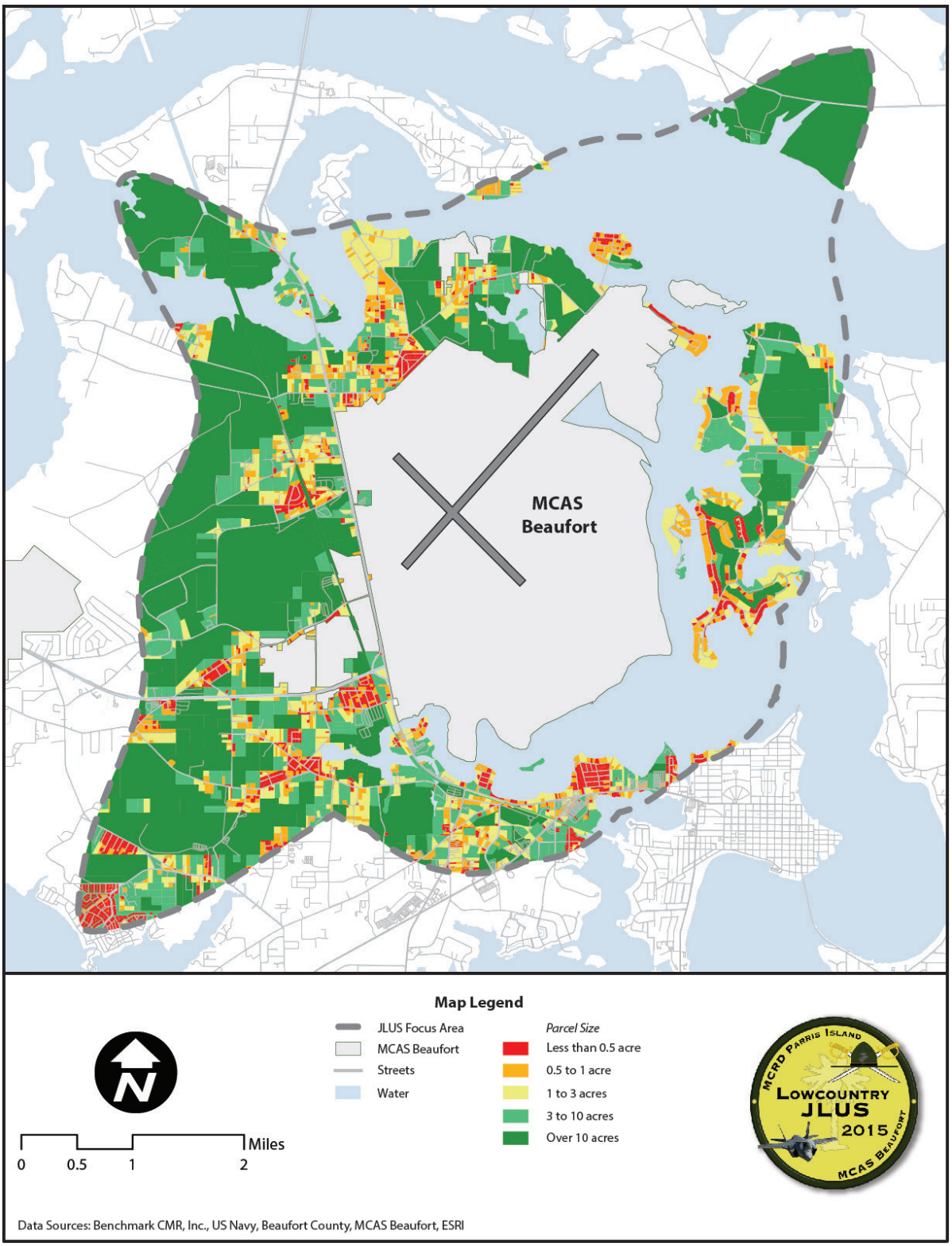

Figure 3-25: **JLUS Focus Area Land Subdivision Pattern**

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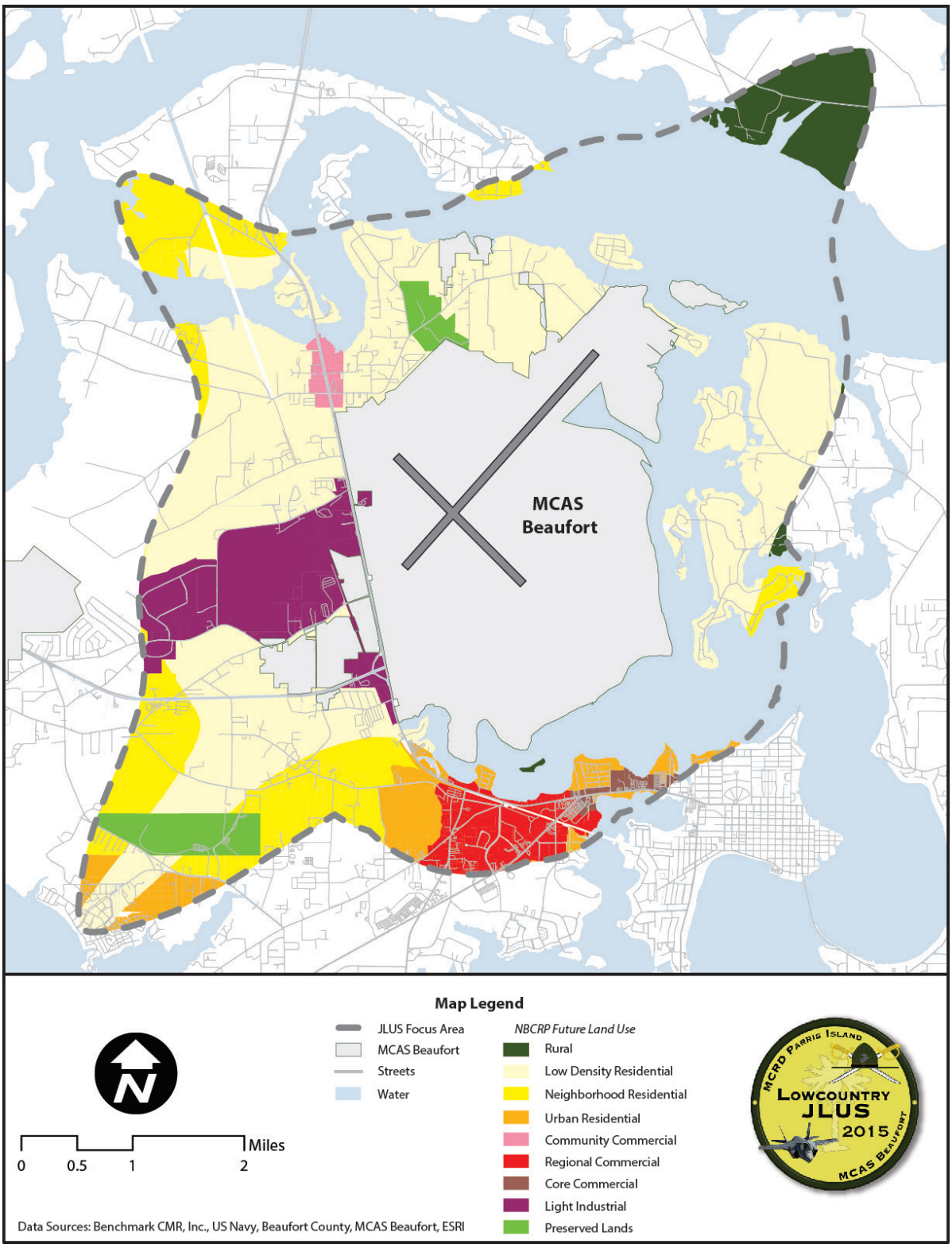

Figure 3-26: **JLUS Focus Area Future Land Use Pattern**

VII. Aircraft Noise Impact Area Generalized Existing Land Use Summary

The generalized existing land use pattern within the area covered by the 2013 AICUZ 65+ dB DNL (see Figure 3-28) is predominantly rural in character, with over three-quarters of the land in this area classified in this manner. Areas characterized by "rural / undeveloped" land uses, which account for 75% of the 65+ dB DNL noise zone stretch around the western, northern and eastern portions of the noise zone, while suburban residential areas, characterized as "neighborhood mixed" in the existing land use data, occupy the southwestern and eastern portions of the noise zone, accounting for just under 20% of the land area within the 65+ dB noise zone. Small amounts of commercially developed land are found along the US 21 corridor, as are industrially developed lands, which are concentrated both along and west of the corridor. A statistical analysis of the generalized existing land use pattern in the noise zone is shown in Figure 3-27 below.

The 65-75 dB DNL noise contour area (see Figure 3-29) has a distribution of land uses that is nearly equivalent to that found within the 65+ dB DNL noise contour as a whole. Despite the large area that is covered by Noise Zone 2, only a small portion of the area is in use for nonresidential purposes, with less than 2% of the area classified for industrial use and the remaining acreage assigned to the "preserved lands" category.

The 75+ dB DNL noise contour area has a similar proportion of its acreage classified as rural as both Noise Zone 2 and the 65+ dB DNL noise contour area as a whole (see Figure 3-30). Despite the generally rural nature of this sub-area, Noise Zone 3 has a proportionally larger share of industrially developed land than is found in the 65+ dB DNL noise zone as a whole, with around 15% of Noise Zone 3 classified as being in use for this purpose. Noise Zone 3 also has a much smaller proportional share of suburban residential land than the 65+ dB noise zone as a whole, with less than 7% of its area classified in the Neighborhood Mixed land use category.

Figure 3-27: **2013 AICUZ 65+ dB DNL Generalized Existing Land Use**

Existing Land Use	65+ dB DNL Noise Zone		Noise Zone 2 (65-75 dB DNL)		Noise Zone 3 (75+ dB DNL)	
	Acres	% of Combined Noise Zones	Acres	% of Noise Zone 2	Acres	% of Noise Zone 3
Rural / Undeveloped	7,271.0	76.2%	5,601.5	76.4%	1,669.5	75.6%
Neighborhood Mixed	1,653.8	17.3%	1,509.7	20.6%	144.1	6.5%
Community Commercial	48.4	0.5%	0.0	0.0%	48.4	2.2%
Light Industrial	439.6	4.6%	108.8	1.5%	330.8	15.0%
Preserved Lands	129.1	1.4%	112.8	1.5%	16.3	0.7%
Total	**9,541.9**	**100%**	**7,332.8**	**100%**	**2,209.1**	**100%**

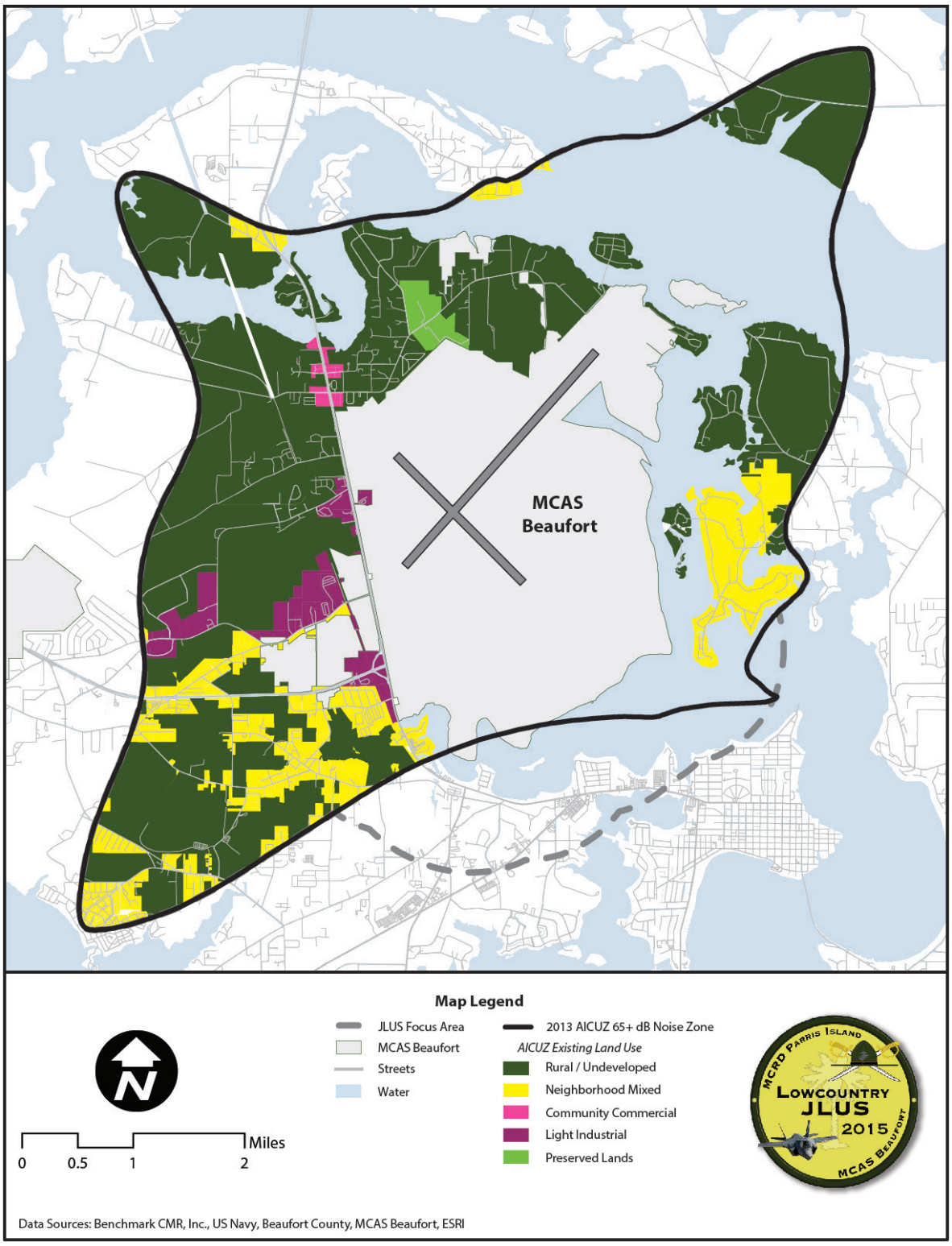

Figure 3-28: **2013 AICUZ 65+ dB DNL Generalized Existing Land Use Pattern**

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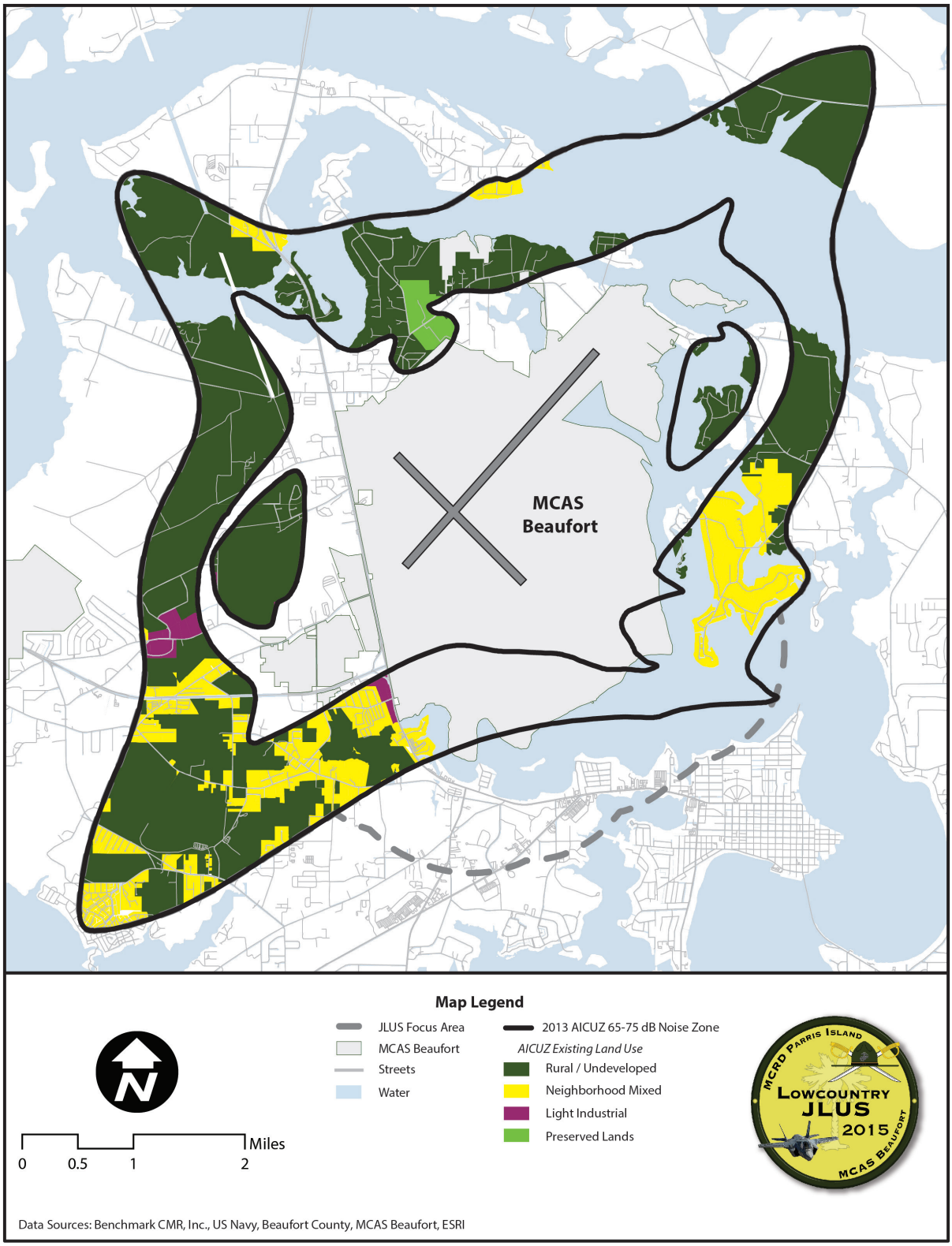

Figure 3-29: **2013 AICUZ 65-75 dB DNL Generalized Existing Land Use Pattern**

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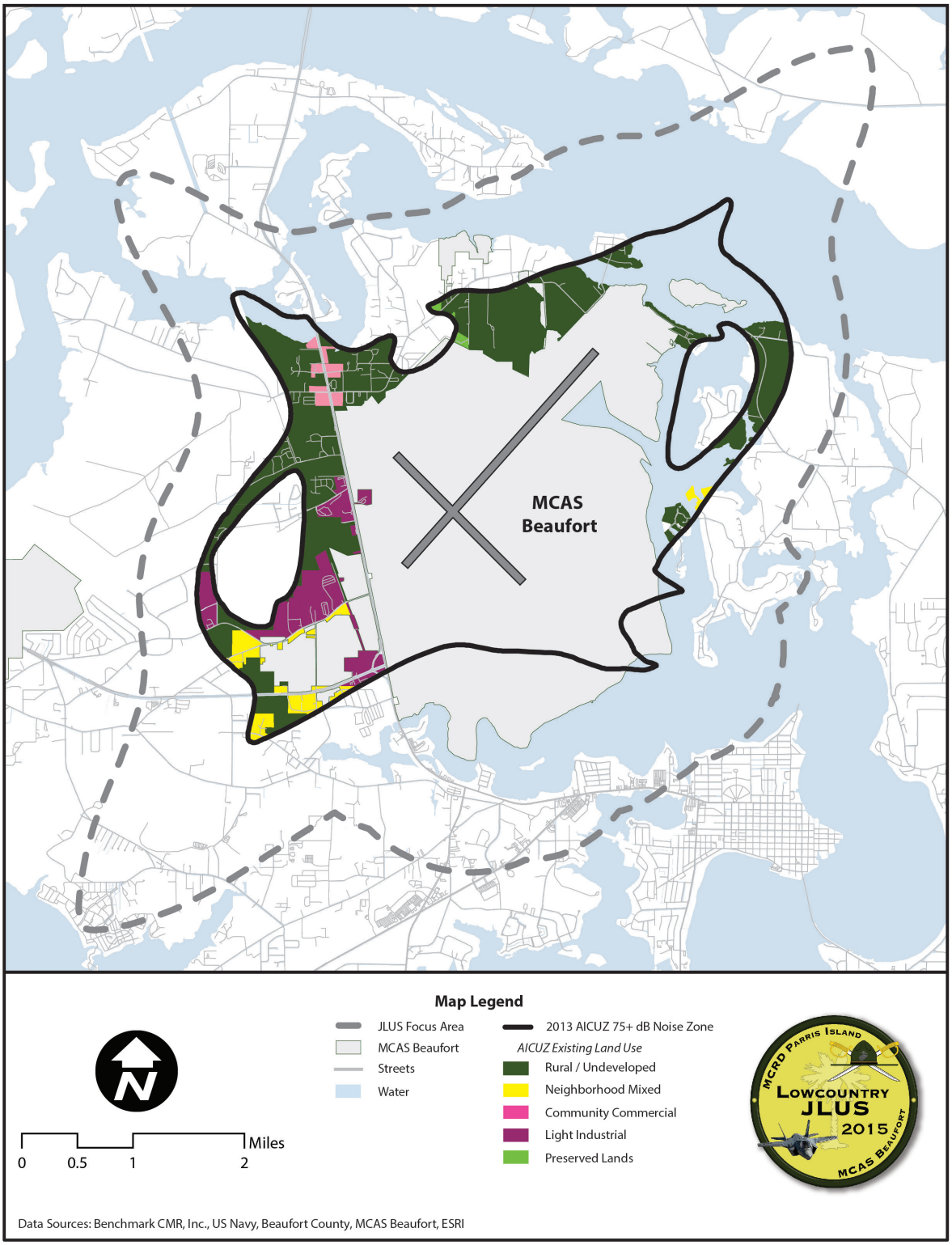

Figure 3-30: **2013 AICUZ 75+ dB DNL Generalized Existing Land Use Pattern**

VIII. Aircraft Noise Impact Area Land Subdivision Summary

Of the nearly 3,900 parcels within the 65+ dB DNL noise contour area, approximately two-thirds have been subdivided into lots that are one acre in size or smaller, although these smaller parcels account for less than 15% of the total acreage in the area. Of the remaining acreage in the area, nearly 60% is in tracts larger than 10 acres in size. The most densely subdivided portions of the area lie to the southwest, east and north/northwest of the Air Station, while larger undivided parcels are generally found along the western fringe of the noise impact area (see Figure 3-33). A statistical summary for the entire noise zone is shown in Figure 3-31.

Figures 3-34 and 3-35, along with Figure 3-32, provide additional insight into the pattern of land subdivision in the overall area by focusing on the Noise Zone 2 and Noise Zone 3 sub-areas. Of particular note is the relatively minor variance in parcel density within the smallest parcel size categories between the two noise zones, which indicates a fair amount of consistency in the density of development across the landscape in the overall aircraft noise impact area.

Figure 3-31: **2013 AICUZ 65+ dB DNL Land Subdivision Summary**

Parcel Size (acres)	Number	Acres	% of Noise Zone
Less than 0.5	1,665	449.7	4.7%
0.5 - 1	1,067	727.8	7.7%
1 - 3	699	1,074.4	11.3%
3 - 10	321	1,620.4	17.1%
Greater than 10	145	5,604.2	59.1%
Total	**3,897**	**9,476.5**	**100.0%**

Figure 3-32: **2013 AICUZ Noise Zone 2 and Noise Zone 3 Land Subdivision Summary**

Parcel Size (acres)	Noise Zone 2 (65-75 dB DNL)			Noise Zone 3 (75+ dB DNL)		
	Number [1]	Acres	% of NZ 2	Number [1]	Acres	% of NZ 3
Less than 0.5	1,452	374.0	5.1%	261	75.7	3.5%
0.5 - 1	810	519.9	7.1%	330	208.0	9.7%
1 - 3	517	749.0	10.2%	245	325.4	15.2%
3 - 10	259	1,174.8	16.0%	109	445.6	20.9%
Greater than 10	124	4,522.0	61.6%	58	1,081.4	50.6%
Total	**3,162**	**7,339.7**	**100.0%**	**1,003**	**2,136.1**	**100.0%**

1. The total number of parcels in each size category in this breakdown exceeds the totals shown in Table 12. This is due to the analysis methodology, which utilized the original acreage of each parcel as the basis for size and the proportional acreage of the parcel within the noise zone for the acreage statistic. Approximately 270 parcels are split between noise zones, and so are counted in each zone for the raw number of parcels.

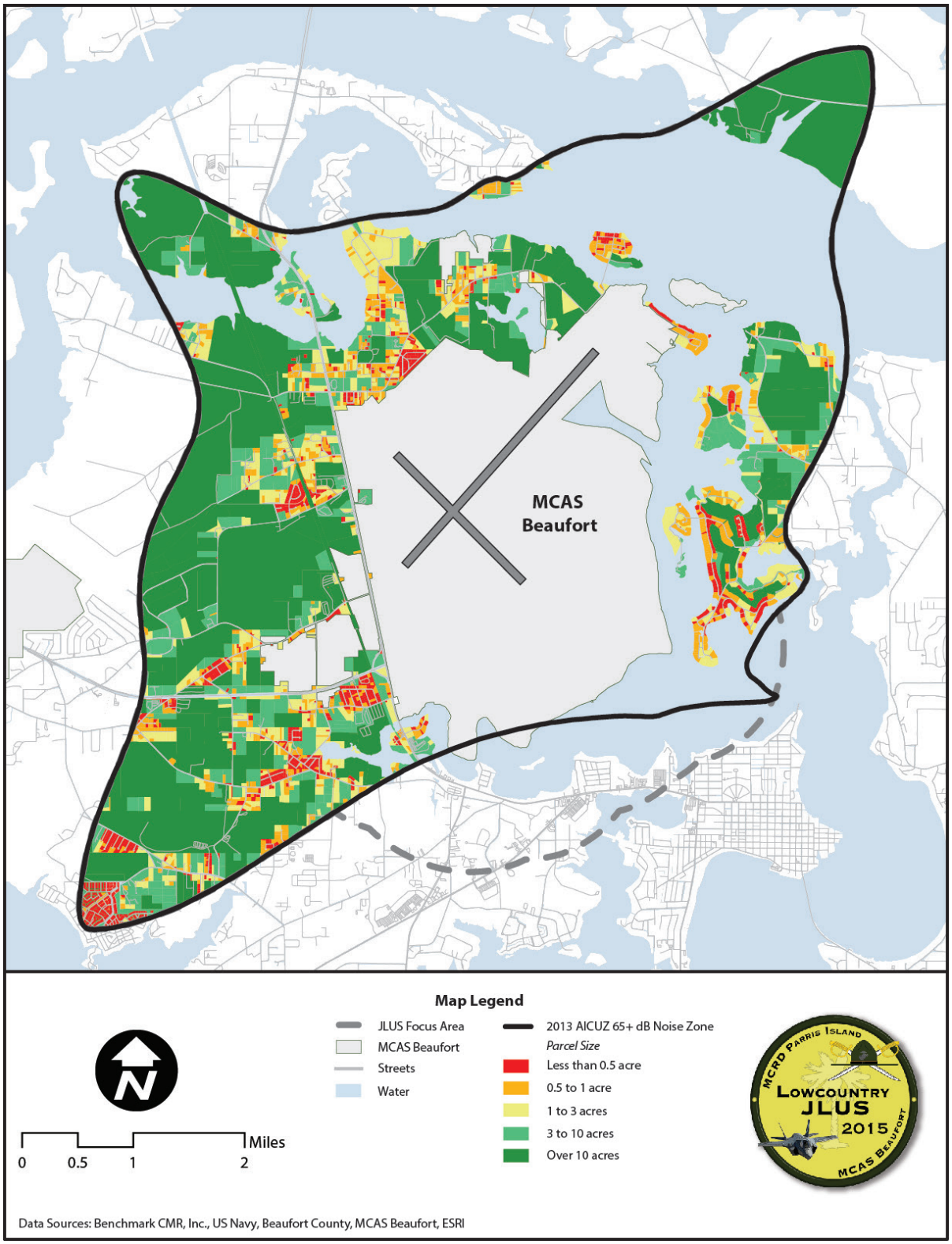

Figure 3-33: **2013 AICUZ 65+ dB DNL Land Subdivision Pattern**

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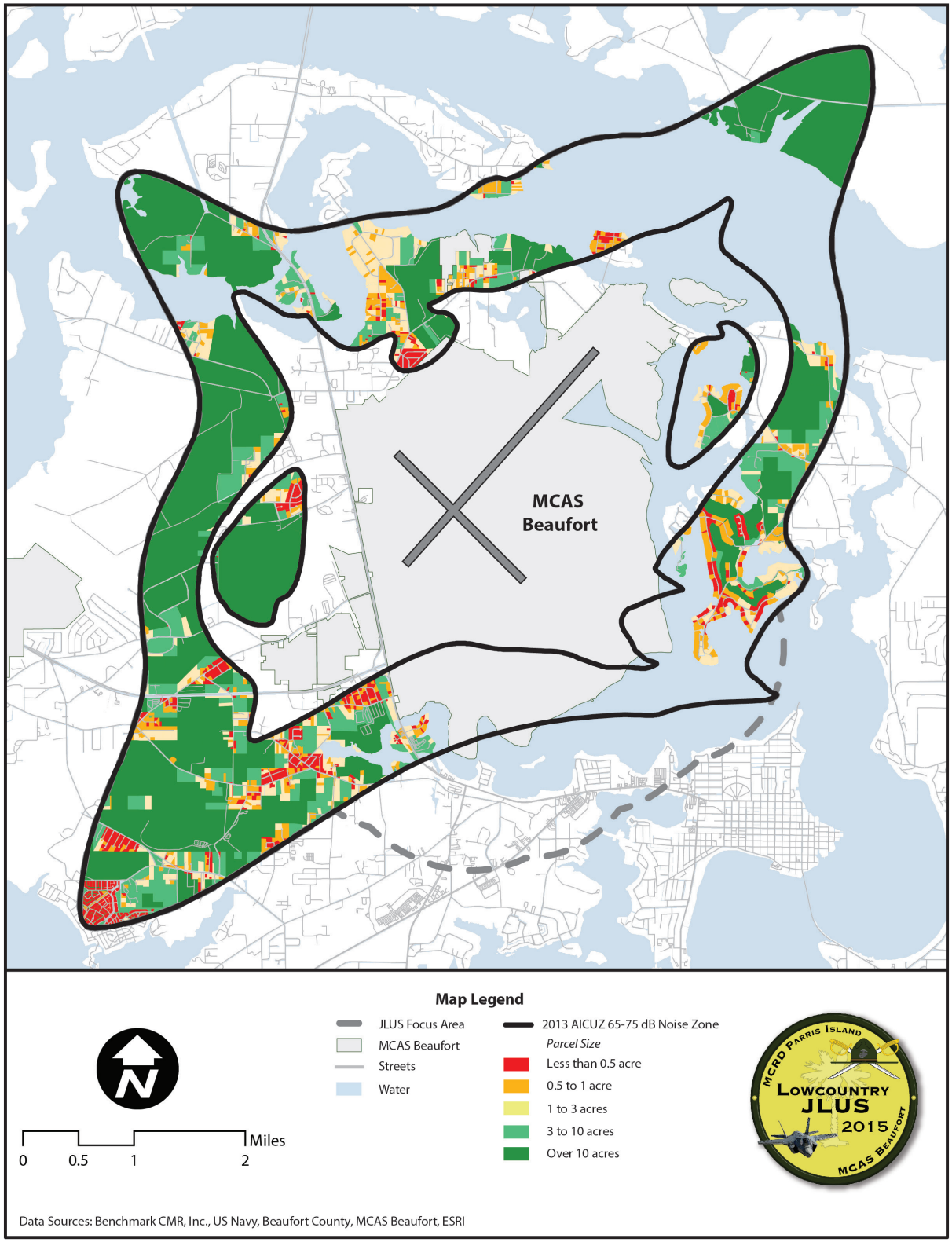

Figure 3-34: **2013 AICUZ 65-75 dB DNL Land Subdivision Pattern**

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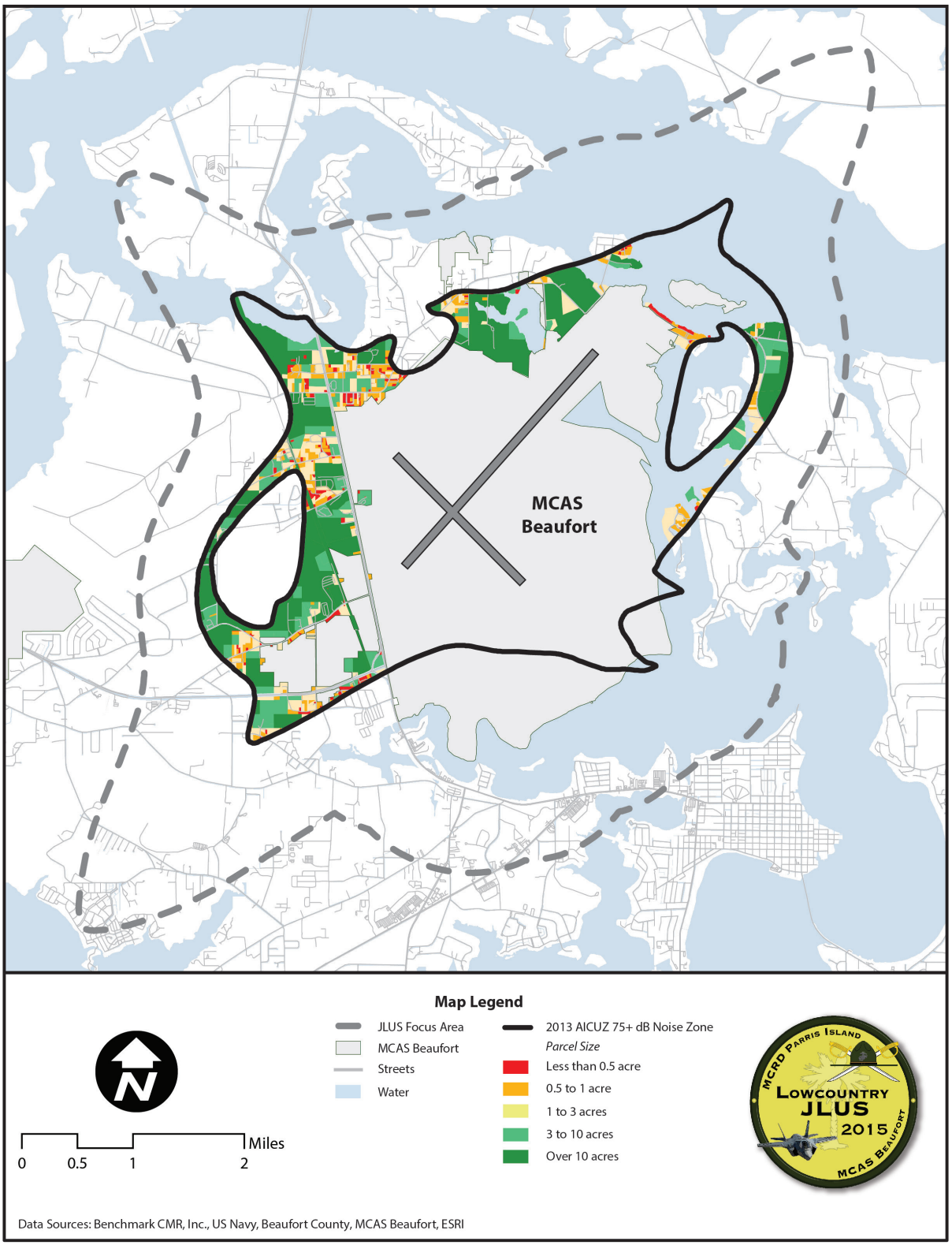

Figure 3-35: **2013 AICUZ 75+ dB DNL Land Subdivision Pattern**

IX. Aircraft Noise Impact Area Future Land Use Summary

The future land use pattern that has been established in the Northern Beaufort County Regional Plan for the area within the 2013 AICUZ 65+ dB DNL noise zone (see Figure 3-37) is primarily residential in nature, with approximately 75% of the land in the area designated for residential use. Land within the 2003 AICUZ noise zone has generally been designated for low density residential use, while land located outside of the 2003 AICUZ noise zone is generally designated for either medium density (neighborhood residential) or high density (urban residential) growth, although these areas now fall within the 2013 65+ dB DNL noise zone.

Nonresidential future land use classifications include a large area designated for industrial use on the north side of Shanklin Road, which extends from the US 21 corridor to the western edge of the noise zone and a node designated for "community commercial" use along the northern portion of the US 21 corridor near the northwest corner of the Air Station. A full statistical summary of the distribution of future land use classifications is shown in Figure 3-36 below.

The area within Noise Zone 2 (see Figure 3-38) is statistically similar to the overall noise zone area in terms of the distribution of future land use classifications, although "neighborhood residential" uses are slightly more prevalent in this area, while industrially designated areas are slightly less prevalent.

Land uses in Noise Zone 3 (see Figure 3-39), in contrast, are more heavily weighted toward low density residential and industrial future land use classifications, due in large part to a greater degree of coincidence with the 2003 65+ dB DNL noise zone.

Figure 3-36: **2013 AICUZ 65+ dB DNL Future Land Use Summary**

Future Land Use	65+ dB DNL Noise Zone		Noise Zone 2 (65-75 dB DNL)		Noise Zone 3 (75+ dB DNL)	
	Acres	% of Noise Zone	Acres	% of Noise Zone 2	Acres	% of Noise Zone 3
Rural	642.9	6.8%	642.9	8.8%	0.0	0.0%
Low Density Residential	5,365.8	56.4%	3,757.5	51.4%	1,608.3	72.8%
Neighborhood Residential	1,643.7	17.3%	1,643.7	22.5%	0.0	0.0%
Urban Residential	214.4	2.3%	214.4	2.9%	0.0	0.0%
Community Commercial	89.4	0.9%	0.0	0.0%	89.4	4.0%
Light Industrial	1,128.5	11.9%	634.3	8.7%	494.2	22.4%
Preserved Lands	432.1	4.5%	415.8	5.7%	16.3	0.7%
Total	**9,516.8**	**100.0%**	**7,308.6**	**100.0%**	**2,208.2**	**100.0%**

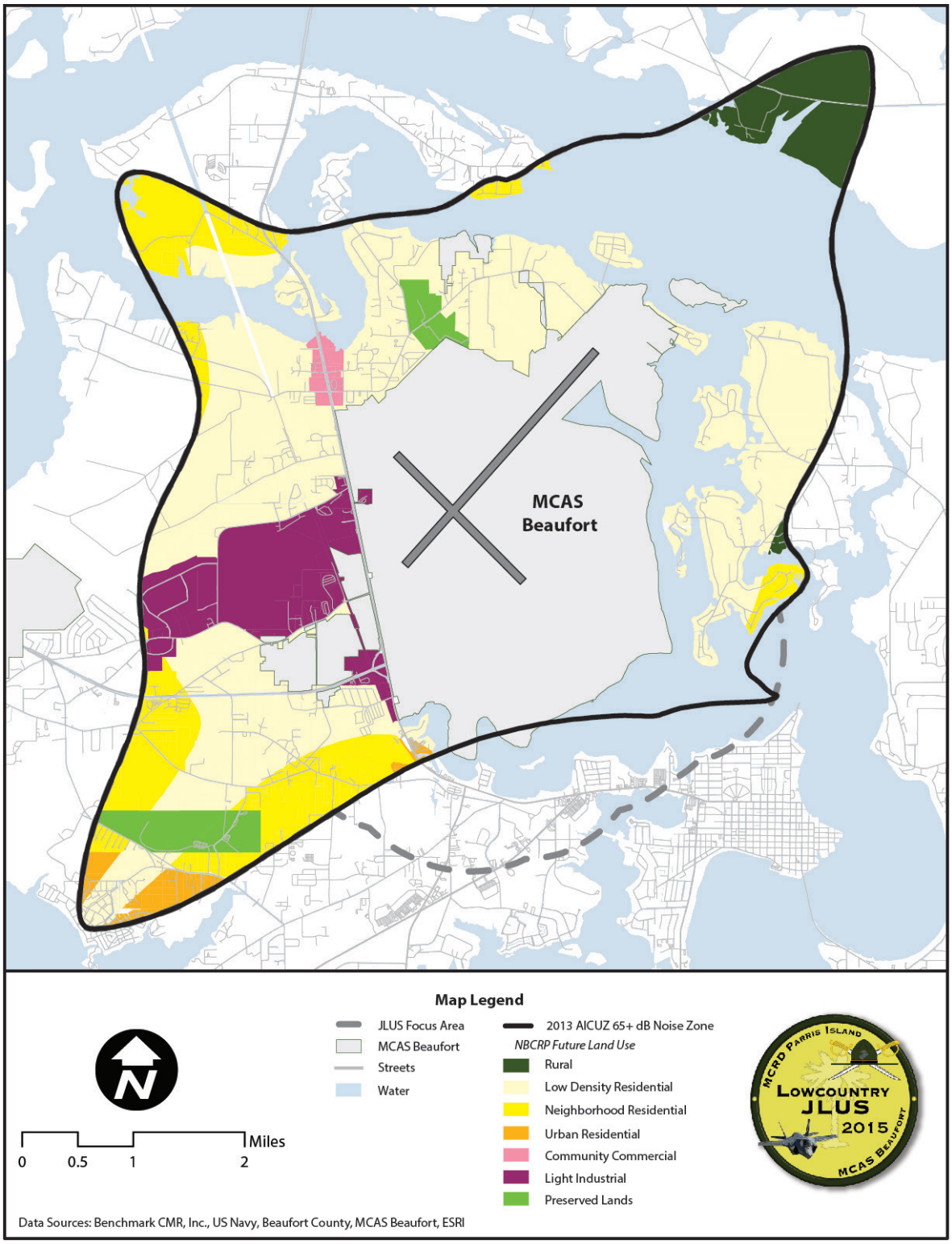

Figure 3-37: **2013 AICUZ 65+ dB DNL Future Land Use Pattern**

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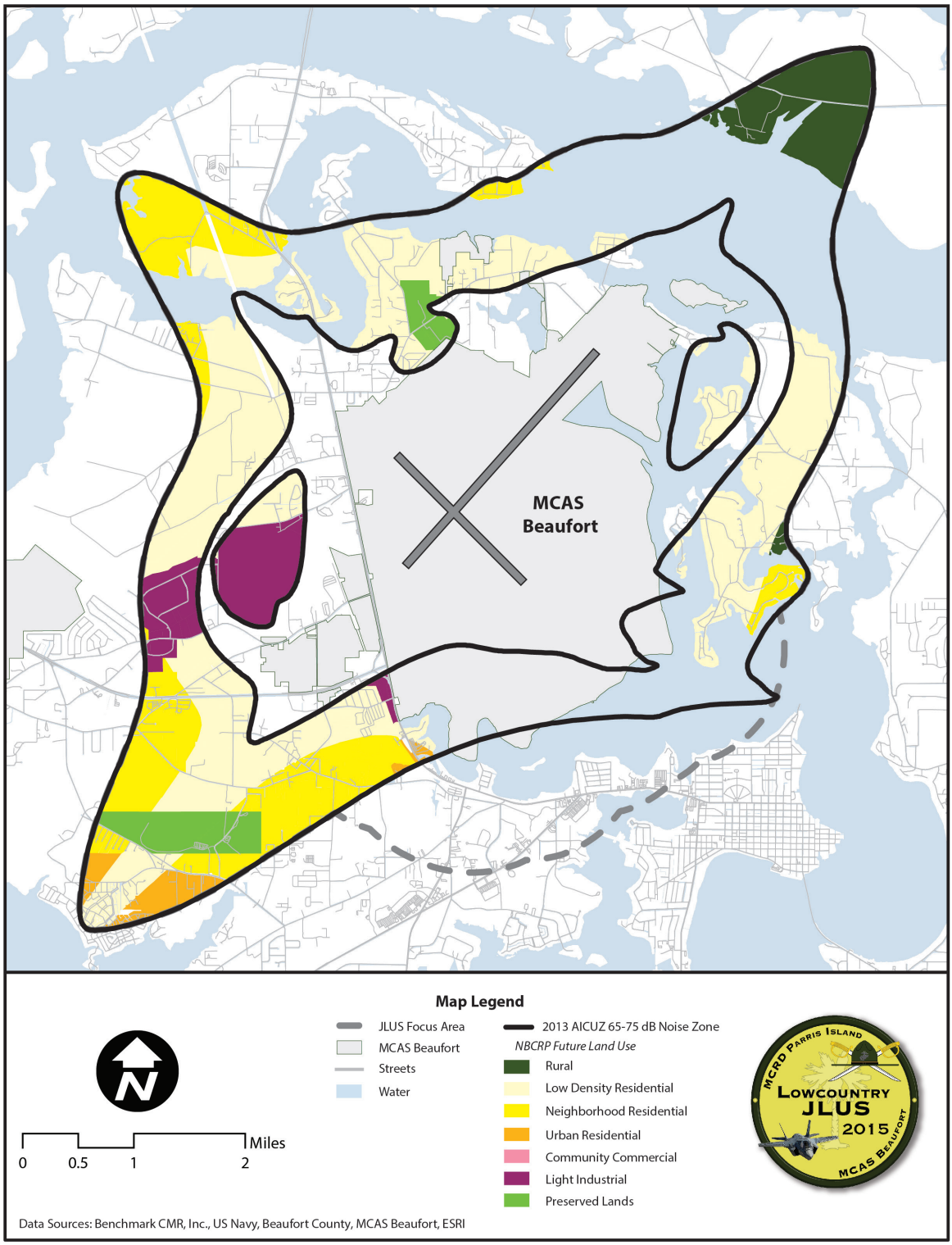

Figure 3-38: **2013 AICUZ 65-75 dB DNL Future Land Use Pattern**

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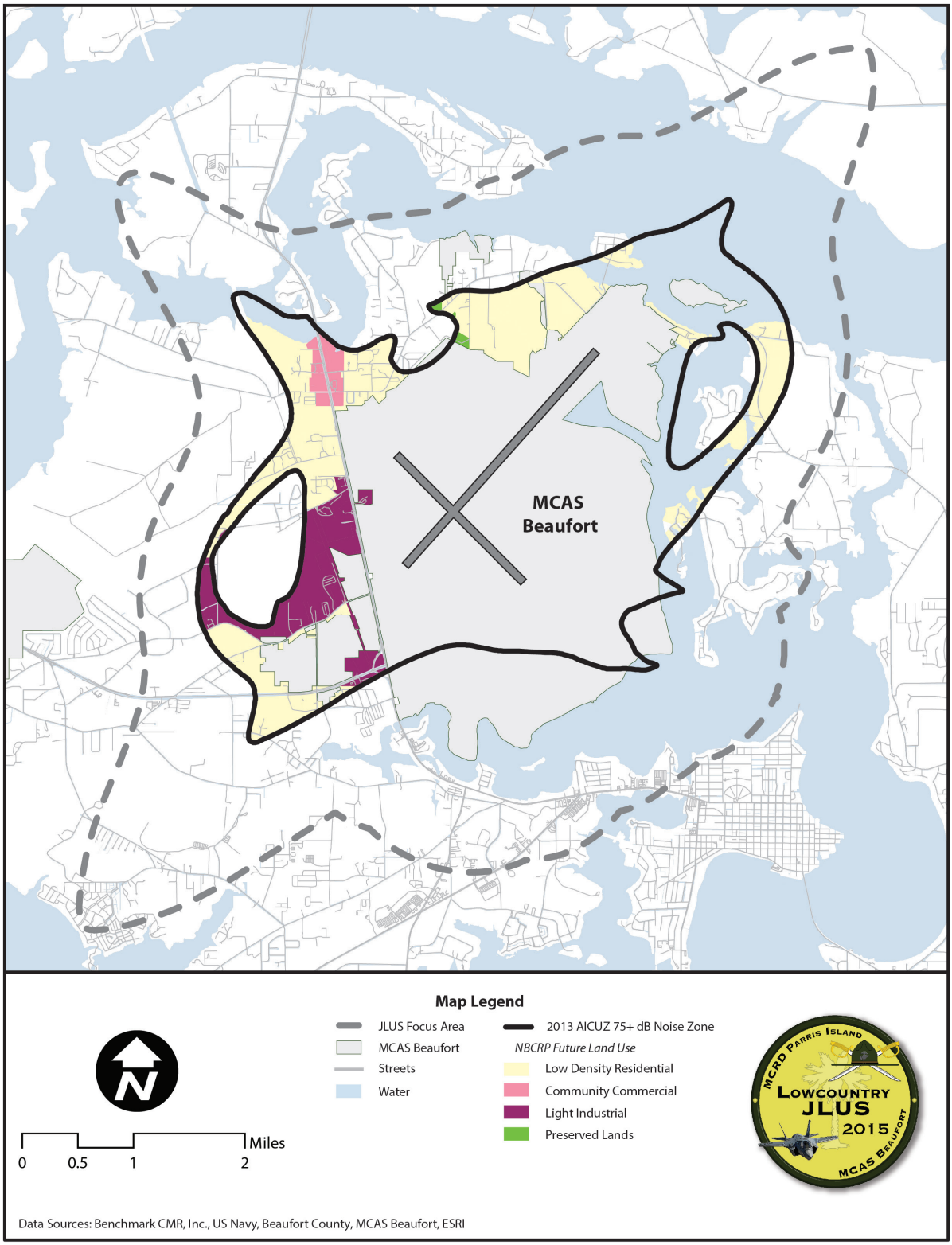

Figure 3-39: **2013 AICUZ 75+ dB DNL Future Land Use Pattern**

X. Aircraft Noise Impact Area Existing Land Use Compatibility

The following is a discussion of the compatibility of existing land uses within the areas covered by the 65+ dB DNL noise contours as established in the 2013 AICUZ. The first part of this section details the findings of the noise compatibility assessment conducted as part of the 2013 AICUZ study, while the second part of the section presents an assessment of compatibility prepared specifically for the Joint Land Use Study. The updated assessment of compatibility conducted for the JLUS was prepared in order to incorporate more detailed existing land use data, thereby resulting in a more refined assessment of compatibility based on specific rather than generalized existing land use data. The final part of this Section provides a comparison between the compatibility assessment from the 2013 AICUZ and the assessment completed as part of the JLUS.

A. 2013 AICUZ Aircraft Noise Impact Area Existing Land Use Compatibility

The 2013 AICUZ Study made an assessment of the compatibility of the existing land use pattern within the 65+ dB DNL noise contour area in order to gauge the current level of compatibility between civilian land uses and the projected noise levels associated with future aircraft operations. The results of this baseline compatibility analysis, shown in Figure 3-40 and in Figures 3-41 to 3-43, found that the majority of the land uses within the area that will be impacted by noise from aircraft operations at MCAS Beaufort are "conditionally compatible" with the expected noise levels.

The assessment of compatibility, which was based on a combination of the existing land use pattern data from the 2010 Beaufort County Comprehensive Plan, the 2013 AICUZ noise contour data, and the compatibility guidelines in OPNAVINST 11010.36C / MCO 11010.16, determined, generally, that those areas with a current land use designation of rural/undeveloped or industrial were conditionally compatible (a very small number of industrial uses were determined to be fully compatible). Areas that have a land use designation of "neighborhood mixed" or "community commercial" were, in contrast, generally found to be incompatible. While the commercially designated areas are wholly within Noise Zone 3, which would indicate a greater likelihood of incompatibility, much of the land designated as "neighborhood mixed" has been developed with residential

Figure 3-40: **2013 AICUZ 65+ dB DNL Existing Land Use Compatibility Summary**

Existing Land Use Compatibility	65+ dB DNL Noise Zone		Noise Zone 2 (65-75 dB DNL)		Noise Zone 3 (75+ dB DNL)	
	Acres	% of Noise Zone	Acres	% of Noise Zone 2	Acres	% of Noise Zone 3
Compatible	104.4	1.1%	104.4	1.4%	0.0	0.0%
Conditionally Compatible	7,767.9	81.1%	5,751.7	78.1%	2,016.2	91.3%
Incompatible	1,702.0	17.8%	1,509.5	20.5%	192.5	8.7%
Total	**9,574.3**	**100.0%**	**7,365.6**	**100.0%**	**2,208.7**	**100.0%**

During the course of the Joint Land Use Study, a number of community and Policy Committee members expressed interest in understanding whether an "Outlying Landing Field" or "OLF" for MCAS Beaufort could be established to reduce air operations at the existing airfields and, if so, how such a field is generally approved, funded and acquired. The Policy Committee felt it important to reference the interest within the community for such an outcome in the JLUS and to make the JLUS Implementation Committee aware of it, as well as to allow the community and the Committee to better understand (1) what an OLF is; and (2) how generally one gets approved, funded, and acquired.

In order to provide a more detailed assessment of the compatibility of existing land uses with noise associated with MCAS aircraft, the JLUS includes a parcel-specific analysis of land use compatibility. This is in contrast to the more generalized analysis performed in the 2013 AICUZ, which utilized broad existing land use classifications derived from the Beaufort County Comprehensive Plan. The JLUS analysis is based on a parcel-by-parcel analysis of the specific land use present on each parcel within the areas affected by noise from MCAS aircraft. These specific land use categories, which align with military compatibility guidance, were used to classify parcels as being, either compatible, conditionally compatible, or incompatible with the noise level associated with the noise contour they fall within.
By aligning existing land use classifications with the classifications in the AICUZ guidance, a more detailed picture of existing land use compatibility emerges, which in turn may better inform the community of the current degree of compatibility and precise location of areas of potential incompatibility. This level of analysis also provides the community with a robust tool to measure changes in compatibility over time, thereby allowing the affected local governments and MCAS Beaufort to measure the effectiveness of their land use compatibility programs and regulations.

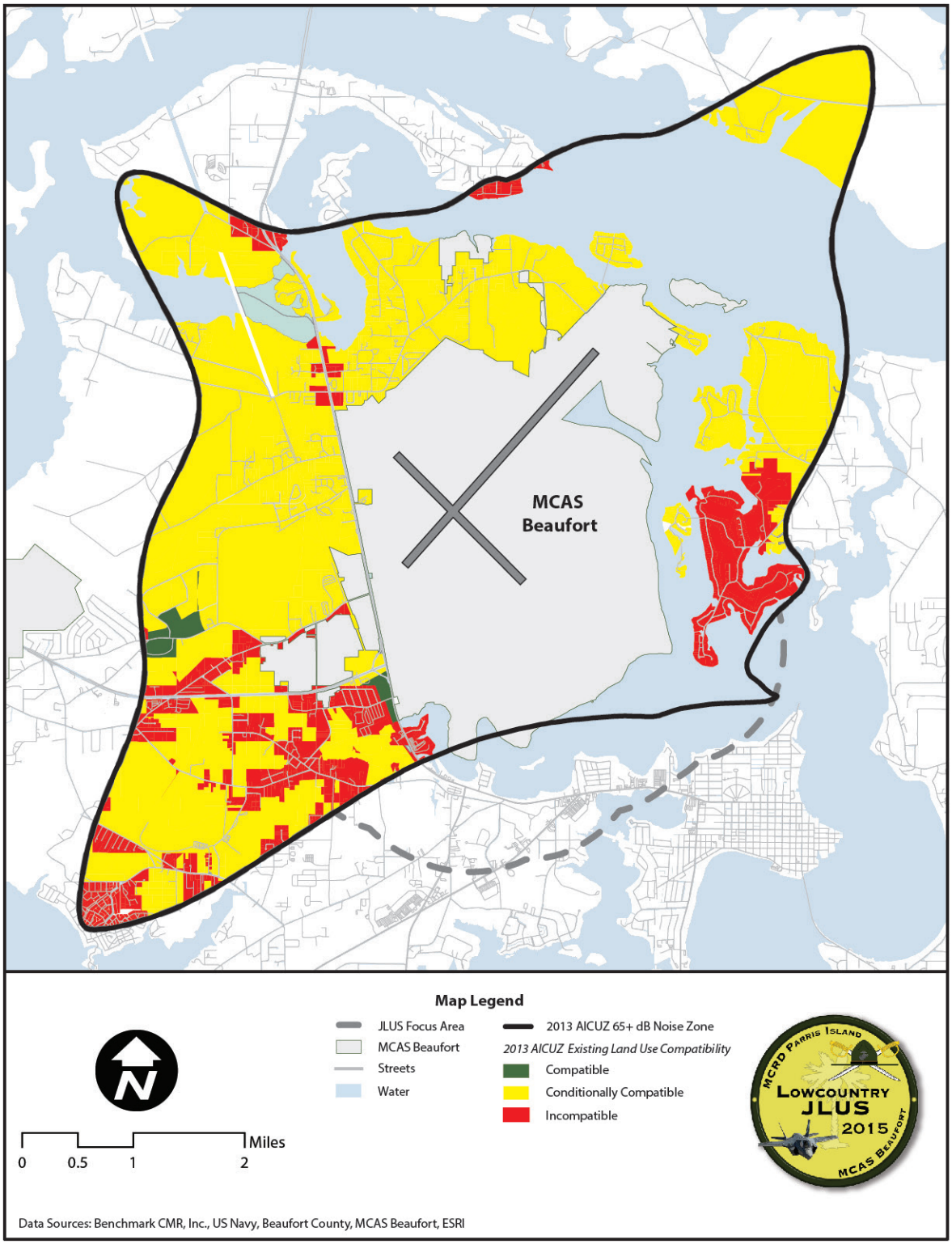

Figure 3-41: **2013 AICUZ 65+ dB DNL Existing Land Use Compatibility**

uses at densities and intensities that are similar to many of the developed "rural" areas found in similarly situated noise zones, yet the former are shown as being *incompatible*, while the latter are shown as being conditionally compatible.

The compatibility guidelines promulgated in OPNAVINST 11010.36C / MCO 11010.16 state that residential uses should be *strongly* discouraged in Noise Zone 3, while residential uses should be *generally* discouraged in Noise Zone 2 unless active measures are in place to require interior noise reduction for new construction (as they are in the current City and County overlay districts). If interior noise level reduction is the key driver in determining compatibility where residentially developed "rural" areas within Noise Zone 2 are shown as being conditionally compatible, then many of these *conditionally compatible* uses would likely fail the compatibility test, particularly with regard to manufactured housing, which provides little or no interior noise reduction. In contrast, there is a good likelihood that some number of the more recently constructed homes within the "neighborhood mixed" areas that are shown as being incompatible would likely meet the noise level reduction standards for the zone that they are in, either by chance (due to the quality of construction) or as a result of existing regulations requiring new construction to comply with interior sound reduction standards.

A statistical analysis of the results of the 2013 AICUZ existing land use compatibility analysis (see Figure 3-40) reveals that the overwhelming majority of the existing land uses within Noise Zone 3 (see Figure 3-43) are deemed to be conditionally compatible, while a significantly smaller portion of the land uses within Noise Zone 2 (see Figure 3-42) were determined to be conditionally compatible. This appears to be somewhat counterintuitive given that more compatibility restrictions are in place in Noise Zone 3 than in Noise Zone 2, particularly with regard to residential use, which is the most prevalent specific land use type within the analyzed area in terms of the absolute number of residential structures that are present.

The primary observation related to the 2013 AICUZ existing land use compatibility analysis is that qualified *conditionally compatible* land uses may trend, in many cases, toward not meeting specific compatibility criteria, particularly with regard to residential uses in these areas. Conversely, a closer examination of many of the land uses identified as being *incompatible*, based on the character of their development density alone, may trend toward being compatible, particularly with regard to residential structures that were built following the adoption of the City and County interior noise level reduction requirements for new construction.

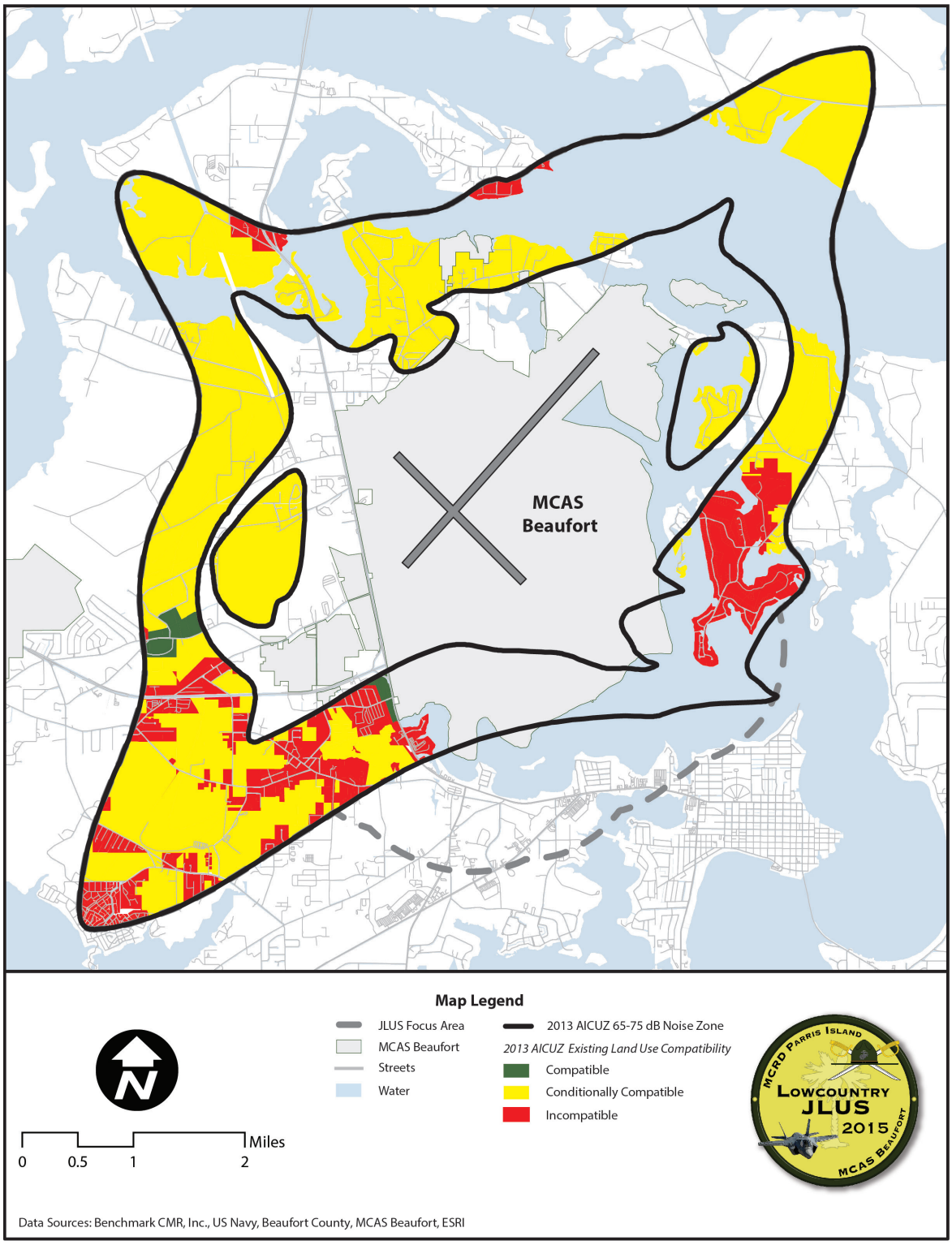

Figure 3-42: **2013 AICUZ 65-75 dB DNL Existing Land Use Compatibility**

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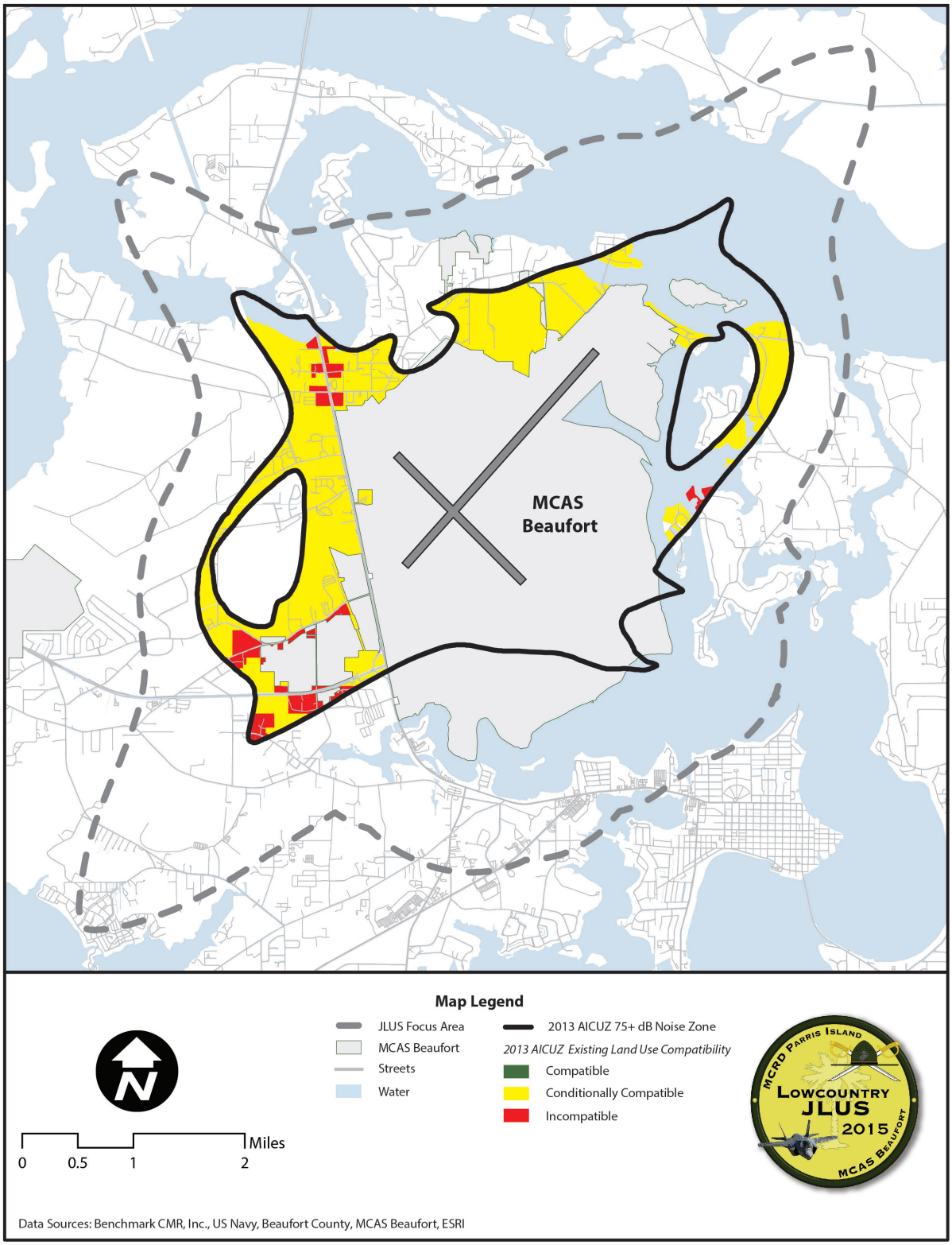

Figure 3-43: **2013 AICUZ 75+ dB DNL Existing Land Use Compatibility**

B. Aircraft Noise Impact Area Existing Land Use Compatibility (JLUS)

As a contrast to the assessment of land use compatibility within the 65+ dB DNL noise contour in the 2013 AICUZ, an updated assessment was performed for the Joint Land Use Study. This updated noise compatibility assessment utilized parcel specific land use data, based on classifications established by the Beaufort County Tax Assessor, in order to provide a more refined analysis of compatibility within the JLUS Focus Area.

The new noise compatibility assessment utilized the land use compatibility recommendations as outlined in OPNAVINST 11010.36C / MCO 11010.16 in order to make determinations as to the compatibility of each parcel of land within the 2013 AICUZ 65+ dB DNL contour. Like the analysis contained in the 2013 AICUZ, existing land uses were classified as being either compatible, conditionally compatible or incompatible with the noise level of the contour in which they are located, based on the compatibility table in the AICUZ guidance document. The following is a summary of how the AICUZ compatibility recommendations were used to assign the three degrees of compatibility to the parcel specific land uses:

- Y (recommended) – Compatible
- Y (with footnote for noise reduction) – Conditionally Compatible
- X dB (noise reduction of "x" decibels required) – Conditionally Compatible
- N (with footnote for noise reduction) – Conditionally Compatible
- N (not recommended) – Incompatible

The result of the updated noise compatibility assessment is shown in Figures 3-45 to 3-47 and in Figure 3-44 below.

Figure 3-44: **2013 AICUZ 65+ dB DNL Existing Land Use Compatibility Summary (JLUS)**

Existing Land Use Compatibility	65+ dB DNL Noise Zone		Noise Zone 2 (65-75 dB DNL)		Noise Zone 3 (75+ dB DNL)	
	Acres	% of Noise Zone	Acres	% of Noise Zone 2	Acres	% of Noise Zone 3
Compatible	6,168.6	65.9%	5,058.8	69.6%	1,130.8	53.3%
Conditionally Compatible	1,977.4	21.1%	1,678.9	23.1%	298.5	14.1%
Incompatible	1,218.1	13.0%	525.0	7.2%	693.1	32.7%
Total	**9,377.1**	**100.0%**	**7,254.7**	**100.0%**	**2,122.4**	**100.0%**

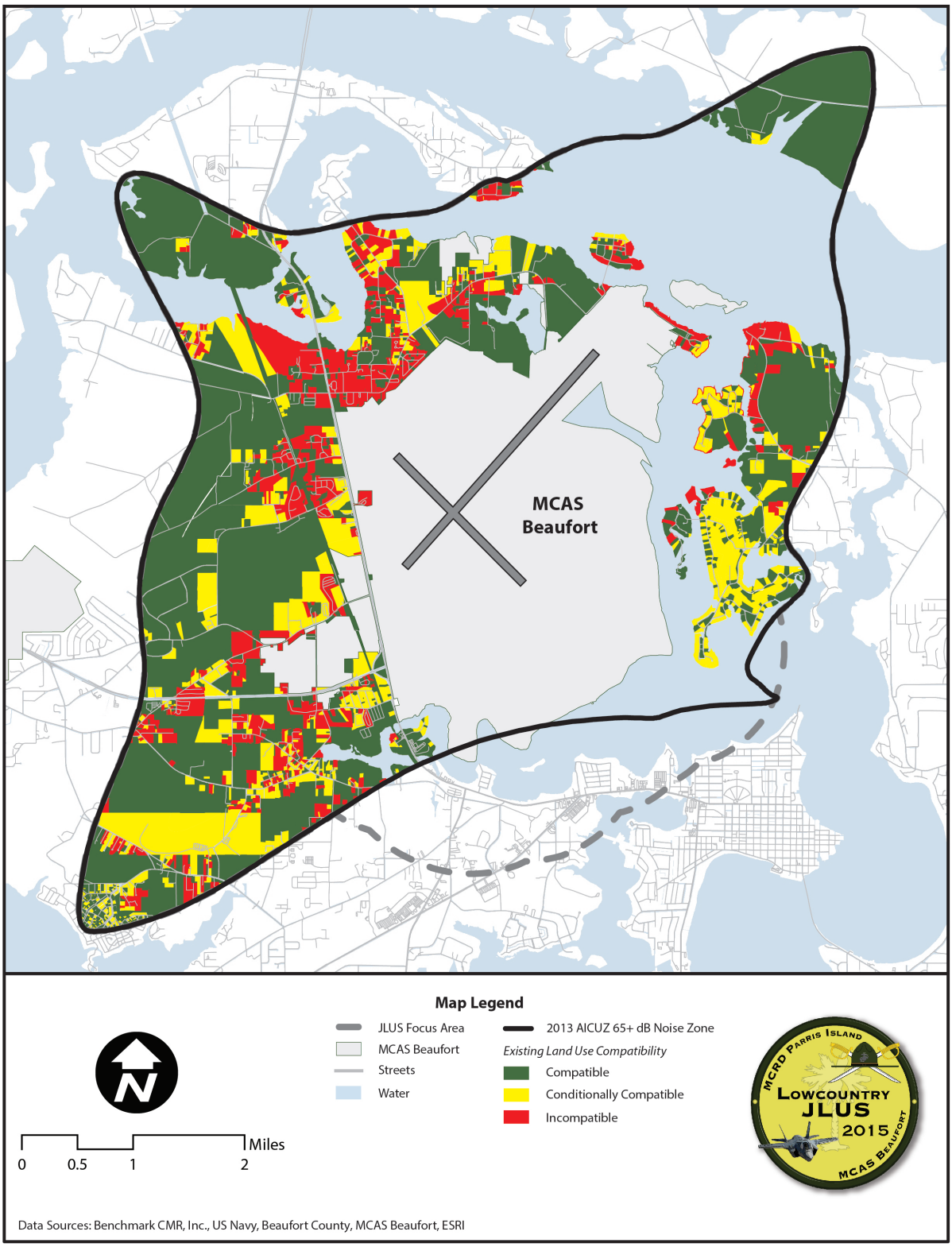

Figure 3-45: **65+ dB DNL Parcel Specific Existing Land Use Compatibility**

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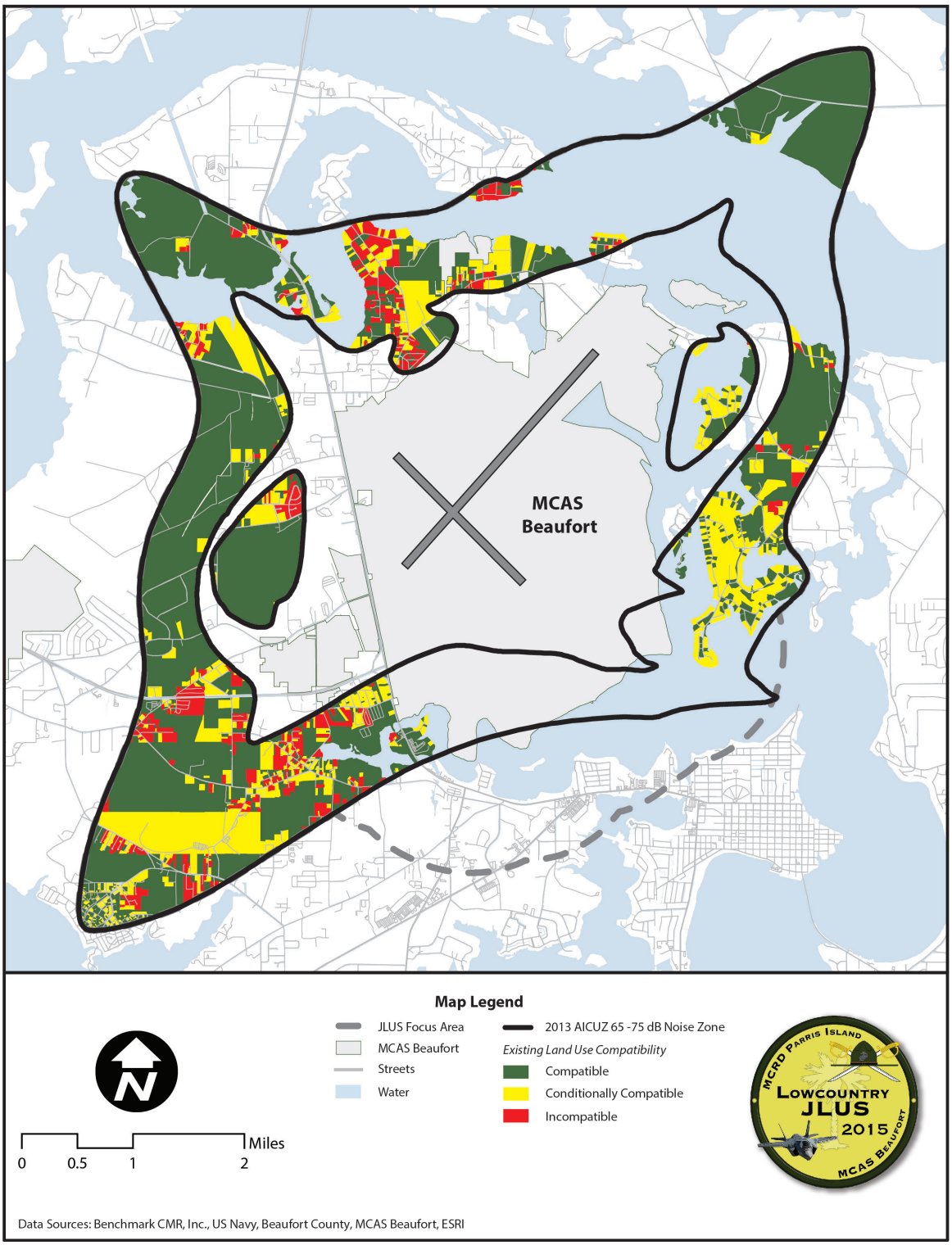

Figure 3-46: **65-75 dB DNL Parcel Specific Existing Land Use Compatibility**

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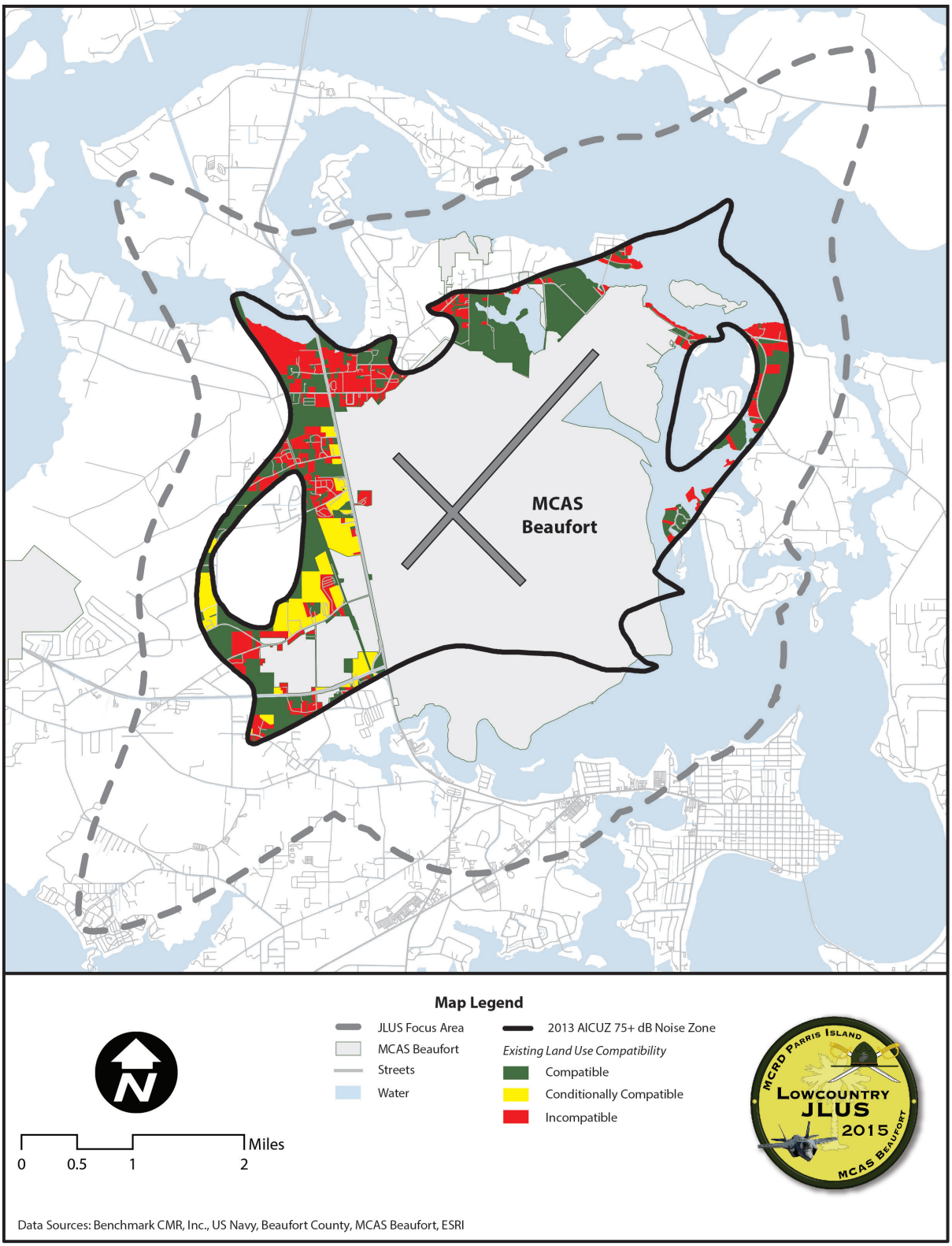

Figure 3-47: **75+ dB DNL Parcel Specific Existing Land Use Compatibility**

C. Summary of Aircraft Noise Impact Area Existing Land Use Compatibility

As the maps shown in Figures 3-41 to 3-43 and 3-45 to 3-47 demonstrate, there is a broad disparity in the results of the analyses conducted for the 2013 AICUZ, which utilized generalized existing land use classifications, and the JLUS, which utilized specific land use classifications to determine existing land use compatibility with aircraft noise. Of particular note is the amount of land within the 2013 AICUZ 65+ dB DNL contour as a whole that is deemed compatible when using specific rather than general land use classifications (66% vs. 1% respectively). The amount of land deemed to be conditionally compatible changed significantly as well, with the specific land use data revealing only 20% of the area to fall in this category vs. over 80% when using a general classification. Interestingly, the amount of land deemed to be incompatible with the projected noise levels stayed fairly constant, with 13% falling in this category using specific land use classifications while the generalized land use classification in the 2013 AICUZ found approximately 18% of the area to contain incompatible uses.

Looking more closely at the individual noise zones, the analysis reveals similar differences in the degree of compatibility that is observed. In Noise Zone 2 (65-75 dB DNL) the amount of land deemed to be compatible increased from less than 2% to almost 70%. The analysis of Noise Zone 2 also found a large decrease in the amount of conditionally compatible land, 76% vs. 23% respectively, between the generalized and specific land use classification. Noise Zone 2 also saw a large decrease in the amount of land deemed to be incompatible when the specific land uses were used in the analysis (7% vs 22%).

No land within Noise Zone 3 was deemed to be compatible with aircraft noise impacts when the generalized land use classifications were used in the 2013 AICUZ analysis, while the specific land use classification data revealed that just over 50% of the land uses in the Noise Zone 3 area are compatible. Again, the amount of conditionally compatible land use decreased significantly, from over 90% to less than 15%. A significant finding of the new assessment was that just over 30% of the land area is incompatible as compared to the finding in the AICUZ assessment that around 7% of the land area was incompatible with aircraft noise levels in this zone when only general land use data was used to determine compatibility.

The results of this comparison in methodology and results show that the more specific existing land use data reveal that, generally speaking, the existing land use patterns are much more compatible than was determined by the 2013 AICUZ. While much of the increase in observed compatibility is due to an accounting of undeveloped land, which is by default compatible due to the absence of a developed or active land use, the overall situation is much more certain given that a significant amount of land that was classified as being conditionally compatible actually falls within either the compatible or incompatible categories. Figures 3-48 to 3-50 on the following page provide a full comparison of these results.

Figure 3-48: **65+ dB Noise Contour Existing Land Use Compatibility Comparison (% of Area)**

Future Land Use Compatibility	2013 AICUZ	JLUS
Compatible	1.1%	65.9%
Conditionally Compatible	81.1%	21.1%
Incompatible	17.8%	13.0%
Total	**100.0%**	**100.0%**

Figure 3-49: **65-75 dB Noise Contour Existing Land Use Compatibility Comparison (% of Area)**

Future Land Use Compatibility	2013 AICUZ	JLUS
Compatible	1.5%	69.6%
Conditionally Compatible	76.1%	23.1%
Incompatible	22.3%	7.2%
Total	**100.0%**	**100.0%**

Figure 3-50: **75+ dB Noise Contour Existing Land Use Compatibility Comparison (% of Area)**

Future Land Use Compatibility	2013 AICUZ	JLUS
Compatible	0.0%	53.3%
Conditionally Compatible	93.2%	14.1%
Incompatible	6.8%	32.7%
Total	**100.0%**	**100.0%**

XI. Aircraft Noise Impact Area Future Land Use Compatibility

In addition to examining existing land use compatibility, the 2013 AICUZ analyzed the compatibility of future land use designations, as well as local zoning districts, for compatibility with the projected 2023 aircraft noise contours. This analysis produced a compatibility map, shown in Figures 3-52 to 3-54, which reveals a future compatibility landscape that is more heavily weighted toward *compatible* land uses than the analysis of *existing* land use compatibility. Conversely, the map is also much more certain with regard to *incompatible* land uses. A statistical breakdown of the results of the future land use compatibility analysis is shown in Figure 3-51 below.

With nearly 60% the area inside of the 2013 AICUZ 65+ dB DNL contour identified as being *compatible* and over 20% of the area identified as *conditionally compatible* with the projected noise environment in 2023, the future compatibility picture for the area is very positive. While the future land use compatibility assessment is based, like the existing land use compatibility assessment, on fairly general land use categories rather than a use specific determination for each parcel, the assumption is that local compatibility regulations and the implementation of the land use plan will increase the likelihood that land will be used and developed in a manner that is compatible with the future noise environment.

The future land use compatibility assessment is based on the assumption that local compatible use regulations will continue to be enforced in those areas in which they currently are applied. As the map in Figure 3-52 demonstrates, the areas in the southwestern and northwestern portions of the noise zone that are identified as being *incompatible* fall outside of the 2003 AICUZ 65+ dB DNL noise contour, which has been the outer limit of local compatibility regulations. It could be reasonably assumed that if the compatibility regulations are expanded to include the full extent of the 2013 AICUZ 65+ dB DNL area then those *incompatible* future land use designations would likely become *compatible*, which would in turn greatly enhance the overall degree of future land use compatibility, particularly in Noise Zone 2.

Figure 3-51: **2013 AICUZ 65+ dB DNL Future Land Use Compatibility Summary**

Future Land Use Compatibility	65+ dB DNL Noise Zone		Noise Zone 2 (65-75 dB DNL)		Noise Zone 3 (75+ dB DNL)	
	Acres	% of Noise Zone	Acres	% of Noise Zone 2	Acres	% of Noise Zone 3
Compatible	5,544.5	57.2%	3,852.9	52.0%	1,691.6	73.8%
Conditionally Compatible	2,203.1	22.7%	1,693.0	22.9%	510.1	22.9%
Incompatible	1,947.5	20.1%	1,858.1	25.1%	89.4	3.1%
Total	**9,695.1**	**100.0%**	**7,404.0**	**100.0%**	**2,291.1**	**100.0%**

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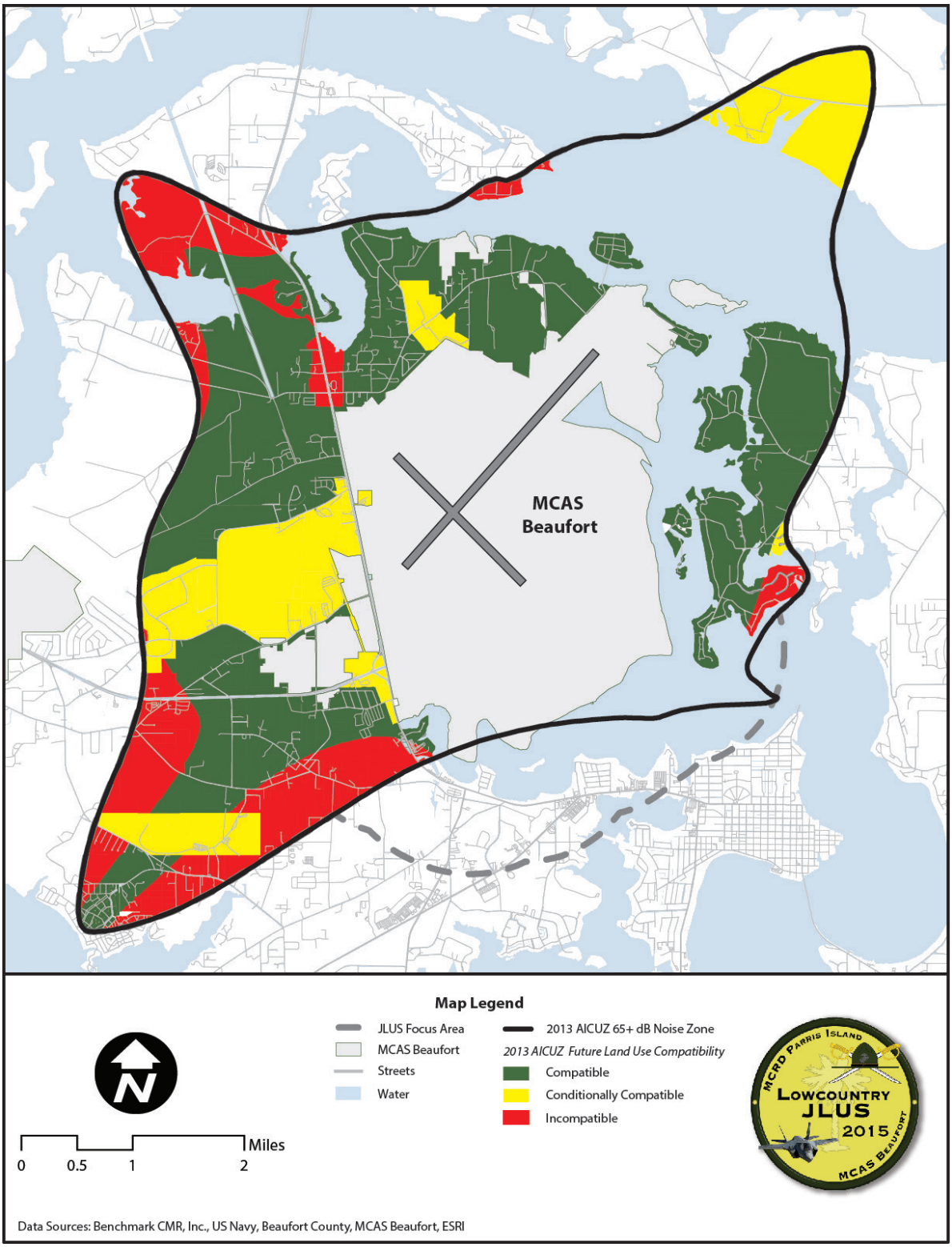

Figure 3-52: **2013 AICUZ 65+ dB DNL Future Land Use Compatibility**

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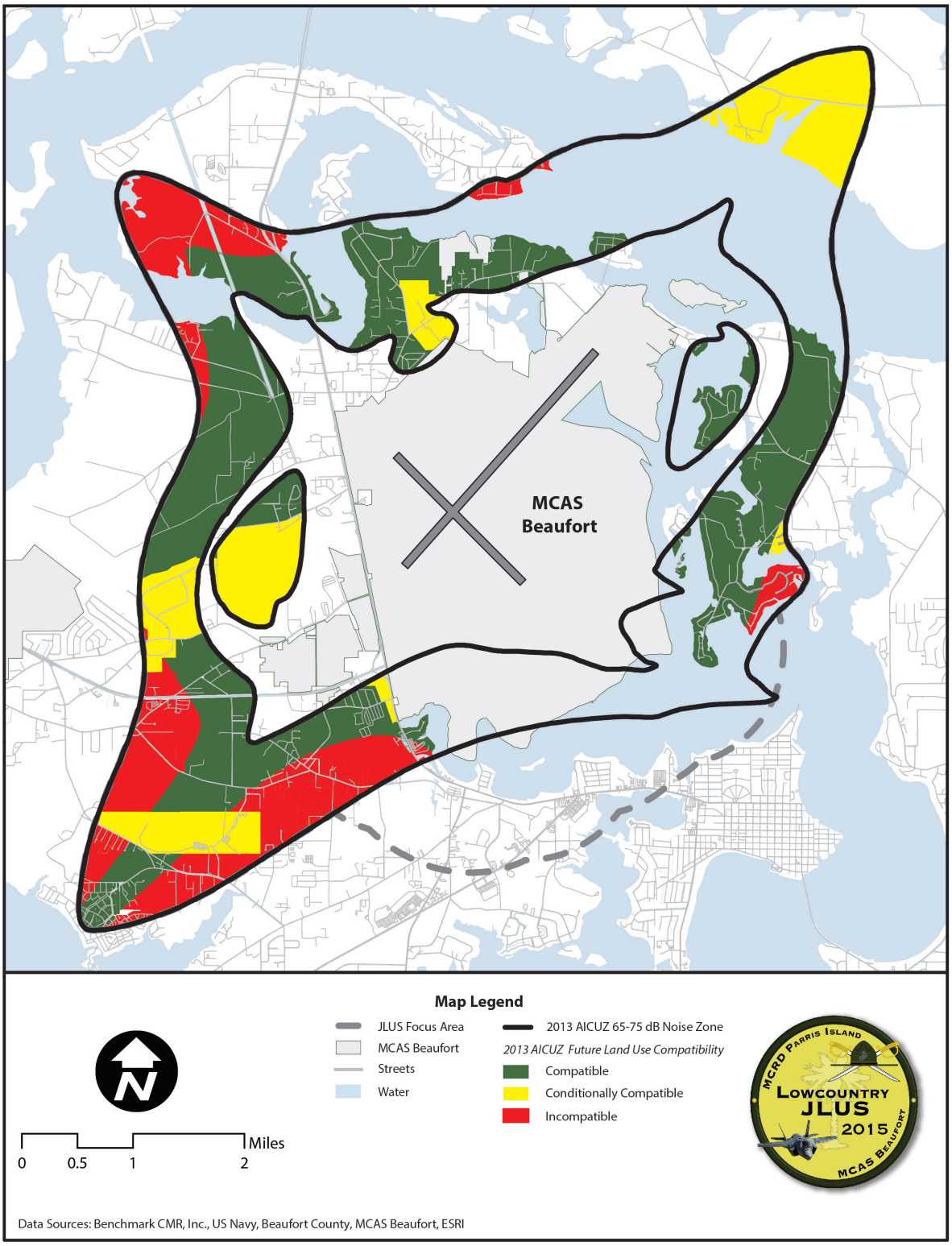

Figure 3-53: **2013 AICUZ 65-75 dB DNL Future Land Use Compatibility**

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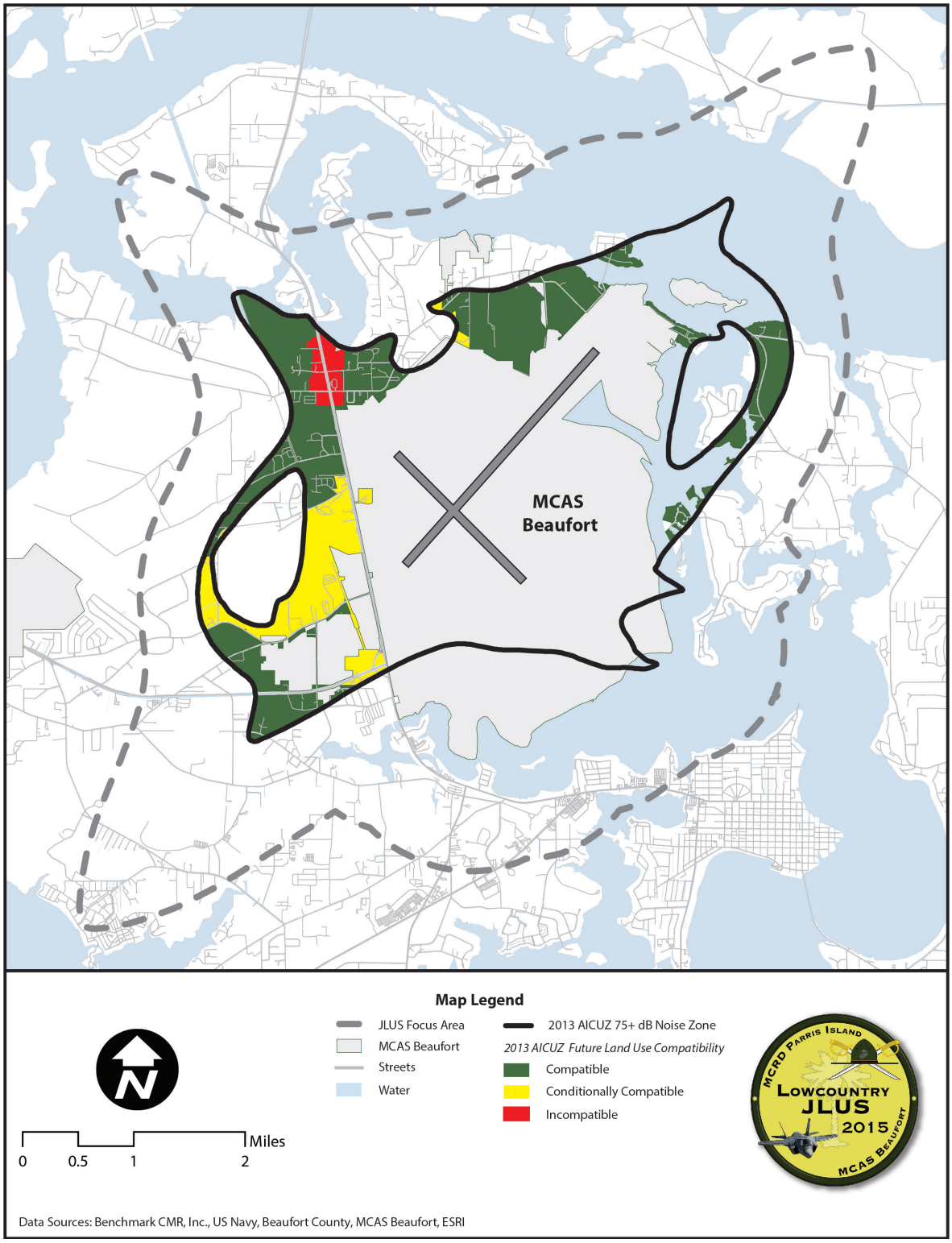

Figure 3-54: **2013 AICUZ 75+ dB DNL Future Land Use Compatibility**

XII. Accident Potential Zone Land Use Summary

The following is a summary of land use patterns, including existing land use, land subdivision and future land use, within the MCAS Beaufort Accident Potential Zones. Like the previous summaries, this focuses on those portions of the Accident Potential Zones, which fall outside of the Air Station's boundary.

A. Existing Land Use

The vast majority of the off-station land area that falls within the combined Accident Potential Zone is classified as "rural / undeveloped", with over 80% of the combined area having this designation. Similar proportions of both APZ 1 and APZ 2 are designated with this land use classification as well. Only minor inclusions of other land uses are found in the combined APZ area, including relatively small amount of land designated as having existing "neighborhood mixed", industrial or commercial use. A statistical analysis of the distribution of existing land uses within the Accident Potential Zones is shown in Figure 3-55 below, and a map that depicts the distribution of land uses inside of the Accident Potential Zones is shown in Figure 3-59.

B. Land Subdivision

The pattern of land subdivision within the off-station portions of the Accident Potential Zones, as shown in Figure 3-60, is generally rural in nature, although there is a fairly substantial concentration of parcels that have been divided at higher densities in the western leg of the APZ area. Of the total number of individual parcels in the APZ area, over half have been subdivided into lots that are smaller than one acre in size, including nearly 30% which are smaller than 0.5 acres (see Figure 3-56). Despite the large number of parcels in these categories, they account for only around 13% of the total acreage in the APZ. Slightly less than 50% of the acreage in the combined APZ area remains in undivided tracts that are larger than 10 acres in size. These larger tracts are concentrated in the southwestern portion of the western leg of the combined APZ area.

Land subdivision patterns in the area that falls within APZ 1 trend toward larger tracts of land than what is found in APZ 2 or in the combined APZ area as a whole. Although a smaller portion of the acreage within APZ 1 falls within the 3-10 acre parcel category, as compared to either APZ 2 or the combined APZ area, over 65% of the acreage in APZ 1 is comprised of tracts larger than 10 acres in size. APZ 2, as the larger of the two APZ areas that make up the combined APZ area, heavily influences the overall land subdivision pattern, and therefore tracks closely with the land subdivision pattern found in the combined APZ area. A statistical analysis of land subdivision within APZ 1 and APZ 2 is shown in Figure 3-57 below.

Figure 3-55: **Accident Potential Zone Existing Land Use Summary**

Existing Land Use	Accident Potential Zones		APZ 1		APZ 2	
	Acres	% of APZ	Acres	% of APZ 1	Acres	% of APZ 2
Rural / Undeveloped	2,055.6	83.1%	256.0	80.0%	1,799.6	83.5%
Neighborhood Mixed	139.0	5.6%	24.9	7.8%	114.1	5.3%
Community Commercial	35.8	1.4%	0.0	0.0%	35.8	1.7%
Light Industrial	133.5	5.4%	39.1	12.2%	94.4	4.4%
Preserved Lands	110.6	4.5%	0.0	0.0%	110.6	5.1%
Total	**2,474.5**	**100.0%**	**320.0**	**100.0%**	**2,154.5**	**100.0%**

Figure 3-56: **Accident Potential Zone Land Subdivision Summary**

Parcel Size (acres)	Number	Acres	% of APZ
Less than 0.5	292	88.8	3.7%
0.5 - 1	331	220.6	9.2%
1 - 3	254	350.1	14.6%
3 - 10	117	542	22.6%
Greater than 10	56	1195	49.9%
Total	**1,050**	**2,396.5**	**100.0%**

Figure 3-57: **APZ 1 and APZ 2 Land Subdivision Summary**

Parcel Size (acres)	APZ 1			APZ 2		
	Number	Acres	% of APZ 1	Number	Acres	% of APZ 2
Less than 0.5	26	8.5	4.1%	266	80.3	3.7%
0.5 - 1	11	7.6	3.7%	320	212.6	9.7%
1 - 3	14	18	8.8%	242	332.1	15.2%
3 - 10	13	36	17.6%	108	505.2	23.1%
Greater than 10	12	134.9	65.8%	46	1,060.3	48.4%
Total	**76**	**205**	**100.0%**	**982**	**2,190.5**	**100.0%**

C. Future Land Use

The most prevalent future land use designation within the combined APZ area, shown in Figure 3-61, is low density residential, with approximately 80% of the combined area assigned this designation. The second most prevalent future land use classification, accounting for 13% of the combined APZ area, is land that is designated for future industrial use. While low-density residential land use classifications are distributed throughout the combined APZ area, land designated for industrial purposes is concentrated in the southwestern corner of the western leg of the combined APZ area.

The majority of the land designated for future industrial use is within APZ 2, as is all of the land designated for future commercial use. Preserved lands and lands designated for rural land use make up the remainder of the combined APZ area, accounting for around 6% of the APZ area as a whole. A statistical breakdown of the distribution of future land use classifications within the APZ areas is shown in Figure 3-58 below.

Figure 3-58: **Accident Potential Zone Future Land Use Summary**

Future Land Use	Accident Potential Zones		APZ 1		APZ 2	
	Acres	% of APZ	Acres	% of APZ 1	Acres	% of APZ 2
Rural	40.9	1.7%	0.0	0.0%	40.9	1.9%
Low Density Residential	1,935.4	78.3%	280.5	87.7%	1,654.9	76.9%
Community Commercial	63.4	2.6%	0.0	0.0%	63.4	2.9%
Light Industrial	321.8	13.0%	39.5	12.3%	282.3	13.1%
Preserved Lands	110.6	4.5%	0.0	0.0%	110.6	5.1%
Total	**2,472.1**	**100.0%**	**320.0**	**100.0%**	**2,152.1**	**100.0%**

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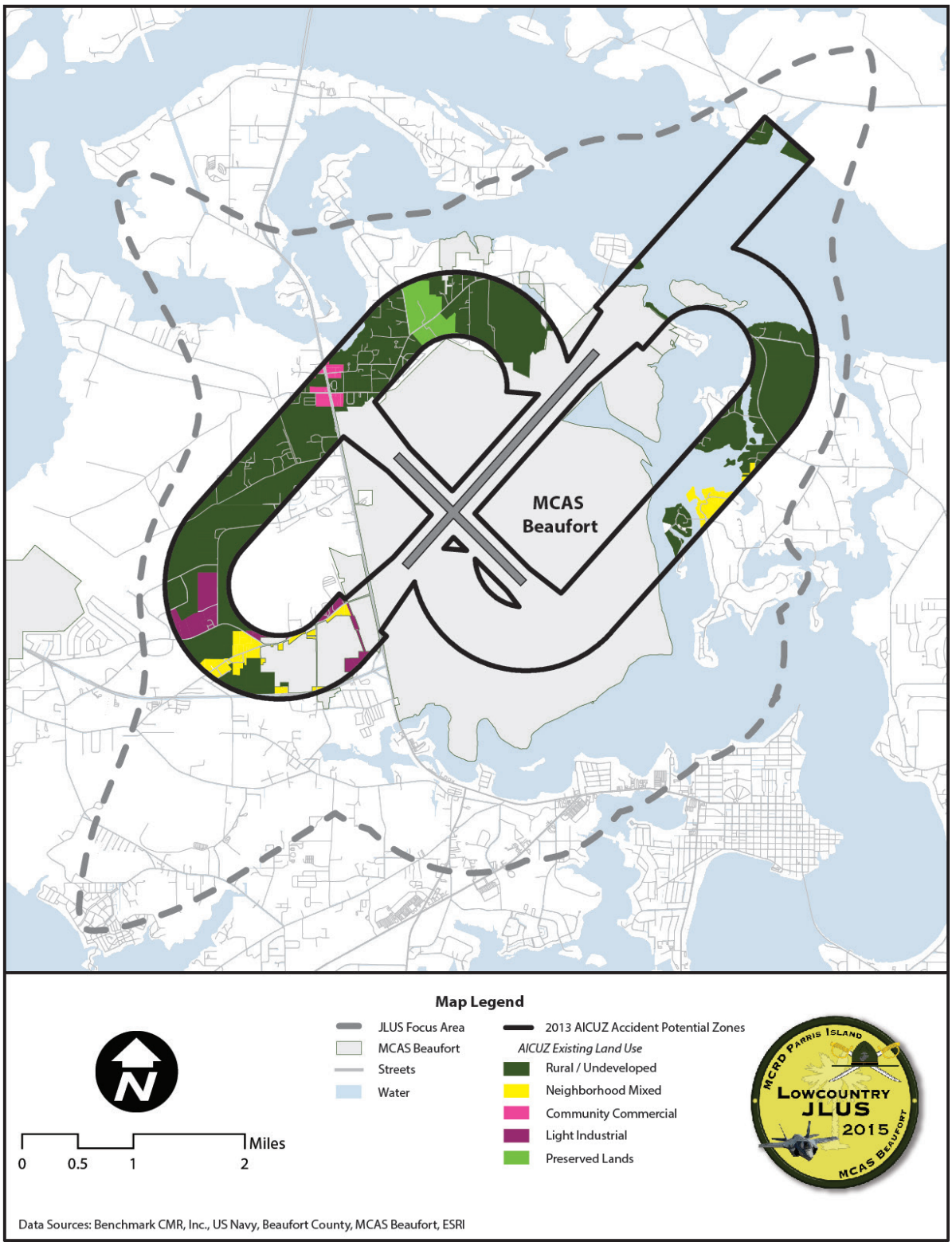

Figure 3-59: **Accident Potential Zone Existing Land Use Pattern**

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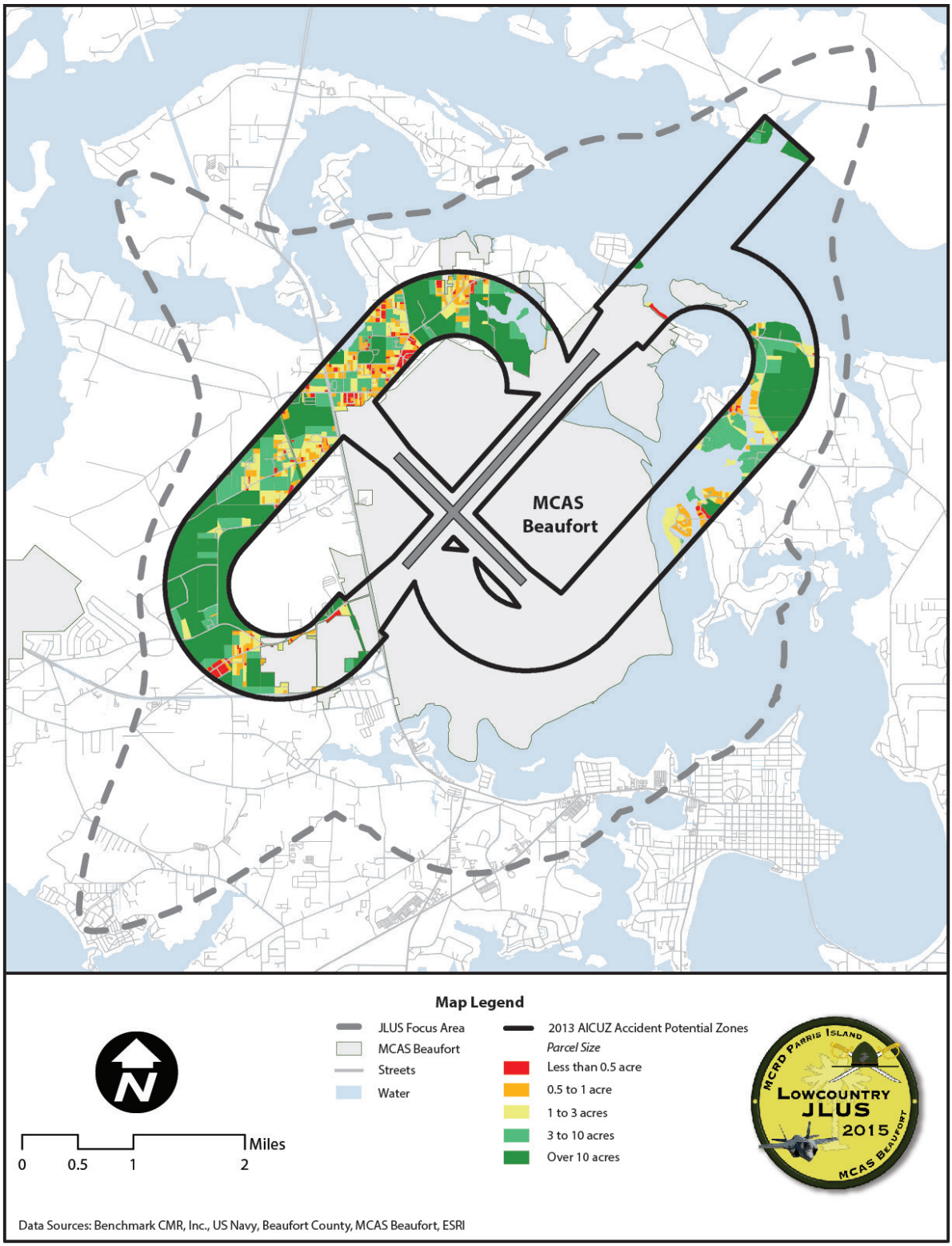

Figure 3-60: **Accident Potential Zone Land Subdivision Pattern**

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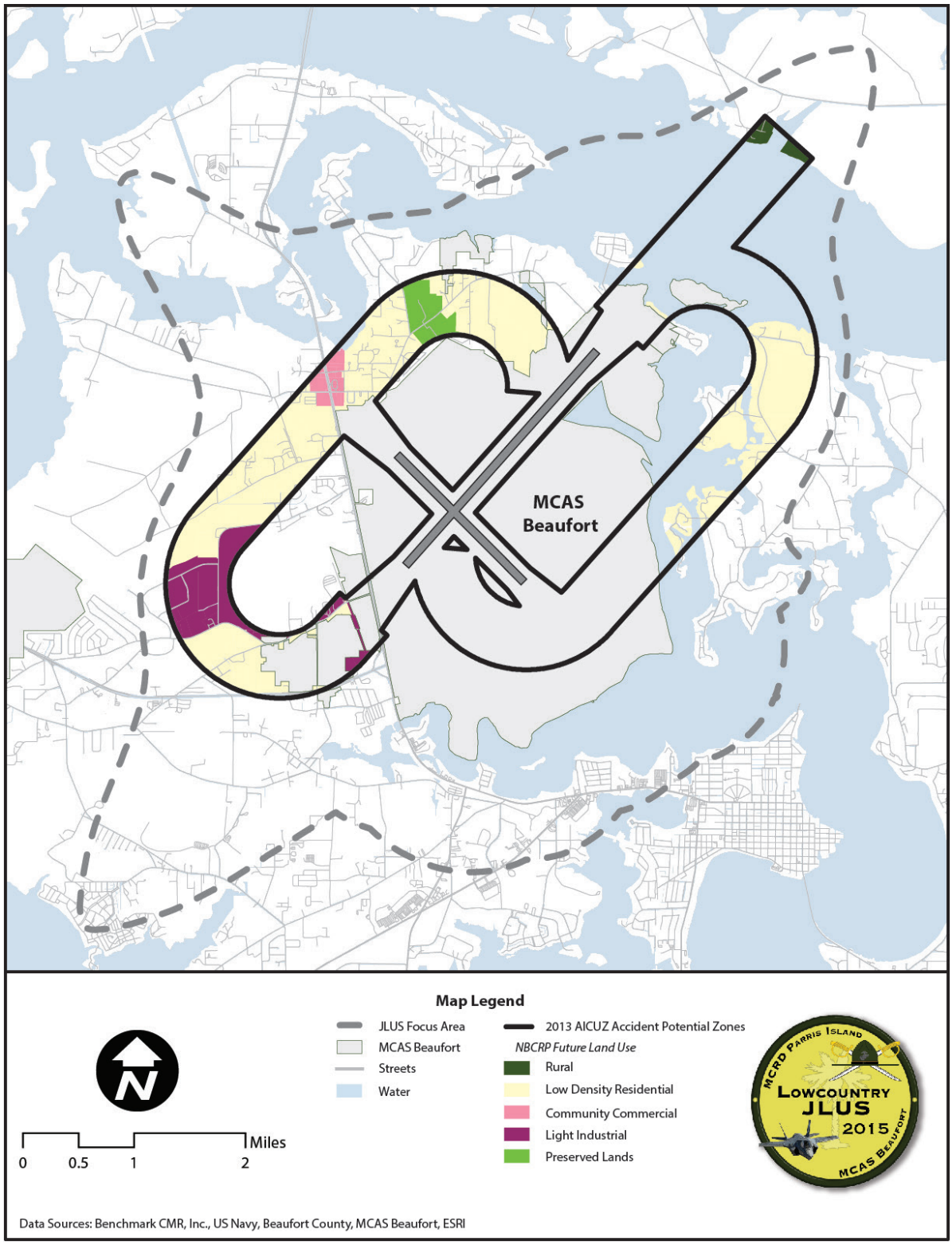

Figure 3-61: **Accident Potential Zone Future Land Use Pattern**

XIII. Accident Potential Zone Land Use Compatibility Summary

A. Existing Land Use Compatibility

The 2013 AICUZ analysis of compatibility between the designated Accident Potential Zones and the existing land use pattern found outside of the Air Station boundary determined that the vast majority of the existing land uses were conditionally compatible with the potential impacts of the APZ area. These results are shown in Figure 3-63 and Figure 3-62.

Like the analysis completed for the noise impact area, this analysis generally identified lands that are designated as "rural/undeveloped" or industrial as being conditionally compatible with potential impacts in the APZ area, while lands that are designated as "community commercial" or "neighborhood mixed" were identified as being incompatible with the potential impacts in the APZ area.

Figure 3-62: **2013 AICUZ APZ Existing Land Use Compatibility Analysis**

Existing Land Use Compatibility	Accident Potential Zones		APZ 1		APZ 2	
	Acres	% of APZ	Acres	% of APZ 1	Acres	% of APZ 2
Conditionally Compatible	2,299.5	92.9%	256.5	91.2%	2,043.0	93.1%
Incompatible	175.5	7.1%	24.6	8.8%	150.9	6.9%
Total	**2,475.0**	**100.0%**	**281.1**	**100.0%**	**2,193.9**	**100.0%**

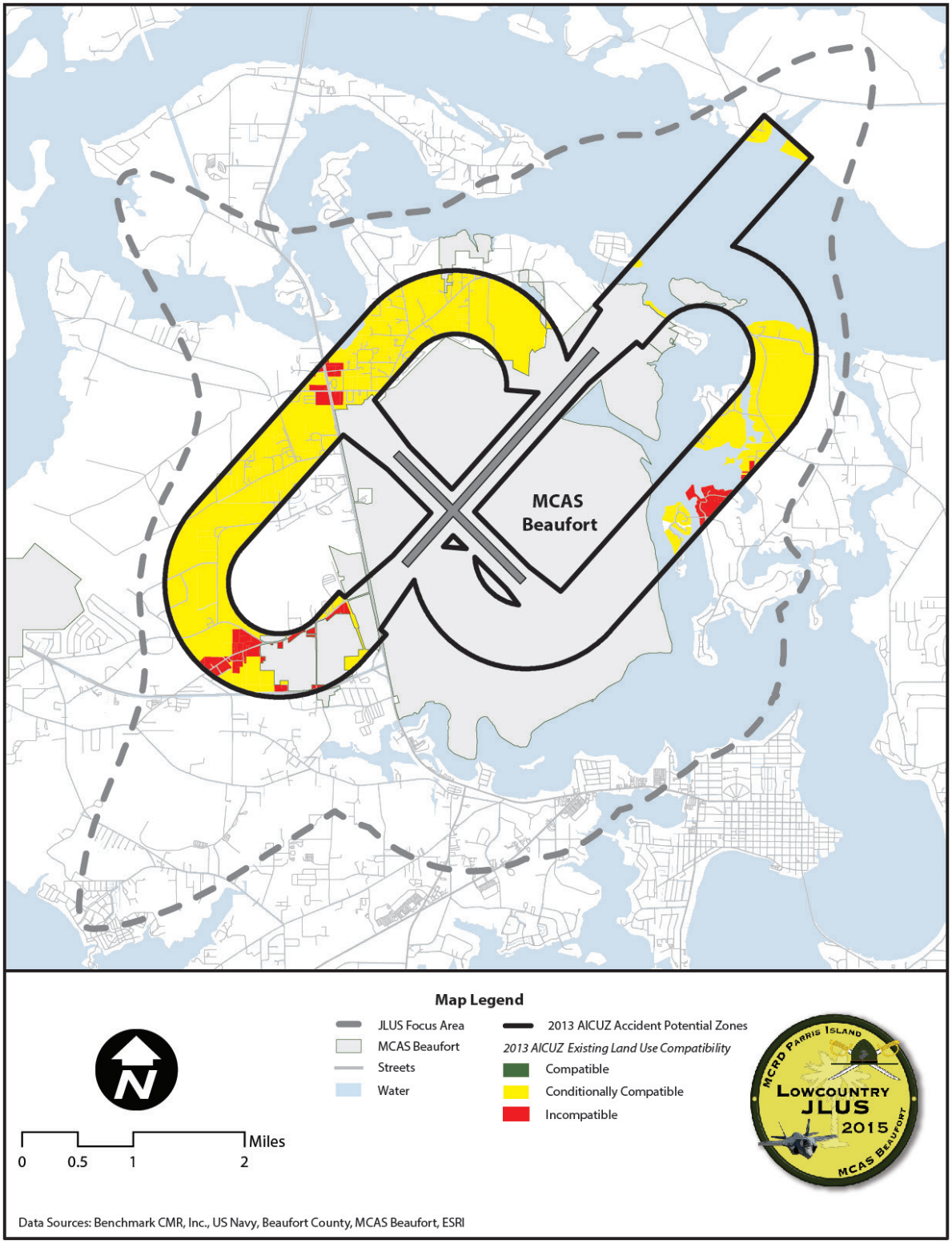

Figure 3-63: **Accident Potential Zone Existing Land Use Compatibility**

B. Future Land Use Compatibility

The 2013 AICUZ analysis of future land use compatibility in the combined APZ area determined that a significant percentage of the area outside of the Air Station's boundary have future land use designations that are compatible with the potential impacts associated with the Accident Potential Zones. The results of the future land use compatibility analysis are shown in Figure 3-65 and in Figure 3-64 below. Lands that are designated for low density residential land use are generally identified as being compatible with the potential APZ impacts, while industrial, rural and preserved lands were identified as being conditionally compatible. Land that is designated for future commercial use was the only portion of the APZ area that was identified as being incompatible with the impacts associated with the APZs.

Figure 3-64: **2013 AICUZ APZ Future Land Use Compatibility Analysis**

Future Land Use Compatibility	Accident Potential Zones		APZ 1		APZ 2	
	Acres	% of APZ	Acres	% of APZ 1	Acres	% of APZ 2
Compatible	1,935.6	78.3%	241.9	86.0%	1,693.7	77.3%
Conditionally Compatible	472.9	19.1%	39.3	14.0%	433.6	19.8%
Incompatible	63.6	2.6%	0.0	0.0%	63.6	2.9%
Total	**2,472.1**	**100.0%**	**281.2**	**100.0%**	**2,190.9**	**100.0%**

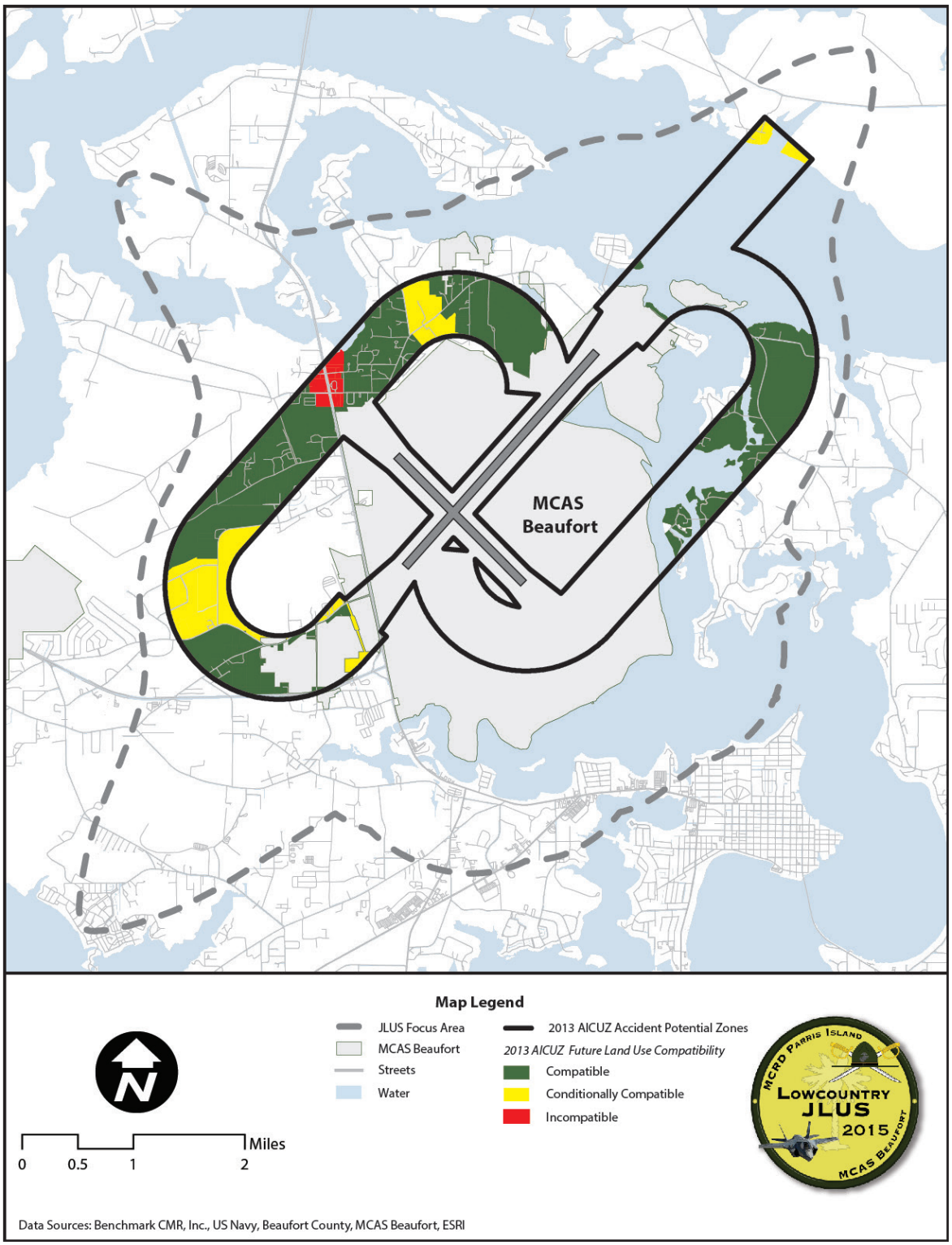

Figure 3-65: **Accident Potential Zone Future Land Use Compatibility**

XIV. Compatibility Easements

In an effort to increase the compatibility of land uses around the Air Station, the Marine Corps has engaged willing property owners to obtain easements, deed restrictions and similar interests in real property in locations where certain types of development or land uses would be incompatible with military operations. These easements may restrict development entirely, such as when a conservation easement is put into place, or place certain restrictions on the use of property that correspond to the compatibility guidelines for the noise or accident potential zone (or both) that the property is located in. The acquisition of compatibility easements within the 2013 AICUZ 65+ dB DNL contour (see Figure 3-67) has been concentrated in the northern portion of the noise impact area, with significant amounts of land located to the north, northeast and northwest of the air station now subject to compatibility easements.

Easement acquisition has been much more robust in Noise Zone 2 (see Figure 3-68) than in Noise Zone 3 (see Figure 3-69). As Figure 3-66 notes, more than four times as much land within Noise Zone 2 has been placed into easements than has been in Noise Zone 3. Overall, nearly 25% of the entire 2013 AICUZ 65+ dB DNL area is subject to compatible use easements or deed restrictions. This includes over 25% of the area of Noise Zone 2 and over 20% of the area of Noise Zone 3. Within the Accident Potential Zone area (see Figure 3-70), which is wholly inside the 2013 AICUZ 65+ dB DNL area, nearly 20% of the combined area of the APZs is now subject to compatibility easements. This includes nearly 40% of APZ 1 and slightly more than 15% of APZ 2.

Figure 3-66: **2013 AICUZ 65+ dB DNL and APZ Compatibility Easements**

Compatibility Area	Easements	
65+ dB DNL Noise Zone	**Acres**	**2,307.2**
	% of Noise Zone	**24.1%**
Noise Zone 2 (65-75 dB DNL)	Acres	1,853.9
	% of Noise Zone 2	25.2%
Noise Zone 3 (75+ dB DNL)	Acres	453.3
	% of Noise Zone 3	20.5%
Accident Potential Zones	**Acres**	**477.3**
	% of APZ	**19.3%**
Accident Potential Zone 1	Acres	111.6
	% of APZ 1	39.7%
Accident Potential Zone 2	Acres	365.7
	% of APZ 2	16.7%

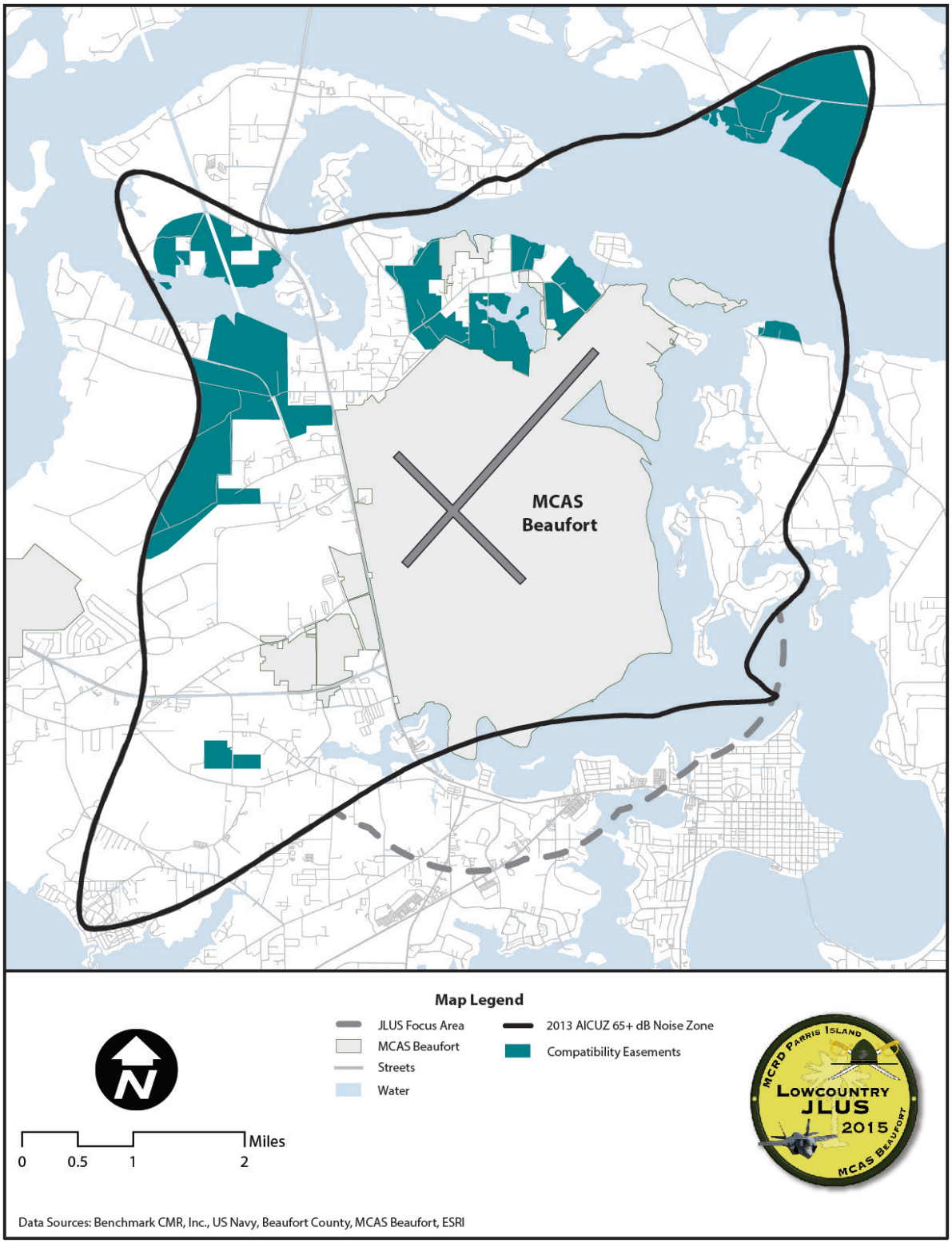

Figure 3-67: **2013 AICUZ 65+ dB DNL Compatibility Easements**

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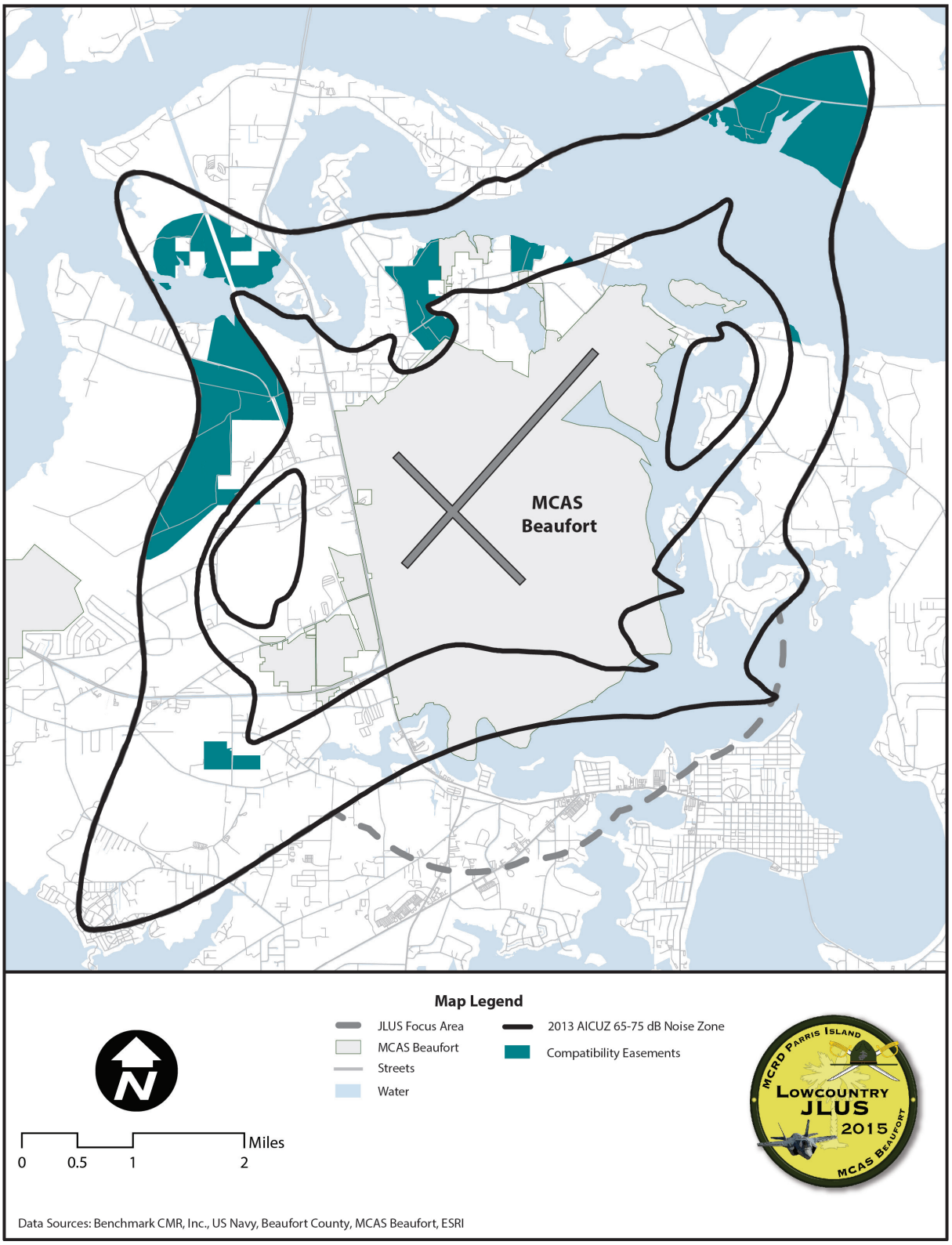

Figure 3-68: **2013 AICUZ 65-75 dB DNL Compatibility Easements**

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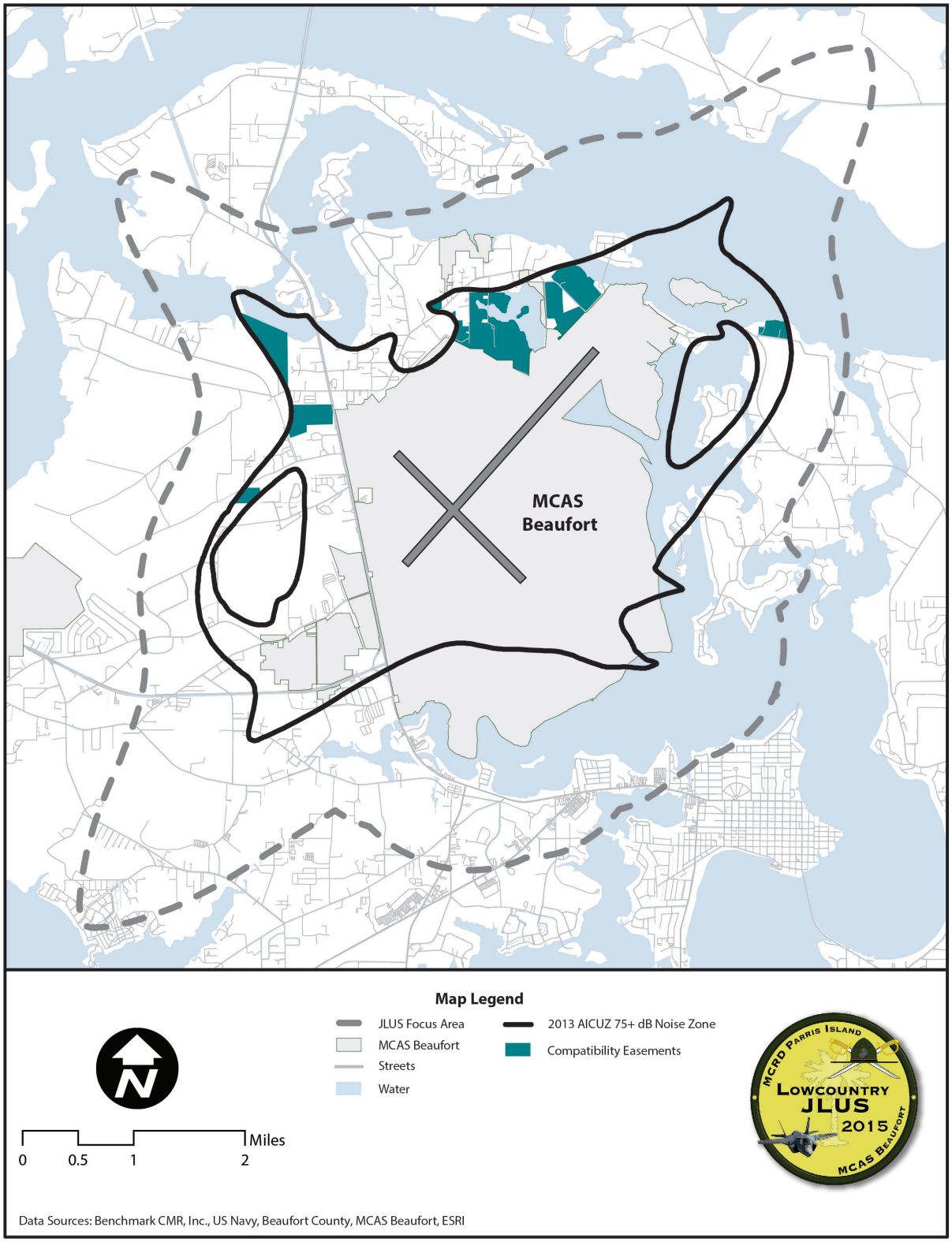

Figure 3-69: **2013 AICUZ 75+ dB DNL Compatibility Easements**

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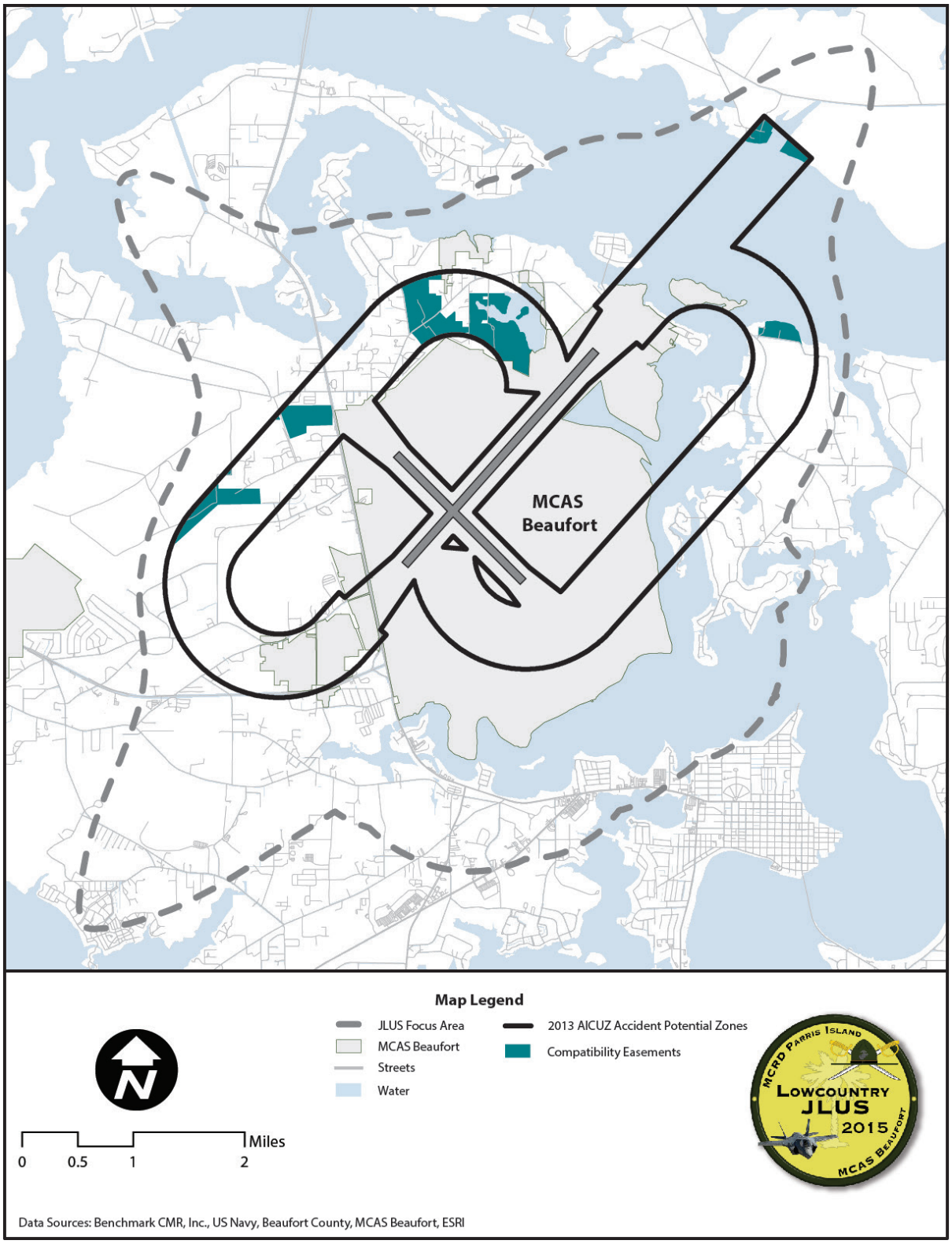

Figure 3-70: **Accident Potential Zone Compatibility Easements**

XV. Growth Area Impact Analysis and Comparison (2003 and 2013 AICUZ)

The following is a comparison of the change in impact on the local jurisdictions' designated growth areas between the noise zones established in the 2003 and 2013 AICUZ documents for MCAS Beaufort. The analysis includes only those portions of the AICUZ noise zones for each study that fall within the Growth Boundary established in the Northern Beaufort County Regional Plan (see NBCRP Figure 2) and excludes areas that fall within the installation boundary of MCAS Beaufort or over open water.

A. Overall Growth Area Impact Analysis

The Growth Area designated by the Northern Beaufort County Regional Plan covers 38,632 acres (approximately 60 square miles), which excludes both open water and land contained within military installations (MCAS Beaufort and MCRD Parris Island). Those areas designated on the NBCRP Future Land Use Map as "rural" on Lady's Island reduce the amount of land designated for future growth within the established growth boundary by 3,784 acres (approximately 6 square miles). This results in a net of 34,848 acres (54 square miles) of land designated for potential future growth.

The NBCRP establishes that lands within military impact areas (defined as APZs or 65+ dB DNL noise contours) should be developed in a manner that is consistent and compatible with the nature of the specific impacts that are present, including both noise impacts and hazards associated with aircraft accident potential. As identified in the 2003 AICUZ, and incorporated into the NBCRP future land use map, the military impact area reduced the amount of unencumbered land within the growth area by 6,837 acres, for a net of 28,011 acres (44 square miles). The impact of the 2013 AICUZ 65+ dB DNL noise zones within the NBCRP designated growth area was significantly higher than in 2003, with 8,854 acres falling within an area impacted by military operations, which is over 2,000 acres more than the 2003 AICUZ 65+ dB DNL noise zone area covered. The result of this is a net of 25,994 acres of land within the NBCRP that is not potentially encumbered by military impacts, compared to 28,011 acres based on the 2003 AICUZ. This equals a net reduction of over 3 square miles of unencumbered land in the growth area if the 2013 AICUZ military impact area is incorporated into the future land use map and/or local development ordinances.

As discussed in the previous section, compatibility easements owned by the military place restrictions on the types of land use or development activity allowed on private property where such easements have been purchased. While the majority of the easements fall within the military impact areas, some properties outside of the military impact areas fall within compatibility easements, thereby restricting the type or amount of growth that can occur in otherwise unencumbered portions of the NBCRP growth area. Based on the 2003 AICUZ military impact areas, the amount of land subject to compatibility easements outside of the designated impact areas is 684 acres, or slightly more than one square mile of land. Due to the larger spatial extent of the military impact areas identified in the 2013 AICUZ, the amount of land outside of an identified impact area actually declined by 235 acres to 446 acres.

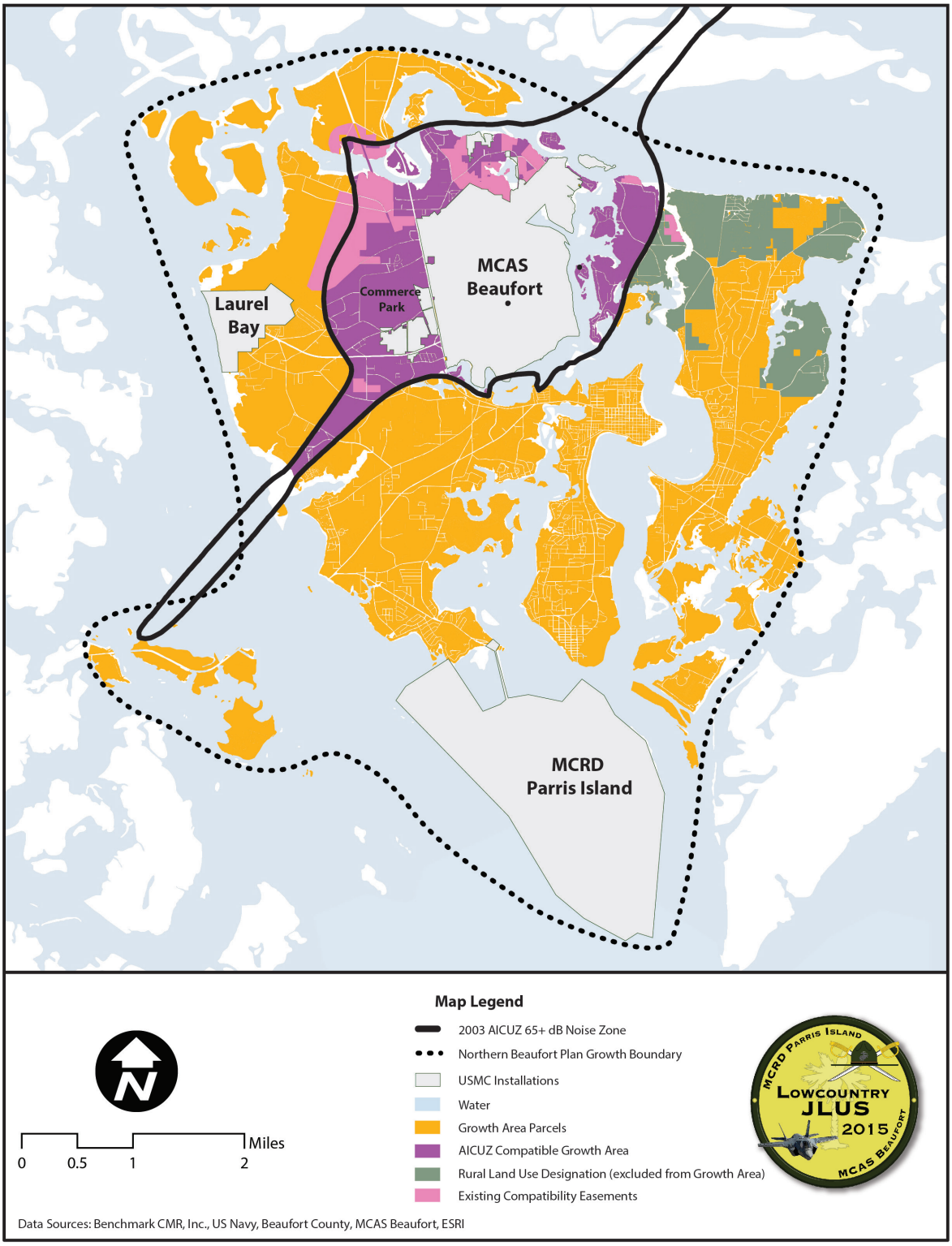

Figure 3-71: **2003 AICUZ Growth Area Impact**

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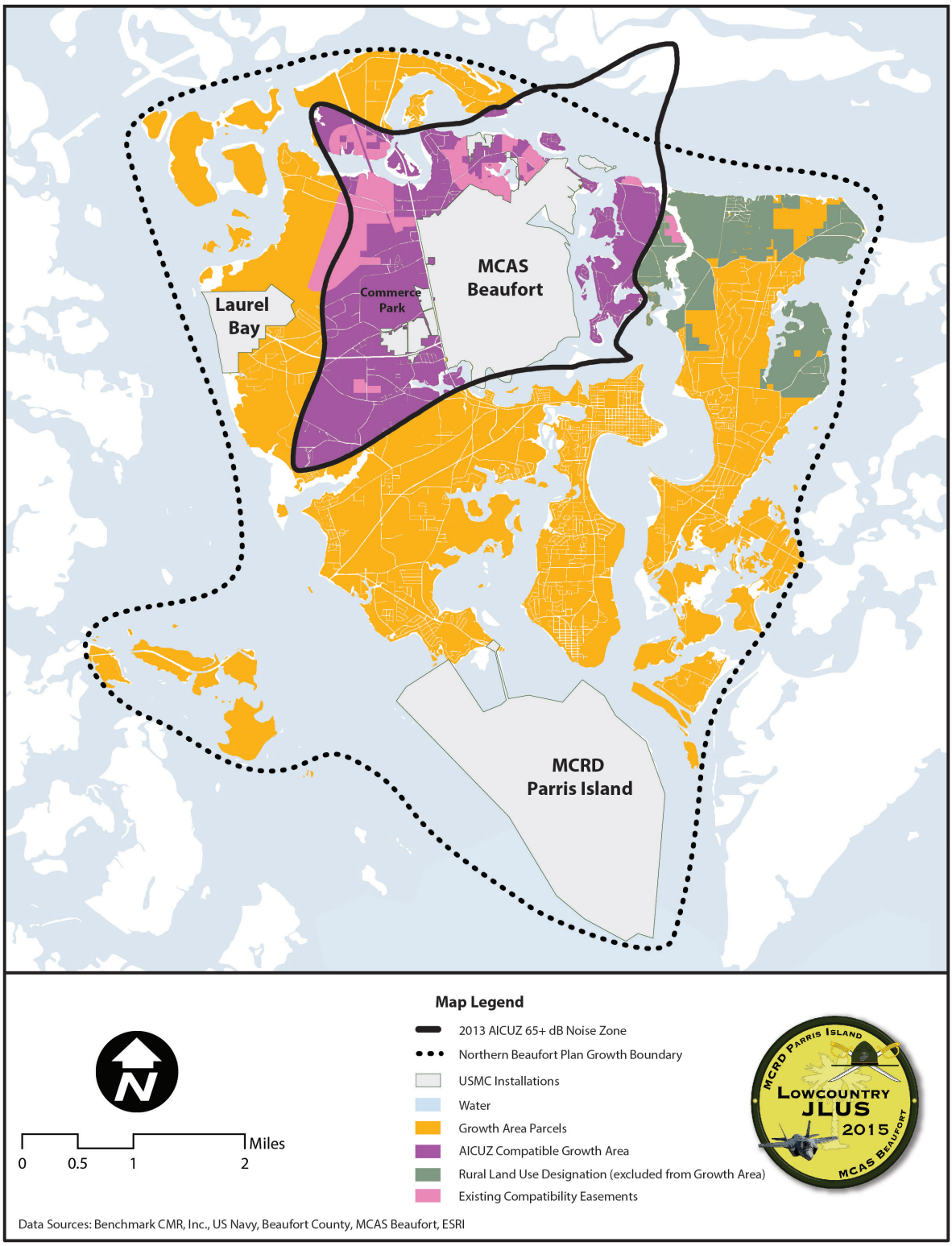

Figure 3-72: **2013 AICUZ Growth Area Impact**

B. Analysis of Impact by Jurisdiction

The following is an analysis of how the areas of military operational impact identified in the 2003 and 2013 AICUZ studies affect each of the local governments' territorial jurisdiction within the growth area established in the Northern Beaufort County Regional Plan. In contrast to the previous discussion, this section focuses on the gross impact of the identified military operational impact areas on each of the local governments with jurisdiction in the growth area.

The military operational impact area, including the APZs and 65+ dB DNL noise contour, identified in the 2003 AICUZ study affect a total of 6,837 acres of land out of 38,632 acres of land within the growth area, or 17.7% of the entire growth area. The amount of land within the growth area affected by the military operational impacts identified in the 2013 AICUZ increased significantly, with 8,854 acres, or 22.9% of the growth area, exclusive of the land area within military installations, affected. Figure 3-73 and 3-74, below, demonstrate how each of the jurisdictions are affected by the identified military operational impacts identified in the 2003 and 2013 AICUZ studies, while the maps on the following pages demonstrate the spatial extent of the impacts.

Figure 3-73: **2003 AICUZ Growth Area Impact by Jurisdiction**

Jurisdiction	Acreage Within Growth Area	Inside 2003 AICUZ 65+ dB DNL		Outside 2003 AICUZ 65+ dB DNL	
		Acres	% of Jurisdiction	Acres	% of Jurisdiction
City of Beaufort	8,751	978	11.2%	7,773	88.8%
Town of Port Royal	2,821	0	0.0%	2,821	100.0%
Beaufort County	27,060	5,859	21.7%	21,201	78.3%
Total	**38,632**	**6,837**	**17.7%**	**31,795**	**82.3%**

Figure 3-74: **2013 AICUZ Growth Area Impact by Jurisdiction**

Jurisdiction	Acreage Within Growth Area	Inside 2013 AICUZ 65+ dB DNL		Outside 2013 AICUZ 65+ dB DNL	
		Acres	% of Jurisdiction	Acres	% of Jurisdiction
City of Beaufort	8,751	1,029	11.8%	7,722	88.2%
Town of Port Royal	2,821	0	0.0%	2,821	100.0%
Beaufort County	27,060	7,825	28.9%	19,235	71.1%
Total	**38,632**	**8,854**	**22.9%**	**29,778**	**77.1%**

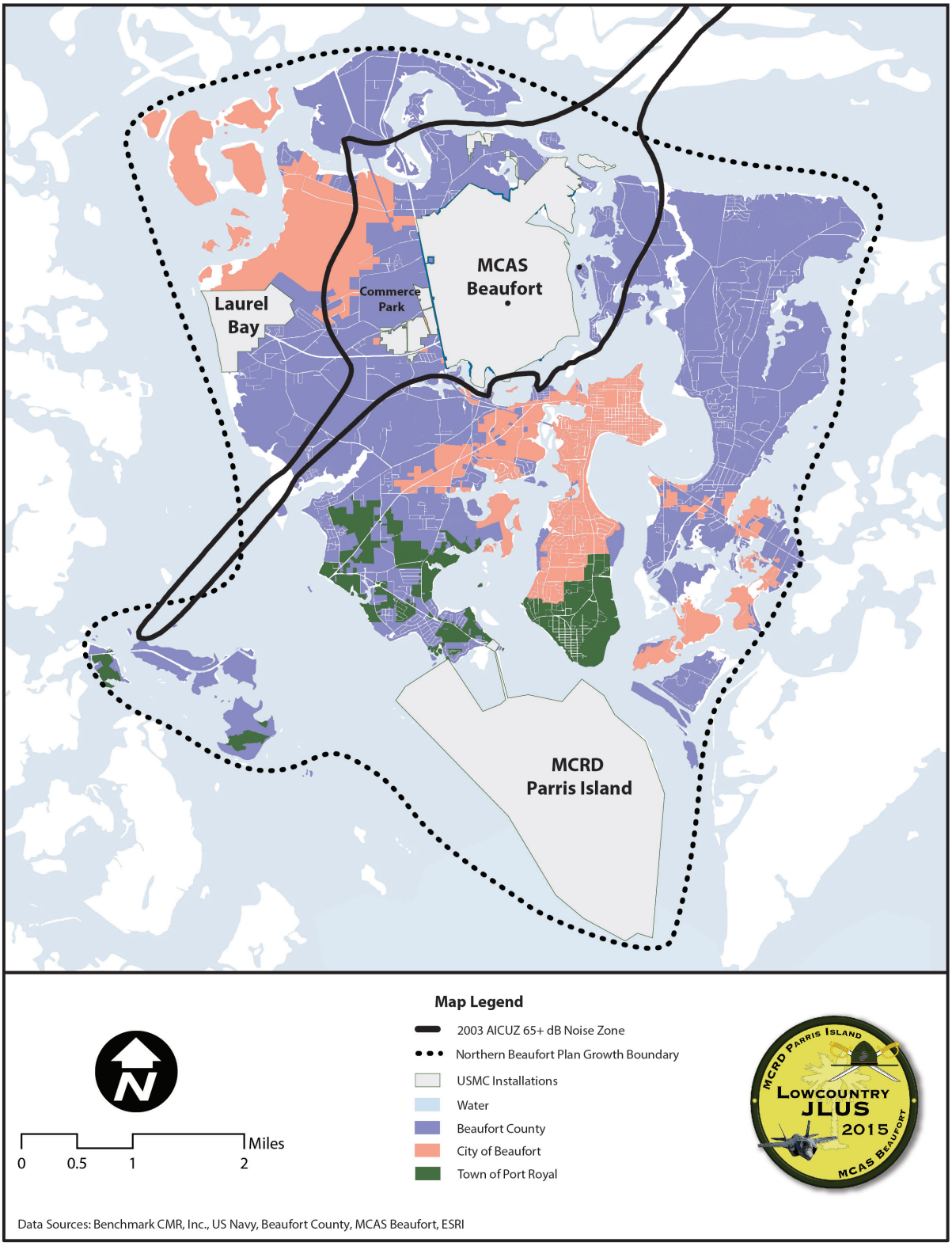

Figure 3-75: **2003 AICUZ Growth Area Impact by Jurisdiction**

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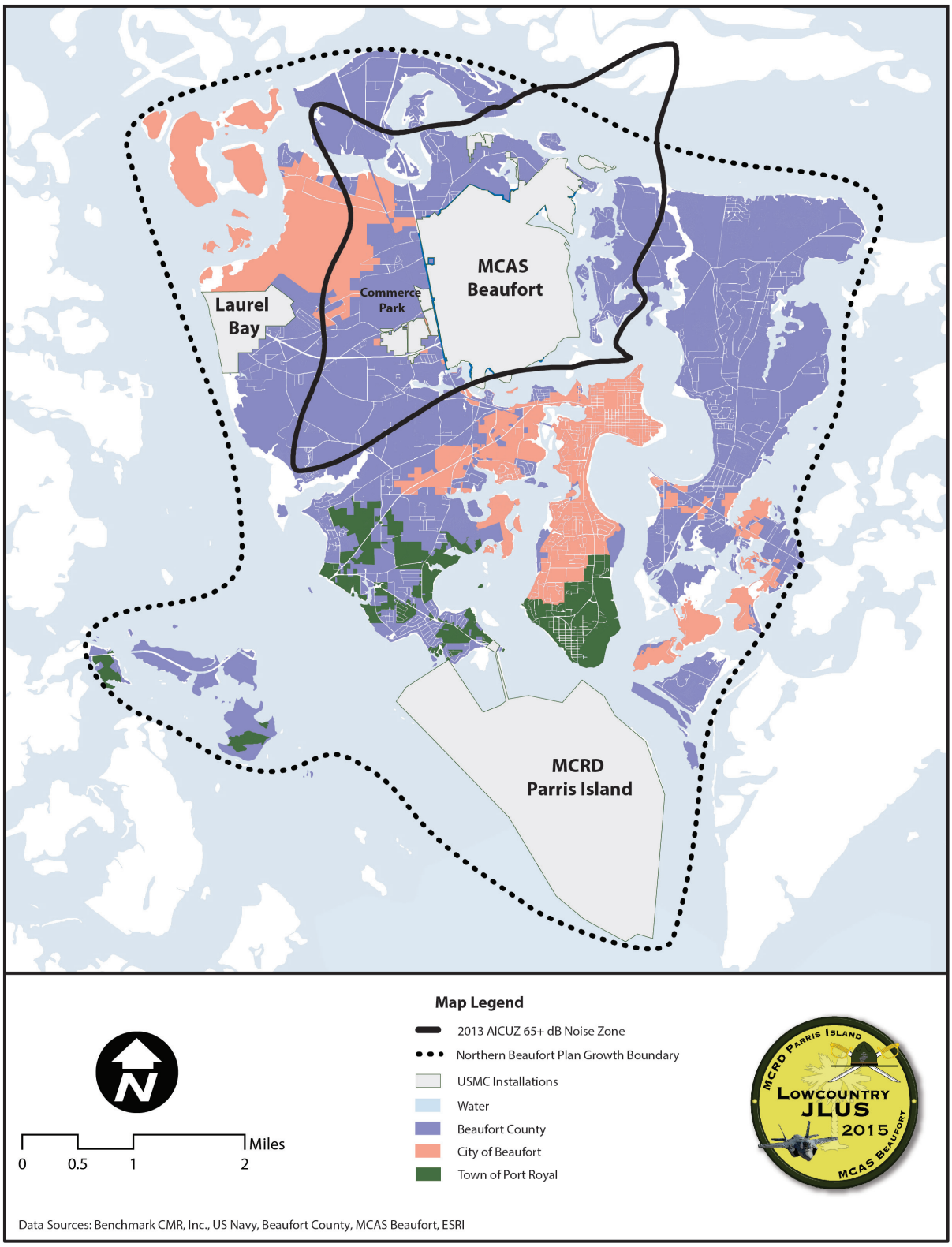

Figure 3-76: **2013 AICUZ Growth Area Impact by Jurisdiction**

As Figures 3-73 and 3-74 demonstrate, Beaufort County's jurisdiction within the growth area is the most affected by military operational impacts according to both the 2003 and 2013 AICUZ studies. The share of the county's jurisdiction in the growth area affected by military operational impacts increased from 5,859 acres to 7,825 acres, which, respectively, represent 21.7% and 28.9% of its jurisdiction within the growth area. The increase in the impact to the City of Beaufort's jurisdiction within the growth area was much smaller between the two AICUZ studies, with 978 acres affected in the 2003 study and 1,029 acres affected in the 2013 study. This small increase in impacted area caused the city's share of its jurisdiction within the growth area to increase from 11.2% to 11.8%. No portion of the Town of Port Royal was included within a military operational impact area in either the 2003 or 2013 AICUZ study.

A more detailed analysis of the changes in how each of the jurisdictions was impacted by changes in the noise zones identified in the 2003 and 2013 AICUZ studies reveals that Beaufort County saw substantial increases in the amount of its jurisdiction that falls within each of the noise zones between the 2003 and 2013 AICUZ studies. While the overall increase in total area affected is a significant finding, the increase in the amount of land area that falls within Noise Zone 3 is important to note given the more stringent land use compatibility guidelines for that particular noise zone.

The change in the amount of impacted land area within Beaufort County's portion of the growth area is contrasted with the change observed within the City of Beaufort's jurisdiction, which, while varying between the noise zones in terms of raw number of acres impacted, actually resulted in rather insignificant changes given the small total number of additional acres affected (42 net additional acres combined across all three noise zones). These observed changes in jurisdictional impact within the growth area are detailed in the following tables and maps.

Figure 3-77: **Jurisdictional Change in Growth Area Impact by Noise Zone 2003 - 2013**

Jurisdiction	Noise Zone (acres increased)			
	2a	2b	3	Total
City of Beaufort	14	32	- 4	**42**
Beaufort County	956	462	552	**1,970**
Total	**970**	**494**	**548**	**2,012**

Figure 3-78: **Noise Zone 2a Jurisdictional Change in Growth Area Impact 2003 – 2013**

Jurisdiction	2003		2013	
	Acres	% of Noise Zone	Acres	% of Noise Zone
City of Beaufort	498	19.3%	512	14.4%
Beaufort County	2,087	80.7%	3.043	85.6%
Total	**2,585**	**100%**	**3,555**	**100%**

Figure 3-79: **Noise Zone 2b Jurisdictional Change in Growth Area Impact 2003 – 2013**

Jurisdiction	2003		2013	
	Acres	% of Noise Zone	Acres	% of Noise Zone
City of Beaufort	310	11.8%	342	10.9%
Beaufort County	2,325	88.2%	2,787	89.1%
Total	**2,635**	**100%**	**3,129**	**100%**

Figure 3-80: **Noise Zone 3 Jurisdictional Change in Growth Area Impact 2003 – 2013**

Jurisdiction	2003		2013	
	Acres	% of Noise Zone	Acres	% of Noise Zone
City of Beaufort	169	10.7%	165	7.8%
Beaufort County	1,406	89.3%	1,958	92.2%
Total	**1,575**	**100%**	**2,123**	**100%**

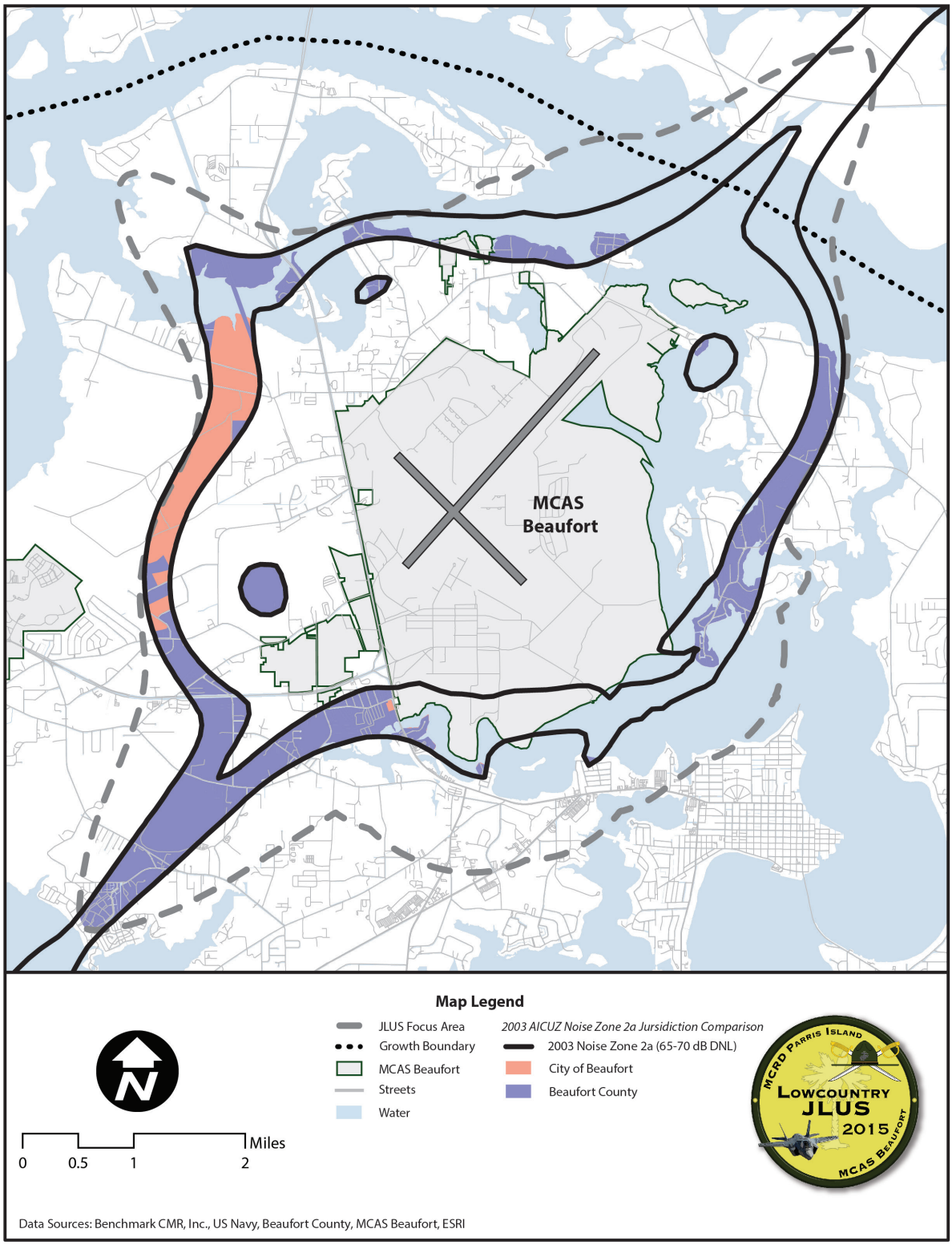

Figure 3-81: **2003 Noise Zone 2a Growth Area Impact by Jurisdiction**

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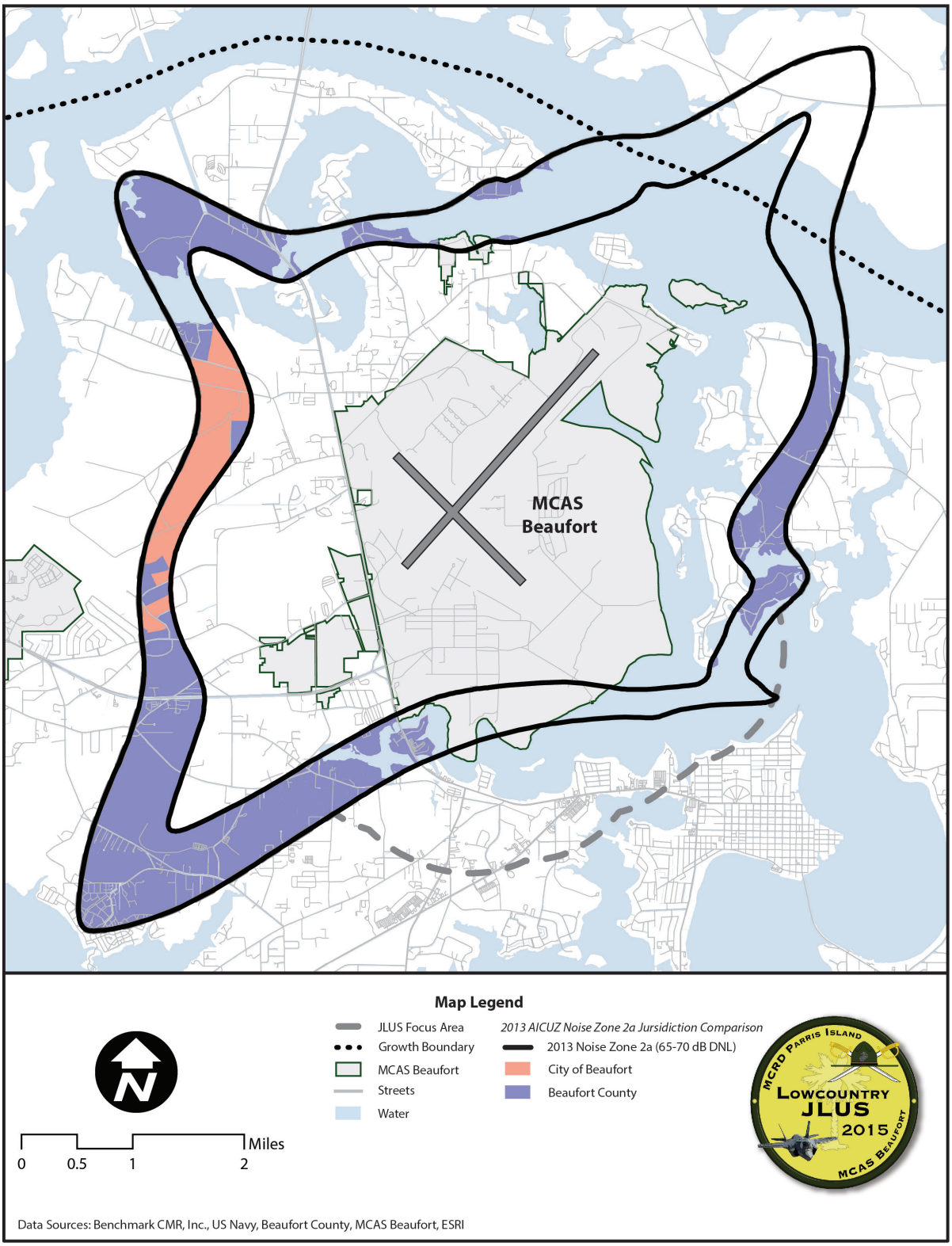

Figure 3-82: **2013 Noise Zone 2a Growth Area Impact by Jurisdiction**

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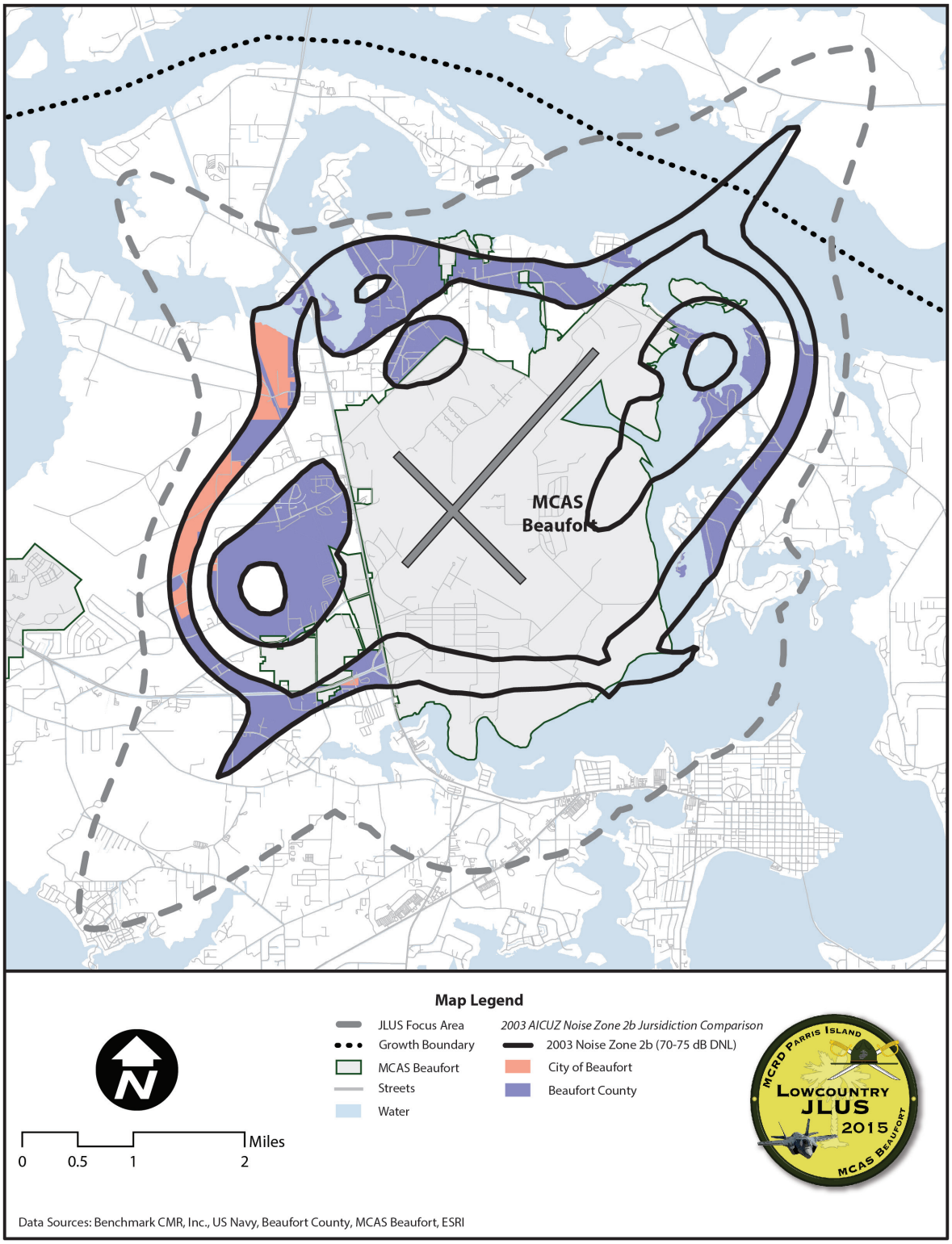

Figure 3-83: **2003 Noise Zone 2b Growth Area Impact by Jurisdiction**

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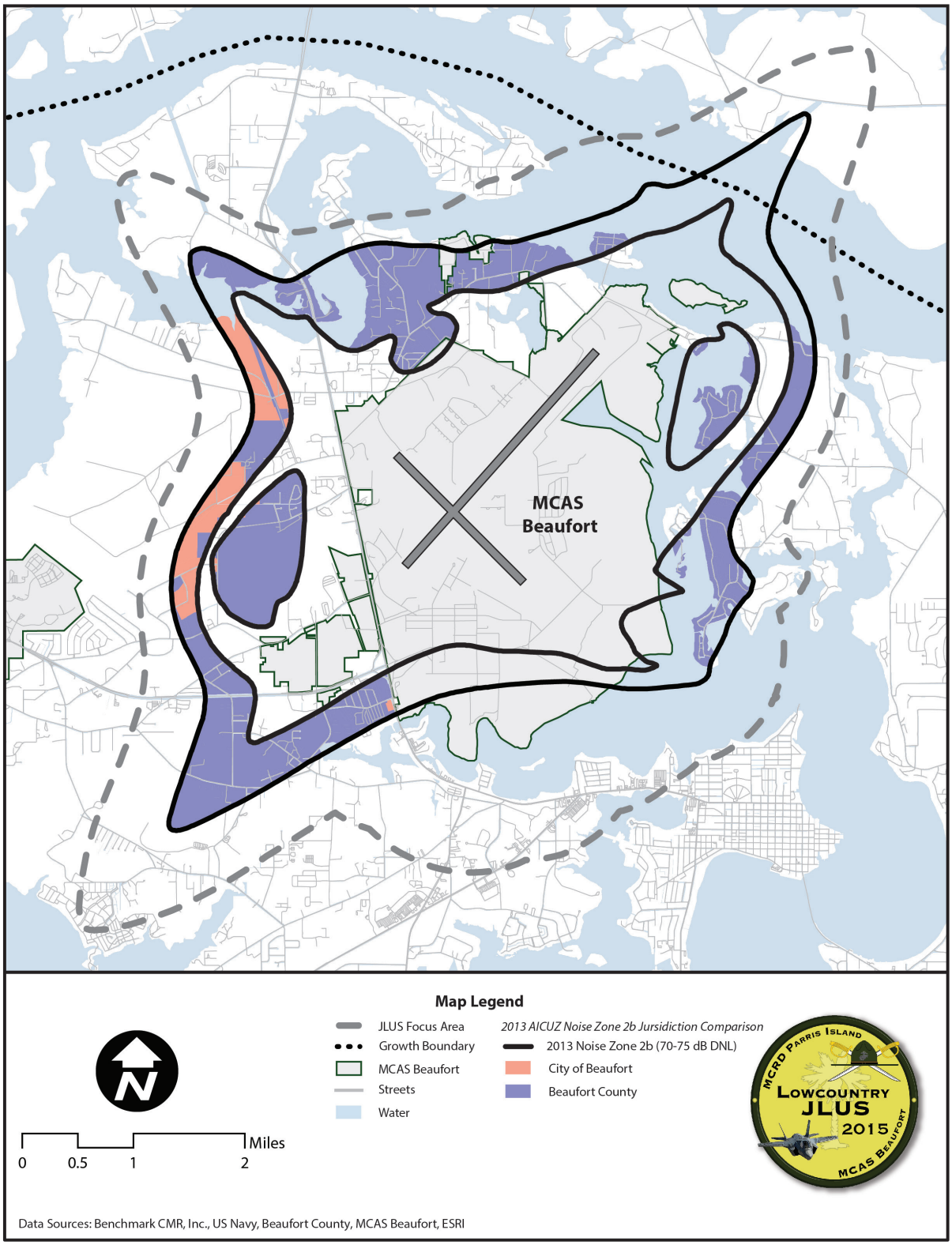

Figure 3-84: **2013 Noise Zone 2b Growth Area Impact by Jurisdiction**

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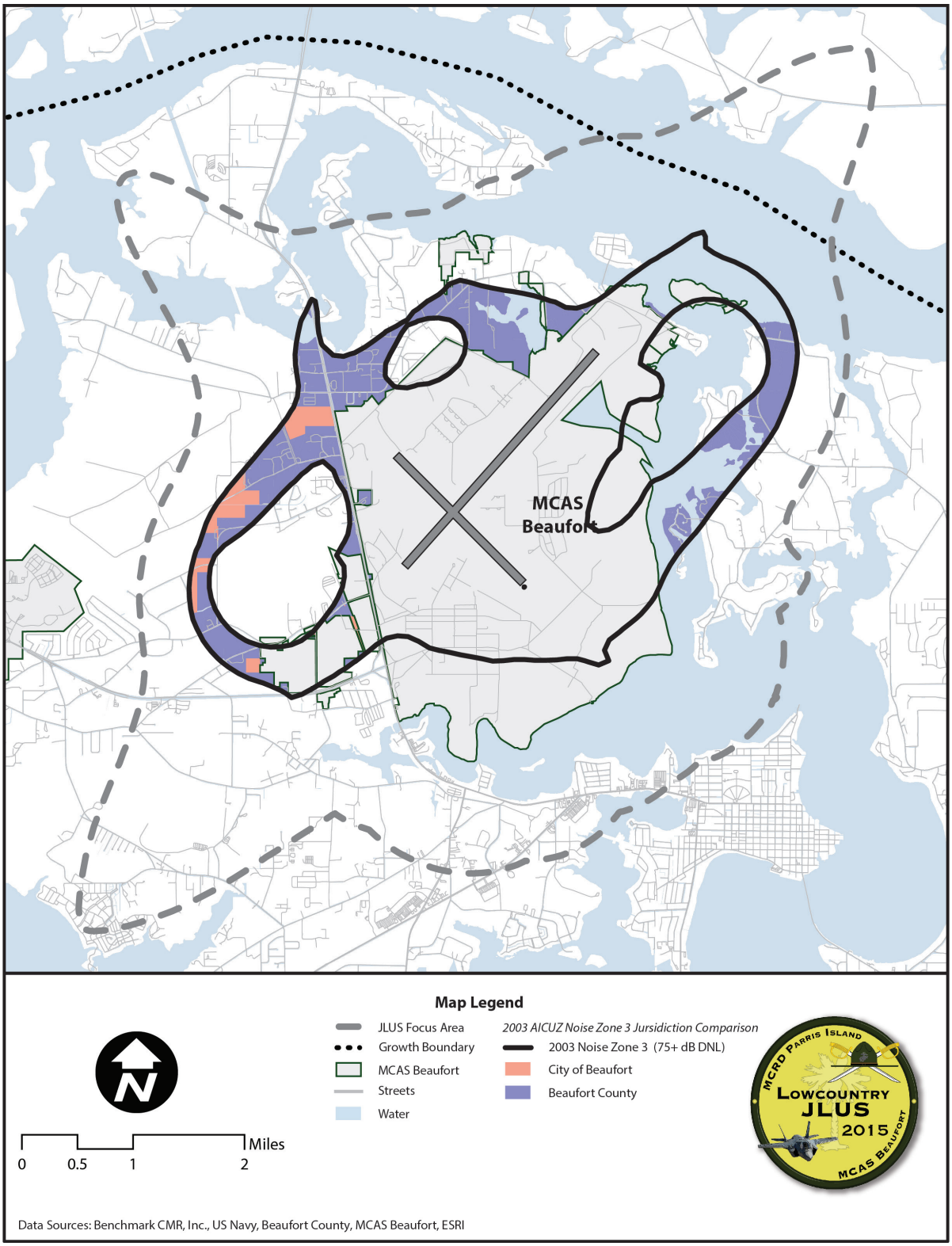

Figure 3-85: **2003 Noise Zone 3 Growth Area Impact by Jurisdiction**

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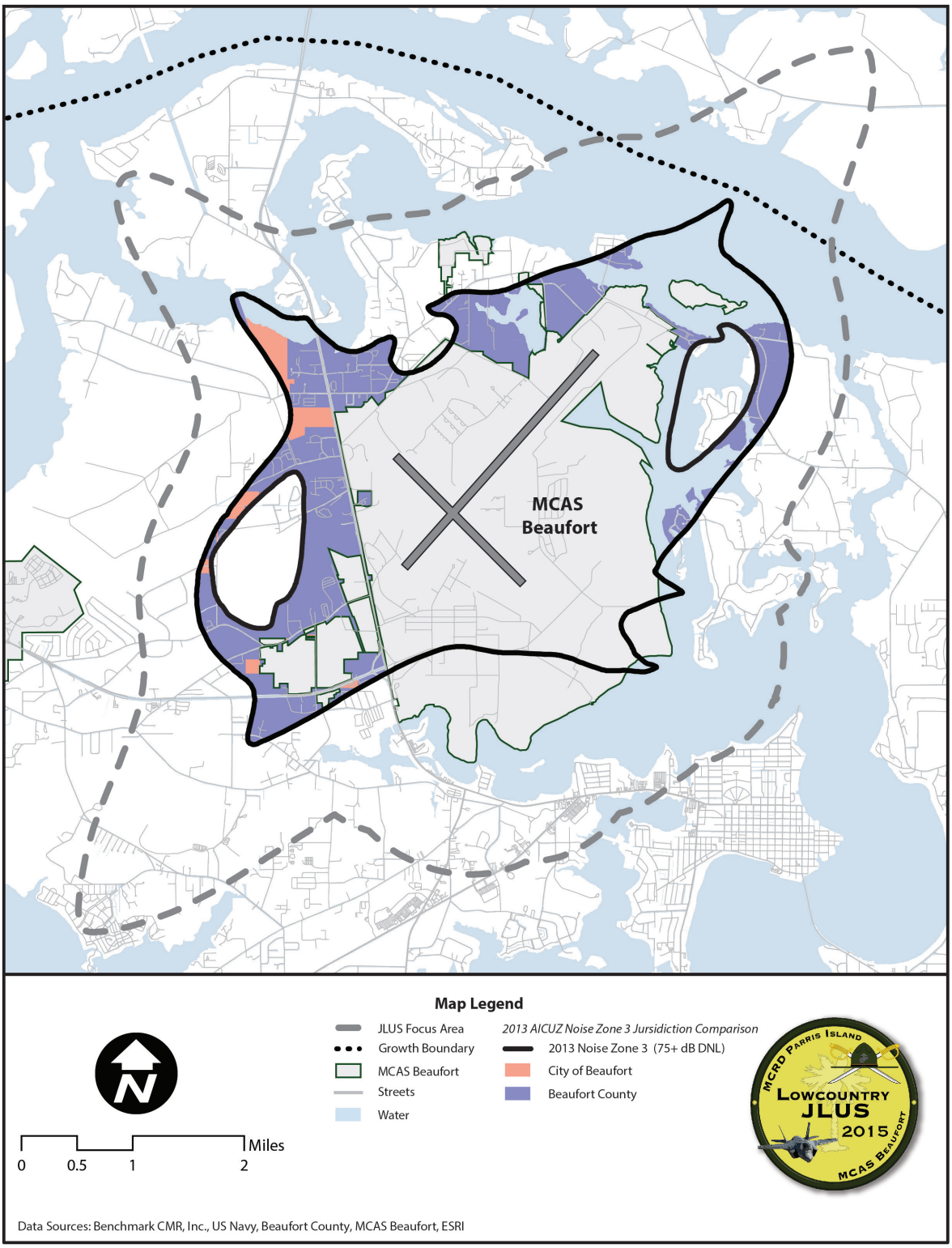


Figure 3-86: **2013 Noise Zone 2a Growth Area Impact by Jurisdiction**

XVI. Additional Military Impacts

In addition to the impacts associated with air operations, there are other potential impacts generated by military training and operations at MCAS Beaufort. Specifically, these impacts are related to small arms noise and surface danger zones, safety zones associated with the storage of munitions and the operation of the Air Station's demolition range (used for explosive ordnance disposal and training). This Section briefly examines the potential impacts associated with these activities.

A. Small Arms Noise and Surface Danger Zones

A pistol range, used for training and weapons qualification, is located near the eastern boundary of the Air Station along Mulligan Creek. While noise associated with the pistol range would be well contained within the noise contours associated with aircraft operations, the surface danger zones that extend from the range do leave the land area of the installation and cross into navigable waters (see Figure 3-87). Navigational charts for the waterways around the installation denote the presence of a danger zone that is associated with the pistol range, which increases the compatibility of this activity with recreational boating since these charts are publically available to boaters.

B. Munitions Storage

Safety zones, known as "quantity distance arcs", which are based on the minimum safe distances associated with stored munitions, have been established around the Air Station's munitions storage area, which is situated in the northern portion of the installation. These safety zones, also shown in Figure 3-87, do not extend beyond the Air Station's boundary, which indicates that the munitions storage function of the Air Station is compatible with nearby properties.

C. Demolition Range

The Air Station's demolition range, which is used for explosive ordnance disposal operations and training, is located to the north of the munitions storage area. The facility is located within the area covered by the munitions storage safety zones (shown in Figure 3-87) and the highest peak noise contours associated with range training and operations would be well contained within the area covered by aircraft operational noise. Based on these factors, no compatibility issues related specifically to this facility are anticipated.

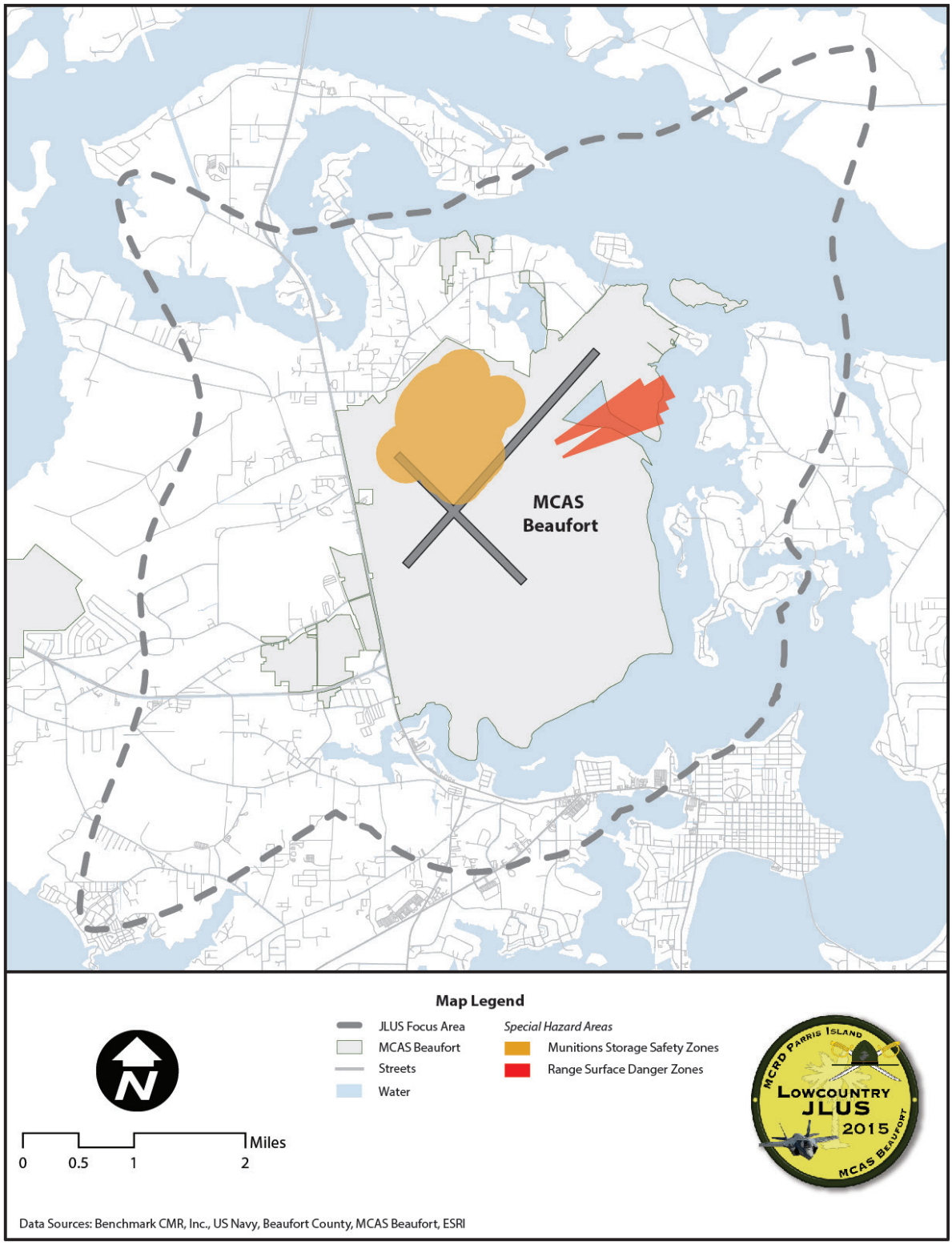
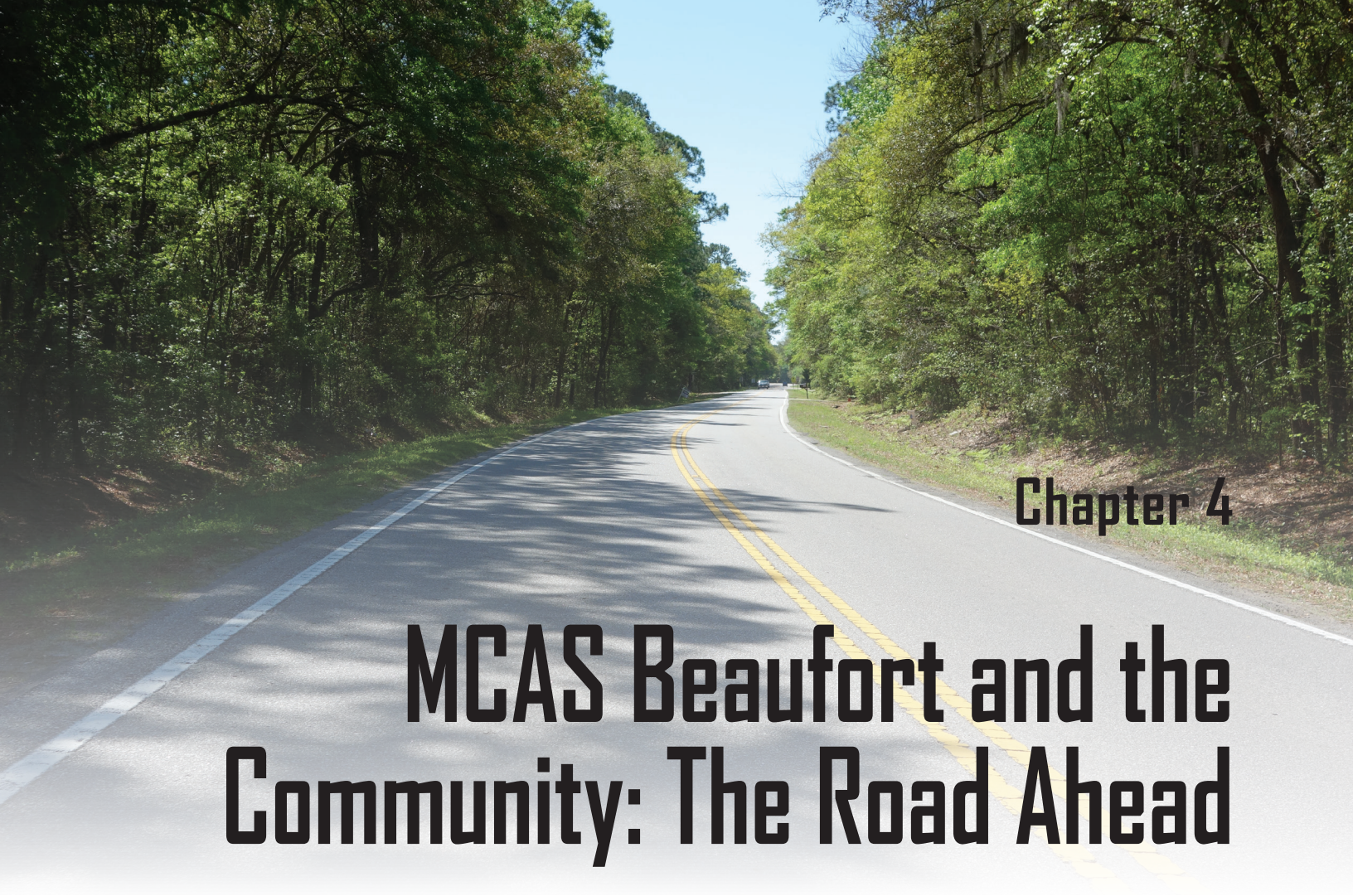


Figure 3-87: **Ammunition Storage and Small Arms Range Safety Zones**



Chapter 4

MCAS Beaufort and the Community: The Road Ahead

Chapter 4:

- Describes the anticipated future mission at MCAS Beaufort, including the introduction of the F-35B
- Details the demographic, economic, and land use trends anticipated in the region and within the JLUS Focus Area

I. Where MCAS Beaufort is Headed

A. Roll-Out of F-35B Joint Strike Fighter

In 2010, the Navy completed its decision process for basing the F-35B on the East Coast. Per, the ROD, as outlined in the preferred alternative of the 2010 *USMC East Coast F-35B Basing Final EIS*, MCAS Beaufort will host three F-35B squadrons and the PTC and MCAS Cherry Point will host eight squadrons. The F-35B will replace the F/A-18 and AV-8B aircraft currently in the Second MAW. This transition, which began in 2010, is expected to be completed in the mid-2020s.

In order to accommodate the F-35B, a transition plan was established in the F-35B Basing EIS, which includes several program elements. The transition includes the construction and/or renovation of airfield facilities and infrastructure; personnel changes associated with squadron staffing are required; and operational training in order to attain and maintain F-35B proficiency. As shown in Figure 4-1, below, the construction of F-35B facilities began in 2011. In 2014, establishment of the PTC and replacement of the FA-18 squadrons began; they are expected to be completed in 2018 and the mid-2020s, respectively. Replacement of the AV-8B squadrons is expected to begin in 2019 and be completed by 2021.

Active training operations for the F-35B are scheduled to begin at MCAS Beaufort in October 2014. The first F-35B pilot training course, F-35B Safe for Solo, is three months in duration and will be taken by two aviators with prior experience with either the FA-18 or AV-8B.[88] Training will be led by the VMFAT-501 and the PTC. Class sizes for F-35B training will increase over time. The maximum number of pilots per training class is estimated to be 20.[89]

Figure 4-1: **Transitional Timeline for the F-35B East Coast Basing**

Description	Start Date	End Date
Construction	2011	N/A
Establishment of PTC	2014	2018
Replacement of FA-18 Squadrons	2014	2023
Replacement of AV-8B Squadrons	2019	2021

Source: *Final United States Marine Corps F-35B East Coast Basing Environmental Impact Statement (EIS)*, October 2010.

B. Future Missions

The MCAS Beaufort mission is to support the Second MAW attached II MEF units and MCRD Parris Island/Eastern Recruiting Region. Although the F-35B transition will not result in a change to the current mission, future missions for MCAS Beaufort may be identified by Marine Corps planning documents, such as the Marine Corps Aviation Plan. Future mission changes may result in new requirements for land area and facilities at the Air Station. They may also necessitate personnel and operational changes. All of these changes would have the potential to impact the local community. Ongoing efforts to achieve compatible land use must consider the potential impact of future missions at MCAS Beaufort.

An "Outlying Landing Field"

During the course of the Joint Land Use Study, a number of community and Policy Committee members expressed interest in understanding whether an "Outlying Landing Field" or "OLF" for MCAS Beaufort could be established to reduce air operations at the existing airfields and, if so, how such a field is generally approved, funded and acquired. In fact, in March and April of 2015, the Town, City, and County Councils each adopted resolutions in support of an OLF, which have been included as Appendix G to this study. The Policy Committee, therefore, felt it important to reference the interest within the community for such an outcome in the JLUS and to make the JLUS Implementation Committee aware of it, as well as to allow the community and the Committee to better understand (1) what an OLF is; and (2) how generally one gets approved, funded, and acquired.

The terms used to describe outlying landing fields, or "OLFs," vary. The Naval and Air Forces typically use one of the following terms to describe installations that provide additional aviation training opportunities that cannot be accomplished at the primary aviation airfields: Outlying Landing Field, Naval Outlying Landing Field, Marine Corps Outlying Field, Marine Corps Auxiliary Landing Field, and Air Force Auxiliary Airfield/Field. Generally, these installations have a runway, minimal staffing, limited services and facilities, and no units or aircraft permanently based aboard them. These installations cumulatively represent "OLFs" for the purpose of this discussion.

Although the process may be initiated at any level and by other parties, the current approval and funding steps for establishing an OLF generally are as follows:

1. **Operational chain of command reviews operational requirements and identifies operational shortfalls that may prevent mission accomplishment.**
2. **The Service (typically at the installation or training command) then analyzes the shortfall and suggests potential solutions, and those recommendations are passed up to the Service level for review and modification, rejection or concurrence by the Service leadership – with the leadership needing to concur both in the deficiency to meet requirements and a solution to eliminate the deficiency.**
3. **Once the Service leadership concurs in a way ahead, the Service presents its solution and project scope to the Office of the Secretary of Defense (OSD) for review and approval, to include securing any waiver to undertake large (above 1,000 acres) land acquisitions.**
4. **If approved by OSD, the Service then undertakes the necessary steps to perform any required environmental analysis, typically an EIS, in accordance with the National Environmental Protection Act (NEPA), which will examine alternatives to establishing an OLF as well as alternatives to operating it, all of which is subject to public comment.**
5. **Upon completion of the NEPA analysis, the Service Secretary (Secretary of the Navy for MCAS Beaufort) will publish a Record of Decision on the proposed project and establish the way ahead.**
6. **If the Secretary determines to pursue establishment of an OLF a program justification and budget is prepared and is submitted into the budget project for inclusion in the President's budget request to Congress for approval in the National Defense Authorization Act and the Military Construction Appropriation Act (land acquisition and construction) and Defense Appropriations Act (equipping and operating the new field).**
7. **If Congress authorizes and appropriates funds for the building of an OLF, the Service then proceeds to undertake the real estate actions necessary to acquire the necessary land for the OLF, and the construction necessary to establish the OLF, while simultaneously proceeding to establish staffing and equipping for the field.**
8. **Once constructed and equipped, the Service will then operate and maintain the OLF.**

The process, of course, can be a long one and would be subject to changing military service requirements, budget constraints, and/or public concern regarding aviation, economic, or land use issues, among others. Finally, it should be noted that the most recent Environmental Impact Statement for MCAS Beaufort does not contain a finding that there exists an "operational shortfall" such that an OLF would be a requirement for MCAS Beaufort to carry out its current and future assigned missions.

II. Where the Community is Headed

A. Projected Population Growth

The MCAS Beaufort region is projected to experience strong population growth in the long term, through the year 2030. As shown in Figure 4-2, Beaufort County is projected to increase in population by over 30 percent for the time period 2010 to 2030, from 162,233 to 215,300. This projected rate of growth for the MCAS region outpaces that at the state level, which is projected to grow by nearly 18 percent, from 4.6 million to 5.5 million for the same time period.

On-going coordination with the local community on compatible land use efforts will ensure the continued viability of the Air Station for operational training. Growth boundaries, such as those initiated within the *Northern Beaufort County South Carolina Regional Plan*, and other tools, can be used to guide growth in areas that minimize conflicts between the Air Station and the local community.

B. Economic Development

Industrial development, along with other economic growth opportunities, is being pursued by local governments and economic development agencies within the Beaufort area including the City of Beaufort, the Beaufort Redevelopment Commission, the Beaufort Regional Chamber of Commerce and, until recently, the Lowcountry Economic Development Alliance (LEA). The LEA board of directors voted to dissolve the organization in December 2014, during the course of the JLUS.

In 2012, the City of Beaufort purchased Beaufort Commerce Park, a 209-acre site, with 167 buildable acres.[90] The site is located across U.S. Highway 21 from MCAS Beaufort. It is currently vacant, with the economic development agencies and local government pursuing new tenants. The City of Beaufort seeks tenants for the commerce park and also to provide employment opportunities for former members of the military, and their families. Economic development, combined with compatible land use planning, supports both operational training at MCAS Beaufort and continued employment for military personnel who seek to remain in the Beaufort area.

C. Transportation Planning

Transportation planning is a key enabler to encroachment; it provides access to lands for future development and influences local development patterns. Transportation planning also addresses traffic congestion and safety concerns within local communities. Within the current 2014 South Carolina Statewide Transportation Improvement Program (STIP), there are a few projects planned within the vicinity of MCAS Beaufort. As shown in Figure 4-3, they include intersection improvements along U.S. Route 21 and S.C. Highway 802, and a green corridor project.

The green corridor project is known as the Spanish Moss Trail, or the Beaufort Rail Trail. The 12-feet wide paved pedestrian trail is available for recreational use by the public, including walkers, runners and bicyclists. It is also used for fishing and by nature enthusiasts. Following the historic Port Royal Railroad,

Figure 4-2: **Projected Population Change, 2010-2030**

Location	2010	2020	2025	2030	% Change 2010-2030
Beaufort County	162,233	185,220	199,780	215,300	32.7%
South Carolina	4,625,364	5,020,400	5,256,080	5,451,700	17.86%

Source: *South Carolina Revenue and Fiscal Affairs Office, South Carolina Community Profiles, Population Projections Based on 2010 Census Data,* http://www.sccommunityprofiles.org/census/proj_c2010_rfa.php

Figure 4-3: **South Carolina Statewide Transportation Improvement Program (STIP)**

Project Name	Description
Beaufort Rail Trail	Green Corridor Project
U.S. 21 at Grays Hill	Intersection Improvement
SC 802 at S-112 Holly Hall/ S-72 Brickyard	Intersection Improvement
U.S. 21 at S-86 Shanklin	Intersection Improvement
U.S. 21 at U.S. 21 Business	Intersection Improvement

Source: South Carolina Statewide Transportation Improvement Program (STIP), Beaufort, August 21, 2014, http://www.dot.state.sc.us/inside/stip.aspx

the path currently totals 3.3 miles, with first two trail segments, from Ribaut Road in Port Royal and Depot Road in Beaufort, complete. Ultimately, the Spanish Moss Trail will be 13.6 miles long, with two segments, six and seven, located just west of MCAS Beaufort.[91] The trail provides a growing recreation and greenspace amenity to the local community that could draw additional residents to the area surrounding MCAS Beaufort.

The planned intersection improvements along U.S. Route 21 and S.C. Highway 802 are intended to improve traffic circulation and safety conditions. These improvements are not expected to drastically change development patterns surrounding MCAS Beaufort. Continued coordination between MCAS Beaufort and the planning agencies charged with transportation planning in needed to promote compatible development and prevent encroachment in the future.

D. Water/Wastewater Infrastructure Planning

Much like transportation planning, water and wastewater infrastructure planning have the potential to increase encroachment, as increased capacity within the systems allow for increased development. In addition, water and wastewater planning may increase the density of new development, thereby exacerbating encroachment issues.

In recent years, wastewater and water systems in the Beaufort area have been improved, alleviating water quality concerns in the Beaufort River and Albergotti Creek. In 2008, the local water utility, the Beaufort Jasper Water and Sewer Authority (BJWSA), took over operation of water and wastewater infrastructure on MCAS Beaufort, MCRD Parris Island, Laurel Bay Housing, and the Naval Hospital Beaufort. The consolidation and merger with the BJWSA included closing water and wastewater treatment plants on the MCAS Beaufort and diverting wastewater flows to the Port Royal Island Water Reclamation Facility (PRIWRF). The Air Station's aging water and wastewater utilities were modernized with $43 million in investments. The new wastewater treatment system for the Air Station meets more stringent discharge permit limits and improved water quality. It allowed for the closure of discharge areas along Albergotti Creek and the Beaufort River.

Excess water and wastewater capacity within the BJWSA system allows for additional growth within the service area. Currently, the BJWSA water treatment plants have a capacity to produce up to 39 million gallons of water per day.[92] According to the BJWSA's 2013 Comprehensive Annual Financial Report, the average daily water usage is approximately 19.1 million gallons per day, or nearly half of the total capacity.[93] Residential water use, from approximately 180,000 residential customers, together with business and visitor use, amounts to approximately seven billion gallons annually.[94]

The BJWSA wastewater system consists of nine treatment plants, with a combined total capacity of nearly 19 million gallons per day (MGD).[95] The two largest plants are the Cherry Point Water Reclamation Facility and the PRIWRF which have a combined total capacity of 15 MGD, or the nearly 80 percent of the total wastewater capacity. Currently, these two plants treat more than seven million gallons of wastewater per day, about half of their total capacity.[96]

E. Future Land Use Development

Future land use in the Beaufort area is influenced by a variety of factors, including population growth and economics, with the military, tourism and second home industries, among the top industries. According to the Beaufort County Comprehensive Plan, southern Beaufort County has seen the highest level of growth, with second homes and tourism supporting new construction on Hilton Head Island and in the Bluffton area.[97] Northern Beaufort County is experiencing strong growth as well, but at a lower rate than the southern portion of the county. New development has been concentrated on Port Royal Island and on Lady's Island.[98]

Future land use is also guided by the land use regulatory framework of local planning agencies in Beaufort County established in conjunction with MCAS Beaufort in order to support compatible land use development in the area. In 2006, Beaufort County adopted an overlay district based upon the MCAS Beaufort AICUZ footprint, which is comprised of hazard areas and noise contours. The City of Beaufort and the Town of Port Royal also adopted the AICUZ overlay regulations. In 2007, the Northern Beaufort County Regional Plan established a regional growth management strategy to guide growth. A growth boundary was established to encompass currently developed areas and to continue development in these locations and to protect rural, undeveloped land outside the boundary. This regional growth area encompasses most of Port Royal Island (excluding areas in the MCAS Overlay and Lady's Island (excluding protected rural lands).

The City of Beaufort has designated a two-mile area (with some exceptions, based on service delivery capabilities) as a City growth area, as well. However, as is discussed in Chapter 6, this area extends beyond the growth area evaluated in Chapter 3's land use compatibility assessment, as designated in the Northern Beaufort County Regional Plan. Therefore, the impact of expanding the AICUZ overlays to reflect the F-35B noise contours would be indicated by the analysis in Chapter 3.

The Town of Port Royal also has designated certain lands beyond its boundaries as potential areas for the delivery of public services, annexation, and growth. However, the Habersham planned unit development currently is the only Port Royal growth area (mainly within the "Coordinated Growth Sector") that falls within the 65 dB-70 dB DNL noise zone (Noise Zone 2a). Development rights for this area already are vested and, therefore, were the Overlays extended to reflect the F-35B noise contours; little impact on Port Royal's projected growth would be likely.

In 2011, in order to further implement protection of the AICUZ footprint from incompatible development, Beaufort County passed a Transfer of Development Rights (TDR) ordinance. The TDR program also has the support of the other JLUS jurisdictions.

It involves the sending of development rights from the AICUZ overlay zones into areas within the growth boundary identified for additional density, called receiving areas. The TDR program is detailed in Chapter 5 and recommendations to augment TDR activity and land protection in the JLUS Focus Area are set forth in Chapter 6 of the JLUS.

The Future Land Use Plan element of the Beaufort County Comprehensive Plan is designed to be consistent with the regional growth strategy and AICUZ planning outlined above.[99] As discussed in Chapter 3, future land use in the AICUZ area generally projected to be compatible, including light industrial, commercial, and agricultural land uses. The AICUZ Overlay areas notwithstanding, the future land use plan calls for urban mixed-use development, at a density of 2-4 units per acre, to occur in already developed, municipal areas within Beaufort, Port Royal, the Shell Point area, Lady's Island, Burton and Bluffton. Future large-scale commercial development is designated in the core commercial areas of downtown Beaufort, Bluffton, and Port Royal. With regard to rural areas, existing low-density land use patterns, of one dwelling unit per three acres, are expected to continue in the Sheldon area, St. Helena Island, and along the SC 170 corridor between McGarvey's Corner and the Broad River Bridge. A new area of industrial land use is designated across from the Air Station, north of Shanklin Road on the west side of US 21.

However, all future land use will be consistent with the AICUZ Overlay zoning, which currently affects lands in Beaufort County and the City of Beaufort (although Port Royal also has adopted the overlay). Residential and assembly uses, such as churches and schools, are limited within the accident potential zones, clear zones, and Noise Zone 3 in these areas of the City and the County. The specific provisions within the overlays of each JLUS Jurisdiction are detailed in Chapter 5 and included, in full, at Appendix B.

On-going collaboration between MCAS Beaufort and the JLUS jurisdictions is needed to continue the effective utilization of the land use planning tools currently in place. Updates to these planning tools are needed to ensure that they reflect the current AICUZ footprint and any other relevant factors. For more detailed land us analysis and impacts, see Chapter 5.

F. Conservation Planning

The conservation of rural lands, and other important undeveloped areas, such as scenic vistas, and environmentally sensitive areas, such as wetlands, is an important component to the land use planning in the region and for each of the JLUS Jurisdictions. As is discussed in Chapter 2, these conservation efforts have included partnerships with the Marine Corps Air Station and it is anticipated that those partnerships will continue. In fact, on November 4, 2014, the voters in Beaufort County approved a referendum extending the Rural and Critical Lands Preservation Program and to raise and additional $20 million to buy lands and conservation easements in the County. With this additional funding, the program will have raised over $130 million in the fifteen years prior to the Joint Land Use Study. The program is managed by the Beaufort County Open Land Trust.

In addition, the TDR ongoing program is another tool that may achieve compatible land use by the transfer of residential development rights out of the AICUZ overlay areas. Chapter 6 includes recommendations for full implementation of the TDR program, which currently is in effect only within Beaufort County.

Chapter 5

Existing Policies and Available Tools

Chapter 5 will familiarize the reader with:

- the statewide military planning statutory framework
- local authorities to implement military-oriented land use regulations and planning policies
- existing local regulations and planning policies related to MCAS Beaufort

I. Overview

Over the last two decades, a number of strategies to avoid incompatibilities between civilian and military land uses have been put into place in communities around the country. Successful long-term programs involve the cooperation of military, civilian, and local government stakeholders. In particular, it is the local governments which must evaluate not only the appropriateness and potential effectiveness of these strategies, but also their own authority to implement them.

Indeed, Beaufort County, the City of Beaufort, and the Town of Port Royal already have tools in place to encourage military compatibility. These tools were implemented after a Joint Land Use Study was completed for Marine Corps Air Station Beaufort in 2004. However, other tools and amendments to existing tools are discussed here for the consideration of the community, should it wish to further ensure that future land uses in the JLUS Focus Areas and the region are compatible with the military's mission at the Marine Corps Air Station.

This chapter summarizes the existing planning and legal framework that gives these stakeholders the authority to act in support of compatibility efforts, explains the current planning and land use regulations that the local governments use, and details the additional joint land use strategies available to the community to maintain compatible land uses around the Air Station.

II. The South Carolina Planning and Land Use Framework

South Carolina has a long history of supporting its military bases, a tradition that often manifests itself in helping military communities avoid encroachment issues. This section will summarize state requirements and policies, such as the Federal Defense Facilities Utilization Integrity Protection Act and other existing laws, proposed legislation for the 2015-16 session of the General Assembly, and the South Carolina Military Base Task Force, recently reconstituted by Governor Nikki Haley to support military installations in the state. It also will examine planning and land use regulations that are available to local communities, such as the adoption of a comprehensive plan, zoning ordinances, and land use regulations. Finally, it will briefly describe the state's Building Code framework, including the manner in which a jurisdiction may appeal to the state Building Codes Council to modify a building code provision, which has relevancy here as a possible way for the JLUS Jurisdictions to address issues related to noise attenuation.

A. State Requirements and Policies

Military-related issues are addressed in numerous places in the South Carolina Code of Laws. This section will first describe the primary Act that deals with issues related to land use around military installations—the Federal Defense Facilities Utilization Integrity Protection Act—as well as Title 25: Military, Civil Defense, and Veterans Affairs, the more general chapter, which covers most other topics related to the military as well as various provisions that are found elsewhere in the Code but that relate to the military. Secondly, this section will discuss proposed legislation for the upcoming legislative session that could greatly affect military communities, highlighting in particular the Military Preparedness and Enhancement Act and the Military Family Quality of Life Enhancement Act. Finally, this section will summarize the role of the South Carolina Military Base Task Force in helping military communities with encroachment and other issues.

1. ***Federal Defense Facilities Utilization Integrity Protection Act.*** As part of the 1994 Local Government Comprehensive Planning Enabling Act, South Carolina regulates some aspects of military land use through the "Federal Defense Facilities Utilization Integrity Protection Act." The Act applies to federal military installations in the state, including the Marine Corps Air Station Beaufort and the Recruit Depot Parris Island.

   The Act recognizes that "uncoordinated development in areas contiguous to federal military installations … can undermine the integrity and utility of land and airspace currently used for mission readiness and training."[100] It provides a formal process for receiving the input of federal military interests before certain local planning and zoning decisions are made that could affect the installation. Specifically, local governments must request a written recommendation from the base commander at least 30 days before considering any "land use or zoning decision" involving land that is located within the associated military overlay district, or, if no overlay district exists, within 3,000 feet of the installation or within the 3,000-foot Clear Zone and Accident Potential Zones of the installation.[101]

   If the commander responds with a recommendation, it must be made part of the public record, and the local government must investigate and make findings on the following (in addition to other findings required by different sections of the Code of Laws relating generally to land use proposals):

   (1) whether the proposal will permit a use that is suitable relative to its closeness to the installation;
   (2) whether the proposal will adversely affect the existing use or usability of nearby property;
   (3) whether the property to be affected by the land use plan or zoning proposal has a reasonable economic use as currently zoned;
   (4) whether the proposal results in a use that causes or may cause a safety concern with respect to streets, transportation facilities, utilities, or schools;
   (5) if the local government has an adopted land use plan, whether the proposal is in conformity with the policy and intent of the land use plan given its relative closeness to the installation; and
   (6) whether there are other existing or changing conditions affecting the use of the nearby property, such as the installation, that give supporting grounds for either approval or disapproval of the proposal.[102]

   If the base commander does not submit a recommendation by the date of the public hearing, there is a presumption that the proposal does not involve any adverse effect relative to these required findings.[103]

   The Act also requires that, where practical, local governments must incorporate identified boundaries, easements, and restrictions for military installations into their official maps.[104]

2. ***Other existing laws.*** Additionally, many other state laws have been passed in support of military personnel—both retired and active duty—and their families.

   a. **Title 25—Military, Civil Defense, and Veterans Affairs**

      Title 25 of the Code of Laws—Military, Civil Defense, and Veterans Affairs—is the primary source of military-related state law. It includes the following chapters:

      - Chapter 1: Military Code
      - Chapter 3: South Carolina State Guard
      - Chapter 7: Treason; Sabotage
      - Chapter 9: Emergency Measures

- Chapter 11: Division of Veterans Affairs
- Chapter 12: Veterans Unclaimed Cremated Remains
- Chapter 13: Confederate Pensions
- Chapter 15: Other Provisions for Benefit of Veterans
- Chapter 17: South Carolina Military Museum
- Chapter 19: Prisoners of War Commission
- Chapter 21: Veterans Trust Fund[105]

Additional areas of the state statutes that relate to military matters and military personnel include:

- Employment protections in public sector jobs for five years after the date of entering into the armed forces.[106]
- 15 days of paid leave for reserve training and 30 days of paid leave for serving in the reserves during a time of emergency.[107]
- Exemption for continuing education requirements during military service for certain licensed professions; the issuance of temporary professional licenses to spouses of military personnel; and the consideration of military education, training, and experience in licensure qualification evaluations.[108]
- Participation in the Interstate Compact on Educational Opportunity for Military Children, which helps the children of service members with school enrollment issues.[109]
- Protection of parental rights during times of military service.[110]
- The granting of in-state tuition rates to active military members and their dependents, as well as to inactive members who live in the state for at least 12 months prior to their discharge from service; also, the automatic granting of free tuition to dependents in special cases, such as when a service member is killed in action or receives a Purple Heart.[111]
- Permission for charter schools located on military installations to give enrollment priority to children of military personnel.[112]
- Property tax exemption for housing on military bases.[113]

Although South Carolina already has numerous laws in place that support military communities, the 2013-14 session of the South Carolina General Assembly produced a number of bills intended to enhance military support, and several bills have already been filed during the early months of the 2015-16 legislative session.

3. ***Proposed legislation.*** Two key bills were introduced during the 2013-14 session that may return during the 2015-16 session: the Military Preparedness and Enhancement Act, which would have created a commission charged with providing the support needed to protect military bases from realignment, closure, and mission changes to the extent practical, and the Military Family Quality of Life Enhancement Act, which would have covered multiple topics that are seen as affecting military family quality of life.

   a. **Military Preparedness and Enhancement Act**

   The Military Preparedness and Enhancement Act is of particular relevancy to the JLUS and its objective of maintaining compatibility between civilian and military land uses.[114] The Act's stated objective was to convey the state's "intent to create a business climate that is favorable to defense installations and activities through legislation that assists in reducing base operating cost while enhancing military value."

   The Act would have authorized the formation of an 11-member Military Preparedness and Enhancement Commission, consisting of House and Senate members and appointees, the Secretary of Commerce, and gubernatorial appointees. The Commission would have been primarily charged with providing information to and advising the governor and legislature on military issues, assisting communities with programs that foster strong relationships with military installations and defense-related businesses, encouraging the recruitment and retention of defense-related industries in the state, and providing assistance to communities that have experienced a defense-related closure or realignment.

   Notably, the Act would require that if a community determines that a proposed "ordinance, rule, or plan" could impact a military installation, the community must obtain and consider comments and analysis from the installation concerning the compatibility of the proposal with the installation's operations prior to making a final decision on the proposal. It is also proposed that the Commission have the authority to provide financial loans to defense communities for projects that "will enhance the military value" of a military facility. One such project could be the preparation of a "comprehensive defense installation and community strategic impact plan" to evaluate land use compatibility issues with the surrounding community, strategies for reducing operating costs while enhancing the military value of the installation, and possible shared services and property between the military and the community.

   b. **Military Family Quality of Life Enhancement Act**

   While the Military Preparedness and Enhancement Act was noteworthy for its impacts on land use issues, House Bill 4859—known as the "Military Family Quality of Life Enhancement Act"—would also have addressed key military-related issues. The bill was designed to protect South Carolina—to the greatest extent possible—from experiencing any base closures after the national review of bases that is expected to take place in 2017.[115] The bill included several unrelated components, the overall effect of which

was to support military retirees, active duty service personnel, and their families.

Particular sections included:

- Prohibitions against predatory lending;
- Creation of a veterans' treatment court that enables non-violent ex-military to be diverted into treatment programs rather than facing civilian courts;
- An easier path for residency status for military and their families when seeking in-state tuition, by excluding the requirement of one year of physical presence in the state;
- Allowing families to carry Medicaid enrollment if they are stationed outside of South Carolina;
- Creation of a military-connected children's welfare task force; and
- Greater ease in using absentee ballots.[116]

c. Bills supporting certain military interests

While the Military Family Quality of Life Enhancement Act and the Military Preparedness and Enhancement Act would have the most widespread impacts on military communities if they are re-introduced, several other bills have been filed during the early months of the 2015-16 session that would greatly impact particular segments of military communities across the state.

- S-182 and H-3154: providing registration and absentee voting alternatives for certain military and overseas voters
- S-363, H-3548, and S-288: relating to interactions between the Department of Social Services and military installations when an alleged abused or neglected child is from a military family
- S-161, S-439, S-33, H-3147, and S-42: relating to income tax deductions
- S-391 and H-3037: clarifying criteria under which honorably discharged veterans and dependents receive in-state tuition
- H-3324: a joint resolution establishing a committee to study state and local level veterans issues, and to make recommendations regarding how to better coordinate veterans service
- H-3420: awarding high school diplomas to honorably discharged veterans who served during the Korean or Vietnam wars
- H-3547: providing that the reemployment rights and protections available to members of the S.C. National Guard and S.C. State Guard are available to members of other states' national or state guards who serve in S.C.
- H-3582: ensuring that at least 5% of state source highway funds are expended through contracts of $250,000 or less to firms owned by veterans
- H-3577: giving veterans free admission to state parks
- H-3672: allowing school districts to charge tuition to children on military bases if the federal government stops providing or reduces the federal impact aid for their education

While state legislation plays a key role in supporting military communities in South Carolina, the current and past governors have also taken steps to show their support of military installations. One way in which they have done this is to create a military base task force.

4. ***South Carolina Military Base Task Force.*** In March 2013, Governor Nikki Haley signed Executive Order 2013-04 to reconstitute the South Carolina Military Base Task Force "for the purpose of enhancing the value of military installations and facilities and the quality of life for military personnel located in this State."[117] The Task Force consists of a number of representatives: representatives from the state Adjutant General's office, the state Department of Commerce, the Governor's Office of Veterans Affairs, and the state Chamber of Commerce; representatives from the Beaufort, Charleston Metro, Columbia, and Sumter chambers of commerce; County Council representatives from Beaufort, Berkeley, Dorchester, Charleston, Richland, and Sumter; the mayors of Beaufort, Charleston, Columbia, North Charleston, Port Royal, and Sumter; members from the state legislature appointed by the Governor; and five at-large members appointed by the Governor.[118]

   The Task Force is assigned to address various incentives for military personnel, to coordinate the efforts of military communities with the public and private sectors in an effort "to maintain a significant military presence in the state," and to advise the Governor and General Assembly on any issues and strategies related to military base closures, realignments, and mission changes.[119]

   Prior to its reconstitution in 2013, the Task Force was also charged with distributing funds, allocated for military base preservation initiatives by the General Assembly, to each of the four regions in the state with military communities (Beaufort, Charleston, Columbia, and Sumter).[120] These funds were to be used to help local communities undertake planning efforts in order "to prevent further encroachment around the perimeters of existing bases."[121]

   In 2009, regional representatives from the Beaufort area requested and received $250,000 from the Task Force to serve as seed money for establishing a Transfer of Development Rights Bank to mitigate encroachment around the Marine Corps Air Station Beaufort. The state required the local communities to match these funds. The Lowcountry Council of Governments was assigned the responsibility of serving as fiduciary agent for the funds.[122]

In addition to this slate of state policies and requirements related to South Carolina's military presence, local governments have exercised their local powers to address military-civilian compatibility. In fact, the local governments participating in the JLUS have likely been more active in doing so than any other community in the state. The following section describes the scope of municipal and county land use powers in South

Carolina, in order to identify the implementation tools available to Beaufort County, Port Royal, and the City of Beaufort, should they elect, after the JLUS is completed, to augment existing regulations related to military-civilian land use compatibility.

B. Local Regulations

Although local communities in South Carolina now exercise broad (although not unlimited) powers, including many in the areas of planning and land use, this has not always been the case.[123] Until recent decades in South Carolina, planning and land use functions were the purview of the General Assembly, carried out by local legislative delegates. A major legislative reform effort in the 1970s changed that, however, when voters opted to vest powers directly in the local communities instead. The state's Home Rule Act followed in 1975, and today the South Carolina General Assembly gives local governments the authority to develop land use plans and to adopt zoning ordinances through the 1994 Local Government Comprehensive Planning Enabling Act.

In order to undertake planning, the enabling act requires local governments to first create a planning commission. Several types are allowed; a single-jurisdiction planning commission for either a municipality or a county is most commonly used, although a few jurisdictions in the state, including the City of Beaufort and the Town of Port Royal, have formed a joint planning commission. Local planning commissions have "a duty to engage in a continuing planning program for the physical, social and economic growth, development and redevelopment of the area within its authority."[124] The enabling statutes give planning commissions the authority to prepare comprehensive plans and to implement them through land use regulations and other tools.[125]

Most but not all jurisdictions in the state have adopted comprehensive plans as well as zoning ordinances and land use regulations. The following sections detail the extent and nature of these authorities.

1. ***The Comprehensive Plan.*** Local governments in South Carolina are not required to prepare or adopt a comprehensive plan unless they intend to adopt zoning and land development regulations.[126] The comprehensive plan sets forth a community's land-use policy; it helps the community examine its existing conditions and create a vision for what it wants to become. Successful plans reflect public deliberation and the input of community stakeholders, who will affect and be affected by land use policy.[127]

   The enabling statute requires comprehensive plans to contain nine discrete planning "elements," although communities are authorized to include additional elements if they wish. The nine required elements are: population; economic development; natural resources; cultural resources; community facilities; housing; land use; transportation; and priority investment (planning for public facilities such as roads, water, sewers, and schools).[128]

   The statute requires that the plan be updated every 10 years and re-evaluated to a lesser extent every five.[129]

   Beaufort County, the City of Beaufort, and the Town of Port Royal all have comprehensive plans.

2. ***Plan Implementation, Zoning, and Land Development Regulations.*** After adopting a comprehensive plan, communities in South Carolina may implement it through any number of different tools, such as: the adoption of a zoning map along with a traditional zoning ordinance or a form-based code; land development regulations, such as subdivision regulations; a unified development ordinance, which contains both zoning and land development regulations; a capital improvement program; and land use policies and procedures relating to topics such as annexation and the dedication of streets and drainage easements.[130] In other words, where the comprehensive plan is a statement of policy, implementation tools represent *requirements* that must be met, consistent with comprehensive plan policies, when land is developed.

   Most jurisdictions in South Carolina have adopted zoning. In South Carolina, zoning can be adopted only after a community adopts the land use element of a comprehensive plan, and all zoning regulations must "be made in accordance with" the comprehensive plan.[131] Zoning involves separating land into different districts based on existing or projected land use on a land use map, and then creating regulations that specify allowed uses within each district, as well as associated requirements for each use.

   The enabling statute explicitly authorizes several different specialized zoning techniques, including overlay zones. It is an authority used currently by the Beaufort County, Port Royal, and the City of Beaufort. Additionally, however, the enabling statute also allows local governments to tailor their own implementation tools to meet their own individual needs, so long as the tool is not otherwise prohibited by state law.[132] This expansive view of local government power in South Carolina leaves its communities well-equipped to respond to their land use challenges as locally appropriate. These powers, of course, include ones related to military-civilian land use compatibility.

   In South Carolina, in order to implement land development regulations, including subdivision laws, a local government must have adopted the community facilities, housing element, and priority investment elements of a comprehensive plan.[133] Land development regulations are also commonly used in the state. They guide property divisions and improvements, such as roads and sidewalks, and they may act in conjunction with, in lieu of, or independently of zoning regulations.

   Beaufort County, the City of Beaufort, and the Town of Port Royal have all adopted zoning. The Town of Port Royal and Beaufort County recently adopted form-based codes, with the City of Beaufort also having had a form-based code under consideration during the preparation of the JLUS.

In addition to local zoning ordinances and land use regulations, another way that local jurisdictions in South Carolina place regulations on development is through the adoption of building codes. The state legislature has given local governments in South Carolina the authority to adopt building codes to ensure

that buildings are built to certain safety standards. A discussion of local authority relative to building codes is informative here because of the limitations placed on the local communities by the state. If a local jurisdiction adopts a code, the state requires that it adopt the whole code; modifications to particular code sections (such as to adopt special noise attenuation standards) are only allowed if approved by the state Building Codes Council as discussed below.

C. Building Codes

Most jurisdictions in the state, including Beaufort County, the City of Beaufort, and the Town of Port Royal, have adopted building codes. If a local jurisdiction adopts building codes, the South Carolina Building Codes Council, which is part of the South Carolina Department of Labor, Licensing, and Regulation, requires that the following codes be used:

- 2015 Edition of the International Building Code;
- 2015 Edition of the International Residential Code;
- 2015 Edition of the International Fire Code;
- 2015 Edition of the International Plumbing Code;
- 2015 Edition of the International Mechanical Code;
- 2015 Edition of the International Fuel Gas Code;
- 2014 Edition of the National Electrical Code.

Additionally, the Council allows jurisdictions to adopt any of the following codes if desired:

- 2015 Edition of the International Property Maintenance Code;
- 2015 Edition of the International Existing Building Code;
- 2015 Edition of the International Swimming Pool and Spa Code
- 2015 Edition of the International Performance Code for Buildings and Facilities.

The state provides two processes by which local jurisdictions may request modifications to the building codes.[134] First, any local jurisdiction may request that the Building Codes Council allow it to amend a code section. The request must be based on either a local physical or climatological condition.[135] If approved, the amended code section is only approved for the requesting jurisdiction. Through the second process, the state also allows professional organizations and local jurisdictions to request statewide modifications to the building codes. This request does not need to be based on a physical or climatological condition. If approved, the amended section is approved for all jurisdictions in the state.

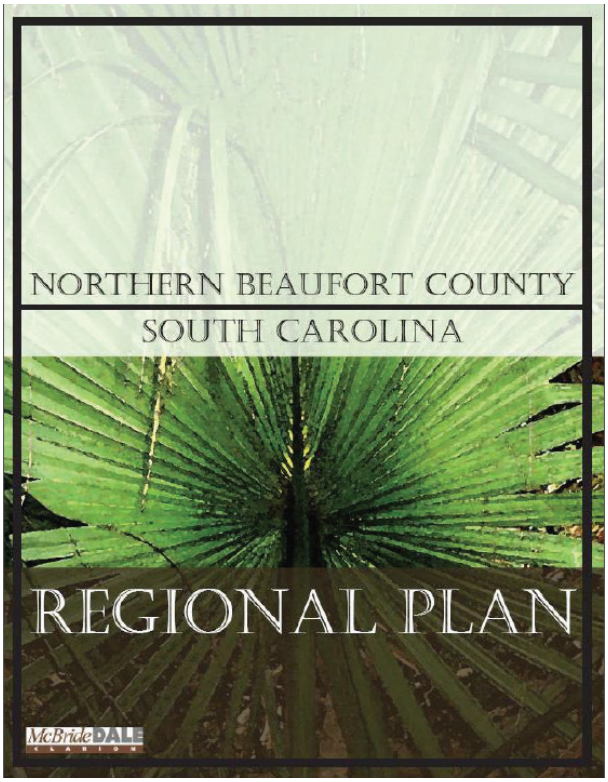
III. Existing Planning and Land Use Regulations in JLUS Jurisdictions

This section summarizes the land use planning and land use regulations for each JLUS Jurisdiction, as of the date of the 2015 JLUS. All of the jurisdictions have adopted land use plans, zoning ordinances, and building codes. Additionally, a regional plan helps coordinate land uses between the jurisdictions.

A. Northern Beaufort County Regional Plan[136]

Faced with dramatic growth projections and a land use patterns that would impact the entire region, in the mid-00's Beaufort County, the City of Beaufort, the Town of Port Royal and the Town of Yemassee reached an agreement about how the region would develop, by adopting the Northern Beaufort County Regional Plan. The key components of the plan are outlined here.

1. Common goals. The jurisdictions agreed on several common goals to guide the plan:
    - The coordination of growth, especially around the current and future edges of the communities.
    - The provision of regional infrastructure and public facilities in a fair and equitable manner.
    - The support of an economic development program that strives to achieve a vibrant and healthy economy.
    - The development of a system to fund regional capital infrastructure, operating and maintenance costs in a fiscally sustainable manner.



- The protection of natural resources through the adoption of baseline standards.
- The encouragement of compact urban development, surrounded by rural development, to reinforce the sense of unique and high-quality places in the region.
- The creation and permanent preservation of a regional open space system.
- The encouragement of integrated socioeconomic and ethnic diversity in the region.
- The development of affordable and workforce housing opportunities.
- Regional support for infill and redevelopment within the communities.
- The promotion of the broad public interest while being mindful of private property interests.
- Collaboration with military facility planners, in particular with respect to the AICUZ contours.

2. Plan Elements**.** The plan, which serves as a starting point for ongoing regional coordination of planning efforts, examines the following elements:

   a. **Land use:** The plan establishes a preferred future growth pattern for all categories of uses (e.g., industrial, commercial, residential, and rural), broadly suggesting which category best fits in each land area. The land use plan is intentionally designed on a regional scale so that each jurisdiction may refine it according to particular community needs.

   b. **Transportation and other public facilities:** Recognizing that transportation congestion is often the first outward negative sign of development, the plan creates a strategy for addressing transportation and other public facilities.

   c. **Fiscal impact of growth:** The plan "puts a price tag" on future growth. Projecting that current funding sources will not keep up with the cost of providing public facilities, the plan encourages the jurisdictions to work together to identify new funding sources, such as updated impact fees and a capital sales tax, to address the deficit.

   d. **Baseline environmental and corridor standards:** The plan suggests the implementation of existing environmental baseline standards, such as storm water management best practices and setback lines from critical buffers, as well as the development of new ones for shared scenic and travel corridors and the use of transfer of development rights to preserve open space in the region.

3. Key strategies

   a. **The establishment of urban growth boundaries:** With the above-described goals in mind, the jurisdictions agreed through the plan to establish urban growth boundaries in order to preserve approximately 60% of the land area as rural. Land inside the growth boundary is expected to developed with commercial, light industrial, urban residential, or neighborhood residential uses and be annexed into a municipality, while land outside the growth boundary is expected to remain rural in character with no more than one unit per three acres of density.

   A key exception to this policy was made for the Marine Corps Air Station and the Marine Corps Recruit Depot, both of which are located within the growth boundary area. The land around the Marine Corps Air Station is designated primarily as low-density residential, and the land surrounding the Marine Corps Recruit Depot is designated as rural. As the jurisdictions implement this regional plan, care is to be taken to further refine future land use plans around the military installations, according to uses that are appropriate within noise contours and other impact zones.

   b. **Agreement to establish annexation policies:** The jurisdictions agreed to develop annexation policies to help evaluate the effects of proposed annexations on each other and their relationship to the established growth boundaries. The jurisdictions also agreed to develop policies to govern decisions about the development of land near but not contiguous to a municipality, and land that is surrounded by municipal territory (enclave areas)—key issues relative to annexation in many jurisdictions across the state.

   c. **Agreement on future implementation:** The jurisdictions also agreed to use this plan as a base, relative to growth patterns and regional issues in their Comprehensive Plans. They acknowledged that a regional planning effort will require future intergovernmental coordination to implement the strategies in this regional plan.

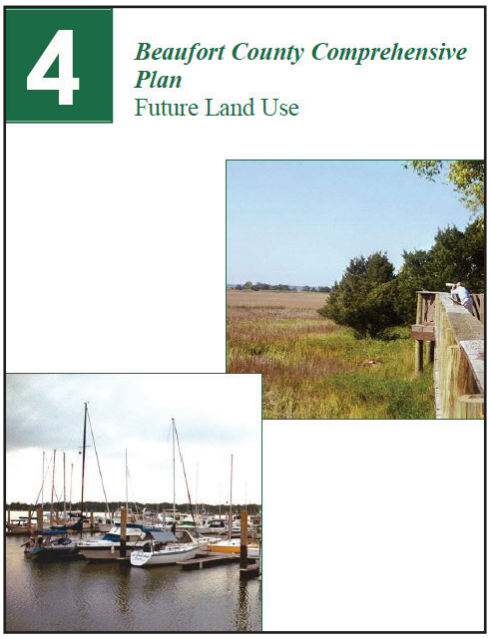
While the Regional Plan helps the JLUS Jurisdictions coordinate on regional issues, each of the JLUS Jurisdictions has adopted land use plans of its own to deal with specific local issues. These plans are summarized in the following section. Also discussed next are the local ordinances and regulations that each jurisdiction has adopted.

B. Beaufort County

Beaufort County has adopted a comprehensive plan, a form-based zoning and land development code that includes a military overlay district, and building codes. The following section gives an overview of these tools as used by Beaufort County relative to the Air Station. For example, the County has adopted a zoning overlay district for the Air Station, which is summarized in full at Appendix B.

1. ***Comprehensive plan.***[137] ***Beaufort County last updated its comprehensive plan in 2010.*** The Plan is organized around seven guiding principles:

   - Preserve the natural beauty of Beaufort County;
   - Create new industries and jobs to keep our economy strong;



- Build better roads and encourage two-wheeled and two-footed travel;
- Preserve our rich cultural heritage;
- Permit development while maintaining Beaufort County's sense of peace;
- Create parks and preserve open spaces; and
- Provide public services without breaking the bank.

The Comp Plan references the military in several sections: Land Use, Cultural Resources; Economic Development; Affordable Housing; and Community Facilities.

a. **Land Use[138]:** The military owns about 12,700 acres in Beaufort County—or 5.4 percent of the land countywide.[139] The Plan attributes much of the County's growth since the mid 1950s in the northern end of the County to the presence of its military installations.[140]

   The Plan also recognizes that growth pressures are increasing in this northern area, and lists as one of the 11 primary land use goals "continued collaboration with military facility planners, and in particular with respect to the AICUZ contours." One specific recommendation is that the County codify a requirement for the military to review and comment on major development proposals and annexations.

b. **Cultural Resources[141]:** The Plan recognizes that the County has a military history of nearly 500 years, beginning with the arrival of Spanish and French settlers in 1526 and 1562, respectively. The County, with forts built in the early 1700s to protect the City of Beaufort and the Town of Port Royal, saw major action in both the Revolutionary and Civil wars, and continues to serve an important role through both the Marine Corps Air Station and the Marine Corps Recruit Depot.

   The Plan states that "Beaufort County should recognize that the presence of the military is a vital component to the County's history, culture, and economy." It makes several recommendations for the County to use when carrying out this objective, mostly relative to the Air Station. A more general objective, however, is to support the Greater Beaufort Chamber of Commerce's Military Affairs Committee's efforts to promote and lobby for the retention and expansion of the military installations in Beaufort County.

c. **Economic Development[142]:** Importantly, the Plan recognizes the economic contributions of the military bases to the County. It noted that, as of 2010, "[t]he Department of Defense is one of the largest employers in the County," supporting 17,500 jobs and more than $600 million in personal income each year.[143] The Plan states that "it is important to foster a continued military presence by creating a supportive environment and by attracting advanced military technology and ancillary businesses."[144]

d. **Affordable Housing:** The Plan notes that the military installations employ more than 12% of the County's workforce. However, the combination of 1,718 units of military housing and existing civilian housing stock largely fill the housing needs of service members and their families. The Plan makes two recommendations with respect to ensuring the existence of affordable housing for the military:

   - Ensure that the military be represented on the Affordable Housing Consortium Governing Council; and
   - Include rental housing in the mix of affordable developments, and include the military in the employer-based initiative where rental units are leased in blocks.

e. **Community Facilities:** The Plan notes that the Beaufort County Department of Parks and Leisure Services has an existing contract with the Marine Corps community to utilize fields and facilities when the military is involved with County leagues and programs. It suggests that the County form a similar relationship with the school district.

2. ***Community Development Code.***[145] As explained above, South Carolina's Comprehensive Planning and Enabling Act gives counties the authority to enact zoning ordinances after they have adopted the land use element of a comprehensive plan, and land development regulations after they have adopted the community facilities, housing, and priority investment elements. Beaufort County adopted a Community Development Code on December 8, 2014. This Code includes components of both zoning and land development regulations. It was designed as "a reflection of the community vision for implementing the intent of the Comprehensive Plan to preserve Beaufort County's character and create walkable places."

Transitioning to form-based zoning codes

In 2014, the Town of Port Royal and Beaufort County adopted a form-based code, with the City of Beaufort actively working towards doing so as well. The attempt to use form-based codes has been a regional effort among the JLUS Jurisdictions.

According to the City of Beaufort, form-based codes "foster predictable built results and a high-quality public realm" by placing a primary emphasis on building type, dimensions, parking, location, and façade features rather than on the separation of uses. The City of Beaufort's would be similar to its current regulations for Bladen Street and Boundary Street.

This JLUS summarizes the unified development ordinance for the City of Beaufort since it remains in effect at the time of the JLUS and includes military overlays zones for the Air Station. The current draft of the City of Beaufort's form-based code recognizes the military airport overlay zone and associated regulations that the City uses to ensure compatibility around MCAS.

a. **Organization:** Community Development Code is organized around transect zones that focus on mixed-use, walkable areas of the County, conventional zones that focus on more automobile-dependent areas of the County, and overlay zones that serve various specialized functions. The transect zones, which fall on a continuum from rural areas to urban core areas, include: T1 Natural Preserve; T2 Rural, Rural Neighborhood, and Rural Center; T3 Edge, Hamlet, and Neighborhood; and T4 Hamlet Center and Neighborhood Center. Conventional zones include Neighborhood Mixed Use (C3), Community Center Mixed Use (C4), Regional Center Mixed Use (C4) and Industrial (SI). In addition to these transect zones and conventional zones, the code has several overlay zones including a MCAS Airport Overlay Zone (MCAS-AO), which is summarized in Appendix B.

b. **MCAS Airport Overlay (MCAS-AO):** Beaufort County's form-based code retained an airport overlay district for the Air Station, which is briefly summarized here and included in Appendix B.

- ***Area regulated:*** The Marine Corps Air Station's airport overlay district includes all lands falling within noise zones 2 and 3 and the accident potential zones as designated in the AICUZ.
- ***Prohibited uses:*** The regulations limit certain uses in the district, particularly those that bring large numbers of people together or that are noise-sensitive.
- ***Residential density:*** Residential density is prohibited at more than 1 unit per 3 acres in the APZs and Noise Zone 3; more than 1 unit per acre in Noise Zone 2b; and more than 2 units per acre in Noise Zone 2a. Family compounds are exempt from these density limitations.
- ***Prohibited impacts:*** The ordinance also places some minimal restrictions on certain additional elements of uses. It is prohibited to: "arrange or operate" lighting in a manner that could mislead an aircraft operator; produce any smoke, glare, or visual hazards within three miles of a runway; produce any electronic interference with navigation signals or radio communication between the airport and aircraft; or have a land use that encourages large concentration of water fowl or birds within the vicinity of an airport.
- ***Noise attenuation:*** The MCAS airport overlay district ordinance requires noise attenuation for all new buildings. These range from a mandatory reduction of 35 decibels in the loudest areas to 25 decibels in areas that are not as noisy.
- ***Mandatory real estate disclosures:*** The ordinance requires that all subdivision plats, planned unit development plats, townhouse plats, and condominium documents for property within the overlay area contain a note stating that the property is in the overlay and what the decibel levels in the applicable noise zone are projected to be, based currently on the 2003 Air Installations Compatible Use Zones Study for the Air Station, which was the basis for the 2004 Joint Land Use Study. The ordinance also requires all sellers and lessors of property within the airport hazard area to make buyers and lessees aware of these noise impacts.
- ***Nonconformities:*** The overlay district specifies certain requirements related to nonconformities, such as a requirement to replace a nonconforming building with a conforming one if it is damaged more than 50%, and a prohibition against the expansion of a nonconformity. Similarly, a nonconforming use or structure that is vacant or not used for 90 days is considered abandoned and can only be replaced with a conforming structure. Exceptions to these standards exist for churches. Another key requirement is that if a nonconforming use or residential structure is improved by more than 50% in terms of market value over a five-year period, it must meet noise attenuation standards.
- ***Variances:*** The Zoning Board of Appeals must seek an opinion from MCAS-Beaufort prior to granting variances in the Airport Overlay district.

3. ***Transfer of Development Rights program. In addition to the Airport Overlay District, Beaufort County has a Transfer of Development Rights program for the Air Station, which is summarized briefly here.***

The purpose of the TDR program, which was adopted by the County in 2011, is to "support county efforts to reduce development potential near the Marine Corps Air Station Beaufort and to redirect development potential to locations further from the air station, consistent with the Beaufort County Comprehensive Plan."

The voluntary program establishes "sending" and "receiving" areas. Sending areas are those that are located within the airport overlay district and the Air Station's AICUZ buffer, which are zoned for generally low-intensity land uses. Receiving areas currently include all lands within the boundaries of Port Royal Island that are outside of the airport overlay district and the AICUZ buffer. (The ordinance would also allow the City of Beaufort and the Town of Port Royal to participate in the TDR program if they desired to do so by designating TDR receiving areas, adopting a complimentary ordinance, and entering coordination agreements with Beaufort County.)

In order to participate in the program, owners of sending area properties may elect to record an easement that reduces the density allowed for future development on the land. They then receive a TDR certificate, which may be "transferred" to and used in a receiving area in order to exceed otherwise allowed maximum residential density or commercial square footage requirements there. (Alternatively, a receiving area developer may pay a fee-in-lieu of buying a certificate, which the County would apply back to the TDR program to purchase additional easements and to administer the program.)

4. ***Building Codes.*** Beaufort County has adopted the International Residential Code, the International Mechanical Code, the International Energy Conservation Code, the International Plumbing Code, the International Fuel Gas Code, the International Fire Code as amended by the South Carolina Building Codes Council, as well as the National Electrical Code.[146] Additionally, Beaufort County participates in the National Flood Insurance Program as part of its unified development ordinance. The Building Code does not currently include specific noise attenuation standards, although the County's overlay ordinance requires noise reduction in Noise Zones 2a, 2b, and 3. Instead, the County Building Department simply requires that applicants have an engineer certify that the noise level reduction standards have been complied with.

5. ***Summary – Beaufort County:*** To guide development throughout its jurisdiction, Beaufort County has adopted a Comprehensive Plan, a community development code that includes zoning and land development regulations, and building codes. The plans reference the importance of the military to the community, and some military-specific land use regulations were adopted in an effort to maintain compatibility around the Air Station.

C. City of Beaufort

The City of Beaufort shares a planning commission with the Town of Port Royal and Beaufort County—the Metropolitan Planning Commission.[147] Two members of the Commission are appointed by Beaufort County, two by the City of Beaufort, and two by the Town of Port Royal.[148] The Metropolitan Planning Commission reviews the Comprehensive Plans, makes recommendations to the City Councils with respect to zoning map and ordinance changes, and reviews and approves development site plans.[149]

1. ***Comprehensive plan.***

The City of Beaufort adopted "Vision Beaufort, its Comprehensive Plan," in 2009. The Comprehensive Plan describes the City as "largely a military community."[150] The plan recognizes the importance of the Marine Corps Air Station to the City in several key areas, such as economic development, housing, and transit.

> **"A strong, vibrant, and healthy economy will be achieved through a successful economic development program in order to ensure the long term success and viability of the City of Beaufort. We must support the continuation and expansion of our primary economic engines - tourism, the military, health care, and education ..."**
>
> **—City of Beaufort Comprehensive Plan**

a. **Economic development:** The Plan explains that "much of Beaufort's economy is dependent upon its area military installations." This is due to both the high number of people who are employed by and in support of the military in the City and to tourism that is generated by frequent military graduations.[151] A few of the Plan's recommendations are to:

- support the expansion of the current economic base—higher education, medical services, and the military"[152];
- take a leadership role in institutional development, including with respect to the military[153]; and to
- seek ways to expand tourism, including military-related tourism.[154]

b. **Housing:** The Plan recognizes that the presence of military personnel in the community affects its housing stock. It attributes, for example, a recent increase in multi-family housing units to the military.

c. **Transit:** The Plan recommends increasing transit options, in part due to the presence of the military in the community. It notes that the Greyhound bus terminal is used by service members regularly, and it encourages the exploration of additional options to meet the community's transit needs.

2. ***Civic Master Plan.***

In addition to the Comprehensive Plan, the City of Beaufort, in 2013, adopted a Civic Master Plan. The purpose of the plan is "to identify and prioritize the allocation for public investment" in the City's infrastructure.[155] This infrastructure includes: the utility, public service, and transportation systems; institutional buildings such as museums and schools; and recreational areas such as plazas, parks, and greenways.[156]

Chapter 7—A City of Grand Institutions—includes a section on the military. Section 7.7 describes the military's presence in Beaufort as a "strong and stabilizing element to the area's economy" and its expected future impact, with the addition of the F-35B squadrons, as likely "to attract hundreds of high-skilled jobs to the area through additional civilian staff and off-base support industries."[157]

The Civic Master Plan explains the function of the AICUZ in addressing impacts of the military training on the surrounding communities, and it takes that analysis, plus the associated local government regulations, into account when developing its recommendations regarding land uses.[158]

3. ***Unified Development Ordinance.***

The City of Beaufort has a unified development ordinance that contains both zoning and land development regulations, but is in the process of developing a form-based code.

a. **Zoning generally:** The ordinance lists the following zoning districts: Transitional Residential (TR); Residential Estate (RE); Low-Density Single-Family Residential (R-1); Medium Density Single-Family Residential (R-2); Medium-High Density Single-Family Residential (R-3); High-Density Single-Family Residential (R-4); General Residential (GR); Traditional Beaufort Residential (TBR); Manufactured Home Park (MHP); Neighborhood Commercial (NC); Office Commercial (OC); Core Commercial (CC); General Commercial (GC); Highway Commercial (HC); Limited Industrial (LI); and Industrial Park (IP).

b. **Military Reservation District:** In addition to these 16 general zoning districts, the ordinance also creates four special-purpose districts, one of which is the Military Reservation District (MR). Like Beaufort County's military district, the City's Military Reservation District includes all land owned by the federal government that is used by the military. The district is "designed to support and protect federal military facilities …."

c. **Air Installation Compatibility Use Zone (AICUZ):** Similar to Beaufort County, the City uses an overlay zone "to provide for the compatible development of land surrounding and affected by operations of the Marine Corps Air Station (MCAS) Beaufort." The overlay district limits land uses, requires noise mitigation, restrictions uses that may create "intrusions" into Air Station airspace, and requires real estate disclosures with respect to potential impacts experienced by properties in the zone. The district applies to all lands within noise zones that are 65 DNL and above and within Accident Potential Zones, as defined by the AICUZ Study in place in 2012.

d. **Land development regulations:** The City's unified development ordinance also includes land development regulations that guide development in several areas, such as streets, parking and loading, storm water, and subdivisions of land.

4. ***Building Codes.***

The City of Beaufort has adopted the following building codes: the 2012 International Building Code; the Residential Code; the Fire Code; the Plumbing Code; the Mechanical Code; the Energy Conservation Code; the Fuel Gas Code; the Electrical Code; the 2006 International Existing Building Code; and the Property Maintenance Code.

5. ***Summary—City of Beaufort***

The City of Beaufort recognizes the positive impact that the military has in both its Comprehensive Plan and Civic Master Plan. Both plans recommend that the City continue to support the military operations by striving to avoid encroachment-related issues. Additionally, the City's Unified Development Ordinance and draft Form-Based Code implement this mission through a Military Reservation District and an Air Installation Compatibility Use Zone overlay for the Air Station.

D. Town of Port Royal

The Town of Port Royal does not have any land that is located within the 2003 or 2013 AICUZ footprints at the Air Station, including those of the F-35B, as described in Chapter 3. However, given the town's history of coordinating on land use issues with neighboring jurisdictions (for example, the Town participates in the Metropolitan Planning Commission along with the City of Beaufort and Beaufort County), the Port Royal's land use plans and regulations are summarized here.

1. ***Comprehensive plan.***

   The Town of Port Royal's Comprehensive Plan, which was adopted in 2009, is organized around the following principles:

   - A quality public realm;
   - A place for people on the streets (not just automobiles);
   - A commitment to quality development;
   - Regulations that focus on fundamental design issues;
   - A connection to the natural environment;
   - A welcoming, authentic community;
   - Sustainable community and resources (focusing on "the three e's: environment, economy, and equity"); and
   - Regional cooperation.

   The Plan briefly references the military under a section that summarizes the Northern Beaufort County Regional Plan (2007). It explains that one of the regional goals is the continued collaboration with military facility planners, in particular with respect to the AICUZ contours at the Air Station.[159]

2. ***Master Plan.***

   In addition to its Comprehensive Plan, the Town of Port Royal has a Master Plan, completed by Dover-Kohl Partners in 1995, which "is a visualization of what the Town should physically become as it grows and changes."[160] The Plan developed six concepts to guide future development to mimic those of the Comprehensive Plan:

   - Using a traditional neighborhood structure;
   - Allowing the mix of land use to be market-driven, yet clustered within walking distance of residences;
   - Facilitating the use of streets by people, not just automobiles;
   - Encouraging a range of household incomes and housing options;
   - Rejoining the two sides of the town, currently divided by Ribault Road; and
   - Connecting to the natural environment.[161]

   The Plan does not otherwise reference military operations, but a discussion of land uses is not the Plan's purpose. Instead, the Plan was designed to set the stage for how the Town wants its built environment to look as future development occurs, not as a discussion of land uses nor of standards related to those uses, such as noise and lighting. Although it was written almost 20 years ago, it serves as an early foundation for the Town's new form-based zoning code, adopted in 2014.

3. ***Form-Based Code.***

   The Town of Port Royal adopted a Form-Based Code in 2014. Like Beaufort County's form-based code, the Port Royal code generally focuses on the form that development takes instead of on the separation of uses. This form-based code replaced the Town's traditional zoning and land development regulations. The Code includes two military-related overlay zones that recognize the special circumstances of property near the installation.

   a. **Military Overlay Zone:** The Military Overlay Zone applies to Department of Defense lands and allows for military facilities and all supporting activities such as housing, offices, and services.[162]

   b. **MCAS Airport Overlay Zone:** The MCAS Airport overlay regulates land uses and noise attenuation and requires real estate disclosures for lands near the Air Station.

4. **Building Codes.**

   By reference, the Town of Port Royal has adopted these building codes: International Building Code, 2012 edition; International Plumbing Code, 2012 edition; International Mechanical Code, 2012 edition; International Fire Code, 2012 edition; International Energy Efficiency Code, 2009 edition; International Fuel Gas Code, 2012 edition; International Residential Code, 2012 edition; National Electrical Code, 2011 edition; and ICC A117.1- 2009 Accessible and Usable Building and Facilities Code.[163]

5. ***Summary—Town of Port Royal***

   The Town of Port Royal has adopted a Comprehensive Plan and a Civic Master Plan. Both reference the nearby military installations, but neither addresses issues of compatible land uses in the areas surrounding the installations in much detail.

   Port Royal was the first of the three JLUS Jurisdictions to adopt a Form-Based Code. While generally the Code now emphasizes the form of development rather than allowed uses, it includes two military-specific overlay districts that supplement this general framework. These districts limit allowed uses, require real estate disclosures, and require noise attenuation around the Air Station.

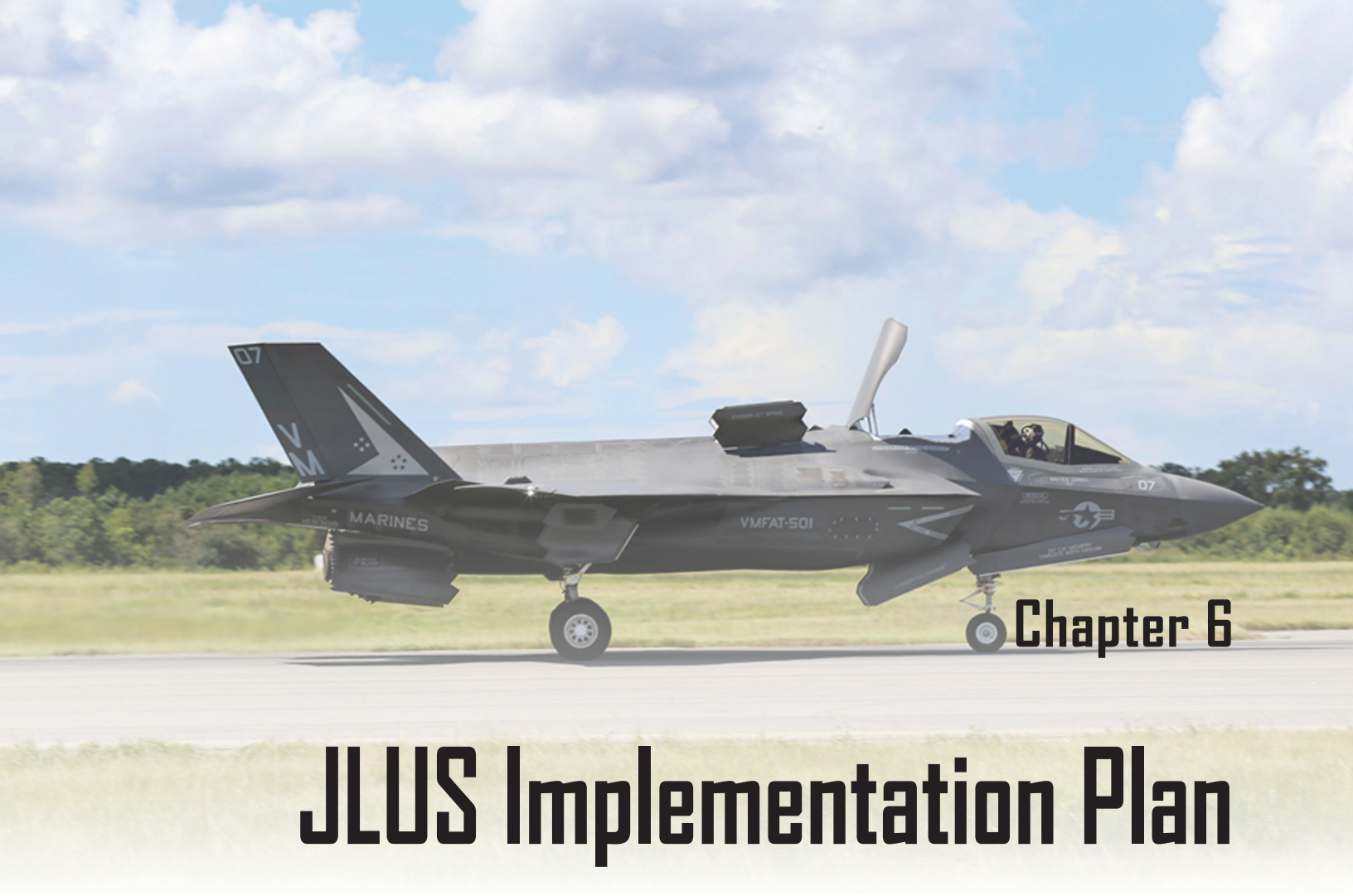
E. Beaufort-Jasper Water & Sewer Authority

The Beaufort-Jasper Water & Sewer Authority provides drinking water and wastewater services to the JLUS Focus Area. A public, nonprofit organization created by the state legislature, the authority:

- delivers about 20 million gallons of drinking water each day to its retail customers;
- serves about 100,000 additional customers with drinking water through a wholesale service; and
- collects, treats, and recycles 7 million gallons of treated wastewater every day.[164]

It has owned and operated the water and wastewater systems at the Marine Corps Recruit Depot at Parris Island (but not at the Air Station) since 2008. Since then, it has upgraded the systems to a large extent. Some of these upgrades have included:

- the elimination of the military wastewater treatment plants at the Recruit Depot (and the Air Station), since the authority can serve them at its Port Royal facility;
- the replacement of several sewer pump stations with gravity sewer pipes on both Marine Corps installations;
- the installation of a 2.5 million gallon equalization tank at Parris Island; and
- the installation of the pipeline from Parris Island under Archer's Creek.[165]



Chapter 6

JLUS Implementation Plan

Chapter 6:

- identifies the key land use factors affecting land use compatibility between MCAS Beaufort and the community surrounding it
- sets forth the recommendations of the JLUS Policy Committee to enhance ongoing land use compatibility, the Marine Corps mission, and community quality of life

I. Introduction

Chapter 6 summarizes the key factors affecting land use in the JLUS Focus Area and at the Air Station, and includes an Implementation Matrix of specific actions to ensure continued land use compatibility in the future. These key factors represent a distillation of the background and land use analyses in Chapters 2-5 of the Joint Land Use Study. While many important issues have been raised during the JLUS process, the recommendations below focus on land use issues, both on- and off-base, which either *threaten* compatibility – and therefore the MCAS mission and civilian quality of life – or *enhance* it.

Notably, compatibility can be enhanced by those steps taken by civilian *and* military stakeholders. A number of these steps already were taken following the prior Joint Land Use Study, which was completed for MCAS in 2004.

II. Key Factors affecting Land Use in the JLUS Focus Area

A. Existing Land Use around and on the Air Station

The Air Station consists of almost 7,000 acres within the City of Beaufort, in addition to the Laurel Bay Family Housing Area, which is not part of the Joint Land Use Study. Within the JLUS Focus Area, there are three primary categories of existing land use: commercial corridors along Highway U.S. 21; suburban residential development southwest and east of the Air Station; and, finally, lands that are *generally* rural in nature, which encompass the remaining portion of the Focus Area. However, these rural lands do include industrial clusters and, in some cases, residential densities akin to suburban and urban residential areas, including a number of manufactured homes and manufactured home parks. Figure 3-21 inventories existing land uses by category within the JLUS Focus Area.

Chapter 3 of the Study details the impacts of training operations occurring at the Air Station, based on the 2013 Air Installations Compatible Use Zones (AICUZ) Study issued by the Marine Corps soon after the JLUS process was begun in the Spring of 2014. The most significant impacts are those associated with aircraft training and operations at MCAS, which are detailed in Chapter 2. Specifically, these safety and noise impacts have been represented on maps which indicated lands near the Air Station that are most susceptible to aircraft accidents and noise impacts. This study limited its scope to the noise zones at the 65 dB DNL noise level, even though the 2013 AICUZ Study included a 60 dB DNL noise contour for informational purposes.

Significantly, the community in the vicinity of the Air Station was, at the time of the JLUS, preparing for the locating of three F-35B Joint Strike Fighter (JSF) operational squadrons and a Pilot Training Center (PTC) at MCAS. The F-35B is intended to replace the legacy F/A-18A/C/D (F/A-18) Hornet and AV-8B Harrier aircraft in the Second Marine Aircraft Wing (MAW) currently located at the base and MCAS Cherry Point, North Carolina. The full transition to F-35B operations is expected to be completed by the mid-2020s.

Throughout the study, the community frequently compared the noise contours associated with the F-18 aircrafts and those associated with the F-35B. These comparisons are illustrated and discussed extensively in Chapter 3. The accident potential zones associated with the two aircraft remained unchanged. Figures 3-6, 3-7, and 3-10 illustrate the existing and anticipated noise zones, as well as the accident potential zones.

The 2004 Joint Land Use Study for the Air Station was followed by the implementation of a number of tools and action steps for promoting compatibility between the base and the community. These are highlighted in Figure 2-5, in Chapter 2. Perhaps the most significant action taken was the adoption by Beaufort County, the City of Beaufort, and the Town of Port Royal, of regulatory overlay zones, which, among other things, limit the extent to which incompatible land uses and densities could thereafter encroach upon the Air Station. These details, as well as a description of the other areas regulated by the overlay zones, are set out in Chapter 5. The lands covered by the overlay zones, of course, were based upon the noise and accident potential contours in the last AICUZ Study, which was completed in 2003 and reflected F-18 air operations. Appendix B gives an overview of the nature and extent of the overlay regulations adopted by each of the JLUS Jurisdictions.

In addition to the overlay zones and, in part, due to the introduction of the F-35B aircraft, the Air Station and each of the JLUS Jurisdictions have coordinated extensively on land use matters historically; both on civilian land uses that could impact the base, as well as, base activities that could impact the community.

Finally, as is detailed in Chapter 5, the County adopted a transfer of development rights (TDR) program in 2011, which allows property owners inside of the AICUZ contours to transfer development rights out of the AICUZ contours for increased density allowances within designated receiving areas in the northern Beaufort County Growth area. At the time of this JLUS study the program had not been active. As part of the JLUS process, however, the Project Team developed a series of forms, applications, and supplemental materials to aid in the implementation of the TDR program. In addition, the JLUS Team recommended certain steps be taken in the short-term to jump start program activity, which are included in the Implementation Matrix below. In addition, the JLUS Team recommended a number of "policy concepts" that the elected officials in the County, City, and Town might consider, in order to increase TDR participation. These are set out in Appendix F.

B. Future Land Use anticipated in the JLUS Focus Area

Although growth projections indicate that southern Beaufort County will grow faster than the northern parts of the County near the Air Station, the JLUS Focus Area falls squarely within the growth area designated about ten years prior to this JLUS in the Northern Beaufort County Regional Plan (NBCRP). In addition, the JLUS Focus Area includes the City of Beaufort's and the Town of Port Royal's service delivery and growth areas. The Policy Committee established the NBCRP regional growth area as the basis of for the JLUS compatibility analyses, which are described in Chapter 3. This regional growth area encompasses most of Port Royal Island (excluding areas in the AICUZ overlay zones) and Lady's Island (excluding certain protected rural lands). As is noted below, the Technical Committee recommended that these growth areas be evaluated based on most recent data and growth projections.

Under current zoning, growth in the vicinity of the Air Station is subject to military compatibility standards; including land use restrictions, noise level reduction, real estate disclosures, and some height and intrusion requirements.

On-going collaboration between MCAS, the JLUS jurisdictions, and other local economic development interests, consistent with state statutory requirements, will continue to be critical to ongoing community compatibility as F-35B operations are put into place.

C. Recommendations

As is noted above, as recommended in the last JLUS at the Air Station, this community successfully implemented many programs to encourage land use compatibility in the vicinity of the Air Station and within the existing AICUZ zones. Taking just the overlay zone, which all three JLUS Jurisdictions have adopted, and the County's TDR ordinance alone, the potential for incompatible civilian encroachment has been significantly reduced. In addition, real estate disclosures also are required within the AICUZ zones and some height and intrusion regulations also are in place (*e.g.*, prohibiting land uses that would allow smoke, glare, wildlife, and other visual or physical hazards into the airspace, beyond the AICUZ zones), though not consistently so among the JLUS Jurisdictions.

Nonetheless, the Policy Committee recommended (1) augmenting certain outreach efforts, (2) continuing to monitor aircraft and other operational impacts, and (3) amending the existing Overlay ordinances and the County's TDR program to ensure ongoing land use compatibility in the vicinity of the Air Station.

These three overarching areas of implementation have been addressed through the following categories of tools and tasks:

1. Community-wide Coordination
2. Military Outreach
3. Land Use Planning and Environmental Resources
4. Military-Local Government Coordination
5. Amendments to Existing Overlay Ordinances
6. Transferable Development Rights.

Community-wide Coordination

First, the Policy Committee recommends implementing the Joint Land Use Study by continuing the involvement that policymakers, technical experts, and local citizens have contributed throughout JLUS process itself. Therefore, under "JLUS Implementation and Committee Support," in the Implementation Matrix, each of these three areas is once again highlighted. The process of implementing the recommendations in this study would, once again, be directed by a policy committee with the direct technical support of local staff and non-profit agencies. In addition, during the development of any tools following this study, citizen participation would once again be included through workshops, direct coordination with committee members, and attendance at any open committee meetings. Furthermore, once implementation tools are adopted, citizen input would be facilitated through the existing Metropolitan Planning Commission. It is anticipated at this point, that the Northern Beaufort County Regional Plan Implementation Committee would continue to serve as the policy committee during implementation.

It is critical that the JLUS implementation process include not only continued policy and technical input, but extensive citizen participation, as well.

Military Outreach & Military-Local Government Coordination

Second, the Policy Committee felt it important that the Marine Corps, not only continue its existing outreach efforts to the community, but to augment outreach efforts during the transition to the new F-35B squadrons. These efforts should include reevaluating existing communication practices to ensure that the public is kept up to date based on the technology and media outlets it is most accustomed to using, including, increasingly, social media, but also traditional forums like open houses and websites.

The JLUS Implementation Committees will continue to monitor the impacts of the emerging F-35B operations and make recommendations for additional JLUS studies or other planning efforts, as appropriate.

Furthermore, given the changing operational environment, the Policy Committee felt it important to monitor off-base impacts and to evaluate the need to update the Joint Land Use Study, were additional relevant data to be provided as to those impacts; these in addition, of course, to other land use, economic, demographic, and environmental impacts. These recommendations also are covered in both the community and local government coordination categories of the matrix.

Land Use Planning and Environmental Resources

Third, on the planning front, the Policy Committee recommended that each of the JLUS Jurisdictions include the JLUS process and recommendations in their next round of comprehensive plan amendments, in order to further integrate "military planning" with the community's overarching planning efforts. The Policy and Technical Committees also felt it beneficial to evaluate the existing growth areas in northern Beaufort County to ensure they reflect actual anticipated demand, given recent trends in growth and industry.

Amendments to Existing Overlay Ordinances

Fourth, the Policy Committee recommended several changes to the existing overlay ordinances that each of the jurisdictions adopted following the last JLUS. These include considering updating the existing regulatory contours to reflect the new F-35B noise contours, as described in Chapter 3, considering consistent height and intrusion regulations in all jurisdictions outside of the AICUZ zones (see "Prohibited

Existing Overlay boundaries should be amended to reflect the impacts of the F-35B

and

education and enforcement of existing real estate disclosure requirements should be pursued.

Impacts" and "Height Restrictions," Appendix B), and evaluating the impact of the ongoing family compound exemption on land use compatibility. After extensive discussions, the Policy Committee did not believe that the land use policies within the existing noise and accident potential zones need to be revisited at this time, in part, due to the fact that the 2008 changes to the Department of the Navy's AICUZ Programs Procedures and Guidelines did not substantially impact the existing regulatory approach locally (see OPNAVIST 11010.36C).

However, it was raised by many during the Study that use of the required real estate disclosures has been inconsistent in practice. Therefore, the Committee recommended increasing educational and enforcement efforts with respect to real estate disclosures. In addition, the Committee felt that, once the new F-35B noise contours are adopted into local ordinances, real estate disclosures should continue to be provided within the areas impacted by both the F-18 and the F-35B, while both are being used. This would ensure that persons purchasing or leasing property impacted by *either current* air operations (reflecting the F-18 as the primary aircraft) *or future* air operations (reflecting the F-35B) would be on notice of those impacts before deciding to purchase or rent in those areas.

Transferable Development Rights

Finally, the Policy Committee identified several "critical path" steps that need to be taken to "jump start" participation in the County's TDR program. The JLUS Project Team advised the Committees on their options and shared with them that it is not uncommon for communities to make adjustments to recently-adopted TDR programs in order to stimulate activity in a program that still is new to the community.

The community should take immediate steps to implement the TDR program, including voluntary development rights purchases using the S.C. Military Base Task Force grant.

This particular community, however, is uniquely positioned to cultivate an active program for many reasons, including a recent grant by the South Carolina Military Base Task Force to fund program implementation and development rights purchases of prioritized properties. This prioritization process was begun several years prior to the JLUS, so the Policy and Technical Committees worked with the Project Team to identify means of effectively moving forward with the TDR concept.

In addition, the Project team prepared a series of TDR administrative forms, applications, FAQs, flow charts, and a sample TDR easement for use by Beaufort County to make the TDR program more transparent and accessible to the public. The JLUS Technical Committee recommended that, if the TDR program is administered in-house at Beaufort County, that it be administered at the County Administrator level, since it involves several departments, including planning, finance, and legal. These and other recommendations are detailed in Appendix F, which includes critical next steps and recommends a formal County resolution to set these steps in motion.

III. Implementation Matrix

A. The "Strengths, Weaknesses, Opportunities, and Threats" Analysis

The recommendations of the JLUS Policy Committee are set forth in the matrix below. Those recommendations were the result of the input the JLUS Project Team received from the public, Technical committee members, and stakeholders throughout the project. The recommendations resulted initially from a "SWOT" – or "Strengths, Weaknesses, Opportunities, and Threats" – analysis that allowed the Policy Committee to identify on-base and off-base needs with respect to land use compatibility. The Policy Committee evaluated the issues identified in the SWOT analysis, leading to the development of the recommendations in the Implementation Matrix. Other issues were included in other parts of the JLUS to the extent they addressed background matters or matters not directly related to land use compatibility. The SWOT Analysis is included in Appendix C to the JLUS Report.

B. How the Implementation Matrix Works

The JLUS Implementation Matrix prioritizes the Policy Committee's recommended tools for implementing the recommendations in the Joint Land Use Study. While ultimate implementation is not necessarily limited to the specifics here, the tools identified in the matrix represent those the Policy Committee felt to be most important at this time. The matrix is intended to guide implementation and to help the community assess the scope of the implementation effort. It was recognized throughout the JLUS process that, since new operations at the Air Station will be occurring over the next 5 to 8 years, as additional data or experience warrants, revisions to this Study or to additional planning efforts will be considered.

For each tool listed, the agencies or parties affected by or responsible for implementing the development of each tool is indicated. Once implementation begins, the JLUS Implementation committee may engage stakeholders in addition to those listed at this time. Also, the estimated costs and timeframes for implementing each tool are given.

The range of estimated costs for each tool is indicated as follows:

- $ = less than $5,000
- $$ = between $5,000 and $25,000
- $$$ = greater than $25,000

Anticipated timeframes for consideration similarly are indicated as follows:

- S = Short-term, within the first 2 years following completion of the 2015 Joint Land Use Study
- M = Medium-term, between 2 years and 5 years following completion of the 2015 Joint Land Use Study
- L = Long-term, greater than 5 years following completion of the 2015 Joint Land Use Study

The Policy Committee recognized that each of the tools listed in the matrix is important, therefore, the overall priority given to a particular tool, is relative to the urgency of the issue to be addressed, overall costs, and, in particular, whether immediate safety and quality of life concerns are at stake. The Policy Committee prioritized the tools as follows:

- L = Low Priority
- M = Medium Priority
- H = High Priority

It is important to note that he Policy Committee recommended timeframes, priorities, and costs, based on the information available at the conclusion of the Study. As noted previously, however, with a new operational footprint emerging, it will be important to adjust these prioritize as the situation and current information and experience requires.

Estimated Cost		$ = < $5,000; $$ = $5,000 to $25,000; $$$ = greater than $25,000					
Planning Term		S (Short) = first two years; M (Middle) = between 2 and 5 years; L (Long) = greater than 5 years (post-JLUS)					
Level of Priority		L = Low; M = Medium; H = High (indicating relative priority)					
Category	**Subcategory**	**Implementation Tool or Activity**	**Description**	**Affected Agencies/Parties**	**Estimated Cost**	**Anticipated Timeframe**	**Level of Priority**
Community-wide Coordination	Joint Land Use Study Implementation Committee & Support	Policy Level	Designate the Northern Beaufort County Regional Plan Implementation Committee to serve as the JLUS Implementation Committee, which will oversee implementation of the recommendations in the 2015 JLUS.	MCAS MCRD County, City, Town (Elected Officials) Business Community Education Community Other Affected Stakeholders	$	S	H
		Technical Level	Support and provide technical and logistical expertise to the JLUS Implementation Committee.	MCAS MCRD County, City, Town (Staff Officials) Lowcountry Council of Governments Business Community Education Community Other Affected Stakeholders	$	S	H
		Citizen Input	Maintain coordination channels between the JLUS Implementation Committee and citizens in the community through workshops, direct work with committee members, and the Metropolitan Planning Commission, created since the 2004 JLUS.	JLUS Implementation Committee Metropolitan Planning Commission	$	S	H

Community-wide Coordination	Community Outreach	Online	Maintain a user-friendly and regularly updated website with information about the 2013 AICUZ and 2015 JLUS and the their implementation; link site to County, City, and Town websites. A Facebook page and other social media outlets may be appropriate, as well.	Lowcountry Council of Governments	$	S	M
		Community Updates	Evaluate need for supplementing existing outlets for community updates related to public information, mission training, and land planning within the JLUS Focus Areas.	MCAS MCRD Beaufort County Town of Port Royal City of Beaufort SCANA Lowcountry Council of Governments	$	S	M
	Evaluation, Monitoring, and Research	Monitor Impacts	The JLUS Implementation Committee will monitor any anticipated Marine Corps mission changes and proposed civilian developments that could impact or be impacted by base missions, and will engage the community and Metropolitan Planning Commission, as appropriate.	JLUS Implementation Committee	$	S/M/L	M
		Evaluate Needs	JLUS Implementation Committee to evaluate need to formalize coordination between base and utility providers. Committees also should monitor the need for updating the JLUS report or supplementing its findings over time; particularly as the F-35B mission at MCAS reaches full operation or in the event new impact data is available.	JLUS Implementation Committee MCAS Beaufort Jasper Water & Sewer Authority	$	S/M/L	M
		Research Key Land Use Issues	The JLUS Implementation Committee may evaluate or research specific issues such as human noise effects, environmental impacts, and economic impacts of Marine Corps missions or mission changes.	JLUS Implementation Committee	$/$$	S/M/L	M

Military Outreach	Military-Community Communication	Open House and other Community Dialogue Opportunities	Use techniques such as workshops, open houses, appearing at JLUS Jurisdiction meetings, participating on the MPC, with updates on changes at the installation and receiving community input. Remain engaged on key issues including, F-35B mission and updates; flight patterns; outlying landing fields; land acquisitions; mitigation techniques; noise experience; and community involvement and stewardship.	MCAS Beaufort County Town of Port Royal City of Beaufort JLUS Implementation Committee Metropolitan Planning Commission	$	S/M/L	H
	Off-Base Impacts	Noise Inquiries	Evaluate opportunities to supplement existing MCAS "Noise Inquiry and Complaint Program," and to improve user-friendliness of existing "Aircraft Noise Complaint Report" form.	MCAS JLUS Implementation Committee	$	S	M
		Schools	Monitor impacts of the installation on local schools.	MCAS JLUS Implementation Committee	$	S/M	M
		Flight Patterns	Continue to keep the community informed of the nature of MCAS's representative flight patterns and of atypical patterns when they can be anticipated	MCAS JLUS Implementation Committee	$	S/M/L	H
	Military-Civilian Business Relationships	Small Business Coordination	Inform local firms of opportunities to do business with the Marine Corps and engage the business community through a Small Business Representative; including raising awareness of existing federal notices for bid opportunities.	MCAS Lowcountry Economic Development Alliance Beaufort Regional Chamber of Commerce	$	S/M/L	M
		Economic Development	Maintain coordination efforts with economic development agencies to align sought-after industry with MCAS missions.	MCAS Lowcountry Economic Development Alliance Beaufort Regional Chamber of Commerce	$	S/M/L	M

Land Use Planning & Environmental Resources	Environ-men-tal	Military and Community Monitoring	Continue to monitor the impacts of the instal-lation on the natural environment.	MCAS JLUS Implementation Committee	$/$$	S/M/L	H
	Local Govern-ment Planning	Compre-hensive Plans	Update JLUS Jurisdic-tions' Comprehensive Plans to include the 2015 JLUS process and recommendation; ob-jectives and policies for implementing applicable recommendations; and any needed changes to land use maps based on new F-35B flight opera-tions.	Beaufort County Town of Port Royal City of Beaufort	$	S/M	M
		Growth & Annexation Policies	Update and confirm extent of anticipated municipal growth and annexation over next ten years; based on project-ed population, growth patterns, economic development policies, and service delivery ca-pabilities and operational needs.	Beaufort County Town of Port Royal City of Beaufort MCAS Northern Beaufort County Regional Plan Implementa-tion Committee	$$	M	M
Military-Local Gov-ernment Coordina-tion		Amend Overlay Ordinances to codify re-quirements of state law	Formalize existing pro-tocol by codifying local government coordination with the Marine Corps prior to land use planning and zoning actions (see s. 6-29-1610, et seq., SC Code Ann.)	Beaufort County Town of Port Royal City of Beaufort MCAS	$	S	H

Amendments to Existing Overlay Ordinances	Land Use Compatibility	New Contours	Consider updating Regulator Overlays to reflect new F-35B noise zones (out to 65dB DNL only); consider a phased approach.	Beaufort County Town of Port Royal City of Beaufort MCAS JLUS Implementation Committee	$	S	H
		Transitional Surface Regulations	Evaluate appropriateness applying in the City and Town the County's regulations regarding bird/wildlife interference, smoke/glare/other visual hazards, electromagnetic interference with military navigation/communications, and lights that are misleading/dangerous to aircraft, beyond the APZs, CZs, and Noise Zones (See County Code of Ordinances, Chap. 106, App. A, sec. 4.17.6; in App. C1 to the JLUS).	Town of Port Royal City of Beaufort	$	S	H
		Family Compound Exemption	Evaluate the impact of the County exemption of "family compounds" from the land use requirements in Noise Zone 3, the APZs, and CZs. (See Beaufort County Code of Ordinances, Chap. 106, Appendix A1, sec. 5; Section 106-2105 ("family compound" defined); see also Northern Beaufort County Regional Plan; p. 25 (regarding retention of policy)).	JLUS Implementation Committee Beaufort County	$	S	M

Amendments to Existing Overlay Ordinances	Real Estate Disclosures	Public Outreach	Educate developers about using authorized forms only and real estate and business groups to increase awareness of disclosure and notice requirements; work with realtors to ensure MLS-listings indicate properties located in an AICUZ zone; provide brochures to purchasers/lessees with disclosure explaining the F-35B noise contours; conduct an education program about AICUZ for real estate industry.	Beaufort County Town of Port Royal City of Beaufort Real Estate and Business Groups Developers Lowcountry Council of Governments	$	S	H
		Transitional Interim Disclosure Areas	Maintain disclosure for properties within the 65 dB DNL contour representing the F-18 mission during the period of the F-18's continued use; in addition to the 65 dB DNL contour representing the F-35B mission.	JLUS Jurisdictions Real Estate and Business Groups Developers JLUS Implementation Committee	$	S/M/L	H
		Enforcement	Confirm local building departments are complying with existing disclosure regulations (including use of adopted disclosure form as written & that sellers of after-market mobile homes and those receiving a moving permit are complying); consider applying disclosure requirements to specific parties in the closing process (e.g., seller, selling agent, closing attorney); evaluate lawful alternatives for enforcement.	Beaufort County Town of Port Royal City of Beaufort JLUS Implementation Committee	$/$$	S	H
		Manufactured Homes Dealers	Evaluate potential of requiring disclosure/notice by manufactured home dealers to purchasers of manufactured homes within the JLUS Jurisdictions.	JLUS Implementation Committee Beaufort County Town of Port Royal City of Beaufort	$	S	M

Transferable Development Rights (TDRs)	Full Implementation of TDR Program	Implementation Agency	It is critical that an agency be identified and funded, as soon as possible, to administer the TDR program and to process TDR applications and inquiries; including legal matters and conservation easement preparation; the Implementation Agency could be in-house or the County or Lowcountry COG could enter into a partnership with another entity for the purpose of implementing the TDR program.	Beaufort County Northern Beaufort County Regional Plan Implementation Committee Lowcountry COG	$/$$	S	H
		Use funds from 2009 Military Task Force Grant	It is equally as urgent that County, or other TDR Implementation Agency, in partnership with the Lowcountry Council of Governments, direct funds immediately from the 2009 Military Base Task Force grant to eligible implementation activities (see also, "Purchase of TDRs," below).	Beaufort County Northern Beaufort County Regional Plan Implementation Committee Lowcountry COG	$	S	H
		Establish TDR Bank	County or other TDR Implementation Agency to establish a TDR Bank in accordance with applicable TDR ordinances.	Beaufort County Northern Beaufort County Regional Plan Implementation Committee Lowcountry COG	$/$$	S	H
		Identify and Publicize Point of Contact for TDR Program	Identify and publicize a point of contact at the TDR Implementation Agency	Beaufort County Northern Beaufort County Regional Plan Implementation Committee Lowcountry COG	$	S	H
		Make Forms, Applications, and Implementation Materials Publicly Available	Make TDR implementation Forms, Applications, and implementation materials available by posting on County (and/or other TDR Implementation Agency) website and making hard copies available at the Beaufort County Department of Planning and Development (and/or at other TDR Implementation Agency).	Beaufort County Northern Beaufort County Regional Plan Implementation Committee Lowcountry COG	$	S	H

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Appendix A

Public Survey Results

BACKGROUND

As part of the combined Lowcountry Joint Land Use Study's public outreach efforts, a 35-question survey was developed and distributed to help the JLUS steering committees and project team gain insights into the community attitudes regarding activities at MCAS Beaufort and MCRD Parris Island. The public was given three options for completing the survey: 1) participate in the real-time survey at one of the public kick-off meetings that were held on May 22, 2014; 2) complete the survey online using a link on the project's website; or 3) submit a paper copy of the survey, which was provided to the steering committees for wider distribution, at the public libraries, and in the community.

A total of **523** survey responses were collected – 50 were collected during the real-time survey at the public kick-off meetings, four paper copies were collected, and 469 were collected online.

This summary sets out "key observations" made with respect to the survey results, with the raw survey results and the comments provided by the survey respondents in addition to the answered questions as appendices to this summary document.

KEY OBSERVATIONS BY QUESTION

- Q1 – Nearly 37% of respondents noted that they lived in Northern Beaufort County; 22% in Lady's Island, and 16% in the City of Beaufort. (Please note that most of the "Other" responses listed in the raw data were aggregated into one of the already established categories.)
- Q2 – There was a relatively even split between those respondents who have lived in the area for less than 10 years and those who have lived in the area for more than 10 years. This is important to note since the original 2004 Lowcountry JLUS was completed 10 years ago. Approximately 39% of respondents have lived in the area for more than 15 years, with 60% living in the area for less than 15 years.
- Q3 – A vast majority of the respondents (88%) own property and live in the region for more than six months out of the year.
- Q4 – A majority of the respondents were either self-employed or retired.
- Q5 – A majority of respondents are not veterans (and do not actively serve) of the armed forces.
- Q6 – Most respondents know someone who works or trains at one of the USMC installations.
- Q7 – A vast majority of the respondents (67%) were over the age of 55.
- Q8 and Q9 – Most respondents live more than three miles away from MCAS Beaufort and MCRD Parris Island.
- Q10 and Q11 – A vast majority of respondents noted that they were either familiar or "somewhat" familiar with the types of training conducted at MCAS Beaufort and MCRD Parris Island (96% and 97%, respectively).
- Q12 – Respondents listed the following as the top three ways they get their information about the installations: 1) newspapers, radio, television, 2) from someone who works or trains at the installation, or 3) from general discussion in the community.
- Q13 and Q14 – A majority of respondents believe that the communication between the community and MCAS Beaufort is "fair" or "good" (68.5%); 69.8% believe the communication between the community and MCRD Parris Island is "fair" or "good".

- Q15 and Q16 – Most respondents either know who to contact at the installations or have never needed to contact the installation about a question or concern.
- Q17 and Q18 – A large majority of respondents classified the training at MCAS Beaufort (88.7%) and MCRD Parris Island (95.8%) as "important" or "very important".
- Q19 and Q25 – Thirteen respondents (2.6%) do not support the Marine Corps' presence in the region. While a vast majority of the respondents do support continued operations in some capacity (93.3%), 37 individuals stated that the noise from MCAS Beaufort was "so bad I wish I could move".
- Q20 and Q21 – A large majority of respondents recognize the installations' contributions to the regional economy as either "substantial" or "very substantial".
- Q22 – More than 75% of respondents believe that the local community must take action to ensure that the economic contributions of the installations are sustained and enhanced.
- Q23 – Nearly 73% of respondents stated that they experienced jet or aircraft noise at least weekly from operations at MCAS Beaufort.
- Q24 – Only 43% of respondents stated that they experienced gunfire or other noise at least weekly from either installation.
- Q25 and Q26 – The community's perception of noise impacts are associated primarily with operations at MCAS Beaufort. Fifty-six percent of respondents noted that they either did not experience noise impacts from operations at MCAS Beaufort or they noticed the noise, but did not find it disruptive – compared to over 95% of respondents answering similarly for MCRD Parris Island.
- Q27 – While most respondents stated that they did not experience any other impacts from operations at MCRD Parris Island, traffic was a commonly cited impact.
- Q28 and Q29 – Safety was not cited as a major issue for either MCAS Beaufort or MCRD Parris Island.
- Q30 and Q31 – While a majority of respondents (54.6%) felt that MCAS Beaufort provided either a "highly positive impact" or a "positive impact" on their quality of life, the majority of those who left additional comments referenced noise, property values, or safety as the primary effect on their quality of life. Likewise, 63% of respondents felt that MCRD Parris Island provided either a "highly positive impact" or a "positive impact" on their quality of life.
- Q32 and Q33 – There was an even split between those respondents who felt that MCAS Beaufort provided a "highly positive/positive" impact on property values (37.2%) and those who felt it had a "highly negative/negative" impact on property values (36.7%). In contrast, only 4.6% of respondents felt that MCRD Parris Island had a "highly negative/negative" impact on property values.
- Q34 – Most respondents are aware of the land use regulations surrounding MCAS Beaufort and prior supporting studies.
- Q35 – Of the 198 people who left additional comments or questions at the end of the survey, 28% were general statements of support for the military installations and/or the Marine Corps and 53.6% referenced an issue related to flight operations at MCAS Beaufort (e.g., F35B noise data/equipment, need for OLFs, flight patterns, noise, property values, etc.).
- While the "bounded" questions (i.e., no opportunity for additional comment/clarification) generally expressed majority support for the Marine Corps and the installations' operations, the "open-ended" questions (i.e., those that provided opportunity for additional comment/clarification) allowed those with concerns to express their opinion.

The raw survey results are shown in Appendix A. Please note that some questions allowed multiple responses; thus, the final response count may exceed 523 responses.

The comments provided by the survey respondents on the "open-ended" questions are found in Appendix B.

APPENDIX A: SURVEY RESULTS (RAW DATA)

1. Which of the following best describes the area in which you live?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Northern Beaufort County	25.8%	132
Southern Beaufort County	1.6%	8
City of Beaufort	16.2%	83
Town of Port Royal	14.6%	75
Port Royal Island	3.3%	17
St. Helena	2.9%	15
Lady's Island	22.1%	113
Bluffton	1.6%	8
Hilton Head	0.6%	3
Other (please specify)	11.5%	59
	answered question	**512**
	skipped question	**11**

OTHER (PLEASE SPECIFY)	RESPONSE PERCENT	RESPONSE COUNT
Hilton Head	1.7%	1
Unincorporated Beaufort/Port Royal	1.7%	1
Harbor Island	1.7%	1
Seabrook	6.7%	4
Shell Point	15.0%	9
Coosawhatchie	1.7%	1
Cat Island	1.7%	1
Habersham/Burton	60.0%	36
Grays Hill	1.7%	1
Pleasant Point	3.3%	2
Grahamville	1.7%	1
Sun City	1.7%	1
	answered question	**59**

2. How long have you lived in the region (defined as anywhere in Beaufort County)?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
More than 20 years	28.1%	144
Between 15 and 20 years	10.7%	55
Between 10 and 14 years	16.2%	83
Between 5 and 9 years	23.0%	118
Less than 5 years	20.9%	107
I do not live in the region	1.0%	5
	answered question	**512**
	skipped question	**11**

3. What is your current land ownership status?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
I own property within the region, but do not live there more than six months out of the year.	5.1%	26
I own property within the region and live in the region more than six months out of the year.	88.1%	452
I rent property in the region.	5.8%	30
I do not own or rent property in the region.	1.0%	5
	answered question	**513**
	skipped question	**10**

4. In what industry are you employed? [Choose ALL that apply.]

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Department of Defense	5.7%	33
Local schools, or other educational entity	8.3%	48
Another federal, state, or local agency	6.7%	39
Agriculture or related field	0.9%	5
Industry, manufacturing, construction, trades, or related field	5.5%	32
Hospitality, food and beverage, retail, or related field	4.5%	26
Healthcare, medical, or related field	8.8%	51
Self-employed/Other	21.7%	126
Retired	36.8%	214
I am not currently employed	1.2%	7
	answered question	**581**
	skipped question	**11**

5. Do you currently serve in, or are you a veteran of, the armed forces? [Choose ALL that apply.]

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Currently on active duty	1.0%	5
Current member of a National Guard or Reserve Component	0.2%	1
Active duty veteran	19.3%	99
Veteran of other National Guard or Reserve Component	10.3%	53
I do not currently serve in, nor am I a veteran of, the armed forces.	69.3%	356
	answered question	**514**
	skipped question	**13**

6. Do you know anyone who works or trains at MCAS Beaufort or MCRD Parris Island?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Yes	76.5%	391
No	23.5%	120
	answered question	**511**
	skipped question	**12**

7. In what age range do you fall?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Under 18	0.0%	0
18-25	0.2%	1
26-35	6.0%	31
36-45	10.3%	53
46-55	16.6%	86
Over 55	66.9%	346
	answered question	**517**
	skipped question	**6**

8. How far away do you live from MCAS Beaufort?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Within 1 mile	2.8%	14
Between 1 mile and 2 miles	4.8%	24
Between 2 miles and 3 miles	19.6%	98
More than 3 miles	72.9%	365
	answered question	**501**
	skipped question	**22**

9. How far away do you live from MCRD Parris Island?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Within 1.5 miles	13.6%	69
Between 1.5 miles and 3 miles	18.3%	93
More than 3 miles	68.0%	345
	answered question	**507**
	skipped question	**16**

10. Are you familiar with the types of training conducted at MCAS Beaufort?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Yes	66.5%	338
Somewhat	29.5%	150
No	3.9%	20
	answered question	**508**
	skipped question	**15**

11. Are you familiar with the types of training conducted at MCRD Parris Island?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Yes	75.0%	378
Somewhat	22.0%	111
No	3.0%	15
	answered question	**504**
	skipped question	**19**

12. Where do you get most of your information about MCAS Beaufort and MCRD Parris Island?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Directly from someone who works/trains there	31.3%	158
From friends who know people who work/train there	7.9%	40
Just from general discussion in the community	22.4%	113
Newspapers, radio, television	33.3%	168
Social media (Facebook, email listservs, etc.)	3.8%	19
I don't know anything about MCAS Beaufort or MCRD Parris Island	1.2%	6
	answered question	**504**
	skipped question	**19**

13. How would you characterize communication between MCAS Beaufort and the community?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Good	45.5%	230
Fair	23.0%	116
Poor	21.8%	110
Unsure/No Opinion	10.5%	53
	answered question	**509**
	skipped question	**14**

14. How would you characterize communication between MCRD Parris Island and the community?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Good	44.6%	226
Fair	25.2%	128
Poor	12.0%	61
Unsure/No Opinion	18.1%	92
	answered question	**507**
	skipped question	**16**

15. If you had a question or concern about MCAS Beaufort, do you know who to contact?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Yes	42.1%	213
No	33.8%	171
I have never needed to contact MCAS Beaufort.	24.1%	122
	answered question	**506**
	skipped question	**17**

16. If you had a question or concern about MCRD Parris Island, do you know who to contact?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Yes	38.7%	196
No	33.3%	169
I have never needed to contact MCRD Parris Island.	28.0%	142
	answered question	**507**
	skipped question	**16**

17. How important do you think the training that occurs at MCAS Beaufort is:

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Very important	67.7%	341
Important	21.0%	106
Not very important	4.8%	24
Not important at all	1.6%	8
Unsure	5.0%	25
	answered question	**504**
	skipped question	**19**

18. How important do you think the training that occurs at MCRD Parris Island is:

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Very important	82.4%	418
Important	13.4%	68
Not very important	1.0%	5
Not important at all	0.4%	2
Unsure	2.8%	14
	answered question	**507**
	skipped question	**16**

19. Do you support the Marine Corps presence in the region?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Strongly support	79.1%	402
Somewhat support	14.2%	72
Indifferent/No Opinion	4.1%	21
Do not support	2.6%	13
	answered question	**508**
	skipped question	**15**

20. How substantial do you think MCAS Beaufort's contribution to the regional economy is?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Very substantial	62.5%	315
Substantial	19.6%	99
Moderate	11.1%	56
Minimal	5.4%	27
Unsure	1.4%	7
	answered question	**504**
	skipped question	**19**

21. How substantial do you think MCRD Parris Island's contribution to the regional economy is?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Very substantial	60.2%	304
Substantial	25.5%	129
Moderate	9.3%	47
Minimal	2.8%	14
Unsure	2.2%	11
	answered question	**505**
	skipped question	**18**

22. How strongly do you agree with this statement: "The local community must take action to ensure MCAS Beaufort and MCRD Parris Island's respective contributions to our economy are sustained and enhanced"?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Strongly agree	57.4%	288
Agree	18.5%	93
Neutral/Unsure	12.7%	64
Disagree	7.6%	38
Strongly disagree	3.8%	19
	answered question	**502**
	skipped question	**21**

23. How often do you hear jet or other aircraft noise associated with MCAS Beaufort from your residence or property?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Daily	42.5%	213
Weekly	30.3%	152
Sometimes	19.4%	97
Rarely	6.8%	34
Never	1.0%	5
	answered question	**501**
	skipped question	**22**

24. How often do you hear noise (e.g., gunfire, other) related to Marine Corps training areas from your residence or property?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Daily	18.1%	91
Weekly	24.9%	125
Sometimes	25.1%	126
Rarely	16.1%	81
Never	15.7%	79
	answered question	**502**
	skipped question	**21**

25. How would you characterize the noise impacts associated with MCAS Beaufort?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
I don't experience any noise impacts from operations at MCAS Beaufort.	8.6%	43
I notice the noise, but it is not disruptive.	47.4%	238
Noise is mildly disruptive.	22.3%	112
Noise is severely disruptive.	14.3%	72
Noise is so bad I wish I could move.	7.4%	37
	answered question	**502**
	skipped question	**21**

26. How would you characterize the noise impacts associated with MCRD Parris Island?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
I don't experience any noise impacts from operations at MCRD Parris Island.	38.6%	194
I notice the noise, but it is not disruptive.	56.5%	284
Noise is mildly disruptive.	4.0%	20
Noise is severely disruptive.	1.0%	5
Noise is so bad I wish I could move.	0.0%	0
	answered question	**503**
	skipped question	**20**

27. What kinds of other impacts do you experience associated with MCRD Parris Island? [Choose ALL that apply.]

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Traffic	26.4%	139
Waterways being shut down	8.5%	45
I don't experience any other impacts from operations at MCRD Parris Island.	56.4%	297
Other (please specify)	8.7%	46
	answered question	**527**
	skipped question	**29**

OTHER (PLEASE SPECIFY)*	RESPONSE PERCENT	RESPONSE COUNT
Positive Economic Benefit	9.5%	2
General Support for USMC/MCRD	9.5%	2
Support Services/Facilities at MCRD	9.5%	2
Environmental Concerns	9.5%	2
Hotel Rates	9.5%	2
Traffic	23.8%	5
Crime/Negative View of Marines	14.3%	3
Gunfire	9.5%	2
Taxes	4.8%	1
answered question		21

* Specific comments provided in Appendix.

28. Do you ever feel unsafe due to your proximity to MCAS Beaufort?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Often	8.5%	43
Sometimes	18.7%	94
Never	65.9%	332
I do not live near MCAS Beaufort.	6.9%	35
	answered question	**504**
	skipped question	**19**

29. Do you ever feel unsafe due to your proximity to MCRD Parris Island?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Often	0.0%	0
Sometimes	3.2%	16
Never	85.9%	432
I do not live near MCRD Parris Island.	10.9%	55
	answered question	**503**
	skipped question	**20**

30. Does MCAS Beaufort have an impact on your quality of life?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Highly positive impact	25.6%	127
Positive impact	29.0%	144
Negative impact	18.5%	92
Highly negative impact	11.1%	55
No impact at all	15.9%	79
Please explain – See Below		118
	answered question	**497**
	skipped question	**26**

PLEASE EXPLAIN - COMMENTS ADDRESS THE FOLLOWING TOPICS:*	RESPONSE PERCENT	RESPONSE COUNT
Noise/Property Values/Safety	50.8%	60
General Support for USMC/MCAS	11.9%	14
Use of Installation Facilities/ Resources	3.4%	4
Economic Impact	21.2%	25
General Concern about F35B	3.4%	4
Traffic	0.8%	1
Wildlife	0.8%	1
Other	7.6%	9
answered question		118

*Specific comments provided in Appendix.

31. Does MCRD Parris Island have an impact on your quality of life?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Highly positive impact	26.1%	130
Positive impact	36.9%	184
Negative impact	2.4%	12
Highly negative impact	0.2%	1
No impact at all	34.3%	171
Please explain – See Below		64
	answered question	**498**
	skipped question	**25**

PLEASE EXPLAIN - COMMENTS ADDRESS THE FOLLOWING TOPICS:*	RESPONSE PERCENT	RESPONSE COUNT
Same Response as Previous Question	9.1%	6
Use of Installation Facilities/ Resources	19.7%	13
Noise	4.5%	3
Traffic	4.5%	3
Economic Impact	28.8%	19
General Support	16.7%	11
No Impact	6.1%	4
Other	10.6%	7
answered question		66

*Specific comments provided in Appendix.

32. Does MCAS Beaufort have an impact on your property values?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Highly positive impact	11.4%	56
Positive impact	25.8%	127
Negative impact	19.7%	97
Highly negative impact	17.0%	84
No impact at all	20.5%	101
I do not own property in Beaufort County	5.7%	28
	answered question	**493**
	skipped question	**30**

33. Does MCRD Parris Island have an impact on your property values?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Highly positive impact	11.3%	56
Positive impact	29.4%	145
Negative impact	3.8%	19
Highly negative impact	0.8%	4
No impact at all	49.2%	243
I do not own property in Beaufort County	5.5%	27
	answered question	**494**
	skipped question	**29**

34. Are you aware of the land use regulations (e.g., zoning overlay district) surrounding MCAS Beaufort and supporting studies (e.g., 2004 JLUS, AICUZ)?

ANSWER OPTIONS	RESPONSE PERCENT	RESPONSE COUNT
Yes	56.3%	283
No	17.9%	90
Somewhat	25.8%	130
	answered question	**503**
	skipped question	**20**

35. If you would like, please enter any additional questions or comments for our review in the space below.*

	answered question	**198**
	skipped question	**325**

* Specific comments provided in Appendix.

COMMENTS/QUESTIONS ADDRESS THE FOLLOWING TOPICS:	RESPONSE PERCENT	RESPONSE COUNT
Statements of Support	28.3%	56
F35B Noise Data/More Information Desired	17.7%	35
Concerns about F35 Equipment	1.5%	3
Outlying Landing Field and Alternative Sites	7.1%	14
Flight Patterns and Other Mitigation	8.6%	17
Noise	10.1%	20
Property Values and Real Estate	6.6%	13
Safety	1.0%	2
Human Health Impacts	1.0%	2
Installation/Community Relations	3.0%	6
Local Government, Land Use Restrictions, and Land Purchases/ Easements	2.5%	5
Economic Impact	2.0%	4
Decision Making Processes	6.6%	13
Questions about the Survey	1.0%	2
Other	2.0%	4
No Comment	1.0%	2
answered question		198

APPENDIX B: SURVEY COMMENTS BY QUESTION

1. **Q27. What kinds of other impacts do you experience associated with MCRD Parris Island?**

Positive Economic Benefit (2)

- more business during graduations
- positively impacts my business

General Support for USMC/MCRD (2)

- Military is part of Life. I appreciate the services
- rifle range...no bother!

Support Services/Facilities at MCRD (2)

- I appreciate the Commissary/Exchange benefits provided at Parris Island
- I use there commissary and px

Environmental Concerns (2)

- a complete disregard for residents and environment
- Environmental one billion pieces of lead in the marsh. RE Ga tech. report

Hotel Rates (2)

- Hotel prices are raised substantially
- Residents complain on graduation days about traffic, yet traffic is never stopped and the delay is minimal yet the local hotels raise rates on Wed, Thurs, and Fridays (much higher than on Mon, Tues and Sundays) when families come to Beaufort to watch their sons and daughters graduate from boot camp yet no sees a problem with that friendly act. I hear complaints from visitors about this price gouging.

Traffic (5)

- On graduation day only
- Slow to get on base at the gate
- Fridays Graduation Day is insane
- When depot is reviewing all arrivals it is hard to get out of my neighborhood.
- Gate related traffic only.

Crime/Negative View of Marines (3)

- The military scares me.
- Crime
- Macho attitude of Marines, speeding, etc.

Gunfire (2)

- I hear gunfire whenever I am in the Port Royal area specifically Parris Avenue.
- Gunfire

Taxes (1)

- Higher taxes due to lack of private sector development

2. **Q30. Does MCAS Beaufort have an impact on your quality of life? Please explain.**

Noise/Property Values/Safety (60)

- reduces property value and peace
- The huge increase in training squadrons and the dangerous increase in noise and frequency both to residents heath and the environment is a slap in the face to the local communities. The economic impact attributed to the Air Station is wildly exaggerated. Along with the MCAS disregard we can thank our greedy County Council for trading the sacred for the profane in exchange for a few pieces of silver!
- There are days we feel like we live on an air craft carrier without any ear protection
- Noise when training and low flights directly over my home
- late at night noise from jets.
- touch and go practice makes noise incessant sometimes at night.
- noise levels especially future training squadrons negatively impact our quality of life and our property value
- Planes fly over my house when they are NOT supposed to: planes fly much too late at night when people are trying to sleep (after 10 pm is too late!)
- When F18's Fly over my house you can't stand to be outside
- Noise of planes overhead
- aircraft noise in my neighborhood and home
- Jets sometimes fly right over our house at low altitude
- The treat of more noise has decreased the value of my home and surrounding homes. This affects me personally and as a Realtor!
- current noise levels and potential greater noise levels with new aircraft may become very disruptive and impact home value.
- Jets take off and/or land directly overhead, which can be very loud and is dangerous to residents.
- Occasional F18 excessive noise on wide downwind and left base legs to rnwy 23 at Beaufort MCAS
- Very loud noise.
- Noise is too loud and impacts quality of life.
- At times it gets extremely loud but not on a daily basis. I try to remember when it is really loud that it stands for our freedoms. It will have a negative impact if there are very frequent flyovers for the training for the new aircraft. I try to explain to my grandchildren that it stands for freedom and I have taught them to yell the word freedom when it gets too noisy. I am hoping you can find a different path that is not directly over our neighborhood.
- Fighters fly directly over our residence regularly. Noise can be very disruptive and perhaps harmful.
- Planes fly over almost daily.
- noise levels at certain times are very disruptive but fortunately to this point have been acceptable. Concerned about the increase in noise intensity and flight frequency from the planned increase in the training mission of MCAS with F35s
- Concerned about lower property values from increased air traffic noise and potential accidents
- jet noise is almost painful to the ears
- Jets scramble mobile/Internet signals; noise obliterates every other sound, including conversations, multimedia; causes house windows to vibrate.
- the jets create a negative impact, the noise is very disturbing at night. during the day it can be tolerated.
- Noise disrupts normal life activities, hurts real estate potential
- Noise disruptions weekly
- Noise as fighters fly overhead of residence in Habersham
- Noise level of jets is an issue.
- The noise from the planes. The lack of cooperation from MCAS and the city to find a better solution that is a win-win for all. The people that attend the F35B meetings are not decision makers.
- The noise (95-110 dbl) from the jets is at best very annoying and most likely a health hazard

- Noise
- noise, noise, wildlife, noise
- We just moved here in May 2014. I had no idea how bad the noise could be until today. It was very bad for 7 hours straight, right over our house every 30 seconds or less. All of our pets were terrified and we did not get to sleep until 2:00 in the morning. Now I am sorry I moved here.
- Excessive noise and fear of crash
- NOISE
- noise is horrendous
- Jet noise, especially when flying low
- Real estate values are dropping rapidly with advent of F35s
- Current noise level acceptable. Planned changes highly unacceptable.
- concerned about the value of homes with the new addition about to happen
- Noise is sometimes so bad that I have to put people on the telephone on hold, or pause the TV.
- Noise can be disturbing at times. Economic impact on me is minimal.
- Worried about F35 Noise level and how often they will fly. We are directly across from the refueling station
- There are times the jet noise is too much to be outside. I fear the F35-B fighter will be far worse.
- Noise levels
- noise levels on days when the winds bring the flight path overhead.
- The jet noise can be intense. Is there any thought to alternate landing field? I support the military and feel there is a compromise that can be to everyone's benefit. Thank you
- Jet noise often exceeds 100 decibels.
- When a plane flies over, you must stop talking and wait until it passes. Cannot talk on phone or hear the television.
- Jet noise interrupts conversations and phone calls, but is infrequent and a minor nuisance.
- Noise disrupts sleep, normal conversation, peace & quiet. Increases BP. Possible decline in home value.
- exposure to loud noise is debilitating over time
- Nominal economic benefit, disruptive noise level
- Noise from jets
- I am extremely concerned about the lack of noise studies to date and the escalation planned relative to the new equipment, mission flights and area affected - with a home in the region - i support the military and our appreciation of DOD sacrifice and necessary training - but need a moderator for people already LIVING here - this is NOT un unoccupied area that can just be rated unsuitable for residential use and poof we are supposed to not matter in the scheme of things
- In Habersham the jet noise is very loud.
- Airplane noise
- Noise is very bad from jets flying too low

General Support for USMC/MCAS (14)

- I know they have to train somewhere so why not here
- I came to Beaufort to work for MCCS at MCAS. During my almost ten years there, I traveled to other bases and never saw the relationship we have between the Corps and the citizens of the region. I am proud to share my neighborhood with the Corps and proud to hear "The Sound of Freedom"! Events such as the Blue Angels Air Show, Battle Colors and concerts bring in visitors and increase quality of life for residents.
- Other than financial impact, the Marines at MCAS are always volunteering in our community. There would be no Beaufort as we know it without MCAS Beaufort or MCRD PI.
- Friends we have met that work there.
- Enjoy seeing the jets flying over the house.
- Through relationships of MCAS personnel, and MCCS facilities.
- Strong supporter of the military
- Wonderful people/friends, jobs, economic impact

- marines volunteer lots of time in many areas of the community
- Appreciate them being in our community.
- I believe our military is very important in protecting our freedom! I strongly support having the MCAS base in Beaufort County!!
- A vital part of our national defense
- I am proud to live near and support our military bases.
- Love that the Marines are here.

Use of Installation Facilities/Resources (4)

- Use of the gymnasium and ID card center
- use px and movie
- Retired AF and we enjoy having the base near us for facility use, gym, gas, club
- My wife and I use the walking trails and driving range

Economic Impact (25)

- Economic impact obvious and positive; Noise impact currently acceptable but changes as a result of the transition to the F-35 and bringing the FRS squadrons will increase the sorties fivefold. What was tolerable may not be when completely transitioned to F-35s without some accommodations.
- We wouldn't have as much diversity in restaurants and other services without that population.
- I don't like the noise, but I am willing to tolerate it because of the economic impact.
- I work in a dealership service dept. we service many vehicles that otherwise would not be here.
- Employed by both bases
- Asset to local economy. Proud to assist in supporting our country.
- My job relies on the families that live and work here
- I work at MCAS for another federal agency.
- increased business
- When planes fly overhead, noise can be substantial. However, MCAS contribution to Beaufort's economy has a positive impact on my quality of life.
- I am a small business owner, and depend on my friends from MCAS to support my business.
- I am a retired Marine and served there. Economically it helps the area and the troops and family are a benefit to the area in many ways
- Increased economic input to community, increased diversity, increased safety of community
- my husband is a retired Marine employed there
- As a realtor, I think the Bases are a keystone in our local economy.
- It supports my profession as a realtor
- My business directly benefits from the personnel employed there.
- Economic importance it brings to Bft, safety.
- My company works on MCAS sometimes
- An important part of the local economy
- MCAS is vital to Beaufort County's economy in enhances everyone's quality of life.
- Our economy in addition to pride in our community and country
- The economic impact is positive which may impact quality of life. This question is too vague.
- bring in tenants - I do property mgmt
- Provides business

General Concern about F35 (4)

- Not today however the unknown of the F35B is of concern due to increased noise and frequency of flights
- Neutral at this time but very concerned about F35 Training
- It is negative due to the arrival of the F-35
- enjoy the F-18's overhead as a former USAF flier; concerned about the F-35B

Traffic (1)

- Traffic, traffic, traffic

Wildlife (1)

- loss of wildlife, loss of hearing, macho marines scare me

Other (9)

- I'm retired so it does not affect me
- husband retired Marine
- Freedom is Not Free!
- Unsure if this will be true in the future
- This is a prospective answer because you are not asking anything relevant to the future.
- Have not lived here long enough to know
- i am a realtor
- I am curator of the Lowcountry Estuarium in Port Royal. We provide environmental education programs for Laurel Bay schools.
- it's not that i don't support MCAS. i don't support such a large military at all, any branch, anywhere. we need to get out of other country's business and focus on our own problems.

3. **Q31. Does MCRD Parris Island have an impact on your quality of life? Please explain.**

Same Response as Previous Question (6)

- See #30
- Same as #30 re: service providers.
- Same as #30
- same as #30
- ditto
- See # 30 above.

Use of Installation Facilities/Resources (13)

- Use of the commissary and Exchange
- play golf there sometimes
- I play golf at PI occasionally
- MCCS facilities, personnel relationships, income
- commissary and px
- Nice golf course
- Use of Base Shopping Privileges
- We use the hospital, club, golf course, BX, gas, commissary , and will go to the graduations, and library and want to volunteer on the base in some capacity

- love to ride my bike there
- I use the Legends golf course, pro staff, commissary, and love the historical aspects of Charlesfort, Santa Elena, etc.
- we use the px and commissary
- I love to walk my dogs on PI
- Operation of golf course that allows private citizens to play. Military recreation services should not compete with private enterprise for public players.

Noise (3)

- I love my home as it is but am VERY concerned about the new noise level. We are older and cannot afford another financial setback. I am not sure we can live with the noise!
- Hear practice on rifle range
- The jet noise is very disturbing at night but tolerable during the day

Traffic (3)

- Traffic, on Graduation Day
- Other than occasional traffic back up, it doesn't impact me
- Traffic and inability for marines to drive in a new area.

Economic Impact (19)

- Economic impact positive. Nothing about MCRD Parris Island impacts me negatively.
- My office moved over to PI during the MCCS-SC merge. Every week, I saw the families come in to meet pick up their once children, now men and women...I believe every American should view a Grad. It is a sight (and sound) to behold. The economic impact that comes from these families is a great asset to Beaufort and Jasper Counties. Also, the MCRD PI Band is a welcome addition to parades and events and I do hope we will see the July 4th celebration back on post this coming year!!!
- Other than obvious of training the world's best military, the US Marine, there is a financial impact with all the visitors to our community during recruit graduations.
- Employed by both bases
- My job relies on the families that live and work here
- economic impact, training for marines
- increased business
- I am employed at MCRD
- I own a small business and depend on my friends from PI to support my business
- Arts, economic input, diversity
- It supports my profession as a realtor
- Beauty and economic importance to Bft.
- An important part of the local economy
- MCRD is vital to Beaufort County's economy in enhances everyone's quality of life.
- Our economy in addition to pride in our community and country
- Some economic impact + use base amenities
- i work there
- bring in guests - I do short term rentals
- Provides business

General Support (11)

- Friends we have met that work there and our son graduated from Parris Island 3 years ago.
- Heartwarming to welcome proud families of graduating recruits. See above.

- Strong supporter of the military
- I admire the men and women who choose to serve their country and I appreciate their impact on this wonderful community.
- proud to have both bases in Beaufort county
- I support MCRD because I believe in a strong, well trained group of soldiers who protect our freedom in our great country!
- A vital part of keeping the USMC strong and viable
- no noise and the training of our servicemen and women is a positive thing
- Gunfire from MCRD PI reminds me to pause and thank God for the freedom I enjoy because of the training going on in my backyard.
- Wonderful the Marines are here.
- interaction with community, joint projects, activities, proud to live near MCRD

No Impact (4)

- I'm retired so it does not affect me
- Not close to it.
- Self contained and no physical impact on community
- not related to daily impacts

Other (7)

- Husband retired Marine
- PX is totally geared to the visiting families, not toward active duty or retirees.
- Freedom is Not Free!
- Graduation tourism does not generate the quality of economic activity that would add to my quality of life
- realtor
- It would be helpful if the Lowcountry Estuarium and other attractions were listed in pre-graduation info mailed to families.
- again, the behavior of marines are intimidating

4. **Q35. If you would like, please enter any additional questions or comments for our review in the space below.**

Statements of Support (56)

- I think this survey is BS and quite frankly is a joke. Beaufort needs the military in order to thrive and survive. Semper Fi jackasses!
- Semper fi devil dogs and devil dolphins!
- Primary reasons for choosing to retire in Beaufort included the availability of the bases and associated services, e.g., commissary; medical care; fitness centers; etc. I've made a great life here in the beautiful lowcountry -- but if the bases close, I would likely move in order to continue having access to such services which are an important part of my retirement benefits.
- I am extremely proud that we have these young people that are willing to serve our country, to keep us safe. I am ashamed of the way the government is taken advantage of by the so called prominent families, who sell their nearly worthless properties for many times its value. They complain about the noise, they complain about the military all the while they are planning how they can extort their next big sale
- I would be very disappointed if they left, I feel they are a positive for the area Protect the Air Station MCRD
- As someone who was born in Beaufort, I support and appreciate the presence of the Military here.
- Fully support the operations aboard MCAS Beaufort & MCRD, Parris Island...
- I support our military community.
- I am glad they are here, and people who do complain, should have never moved here.
- As you can see in my earlier remarks, I am quite a proponent of the two USMC installations and the Navy presence also. I believe that as Americans, we must understand the sacrifices of those who serve, past, present and future. Of course, there are issues that arise with such a military presence, but the benefits to the community, the region and the Nation far out weigh the negative aspects. I am very grateful to the Corps for bringing me to Beaufort 18 years ago. Semper Fi!!!
- Please continue the "sound" of freedom & safety!

- [Tourism alone would not sustain our most wonderful slice of American History in the Lowcountry. Historic Beaufort has remained a quiet and peaceful location to enjoy Southern Evenings on the bay even though we have three bases in the region.
  - When I lay my head to rest for the evening there is a certain sense of comfort and calm within me as I hear Military Jets on their final approach, or as I walk out on my patio with a morning cup of coffee to purposefully hear the "rat-a-tat-tat" of USMC Recruits on the range. It's the sound of Freedom, of our Warriors training to defend us in times of need.
  - Thank you for the opportunity to share my thoughts. God Bless, and God Speed.
  - I welcome, honor, and support all the Military provides to our town, community, state, and country. Anyone who doesn't, should pick up a book and read about the history of Beaufort, for the military is as much a part of this area as every other amazing fact presented by our guides on the horse carriages.]
- I am a big supporter of the military bases in our community. My parents started working at MCRD then transferred to MCAS when it was built. This community would be no longer if not for the bases. I love that we are in the minority when it comes to towns where there's a military base. We have been fortunate that all the negative businesses that oftentimes come with military bases are non-existent in Beaufort. I love having the military here and am glad we have such a beautiful town where they can train to keep protecting us. They are simply the best.
- I believe that if the community of Beaufort does not continue to actively support the Marines and Sailors in our area, it would be detrimental to our economy. Further, to those that believe the noise from the new F-35 is disruptive to their daily lives, they should say a prayer each time they hear one that it's not the North Koreans flying over. That is all.
- I'm proud to live & work in a community with all these heroes! Thank you to all the brave men & women who serve to protect us in this terrible world! I love the sound of freedom!!
- These bases are a blessing to this community. They provide a lot of jobs and add greatly to Beaufort's economy!
- God Bless our Troops and the USA
- The sounds that come from PI and MCAS are the "SOUNDS OF FREEDOM" and give me great comfort!
- Believe we should seek to preserve a level of sound that does not negatively affect the wildlife and allows a positive living environment for humans. I once lived where a railroad ran through my backyard. After a week, I hardly noticed it. These sounds are the sounds of liberty, and I am proud to have them in my backyard.
- The sounds you hear are the sounds of FREEDOM from the Air Station and the sounds of practice gunfire at The Depot is music to my ears. They are a great neighbor in this community and appreciate all they do for us and our country!!!
- [I love to hear the jets, sorry but to me it is a sign of freedom.
  - Without the bases here we will ALL be in a lot of trouble. Property values would be really affected. Love our military!!]
- [Ensuring the long term viability of MCAS Beaufort is critical to the prosperity of the region and the lifestyle that the residents enjoy.
  - The small number of vocal new residents, tax refugees from the north, should not be allowed to turn a vibrant multi-industry region into a dying retirement town.
  - We should be more concerned with BRAC 2017 and trying to save the Air Station instead of kowtowing to a few wealthy retirees who will do anything and say anything to close MCAS Beaufort.]
- Semper Fi! Keep up the good work!
- Thank you for all you do! Stay Safe!
- Our family feels safer knowing the military is "close by." Keep up the great work! Jim & Judy Flickinger- 63-384-1760. Thanks
- Love those Marines...all of them!!
- These installations are vital to America and our community. I fully support and value the presence of these military organizations. They are responsible for our safety and freedom. Thank them for me and my family.
- We live on McCauley Creek...our slice of heaven. If it were not for the jet noise, we could not afford to live here, so the jet noise is a mixed blessing, but a blessing nonetheless. I am retired Army and really respect the fact that my Marine Corps bases F-18s and will base F-35s here. These aircraft, and the young folks that fly them are national treasures. I'm glad they are a part of our community. I know these professionals would not fly 300' directly over our house if they did not have to. Overall, the planes and MCAS Beaufort are real value added to America, South Carolina, and Beaufort County.
- I was born in Beaufort and have been around the military all of my life. I feel like the air station and Parris Island are so important to the survival of Beaufort and it's economy. Without these bases, Beaufort would fold. The people in Beaufort and the Military enjoy a great relationship. The very few that complain, just don't get it!!!

- Overall the bases and their personnel are a great asset to the area
- We should all come together and make sure we keep our military bases in Beaufort. What the general public does not understand, if we lose our relationship with MCAS and MCRD we all lose. Enjoy having the bases here in Beaufort.
- I love the sound of FREEDOM the air station and recruit depot give our community!
- Thank you for asking!
- Paris Island and Air Station in my opinion are welcome to this area. In today's economy, Beaufort should be thankful that 2 main operations of the US Military are expanding in our area. This can only bring about growth and boost our economy. I think a bit of jet noise is a small price to pay for the economic future of our community.
- I feel the residents of Beaufort have become somewhat complacent with regard to aircraft noise. The bases have been here long before most of us (residents) and have known of the ACUIZ zone(s) before purchasing property. What a positive impact the military community is to Beaufort!
- Love watching the jets as they practice their maneuvers!
- As mentioned above I support your presence. I feel that there can be a way to communicate to meet the needs of all involved with a positive outcome. Thank you
- Both bases should be viewed on a national security level. The sound we hear from those bases represent the sounds of freedom.
- I give 100% support to the Marine Corps for the noise sound that you hear is the sound of freedom thank you US Marines
- thank you for asking. please keep that up, and increase your communications with the public. i don't own a tv so local radio stations would be a good way.
- The sounds from both MCAS and MCRD Parris Island, while noticeable, are not at all bothersome. In fact I rather like them, both the aircraft and the rifle range. I think of them as "the sounds of freedom."
- Beaufort strongly needs the economic impact of the USMC bases
- They are the SOUND OF FREEDOM
- The military offers valuable and essential impact to the area
- We need them here!!!!!
- I believe the military presence here in Beaufort County is a big plus and look forward to keeping it here for many years to come!
- Though Beaufort is a small town in many respects, it is also a very cosmopolitan town because of the people MCAS and MCRD bring to our area. They are good for the economy and for life in Beaufort. Where else can you stay in one place and meet people from all over the world? Beaufort is the great place to live that it is in part became of them!!!
- We need to support both of these bases in every way possible!
- Love seeing and hearing the jets pass over our home. That makes me feel safe!
- I appreciate the military presence in the community.

F35B Noise Data/More Information Desired (35)

- The aicuz survey was bogus they didn't take in to account that sound travels farther over water.
- Why were we not privy to noise levels of the B35s?
- The noise data presented was disingenuous. Noise studies in other parts of the country on the F35 were available and not released (eglin and california) It appeared to be purposeful and not in the best interest of the community. Also the policy of burning the fuel for fire practice is offensive. It creates a huge pollution stream all the while winning environmental awards. Both of these issues could be easily fixed by a change in policy. Honesty to the community in the long term will gain the support of the community.
- I would like to learn the actual decibel levels for the F35 B jets. It is difficult to judge the future impact on the area without knowing what the noise levels will be.
- This survey is worthless without accurate information regarding environmental impacts of the actual noise output of the proposed 35B aircraft coupled with dramatically increased flights and sustained high noise levels. These run the risk of eliminating significant housing from the market through the negative impacts of noise pollution well beyond what has been an acceptable level to date. Such takings will be the subject of extended litigation and ill will which needs to be avoided through some reasonable lessening of proposed flights by use of alternative air strips for some operations. The noise levels and extensive flight operations will no longer be just a northern part of the county problem. The lack of information and the lack of forthrightness from the military and its local advocates has been breathtaking in its transparent falsity
- The FEIS, AICUZ use F35A not F35B in the noise data. Insist on a SEIS and new AICUZ based on the noise of the F35B. Insist on an ALF, flight operations changes, altitude restrictions, changes to flight patterns to lessen the harmful effects of the noise.

Depending on the noise from the F35B, my answers could change substantially.

- Very interested in the noise levels of the F35B and the frequency of flts over Northern Beaufort County
- What will be the increase in frequency and noise levels in my community (Habersham) over the next 10 years from the planned increase in operations at MCAS?
- What are the projected F-35 noise levels for areas in the flight path - such as Habersham?
- I would like to know the noise impact of the training squadron due at MCAS this fall before the squadrons arrive. I think a training squadron so close to my home in Habersham will have a very negative impact on my quality of life, property value and can be dangerous.
- The lack of clarity on volume of planes from MCAS is highly disturbing. I believer alternate landing patterns must be put into place to protect neighborhoods.
- I think that the information given to us by MCAS is probably all they are allowed to give out. I feel a negative feeling because I feel strongly that the amount of noise which we will hear from the new F35Bs is known and we should not be left in the dark. I do not like that so much of our tax dollars have been spent on retrofitting MCAS for these planes if it is not known if they will be compatible with our area.
- What are the plans for any negative event on the community, sadly a plane crash for instance?
- Am concerned about any increase in plane activity, as well as in noise levels projected from the F35bs....i.e. impact on health as well as on property values. What steps are being taken to mitigate noise? How can homes that have previously been in a safe zone now be placed in an imperiled zone? How can this be prevented?
- When will the MCAS put out a revised supplement of the EIS per the law to inform citizens the full impact of these new jets?
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- When will actual noise data from the F-35B's be incorporated into the AICUZ maps rather than the extrapolated data used in the most recent maps?
- How much noise ,taken cumulatively, will the F-35 bring to Beaufort
- I think the lack of solid information on jet noise associated with the F35B's has a lot of people concerned. More open information and transparent dialogue would help. The fear of increased jet noise has already impacted sales in affected areas.
- What are the ACTUAL decibel levels of the F35B on the take off and landing approach over Habersham? How will the vertical take offs and landings compare to these decibel levels? What does MCAS Beaufort intend to do to mitigate these noise levels if they should surpass those of the current F-18? What does MCAS Beaufort intend to do to reduce the number of flights which will also adversely impact the health, safety, and well being of citizens and ecology alike?
- I have many questions: We bought our cottage in 2010 and the AICUZ disclosure form said we were in 65-70DNL but that this was "of little impact." The new 2013 AICUZ however now states that 65+DNL is "Incompatible with residential housing". That is a remarkable change! How can it be the same noise contour but be described so differently? Which is true? How can we possibly anticipate the changes ahead with this conflicting information? Our current noise levels, which we have assumed were truly 65+DNL have been mildly bothersome at times but mostly manageable and we have been OK with the current levels of noise. But it now appears, according to a recent request via the FOIA, that there have been only 22,000 flight operations in

2013 rather than the 60,000 that the AICUZ suggested would be the case. So if the current projection in the AICUZ is accurate when it states that over the course of the next ten years the flights will increase to 106,000, that represents an actual increase of 470%! Either we are not currently at 65+DNL or we will not be at 65+DNL in the future. Which is true? What level of noise do we have now? Do the military and county have a solemn duty to measure the noise impacts we currently experience, update the AICUZ map to reflect actual data, and to inform residents of the reality they are experiencing? Otherwise how can anyone who is not a sound engineer actually know what level of noise we are currently experiencing and how much we should anticipate experiencing in the future? In addition, when we factor in the current noise projections are not based on data but on computer modeling and the F-35A rather than the heavier and presumably louder F-35B with its vertical landing and take-off patterns, why should we trust the accuracy of this AICUZ and the FEIS upon which it is based? Doesn't the military and the county have an obligation to provide actual data on the F-35B in developing the noise contour maps? Doesn't the military have an obligation to update the maps with new information as it is received? It is my understanding that some studies on the F-35B noise levels have been done but have not been used in the FEIS or the 2013 AICUZ or shared with the public. It seems to us that the FEIS and AICUZ should reflect actual data rather data on the F-35A, which is a lighter plane. One last question: The FHA and VA regulations state, "Residential construction is incompatible inside the 65 DNL contour, therefore, if residential units are constructed with in this contour, proper sound attenuation should be applied." How many homes will be added to the 65 DNL? How many will need sound attenuation? Will there be funds available for this sound attenuation to those families who find themselves within the contour unexpectedly? Will the county create new zoning laws to protect families from undue noise levels in the future? Will the county provide noise attenuation for the low income families living in trailers or homes with minimal insulation? Will development of new homes be allowed to continue in 65+DNL areas? High Noise levels have costs such as increased heart events and reduced learning and memory. How will the county address these hidden costs? What disclosures will be required of the real estate industry and by developers building new properties? Is it possible for some of the flight paths to be shifted somewhat to reduce the number of residents in the flight paths and to reduce the numbers of residences in 65+DNL? Would the military and the county consider shifting the flights over less populated areas just south of Laurel Bay where currently there is very little development? Will the county and military consider: redoing the FEIS and AICUZ to reflect actual data on the F-35B? Will the county and military consider redoing the FEIS and AICUZ to address the questions and concerns in the 2010 letter from the EPA? These concerns include impacts on the minority and low income populations and impacts on wildlife. The concerns also address the lack of actual data on the F-35B. Will the county and military also consider shifting the flight paths to reduce the numbers of homes in 65+DNL? Will the county and military consider providing sound attenuation to homes which will be negatively affected in the new 2013 AICUZ map? Will there be new zoning regulations to prevent new homes from being built in 65+DNL? Will there be regulations (not simply suggestions) for real estate brokers that require disclosure of the true impact of each noise contour, including that 65+DNL which is and should be labeled as "incompatible with residential housing?" I was told by a county council member that my home would be "grandfathered". This does not give me any comfort. I do not want to find myself stuck indoors because the noise levels are such that it is unhealthy to be outside. I believe the county and military have a duty to provide accurate data and inform citizens of the true noise levels and health implications of those noise levels. I believe the county should provide noise attenuation to all families who may suffer from increased and unhealthy noise levels. The county has a particular duty to the least among us who have the greatest need, whose homes are not well constructed and who are at greatest risk of learning and memory issues. Thank you for the opportunity to share my questions and concerns. I hope you will be able to answer and/ or address them. Thank you.

- The F-35B, (2-4 times louder than the F-18) jet noise and the increase in annual flight operations will be detrimental to the quality of life and will pose dangerous health risks to the people of Northern Beaufort County. The fragile Eco-system of the Lowcountry marshes will also be at risk due to the noise, number of flight operations and toxic emissions. We need a revised EIS because incorrect data was used. We must get noise data for the actual F-35B aircraft before we allow the jets to fly here. Relying on computer simulations and the F-35A noise data is unacceptable. We need a revised AICUZ Study and Map once we have accurate noise data. We need to make certain that Wyle took into account water reflectivity in their study and if not their study should be revised as well. We need to review and possibly revise the sending and receiving areas in the TDR once we have accurate studies and maps. Once all of this is completed we need to insist on an ALF, altitude restrictions and change flight patterns to lessen the dangerous impact this jet will have on our communities and citizens of Northern Beaufort County. We must protect people with the above stipulations as well as pay for sound proofing of homes in noise contours and buy out homes that are in noise zones that are too dangerous and unhealthy for habitation. I think the basing of the F-35B at MCAS will destroy Beaufort. The real costs to our quality of life and our health are not worth the promised benefits to the economy.
- I hope we can get a map with both studies on it with locations clearly marked so I can be more accurate while working with my real estate clients.
- What changes, if any, might the transition from the F18s to the F35s have on our community?
- Will the noise level be substantially higher with the F-35B and put us in an area not designed for residential? This would be a major change for us and seriously affect our quality of life & be very different from when we built our house here. Very concerned about the potential decrease in property value & change in quality of life

- My residential area has grown substantially since 2004 when I moved here and the date of the study sited. Is the evaluation being renewed given the changes over 10 years?
- I am extremely concerned about the flight/training escalation with the new aircraft and no baseline data on sound - why isn't an alternative runway and flight path being considered? where is full disclosure of the sound data . How is the information that is gathered going to impact any decision making? what about poor people who don't have access to this survey ?

Concerns about F35 Equipment (3)

- F35 "Can't Turn, Can't Climb, Can't Run" (https://medium.com/war-is-boring/fd-how-the-u-s-and-its-allies-got-stuck-with-the-worlds-worst-new-warplane-5c95d45f86a5). The F-35 Joint Strike Fighter was meant to improve the U.S. air arsenal but has made it more vulnerable instead. (http://f35baddeal.com/). Too noisy for the Lowcountry. Go to the desert.
- I am not a happy camper!! The planes don't work. They cost a fortune. AND they are going to wreck my health and my property values. It does not make any sense. I know it is all politics so we are both stuck. Why can't we find a way to minimize the negative impact. There are some very smart residents in Beaufort who speak your language who can help find a win-win solution --- use them. I appreciate the effort to gather feedback from the community.
- The F-35 in all variations will prove to be what critics have said all along. It is not a capable fighter, an inefficient bomber, the stealth capabilities are limited with modern radar and the stovl is of no consequence when an aircraft is so badly flawed as to be no match for rival jets. What an enormous waste of taxpayer money.

Outlying Landing Field and Alternative Sites (14)

- The F35 needs an outlying field (OLF). It is prone to accidents and extremely disruptive to daily life due to its highly increased noise level. I live directly in line with the short runway and emissions dust is so prevalent that we need to wear face masks at times when trying to enjoy the beautiful lowcountry. Preserve our quality of life and build an OLF
- It has been difficult enough living here with the F18 noise. It will be unbearable with the increased noise & # of flights associated with the very dangerous F35's. We are praying for an alternative landing sight to protect us from noise & the F35 crashes we believe are unavoidable given that plane's awful track record.
- I, like most residents in the Pleasant Point Plantation community bought our homes fully knowing the proximity and noise aspects of MCAS. The F-35B will increase the noise level somewhat, however I believe that after a short time people will get used to it; just as they did with the F/A18. I do think it would be wise to pursue a remote site that could be used for some of the take off and landing training.
- With other sites available with less population this decision is a travesty. Some of the areas being effected would not be able to be developed under the F35B current aicuz . This is a disgrace to the Marine Corp that we have honored and supported for over 50 years.
- Let somewhere else deal with these troubled F35Bs!
- I fully support the F-35B. I also think it would be good for the community if an ALF/OLF was developed for training use by the Air Station because it would mitigate some of the training in the local airspace which would make some residents more supportive. Personally, I love seeing the jets overhead as does my whole family!
- If the 'training base' comes to be, noise will be secondary. The primary concern will be new students in new airplanes over my living room...The 'new' training area needs to be in a sparsely populated region!
- hope consideration will be given to using alternative landing sites for F35 training to keep the frequency of overflights to the same level they have been during the last 9 years with F18s
- I bought in 1999 before Super F18's. F35 Pilot Training Center should be in Cherry Point. Consider adjusting flight patterns away from housing. THINK PAGE FIELD on PI !!!
- Noise from MCAS is presently mildly disruptive. I'm fine with that. However, when the F35B arrives, especially the training squadrons, I expect the FREQUENCY of flights -- coupled with the jet's noise -- will be intolerable. Bringing the training to Beaufort will, I believe, prove to be highly detrimental to the quality of life and will affect a considerably broader geographic area. Inevitably tourism will suffer and property values will decline. MCAS must -- MUST -- work with the community to mitigate the negative consequences of the change in the air station's mission (i.e., training) and the stationing of so many F35Bs in a small, historic town with an incredible natural setting.
- MCAS or DOD should consider an ALF because the frequency of flights and number of planes is going to change drastically with the F35B coming into the area. Furthermore, we don't have any data on the actual noise level of the plane; therefore, I don't feel that the JLUS should be adopted until that information is available. It is irresponsible for Beaufort County to adopt said plan.
- whatever happened to the discussion about an alternative landing field?

- MCAS Beaufort is NO place for a training squadron. It should be in a more unpopulated place. I have no problem if they had a good neighborhood policy in place so we all could have a good quality of life. Thank You
- What happened to the plans to build an off station test pad for the new and noisy jet. This must be done very quickly if we are going to have peace in the area. The Marine Corps has a responsibility to do everything they possibly can to help the noise problem. A test or practice pad off station will surely help.

Flight Patterns and Other Mitigation (17)

- Beaufort must have an ALF, flight pattern modifications, altitude restrictions, quiet hours and other noise mitigation policies to minimize the health, safety and noise impact of the F-35B. To allow the jets here was a big mistake but it looks like they are coming. Too bad for Beaufort. The unbearable noise will ruin this town.
- WE THINK THE F-35 PRESENCE WILL SEVERELY IMPACT OUR COMMUNITY AND HOUSING VALUE...WE WOULD LIKE TO SEE SOME MODIFICATION OF THE LANDING PATH SO AS TO NOT DETROY THE QUALITY OF LIFE IN HABERSHAM
- I believe that there could be a plan for training squadrons to be based in Beaufort but fly to more remote areas for their practice especially the vertical maneuvers. I hope that there can be some understanding on the part of MCAS decision makers that they are part of the community and need to consider the rest of us as well as what they want.
- Can training flight activity be scheduled? Are there other locations available as an alternate to MCAS so that all the training is not in Beaufort?
- Our home is in Walling Grove Plantation just across the river from the air station. When are the pilots going to learn the AICUZ. They usually fly over our home, which is a no no. And fairly low also!
- Our quality of life would greatly improve if MCAS would adjust its operations to fly around our neighborhood, not directly over it. And it would also be of significant help to have an ALF when the F 35Bs arrive.
- Please consider your flyovers for the training flights for the new aircraft over a less densely populated area.
- Jets fly over our house on one flight pattern, though we've been told they are not supposed to. Sometimes they are not much higher than the pine trees & so loud you can't even hear yourself talk, let alone the person standing next to you. If we were @ MCAS we would be handed ear protection!
- when the f35's come in I would appreciate their flying only several days a week and not everyday and short hours, mid morning to early no later then 7pm. if they fly the schedules the jets fly now there would be no problems, I think we can all accept that, but the threat of 6 days a week and from 7am to 10pm is more than we can all handle. "the sound of freedom" is great, but we also need our peace and quiet too.
- MCAS over flights need to be limited with the staging of the F-35.
- Please put Habersham over the left wing like you do for downtown Beaufort. Please ask the pilots to stop the extra thrust once they are over our neighborhood. Thank you
- Not in Aicuz now, but pilots don't seem to know that.
- Is there going to be a schedule when F35 fly or a reasonable times and how often they will fly?
- To move the flights over Habersham slightly west would put the flights over a sparsely populated area and reduce the noise level substantially over the more densely populated areas around where I live.
- If the pilots would respect the residents and minimize the amount of noise that they make everyone would be happier! Some of the jet engine noise is unnecessary!
- I would like to see a way to sustain the quality of life we have in our neighborhood while supporting the operations at MCAS. Finding ways to minimize noise, alternate flight patterns, even ALF options should be considered. Ideally, we should not see the AICUZ ratings for existing neighborhoods deteriorate or should seek to minimize the changes current residents experience.
- I am a Habersham resident. I would like MCAS to consider adjusting the landing/takeoff path a bit, so as to not destroy the quality of life & our property value

Noise (20)

- The noise is unbearable associated with jets from MCAS. They fly at the worst times of day & night. They are destroying the environment, wasting fuel, & harming people's health.
- [The jets often fly lower than 500 ft from the ground. The noise is like torture.
    - I previously thought the Marine Corp supported family life; now I know it does not because the jets fly at the dinner hour & early evening, when families are together. They are so loud we cannot have a conversation.

  - The studies about noise associated with the F35Bs did not account for the effect of water, so the data is flawed.
  - The Beaufort MCAS is not big enough for training associated with the F35Bs & the surrounding population is too dense. I am disgusted that our local politicians embraced the training but then again, I'm sure their palms were greased.]
- The jets are so loud flying over our house that all conversation has to stop until they pass. I know the F35's are going to be worse - If I had known that F35's were going to be here when we moved 5 years ago. I would not have moved here.
- i accepted some noise impact when i bought my property. i did not anticipate a three or four fold increase in such noise. land use regulations or not, the presumption was that the noise was not going to get worse. now i'm told it will be much worse.
- F35's are too loud to be near populated areas and increased training will make living here unbearable.
- I am just concerned about the increase in frequency of the f35b jets. When the f18 jets fly over our house you can not carry on a conversation but right now is very tolerable.
- The noise from the F-18s is tolerable at current levels, however we are concerned about increased noise levels and frequency of flights from the F-35Bs.
- Pro Marines; anti noise. AICUZ has dramatically changed since my move to Habersham. Now, this community is held captive by jet noise, bureaucratic obfuscation, collusion between military and politicians re: facts on noise, environmental and financial impact on this region. Such smokescreens have bred suspicion and disdain where once, there were trust and respect, the latter aimed at military decision-makers and PR folks. We are your neighbors, after all.
- My understanding is that the F35 B noise level will be 75- 80 decibel range in my neighborhood. At the present time, the F18's usually don't fly I often in the evening or on weekends. I fear that the change of to training mission with the F 35B will extend the noise and make intolerable to live in this community. Unfortunately, it will also make it difficult to sell or my residence.
- Do not have issue with current levels of training at MCAS, but do not believe the increase levels plans are appropriate for its location.
- Ongoing concern, re, the negative impact the F-35B will potentially have on the quality of life in Habersham with the current flight pattern and increased frequency of flyovers.
- When practicing carrier landings and using the Broad River Approach, the engine noise is excessive at my house.
- I fully understand the importance of training at the bases here. But at what point do you look at what is good for our health, well being, land values and tourism? Beaufort is a beautiful town to visit and to live in, but the jet noise will eventually drive people away, both tourists and residents and then what will you be left with?
- Do not have F135's come here. The noise will be insufferable /property values will plummet
- I am extremely concerned about the noise increases that will occur due to the F-35B. Both the higher noise level of the aircraft (as yet not released by the DoD) and the significant increase in the number of flights. My concern is for health and quality of life and my worst fear is I may have to move away from Habersham, a community that I love.
- Hate the jet noise over the house. Have to wear earplugs in the house, this is terrible!!!!!!
- We love the Marines; hate the jet noise. If it becomes worse or more frequent, our lives will become extremely difficult. Please help us to resolve this sincerely and amicably.

Property Values and Real Estate (13)

- Relators need to be more honest with their sales around these bases so buyers are aware of operations and will thus not complain about noise when it occurs. I fault the realtors and developers for some of the current community noise complaints.
- My property value has gone done every month (per zillow) since f35 announcement. Realtors are urging sell before full training starts.
- A significant increase in overhead flights would affect our property values and health here in Habersham.
- Not sure impact MCAS has on our property at present.
- I strongly support the air base but would hope that a plan could be worked out that doesn't negatively affect home values and a significant increase in noise levels over the current so we can coexist. If people leave the area is it's also bad for the economy. These communities would not have been built if notice had been provided that the area was going to be incompatible with residential living.
- Increased fighter flights over Habersham could affect property values and quality of life.
- Increases in the noise level from MCAS would have a very negative impact on property values, but I do not feel that the current level has much impact, to clarify #33.
- I suspect that the military bases have a positive impact on property values because there would not be as big a demand for

property if the military bases and personnel (active duty and civilian) were not here. I know I would not be here if the military bases weren't here.

- Question 32 will change if the noise becomes an issue as I am a realtor trying to make a living selling homes in the area.
- The impact of property values has to do with preference to location. If the noise level disturbs you move to the midwest or northwest where no one lives. Don't come to the city.
- The uncertainty regarding future changes to MCAS based on the arrival of the F35 continues to hurt our property values and livelihood (residential construction) significantly. If we had clear, factual information regarding the impact it would certainly make life easier. Leaving the dissemination of information up to the "opinion" of neighbors instead of having hard, tested facts is not a good plan.
- Anyone knowingly building or purchasing property in or near the designated JLUS/AICUZ has no right to complain about noise from MCAS, especially if the property is within the normal flight line. It's the responsibility of developers, property owners and realtors to ensure potential buyers are fully aware of the "noise of freedom".
- The reason I answered there is negative impact to property values is that there are so many rentals in the area due to the bases. Relatively few owner occupied homes and this impacts property values

Safety (2)

- Training flights over civilian areas are not only annoying and disruptive, it's dangerous. Even the noted Blue Angles had a tragic accident here a few years ago. The risk increases with pilots-in-training.
- MCAS could have F35 training mission moved elsewhere to safer location away from populated area. Risk of crash from training too high in Beaufort area. Noise affects quality of life every single day.

Human Health Impacts (2)

- I am for the military, but not when the F-35's are coming and will impact our quality of life, with environmental, hearing loss and accident zone and our homes will not sell because of the noise.
- I would like to live in Habersham full time, but I am very concerned about the possible health problems from the noise level of the F35Bs and the frequency of future flights.

Installation/Community Relations (6)

- I have tried contacting MCRD. Without operator assistance it is like finding a needle in a hay stack to get in contact with the correct person unless you know someone.
- I think the Air Station has not done a good job of communicating truthfully with the surrounding community, and they make it difficult to obtain information and give information...The public relations with communication or lack there of has gone deteriorated in the last 5 years and i have lived here in Beaufort County for 13 years. I would describe it as an arrogant and "thumb" your nose mentality, very very sad.
- I would like to see, as part of incoming personnel orientation, an element introducing them to the unique natural environment they are becoming a part of and how to enjoy the benefits thereof in a sustainable manner. I would be happy to assist in developing such a presentation and literature. Bob Bender, Curator - Lowcountry Estuarium 843-524-6600 estuarium@islc,net.
- MCAS and MCRD should do more community involving activities. Firearms classes, ability of citizens to use the ranges once in a while. Open catch and release fishing up on third Battalion pond Please
- I hope that MCAS Beaufort will work cooperatively on an ongoing basis with the greater Beaufort community in order to minimize any additional noise related issues that come with the F35, which I support 100%.
- I fell that MCAS has taken a very odd and wrong approach to its efforts in fighting businesses who are trying to grow, when the growth of the business does not impact them in any way. and their unwillingness to compromise is concerning that our local government is not looking out for the locals and are being pushed around by MCAS to do what they want.

Local Government, Land Use Restrictions and Land Purchases/Easements (5)

- Increased land use restrictions in the northern part of the County concern me. Beaufort needs to diversify and grow our business and industrial base. The Hwy. 21 corridor is the ideal place for this growth, and a balance must be found when dealing with encroachment issues. Other communities face far greater encroachment concerns than we do, and still have ongoing military operations.
- I would like to see the continuation of land purchases/easements around MCAS so that the base isn't threatened by encroachment.

also strict enforcement of the AICUZ re zoning, land use, development

- I would like to learn more about land use regulations in Beaufort County.
- The county can use its TDR program to spur development in its Community Preservation Districts.
- While I am tolerant of noise impacts from current operations at MCAS Beaufort, I would not support increased noise at levels that would result in a zoning or land use change that would describe my property and neighborhood (Habersham) as incompatible with residential use. I want to continue to live here without incurring any negative impacts to my quality of life and property value, and I want to continue to support our military.

Economic Impact (4)

- It would be good for the powers at be to look at ways to capture service men and women who are ready to leave service by providing and going after the industry that would support hiring and support current activities of the military. The areas surrounding MCAS would be well suited to light industry that supports the military.
- The bases presence discourages private sector job creation in businesses that would have a positive growth impact on beaufort. 47%of residential property is rental because military are transitory and job creation is week. This is bad for city. Macs particularly needs to take care to not remove more land from the city's tax base. With a stronger private sector you will find yourselves two bases surrounded by two burned out cities like Port Royal.
- Since our area appears to be severely impacted by the increased noise from the F-35B fighter and the significant increase in numbers of flights it is a real concern. Potentially this may impact health, quality of life and resale values. I strongly support the Marines presence and contributions within our community. I believe our community is looking for alternatives which minimize the community impact and concerns while supporting the mission of our Marine brothers and sisters.
- While I LOVE the bases being here and will always support them we can't curtail growth in other areas because as we all know the bases could be gone tomorrow with one of the base closure orders. If this happened it would be devastating if we don't have something else to sustain us. We can't always rely on visitors & employees from the base to sustain us - need a back up to the bases otherwise we will be in real trouble if a base closure is order for our area.

Decision Making Processes (13)

- This survey is a little late since the noisier planes will arrive this fall.
- The AICUZ district has been greatly enlarged, and the only base in the country without a remote training field has begged for the noisiest planes under construction - and still not deemed safe. I am a Korean war veteran and appreciate the military, but the military has lied about the effect of these planes, and our politicians have sold us out.
- I think that the decisions being made by our local and federal governments without voting on the matters is deplorable.
- I think the fact that the community supports the new jet prior to having any understanding of its noise level is very problematic.
- I support the presence of MCAS - and understand the importance of this installation to Northern Beaufort County. I do not support the implied attitude from policy makers that everything else is expendable - I believe there can be a common good where communities near the base can be better protected from the impact of the arrival of the new planes - without hurting the mission of the base. Thank you!
- I would like for the community to work with MCAS Beaufort to mitigate noise impacts of the F-35.
- I find it hard to believe the DoD when they make statements concerning the projected noise impact of the F35B. Plans to place F35B training anywhere should not be done until all environmental impact studies are completed in a professional manner.
- When I moved to Beaufort I was not in an area negatively impacted by MCAS and now, without my input, my family is being affected by what they are doing without any care for my health and safety ... Are we in Iraq or the US ??
- Is it possible to sit down and talk with appropriate personnel at MCAS to show that we are supportive of their training mission and to have MCAS PERSONNEL show that they are respecting of our quality of life. This is a two way street, we have to get along with each other. The residents of Habersham just want to know what to expect during the F35 training.
- These questions should be asked again after the F-35 arrives.
- Very very concerned about the F 35-B coming and feel that MCAS is stonewalling the community about its impact. The air station seems to think it can rely on a "charm offensive" and appeals to patriotism to handle the issue. Our government and military should be better than that.
- A continuing info/ed program to inform the public of the benefits, and necessity of these bases is needed.

- I am afraid of the noise that will be associated with increased flight training. The cliche, "the noise you hear is the sound of freedom" is dated. As we transition to unmanned aircraft and drones, the cliche will change to, " the silence you hear is the sound of freedom."

Questions about the Survey (2)

- I am a Marine Veteran. Your question #5 asks if you are a veteran but doesn't give a corresponding answer. I am not currently on active duty.
- You are asking questions about noise from MCAS & MCRD how would anyone know the difference in the Noise from one to the other? You should give more details on what that means from the question

Other (4)

- Faa Class D zone.
- Allow Grays Hill Baptist Church to build their Fellowship building. This is wrong and whoever is hindering this should understand they will stand before God for this decision one day. LET FREEDOM RING!
- I never accounted military people before moving here. I didn't expect that I would be criticized because of my pacifist views.
- Our community is very negatively impacted by the transience of the people at the bases.

No comment (2)

- None
- NONE

Appendix B

Current MCAS Beaufort Overlay District Regulations, by Jurisdiction

CURRENT MARINE CORPS AIR STATION OVERLAY DISTRICT REGULATIONS, BY JURISDICTION

Areas addressed by each Jurisdiction are indicated by a Check Mark (✓)

		Beaufort County (MCAS Airport Overlay–MCAS-AO)			**Town of Port Royal** (Airport Overlay District/ MCAS-Beaufort–AO)			**City of Beaufort** (Air Installation Compatible Use Zone–AICUZ)		
Area regulated	Accident Potential Zones	✓			✓			✓		
	Noise zone 1 (<65 dB DNL; not regulated)									
	Noise zone 2a (65-70 dB DNL)	✓			✓			✓		
	Noise zone 2b (70-75 dB DNL)	✓			✓			✓		
	Noise zone 3 (+75 dB DNL)	✓			✓			✓		
Prohibited uses		Clear zone	APZs	Noise zone 3	Clear zone	APZs	Noise zone 3	Clear zone	APZs	Noise zone 3
	Community-oriented cultural facilities	✓	✓	✓	✓	✓	✓			
	Institutional care facility	✓	✓	✓	✓	✓	✓			
	Detention facility	✓	✓	✓						
	Hospitals and health clinics	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Assembly and worship/religious institutions	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Schools	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Commercial day care centers	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Commercial lodging/ overnight guest accommodations	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Restaurants	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Bar/tavern/nightclub	✓	✓	✓	✓	✓	✓			
	Commercial amusement (indoor & outdoor)/ Indoor recreation/indoor entertainment/ outdoor entertainment	✓	✓	✓	✓	✓	✓	✓	✓	✓

Prohibited uses		Clear zone	APZs	Noise zone 3	Clear zone	APZs	Noise zone 3	Clear zone	APZs	Noise zone 3
	Health/fitness facility	✓	✓	✓	✓	✓	✓			
	Commercial retail centers	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Parks with active recreation	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mobile/manufactured home parks	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Storage of explosive, flammable, or toxic materials in above-ground tanks	✓	✓		✓	✓		✓	✓	
	Petroleum refining and related industries	✓	✓		✓	✓		✓	✓	
	Chemical manufacturing	✓	✓		✓	✓		✓	✓	
	Manufacturing of plastic and/or rubber	✓	✓		✓	✓		✓	✓	
	Group home/community residence/ temporary shelter	✓	✓	✓	✓	✓	✓			
	Multi-family (incl. duplexes)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Single-family attached	✓	✓	✓						
	Other residential development	✓	See below		✓	See below		✓	See below	
Prohibited residential density	> 1 unit per 3 acres in APZs and Noise Zone 3	✓			✓			✓		
	> 1 unit per acre in Noise Zone 2b	✓			✓			✓		
	> 2 units per acre in Noise Zone 2a	✓			✓			✓		
Prohibited impacts	Lights that are misleading/dangerous to aircraft.	✓								
	Smoke/glare/other visual hazards.	✓								
	Electronic interference with navigation signals/communication devices.	✓								
	Uses of land that encourages large concentrations of birds, waterfowl, other wildlife.	✓								
Noise attenuation	25 dB at DNL 65-70	✓			✓					
	30 dB at DNL 70-75	✓			✓					
	35 dB at DNL 75-above	✓			✓					
Height restrictions	Primary zone							✓		
	Clear zone							✓		
	Approach clearance zone							✓		
	Horizontal zone (general for Beaufort County AO; inner and outer for City of Beaufort and within Beaufort County AOD)							✓		
	Conical zone							✓		
	Transitional zone							✓		
	General requirement not to impact MCAS with heights of structures							✓		

Mandatory disclo-sures	Required prior to sale of property in any APZ or Noise Zone	✓	✓	✓
	Required prior to placement of mobile/ manufactured home in Noise Zone	✓	✓	
	Included on all subdivision plats, townhouse plats, and condominium documents	✓	✓	✓
	Required prior to issuance of building permit in district	✓	✓	✓
	Required in residential and commercial lease agreements in district	✓	✓	✓
Noncon-formities	Nonconforming building/structure damaged > 50% of market value must be replaced with conforming one.	✓	✓	
	– Exception for churches provided that noise attenuation requirements are met.	✓		
	– Exception for churches.		✓	
	Nonconforming uses cannot be expanded.	✓	✓	
	– Exception for churches, which can expand up to 15% as long as occupant load is not increased.	✓	✓	
	Nonconforming uses do not become con-forming through special use process (for Beaufort County) nor temporary or condi-tional use process (for Town of Port Royal).	✓	✓	
	Improvements to either a nonconforming use or a residential structure of more than 50% of market value of property over a 5-year-period must meet noise attenuation standards.	✓	✓	
	Nonconforming use or structure that is vacant or unused for 90 days is considered abandoned and can only be replaced with conforming use/structure.	✓	✓	
Variances	ZBA must seek opinion from MCAS-Beaufort prior to granting variance in district.	✓	✓	✓

OTHER MILITARY-SPECIFIC SECTIONS IN ORDINANCES

	Beaufort County	Town of Port Royal	City of Beaufort
Zone for military properties		✓	✓
Transfer of Development Rights program	✓		

Appendix C

Strengths, Weaknesses, Threats, and Opportunities Analysis

WHAT IS A SWOT ANALYSIS?

A Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis is a common strategic planning tool used to evaluate information that will assist in identifying potential solutions to meet an organization's objectives (in this case, compatible land use). A SWOT analysis involves specifying the objective and identifying the internal and external factors that are favorable or unfavorable to achieve that objective. The objective of the Joint Land Use Study (JLUS) effort is to achieve compatible land use between the military installations and the community; thus, the SWOT analysis identifies factors that either support or hinder the achievement of this objective. This SWOT analysis groups information into two main categories:

1. Internal factors are the *strengths* and *weaknesses* internal to Marine Corps Air Station (MCAS) Beaufort that either assist or limit the facility's ability to successfully manage encroachment and compatible land use issues; and
2. External factors are the *opportunities* and *threats* presented by external stakeholders that may support or hinder the achievement of the objective of compatible land use.

A SWOT analysis can also be described as an organizing tool. It organizes information in a way that will help build the foundation for the recommendations that will be made in the MCAS Beaufort JLUS. The SWOT analysis does not, by itself, provide a strategic plan for meeting an objective, but rather supports recommendations for implementation. A SWOT analysis is *not* a "pro/con" list for a particular entity or situation. It is rather a tool – one of many – used to help achieve a specific objective. The SWOT analysis will enable MCAS Beaufort and its surrounding region to build on its strengths, minimize its weaknesses, capitalize on opportunities, and avoid or mitigate potential threats.

How is a SWOT analysis used?

A SWOT analysis is an inherently iterative process that will continue to be informed over the life of a project until the objective is met. This SWOT analysis was prepared after reviewing key military and community documents and conducting stakeholder interviews as a part of the JLUS process. Public and steering committee comments are also considered inputs into the SWOT analysis. As local conditions change or additional information is made available, the SWOT analysis may be modified. What was once considered a weakness may no longer be an issue if action was taken to address the weakness. Again, the SWOT analysis is a strategic planning tool used to drive recommendations to achieve compatible land use. As conditions change, the SWOT may change and may necessitate different recommended actions.

Table 1 below provides an overview of how these factors apply to MCAS Beaufort, followed by a more detailed description of each SWOT item.

Table 1: **SWOT Analysis Overview**

STRENGTHS	WEAKNESSES
Excellent community support and positive reputation. Strong strategic value to the Marine Corps because of its new F-35B operational and training mission. Community has effectively implemented a number of actions to address incompatible development around installation. Availability of updated Marine Corps data and documentation of evolving mission changes. Significant economic contribution to local and state economy. There are few significant environmental constraints on training operations. Installation has considerable historical relevance in the region.	Use of modeling data derived from measured F-35A data to produce the 2013 F-35B aircraft AICUZ noise contours are not fully accepted by some in the community.
OPPORTUNITIES	**THREATS**
Educate public on noise modeling procedures used in 2013 AICUZ. Acknowledge and explore various noise impact mitigation recommendations proposed by the community, including the feasibility of an Alternate Landing Field (ALF). Formalize interaction/communication between MCAS Beaufort and its neighbors. Coordinate with relevant stakeholders regarding incompatible development and noise concerns. Community is undergoing a Joint Land Use Study process to identify recommendations to achieve compatible land use. Community has precedent for adopting policy or programs to support compatible land use. Multi-stakeholder forums currently exist that allow for engagement between the military and the community.	Effects of new aircraft not entirely known. Public mistrust of information presented by installation in regards to new aircraft. Population and political power shifts within Beaufort County. Significant potential impacts of climate change on operations. Lack of affordable housing near the installation is driving base personnel further from MCAS Beaufort. Unresolved stormwater management fee requirements.

Strengths

- **Excellent community support and positive reputation.**

MCAS Beaufort has a positive relationship with Beaufort County, as well with the public at large. The community is generally supportive of the installation's mission and the overall presence of the Marine Corps in the region. MCAS Beaufort has a strong role in the social fabric of the civilian community and is a significant part of the region's identity, particularly in concert with MCRD Parris Island and Beaufort Naval Hospital. Community leaders are committed to protecting the installation, recognizing it as a major direct and indirect economic vehicle in the county.

- **Strong strategic value to the Marine Corps because of its new F-35B operational and training mission.**

MCAS Beaufort will be supporting three operational squadrons and a Pilot Training Center (PTC) for the new F-35B Joint Strike Fighter and is, thus, providing critical strategic value to the Marine Corps' new operational and flight training regimen. The Air Station's role in hosting the operational squadrons and PTC is critical to supporting the combat capability and mission readiness of Marine Corps forces nationwide.

- **Community has effectively implemented a number of actions to address incompatible development around installation.**

The community surrounding MCAS Beaufort has long shown support of the installation's mission and has taken proactive steps to protect the viability of the installation and its economic contribution to the region. As a result of the 2004 Lowcountry JLUS, the City of Beaufort, Beaufort County, and the Town of Port Royal adopted AICUZ ordinances that identified AICUZ airport overlay districts, which limited certain types of development within the AICUZ footprint. Beaufort County also developed a Transfer of Development Rights (TDR) program to provide partial compensation for property owners affected by the AICUZ ordinances. Notably, residents of Beaufort County have approved three bond referenda for a Rural and Critical Lands Program since 2002, providing a total of $115 million. The community is considering a fourth bond referendum in 2014 for additional funding. The Rural and Critical Lands Program has conserved over 22,000 acres through the purchase of conservation easements or fee simple land acquisition and is designed to manage growth, encourage private land conservation, and preserve the rural character of the county. The program has also been used to help create natural buffers against incompatible development around MCAS Beaufort. In fact, the Beaufort County Open Land Trust partnered with MCAS Beaufort to identify and negotiate three conservation easements around the installation in 2013, resulting in 60 additional acres of protection and an additional easement pending closing. To date, this partnership has protected 13 properties and over 5,000 acres around MCAS Beaufort. Implementation of these measures, as a direct result of the 2004 Lowcountry JLUS, has been successful. Combined, these efforts demonstrate the community's commitment to maintaining the Marine Corps' presence in the region and the collaborative nature in which the Marine Corps and the community can address land use compatibility challenges.

- **Availability of updated Marine Corps data and documentation of evolving mission changes.**

The Department of the Navy recently released an updated 2013 AICUZ that incorporates mission changes associated with the arrival of the F-35B training and operational squadrons. The documentation of potential impacts does not always precede the arrival of the expanded mission, so the availability of this data will allow for its incorporation into various planning documents, including the current MCAS Beaufort JLUS.

- **Significant economic contribution to local and state economy.**

MCAS Beaufort is a major contributor to the local and state economy. According to the economic impact report prepared by MCAS Beaufort, the installation generated over $1 billion in economic impact for fiscal year 2013. MCAS Beaufort supported more than 4,200 military and civilian employees, translating to $230 million in salaries in FY13, with another $591 million in retired military and civilian salaries.

- **There are few significant environmental constraints on training operations.**

There are five federally-listed threatened or endangered species on MCAS Beaufort, including the American alligator, bald eagle, pondberry, southeastern myotis, and wood stork. However, the presence of these species does not currently impact mission operations at the installation. MCAS Beaufort's value as an air installation is enhanced because its training space is largely unimpeded by environmental constraints.

- **Installation has considerable historical relevance in the region.**

The site of MCAS Beaufort has a long history and adds to the region's overall historic resources. The acreage occupied by MCAS Beaufort was formerly the site of several prominent Lowcountry plantations and, during the Revolutionary War, British troops landed at what is now the Laurel Bay Housing area and battled American troops at Gray's Hill. The Beaufort area also played prominently in the Civil War when it served as a staging area for both Confederate and Union troops.

Weaknesses

- **Use of modeling data derived from measured F-35A data to produce the 2013 F-35B aircraft AICUZ noise contours are not fully accepted by some in the community.**

The noise data for the F-35B did not yet exist when the Department of Navy prepared the 2013 AICUZ for MCAS Beaufort, so noise data from the F-35A was used to model the impacts associated with the F-35B. The results of the F-35A acoustic tests from the Air Force Flight Test Center at Edwards Air Forces Base were incorporated into the NOISEMAP computer model and were, in turn, used for the noise analyses for the F-35B. While this type of noise modeling is generally accepted among industry professionals, the unknown variation between the modeled data and the actual noise impacts has become a source of significant community-military friction in recent months. There is some public perception that the use of the F-35A data is insufficient to model the effects of the F-35B and this generally creates a credibility problem in the community. Many in the community prefer that the modeling be based only on F-35B measurements. Specifically, there is a concern that the F-35B's short-take off and vertical landing capability – and the associated increase in engine thrust – would cause the noise impacts to be greater than those presented in the 2013 AICUZ.

Opportunities

- **Educate public on noise modeling procedures used in 2013 AICUZ.**

As mentioned in the "weaknesses" section of this analysis, the 2013 AICUZ relied on noise modeling data from the F-35A and used the data to project impacts from the F-35B. While this is an accepted practice among noise experts, the public perception regarding this discrepancy is one of mistrust because data was presented for "the wrong aircraft". Public education as to the noise modeling procedures used in the AICUZ – and its adherence to standard industry guidelines – may help to further the discussions between the military and community by increasing transparency in the modeling process used by the Department of Navy. Coordinated outreach and forthright conversation about this issue may help to move the public perception beyond one of mistrust about the process.

- **Acknowledge and explore various noise impact mitigation recommendations proposed by the community, including the feasibility of an Alternate Landing Field (ALF).**

A number of mitigation measures have been recommended by the community at large to alleviate some of the potential impacts associated with the new aircraft, including the development of an Alternate Landing Field (ALF) and changing flight patterns away from heavily populated areas. Certainly, not all of the mitigation recommendations will be implemented by the Marine Corps. However, regardless of whether the proposed mitigation action is technically feasible or cost effective, the installation should engage in discussions with the community to ensure that the community's ideas are being acknowledged in some way. When a recommended action is determined not to be viable, the installation should be forthcoming with its reasoning as to its infeasibility. Where a recommendation has merit, the installation and community should collaboratively explore options to mitigate potential impacts to the community from the new aircraft.

- **Formalize interaction/communication between MCAS Beaufort and its neighbors.**

While MCAS Beaufort enjoys a mostly positive relationship with its neighbors, no formal channels of communication or recurring outreach opportunities currently exist beyond the Air Station's participation in the Northern Beaufort County Regional Plan Implementation Committee. Establishing formal mechanisms for communication will allow MCAS Beaufort and its neighbors to communicate regularly and coordinate on issues of mutual concern, including noise, regional development proposals, economic development, stormwater management, rural lands conservation, and concerns about sea level rise. "Formal" interaction may take the form of a Memorandum of Understanding (MOU), a recurring collaborative working group, or other mechanism that requires participation by multiple parties.

- **Coordinate with relevant stakeholders regarding incompatible development and noise concerns.**

To alleviate current and potential sources of community-military friction, MCAS Beaufort should work with its partners to coordinate on solutions to issues such as incompatible development and noise impacts from new F-35B aircraft. Presently, there is significant community-military friction regarding the release of the 2013 AICUZ and the basing of the F-35B at MCAS Beaufort. As is mentioned in the "threats" section, the potential impacts from the aircraft are not entirely known at this time, which causes great concern for many in the community. Because these issues are complex and demonstrate the interrelatedness of the affected parties, it is critical that these issues not be addressed within political or functional stovepipes but dealt with in a collaborative manner. Opportunities exist to coordinate among all related partners on solutions to these challenges.

- **Community is undergoing a Joint Land Use Study process to identify recommendations to achieve compatible land use.**

The current JLUS effort demonstrates the community's commitment to addressing compatible land use issues in a collaborative, coordinated way. Engaging in the JLUS process provides stakeholders the opportunity to identify recommended actions to achieve compatible land use, including identifying ways to mitigate potential impacts. Interested stakeholders should capitalize on the current JLUS efforts to implement recommendations to achieve compatible land use. The steering committees, for instance, noted current efforts to support locally-sourced food production in the areas surrounding MCAS Beaufort. Agricultural use of land near the installation would be compatible in much of the AICUZ area.

- **Community has precedent for adopting policy or programs to support compatible land use.**

As previously mentioned in the "Strengths" section of this analysis, the community has taken many proactive steps to encourage compatible land use around the Marine Corps installations in Beaufort County. The adoption of policy (e.g., AICUZ ordinances) and the use of programs (e.g., Rural and Critical Lands Program) to support the compatibility around the military installations represent an opportunity to continue and strengthen collaborative land use planning efforts in the future.

- **Multi-stakeholder forums currently exist that allow for engagement between the military and the community.**

The Northern Beaufort County Regional Plan Implementation Committee provides a forum through which MCAS Beaufort may engage with community leaders on topics of mutual concern, including compatible land use, noise, regional development proposals, economic development, stormwater management, rural lands conservation, and concerns about sea level rise. While additional, more targeted forums may be appropriate for specific issues, the existing networks allow for consistent, coordinated engagement when appropriate.

Threats

- **Effects of new aircraft not entirely known.**

While some effects of the new F-35B were modeled in the 2013 AICUZ, the full range of effects of the aircraft when all squadrons and the PTC are fully operational is not presently known. The projected increase in the number of flight operations at MCAS Beaufort has many in the community worried about the subsequent impacts to quality of life, including impacts to property values and health. While the first F-35B squadron is expected to arrive in July 2014, all squadrons are not expected to be fully operational until at least 2020, so it will necessarily take some time for the effects to become known to the region. Proactive engagement among all affected parties will be critical to alleviate the public's fears over the unknown impacts of additional operations.

- **Public mistrust of information presented by installation in regards to new aircraft.**

As previously mentioned, there is considerable mistrust permeating through the community regarding the noise modeling data presented in the 2013 AICUZ. This sense of mistrust must be acknowledged and overcome through a combination of targeted outreach, engagement opportunities, and public marketing efforts if the community and installation are to maintain a positive, collaborative relationship.

- **Population and political power shifts within Beaufort County.**

Accelerated population growth in Beaufort County has paralleled burgeoning tourism and retirement-related service industries, diluting the Marine Corps' once dominant impact on the county's economy. Because of the significant population growth over the last 30 years in the Hilton Head and Bluffton areas, the southern portion of Beaufort County has picked up an extra seat on County Council, shifting the political center of gravity away from the northern portion of the county. This may result in a new County Council whose focus tends towards tourism-related interests that could create conflicts with military training missions. The effects of this dynamic population shift are still unknown, yet highlight the need for the Marine Corps to engage with its local partners in a way that is mutually supportive.

- **Significant potential impacts of climate change on operations.**

Climate change has long been identified as a potential concern for operational and installation sustainability. The threat of sea level rise, increased temperatures, drought events, and increased storm frequency and severity has far-reaching implications for both MCAS Beaufort and the neighboring communities. These potential climate-induced effects have the potential to impact MCAS Beaufort's facilities and infrastructure, in turn hindering the installation's ability to effectively perform operations and mission-related training. The low-lying topography of the South Carolina Lowcountry makes the area especially vulnerable to even slight rises in sea level.

- **Lack of affordable housing near the installation is driving base personnel further from MCAS Beaufort.**

The lack of affordable housing, as well as some people's perception of the quality of the public schools near the installation has caused some MCAS Beaufort personnel to look beyond Northern Beaufort County, the City of Beaufort, and the Town of Port Royal for housing. This has driven demand up in other parts of the County, particularly in the area around Bluffton, but it increases transportation time and costs for those traveling to the Air Station. It also contributes to the traffic situation around the installation.

- **Unresolved stormwater management fee requirements.**

Water quality is of vast importance to Beaufort County. It is seen as the lifeblood of the area's recreation, fishing, and tourism industries, as well as a key factor in the high quality of life of the county's residents. Beaufort County has levied a stormwater management fee on all property owners, to include the three Marine Corps installations in the county. Marine Corps counsel, however, believes that the language in the stormwater management ordinance effectively renders the fee a tax and, since a local entity may not tax the federal government, the Marine Corps should be exempt from paying the management fee. The Commanding General, Marine Corps Installations East sent a letter to Beaufort County in 2008 to explain the Marine Corps' position and to reiterate that the Marine Corps is unable to pay the fee. This issue has essentially remained unresolved over the last six years and remains a source of community-military friction for some. Furthermore, there is a possibility of more stringent requirements in the future, especially if efforts to list Port Royal Sound as an Estuary of National Significance are successful.

Appendix D

Public Meeting Notes

2015 Joint Land Use Study
Marine Corps Air Station, Beaufort
Public Input Session No. 1
May 22, 2014

The slides presented by the JLUS consultants are posted at http://www.lowcountry-jlus.org/Project-Materials

Ginnie Kozak, the Joint Land Use Study (JLUS) project manager for the Lowcountry Council of Governments, opened the meeting at 5:30 p.m. Ginnie described the project and explained that JLUS efforts were initially undertaken for Marine Corps Air Station, Beaufort, in 1999 and culminating in a final report in 2004. Many of the recommendations in that report were adopted by the local community.

The current effort includes an update to the 2004 JLUS for the air station, as well as a separate JLUS for the Marine Corps Recruit Depot, Parris Island; its first. The project is funded 90% by the Department of Defense's Office of Economic Adjustment, with a 10% local match. The consultants also are preparing implementation tools for the existing transferable development rights (TDR) program.

Ginnie also described the AICUZ process and the manner in which local governments have been implementing the land use restrictions recommended in the 2004 JLUS for the air station. Ginnie also gave a background report on the "Transferable Development Rights" program that was set up with respect to the air station to create opportunities to remove development rights voluntarily from areas that experience most military impacts to areas of the County that typically experience fewer impacts.

Tyson Smith, of White & Smith Planning and Law Group of Charleston, then introduced the consulting team selected to perform the JLUS planning process and to prepare the final JLUS report. In addition to White & Smith, LLC, Tyson introduced other members present who are working on the JLUS team, including Elizabeth Scaggs and Katherine Bragdon, each with Marstel-Day; and Vagn Hansen, with Benchmark.

Tyson gave an overview of the JLUS planning process, explaining that, unlike the planning efforts of individual military bases (like the recent AICUZ Study or EIS) or local governments (like plan amendments and form-based codes) the Joint Land Use planning process is a neutral one that takes into consideration these discrete planning efforts; past studies; and existing data, but which is separate from them. The JLUS effort, in other words, is independent from (though it takes into consideration) past studies and planning efforts of its various stakeholders. Tyson described the two steering committees guiding the JLUS and advising the consultant team: a Policy Committee and Technical Committee. Final recommendations will be presented for public and committee input, and will be issued by the Policy Committee.

Tyson described and illustrated for the attendees the "JLUS Focus Area" for this project, which includes lands within the 65 DNL noise contour (from the most recent "Air Installations Compatible Use Zones" study, 2013) or, in areas where the 65 DNL contour falls less than a mile from the air station, out to a mile from the base. He noted that, although all land use impacts on and from the air station would be evaluated, it is within the designated focus area that the land use assessments and inventory would occur. This process compares existing, zoned, and future land uses to the off-base impacts associated with training operations at MCAS.

Vagn Hansen described the military impacts associated with Marine Corps Air Station, including those associated with noise and safety.

Elizabeth Scaggs then discussed public outreach efforts for the study, describing the public survey that is available to the community for completion until July 31, 2014. Elizabeth explained that the survey could be taken in one of three ways: (a) during the live-polling exercise at this meeting; (b) online via the project website; and (c) by hardcopies mailed back to Elizabeth or other designated party, as indicated on the survey. Elizabeth then conducted the live polling exercise for those in attendance. Finally, Elizabeth introduced the project's first informational brochure and the project website (www.lowcountry-jlus.org). She indicated that a second brochure would be prepared and distributed at the end of the project, which describes the final workproduct and JLUS recommendations.

Tyson then opened the meeting for public comment and questions. The following reflects a summation of the input received.

1. As you look at the impacts to the air station or recruit depot, will you consider ways to mitigate the noise such as changing flight patterns?
   a. Response: Anything can be discussed. Changed flight patters can be presented as an option for the stakeholders and committees to evaluate.
2. The study should consider the ramifications of jet noise on health – insomnia and infertility.
3. If the AICUZ were to change during or after the study, would the JLUS be re-opened?
   a. Response: During the implementation phase of the JLUS, adjustments could be made in response to any new AICUZ information or data.
   b. Response OEA: If the community feels that a subsequent AICUZ (or any other significant factor) would justify a later supplement or addendum or new JLUS that the OEA would consider such a request and the potential for additional funding. Request could be a joint request with the military and the community.
4. The input of those living in proximity of the air station should be captured. Perhaps we should hold one of the public input sessions in the Grays Hill area, when air base is having active flights. There are many residents in manufactured or mobile homes; varying income levels.
5. We have been provided AICUZ disclosure forms that are misleading. Is their content consistent with what is required by County ordinance?
6. Consider holding public input sessions later in the evenings or on weekends.
7. Those experiencing noise impacts further from the base also should be aware of the study; including, for example, all populations and demographics on Lady's Island.
8. What is the status of the MCAS alternative landing field (ALF)?
   a. Response: This has been raised at several points in the JLUS process so far. The committees are aware of the interest in the community. The JLUS will address the ALF concept in the context of potential recommendations.
9. I have been in civilian aviation in 20 years. In response to changing flight pattern, the military can change. It depends on if they want to and can they keep the peace? They can keep a higher altitude, specify daytime hours. Changing runways – due to prevailing winds – may be too difficult. Oceana and other bases have changed their patterns. Eglin has changed theirs. Is changing flight patterns a local command decision or higher up on the Navy?
10. We support the Marines and airplanes operating here, but the new airplane – F-35B – is going to be located the middle of the community and encroach upon the community. Other locations could have been considered. There are 400 acres that are owned by my family, outside the AICUZ.
11. On the new AICUZ, why is the 60 dB line shown? Gray's Hill has a high noise level.
    a. Response: For JLUS purposes, the "focus area" is limited to the 65 dB line, although we note that understanding where 60 dB noise is expected to occur is information that is provided in the 2013 AICUZ.
12. Retired teacher from DOD – concern about Grays Hill. Babies and children are afraid and hiding under their beds due to jet noise.
13. There is not a lot of trust from what we've been told by the Navy and air station. The 2013 AICUZ does not cover the airplane that the air station is going to get. You need to talk to the Navy and to DOD and get answers on why the information was not provided. Some cities have sued to prevent getting the new aircraft. You should talk to them.
14. Question on decibel level and overlay: Inconsistency between the previous and new study. One says that the noise contour is incompatible with residential and one says no impact.
15. Who did the AICUZ study? Only two organizations do them. Wylie did the flight patterns. Noise travels on water, yet this was not taken into account. Difference between the F-35A and F-35B are with regard to weight. The 2013 AICUZ is flawed.

16. The AICUZ said that there are no wood storks. That is incorrect. Wood storks were addressed in the EIS comments from the EPA. Soot wasn't looked at?
17. How does the JLUS committee make confident decisions based on the land use? Can we get specific statistics on the aircraft?
18. Can the data used to measure impacts from the F-35B be adjusted?
    a. Response: This would be up to the Marine Corps, a stakeholder in the JLUS process. At this point, the JLUS team and steering committees have only the 2013 AICUZ to use as an indicator of anticipated military impacts. However, if there are changes to those impact measures/contours, the JLUS analysis and recommendations could be adjusted or updated. We will similarly adjust as any other base data are adjusted, like local government comprehensive plans or regulations.
19. We are here trying to decide what is happening in the community without the necessary data on the F-35B. What is the need for the JLUS now?
    a. Response: The JLUS was initiated as funding became available. There is a way to build in the new information if it is generated during or after the JLUS.
    b. Comment: There is no vertical takeoff and landing (VTOL) data in the 2013 AICUZ.
    c. Comment: The Air Force and Navy have released data. Emissions are also a concern.
20. Will this process have any input from politicians with regard to ALF?
    a. Response: We will explore this with the committees.
21. How does the Environmental Impact Statement relate to the JLUS? It is on the F-35A not the F-35B. Concern about impacts to the wood stork.
22. Is it possible to get a grant to get sound monitoring equipment in Gray's Hill to record the noise DNL?
    a. Response: Not sure of other sources, but it is not part of OEA funding eligibility.
    b. Comment: One squadron flying in October
23. It has been widely discussed that the data is not as accurate or as full as it should be. The planes are still coming in this year and next year. If the AICUZ is determined to be wrong, would it be corrected with an ALF?
    a. Response: New information can be folded into the process.
24. What is the flexibility and scope of the JLUS? Ginnie has made it clear that recommendations can be changed. Is it outside the scope of your study to make fundamental recommendations such as that regarding the data?
25. We are skeptical and cynical but appreciate the effort of LCOG to get the JLUS done.

Tyson then reviewed the anticipated "next steps" over the next 4 months, including the tasks to be undertaken by the consulting team (public survey, land use compatibility assessment, SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis)), as well as the anticipated next public meetings for the JLUS, which will be posted on the project website.

Tyson welcomed ongoing input and provided contact information for additional comments from the public.

Between 30 and 35 people were in attendance.

2015 Joint Land Use Study
Marine Corps Air Station, Beaufort
Marine Corps Recruit Depot, Parris Island
Public Input Session No. 2
November 20, 2014

The slides presented by the JLUS consultants are posted at http://www.lowcountry-jlus.org/Project-Materials

The meeting was held at the Technical College of the Lowcountry and the doors opened at 5:30 p.m. The consulting team made display boards available for both installations, indicating the JLUS Focus Area (the "study area") and the primary training and operational impacts for each. For the Air Station, displays illustrated the existing operational impact for the F-18 aircraft, as well as those for the incoming F-35B aircraft. From 5:30-6:00, the consultants were available to the public to discuss the information on the displays and to answer questions one-on-one.

At 6:00, Ginnie Kozak, the Joint Land Use Study (JLUS) project manager for the Lowcountry Council of Governments, opened the meeting and introduced staff members and the consulting team members in attendance. Ginnie explained that the meeting was being held to update the community on the progress made by the consultants and the Policy and Technical Committees on the Joint Land Use Study.

Tyson Smith, of White & Smith Planning and Law Group of Charleston, then began the presentation by reviewing the military planning efforts – mostly related to the Air Station – that preceded the current Joint Land Use Study. Tyson gave an overview of what Joint Land Use Studies are and the 2004 JLUS completed in this community for the Air Station. He also gave an overview of the recommendations implemented as a result of the 2004 study. Tyson identified the implementation materials (forms, FAQs, applications, flowcharts, etc.) for the County's TDR program that the team has developed as part of the scope of work for the project, as well.

Next, Phil Huber of Marstel-Day, presented an overview of the results of the public survey conducted by the team from the first public meeting in May until July 31st. Phil reported that a total of 523 responses were received either during the live polling exercise, by mail, or online. Handouts of the survey responses were provided to those in attendance, including key observations by question, the raw survey results, and all "additional comments" provided by survey respondents. After going through the responses and overview, Phil informed the attendees that the results had been provided to and reviewed with the Steering Committees and would inform the final recommendations in the JLUS report.

Vagn Hansen, with Benchmark, then presented land use analyses for both installations, including existing and future land uses compared to off-base impacts of noise related to aircraft operations and weapons training. In the case of the Air Station, Vagn presented the accident and noise contours, as indicated in the military's Air Installations Compatible Use Zones (AICUZ) Studies for both the F-18 and incoming F-35B aircrafts. Vagn also presented the compatibility analysis the team conducted for the Air Station noise zones, as well as those presented in the AICUZ for the accident potential zones, which are the same for both the F-18 and the F-35B. Finally, Vagn presented a summary of the impact the noise and accident potential contours have on the growth area indicated in the Northern Beaufort County Regional Plan and on each of the jurisdictions (Town of Port Royal, City of Beaufort, and Beaufort County).

Tyson then reviewed the existing policies applicable to each of the accident potential and noise zones that Vagn presented. These were based on the existing overlay ordinances in the City, Town, and County and a handout was provided summarizing the information for the public.

Tyson then opened up the meeting for public input. About 10 members of the community had questions or comments for the team and other stakeholders involved in the community. Comments included:

- The analysis used in the MCAS 2013 AICUZ being insufficient; including comments related to the propagation of sound over water; assumed altitudes; and advanced acoustic modeling; attendees commented that the JLUS is occurring while the F-35B is not yet in significant use; consultants indicating that revisions to the JLUS are always available to the community if significant new information emerges;
- The noise experience related to MCAS aircraft; including questions related to the average/weighted noise contours in the AICUZ studies compared to property owner experience at their property during an individual air operation; whether a demonstration of the F-35B could be held;
- Opportunities for USMC mitigation of off-base impacts; including maintaining higher flight altitudes above residential areas (as was suggested is being done at NAS Oceana in Virginia Beach); sound monitoring; outlying airfields (with the involvement of USMC and appropriate legislative delegation); and flight pattern alternatives;

- It was clarified that although a PUD ordinance, by law, can supersede the provisions of the County's overlay ordinances, that the overlays, being a matter of safety, are considered by staff to be not subject to waiver through the PUD process; it also was noted that the County's new Community Development Code does not include the traditional PUD concept used under the traditional zoning framework;
- Discussed the transitional surfaces that describe the air space associated with MCAS and the County's prohibitions of smoke, glare, wildlife-inducing land uses, etc. in these areas and the County's and City of Beaufort height restrictions within these surfaces;
- Suggestion that citizens be incorporated into the JLUS steering committees;
- Real Disclosures related to MCAS operations and impacts, including: noting that many purchased homes before disclosures were required; some disclosures being used are not as indicated in the ordinance; that disclosure to-date has been with respect to the F-18 and did not equate to disclosure as to the incoming F-35B;
- Comments suggesting that compensation be considered for those impacted by USMC operations and changes in the local housing prices and economy;

Tyson thanked everyone for attending and contributing to the conversation. He described the next steps in the process, including meetings with the steering committees the following morning to share community input from this public meeting and to begin the process of prioritizing JLUS recommendations for both installations.

Between 30 and 35 people were in attendance.

Appendix E

Public Written Comments Submitted

From Habersham Committee / North of Broad Neighbors (NOBN), August 13, 2014

Neighbors,

A group of us in Habersham have been informally working together to study the impact the arrival of the new Marine Corps jet, the F-35B Joint Strike Fighter, and training squadrons may have on our neighborhood. This new jet will bring a different and expanded mission to the Marine Corps Air Station (MCAS)-Beaufort that we believe poses some noise and safety concerns for our homes.

In the last several months, we have worked to educate ourselves on the various issues that may accompany the arrival of the F-35B and the pilot training squadrons at MCAS. We have looked at noise data, studied maps and read local ordinances. We have reviewed the proposed new Air Installations Compatible Use Zones (AICUZ) Map, have talked with land use planning personnel, and have met with our County Council representative, Brian Flewelling. Our goal is to arrive at workable and practical solutions that will be mutually beneficial for our neighborhood, MCAS-Beaufort and for the surrounding community.

At our request, Brian Flewelling has agreed to speak with our community at 6:45 pm on Wednesday, August 20 at the Park House. All Habersham residents are invited and encouraged to come. In addition to serving on the County Council, Brian chairs the Beaufort County Natural Resources Committee, serves as Vice Chairman of the Beaufort Planning Commission and is on the South Carolina Military Base Task Force. He served in the Marine Corps and is a strong supporter of Habersham. We urge you to come and hear what Brian has to say.

Habersham Town Hall Meeting with Brian Flewelling: Wednesday August 20, 6:45pm, Park House

Additionally, our group has submitted a letter to the Joint Land Use Study (JLUS) under our individual names. The purpose of the JLUS is to develop strategies to promote compatible land use planning for MCAS-Beaufort and the communities that are located around it. Our letter to the JLUS suggests several ways that may work to minimize safety and noise concerns over Habersham. We believe our suggestions balance the needs and interests of our neighborhood with those of the Air Station while preserving the vital role and benefit that MCAS delivers to the Beaufort community.

The content of our letter to the JLUS is attached. You will note the letter is submitted by a "group of neighbors residing in Habersham" and lists our names. We did not feel at liberty to represent that we were speaking for a larger group within Habersham, as we do not know if we have consensus among our community.

To this end, we would appreciate it if you would **take a few minutes to let us know if you support our suggestions by completing, and returning, the response below (check as many boxes as apply).**

Regards,
Barbara Billet, Jacqueline Blake, Rick Collins, Terry Connor, Frank Cummings, Craig Disher, Jeffrey Gott, Greg Irving, William Libert, Jack McCourt, Sharon Reilly, Jim Turk

☐ **I DO SUPPORT** the suggestion to move flight paths away from Habersham to the West – over the uninhabited area known as Burlington Plantation.

☐ **I DO SUPPORT** the suggestion that the undeveloped 650 acre Burlington Plantation tract (Port Royal Island, District 100 Map 24, Parcel 42) be purchased with funds, in part, from the Beaufort County Rural and Critical Land Preservation Program and the Beaufort Open Land Trust in order to assure MCAS –Beaufort flight operations can proceed successfully, without continuing pressure for operational modifications resulting from future land use changes.

☐ **I DO SUPPORT** ongoing advocacy for an Alternate Landing Field (ALF) for practice of takeoffs and landings and "touch and goes"; alleviating impact on all surrounding communities from increased noise caused by MCAS- Beaufort flight operations.

☐ **I DO SUPPORT** (other)_____

☐ **I DO *NOT* SUPPORT** any action that will require changes to current or future flight operations out of MCAS-Beaufort.

If not, why? _____

Name: _____ Address: _____

Email: _____ Telephone: _____

☐ Please add me to the email / mail contact list for future communications on this topic

(We ask for your name and address so that we can continue to communicate with you. Your information WILL NOT be shared with any other entity without your express request or approval.)

Please return your mailed response to:

Habersham Committee, North of Broad Neighbors
c/o 33 James Habersham
Beaufort, SC 29906

You may also email your response to: hnc12@gmail.com

(Contents of letter to JLUS; sent by post and email, August 7, 2014)

Mr. Tyson Smith, White & Smith Planning and Law Group of Charleston
255 King Street, Charleston, SC 29401

Ms. Ginnie Kozak, 2015 Lowcountry JLUS
634 Campground Road, Yemassee, SC 29945

Dear Mr. Smith and Ms. Kozak:

We are a group of neighbors residing in Habersham who are keenly interested in your efforts, through the JLUS process, to develop strategies to promote compatible land use planning for the Beaufort Marine Corps Air Station and the communities that are located around it. As residents of one of those communities, we would like to share our perspective for your consideration.

We specifically wish to offer what we consider to be a win/win proposal that we think carefully balances the needs and interests of the Beaufort Marine Corps Air Station (MCAS) and the needs and interests of the community of Habersham and its surrounds, without in any way lessening the economic benefit MCAS brings to Beaufort.

We suggest that current and future flight patterns in and out of MCAS using Runway 5/23 be adjusted to the West, so that the flight path occurs over the undeveloped land known as Burlington Plantation, and not over the more densely populated neighborhood of Habersham and its surrounds. This has the potential to significantly lessen the community impact from flight approach and takeoff from this runway, thereby protecting the quality of life of residents and businesses in this Northern Beaufort County community.

We further suggest that the undeveloped 650 acre Burlington Plantation tract (Port Royal Island, District 100 Map 24, Parcel 42) be purchased, in part, with funds from the Beaufort County Rural and Critical Land Preservation Program and the Beaufort Open Land Trust. It should be noted that this tract is in very close proximity to and aligned with a +/-154 acre parcel known as Pine Grove Road (legally identified as PIN: R100 024 000 0067 0000) already jointly purchased by MCAS and the Rural and Critical Lands Preservation Program, which property in turn is adjacent to land owned by MCAS. Making the additional purchase of the Burlington Plantation tract would preserve this full stretch of land as it is now, free from future residential or commercial development, thus assuring that MCAS flight operations can proceed successfully, without continuing pressure for operational modifications resulting from future land use changes.

This simple change to flight operations can have significant benefits to all parties and would assure true "joint use" of the lands near and around MCAS:

Benefits to the residents and businesses of Habersham and surrounds:

- Understandably, many people living in, or considering moving to, the community of Habersham and the surrounding developed neighborhoods have safety concerns about the proposed increase in flight operations with a new plane that has been reported to have some very significant development and testing issues. We do know that flight safety is an absolute top priority at MCAS. While we are confident the Marines will assure that all responsible safety precautions are taken, the best way to minimize risk is by removing as many residences as possible from the fly-over zone.
- Excessive noise is equally a concern to many living in this area. We do not yet know the decibel levels that will be experienced here in Beaufort with the arrival of the F-35B, but the noise data coming out of Eglin Air Force Base three miles southwest of Valparaiso, Florida is exceedingly worrisome (see January 2014 Final Supplemental EIS for F-35 Beddown at Eglin Air Force Base, Florida, Appendix E, Noise). Removing as many residences and businesses as possible from the fly-over zone will help lessen the impact of the increased noise that unquestionably will come with the increase in flight operations as MCAS takes on its new expanded mission.
- Specifically as to Habersham, a shift of flight paths to the West would be expected to remove most, if not all, of the properties of our neighborhood from the "Not Compatible with Residential Development" designation contained in the new AICUZ Study now being proposed for MCAS Beaufort. Knowing that personal safety, quality of life and property values are more secure would be a huge benefit to all of Habersham, allowing development of our neighborhood to continue and allowing the community's residents the lifestyle we anticipated when we chose to make this beautiful, award-winning, community our home. Using the undeveloped Burlington Plantation land tract allows this to be achieved without imposing on or burdening any other developed neighborhood.

Benefits to MCAS:

- By eliminating future underlying residential and commercial development in the flight path from the Broad River to the Air Station, this proposal assures that the Marines may engage in successful flight operations long into the foreseeable future free of worry about incompatible land use pressures.
- Adjusting the flight path will significantly reduce the number of residences in the AICUZ and the number of homes over which the Marines will be flying – not only significantly enhancing safety, but likely also reducing the quantity of complaints and level of community anxiety over noise concerns.
- The proposed shift in flight operations can only serve to enhance the relationship between MCAS and the surrounding community, building on the good neighbor connections between Beaufort, MCAS and the men and women who serve there many of whom also live in Habersham.

Benefits to Northern Beaufort County:

- As one of the most successful residential developments in Northern Beaufort County, Habersham makes significant economic contributions to the local community. There are currently 330 homes and 472 buildable lots in Habersham. These properties generated approximately $1.7 million in real property taxes in 2013, roughly 2.3% of the total real property tax revenue collected for Beaufort County. With full build-out of the available lots, it conservatively can be anticipated that Habersham will contribute some $1.7 million in additional property tax revenues on a yearly basis in the future. Aggregating existing and projected property tax revenues, Habersham has the potential to contribute approximately 4.6% of the total real property tax collected in Beaufort County each year.
- The continued growth of this open community can greatly benefit an area of the County that is facing stagnant population growth and limited economic growth outside of the military. Habersham residents contribute to the larger community north of the Broad in many ways beyond providing property tax revenues. We shop and eat in downtown Beaufort, participate in the cultural and festive activities of the City and its surrounds, and volunteer in strong numbers to help meet community needs.
- A land use strategy that allows Habersham and the surrounding neighborhood to continue to flourish will benefit the construction industry, which is a key contributor to the overall economic picture in Beaufort County. Habersham has been one of the County's top developments based on building permits issued, and it can only benefit the County if the neighborhood continues to be a desirable location where both retirees and young families choose to build and live.

This, it seems to us, is a common sense and achievable way to promote compatible land use, growth, and economic development in the region near MCAS Beaufort. Similar efforts to preserve MCAS operations and local communities have been undertaken with the purchase of Pine Grove Road and Coosaw Plantation property easement acquisitions. Such joint efforts work to protect public safety and quality of life, while at the same time sustaining the mission of the Marine Corps in Beaufort County in the long-term.

We also want to urge the pursuit of an alternate landing field for practice of takeoffs and landings and "touch and goes." This second proposal would greatly benefit all of the communities surrounding the Marine Air Station by alleviating the impact of the increased noise that will come with the new MCAS mission. We believe that an ALF is a critical piece to achieving a successful long-term partnership between the City of Beaufort, the surrounding neighborhoods that make up the north of Broad community, and MCAS.

We appreciate this opportunity to provide input and would be very happy to discuss these comments further with you and to assist in championing these proposals with policy and decision makers. Thank you for your attention and the time given to this project.

Sincerely,

Barbara Billet, Jacqueline Blake, Rick Collins, Terry Connor, Frank Cummings, Craig Disher, Jeffrey Gott, Greg Irving, William Libert, Jack McCourt, Sharon Reilly, Jim Turk

cc: The JLUS Policy Committee Members

IF YOU WOULD LIKE A FULL SIZE
VERSION OF THE FINAL LETTER PLEASE
SEND YOUR REQUEST TO: hnc12@gmail.com

August 7, 2014

Mr. Tyson Smith
White & Smith Planning and Law Group of Charleston
255 King Street
Charleston, SC 29401

Ms. Ginnie Kozak
2015 Lowcountry JLUS
634 Campground Road
Yemassee, SC 29945

By post and email

Dear Mr. Smith and Ms. Kozak:

We are a group of neighbors residing in Habersham who are keenly interested in your efforts, through the JLUS process, to develop strategies to promote compatible land use planning for the Beaufort Marine Corps Air Station and the communities that are located around it. As residents of one of those communities, we would like to share our perspective for your consideration.

We specifically wish to offer what we consider to be a win/win proposal that we think carefully balances the needs and interests of the Beaufort Marine Corps Air Station (MCAS) and the needs and interests of the community of Habersham and its surrounds, without in any way lessening the economic benefit MCAS brings to Beaufort.

We suggest that current and future flight patterns in and out of MCAS using Runway 5/23 be adjusted to the West, so that the flight path occurs over the undeveloped land known as Burlington Plantation, and not over the more densely populated neighborhood of Habersham and its surrounds. This has the potential to significantly lessen the community impact from flight approach and takeoff from this runway, thereby protecting the quality of life of residents and businesses in this Northern Beaufort County community.

We further suggest that the undeveloped 650 acre Burlington Plantation tract (Port Royal Island, District 100 Map 24, Parcel 42) be purchased, in part, with funds from the Beaufort County Rural and Critical Land Preservation Program and the Beaufort Open Land Trust. It should be noted that this tract is in very close proximity to and aligned with a +/-154 acre parcel known as Pine Grove Road (legally identified as PIN: R100 024 000 0067 0000) already jointly purchased by MCAS and the Rural and Critical Lands Preservation Program, which property in turn is adjacent to land owned by MCAS. Making the additional purchase of the Burlington Plantation tract would preserve this full stretch of land as it is now, free

from future residential or commercial development, thus assuring that MCAS flight operations can proceed successfully, without continuing pressure for operational modifications resulting from future land use changes.

This simple change to flight operations can have significant benefits to all parties and would assure true "joint use" of the lands near and around MCAS:

Benefits to the residents and businesses of Habersham and surrounds:

- Understandably, many people living in, or considering moving to, the community of Habersham and the surrounding developed neighborhoods have safety concerns about the proposed increase in flight operations with a new plane that has been reported to have some very significant development and testing issues. We do know that flight safety is an absolute top priority at MCAS. While we are confident the Marines will assure that all responsible safety precautions are taken, the best way to minimize risk is by removing as many residences as possible from the fly-over zone.
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We appreciate this opportunity to provide input and would be very happy to discuss these

comments further with you and to assist in championing these proposals with policy and decision makers. Thank you for your attention and the time given to this project.

Sincerely,

Barbara Billet
26 Harford
Beaufort, SC 29906

Jeffrey Gott
30 Treadlands
Beaufort, SC 29906

Jacqueline Blake
33 James Habersham
Beaufort, SC 29906

Greg Irving
6 Assembly Row
Beaufort, SC 29906

Rick Collins
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Beaufort, SC 29906

William Libert
15 Overdam
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Terry Connor
47 Harford
Beaufort, SC 29906

Jack McCourt
7 Tuscarora Trail
Beaufort, SC 29906

Frank Cummings
57 James Habersham
Beaufort, SC 29906

Sharon Reilly
27 Little Jane Way
Beaufort, SC 29906

Craig Discher
26 Eve Creek
Beaufort, SC 29906

Jim Turk
15 East Manor
Beaufort, SC 29906

cc: The JLUS Policy Committee Members

Tyson Smith
JLUS Committee
February 10, 2014

Dear Mr. Smith,

We are writing as homeowners in Beaufort County with some thoughts concerning the JLUS and the proposed 2013 AICUZ.

According to the 2013 AICUZ, the Navy and Marine Corps have determined that areas of 65+ DNL are areas in which enough potential harm from noise exists to designate them as "***incompatible with residential use."*** This designation comes from years of research and study. We are concerned that the committee might be considering glossing over the designation of 65+ DNL in the JLUS to something easier to digest but essentially dishonest, such as "***conditionally compatible***" as was done with the final approved 2005 AICUZ. We do not believe this is a solution to the problem before us. Simply wishing it away will not make it so. The designation shouldn't be reduced by Beaufort County into something more palatable to developers and potential homeowners. Even when noise attenuations are provided in home construction, the dangers cannot be entirely mitigated. Beaufort is an area in which many seek to be outdoors as often as possible to appreciate the beautiful environs. Children and adults play outside. Retirees such as ourselves move here for just that reason. We all have a right to know exactly what we are purchasing.

Changing the label to "***conditionally compatible***," as was done by the county in the approved 2005 AICUZ, does not change the actual noise we experience. Requiring noise attenuation in home construction does not prevent the potential harm to the development of young minds, the negative impacts on learning and attention, nor does it prevent harm to aging hearts. And many homes were built prior to tighter construction regulations, (Ours were built in '98 and '99). Reclassifying the 65+DNL as "conditionally compatible" perpetuates a harmful myth. The JLUS committee and our representatives owe it to all of their constituents to be forthright and honest about the potential impacts from this level of noise, and to use the terminology "***incompatible with residential use***" rather than glossing over the truth.

We hear often how the residents of Habersham knew what we were getting into when we purchased our homes, and thus have no basis for complaint. It just isn't true. We share our story of the purchase of our home in Habersham in 2010. We had visited Beaufort and Habersham many times over the course of 6 years prior to our purchase. We were aware of occasional planes flying overhead, but in our experience, the flights were infrequent and thus not a major concern. When we purchased our cottage we were given an AICUZ "disclosure form." (A copy is included with this letter.) By the time we saw this form, however, we had *already* agreed on a price *and* a closing date with the seller and had our hearts set on our cottage. We took note of a few things on this form. It stated that we were in an area of 65-70 LDN (DNL). We had absolutely no idea what that meant, of course. But the words that followed were abundantly clear, "***area of little impact from noise***". OK then! According to this document, it's clear that 65-70 DNL meant we were buying a home in an area where *there is no reason for concern about the levels of noise*.

Since then, we have learned quite a bit. First of all, we were never actually in the 65-70 LDN (DNL) !!! Instead we were actually in 60+, and no form was actually required. Why then we required to sign a form at al? It seems that all homebuyers in Habersham during this time period received the same form even though some homes were in 65+DNL, and some were not. Why? Did our developer hope this would prevent our making comparisons with each other? Why was our developer given approval by the county to build in a flight path in the first place? We trusted this form, and we believed that no county would have approved a neighborhood development that would put potential homeowners and their families in harm's way.

We have learned that during the time we were visiting Habersham and purchasing our home in 2010, the numbers of flights overhead were far fewer than the designation of 65+ DNL would allow. Most likely, no part of Habersham ever experienced 65+ DNL (though no actual noise monitoring has been done). We cannot know how much below that mark the reality has actually been, making it much less clear to all of us what 65+DNL actually means, and lulling many of us into complacency.

In the spring of 2013 before we saw the new proposed AICUZ, we were so happy with Habersham and Beaufort we purchased a second, larger home in Habersham, renting out the first one to a local pilot. We have since learned this home is not in 65+ DNL in either the 2005 nor the proposed 2013 AICUZ. Yet, as with the cottage, we signed an AICUZ disclosure form that stated it was in the 65+ DNL. We believe the use of both the 2010 and 2013 forms in our cases was deceptive and dishonest. Was this the act of our developer alone? Was it legal? Or did the county approve this? The 2013 form we signed then is more like the proposed form provided in the 2004 JLUS, unlike the one we signed in 2010. It no longer contains the language "**Area of little impact from noise**". But by then 65+DNL did not concern us. We had lived in Habersham for three years and the noise had not been terribly problematic. We did not really know of course what 65+ DNL actually meant.

So, when the new 2013 AICUZ was released, and we saw the maps and learned that some homes in Habersham fell in 65+DNL, while some did not, we were shocked. And we finally looked up the old map to learn more. (This was the first time we had seen the original map). We also encountered the wording "***incompatible with residential use***" for the first time. Alarm bells went off. That language certainly contradicted the words "***area of little impact from noise".***

We have been on a journey to learn more ever since. We believe that both Beaufort County and our developer have been misleading people who have purchased homes in Habersham. We have learned that in the earlier 2004 JLUS the "incompatible with residential use" had already been proposed by the military and then replaced by the county in the 2005 AICUZ with the words "***conditionally compatible***". This is highly deceptive. In addition, the words "***area of little impact from noise***" do not now nor did they ever belong alongside the designation 65+DNL. However it was true at the time that we were not really suffering from excessive noise, so they seemed accurate enough. The 65+ DNL designation on our forms was inaccurate then for two reasons. Our homes were not inside the 65+DNL area on either the approved or proposed AICUZ maps, *and* the number of flights the entire neighborhood was experiencing at the time (2010 and 2013) was far less than the designation allows. This helped the entire community become much less concerned about the meaning of the designation than we believe we should actually be.

Now we learn in the new AICUZ study that planes may begin flying overhead at a rate of over 100,000/year, a rate ***nearly five times*** as great as we experienced in 2013, the last year for which there is data. This news came as a tremendous shock. But our developer or his representatives have been saying to everyone, "nothing has changed; we're still in 65+DNL." This is very misleading and disturbing to us.

The county must be forthright and honest about the potential cost in health and well being to ALL the citizens potentially affected by noise according to the proposed AICUZ map. Those who live in manufactured homes without noise attenuation are likely to suffer even greater harm than those of us in Habersham. But we have already begun experiencing 50 or more flights on some days with planes flying in low over our heads. Our dogs whimper from the pain to their ears when we are walking around the neighborhood. Kayaking in the creeks and marshes becomes unappealing. The very reasons we moved here are now threatened.

The JLUS Committee owes it to the citizens of Beaufort to be honest when you put forth this new JLUS. Do not simply change the wording from **"incompatible with residential use**" to "**conditionally compatible**" to satisfy the interests of developers and profit over the needs of the people whom you represent. The development of Habersham was approved by the Beaufort County Council. Now that council owes it those of us who live here to maintain the community we understood we were buying into, one that was in an "**area of little impact from noise**."

We ask that you do two things to faithfully serve your constituents, especially those of us who were deceived when purchasing our homes in the "happiest seacoast town."

- The county and MCAS should work together to move the flight paths of the potential 5-fold increase in flights from directly over Habersham and environs to the uninhabited land north of Habersham called Burlington Plantation. This will protect most of us who are currently in the flight path southwest of MCAS.
- The county and MCAS should agree on altitude restrictions over all residential development that has been approved by the county, thus limiting our exposure to the worst of the noise.

Such requests have been made of air stations all over our country, and many air stations operate effectively under such minimal restrictions today. MCAS and Beaufort County would both benefit tremendously from this kind of solution. MCAS would be relieved from the constant noise complaints that are likely to increase and residential development could continue in areas where it has begun, providing jobs and enhancing the economy of the area. Those of us who have moved here could continue to invest in our community with gratitude. This is a win-win solution. The JLUS committee has the authority to recommend such solutions to a problem that is partly of the county's making. We ask that you do the right thing for the citizens of the county and for MCAS.

Thank you for your time,

Katharine R Hudson
David R Hudson
66 and 70 Mum Grace
Beaufort, SC, 29906

AIRPORT OVERLAY DISTRICT DISCLOSURE FORM

The property at the following location:
District R100, Map 027, Parcel (s) 212
Address 66 MUM GRACE
Is situated within the following Airport Overlay District Zones of the Marine Corps Air Station Beaufort, Beaufort County, South Carolina.

ACCIDENT POTENTIAL ZONES:

☐	Accident Potential Zone 1	Significant potential for accidents
☐	Accident Potential Zone 2	Measurable potential for accidents
☐	Special Planning Areas	Measurable potential for accidents
☒	Approach/Departure Zone	Some potential for accidents

NOISE EXPOSURE LEVELS:

☒	Noise Exposure level 65 to 70 L_{dn}	Area of little impact from noise
☐	Noise Exposure level >70 - <75 L_{dn}	Area of moderate impact from noise
☐	Noise Exposure level >75 L_{dn}	Area of severe impact from noise

I hereby acknowledge that I have and comprehended that in making this property transaction, I fully understand that there are possible negative health consequences if exposed to excess aircraft noise over long periods of time. I further understand that structures on this property may have been constructed that may not meet Beaufort County standards for noise attenuation consistent with the location of structures within this overlay district.

The County has placed certain *height and use* restrictions on the development of property within MCAS Airport Overlay Districts. Before purchasing/renting the above property, you should consult the Beaufort County Zoning and Development Administration if you intend to build a structure more than 50 feet in height. For properties identified as being within Noise Exposure Level Zones, Beaufort County Provides information for methods to reduce noise levels for existing or planned development.

I PEGGY WILSON, ~~owner~~ AGENT of the subject property, hereby certify that I have informed KATE HUDSON, prospective purchaser/lessee/renter, that the subject property is located in an Airport Overlay District.

Peggy P. Wilson	4-10-10	Katharine R Hudson
Agent	Date	Purchaser/Lessee/Renter
Witness	Date	Purchaser/Lessee/Renter

NORTH OF BROAD NEIGHBORS

contact.hnc12@gmail.com
843-644-9731

October 23, 2014

Mr. Tyson Smith
White & Smith Planning and Law Group of Charleston
255 King Street
Charleston, SC 29401

Ms. Ginnie Kozak
2015 Lowcountry JLUS
634 Campground Road
Yemassee, SC 29945

Dear Mr. Smith and Ms. Kozak:

In our letter to you of August 7, 2014, we presented several proposals that we believe will help promote compatible land use planning for the Marine Corps Air Station Beaufort and the communities located around it as we adjust to the new F-35B training mission at MCAS:

- an alteration to the flight pattern in and out of MCAS so that the most extensively used flight path would be over undeveloped and less populated land. This would remove hundreds of homes from the "incompatible for residential development" zone under the proposed new AICUZ Map, and would improve flight safety and provide pilots with more options if facing a technical problem with the aircraft.

- the establishment of an alternate landing field ("ALF"), such as the auxiliary fields that have been developed in Arizona at Marine Corps Air Station YUMA. Reducing the repeated "touch and goes" and vertical landing practices that will be a significant part of the F-35B training at MCAS Beaufort would greatly benefit our community and the surrounding neighborhoods.

Our earlier letter mentioned several economic arguments in support of these proposals. We would like to provide you with some additional economic data that provides evidence of why these proposals make good sense not only for our community of Habersham, but also for the neighborhoods that surround us north of the Broad and for the County of Beaufort as a whole.

STRONG SUPPORT OF THE CONSTRUCTION INDUSTRY

As you certainly know, a strong construction industry is one of the key components of a healthy Beaufort County economy. Habersham has been and continues to be one of the areas of strongest growth in our County north of the Broad River. For each of the past 5 years, our community has been among the County's top developments based on building permits issued. There are over 400 units now completed in Habersham. The average unit cost over the last 18 months is approximately $440,000. There are another 470 units planned for future residential development in Habersham. If growth continues unimpeded, the community will continue to be a significant contributor to the health of the construction industry in our County well into the future.

SIGNIFICANT CONTRIBUTION TO REAL PROPERTY TAX REVENUE

Based on our evaluation of County tax rolls and records, we calculate that the aggregate assessed value for the homes and lots of Habersham currently stands at $174,000,000. The average real property tax paid by homeowners in Habersham is $3,737 per home. What this means is that:

- in 2013, a total of 2.3% of the real property tax revenue generated in Beaufort County came from the Habersham development alone.

Assuming build-out of the development proceeds as currently planned, the additional 470 new units would generate an estimated $181,720,000 in assessed value for the County. With this additional assessed value:

- the aggregate property tax revenue (existing and projected units) from Habersham has the future potential to reach a full 4.6% of the total real property tax collected by the County.

The foregoing figures do *not* include potential tax revenue from the 306 units that are planned for the Cherokee Farm development project directly across the street from Habersham. Nor do these figures include potential revenue from the 170 units planned for the Sunrise Tract, which also is adjacent to Habersham. (Each of these planned developments is a part of a larger Development Agreement just recently approved by the Beaufort County Council in September of this year.) If these development projects go forward successfully, the real property tax revenue from these several neighborhoods in this corner of the County collectively could produce well over 6% of the total real property tax revenue annually collected by the County.

ADDITIONAL ECONOMIC IMPACT OF HABERSHAM

In assessing the contribution made by Habersham to the local economy, we also draw your attention to the national home price to income ratio, which is a useful way to approximate average family income based on the home prices in a given area. According to the Census Bureau, the current price to income ratio is about 3.3. Using this measure, with an average cost of $440,000 per Habersham unit sold in the last 18 months, the estimated family income in Habersham is approximately

$133,000. This income is spent in local grocery stores, enjoyed in local restaurants and placed in the collection plates of local churches. It is money used for school supplies, for medical expenses, and for automobile purchases and repairs. It goes toward payment for services such as landscaping and lawn maintenance, pest control, power washing and painting of homes. In short, it is money spent here in Beaufort County in support of local businesses and jobs.

It thus seems clear to us that a vibrant and healthy Habersham is in Beaufort County's best interests. We believe that the proposals listed at the beginning of this letter will allow for the continued long-term growth of our community. This will be to the advantage of not only those who live within Habersham but also to those who live and work around us and to the County as a whole.

We appreciate your giving consideration to the foregoing in your deliberations.

Very truly yours,

North of Broad Neighbors

By: Jeffrey Gott, NOBN Chair

cc: The JLUS Policy Committee Members

NORTH OF BROAD NEIGHBORS

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NORTH OF BROAD NEIGHBORS
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Email: contact.hnc12@gmail.com

November 20, 2014

Mr. Tyson Smith
White & Smith Planning and Law Group of Charleston
255 King Street
Charleston, SC 29401

Ms. GinnieKozak
2015 Lowcountry JLUS
634 Campground Road
Yemassee, SC 29945

By post and/or email

Dear Mr. Smith and Ms. Kozak:

The just released Land Use Compatibility Analysis indicates that it is "intended to provide insight into the current and future state of compatibility between operations occurring at Marine Corps Air Station Beaufort and civilian land use and development activity in the area surrounding the Air Station" (p. 1). The Analysis then states that *"the data and assumptions used in this study track closely with those used in the AICUZ* [the Air Installations Compatible Use Zones Study for the Air Station (2013 AICUZ)]" in order to maintain a degree of consistency between the two (p. 1).

This acknowledged reliance on the 2013 AICUZ Study is problematic. The 2013 AICUZ contains deficiencies that are significant enough to undercut the validity of the JLUS study and leave its insights and conclusions open to significant question.

We mention here three of the most obvious AICUZ defects: (1) its exclusive reliance on NOISEMAP computer modeling without integration of data from the newer Advance Acoustic Model (AAM) which has been developed specifically for use with advanced aircraft such as the F-35; (2) its reliance on outdated census data when more recent census information is readily available; and (3) its failure to include any type of noise reduction strategy to accompany the major change in mission at MCAS Beaufort. This failure is significant, as a noise reduction strategy is part of the four basic steps in the AICUZ process as outlined by the Chief of Naval Operations and the Commandant of the Marine Corps.

Reliance on Old Computer Modeling and the Failure to Integrate Data from the Advanced Acoustic Model

Since critical long-term decisions in Beaufort County will be made based on the noise contours displayed in the 2013 AICUZ, we are very concerned that the AICUZ map does not display the most accurate contours possible. From what we have learned, the noise contour map in the AICUZ was created using a suite of computer programs that do not account for the capabilities of the most modern jet aircraft - the F-35B included. According to Wyle Laboratories, the firm that has written the software used by the Department of Defense:

> *The acoustic environments in the vicinity of newer aircraft such as the F-35, F-22 and the F/A-18E/F differ from those of most prior aircraft, with high noise levels associated with higher thrust engines.... Both the F-35 and the F-22 employ engine thrust vectoring which cannot be easily incorporated into classic models. Little reliable data had existed on the noise produced by such jets in the thrust vectoring mode. Moreover, the segmented flight path modeling approach typical of integrated noise models do not properly account for the complex operational and noise characteristics of the new aircraft.*

Consequently, in 2008 Wyle Laboratories developed a new acoustic model - AAM (Advanced Acoustic Model) - that accounts for the advanced features present in the F-35 and other advanced aircraft. The AAM has been shown to give accurate measurements that are very close to the actual noise measured in the physical environment.

We urge the JLUS and the County to insist that before any final decisions are made, a noise contour map based on AAM be generated. Having such a map in hand will allow the County decision-makers - and the community - to be confident that the decisions made with regard to zoning and planning are based on the most accurate noise contours possible.

Reliance on Outdated Census Data When Newer Data is Available

The 2013 AICUZ was based on data developed for the 2010 Environmental Impact Statement (EIS). A significant shortcoming in the EIS is that the population data used to gauge the noise impact on the local population was taken from the 2000 census. The 2010 census shows a large population increase in Beaufort County and reliable estimates indicate that the trend is continuing. In 2000, the development of Habersham had just started; there are now over 400 occupied Habersham homes. New construction also has occurred elsewhere in Burton, such as in Mint Farms.

In preparing the JLUS Compatibility Analysis, we believe it is essential to present an accurate measure of the number of citizens who live in areas that will be affected by the new MCAS mission. Understating the population density in the noise zones lessens the responsibility of MCAS to employ noise reduction measures for the affected areas.

Failure to Develop a Noise Reduction Strategy

OPNAV Instruction 11010.36C, Marine Corps Order 11010.16, issued by the Chief of Naval Operations and the Commandant of the Marine Corps and dated October 9, 2008, states that one of the four basic steps in the AICUZ process includes not only the development of a study to quantify aircraft noise zones and identify accident potential zones, but also the development of "a noise reduction strategy for impacted lands, both on and off the installation." This procedure applies "to all Navy and Marine Corps airfields within the confines of the United States, its territories, trusts and possessions." Measures recognized by the Department of Defense as among those that are listed to be used to reduce noise impact include making adjustment to aircraft flight paths to avoid developed areas, such as is now done over the City of Beaufort. See DoDI 4165.57, 2 May 2011.

The AICUZ process as it applies to MCAS Beaufort and its expanded F-35B training mission is entirely devoid of any noise reduction strategy for the lands surrounding the Air Station. This is a major omission that should be recognized by the JLUS Land Use Compatibility Analysis. The governing bodies of Beaufort County should insist on its remedy.

These flaws are so significant as to undercut the credibility and validity of the 2013 AICUZ Study. Any reliance on its data and assumptions only compounds its errors and omissions. The JLUS Land Use Compatibility Analysis should be set aside until such time as the 2013 AICUZ Study is modified. We urge that this action be taken.

Very truly yours,

Jeffrey Gott, Chair
North of Broad Neighbors

cc: The JLUS Policy Committee Members

NORTH OF BROAD NEIGHBORS

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May 26, 2014

Greetings JLUS Partners:

The 2013 AICUZ Study and 2013 AICUZ Planning Map has been published and is now ready to be reviewed and approved once the JLUS has been completed. This affords you, the partners in the JLUS to take the opportunity to consider the following points:

- **Table 1. Land Use Classifications and Compatibility Guidelines included with the 2013 AICUZ Planning Map designates that all property in noise contours 65-75 DNL are now incompatible for single unit detached residential use.** In the 2005 AICUZ Planning Map the 65-75 DNL was conditionally compatible for single unit detached residential. This change is quite significant. **A great many more people now live in the incompatible zones whereas before they did not.**

Table 1: Land Use Classifications and Compatibility Guidelines

Land Use	Land Use Compatibility with AICUZ Noise Zone (DNL)						Land Use Compatibility with APZs		
	Noise Zone 1		Noise Zone 2		Noise Zone 3				
	<55	55-65	65-70	70-75	75-80	>80	Clear Zone	APZ I	APZ II
Single-Unit, Detached (residential)									(1)
Multi-Family Residential, (apartment, transient lodging)									
Public Assembly									
Schools and Hospitals			(2)	(2)					
Manufacturing (e.g., petrol/chem, textile)									
Parks								(4)	(4)
Business Services				(2)	(2)			(3)	(3)
Agriculture, Forestry, and Mining									

Source: Adapted from OPNAVINST 11010.36C, Navy 2008

KEY: Compatible Incompatible

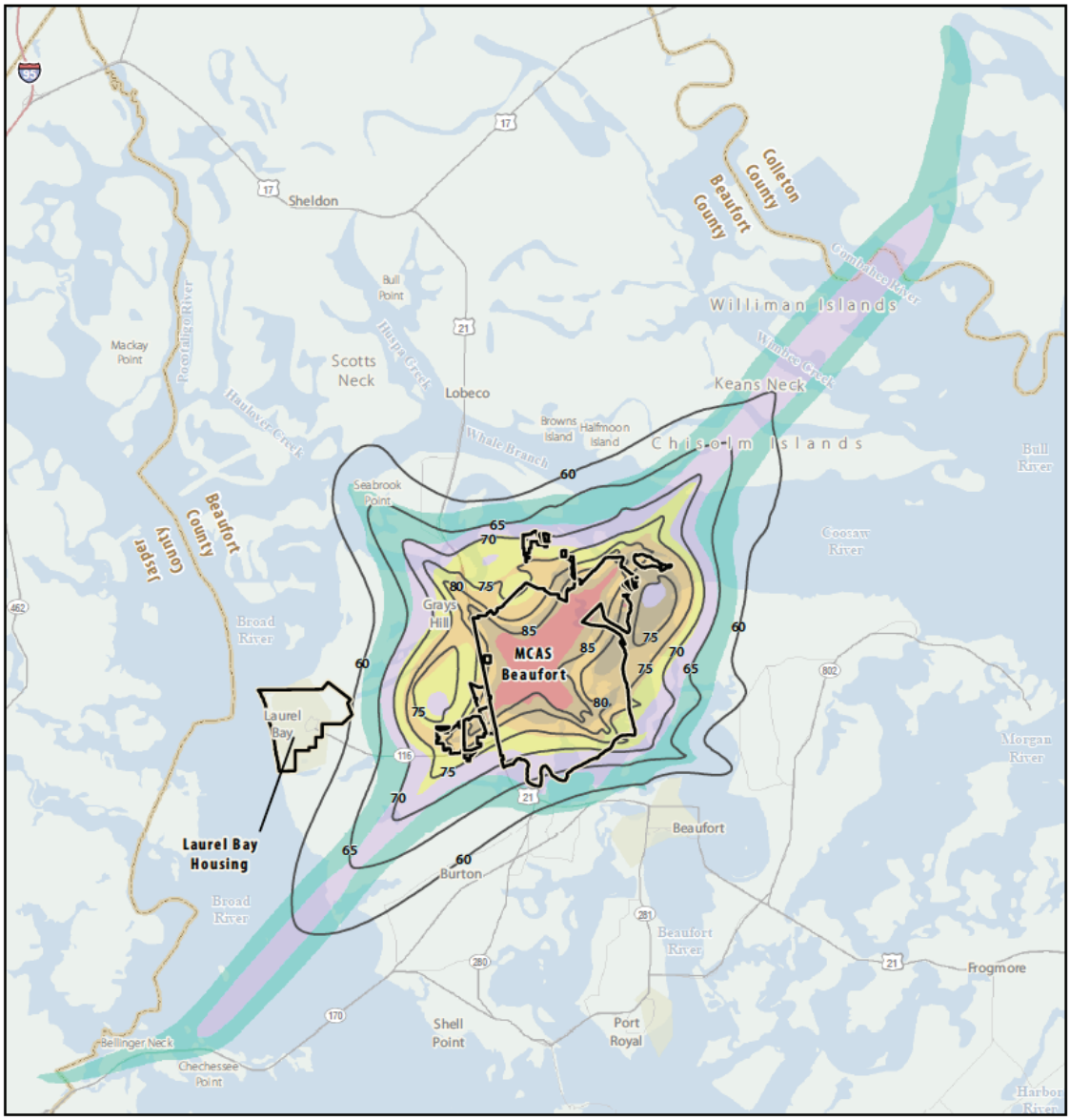
NOTES: This generalized land use table provides an overview of recommended land use. To determine specific land use compatibility, see OPNAVINST 11010.36C.
1. Maximum density of 1-2 dwellings per acre.
2. Land use and related structures generally compatible; however, measures to achieve Noise Level Reduction (NLR) 25 or 30 must be incorporated into design and construction of the structures.
3. Maximum floor area ratio that limits people density may apply.
4. Facilities must be low intensity.

2013 AICUZ Planning Map

Table 1 Land Use	Land Use Compatibility Noise Zone (DNL)			Land Use Compatibility with APZs		
	65-70	70-75	75-80	Clear Zone	APZ 1	APZ 2
Single-family residential						
Multi-family residential						
Assembly areas, churches, auditoriums						
Schools						
Office, retail						
Manufacturing/Industrial						
Outdoor parks and recreation						

Compatible Conditionally Compatible Incompatible

2005 AICUZ Planning Map



SCALE
0 1 2 Miles

Legend

- Major Roads
- 2013 Noise Contour (db DNL)
- Urban Area
- Waterbody
- MCAS Beaufort Base Boundary

2003 Noise Contour (db DNL)

- 60-65
- 65-70
- 70-75
- 75-80
- 80-85
- 85-90

Figure 4-3
Comparison of 2003 and 2013 AICUZ Noise Contours
MCAS Beaufort
MCAS Beaufort AICUZ
Beaufort County, SC

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- The Environmental Protection Agency (EPA) questioned the data in the Environmental Impact Statement (FEIS) back in 2010 yet their concerns have been ignored. It's time to take a second look at this letter.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
SAM NUNN
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA GEORGIA 30303-8960

November 22, 2010

Ms. Linda Blount
JSF East Coast Basing Project Manager
Naval Facilities Engineering Command, Mid-Atlantic
P.O. Box 56488
Jacksonville, Florida 32241-6488

SUBJECT: Final Environmental Impact Statement (FEIS) for the U.S. Marine Corps (USMC) Joint Strike Fighter (JSF) F-35B East Coast Basing at Marine Corps Air Station Beaufort, South Carolina, and Marine Corps Air Station Cherry Point, North Carolina; CEQ Number 20100418. ERP Number USN-E11073-00

Dear Ms. Blount:

Consistent with the U.S. Environmental Protection Agency's (EPA) Clean Air Act (CAA) § 309 and National Environmental Policy Act (NEPA) § 102 (2)(C) responsibilities, EPA has reviewed this FEIS. Consistent with our rating of the draft EIS, we continue to have environmental concerns regarding the proposed action's potential for impacts to the environment we encourage be avoided/minimized.

Background

The proposed action involves basing and operating 13 F-35B Lightning II JSF-squadrons at two southeast Atlantic coastal installations: Marine Corps Air Station (MCAS) Beaufort in Beaufort County, South Carolina (Beaufort, SC) and MCAS Cherry Point in Carteret and Craven Counties, North Carolina (Cherry Point, NC). It proposes to replace 152 existing aircraft (seven F/A-18 operational squadrons, three AV-8B operational squadrons, and one AV-8B training squadron) with 256 F-35B[1] aircraft (11 operational and four Fleet Replacement squadrons). Additionally, the existing authorized military personnel based at both Beaufort, SC, and Cherry Point, NC, would increase by 1,032 military personnel. Additionally, this action includes F-35B and Pilot Training Center (PTC) training and the construction and demolition of facilities and infrastructure associated with basing the F-35B squadrons and the PTC facility.

[1]P. 2-16 indicates in one paragraph, "[a] total of 216 F-35B aircraft [16 aircraft per operational squadron (156 aircraft) and 20 per FRS (40 aircraft)] are proposed to replace the 152 authorized Marine Corps F/A-18s and AV-8Bs" while in another paragraph, "… an additional F-35B PTC (with two FRS squadrons [20 aircraft per squadron]) would be established on the East Coast."

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The proposed action is to base F-35B operational squadrons where ranges and airspace exist to conduct the necessary training. Both Air Stations are part of the existing Marine Air Ground Task Force command and control structure and provide existing and future airfield, airspace, and infrastructure capacity. Additionally, these Air Stations can integrate the F-35Bs into their operational and training missions because they are aligned to support non-conventional fighter jet missions.

The four alternatives evaluated included: (Alternative 1) basing 3 operational and 2 reserve squadrons at Beaufort, SC, and 8 operational squadrons at Cherry Point, NC, and is the preferred alternative; (Alternative 2) basing 2 reserve squadrons at Beaufort, SC, and eleven operational squadrons at Cherry Point, NC; (Alternative 3) basing 8 operational squadrons at Beaufort, SC, and 3 operational and 2 reserve squadrons at Cherry Point, NC; (Alternative 4) basing eleven operational squadrons at Beaufort, SC, and 2 reserve squadrons at Cherry Point, NC. The no action alternative is the status quo, i.e., prior to basing the F-35B on the East Coast, which is not an option.

EPA's Concerns

Citizen concerns: EPA recommends the USMC consider establishing a noise-effects citizen advisory group for area residents concerned with the noise impacts, particularly on the federally and state-listed endangered species, wood stork. The FEIS notes the potential impact of the proposed F-35B basing upon the wood stork (*Mycteria americana*) is of particular interest to various members of the public.[2] The public has contacted EPA with their concerns. They have expressed and experience with the wood stork's habits that to them differs from the DEIS' portrayal of the wood stork's habits. The recommended advisory group would allow the USMC and the concerned citizens to actively engage to identify and address, as reasonable and practicable, their concerns.

Environmental Justice: According to the FEIS, the Environmental justice (EJ) analysis only considers whether the proposed action and alternatives would disproportionately affect low-income and minority populations when evaluated against the baseline conditions. However, when the existing baseline condition that includes noise impacts from existing training and readiness operations are already high, adverse and predominately borne by EJ populations (relative to the State Thresholds), then those noise impacts can be considered both significant and disproportionate. For example, the DEIS indicates that the percentage of low-income populations currently affected by noise is 32.7 percent (compared to 14.6 percent for the state).

Additional noise increases from the newly proposed action will just further exacerbate the existing conditions and the disproportionate impacts increasing the low-income population by 576. Given the magnitude of the noise impacts and the EJ populations within the affected area, the record of decision should include information on potential noise minimization or mitigation options that can further minimize impacts to EJ populations, it should summarize any outcomes

[2] P. 4-97.

of its public involvement activities related to EJ communities, including community comments and agency responses and ensure that any Community Advisory Council includes representatives from the EJ community.

Noise: The proposed action's potential noise impacts and significance continues to be a concern. According to the FEIS, the noise data for the F-35B does not yet exist and the F-35A noise data was the only data available to do the proposed action's F-35B noise analysis.[3] The FEIS does not discuss any expected noise differential between the F-32A and F-35B. Because the F-35B's short-take off and vertical landing (STOVAL) variant risked missing performance requirements because it was too heavy, the manufacturer made changes to the plane including adding engine thrust.[4]

While some of these changes were made to the other two JSF variants to maintain high levels of commonality, the FEIS does not discuss any differences between the F-35A and the F-35B potentially affecting the FEIS noise study's accuracy in defining noise impacts to the environment, e.g., people and wildlife, for example the F-35B is 6% heavier than the F-35A. Another example, the F-35B's STOVAL feature requires a second engine to lift the plane vertically. The noise associated with this feature has not been discussed. The concern is the proposed action will be louder than documented in the FEIS resulting in significant impacts without appropriate mitigation consistent with NEPA's requirements.

Water conservation: EPA encourages the USMC to incorporate water conservation and efficiency measures in all of its proposed new development and landscape needs. The Southeast USA has a history of cyclical drought periods lasting for several consecutive years. Additionally, the Southeast has a history of population growth particularly in the coastal areas. For example the 2000 US Census indicates the state of Florida had a population larger than the combined populations of the New England states. The combination of increased population and drought periods realizes significant pressure upon the water resources both underground and surface waters. Moreover current demands on ground water supplies are already creating salt-water intrusion problems.

Waste minimization: EPA encourages the USMC recycle as much demolition debris as possible as part of new construction. Additionally to minimize the generation of construction waste and the potential for sediment impacts during demolition activities, EPA recommends building reuse in lieu of demolition.

Wetlands: EPA notes the FEIS indicates the LHD/LHA Training Facility has been relocated to a location where wetlands will no longer be impacted.

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3 P. 3-10.
4 Lockheed Martin F-35 Lightening II – http://en.wikipedia.org/wiki/Lockheed_Martin_F-35_Lightening_II.

4

Thank you for the opportunity to review and provided comments. If you wish to discuss this matter further, please contact Beth Walls (404-562-8309 or walls.beth@epa.gov) of my staff.

Sincerely,

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

The letter clearly states that further investigation is necessary. The Beaufort County Council, Lowcountry Council of Governments and the Northern Regional Plan Committee should demand an updated and revised Environmental Impact Study (EIS) and Air Installation Compatibility Use Zone Study and Planning Map (AICUZ) before commencement of the Joint Land Use Study (JLUS). Approval of the 2013 AICUZ Study and 2013 AICUZ Planning Map without revised studies which include accurate noise data of the F-35B would be a negligent action that would result in permanent harm to the quality of life, environment and property values of Northern Beaufort County. The "real costs" of this hasty action could never be offset by the "promised benefits" for the local economy.

- **Just the enormous increase in flight operations from 38,042 in 2012 to 106,030 projected for 2023 (Table 1-2 Annual Military Operation at MCAS Beaufort 2013 AICUZ Study Introduction 1.5.2 Changes in Operation Level) should be cause for alarm. This equates to a 278% increase. The jet noise and frequency of flight operations will most certainly be harmful.**

Table 1-2 Annual Military Operations at MCAS Beaufort

Calendar Year	Based	Transient	Total
2023*	99,881	6,149	106,030
2012	37,303	739	38,042
2011	26,969	1,028	27,997
2010	32,307	810	33,117
2009	32,310	1,039	33,349
2008	27,084	1,042	28,126
2007	34,158	1,228	35,386
2006	30,678	1,145	31,823
2005	39,619	1,145	40,764
2004	40,818	931	41,749
2003	41,239	1,555	42,794

Source: DON 2010, MCAS Beaufort 2013
Note:
* = Projected operations. The 2023 projection from the *USMC F-35B East Coast Final EIS.*

The year 2013 is missing from Table 1-2 but I was able to find out the number of annual military operation at MCAS Beaufort the year ending 2013 by a FOIA request to Dorothy Mack, Freedom of Information Act Coordinator, MCAS Beaufort. It is 22,600. I find this data very worrisome in that an increase from 22,600 up to 106,030 annual flight operations constitutes a 470% increase! This will have a huge detrimental impact on all of Northern Beaufort County. You must also consider that the noise data for the F-35B was not available at the time the 2010 FEIS was completed. New data is now available that substantiates the fact the F-35B is louder than the F-35A and the F-35A is louder than the F-18 Hornet. It is imperative that you demand noise comparisons between the F-18 Hornet and the F-35B based on the actual aircraft not computer simulations. Such data will prove or disprove the accuracy of the current 2013 Planning Map and if a new map showing the revised noise contours is necessary you must delay the JLUS until it becomes available and distributed to the public for review.

I attended both sessions 3:30 PM and 5:30 PM of the JLUS kick-off May 22nd public meeting. Although TDR was discussed they did not mention how the 2013 AICUZ Study or the 2013 AICUZ Planning Map will affect the current sending and receiving areas. However, it is apparent that the noise contours have significantly changed. By comparing the 2005 AICUZ Map with the 2013 AICUZ Map it looks like a greater portion of Northern Beaufort County is now located in the 65-70 DNL (incompatible for residential use) and a portions of the county North of the Broad River are now in the 60-65 DNL. There is no 60-65 DNL on the 2005 AICUZ Map but you can find an explanation for this in the 2013 AICUZ Study. Normally this noise contour is not shown on maps but according to the 2013 AICUZ Study one of the conditions for including it on a map would be a significant increase in noise complaints. Logically the areas designated as sending and receiving area map illustrations in the April 2009 TDR documents will have to change to reflect the changes of the new noise contours. Are you going to publish any changes to the TDR sending and receiving areas so that the public may review the changes before the JLUS process is completed and prior to approval of the 2013 AICUZ Study and 2013 Planning Map?

Revisions to the AICUZ Study and Map based on accurate data should be a prerequisite requirement completed before the JLUS continues with their study. As described in the EPA letter dated November 22, 2010 your highest priority should be to immediately address these three critical areas: **"Citizen's Concerns," "Environmental Justice" and "Noise."** To allow the participating partners of Joint Use Land Study (JLUS) to begin reviewing the 2013 AICUZ Study and 2013 AICUZ Planning Map as they currently are written would be a grave mistake. Get the facts. Update the reports and map. Please distribute this letter to all JLUS Partners.

Take action based on truth not fiction.

Best regards,

Sharon Reilly

27 Little Jane Way
Beaufort, SC 29906
843-379-2524

November 23, 2014

COMMENTS FOR THE JLUS CONSULTANTS AND THE POLICY COMMITTEE
REGARDING THE 2014 JLUS

No Accurate Noise Data for F-35B

The F-35B is flying but no accurate noise data has been published. The 2010 FEIS and the 2013 AICUZ noise data for the F-35B are based on the F-35A and computer extrapolations. The F-35B is 3000+ pounds heavier than the A variant. A heavier jet needs more thrust to takeoff, land and fly. More thrust equals louder noise.

Will it help for us to know exactly how much louder the F-35B is than the F-18? Yes, from a health standpoint we should know the risks of being exposed to the noise. An accurate measurement making use of the most modern AAM (Advanced Acoustic Model) technology and real time flights of the F-35B should be required.

I am very concerned that the 2013 AICUZ map does not display the most accurate contours possible. The map was created using a suite of computer programs, (NOISEMAP), which do not account for the capabilities of the most modern jet aircraft, including the F-35B. In 2008 Wyle Laboratories developed a new acoustic model, AAM (Advanced Acoustic Model), which accounts for the advanced features present in the F-35s. The AAM has been shown to give accurate measurements that are very close to the actual noise measured in the physical environment. The JLUS should recommend that before any final decisions are made a noise contour map based on AAM and real time flights of the F-35B be created. A revised map will allow the JLUS Policy Committee and the community to be confident that the decisions made regarding zoning and planning are based on the most accurate noise contours possible. The Department of the Navy and Marine Corps should fully cooperate with compiling accurate noise data for the F-35B. They owe it to the civilian population and the military personnel who are at risk from the hazards of long-term exposure to the noise. The JLUS Policy Committee and elected officials at local, state and federal levels owe it to their constituents to see that accurate F-35B noise data is compiled and published. Health and safety should be a top priority to be placed before economic gains.

Disclosure Statement Concerns

Although a disclosure statement is required for the sale of properties in the AICUZ it has changed over the years. If the 2013 AICUZ Study is approved the disclosure statement will read as follows:

AIR INSTALLATION COMPATIBLE USE ZONES (AICUZ)
DISCLOSURE FORM

The property at _____ (address/location) is located in proximity to the Marine Corps Air Station Beaufort. It has been determined that persons on the premises will be exposed to accident potentials and/or significant noise levels as a result of the airport operations. Certain noise zones and accident potential zones (APZs) have been established.

The above property is located within the following zones of the Air Installation Compatible Use Zones (AICUZ) of MCAS Beaufort:

☐ Noise Zone 1	less than 65 DNL
☐ Noise Zone 2 a	65 to 75 DNL
☐ Noise Zone 2 b	70 to 75 DNL
☐ Noise Zone 3	greater than 75 DNL
☐ Accident Potential Zone 1	
☐ Accident Potential Zone 2	
☐ Not located in an Accident Potential Zone	

Certain restrictions have been placed on the development and use of property within these areas. Before purchasing the above property, you should consult the local zoning ordinance administrator to determine the restrictions that have been placed on the subject property.

CERTIFICATION

As the owner of the subject property, I hereby certify that I have informed _____ _____, as a prospective purchaser, that the subject property is located in an Air Installation Compatible Use Zones District.

Dated this _____ day of _____, _____

Witness _____Owner_____

As a prospective purchaser of the subject property, I hereby certify that I have been informed that the subject property is in an Air Installation Compatible Use Zones District, and I have consulted the local zoning ordinance administrator to determine the restrictions which have been placed on the subject property.

Dated this _____ day of _____, _____

Witness _____Purchaser_____

NOTE: All prospective renters signing a commercial or residential lease shall be notified by the property owner through a written provision contained in the lease agreement if the leased property is located within the Airport overlay district.

THIS FORM NEEDS TO BE FILED WITH THE DEED OR PLAT AT THE BEAUFORT COUNTY REGISTER OF DEEDS OFFICE

The following is a copy of the disclosure statement I signed when I bought my lot in 2000. Compare the two and note the differences.

Appendix 1
AIRPORT OVERLAY DISTRICT DISCLOSURE FORM

The property at the following location:
District 100, Map 027 Parcel (s) 0337
Address 27 LITTLE JAN KEWAY, BEAUFORT, SC 29906

is situated within the following Airport Overlay District Zones of the Marine Corps Air Station Beaufort, Beaufort County, South Carolina:

ACCIDENT POTENTIAL ZONES:

☐	Accident Potential Zone 1	Significant potential for accidents
☐	Accident Potential Zone 2	Measurable potential for accidents
☐	**Special Planning Areas**	**Measurable potential for accidents**
☐	**Approach/Departure Zone**	**Some potential for accidents**

NOISE EXPOSURE LEVELS:

☒	Noise Exposure Level 65 to 70 L_{dn}	Area of little impact from noise
☐	Noise Exposure Level >70 -<75 L_{dn}	Area of moderate impact from noise
☐	Noise Exposure Level 75> L_{dn}	Area of severe impact from noise

I hereby acknowledge that I have read and comprehended that in making this property transaction, I fully understand that there are possibly negative health consequences if exposed to excess aircraft noise over long periods of time. I further understand that structures on this property may have been constructed that may not meet Beaufort County standards for noise attenuation consistent with the location of structures within this overlay district.

The County has placed certain *height and use* restrictions on the development of property within MCAS Airport Overlay Districts. Before purchasing/renting the above property, you should consult the Beaufort County Zoning and Development Administrator if you intend to build a structure more than 50 feet in height. For properties identified as being within Noise Exposure Level Zones, Beaufort County provides information for methods to reduce noise levels for existing or planned development.

I, HABERSHAM LAND Company, owner of the subject property, hereby certify that I have informed SHARON REILLY, prospective purchaser/lessee/renter, that the subject property is located in an Airport Overlay District.

Owner

Owner

WITNESS

Sharon M Reilly
Purchaser/Lessee/Renter

Purchaser/Lessee/Renter

20

Revision 12
April 22, 1998

The following is an example of the 2004 disclosure form:

AICUZ DISCLOSURE STATEMENT FORM

No person shall sell any property within the airport hazard area unless the prospective buyer has been given the following notice.

To_____

The property at _____ (address/location) is located within the airport hazard area of _____ airport. Beaufort County has determined that persons on the premises will be exposed to significant noise level and accident potentials as a result of the airport operations. The County has established certain noise zones and accident potential zones (APZs).

The above property is located in Airport Zone_____ and in Accident Potential Zone_____ and Airport Environs Area_____.

The County has placed certain restrictions on the development and use of property within airport environ areas. Before purchasing the above property, you should consult the Beaufort County Development Administrator to determine the restrictions which have been placed on the subject property.

CERTIFICATION

As the owner of the subject property, I hereby certify that I have informed_____, as a prospective purchaser, that the subject property is located in an airport hazard area.

Dated _____ day of _____, 20 ____

Witness _____, Owner _____

As a prospective purchaser of the subject property, I hereby certify that I have been informed that the subject property is in an airport hazard area, and I have consulted the Beaufort County Development Administrator to determine the restrictions which have been placed on the subject property.

Dated _____ day of _____, 20 ____

Witness _____, Purchaser _____

The AICUZ Disclosure requirement is mandated by the Beaufort County DSO Section 4.17.10.1.

This section requires written disclosure by the seller to the purchaser as to any property lying within the Air Installations Compatible Use Zones; and as such are updated from time to time by the Marine Corps Air Station and the County.

Lowcountry JLUS Plan 25
September 2004

It is useful to study the older AICUZ maps to understand how the noise contours have expanded over the years.

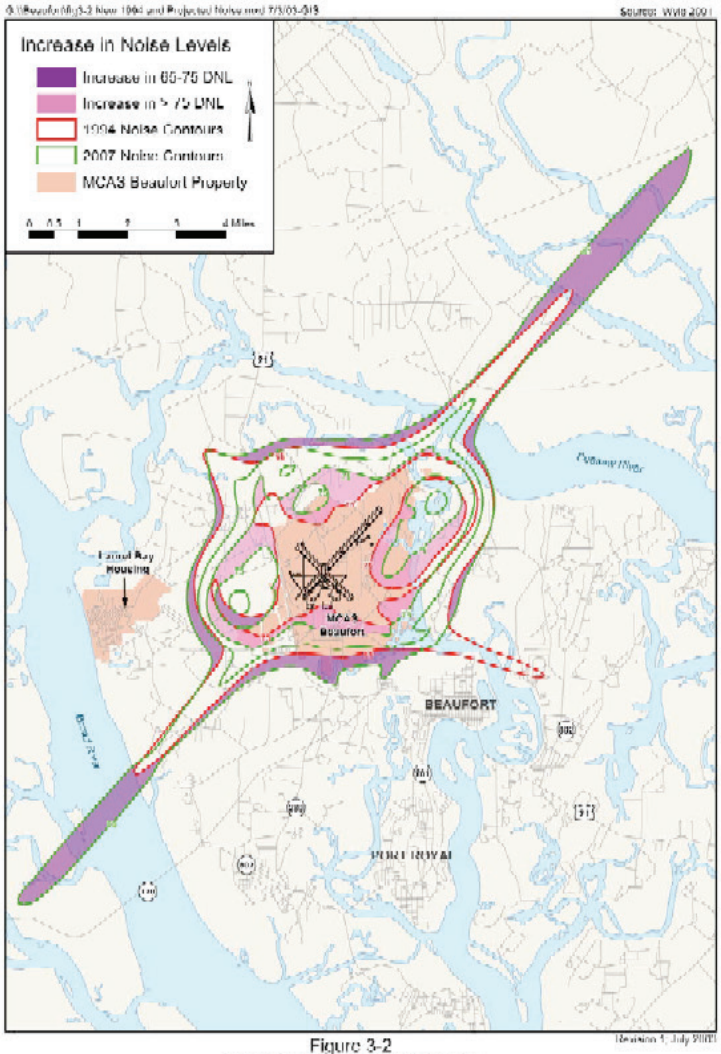
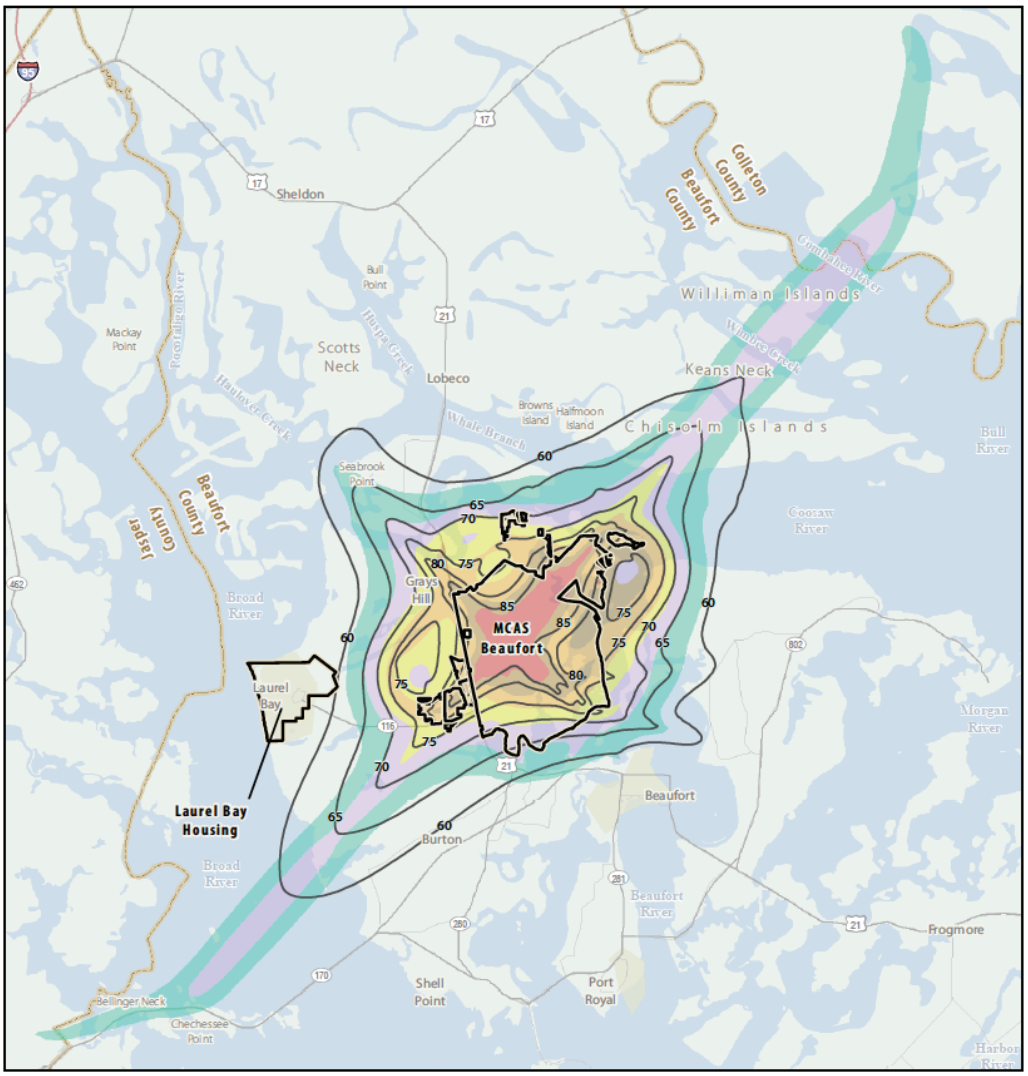


Figure 3-2
Comparison Between 1994 and
Projected (CY 2007) Noise Contours MCAS Beaufort

MAP 2

Comparison between 1994 and 2000 Noise Contours



SCALE
0 1 2 Miles

Legend

- Major Roads
- 2013 Noise Contour (db DNL)
- Urban Area
- Waterbody
- MCAS Beaufort Base Boundary

2003 Noise Contour (db DNL)

- 60-65
- 65-70
- 70-75
- 75-80
- 80-85
- 85-90

Figure 4-3
Comparison of 2003 and 2013 AICUZ Noise Contours
MCAS Beaufort
MCAS Beaufort AICUZ
Beaufort County, SC

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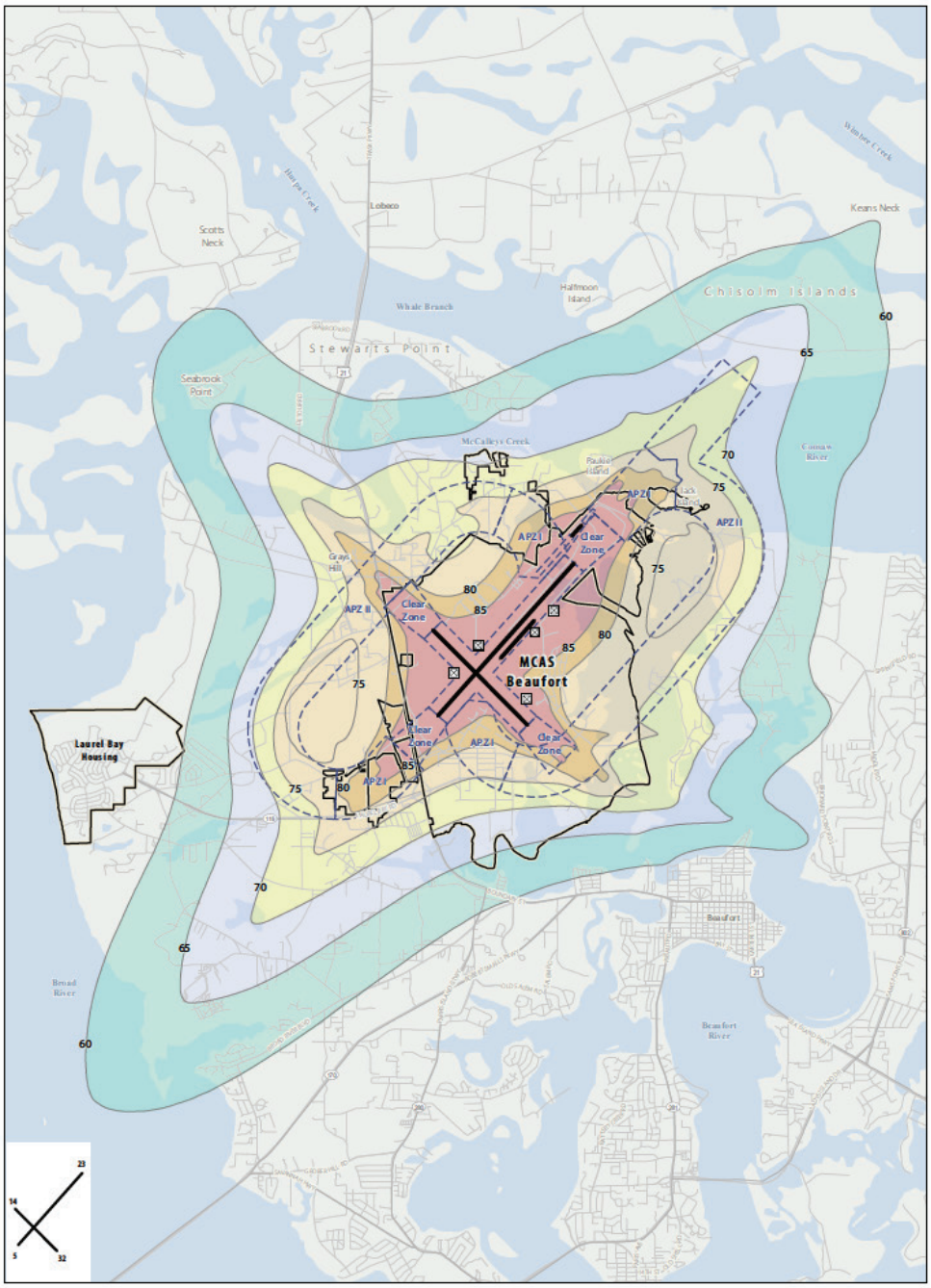

SCALE
0 0.5 1 Miles

Legend

- Vertical Landing Pads
- Major Road
- Runway
- MCAS Beaufort Base Boundary
- Waterbody
- 2013 Accident Potential Zones

2013 Noise Contour (db DNL)

- 60-65
- 65-70
- 70-75
- 75-80
- 80-85
- 85+

Figure 6-1
AICUZ Footprint
MCAS Beaufort
MCAS Beaufort AICUZ
Beaufort County, SC

Note: The location of Vertical Landing Pads, FBO, and LHD facility, as well as the Flight Tracks and Noise Contours are based on the 2010 USMC F-35B East Coast Final EIS.

Paper size is 11" x 17"

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The noise contours have grown significantly from 1994 until now. The Marine Corps says development cannot encroach on the air base. However, if you bought your property prior to 2000 you may not have been in an AICUZ noise contour (no encroachment on the air base involved) but now you might find yourself living in one. The jets are becoming louder. The Marine Corps is encroaching upon the air space over our homes as they introduce louder aircraft to the air station.

As a Habersham property owner I signed a disclosure form stating that I am in the "65-70 DNL" noise contour category even though my home in is actually located in the "60-65 DNL" noise contour. The developer, Bob Turner, requires every property owner to sign a disclosure form with the "65-70 DNL" classification. I presume it's because Habersham is part of a Unified Development Plan. Habersham residents share the common areas and amenities. I did not simply buy a house; I bought into a "town-neighborhood" with a very peaceful quality of life and beautiful environment.

I thought and was led to believe that the noise impact would be "of little impact." Many Habersham residents signed disclosure forms that used this wording. Once the 2013 AICUZ is approved the "65-70 DNL" designation will have an entirely different meaning. Habersham will be in Noise Zone 2 "an area of moderate impact where some land-use controls are required." New construction will require more expensive materials to provide adequate sound insulation.

2005 Chart from 2005 AICUZ Map

Table 1 Land Use	Land Use Compatibility Noise Zone (DNL)			Land Use Compatibility with APZs		
	65-70	70-75	75-80	Clear Zone	APZ 1	APZ 2
Single-family residential	Conditionally Compatible	Conditionally Compatible	Incompatible	Incompatible	Incompatible	Conditionally Compatible
Multi-family residential	Conditionally Compatible	Conditionally Compatible	Incompatible	Incompatible	Incompatible	Incompatible
Assembly areas, churches, auditoriums	Conditionally Compatible	Conditionally Compatible	Incompatible	Incompatible	Incompatible	Incompatible
Schools	Conditionally Compatible	Conditionally Compatible	Incompatible	Incompatible	Incompatible	Incompatible
Office, retail	Compatible	Conditionally Compatible	Conditionally Compatible	Incompatible	Conditionally Compatible	Conditionally Compatible
Manufacturing/Industrial	Compatible	Conditionally Compatible	Conditionally Compatible	Incompatible	Conditionally Compatible	Conditionally Compatible
Outdoor parks and recreation	Conditionally Compatible	Conditionally Compatible	Incompatible	Incompatible	Conditionally Compatible	Conditionally Compatible

Compatible Conditionally Compatible Incompatible

2013 Chart from AICUZ Map

Table 1: Land Use Classifications and Compatibility Guidelines

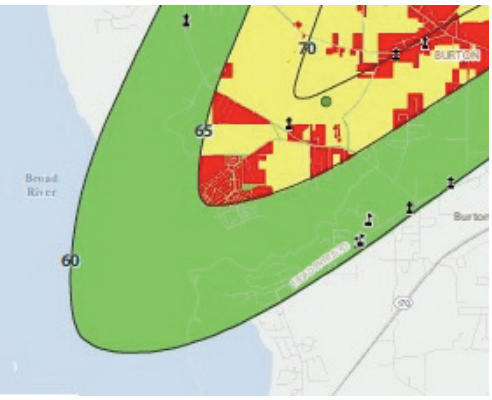
Land Use	Land Use Compatibility with AICUZ Noise Zone (DNL)						Land Use Compatibility with APZs		
	Noise Zone 1		Noise Zone 2		Noise Zone 3				
	<55	55-65	65-70	70-75	75-80	>80	Clear Zone	APZ I	APZ II
Single-Unit, Detached (residential)									(1)
Multi-Family Residential, (apartment, transient lodging)									
Public Assembly									
Schools and Hospitals			(2)	(2)					
Manufacturing (e.g., petrol/chem, textile)									
Parks								(4)	(4)
Business Services				(2)	(2)			(3)	(3)
Agriculture, Forestry, and Mining									

Source: Adapted from OPNAVINST 11010.36C, Navy 2008

KEY: Compatible Incompatible

NOTES: This generalized land use table provides an overview of recommended land use. To determine specific land use compatibility, see OPNAVINST 11010.36C.
1. Maximum density of 1-2 dwellings per acre.
2. Land use and related structures generally compatible; however, measures to achieve Noise Level Reduction (NLR) 25 or 30 must be incorporated into design and construction of the structures.
3. Maximum floor area ratio that limits people density may apply.
4. Facilities must be low intensity.

A large portion of Habersham will be "red," "incompatible for residential use" if the 2013 AICUZ is approved.



Because the increase in loud jet noise is the reason disclosure statements have expanded over the years it's imperative to minimize the encroachment of the military into the air space over our homes and neighborhoods. Focusing on this issue should be a top priority. It ties into the opportunity of **changing the flight pattern so that the jets fly over Burlington Plantation**. By changing the flight pattern over open undeveloped land approximately 400 homes would be removed from the AICUZ and although 4 would remain, those properties could be purchased using Rural and Critical Land Trust funding. This measure will contribute to the protection and preservation of our quality of life, health and property values. **There is immediate concern caused by the increase in number of flight operations alone.** Changing the flight path will eliminate much of the noise nuisance and health risk associated with exposure to the loud noise which Habersham and Burton residents are currently experiencing from the F-35B, F-18 Hornets, Harriers, Ospreys, F-22s and Super Hornets. Even if the F-35B were cancelled MCAS Beaufort will get more air traffic from other types of jets (from the Navy and Air Force as well as the Marines). Foreign military aircraft will also visit MCAS. Changing the flight path also addresses the safety issues regarding flying a jet with one engine (and one pilot) that has serious flaws that are not fully understood nor reconciled by repairs or redesign. Why wouldn't the Department of the Navy and the Marine Corps elect to fly over open land versus residential areas? Currently more experienced pilots are flying the F-35Bs but that won't be the case in the near future. Today's pilots will be replaced with less experienced trainees. Here is an opportunity to make a choice and insist on changing the flight path to go over Burlington Plantation as soon as possible.

Whether the Burlington Plantation property is purchases as a conservation easement with Federal Grants, Rural and Critical Land Trust Funds or other means should not hinder altering the flight path right now. Safety is important to the military or so they say it is. It is time they be held accountable.

I would also recommend that the communities' comments regarding the need for a flight pattern change over the undeveloped open land known as Burlington Plantation as well as the need for an Outlying Landing Field (OLF) that is constructed and equipped to handle vertical landings /takeoffs and "touch and go" flight operations be included in the final version of the JLUS as a matter of public record.

Recommendations of the 2004 JLUS Not Implemented

I don't know of anyone, myself included, who received an AICUZ map when they bought their property in Habersham. The recommendation in the 2004 JLUS states: "The disclosure statement should include a map showing both the AICUZ boundaries and the location of the subject property. The purchaser or lessee should sign a statement that he/she understands not only that the specific property/home is in the AICUZ footprint but exactly where it is located within those zones" (page 32, 2004 JLUS).

What guarantees do we have that the 2014 JLUS recommendations will be fulfilled? An Advisory Committee was never implemented as per this recommendation on page 34 of the 2004 JLUS:

"Establish an Advisory Committee of AICUZ area residents to ensure that their concerns and suggestions are incorporated in ongoing JLUS planning and implementation. Committee members should also act as liaisons within their neighborhoods and facilitating two-way communications. Meetings will be scheduled to be convenient to the majority of members."

The JLUS consultants and JLUS Policy Committee must establish a way to implement the recommendations and to work with the residents affected by the AICUZ noise contours once it is approved. What good is this study if the recommendations are not followed? Is the JLUS just a waste of time and taxpayers' money?

Property Designated "Non-Conforming Land Use" and "Conditionally Compatible"

Will such properties receive financial assistance for the necessary noise attenuation improvements to meet the new construction ordinances? According to the 2004 JLUS (page 31) there is no help for the owners of properties in these designations.

"For individuals or households with low or moderate incomes the costs to install noise attenuation measures may be prohibitive. In community meetings the question of whether there were any government programs to pay for, or at least assist in making existing homes compatible by means of these physical improvements was raised a number of times (see Appendix D). Preliminary research showed that there is not a specific assistance program available to fund noise attenuation measures for existing structures. However there are several potential programs that might be used for this purpose, assuming certain conditions are met. Appendix E provides a preliminary listing and brief description of these programs and their criteria/requirements."

Note - Appendix E was not included in the published online document so how is anyone to know where to go for help. How will the 2014 JLUS address these concerns regarding financial assistance for noise attenuation measures?

Relevancy of JLUS Survey Results

The survey questions relating to how one experiences the jet noise from MCAS are based on present conditions not what we will be experiencing when the flight operations will dramatically increase to as many as 106,030 annually. In 2013 there were 22,600 flight operations per my FOIA request. According to Table 1-2, page 1-9 in the 2013 AICUZ Study the highest number of annual flight operations was 42,794 in 2003. The flight operations will increase to 106,030 by 2023! **So how can you draw any truthful conclusions about how people will perceive the significant increase in noise from the F-35B when in fact we are only hearing a fraction of the amount of noise we will hear in the very near future?** We still don't have the most accurate noise data compiled using AAM either. The JLUS process should be put on hold until the AICUZ is revised based on accurate noise data using the AAM technology and real time flights of the F-35B. The AICUZ map should be redrawn taking into account the most accurate population density information to date. The FEIS used the 2000 Census - totally unacceptable and irrelevant today. The growth areas of Northern Beaufort County were never properly taken into account. Burton will bear a disproportionate burden of the impact of the increasing number of flight operations without changes to the flight pattern and construction of an OLF.

I can only draw the conclusion that unless a Supplemental EIS using correct, relevant data revises the AICUZ this whole JLUS Study exercise is futile. Thousands of Northern Beaufort County residents will suffer the consequences of rushing through approval of the 2013 AICUZ and JLUS. I hope this won't happen and the powers that be will insist upon a Supplemental Environmental Impact Statement (SEIS), revised AICUZ Study and an amended JLUS.

One thing that can be done right now is to change the flight path for Runway 05 to go over Burlington Plantation because it is undeveloped open land. MCAS would no longer have to be concerned with encroachment and hundreds of homes will be taken out of the AICUZ "65-70 DNL incompatible for residential use" category. Although the process for changing the flight pattern may involve many government agencies and take some time to implement it will be a win-win for the neighborhoods in Burton and for the Marine Corps.

Respectfully,

Sharon Reilly
27 Little Jane Way
Beaufort, SC 29906
reillysm47@yahoo.com
843-379-2524

Dear Ms. Kozak---

I will not me at the meeting on Thursday Nov. 20, 2014. Please accept these comments as you would at that meeting.

I am very concerned about the noise from MCAS Beaufort. Not only the noise from the F-118's, but especially the noise from the new F-35's. Current AICUZ zones have been delineated and accepted, even though the area in Northern Beaufort County north of MCAS catches the brunt of the noise.

Now, with the proposed AICUZ zone for the new F-35, more land will be condemned by the new zone and from zoning by the county. My family property is basically the same as with the old AICUZ, but a new noise decibel
line has been added. I was was told that it was there before and does not mean anything. It was just not shown. Why show it now? It makes you think that something is coming down the road.

As I have said before, MCAS is encroaching on the residents of Beaufort County and not the other way around, as it is said.

A plane like the F-35 does not need to be put into the middle of an established residential area, displacing and disrupting what is already here. Beaufort County is not the rural area that it once was. Thanks to promotions by the county and other groups like yours, and the long time landowners being such good stewards of the land, Beaufort County was "discovered" by retirees and tourists as a great place to come visit and retire to. The F-35 is a late comer and should be placed in another area that could use the financial benefits it provides.

Please know that I am a great promoter of National Defense. I am thankful for the men and women that serve and protect us at home and around the world. I think that we should have the

best possible weapons and the latest technology that money can buy. We should also treat our military personnel as first class citizens and care for them and their families as they provide security and well being for us.

Thank you and LCOG for your role in making the Lowcountry in South Carolina the best place in the world to live.

Claude McLeod
P.O. Box 22
Seabrook, SC 29940

-----Original Message-----
From: Charles Squires [mailto:csquires@cityofbeaufort.org]
Sent: Saturday, November 15, 2014 3:30 PM
To: Ginnie Kozak
Subject: F-35B JLUS

I live next to the take off and approach path for one of the runways at MCAS. The Office where I work is almost directly under the same for the other runway at MCAS. I have observed the F-35B in flight at both locations recently and just yesterday watched if fly directly over my office as it was on approach to MCAS. In my opinion the engine noise was not loud and was equal to and posinly less the the other planes operiti g

Sent from my iPhone mobile device

Comments to the draft JLUS for public review

March 18, 2015

By Katharine and David Hudson

66 and 70 Mum Grace Beaufort, SC 29906

Thank you for providing citizens the opportunity to share our comments about the draft JLUS. This is an important process for all of us who live in Northern Beaufort County and are affected by the changes afoot at MCAS. It is also important for the long term viability of MCAS itself. With some important changes, MCAS and residents in Beaufort County can be assured a win-win and a long-term happy relationship.

First we are very appreciative of the County Council endorsement of the need for an OLF. **The Final JLUS should clearly state the need for an OLF in strong, explicit terms.**

We believe an OLF is *essential* to the future livability and development of Northern Beaufort County and thus to continued citizen support of MCAS. If the projected number of flight operations is accurate at around 106,000, and no OLF is constructed, we don't imagine we will stay in Habersham or Beaufort County. Leaving here would mean abandoning a lifelong dream of living in the low country, exploring the waters in our kayaks and playing in the outdoors, while supporting the community in multiple ways. We would have to sell two houses here (one is a rental), likely at a loss. But, we believe that is what we would need to do for our health and wellbeing. Northern Beaufort County and Habersham are likely to become underutilized/under-developed without an OLF. Already concerns about the planes have dampened the real estate market here, and most of the planes have not arrived yet. But the financial loss we would experience selling our homes at a loss pales in the face of losing essential quality of life if we stayed without an OLF and other modifications. If others like us also leave or do not come here because of noise, the impact on the county would be diminishing tax revenues as property values decrease. There is ample availability for growth and development here, but only if an OLF is established.

As we have shared previously, when we purchased our first house in Habersham in 2010, we were assured in a written AICUZ disclosure form that, while we were in a 65+DNL, it was "*an area of little impact from noise*." At the time we purchased the house, it was. But there is no baseline. We do not know how much noise we were actually experiencing, so we cannot know what to expect of 65+DNL in the future. It goes without saying that with an increase of nearly five times the flights, we are likely to experience nearly five times the noise. **The final JLUS should accurately state the numbers of flights over the last four or five years and the projected increase for 2015-2023.** Consider the frequency of planes overhead with so many flights. Planes would be flying overhead every four of five minutes all day long. That is simply untenable.

I believe **the final JLUS should also explicitly call for actual data gained from noise monitoring within Class D airspace to determine current noise levels and how they may change** as the planes arrive at MCAS**.** I and others who live here suspect that the contours of the 2013 proposed AICUZ map may not reflect reality. They were drawn from computer modeling of a new aircraft, which continues to evolve technologically, and did not consider the Beaufort landscape. We know that both humidity and open water affect the way noise travels. Thus actual measurement is needed. The planes also fly quite low directly over several parts of this neighborhood that aren't actually within 65+DNL contours as often as they stay within those contours. Accuracy in this process is essential. This should be taken into account in the approved AICUZ and thus in the final JLUS.

A major concern with the draft JLUS concerns the wishful, almost magical change of designation to parts of Northern Beaufort County including Habersham from red "incompatible with residential housing" to yellow "conditionally compatible" or even green "compatible" designations. This amounts to sweeping some pretty ugly dirt under the rug. Habersham in particular is designed as a high density "new urbanist' community. It is hardly "rural". Lots are small and close together. What magical thinking has led to the reclassifications? Many of the houses here have large amounts of glass designed to offer beautiful views. Our first cottage built in 1998 has old, single-pane glass doors brought in from an old farmhouse. Surely it does not meet the building

codes necessary to make it compatible for living with 65+DNL levels of noise. The house we live in now was built in 1999 with expansive amounts of glass. Houses such as these should not be labeled as "conditionally compatible'' without accurate knowledge of the building codes used at the time. It appears that some empty lots in Habersham have actually been reclassified as green "compatible" (though because the map is small it is hard to be entirely sure.) It appears that Cherokee Farms has also been labeled "green" and "compatible." This is disingenuous and highly deceptive. Those lots are home lots! How will they be marketed and sold to prospective buyers? What exactly are they "compatible" with? The lots cannot be fully "compatible with residential housing" despite recently revised building codes. That defies the definition of 65+DNL.. Are you suggesting that these 'house lots' are "compatible" as long as no one actually puts a house on them?! **These designations should be changed in the final JLUS to reflect the more accurate and honest compatibility designations created by the military in the proposed 2013 AICUZ.** This is true even if we stand to lose money here in Habersham. Honesty should be the first priority**.** As well, **the designations concerning compatibility in the JLUS should be better explained.** What exactly qualifies a home as "compatible" or " conditionally compatible?" Home buyers should have ready access to that knowledge.

Clear guidelines for real estate marketing and development also need to be outlined in the JLUS for areas in the proposed 2013 AICUZ that are designated as "incompatible with residential housing, as well as those designated "conditionally compatible" We were misinformed when we purchased our two homes here. This should not happen to unsuspecting buyers. The county has an obligation to its current and future citizens as well as to the airbase. Transparency and honesty are the very least we should expect from our leaders and representatives.

A few significant changes will allow the county and its citizens to avoid these uncomfortable truths about noise in our neighborhoods. At the same time these changes will make the airbase itself more secure and resistant to possible BRAC closure. There are modifications both large and small that will allow both residents and the MCAS to thrive side by side. The first and most important is an OLF as previously stated. Two other relatively simple modifications are common in other communities with Air Stations across the country. **The JLUS should call for height restrictions over residential areas.** The lower the planes fly, the louder they sound to residents below. Restricting flights to specific heights over residential land is common. "*At Naval Air Station Oceana in Virginia, flights over residential neighborhoods must be over 1,000 feet.*" (Beaufort Gazette 11-23-14) **Restricting the heights of planes over residential neighborhoods to 1000 ft. is a reasonable expectation that should be outlined specifically in the JLUS.**

Lastly wherever possible**, the JLUS should call for shifts in flight paths away from residential communities** altogether as has already been accomplished over downtown Beaufort and with many other military and civilian airfields. It is clear that airspace over undeveloped land northwest of Habersham would be an ideal location for a flight path and would require only minor shifts. No one lives there to be detrimentally affected by the noise. This sort of change is common in other communities and would positively affect nearly 450 current dwellings in Habersham and many more lots already zoned for residential use in both Habersham and Cherokee Farms. It would have positive impacts on the numerous neighborhoods in Northern Beaufort County, particularly those with manufactured homes, by moving the planes further away.

The county owes it to its citizens to keep them healthy and safe and to ensure their quality of life in addition to supporting our military. The final JLUS should call for MCAS to make both the above modifications to flight paths over residential neighborhoods. To do so will help ensure the future of MCAS in Beaufort County and increase the goodwill among its neighbors. It will also allow Northern Beaufort County to grow and prosper. Win-win solutions are available to the county, its citizens and the air station. Please include and strongly promote these workable solutions in the final JLUS.

Thank you for your consideration and your time on this important endeavor.

Katharine and David Hudson
66 and 70 Mum Grace Beaufort, SC 29906

March 17, 2015

Councilman Brian Flewelling

Ms.Ginnie Kozak, Lowcountry Council Planning Director

Mr. Tyson Smith, Esq.

Re: Draft MCAS Beaufort Joint Land Use Study

Dear Ms. Kozak, Councilman Flewelling and Mr. Smith:

I am a part-time resident of Beaufort County and own a home in the Habersham Community. My wife and I plan to make our home in Beaufort our full-time residence in 2016. Professionally, I have served as the President and CFO of a company that developed commercial and residential real estate and built homes on the Delaware shore for a number of years. The communities that we assembled, entitled, planned and developed often exceeded 1,000 housing units in size. So, I am reasonably familiar with planning and zoning processes.

I also want to preface my comments and questions on the draft with a bit more personal background. My wife Jeanne and I have three grown sons who have all served as military officers in the Marine Corps, Navy and Army. Our older two sons served combat tours in Iraq and Afghanistan. Our oldest, who was a MARSOC team leader, received a number of decorations for valor under fire in both Iraq and Afghanistan. Our youngest son, a graduate of the University of South Carolina, is a Blackhawk helicopter pilot currently serving in Korea. I served in the Navy and my father and my wife's father served in the Army and Navy respectively during World War II. My father was a disabled combat veteran after being seriously wounded in St. Lo, France during the invasion of Normandy. So, we are very much a "military family". We appreciate the importance of a strong national defense, are supportive of the mission of the Marine Corps and MCAS Beaufort, understand MCAS Beaufort's economic and cultural importance to Beaufort County and we have literally had a whole lot of "skin in the game".

This letter will relay some comments, questions and concerns I had after reviewing the March 11 Public Review Draft of the "2015 MCAS Beaufort Joint Land Use Study". My wife and I understand that the JLUS Committee members have been working very hard on this project and we appreciate all of your work. In particular, we very much appreciate the effort that Councilman Flewelling has made to understand the unique facts and circumstances of the Habersham Community. His efforts to seek opportunities to mitigate the impact of the projected steep increase in flight operations and related noise levels and the resulting impact on the enjoyment and health of the citizens of northern Beaufort County is much appreciated.

Comments and Questions on the Draft

Overall, I thought in some respects the draft downplayed or softened the significance of the likely impact of the projected steep increase in flight operations, including a fundamental shift in the type of flight operations and the impact these changes will have on the community at-large. The character of flight operations will change significantly with the evolution of MCAS Beaufort from being the home of several F-18 operational squadrons into being the primary/only home for training US and foreign F-35 B pilots. The ultimate impact of these changes in flight operations will likely be much more significant and disruptive than many of the long-time or new residents of Northern Beaufort County are expecting. Future development opportunities and the Beaufort County real estate tax base will likely be negatively impacted without an OLF being part of MCAS Beaufort.

While the projected increase in flight operations relative to the current AICUZ parameters will be more than 60% and the changes to the current AICUZ noise contours do not seem very significant on paper, there is a common illusion/misconception that needs keen consideration.

Recent and long-term residents of Northern Beaufort County currently have no baseline with which to reasonably gauge/imagine the impact of the projected 300% increase in annual flight operations and the changes in flight profiles associated with two full-time (*no deployments*) training squadrons.

Many of the transitional areas contained in the 65-70 and 70-75 DNL contours don't seem to change on paper very much from the current AICUZ to the draft AICUZ issued in March 2014. However, the current AICUZ noise contours are based upon about 60,000 flight operations per year and the average level of flight ops over the past 10 years has been only about 32,000. The volume of flight operations during the past couple of years has been, I believe, less than 30,000 (*Table 2-1 should be updated with the actual number of flight operations for 2013 and 2014. The number for 2013 is 22,600 and I am sure the count for 2014 is available)*. Therefore, the actual noise levels that have been experienced by residents over the past 2 and 10 years are likely dramatically lower than the DNL contours contained on the current AICUZ. For example, noise levels in the DNL 60-65 and 65-70 contours may have actually be in the DNL 45 or 50 range for the last 2-10 years. Increases in perceived sound, resulting from an increase in decibel levels, are not linear but rather exponential in nature. The perceived/experienced impact from a going from a current level of say 55 to a level of 65 would be experienced as being much more severe than what the numerical difference would seem on paper. And, with the new aircraft and new F-35B training syllabus activities, it is quite possible that the actual new DNLs experienced in Beaufort surrounded with water and with high humidity will be higher than the computer extrapolated DNLs contained in the draft 2013 AICUZ. Folks that say " the aircraft noise doesn't bother me and the AICUZ maps and stats on the F-18 vs F-35B show the sound levels won't change very much" don't really understand the facts of situation and they have no baseline context to compare. I fear the whole community will be in for a rude awakening come 2016 or 2019 as the flight activities ramp-up dramatically.

It will be in the best long-term interest of the Department of the Navy, MCAS Beaufort and Beaufort County to make every effort to ensure MCAS Beaufort's good relationship with the community continues as well as to further cement MCAS Beaufort's continued long-term operation avoiding BRAC situations. Obtaining approval and funding for construction of an OLF would play an important role in cementing a positive long-term relationship between MCAS Beaufort and Beaufort County.

I applaud the recent actions of the Council in approving a resolution to seek funding of an OLF for MCAS Beaufort. As part of this effort, I believe consideration should be given to adjusting the wording of the JLUS study to hone in more forcefully on the importance of an OLF, make this a prominent recommendation and not soften or avoid discussion of the need for an OLF by repeating the "OLF not needed" language/claim from the Department of Navy's FEIS for the basing of the F-35Bs.

While the Department of the Navy may not consider an OLF to be an operational necessity, from the perspective of Beaufort County, acquisition of an OLF should be considered a necessity. If an OLF were obtained, this would have major positive impacts on the future tax base of Beaufort County and the enjoyment of its citizens by significantly lessening the noise impact of repetitive training operations. This would in turn open up more viable land development opportunities and would foster a better long-term relationship between the community and MCAS-Beaufort.

The operation of a primary military fighter jet training base adjacent to developed communities without an OLF is, I believe, unprecedented in Navy and Air Force communities. I have been told that the current commander of the MCAS Beaufort training squadrons remarked at a recent community engagement forum on Lady's Island that MCAS Beaufort was his only assignment where an OLF was not part of the training assets.

Chapter 3 of the Draft, "Land Use Compatibility Analysis" needs some adjustment and clarification in a few areas, in my opinion.

Section X starting on page 92 of the draft begins the development of an "argument" for reclassifying property currently classified as "neighborhood-mixed," located in DNL 65+ noise contours and "incompatible" to being "compatible" using several assumptions that I do not believe are valid. I believe the "softening" of the portrayal of the noise impacts on these areas is inaccurate and would cause several issues. First, I believe this reclassification would be misleading to new purchasers of real estate or lot owners deciding whether or not to build a home on a vacant lot. Secondly, I believe the " reclassification theory" incrementally lessens the sense of urgency and necessity for obtaining and OLF and for putting more teeth into setting appropriate noise mitigating flight operations protocols (altitudes, throttle usage, etc.) and in MCAS Beaufort and the community jointly monitoring compliance with established flight protocols.

Several flaws and inappropriate uncertainties in the assumptions discussed on pages 92, 98, 104 and 105 include the following items that should be carefully assessed for truth and accuracy:

- There is an unsubstantiated key assumption leading to a recommended change in the land use maps contained on page 92 and 93 that "there is a good likelihood that that some number (*?*) of the more recently constructed homes within the neighborhood-mixed classification would likely (*?*) meet the noise level reduction standards for the zone that they are in either by chance or as a result of existing regulations requiring new construction to comply with interior sound reduction standards." I don't know exactly what the Beaufort County building code is and when it was put in place nor whether it has been effectively enforced. However, I am very skeptical that considering the amount of glass/windows present in most of the homes in Habersham (*for example*), that the standards promulgated by the Department of the Navy and FAA for noise reduction (*such as limiting windows and other openings to less than 20% of wall space within bedrooms*), have been achieved/enforced.
- Commentary on page 92 and 93 also proffers that much of the land designated as "Neighborhood-mixed" causing it to be "incompatible" has been developed with residential uses and densities that are similar to "rural" designations. I don't know if this is referring to the Habersham PUD, but as you may know, Habersham is a "portfolio example project" designed by the DPZ community planners and architects who are considered the leader/father of New Urbanism design. The Habersham community is described in its own materials and in the DPZ materials as an award winning example of New Urbanism design/"Urban Codes" and a majority of the housing units are platted with dense configurations utilizing small lots and alleys designed to cause greater social engagement and allow for a walkable community. Any argument to recategorize the Habersham New Urbanism designed community as "rural" in order to change the compatibility designation (*as opposed to focusing on working to mitigate the noise impact with an OLF and small adjustments to flight patterns and protocols*) is a stretch, misguided and seems disingenuous, in my opinion.
- I believe the note at the top of figure 3-41 should describe recategorized land parcels as "conditionally compatible" instead of "compatible" even if the new classification methodology, with which I disagree, is to be used.
- Discussion on pages 98 and 104 seems to offer a new land use mapping/classification methodology that achieves a higher percentage of land area which is deemed "compatible" lessening the impact of the new draft AICUZ (*changing red or yellow on the AICUZ maps to green*). The basis of this proposed methodology seems to be that instead of using the general property classifications as contained in current zoning maps and PUD designations, individual land parcels are reviewed granularly one-by-one using the County tax assessor's records. Using this methodology, finished residential lots that are platted as a part of a New Urbanism PUD land plan, being held or marketed for residential development but that do not yet have houses built on them are considered "compatible." According to the proposed new methodology these parcels are deemed "compatible" by default since they do not presently contain a housing structure. I don't think I need to explain why this makes no sense and is also disingenuous.

The examples cited above are representative of some of the presentation incorporated in the draft which I believe softens and obfuscates some of the serious challenges Beaufort County faces in welcoming the new F-35B squadrons to our community. Softening, glossing over or buying time with the issues, I believe would take the Community's eye off the ball in seeking win-win mitigation of the coming environmental impact, result in flawed land planning and potentially misrepresent the reality of the noise environment to property purchasers and owners.

I hope you receive my comments as constructive input as it they are intended.

Very Respectfully,

Frank G. Edwards

138 Collin Campbell

Beaufort, South Carolina

JLUS WORKSHOP MARCH 19, 2015
COMMENTS

After reading the MCAS Beaufort JLUS Public Review Draft dated March 11,2015, I respectfully submit the following comments:

- Beaufort County Council just adopted a resolution supporting a remote landing field a.k.a. OLF (Outlying Landing Field) or ALF (Alternative Landing Field). I believe this should be noted in the Final JLUS under the section "An Outlying Landing Field" on page 156 Chapter 4. If other communities and organizations have passed similar resolutions in support of an OLF that should also be notated in this section as well.
- I believe it is very important to continue to monitor the noise and safety impacts during the transition of current aircraft to the F-35B and gradual increase in the number of flight operations over the next 8-10 years to over 106,000. One way this can be accomplished is through sound monitoring equipment stationed at various locations within the AICUZ at the very least and optimally within all of Class D airspace surrounding MCAS, Beaufort. This should ideally begin as soon as possible and the noise monitoring should be located at several neighborhoods (especially those in the arrival and departure flight paths), all schools, public parks and other areas sensitive to the noise and safety impacts prevalent within Noise Zone 2.
- The Citizens Advisory Committee that the 2004 JLUS recommended never became a reality. I have read the steps and procedures that are recommended in the Public Review Draft of the March 11,2015 JLUS and it appears the wording seems to reflect the importance and necessity to make The Citizens Advisory Committee finally happen. I feel very strongly that the public must continue to have input and access to all information regarding the expansion of the mission at MCAS, Beaufort going forward.
- I fully understand that the AICUZ and JLUS are tools for land use planning. I agree that it is very important that the land use categories described in the JLUS provide accurate assessment of all types of properties to allow for continued growth and development of Northern Beaufort County without encroaching upon the mission of the air station. That being said however, I am not sure that changing the color-coding and labels to be more palatable descriptions on the AICUZ map and JLUS study fully correct the underlying source of discontent of the many property owners whose homes had been deemed "incompatible for residential use." Now they are told their properties are "conditionally compatible." But,

and this is a big "but" it won't take the noise away! Without serious consideration to implementing effective noise mitigation measures such as an OLF, changing flight paths so that the jets will fly over mostly undeveloped land, enforcing altitude restrictions and noise monitoring the newly revised color-coding and labels have absolutely no bearing on preserving the quality of life of the people impacted by louder noise and more jets flying over their homes, schools, parks, places of employment and businesses. All it does is give Beaufort County government the "license" to build more structures within the noise contours of the AICUZ map and make it all seem "OK." It's just a Band-Aid solution. In the not too distant future that Band-Aid will need to come off. The festering wound underneath will need better treatment before the source of distress can be resolved. Hopefully the JLUS is a 10-year process and those are not just nice comforting words in a document.

I would like to commend and give a special thank you to the JLUS Consultants - White & Smith, LLC, Benchmark CMR, Inc. and Marstel-Day, LLC for their tireless effort and objectivity in working with this community. I greatly appreciate the work they are doing for us.

Best regards,

Sharon Reilly
27 Little Jane Way
Beaufort, SC 29906
843-379-2524
reillysm47@yahoo.com

NORTH OF BROAD NEIGHBORS

30 Treadlands, Beaufort, South Carolina 29906
Email: contact.nobn12@gmail.com

March 20, 2015

Mr. Tyson Smith
White & Smith
Planning and Law Group of Charleston
255 King Street
Charleston, SC 29401

Ms. Ginnie Kozak
2015 Lowcountry JLUS
634 Campground Road
Yemassee, SC 29945

Dear Mr. Smith and Ms. Kozak:

As was suggested at last night's JLUS public workshop, we are highlighting some recommendations included in the draft document by the consultants that the NOBN committee and residents of our community strongly support.

In reading the Executive Summary and the objectives of the JLUS process itself, it is quite obvious that considerable emphasis is placed on the importance of developing a collaborative process where MCAS Beaufort and local communities engage during the implementation of the report's recommendations. To quote the **Goals and Objectives** section of the document: *"It is hoped that in meeting the three objectives of* ***increasing awareness***, ***encouraging collaboration***, *and* ***providing strategies for maintaining or augmenting land use compatibility****-this Study will provide guidance to the installation and local communities about how they can work together to* ***protect the best interests of all"****.* We could not agree more.

Several tools that were outlined; namely, **communitywide coordination** and **military outreach** appear to us as key components of successful implementation. We strongly favor the notion put forward by the JLUS Policy Committee who found: *"it important that any succeeding implementation process include input at the policy level, technical level and citizen input throughout"*. We also concur with the suggested measures: *"that MCAS Beaufort could use to augment communication with the local governments and various segments of the citizenry on its own. These include open houses, evaluating opportunities to ensure its noise complaint process is user-friendly and responsive, and to keep the community informed of ongoing mission impacts or anticipated changes ...."*

Because the most significant change to both MCAS Beaufort and the local communities is the transition to the F-35B aircraft and the expanded training mission that lies ahead of us, we believe ongoing dialogue between stakeholders representing various points of view will support the best interests of the Air Station, our local community, and private citizens. Therefore, we strongly believe that to:

1) *"Establish a* ***JLUS Implementation Committee*** *to monitor and guide the implementation of JLUS policies"*;

2) *"Establish a* ***Citizen Advisory Committee*** *to ensure input is incorporated in ongoing JLUS planning and implementation*",

are both key initiatives to: "formalize interaction/communication between MCAS-Beaufort and its neighbors".

Let us all be mindful that our shared objective must be first and foremost: **" to protect the health and safety of residents living or working near military installations".** This can only be accomplished through the establishment and continuation of cooperative relations between the local base command, community officials as well as those citizens directly impacted by the changes now occurring at the Air Station.

Nothing should prevent us from achieving this objective.

Respectfully submitted<

North of Broad Neighbors

Barbara Billet, 26 Harford Beaufort, SC 29906

Terry Connor, 47 Harford Beaufort, SC 29906

Frank Cummings, 57 James Habersham Beaufort, SC 29906

Craig Disher, 26 Eve Creek Beaufort, SC 29906

Jeffrey Gott, 30 Treadlands Beaufort, SC 29906

Greg Irving, 6 Assembly Row Beaufort, SC 29906

William Libert, 15 Overdam Beaufort, SC 29906

Jack McCourt, 7 Tuscarora Trail Beaufort, SC 29906

Sharon Reilly, 27 Little Jane Way Beaufort, SC 29906

Jim Turk, 5 East Manor Beaufort, SC 29906

cc: The JLUS Policy Committee Members

March 20, 2015

Mr. Tyson Smith
White & Smith
Planning and Law Group of Charleston
255 King Street
Charleston, SC 29401

Ms. Ginnie Kozak
2015 Lowcountry JLUS
634 Campground Road
Yemassee, SC 29945

Dear Mr. Smith and Ms. Kozak:

At last night's JLUS Public Workshop, I raised my concern to Mr. Smith about the commencement of the TDR process and Bank. As a taxpayer of Beaufort County it does not seem fair that the taxpayers of this County should foot the bill of the operations of the Transfer Development Rights program when the ultimate beneficiary of this program is MCAS Beaufort. I realize that these development rights can be transferred but the rights will only be created by the need for the Base to protect against residential encroachment. The JLUS report recommends that the County hire a part-time Administrator for the program, develop forms and manage the process. This would become a part of the County budget.

If the above is the case then the military should be buying the properties outright without creating another government vehicle, which requires monies and personnel to operate. This financial burden will fall on the shoulders of the Beaufort County taxpayers. Stop the growth in government and have the military conduct direct purchases of properties.

I would like the JLUS to include this letter in its final work product as evidence of the need for initiating dialogue on this taxpayer issue.

Very truly yours,

Jeff Gott

NORTH OF BROAD NEIGHBORS

30 Treadlands, Beaufort, South Carolina 29906

Email: contact.nobn12@gmail.com

March 20, 2015

Mr. Tyson Smith
White & Smith
Planning and Law Group of Charleston
255 King Street
Charleston, SC 29401

Ms. GinnieKozak
2015 Lowcountry JLUS
634 Campground Road
Yemassee, SC 29945

Dear Mr. Smith and Ms. Kozak:

At last night's JLUS Public Workshop, NOBN raised our concern over the absence of any recommendation on flight pattern change as a means of mitigating safety and noise concerns. As far as we have been able to discover, there is no actual proposal or even discussion in the March 11, 2015 Public Review JLUS documents of change in a flight path to achieve a goal of mitigation.

The attached document contains maps from the AICUZ and the final EIS, together with accompanying commentary, which quite clearly show that there are reasonable options available to implement flight path changes. These changes would minimize the safety and noise concerns that residents have expressed. They also have implications for the local zoning decisions that the County will have to address.

We would like the JLUS to include these documents in its final work product as evidence of the need for initiating dialogue on the issue of reasonable mitigation to protect the safety and health of residents living or working near MCAS Beaufort.

Very truly yours,

Jeff Gott, Chair

cc: The JLUS Policy Committee Members

North of Broad Neighbors

Barbara Billet, 26 Harford Beaufort, SC 29906

Terry Connor, 47 Harford Beaufort, SC 29906

Frank Cummings, 57 James Habersham Beaufort, SC 29906

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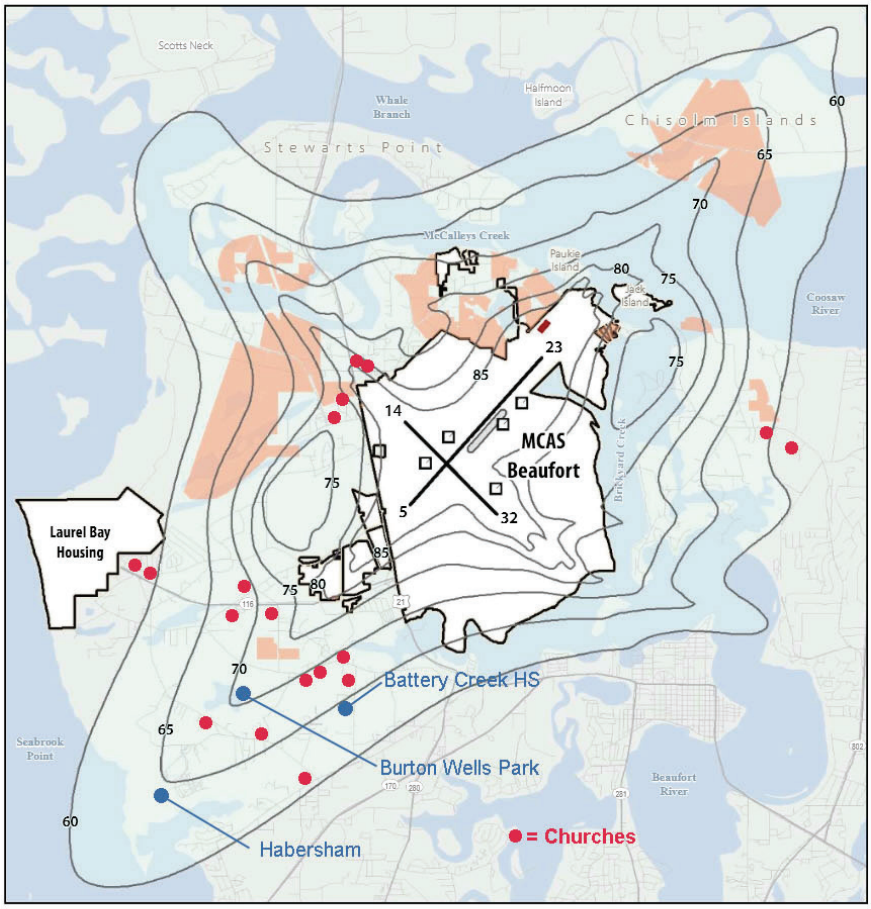
Jim Turk, 15 East Manor Beaufort, SC 29906

This map is taken from the 2014 MCAS/B AICUZ

- Churches and significant residential and public developments are indicated
- Burton Wells Recreation Center covers over 300 acres and encloses lighted baseball, football, and soccer fields. It's the largest county park and is used day and night.
- Note the absence of development to the NE of MCAS/B



SCALE
0 0.5 1 Miles

Legend

- Vertical Landing Pads
- 2013 Noise Countour (db DNL)
- Runway
- FBO
- LHD Facility
- Major Road
- MCAS Beaufort Base Boundary
- USMC Land Protected Under Restrictive Easements
- Waterbody

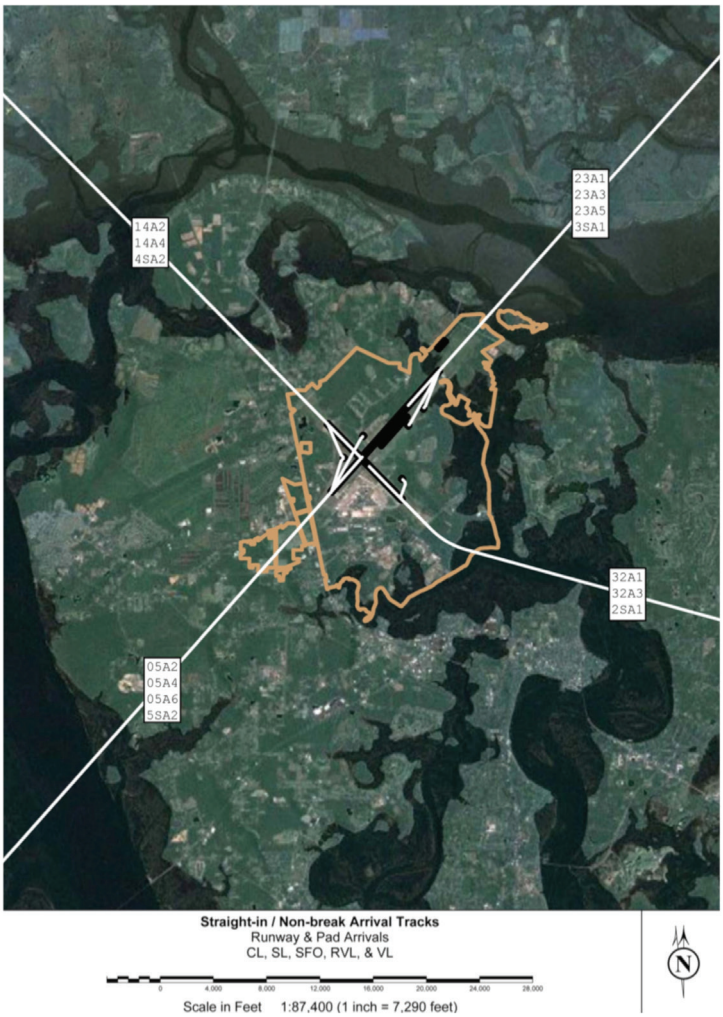
Figure 4-1
AICUZ Noise Contours
MCAS Beaufort
MCAS Beaufort AICUZ
Beaufort County, SC

Note: The location of Vertical Landing Pads, FBO, and LHD Facility, as well as the Flight Tracks and Noise Contours are based on the 2010 USMC F-35B East Coast Final EIS.

© 2013 Ecology and Environment, Inc.

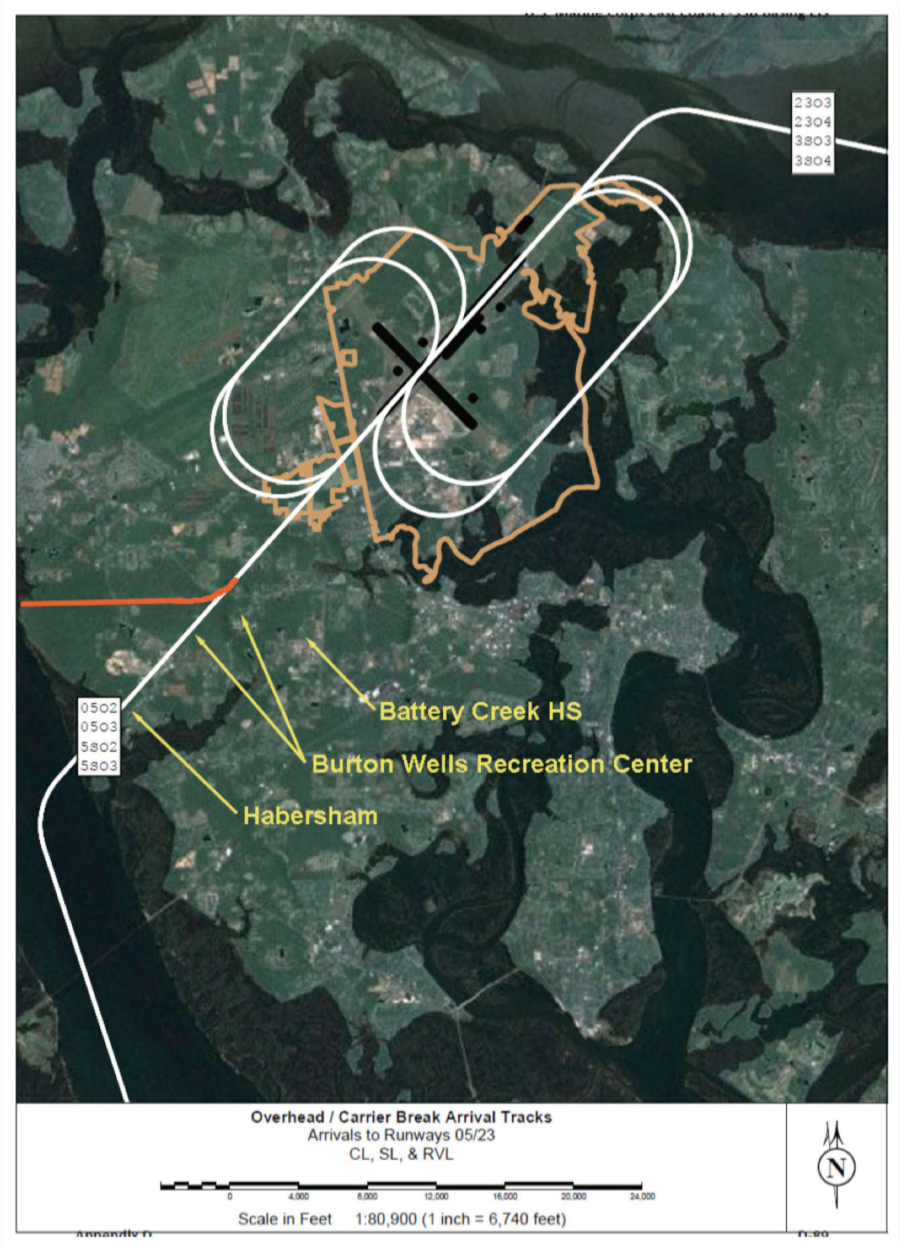
This map is taken from the 2010 EIS. It shows the primary departure and arrival tracks for air operations.

- The NE/SW runway is 05/23; the NW/SE runway is 14/32
- 80% of departures and arrivals occur on 05/23 with the majority occurring over the SW.
- Note the left turn from runway 14/32 that avoids residential and commercial areas in downtown Beaufort.
- A similar turn could be used to direct departures and arrivals over less populated land in the Burton area, SW of the airbase, and would help avoid the residential and commercial encroachment that is occurring there.
- The aerial background image is at least 10 years old and doesn't show the level of development that has occurred in the Burton area.



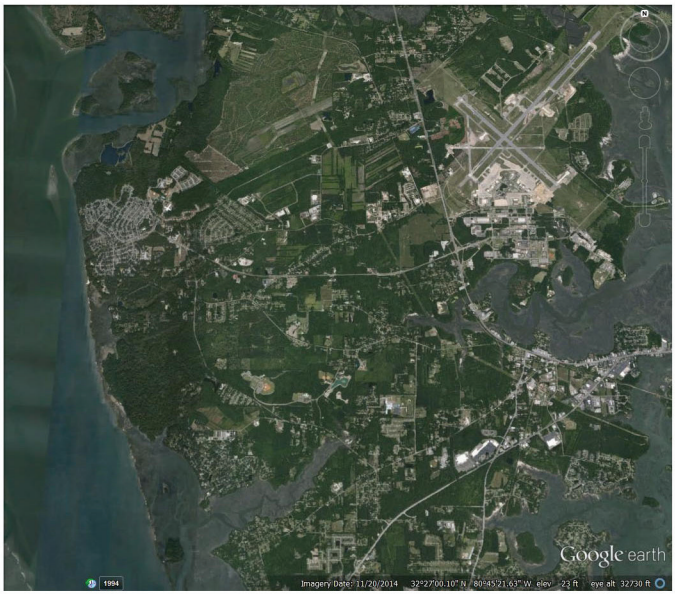
This map is from the 2010 EIS. It shows arrival flight tracks (in white) for one type of air operation.

- Note the angled turn for arrivals from both directions.
- For example, applying the same turning angle and distance from the runway, the red line shows a possible arrival track that would bring flights over areas that are much less populated.



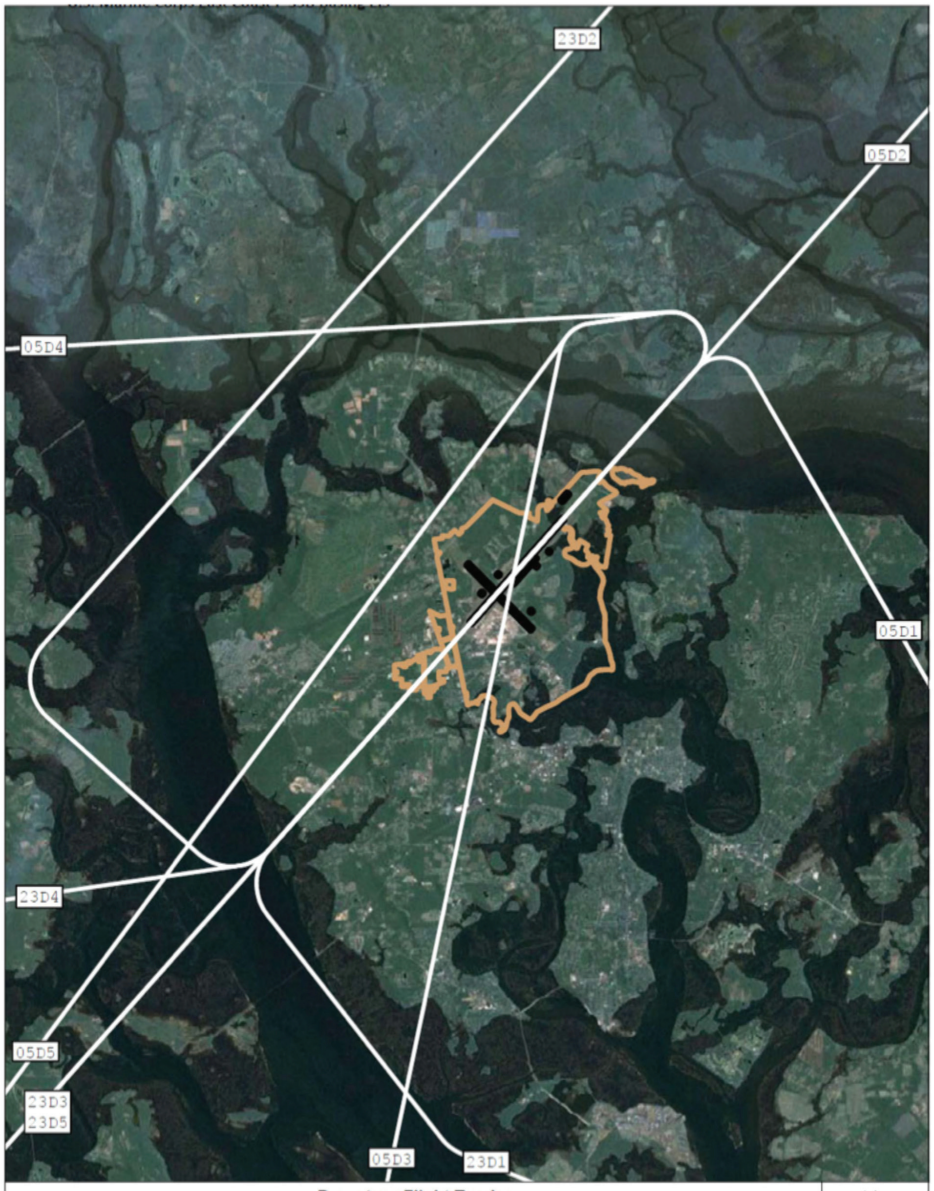
These are two aerials taken in November, 2014. They accurately represent the level of residential and commercial development surrounding the airbase.

- The lower image shows the residential developments that fall under the straight-in flight paths for runway 05/23. The playing fields at Burton Wells Park are also visible.
- The upper image shows the extensive unpopulated land to the NE of the airbase.
- Safety and noise considerations suggest that moving most arrivals to this sector would be prudent.



These are some of the most common departure flight tracks. Planes following these tracks are typically destined for training or destinations away from Beaufort.

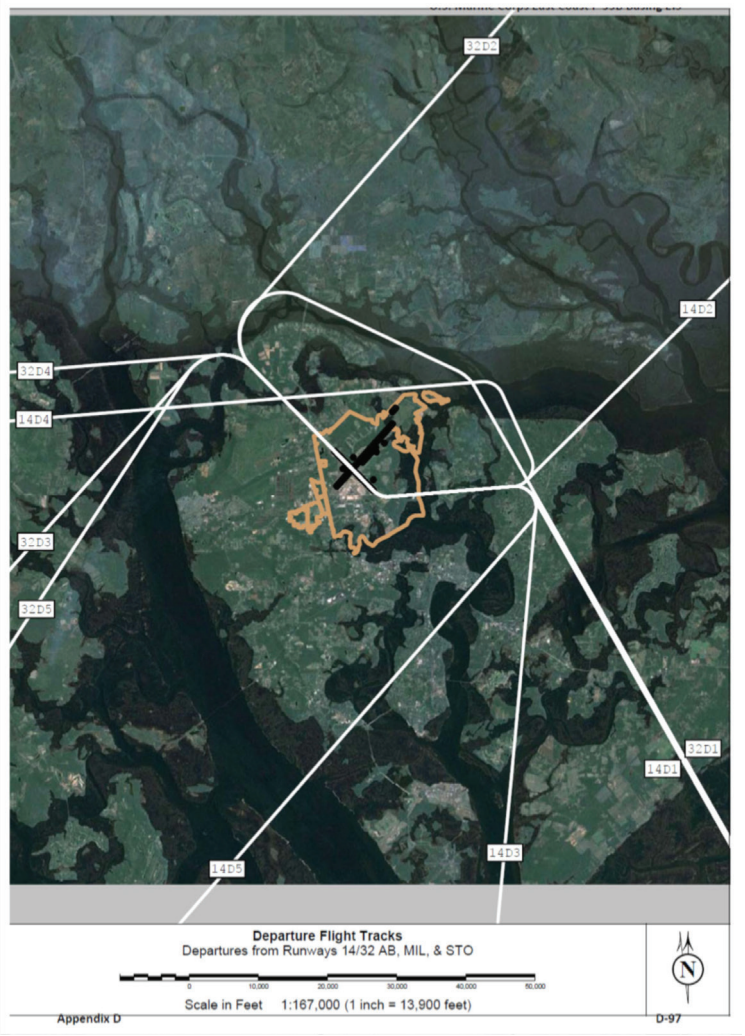
- Notice the abrupt turns that can be achieved during takeoffs.
- Most departures are to the SW, directly over Burton and the development there.
- Note also the long distance between the end of the runway and the first turn for flights to the SW compared to the much shorter turn for flights heading to the NE.



D-96 Appendix D

These patterns are for departure operations similar to the previous map except that these flights are using runway 14/32.

- The immediate turn taken by the departure to the SE (designed to avoid downtown Beaufort) shows that there is significant flexibility available in planning departure flight tracks.
- Based on what is shown on this map, departure tracks that avoid the populated areas in Burton (shown in the previous map) are certainly achievable.
- A scheme which directs most arrivals to occur from the NE (over unpopulated land) and most departures to the SW (turning to avoid the Burton residential areas) would satisfy many safety and noise concerns expressed by the Burton residents.

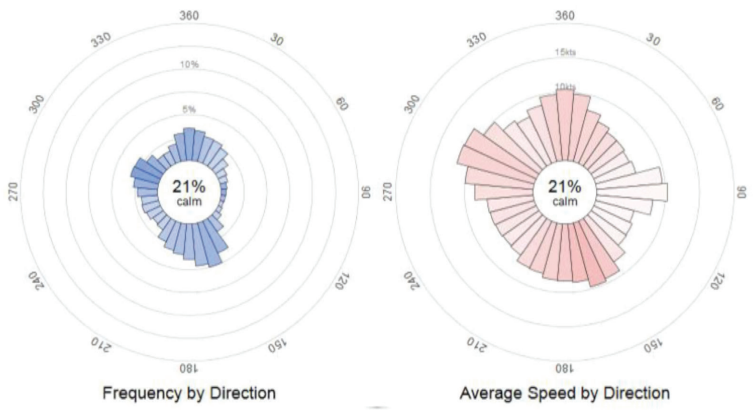


These wind roses show that there is no prevailing wind direction at MCAS/Beaufort – compared to that at the Yuma MCAS. Additionally, the average wind speed is nearly uniform from every direction

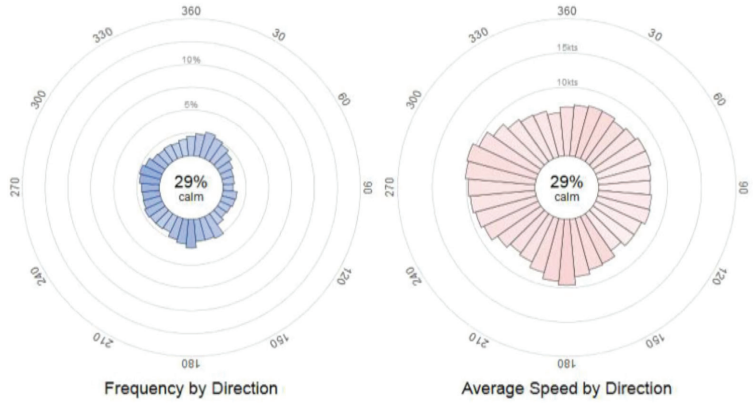
- Based on these yearly averages, wind should have no influence on deciding preferred approach or departure tracks.
- Wind will vary from day to day (although the wind is calm almost 30% of the time) which suggests that runway use will be decided on a day-to-day basis.

Yearly Average Wind Direction and Wind Speed

KNYL: Mcas Yuma



KNBC: Beaufort Mcas



Appendix F

Transferable Development Rights Next Steps and Policy

TRANSFERABLE DEVELOPMENT RIGHTS (TDR) NEXT STEPS AND POLICY CONCEPTS

Introduction

As part of the Joint Land Use Study process, the JLUS Project Team was asked to identify steps needed to complete the implementation process for the Transferable Development Rights (TDR) program Beaufort County adopted in 2011, following an initial TDR Study in 2008 and TDR Implementation Plan in 2011. While the legal mechanisms currently are in place to effectuate the transfer of development rights, the Lowcountry Council of Governments wishes to augment the existing ordinance with implementation forms and specific steps to "jump-start" the program.

Indeed, the funding for doing so has been in place for a good while. In 2009, regional representatives in the area received $250,000 from the South Carolina Military Base Task Force to establish a Transfer of Development Rights program to mitigate encroachment around the Marine Corps Air Station Beaufort. The Lowcountry Council of Governments was assigned the responsibility of serving as fiduciary agent for the monies. According to the LCOG, the monies may be used for program implementation, including the TDR Bank, and the purchase of TDRs from prioritized sending areas, as is recommended here.

Recommendations prepared by the JLUS Project Team included several urgent administrative matters, which the JLUS Policy Committee included in the Implementation Plan for the Joint Land Use Study itself. Chief among these is identifying an administrative agency to implement the program and to begin allocating grant funds for TDR purchases and program implementation through a TDR Bank, pursuant to the 2009 state grant and the County TDR Ordinance. These matters are shown in the matrix chapter 6.

There were, however, several additional critical "next steps" and a series of "policy concepts" that were raised during the JLUS process, which the Policy Committee felt were better suited for consideration by the elected officials at Beaufort County, the Town of Port Royal, and the City of Beaufort. These concepts were seen as potential ways of increasing transfer activity and of using the state grant funds for initial purchases.

The following sections outline these "next steps" for implementing the TDR program, as well as, the "policy concepts" identified by the JLUS Policy and Technical Committees for consideration by County, Town, and City elected officials. These recommendations build on the initial recommendations in the 2011 TDR Implementation Plan, which addressed these steps in detail.

Next Steps

It is recommended that the Beaufort County Council consider a resolution directing the County Administrator, or the County Administrator's designee, to undertake the following steps to fully implement the TDR program for Marine Corps Air Station Beaufort.

1. **TDR Administrator Designated**. Designating a county official (or hiring a part-time or contract employee) to assume responsibility for implementing the recommendations of the 2011 TDR Implementation Plan, including the steps listed below. This official will be the "TDR Administrator." The TDR Administrator will act at the direction of and reports to the County Administrator or the County Administrator's designee.

2. **Program Start-Up.** Within ninety (90) days of the date of the County Council Resolution directing the County Administrator, or the County Administrator's designee, to undertake these tasks, the TDR Administrator shall complete the following initial tasks, and report to the County Council the results and provide the requested materials:

   a. ***TDR Easement Co-Holder***. After discussions with appropriate third-parties, recommend to the County Council a TDR Easement holder (along with the County) to enforce easements entered into between the County and Sending Area property owners. The third-party holder is referred to as a "co-holder" of the TDR Easements, along with the County (designated the primary "holder"). Upon recommendation and consideration, the County Council may enter an agreement with a third-party co-holder, as provided in the TDR Implementation Plan and TDR Ordinance.

   b. ***TDR Bank***.

      i. Established. Work with the County Administrator, County Attorney, and County Chief Financial Officer, or their designees, to establish a County fund into which monies available for the purchase of TDRs will be deposited and managed according to the County's TDR ordinance, the TDR Implementation Plan, and any applicable spending restrictions associated with deposited funds (*e.g.*, grant monies).

      ii. Initial funding sources. Funding sources for the TDR bank initially will include:

         - funding from the 2009 S.C. Military Base Task Force grant, once these funds are approved for transfer by the Lowcountry Council of Governments and the Beaufort Regional Chamber of Commerce, as required, and once all terms of the grant have been met; and
         - cash-in-lieu payments from TDR Receiving Area property owners, pursuant to the provisions of the TDR Ordinance.

      iii. 2009 S.C. Military Base Task Force Grant. The TDR Administrator will work with the Lowcountry Council of Governments to develop an informal Memorandum of Understanding outlining the terms of the transfer of any funds from the LCOG, originating from the Military Base Task Force Grant, to the County for use *solely* for the implementation of the MCAS TDR program as provided in the County TDR Ordinance and the terms of the Grant.

   c. ***TDR Webpage***. Create a TDR webpage on the County's existing website to provide to the public the implementation materials developed by the JLUS Project Team, which have been provided to the Lowcountry Council of Governments, including:

      i. Application to Create TDRs on a Sending Area Parcel
      ii. TDR FAQs ("Frequently Asked Questions")
      iii. TDR Program Overview ("Flowchart")
      iv. Lost TDR Certificate Reissuance Application
      v. Application to Redeem TDRs in a TDR Receiving Area
      vi. Application to Transfer TDR Certificate

   d. ***TDR Outreach***.

      i. Written Notice to Property Owners of Prioritized Lands. Continue the TDR outreach effort, by sending formal letters inviting eligible Sending Area property owners, interested in preserving their land, to apply for TDR purchases available through the S.C. Military Base Task Force Grant. Eligible property owners have been prioritized according to previously established criteria.

      ii. Public Notice. Provide public notice and media releases to ensure widespread awareness of the availability of TDR funding.

   e. ***Program Maintenance***. Administer the TDR program using the TDR implementation materials provided by the JLUS Project Team, which also have been provided to the Lowcountry Council of Governments, including:

      i. TDR Certificate
      ii. Sample TDR Easement
      iii. TDR Program Clearinghouse

3. **Program Administration**. Following the 90-day start-up period and upon the subsequent direction of the County Council, the TDR Administrator shall:

   a. Continue to administer the TDR program on an ongoing basis, pursuant to the TDR Implementation Plan, including the following general implementation areas:

      i. Receiving and processing "Applications to Create TDRs" and TDR Easements (initiated by a Sending Area property owner or through purchase by the TDR Bank);

      ii. Establishing the price per TDR for cash-in-lieu payments, as provided by the County TDR Ordinance;

iii. Entering into TDR easements with qualified Sending Area property owners;

iv. Issuing TDR Certificates to qualified Sending Area property owners;

v. Conditioning approval of the projects using TDRs within the Receiving Areas, to achieve densities greater than existing baseline densities, according to the provisions of the County TDR Ordinance.

b. Advance the purchase of TDRs pursuant to 2009 S.C. Military Base Task Force grant, resuming the prioritization of sending area lands begun by the County.

c. Track all expenses for Program Start-Up and on-going Program Administration for a period of two-years and to report same to the County Council by July 1, 2017 and to the Lowcountry Council of Governments.

d. Coordinate with the Lowcountry Council of Governments in accordance with the Memorandum of Understanding completed during or immediately following the 90-day start-up period.

Policy Concepts

There were a number of potential adjustments to the existing TDR program that were identified by the JLUS Project Team during the Joint Land Use Study, in addition to the more immediate implementation matters set out above. These are, in short, "policy concepts" for the consideration of the County and other local elected officials, which may *increase interest and participation in the TDR program* and, therefore, the inventory of protected lands in the vicinity of Marine Corps Air Station Beaufort.

1. **Update Sending Area, per F-35B AICUZ zones**: After public input and deliberation, consider updating TDR Sending Area(s) boundaries based on emerging F-35B operations and 2013 AICUZ zones.
2. **Existing *AICUZ Buffer*:** Consider appropriateness of removing the quarter-mile (1,320 linear ft.) AICUZ buffer around the current (F-18) Sending Area, if the Sending Area is changed to reflect emerging F-35B MCAS flight operations and AICUZ zones.
3. **Clarify Existing Receiving Area Boundaries**: Clarify boundaries of existing Receiving Areas – the County TDR Ordinance currently describes them as including all areas on Port Royal Island not in the Sending Area, but 2011 Implementation Study recommends smaller defined areas (See Figure 1, p. 6). It is the understanding of many, that it is only the smaller areas recommended in the TDR Implementation Plan that are eligible to receive TDRs.
4. **Consider Regional Implementation**: Work with City of Beaufort and Town of Port Royal to partner in the TDR program by codifying the full TDR framework, consistent with the County's TDR Ordinance; or, in the alternative, to agree to apply the TDR program to any lands the City or Town annexes, which currently are in a County TDR Sending or Receiving Area.
5. **Identify Additional Receiving Areas**:
   a. On County lands, Beaufort County to evaluate additional TDR Receiving Areas in unincorporated Beaufort County.
   b. On City/Town lands, work with City and Town officials to identify additional Receiving Areas in incorporated areas.
6. **Heirs Properties**: Evaluate procedural options and existing resources available to encourage and facilitate TDR transfers from heirs properties. Identify existing sources to fund complex title work on heirs properties.
7. **Reductions to Baseline Density**: Consider effectiveness and feasibility of decreasing "by right" densities in the Receiving Areas, in order to increase demand for transferred density.
8. **TDRs for High-Demand Land Uses**. Identify land uses allowed in the Receiving Areas that currently are in high demand, but which require intensification (*e.g.*, gas tanks) and approve the creation of these land uses by use of TDRs.
9. **Reevaluate Site Capacity Calculations**: County to consider allowing density calculations to be "rounded up" by use of TDRs.
10. **Identify and Pursue Additional Funding Sources for TDR Purchases**: Evaluate additional sources of funding, including funds from Rural and Critical Land Preservation Program; the Encroachment Partnering (EP) program/Readiness and Environmental Protection Initiative (REPI); MILCON (military construction) funds; and local and additional state funding (in addition to the 2009 State grant funds or RCLPP) including contributions from non-profit agencies and local governments to fund TDR purchases.

Appendix G

Local Governments' Resolutions of Support for an Outlying Landing Field

PORT ROYAL
EST. 1562
COOL. COASTAL. FAR FROM ORDINARY.

Council

Samuel E. Murray
Mayor

Mary Beth Heyward
Mayor Pro Tempore

Vernon DeLoach
Tom Klein
Joe Lee

Van Willis
Town Manager

T. Alan Beach
Chief of Police

Jeffrey S. Coppinger
Daniel G. Lemieux
Operations

Linda Bridges
Planning

Resolution 5-2015

A RESOLUTION OF THE TOWN OF PORT ROYAL COUNCIL IN SUPPORT OF THE CREATION OF AN OUTLYING AIRFIELD FOR USE OF THE MARINE CORPS AIR STATION BEAUFORT

WHEREAS, the Port Royal Town Council recognizes that the Marine Corps Air Station ("MCAS") Beaufort is an important asset to Beaufort County and serves as both an economic and employment resource for the community; and

WHEREAS, the MCAS Beaufort has expanded its mission to introduce F-35B pilot training; and

WHEREAS, such training operations allow U.S. Marine Corps pilots and crew fly in patterns as well as practice touch and go landing, thus simulating carrier landings and take offs; and

WHEREAS, the introduction of the U.S. Marine Corps F-35B aircraft and related training squadrons will increase the tempo of flights departing and landing at the MCAS Beaufort and during these practice runs, jet aircraft approach the runway and touch down, immediately taking off again, looping around the field to prepare for another landing and take-off multiple times during training events; and

WHEREAS, while performing the touch and go maneuvers, the practicing aircraft fly at low altitudes and at low speeds; and

WHEREAS, these flight operations produce increased noise for the local area where the operations take place and the use of an outlying airfield in a rural location would provide an alternative airfield for those operations and reduce the noise impact on Beaufort County.

NOW, THEREFORE, BE IT RESOLVED by the Port Royal Town Council, Duly assembled, and with authority of same hereby supports the need for an outlying airfield for use by aircrew stationed at MCAS Beaufort to support day and night Field Carrier Landing Practice (FCLP) operations by the U.S. Marine Corps aircraft.

Resolution 5-2015

Dated this 8th day of April, 2015

Requested by:

Milton E. Willis
Town Manager

Approved by:

Samuel E. Murray
Mayor

Attest:

Tanya L. Payne
Municipal Clerk

RESOLUTION 2015 / 5

A RESOLUTION OF BEAUFORT COUNTY COUNCIL IN SUPPORT OF THE CREATION OF AN OUTLYING AIRFIELD FOR USE OF THE MARINE CORPS AIR STATION BEAUFORT

WHEREAS, the Beaufort County Council recognizes that the Marine Corps Air Station ("MCAS") Beaufort is an important asset to Beaufort County and serves as both an economic and employment resource for the community; and

WHEREAS, the MCAS Beaufort has expanded its mission to introduce F-35B pilot training; and

WHEREAS, such training operations allow U.S. Marine Corps pilots and crew fly in patterns as well as practice touch and go landing, thus simulating carrier landings and take offs; and

WHEREAS, the introduction of the U.S. Marine Corp F-35B aircraft and related training squadrons will increase the tempo of flights departing and landing at the MCAS Beaufort and during these practice runs, jet aircraft approach the runway and touch down, immediately taking off again, looping around the field to prepare for another landing and take-off multiple times during training events; and

WHEREAS, while performing the touch and go maneuvers, the practicing aircraft fly at low altitudes and at low speeds; and

WHEREAS, these flight operations produce increased noise for the local area where the operations take place and the use of an outlying airfield in a rural location would provide an alternative airfield for those operations and reduce the noise impact on Beaufort County.

NOW, THEREFORE, BE IT RESOLVED by Beaufort County Council, duly assembled, hereby supports the need for an outlying airfield for use by aircrew stationed at MCAS Beaufort to support day and night Field Carrier Landing Practice (FCLP) operations by the U.S. Marine Corps aircraft.

DONE this 9th of March, 2015.

COUNTY COUNCIL OF BEAUFORT COUNTY

By:_____

D. Paul Sommerville, Chairman

APPROVED AS TO FORM:

_____

Joshua A. Gruber, Deputy County Administrator
Special Counsel

RESOLUTION

A RESOLUTION OF CITY OF BEAUFORT IN SUPPORT OF THE CREATION OF AN OUTLYING AIRFIELD FOR USE OF THE MARINE CORPS AIR STATION BEAUFORT

WHEREAS, the City of Beaufort Council recognizes that the Marine Corps Air Station (MCAS) Beaufort is an important asset to Beaufort County and serves as both an economic and employment resource for the community; and

WHEREAS, the MCAS Beaufort has expanded its mission to introduce F-35B pilot training; and

WHEREAS, such training operations allow U.S. Marine Corps pilots and crew fly in patterns as well as practice touch and go landing, thus simulating carrier landings and take offs; and

WHEREAS, the introduction of the U.S. Marine Corp F-35B aircraft and related training squadrons will increase the tempo of flights departing and landing at the MCAS Beaufort and during these practice runs, jet aircraft approach the runway and touch down, immediately taking off again, looping around the field to prepare for another landing and take-off multiple times during training events; and

WHEREAS, while performing the touch and go maneuvers, the practicing aircraft fly at low altitudes and at low speeds; and

WHEREAS, these flight operations produce increased noise for the local area where the operations take place and the use of an outlying airfield in a rural location would provide an alternative airfield for those operations and reduce the noise impact on Beaufort County.

NOW, THEREFORE, BE IT RESOLVED by the Mayor and City Council of the City of Beaufort, South Carolina that the City of Beaufort hereby supports the need for an outlying airfield for use by aircrew stationed at MCAS Beaufort to support day and night Field Carrier Landing Practice (FCLP) operations by the U.S. Marine Corps aircraft.

IN WITNESS THEREOF, I hereunto set my hand and caused the Seal of the City of Beaufort to be affixed this 24th day of March, 2015.

BILLY KEYSERLING, MAYOR

ATTEST:

IVETTE BURGESS, CITY CLERK