



Flight Training Activities in the Bourbon Military Operations Area Offshore from Naval Air Station Joint Reserve Base New Orleans, Louisiana



Draft
Environmental Assessment
August 2024

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DRAFT
ENVIRONMENTAL ASSESSMENT
For
FLIGHT TRAINING ACTIVITIES IN THE BOURBON MILITARY
OPERATIONS AREA
Offshore from
NAVAL AIR STATION JOINT RESERVE BASE NEW ORLEANS, LOUISIANA

AUGUST 2024



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Abstract

Designation: Environmental Assessment

Title of Proposed Action: Flight Training Activities in the Bourbon Military Operations Area

Project Location: Naval Air Station Joint Reserve Base New Orleans

Lead Agency for the EA: Department of the Navy

Cooperating Agency: Federal Aviation Administration

Affected Region: St. Bernard Parish, Louisiana

Action Proponent: United States Fleet Forces Command

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Date: August 2024

United States (U.S.) Fleet Forces Command, a Command of the U.S. Navy, proposes to request that the Federal Aviation Administration (FAA) establish a new Military Operations Area (MOA) and associated Air Traffic Control Assigned Airspace (ATCAA), named the Bourbon MOA/ATCAA, east of Naval Air Station Joint Reserve Base New Orleans (NAS JRB NOLA) adjacent to the existing Snake MOA/ATCAA to accommodate required flight training activities for squadrons stationed at the base. The FAA has jurisdictional authority of the National Airspace System and is a Cooperating Agency for this action. This Environmental Assessment evaluates the potential environmental impacts associated with the Proposed Action and the No Action Alternative.



**Federal Aviation
Administration**

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EXECUTIVE SUMMARY

ES.1 Proposed Action

United States (U.S.) Fleet Forces Command, a Command of the U.S. Navy (hereinafter referred to as the Navy) proposes to request that the Federal Aviation Administration (FAA) establish a new Military Operations Area (MOA) and associated Air Traffic Control Assigned Airspace (ATCAA), named the Bourbon MOA/ATCAA, east of Naval Air Station Joint Reserve Base New Orleans (NAS JRB NOLA) adjacent to the existing Snake MOA/ATCAA to accommodate required flight training activities for squadrons stationed at the base. The FAA has jurisdictional authority of the National Airspace System and is a Cooperating Agency for this action.

This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) (42 U.S. Code [U.S.C.] section 4321 et seq.), as amended by the Fiscal Responsibility Act of 2023, and as implemented by Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] parts 1500–1508), and Navy regulations for implementing NEPA (32 CFR part 775); and Chief of Naval Operations Instruction 5090.1E, Environmental Readiness Program. The EA has also been prepared in accordance with FAA airspace and NEPA policy and procedures contained in FAA Joint Order (JO) 7400.2P and FAA Order 1050.1F.

ES.2 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to more efficiently accomplish training requirements for squadrons based at NAS JRB NOLA. Efficiencies are achieved when pilots can train in Special Use Airspace (SUA) of sufficient size and proximity to the base.

The Proposed Action is needed because existing SUA is located a considerable distance from NAS JRB NOLA resulting in prolonged transit times and reduced training time.

ES.3 Alternatives Considered

Alternatives were developed for analysis based upon the following reasonable alternative screening factors:

- Flight training should occur in SUA that provides a closer entry point for pilots based at NAS JRB NOLA than existing SUA for gains in training efficiency
- SUA must be large enough to accommodate flight profile requirements of the training mission to include supersonic flight
- SUA must connect to other existing SUA to provide the expanded space to support existing large scale exercises with multiple aircraft
- SUA must offer Navy squadrons prioritized access to training space in order to alleviate existing scheduling conflicts
- SUA must maintain aviation safety and reduce impacts to civil users to the extent practicable while supporting the military mission needs.
- SUA must be acceptable to the FAA and FAA action must be in compliance with FAA Order 1050.1F.

The Navy is considering one action alternative that meets the purpose of and need for the Proposed Action and a No Action Alternative. The action alternative is to request that the FAA establish a block of SUA east of NAS JRB NOLA to be named the Bourbon MOA/ATCAA to accommodate required flight training activities.

ES.4 Public Involvement

The Navy has prepared this EA to inform the public of the Proposed Action and to allow the opportunity for public review and comment. Through the public involvement process, the Navy notifies the public of the Proposed Action and solicits their input on the EA. Input from the public will be incorporated into the analysis of potential environmental impacts, as appropriate.

The Draft EA 45-day review period begins with the publication of a Notice of Availability of the Draft EA in *The New Orleans Advocate*. The Draft EA is available on the following website:

<https://www.nepa.navy.mil/NOLASUA>.

The Navy has also made copies of the Draft EA available at two local libraries:

- Belle Chasse Branch Library: 8442 LA-23, Belle Chasse, Louisiana 70037
- Plaquemines Parish Library: 35572 Highway 11, Buras, Louisiana 70041

The public is invited to submit comments on the Draft EA by any of the following methods:

- electronically, via the project website: <https://www.nepa.navy.mil/NOLASUA>
- in writing, by mail to: NOLA SUA Project Manager, Naval Facilities Engineering Systems Command Atlantic, Attn: Code EV21JB, 6506 Hampton Blvd, Norfolk, Virginia 23508

The Navy is coordinating or consulting regarding the Proposed Action with the following entities:

- U.S. Fish and Wildlife Service (USFWS), Louisiana Ecological Services
- National Oceanic and Atmospheric Administration (NOAA) Fisheries Southeast Regional Office
- Louisiana Office of Cultural Development, Division of Historic Preservation
- Chitimacha Tribe of Louisiana
- Louisiana Department of Energy and Natural Resources (LDENR), Office of Coastal Management

ES.5 Summary of Environmental Resources Evaluated in the EA

NEPA, CEQ regulations, and Navy regulations for implementing NEPA, specify that an EA should address those resource areas potentially subject to impacts. In addition, the level of analysis should be commensurate with the anticipated level of environmental impact.

The following resource areas have been evaluated in detail in this EA: airspace management, noise, biological resources, coastal zone, visual effects, cultural resources, and environmental justice. Because potential impacts were considered to be insignificant, negligible, or nonexistent, the following resources were not evaluated in detail in this EA: air quality and greenhouse gases (GHGs); land use; farmlands; geology, topography, and soils; hazardous materials, solid waste, and pollution prevention; natural resources and energy supply; public health and safety; socioeconomics; and water resources.

ES.6 Summary of Potential Environmental Consequences of the Proposed Action

Table ES-1 provides a summary of the potential impacts to the resources associated with the No Action Alternative and the Proposed Action Alternative (Preferred Alternative).

Table ES-1 Summary of Potential Environmental Consequences

<i>Resource Area</i>	<i>No Action Alternative</i>	<i>Proposed Action Alternative (Preferred Alternative)</i>
Airspace Management	Military aircraft from NAS JRB NOLA would continue to transit from NAS JRB NOLA to the existing Snake MOA/ATCAA and other nearby SUA.	<p>Potential impacts to civil aircraft traffic could occur during the 5 hours when the MOA is active daily.</p> <p>During a representative month of flight data in 2023, 251 aircraft transited the proposed Bourbon MOA (105 flights) and ATCAA (146 flights). The most common aircraft transiting through the MOA and ATCAA were commercial air carriers.</p> <p>Impacts to rerouting traffic around the active MOA could result in no more than approximately 4 minutes of added travel time.</p> <p>Rerouting around the proposed ATCAA could add 1 minute or less of travel time.</p> <p>No significant impact to airspace management would occur.</p>
Noise	<p>Military aircraft from NAS JRB NOLA would continue to transit to and from the Snake MOA/ATCAA and other nearby SUA.</p> <p>The current noise environment in the area proposed for Bourbon MOA/ATCAA would remain unchanged and includes noise exposure from routine overflight by various types of military and civilian aircraft at various altitudes.</p> <p>The subsonic noise level associated with the No Action Alternative is 35 dB DNL and there is less than one event daily that exceeds 65 dB SEL. Supersonic operations do not currently occur in the proposed airspace.</p>	<p>Subsonic noise levels in the proposed Bourbon MOA/ATCAA would be 52 dB DNL, a level that is compatible with all land uses. This level would not exceed significance thresholds defined by FAA; however, the 17 dB DNL increase is “reportable.”</p> <p>The maximum sound level (i.e., loudest) during a single event that could occur in the proposed MOA is 105 dB. This would result from an F-35 at 4,000 feet MSL using highest power. This would last only a few seconds and would occur infrequently. As with the No Action Alternative, less than one daily event would exceed 65 dB SEL.</p> <p>Supersonic noise would range between 34–42 dB CDNL, a level that is compatible with all land use types.</p> <p>No significant impacts to the noise environment would occur.</p>

<i>Resource Area</i>	<i>No Action Alternative</i>	<i>Proposed Action Alternative (Preferred Alternative)</i>
Biological Resources	Military aircraft from NAS JRB NOLA would continue to transit to and from the Snake MOA/ATCAA and other nearby SUA, generating low levels of noise. There would be no change to impacts to biological resources.	<p>Chronic noise exposure and exposure to high noise levels would not occur and there would be no hearing loss in any species.</p> <p>Birds and bats, including special status species, migratory birds, and Bald Eagles, could experience minor effects from aircraft noise including temporary changes in behavior, but these are not likely to cause long-term effects or population-level impacts; therefore, these impacts are not significant.</p> <p>Chaff and flare residual materials could pose a minor impact to fish and sea turtles who may inadvertently ingest these materials during normal feeding activities.</p> <p>Existing safety procedures would continue to reduce Bird/Wildlife Aircraft Strike Hazard.</p> <p>No significant impacts to biological resources would occur. Consultations with U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration Fisheries is underway.</p>
Coastal Resources	There would be no change in existing conditions that would affect coastal resources in Louisiana.	<p>Negligible impacts to coastal resources could result from use of chaff and flares. Annual usage is low, the area within which they would be used is large, and the materials that remain are small, making the potential for impacts negligible.</p> <p>The Proposed Action is consistent to the maximum extent practicable with the enforceable policies of the Louisiana Coastal Resources Program.</p> <p>No significant impacts to coastal resources would occur.</p>

<i>Resource Area</i>	<i>No Action Alternative</i>	<i>Proposed Action Alternative (Preferred Alternative)</i>
Visual Effects	There would be no change to existing military aircraft flight tempo, patterns, or other features of the study area that could result in visual effects.	<p>The addition of training flights in the Bourbon MOA/ATCAA would result in different flight patterns and an increase in the length of time aircraft would be viewable in this area, as compared to existing conditions. Due to the lateral area and altitude range in which aircraft could operate, and the transient nature of some overflights, effects would be only mildly discernible. Chaff and flare use would result in negligible to minor visual effects.</p> <p>No significant impacts to visual effects would occur.</p>
Cultural Resources	There would be no impact to known or unknown cultural resources as a result of the No Action Alternative.	<p>No direct impacts would occur to cultural resources.</p> <p>There are no known above ground archaeological sites or Traditional Cultural Properties. The three identified architectural resources located within the area of potential effects would not be impacted by the Proposed Action.</p> <p>Fort Proctor is the only standing architectural resource beneath the proposed SUA. It is located on the western boundary of the MOA where supersonic flights would occur above 30,000 feet MSL, which would reduce the number of sonic booms. Subsonic noise is below the level that could cause damage to structures (130 dB). Visual intrusions at the Fort are also expected to be minimal and similar to what is currently experienced.</p> <p>No significant impacts to cultural resources would occur.</p>

Resource Area	No Action Alternative	Proposed Action Alternative (Preferred Alternative)
Environmental Justice	There would be no change in existing conditions that could affect environmental justice populations.	The Proposed Action would not result in disproportionately high and adverse human health or environmental effects on minority or low-income communities. There are no minority or low-income communities located in the ROI.

Legend: % = percent; ATCAA = Air Traffic Control Assigned Airspace; CDNL = C-weighted Day-Night Average Sound Level; dB = decibel; DNL = Day-Night Average Sound Level; FAA = Federal Aviation Administration; MOA = Military Operations Area; MSL = mean sea level; NAS JRB NOLA = Naval Air Station Joint Reserve Base New Orleans; ROI = Region of Influence; SEL = Sound Exposure Level; SUA = Special Use Airspace

Environmental Assessment
Flight Training Activities in the Bourbon Military Operations Area
Offshore from
Naval Air Station Joint Reserve Base New Orleans, Louisiana
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Abbreviations and Acronyms

Acronym	Definition	Acronym	Definition
AGL	Above Ground Level	GHG	Greenhouse Gas
AHAS	Avian Hazard Advisory Safety System	Hz	Hertz
APE	Area of Potential Effects	IFR	Instrument Flight Rules
ARTCC	Air Route Traffic Control Center	JO	Joint Order
ATC	Air Traffic Control	LAANG	Louisiana Air National Guard
ATCAA	Air Traffic Control Assigned Airspace	LCRP	Louisiana Coastal Resources Program
BASH	Bird/Wildlife Aircraft Strike Hazard	LDENR	Louisiana Department of Energy and Natural Resources
BGEPA	Bald and Golden Eagle Protection Act	LDWF	Louisiana Department of Wildlife and Fish
CATEX	Categorical Exclusion	L _{max}	Maximum Sound Level
CDNL	C-weighted Day-Night Average Sound Level	LOA	Letter of Agreement
CEQ	Council on Environmental Quality	MBTA	Migratory Bird Treaty Act
CFR	Code of Federal Regulations	MMPA	Marine Mammal Protection Act
CRTC	Combat Readiness Training Center	MOA	Military Operations Area
CZMA	Coastal Zone Management Act	MSL	mean sea level
dB	decibel	NAAQS	National Ambient Air Quality Standards
dBA	A-weighted decibel	NAS	Naval Air Station
dBc	C-weighted decibel	NAS JRB	Naval Air Station Joint Reserve Base New Orleans
DNL	A-weighted Day-Night Average Sound Level	NOLA	National Environmental Policy Act
DoD	Department of Defense	NEPA	National Environmental Policy Act
DPS	Distinct Population Segment	NHPA	National Historic Preservation Act
EA	Environmental Assessment	NM	nautical mile
EIS	Environmental Impact Statement	NM ²	square nautical mile
EO	Executive Order	NOAA	National Oceanic and Atmospheric Administration
ESA	Endangered Species Act	NOTAM	Notice to Air Missions
FAA	Federal Aviation Administration	NRHP	National Register of Historic Places
FL	Flight Level	OEIS	Overseas Environmental Impact Statement
FONSI	Finding of No Significant Impact	PDARS	Performance Data Analysis and Reporting System
		R-	Restricted Area

Acronym	Definition	Acronym	Definition
ROI	Region of Influence		Protection Agency
SEL	Sound Exposure Level	USFWS	United States Fish and Wildlife Service
SHPO	State Historic Preservation Office(r)	VFC-111	Fighter Squadron Composite 111
SUA	Special Use Airspace	VFC-204	Fighter Squadron Composite Two Zero Four
TCP	Traditional Cultural Property	VFR	Visual Flight Rules
U.S.	United States	W-	Warning Area
U.S.C.	United States Code		
USEPA	United States Environmental		

1 Purpose of and Need for the Proposed Action

1.1 Introduction

United States (U.S.) Fleet Forces Command, a Command of the U.S. Navy (hereinafter referred to as the Navy) proposes to request that the Federal Aviation Administration (FAA) establish a new Military Operations Area (MOA) and associated Air Traffic Control Assigned Airspace (ATCAA), named the Bourbon MOA/ATCAA, east of Naval Air Station Joint Reserve Base New Orleans (NAS JRB NOLA) adjacent to the existing Snake MOA/ATCAA to accommodate required flight training activities for squadrons stationed at the base. The FAA has jurisdictional authority of the National Airspace System and is a Cooperating Agency for this action.

This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) (42 U.S. Code [U.S.C.] section 4321 et seq.), as amended by the Fiscal Responsibility Act of 2023, and as implemented by Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] parts 1500–1508), and Navy regulations for implementing NEPA (32 CFR part 775). The EA is also being prepared in accordance with FAA airspace procedures contained in FAA Joint Order (JO) 7400.2P and FAA NEPA procedures contained in and FAA Order 1050.1F.

1.2 Background

The mission of NAS JRB NOLA is to provide a high-quality training environment for active duty and reserve components of all branches of the armed services. The base hosts fixed-wing and helicopter squadrons. The primary tenant commands have a mission to train and maintain combat ready squadrons and servicemembers. NAS JRB NOLA offers over-land and over-water training environments to include training airspace, known as Special Use Airspace (SUA), over the Gulf of Mexico.

Navy Fighter Squadron Composite Two Zero Four (VFC-204) is one of the tenants at NAS JRB NOLA and is part of the Navy Reserve's Tactical Support Wing. VFC-204 provides critical adversary air support in simulated fighter combat as well as large multi-plane strike exercises to increase combat readiness. VFC-204 recently (2022–2023) transitioned from F/A-18 aircraft to F-5N aircraft. The aircraft transition did not in and of itself necessitate a requirement for new SUA, but the Navy is requesting changes to existing offshore SUA to provide a training environment closer to NAS JRB NOLA to improve training efficiency. The F-5N aircraft have different fuel storage specifications than their predecessor aircraft (F/A-18). The existing SUA is located a considerable distance from NAS JRB NOLA resulting in prolonged transit times to reach flight training areas. The F-5N requires SUA closer to NAS JRB NOLA to accomplish training requirements and functional check flights more efficiently as well as provide Fleet Operational Support and Fleet Replacement Squadron Support. Combat readiness depends on the continued availability of training areas which provide realistic, mission-oriented training.

The nearest existing SUA is 40 nautical miles (NM) from NAS JRB NOLA. Traveling to the existing SUA squanders valuable training time spent in transit, reducing training effectiveness and inefficiently using fuel resources. The Louisiana Air National Guard (LAANG) has scheduling authority for the existing SUA and prioritizes its use by Air National Guard units. Accordingly, the Navy must make efficient use of the SUA to avoid training delays caused by other uses of the airspace. The establishment of SUA closer to NAS JRB NOLA would offer several benefits to the Navy, including increased airspace size to better meet fleet training requirements; increased time in training airspace due to shorter transits, which makes

more efficient use of fuel resources; and an additional training area which could be prioritized for Navy use.

1.3 Cooperating Agency

Congress has charged the FAA with administering all navigable airspace in the public interest as necessary to ensure the safety of aircraft and the efficient use of such airspace. The FAA is the agency with jurisdiction by law and special expertise with respect to changes in the configuration of the National Airspace System. In accordance with the *Memorandum of Understanding Between the Federal Aviation Administration and the Department of Defense for Environmental Review of Special Use Airspace Actions*, dated September 23, 2019, the FAA is a Cooperating Agency for this EA. Copies of the Cooperating Agency correspondence are provided in **Appendix A**.

As a Cooperating Agency, the FAA will independently review the environmental documents prepared by the Navy and assess whether they meet the agency's standards for adequacy under NEPA. If the FAA determines that this EA meets its standards, it will adopt the document in whole or in part to fulfill its NEPA obligations for its independent proposed airspace action.

1.4 Special Use Airspace

The National Airspace System is the airspace, navigation facilities, and airports of the U.S., along with their associated information, services, rules, regulations, policies, procedures, personnel, and equipment. It includes components shared jointly with the military.

The primary purpose of the FAA SUA program is to establish/designate airspace in the interest of national defense, security, and/or welfare. Charted SUA identifies to other airspace users where these activities occur. SUA is airspace of defined dimensions wherein activities must be confined because of their nature or wherein limitations may be imposed upon aircraft operations that are not a part of those activities. Types of SUA include: Prohibited Areas, Restricted Areas, MOAs, Warning Areas, Alert Areas, Controlled Firing Areas, and National Security Areas (FAA Order JO 7400.2P). MOAs and ATCAAs are the primary types of airspace analyzed in this document and are described as follows:

- **Military Operations Area (MOA):** MOAs consist of airspace with defined vertical and lateral limits established for the purpose of separating certain military training activities from Instrument Flight Rules (IFR) traffic. Whenever a MOA is being used, non-participating IFR traffic may be cleared through a MOA if IFR separation can be provided by Air Traffic Control (ATC). Otherwise, ATC reroutes or restricts non-participating IFR traffic. Visual Flight Rules (VFR) traffic, which is permitted up to 18,000 feet, is not prohibited from flying within an active MOA and does so at their own risk.
- **Air Traffic Control Assigned Airspace (ATCAA):** ATCAA is airspace of defined vertical and lateral limits, assigned by ATC, for the purpose of providing air traffic segregation between the specified activities being conducted within the assigned airspace and other IFR traffic. ATCAAs are not classified as SUA and are not published on aeronautical charts, but rather designated in a Letter of Agreement (LOA) with the FAA. An ATCAA can be used for the same types of activities as a MOA and usually overlays a MOA within Class A airspace (18,000–60,000 feet). Non-military aircraft may fly in an ATCAA during military training so long as ATC can maintain IFR separation from military aircraft; only non-hazardous military activities may be undertaken in an ATCAA. VFR traffic is not permitted at or above 18,000 feet.

1.5 Location

NAS JRB NOLA is located in Plaquemines Parish, Louisiana, approximately 7 miles southeast of New Orleans, Louisiana (**Figure 1.5-1**), between the Mississippi River to the southeast and the Intracoastal Waterway to the northwest. The installation is approximately 3,345 acres in size, which includes 1,695 developed acres and 1,650 undeveloped acres.

The location of the proposed Bourbon MOA/ATCAA is east of NAS JRB NOLA and the city of New Orleans as depicted in **Figure 1.5-2**. The figure includes a 2-dimensional and 3-dimensional representation of the airspace. The proposed vertical segmentation of the MOA/ATCAA is detailed on the 3-dimensional graphic and will be described in more detail in Chapter 2 of this EA. Below the proposed MOA/ATCAA are primarily open waters of Breton Sound, Chandeleur Sound, Lake Borgne, the bayous and marshes of Biloxi State Wildlife Management Area and other bayous, and marshes of St. Bernard Parish. Due to the limited amount of land above sea level, relatively few residential or commercial structures underlie the proposed MOA/ATCAA. Sparsely inhabited areas are found underlying the western point of the MOA/ATCAA boundary, primarily concentrated at the communities of Shell Beach, Yscloskey, Hopedale, and in close proximity to State Routes 624 and 46. The ruins of Fort Proctor underlie the proposed MOA/ATCAA north of Shell Beach.

1.6 Purpose of and Need for the Proposed Action

The Navy has a statutory requirement to train and equip combat-capable naval forces ready to deploy worldwide. The Proposed Action furthers the Navy's execution of its congressionally mandated roles and responsibilities under 10 U.S.C. section 8062.

The purpose of the Proposed Action is to more efficiently accomplish training requirements for squadrons based at NAS JRB NOLA. Efficiencies are achieved when pilots can train in SUA of sufficient size and proximity to the base.

The Proposed Action is needed because existing SUA is located a considerable distance from NAS JRB NOLA resulting in prolonged transit times and reduced training time.



Figure 1.5-1 Naval Air Station Joint Reserve Base New Orleans

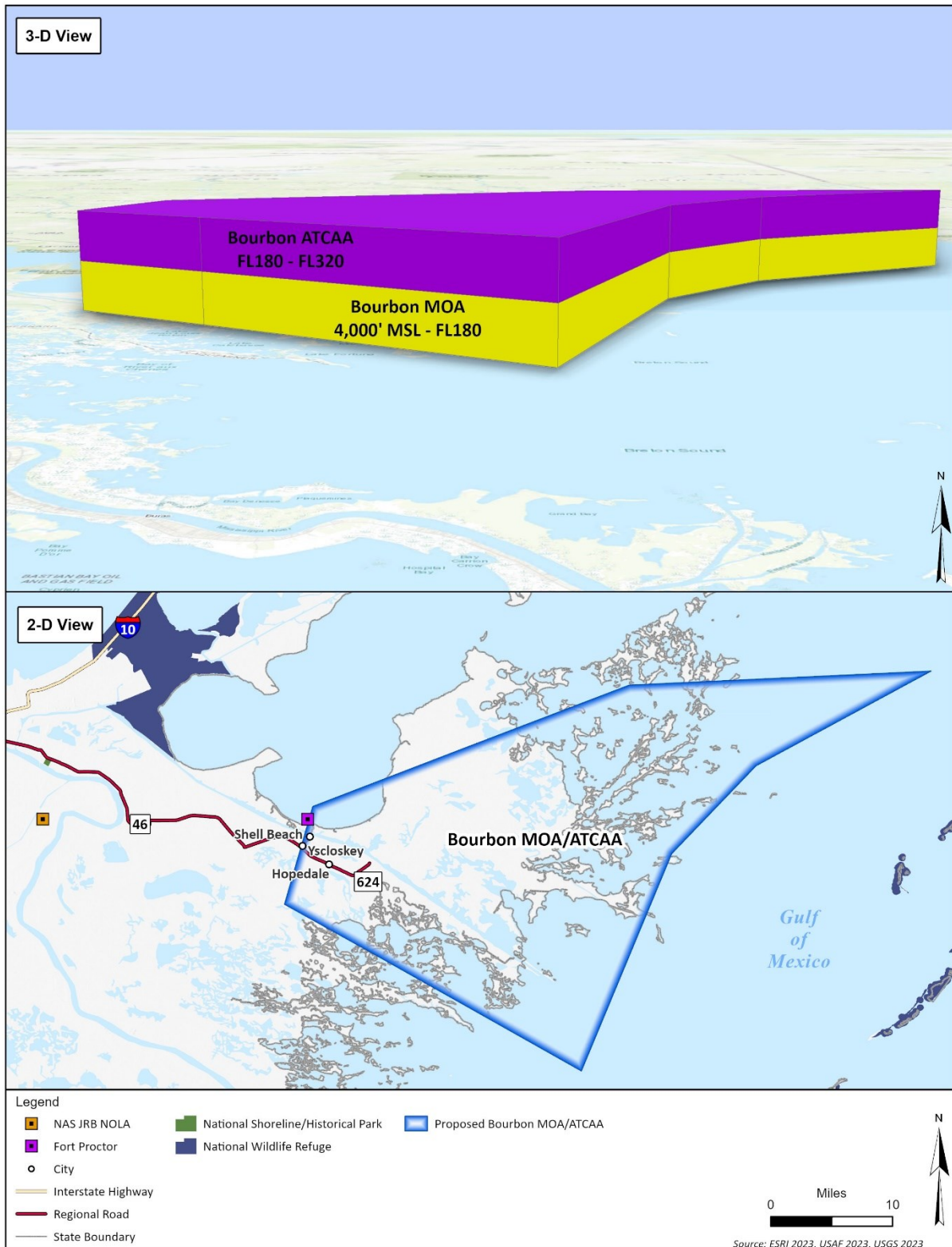


Figure 1.5-2 Location Map of Proposed Bourbon MOA/ATCAA

1.7 Key Documents

Key documents are sources of information considered to be key because of similar actions, analyses, or impacts that may apply to this Proposed Action. Key documents include:

- **Record of Categorical Exclusion for Adversary Aircraft Transitions at Naval Air Station Fallon, Nevada and Naval Air Station Joint Reserve Base New Orleans, Louisiana.** On July 22, 2021, Commander, U.S. Fleet Forces Command signed a Record of Categorical Exclusion (citing Categorical Exclusions [CATEX] #11 and #38 of Office of Chief of Naval Operations Manual M-5090.1, *Environmental Readiness Program Manual*) for the adversary aircraft transitions at Naval Air Station (NAS) Fallon and NAS JRB NOLA. At NAS JRB NOLA, 12 F/A-18 aircraft were replaced by 12 F-5N/F aircraft. The adversary aircraft are operated by VFC-204. The aircraft transition took place in 2022 and 2023. The transition was not expected to result in an increase in air operations at NAS JRB NOLA. In recent years, NAS JRB NOLA operations have ranged between 16,000 to 22,000 total annual operations.
- **Atlantic Fleet Training and Testing Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS).** The 2018 Atlantic Fleet Training and Testing Final EIS/OEIS analyzed impacts from conducting at-sea training and testing along the east coast of the U.S. and Gulf of Mexico. The Gulf of Mexico Range Complex (within the larger Atlantic Fleet Training and Testing Study Area) includes approximately 20,000 square nautical miles (NM²) of SUA. Flight altitudes range from the surface to unlimited altitudes. Six Warning Areas are located within the Gulf of Mexico Range Complex. Restricted airspace associated with the Pensacola Operating Area, designated Restricted Area (R-) 2908, extends from the shoreline to approximately 3 NM offshore. The Record of Decision was issued on October 23, 2018.
- **Gulf of Mexico Range Complex EIS/OEIS.** The 2010 Gulf of Mexico Range Complex EIS/OEIS analyzed unit level training by VFC-204 to include the conduct of bombing exercises (air-to-surface) in a Warning Area in the Gulf of Mexico. The Record of Decision was issued on February 24, 2011.
- **Environmental Assessment for Modification of Combat Readiness Training Center (CRTC)-Used Airspace.** In May 2008, the U.S. Air Force completed an EA for Modification of Airspace managed by the Mississippi Air National Guard's CRTC, Gulfport, Mississippi. The EA evaluated modifications to over-land Northern Blocks of airspace and over-water Southern Blocks of airspace. Within the Southern Block, among other changes, the proposed action reclassified the airspace west of Warning Area (W-) 453 (Eagle Gulf ATCAA) from 3,000 feet Mean Sea Level (MSL) up to, but not including 18,000 feet MSL as Snake MOA. The Eagle Gulf ATCAA west of W-453 from 18,000 feet MSL to Flight Level (FL) 600 was reclassified as the Skit ATCAA. No changes were proposed for airspace utilization. The Southern Blocks, consisting of the Snake MOA, Skit ATCAA, and W-453A, are used for air-to-air training, search and rescue missions, and Joint Force exercises. The Southern Block is scheduled from time-to-time by NAS JRB NOLA-based VFC-204. A Finding of No Significant Impact (FONSI) was signed on July 1, 2008.
- **Environmental Assessment for Deployment of Chaff and Flares in Military Training Airspace (Phase II).** In June 2003, the Air National Guard completed an EA to evaluate the potential environmental and socioeconomic effects of the use of chaff and flares during training exercises in 16 MOAs or other military training airspace. The programmatic level EA included evaluation of chaff and flare continued use in W-453 in the Gulf of Mexico, which is managed by Gulfport

CRTC, an Air National Guard unit based in Gulfport, Mississippi. The chaff and flare usage analyzed in W-453 and the associated ATCAA was 29,500 chaff and 15,500 flares annually. A FONSI was signed on July 8, 2003.

1.8 Relevant Laws and Regulations

The Navy has prepared this EA in accordance with federal and state laws, statutes, regulations, and policies pertinent to the implementation of the Proposed Action. A description of the Proposed Action's consistency with these laws, policies, and regulations, as well as the names of regulatory agencies responsible for their implementation, is presented in Chapter 5 (**Table 5.1-1**).

1.9 Public and Agency Participation and Intergovernmental Coordination

CEQ regulations direct agencies to involve the public in preparing and implementing their NEPA procedures.

The Navy has prepared this EA to inform the public of the Proposed Action and to allow the opportunity for public review and comment. The Draft EA is to be released for public comment for 45 days. Through the public involvement process, the Navy coordinates with the public and notifies the public of the Proposed Action. Input from the public will be incorporated into the analysis of potential environmental impacts, as appropriate.

The Draft EA 45-day review period began with the publication of a Notice of Availability of the Draft EA for three consecutive days in *The New Orleans Advocate* (**Appendix B**). The notice described the Proposed Action, solicited public comments on the Draft EA, provided dates of the public comment period, and announced that a copy of the EA would be available for download/review on the Navy's website and local libraries. The Draft EA is available on the following website:
<https://www.nepa.navy.mil/NOLASUA>.

The Navy also made copies of the Draft EA available at two local libraries as follows:

- Belle Chasse Branch Library: 8442 LA-23, Belle Chasse, Louisiana 70037
- Plaquemines Parish Library: 35572 Highway 11, Buras, Louisiana 70041

The public is invited to submit comments on the Draft EA by any of the following methods:

- electronically, via the project website: <https://www.nepa.navy.mil/NOLASUA>
- in writing, by mail to: NOLA SUA Project Manager, Naval Facilities Engineering Systems Command Atlantic, Attn: Code EV21JB, 6506 Hampton Blvd, Norfolk, Virginia 23508

Comments received from the public and agencies during the Draft EA review period will be provided in the Final EA in **Appendix B**.

The Navy is coordinating or consulting regarding the Proposed Action with the following entities:

- U.S. Fish and Wildlife Service (USFWS), Louisiana Ecological Services
- National Oceanic and Atmospheric Administration (NOAA) Fisheries Southeast Regional Office
- Louisiana Office of Cultural Development, Division of Historic Preservation
- Chitimacha Tribe of Louisiana
- Louisiana Department of Energy and Natural Resources (LDENR), Office of Coastal Management

1.10 Procedure to Establish SUA

The FAA is responsible for the safe and efficient use of all navigable airspace. The FAA processes requests to establish SUA in accordance with FAA Order JO 7400.2P, *Procedures for Handling Airspace Matters*. The Navy submitted an airspace proposal to the FAA, which defined the proposed Bourbon MOA/ATCAA (dimensions and altitudes), times of use, and activities that would occur in the MOA/ATCAA. In accordance with FAA Order JO 7400.2P, the FAA will publicly circulate the detailed airspace proposal for a minimum of 45 days to all known aviation interested persons and groups such as national and state aviation agencies; local flight schools, local airport owners, managers, and fixed base operators; and local air taxi and charter flight offices. The public circular will include an FAA address or email to receive comments or information to assist in determining what effect the proposed airspace would have to navigable airspace. That circularization is a separate process but will occur concurrently with the Navy's public and agency participation described in Section 1.9 above. If the MOA is approved, it would be published in the current issue of FAA Order JO 7400.10, *Special Use Airspace* (published annually) and illustrated on sectional aeronautical charts (updated every 56 days). Once published, the SUA would be available for military use.

2 Proposed Action and Alternatives

2.1 Proposed Action

The Navy proposes to request that the Federal Aviation Administration (FAA) establish a new Military Operations Area (MOA) and associated Air Traffic Control Assigned Airspace (ATCAA), named the Bourbon MOA/ATCAA, east of Naval Air Station Joint Reserve Base New Orleans (NAS JRB NOLA) adjacent to the existing Snake MOA/ATCAA to accommodate required flight training activities for squadrons stationed at the base.

2.2 Screening Factors

Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA) provide guidance on the consideration of alternatives to a federally proposed action and require rigorous exploration and objective evaluation of reasonable alternatives. Only those alternatives determined to be reasonable and meet the purpose and need for the Proposed Action require detailed analysis.

Potential alternatives that meet the purpose and need were evaluated against the following screening factors:

1. Flight training should occur in Special Use Airspace (SUA) that provides a closer entry point for pilots based at NAS JRB NOLA than existing SUA for gains in training efficiency. (Note: The existing SUA entry point is 40 nautical miles [NM] from NAS JRB NOLA.) Training efficiency is defined as increased time in SUA.
2. The SUA must be large enough (e.g., greater than 450 square nautical miles [NM²]) to accommodate flight profile requirements of Fighter Squadron Composite Two Zero Four's (VFC-204's) training mission to include supersonic flight.
3. The SUA must connect to other existing SUA to provide the expanded space to support existing large scale exercises with multiple aircraft.
4. The SUA must offer Navy squadrons prioritized access to training space in order to alleviate existing scheduling conflicts.
5. The SUA must maintain aviation safety and reduce impacts to civil users to the extent practicable while supporting the military mission needs.
6. The SUA must be acceptable to the FAA and FAA action must be in compliance with FAA Order 1050.1F.

Various action alternatives were evaluated against the screening factors. The alternatives considered include:

- Request that FAA establish new SUA to the east of NAS JRB NOLA to accommodate required flight training activities.
- Request that FAA establish new SUA southwest of NAS JRB NOLA to accommodate required flight training activities.
- Conduct flight training in existing SUA offshore from Naval Air Station (NAS) Key West.
- Conduct simulated flight training.

2.3 Alternatives Carried Forward for Analysis

Based on the reasonable alternative screening factors, the Navy identified one action alternative to be analyzed in this Environmental Assessment (EA). The Navy will also analyze the No Action Alternative as required by NEPA.

2.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur. Squadrons located at NAS JRB NOLA, to include VFC-204, would continue to have longer transits to existing SUA (e.g., Snake Low MOA, Snake High MOA, and Snake ATCAA) which causes inefficient use of training time and fuel resources and does not resolve airspace scheduling conflicts. The No Action Alternative does not meet the purpose of and need for the Proposed Action; however, the No Action Alternative is used to analyze the consequences of not undertaking the Proposed Action and provides a benchmark for comparative analysis to enable decision makers to compare the magnitude of environmental effects of the action alternatives. The No Action Alternative is carried forward for analysis as required by NEPA regulations and Navy and FAA policy.

2.3.2 Conduct Flight Training in New SUA to the East of Naval Air Station Joint Reserve Base New Orleans (Preferred Alternative)

The Navy proposes to request that the FAA establish a new MOA/ATCAA east of NAS JRB NOLA to accommodate required flight training activities. The new MOA and associated ATCAA would be directly adjacent to the existing Snake High MOA, Snake Low MOA, and Snake ATCAA east of NAS JRB NOLA (**Figure 2.3-1**). The new MOA/ATCAA would be named the Bourbon MOA/ATCAA. The Proposed Action would not change the existing types or quantities of military flight activities originating from NAS JRB NOLA or occurring in the region. The entry point for the new Bourbon MOA/ATCAA would be less than 25 NM from NAS JRB NOLA, offering closer airspace for VFC-204 to safely and more efficiently conduct training activities described in **Section 2.3.2.2**. Defensive countermeasure devices (described in **Section 2.3.2.2**) would be used; however, no weapons testing or ordnance expenditure would occur within the new MOA/ATCAA.

The publication of the Bourbon MOA on a sectional aeronautical chart would notify, advise, and alert other pilots of where military training activity could be occurring. The Bourbon MOA and associated ATCAA, when activated, would confine or segregate non-hazardous military flight activities from Instrument Flight Rules (IFR) aircraft and identify for Visual Flight Rules (VFR) aircraft where these activities are conducted. Itinerant (non-local) or other aircraft not familiar with Navy training activities would now be made aware of the military flight activity by the existence of the Bourbon MOA on the sectional aeronautical chart. The Bourbon MOA would be mapped on the New Orleans Sectional Chart and knowledge of its activation would prompt all pilots to take notice of military flight activity, resulting in better awareness and coordination. Non-participating IFR aircraft would not be allowed in the MOA when activated.

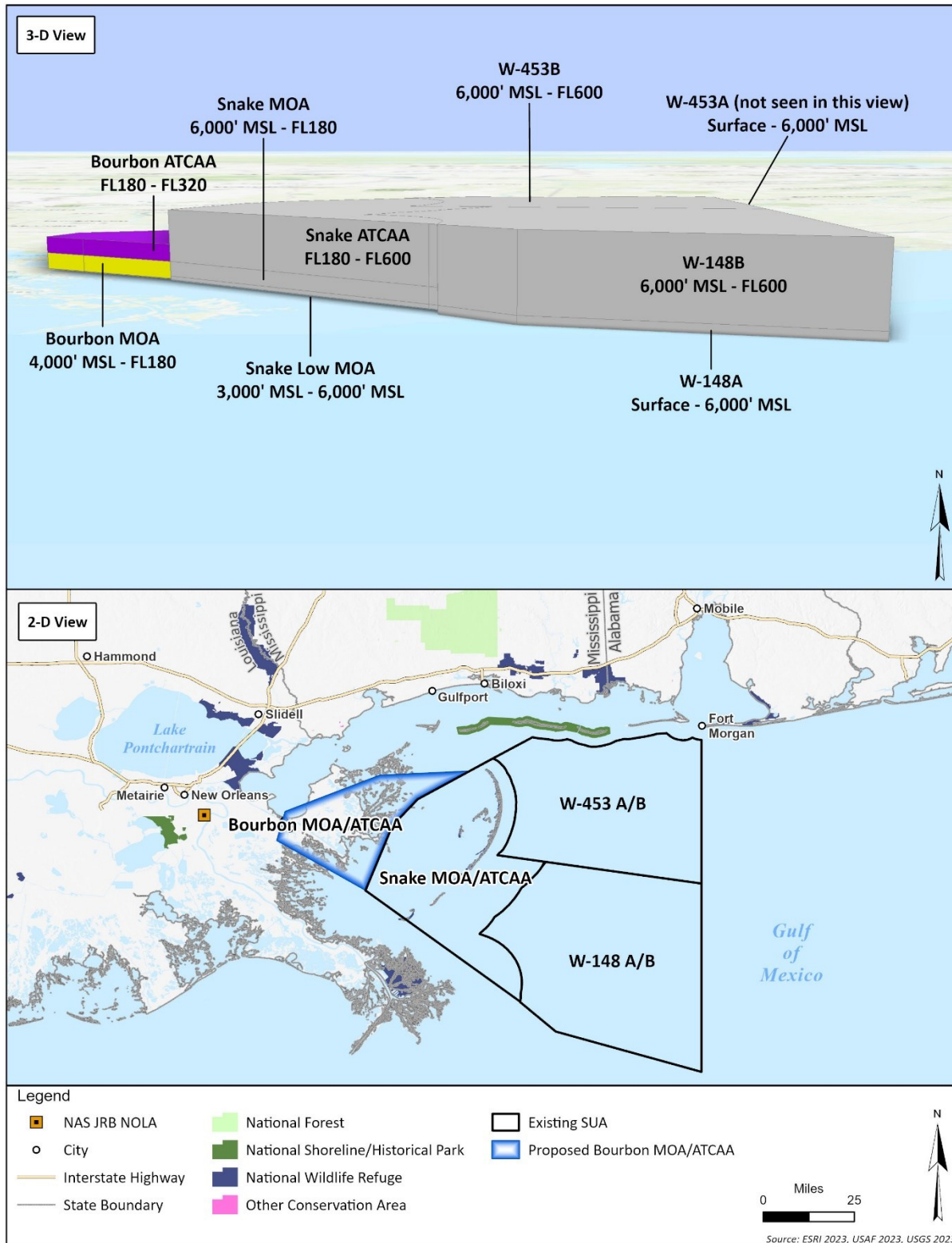


Figure 2.3-1 Proposed Bourbon MOA/ATCAA and Existing Adjacent SUA

The FAA and the Navy would sign a Letter of Agreement (LOA) to ensure that radio communications provide adequate coverage to provide service to both participants and nonparticipants; publish area navigation waypoints for use in circumnavigating the MOA; and establish recall procedures for weather, emergencies, and medivac aircraft.

2.3.2.1 Proposed Airspace Structure

The proposed Bourbon MOA/ATCAA would create a linkage to the Snake High MOA, Snake Low MOA, and Snake ATCAA and cover an area of approximately 480.7 NM². The proposed MOA/ATCAA would be located partially over St. Bernard Parish, and partially over the waters of the Gulf of Mexico. A description of the proposed Bourbon MOA/ATCAA is provided below.

- Designated Altitudes:
 - MOA – 4,000 feet mean sea level (MSL) up to, but not including Flight Level (FL) 180 (approximately 18,000 feet MSL)
 - ATCAA – FL180 to FL320. Upon request and FAA coordination, the ATCAA may be authorized up to FL500 for 15-minute functional check flights.
- Times of Use: 0800–1700 local time Monday through Friday; other times by Notice to Air Missions (NOTAM). Estimated airspace usage would be approximately 5 hours a day, 240 days a year.
- Controlling Agency: FAA, Houston Air Route Traffic Control Center (ARTCC).
- Using Agency: U.S. Navy, VFC-204, NAS JRB NOLA

2.3.2.2 Proposed Training Operations

Annual operations would be conducted within the Bourbon MOA/ATCAA up to 240 days per year, which is the current operations tempo for the adjacent existing SUA (5 days/week over 48 weeks/year). The airspace proposed for the Bourbon MOA/ATCAA is currently used to transition from NAS JRB NOLA to the current SUA (Snake MOA/ATCAA and Warning Areas). The number of aircraft using the airspace would be the same as current conditions, but instead of straight transition flights (lasting approximately 10–12 minutes depending on the aircraft), the airspace would be used for training flights (lasting approximately 30–60 minutes). Primary users of the Bourbon MOA/ATCAA would be VFC-204 and the Louisiana Air National Guard (LAANG), but other military users may include Navy, Air Force, and other Service aircraft. The user units and aircraft types vary widely in the existing SUA and the same aircraft variability would be expected within the Bourbon MOA/ATCAA. **Table 2.3-1** provides the existing sorties transiting the airspace and the proposed annual training sorties that would occur within the Bourbon MOA/ATCAA. A sortie is the takeoff, operation, and landing of one aircraft. The total is based on operations during the last 3 years (2021, 2022, and 2023) and interviews conducted with the expected primary users of the MOA/ATCAA. Operations would fluctuate year-to-year depending on the training mission, deployments, etc. Use of the new Bourbon MOA/ATCAA would not change existing airfield operations at NAS JRB NOLA.

Table 2.3-1 Existing and Proposed Annual Sorties¹ in Bourbon MOA/ATCAA

Aircraft	Existing Sorties (Transit)		Proposed Sorties (Training)	
	Sorties (Number)	Time per Sortie (minutes)	Sorties (Number)	Time per Sortie (minutes)
F-5	1,195	10	1,195	60
F-15	1,553	10	1,553	30
F-35	360	10	360	10–30 ²
F-18	353	10	353	10–30 ²
Other ³	708	10-12	708	30
TOTAL	4,169	718 hours	4,169	2,565 hours

Notes: ¹A sortie is the takeoff, operation, and landing of one aircraft.

²About half of the F-35 and F-18 sorties are expected to transit through the new Bourbon MOA/ATCAA as they do currently to access the existing SUA (10 minutes); the other half would remain in the new MOA/ATCAA for training (30 minutes).

³Other aircraft could include various jets, cargo aircraft, helicopters, and unmanned aircraft.

Training operations in the Bourbon MOA/ATCAA would typically be scheduled for 1- to 1.5-hour blocks. The airspace would be activated 15 minutes prior (coordinated with FAA Houston ARTCC). While the airspace would typically be scheduled for 1- to 1.5-hour blocks, operations generally last less than 1 hour. The daily total of scheduled blocks is estimated to be up to 5 hours per day. Once training is complete, the airspace would be returned to the controlling agency (FAA Houston ARTCC).

Mission scenarios for aircraft utilizing the Bourbon MOA/ATCAA would be similar to those occurring in the existing adjacent SUA and include functional check flights, currency, basic fighter maneuvers, Fleet Replacement Squadron training/tactical intercepts, familiarization training, and participation in large scale exercises that would include multiple aircraft and use the connected SUA. Supersonic flight within the proposed MOA/ATCAA would be required for certain training scenarios. Within certain zones of the Bourbon MOA/ATCAA, supersonic flight would be restricted to certain altitudes as illustrated on **Figure 2.3-2**. Within a zone defined by an arc (shaded gray on **Figure 2.3-2**) extending 12 NM from latitude 29°49'23"N, longitude 089°36'30"W, supersonic flight would only be authorized above FL300 (in the ATCAA). Beyond this arc to the east, supersonic flight would be authorized at all altitudes of the Bourbon MOA/ATCAA (4,000 feet MSL to FL320). The authorization east of the arc would be consistent with the adjacent SUA in which the Navy authorizes supersonic operations without restrictions. Supersonic speed does not occur for the duration of the sortie, but rather one or more short intervals of approximately 30 seconds. In the Bourbon MOA/ATCAA, 3 percent of the total F-5 sorties (approximately 36 sorties) and 10 percent of the total F-15 sorties (approximately 155 sorties) would include supersonic speed.

Some training events may include the expenditure of chaff and flares, consistent with the adjacent SUA. Chaff and flares are the principal defensive countermeasures dispensed by military aircraft to avoid detection or attack by enemy air defense systems and keep aircraft from being successfully targeted by weapons. When pilots detect threats from these weapons, they must respond instantly and instinctively using appropriate countermeasures. Pilots must become proficient at using these countermeasures through training to establish these critical response patterns.

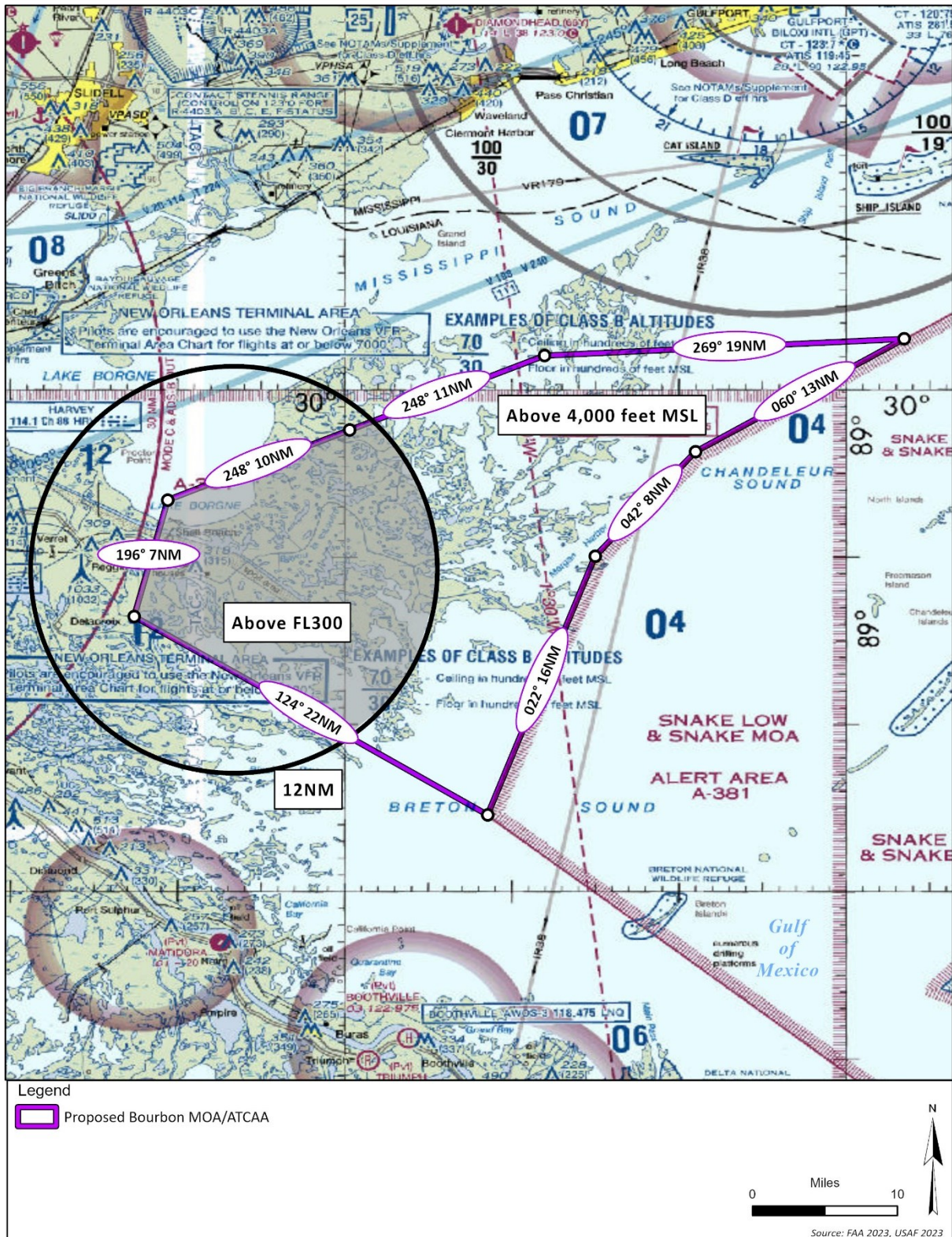


Figure 2.3-2 Proposed Authorized Supersonic Airspace

Each chaff cartridge measures 1-inch by 1-inch by 8-inches and remains on the aircraft after its contents are ejected. A cartridge contains a “bundle” of approximately 5 to 5.6 million chaff fibers (aluminum-coated silica) along with two 1-inch square by 0.125-inch-thick plastic end caps and a 1-inch by 1-inch felt spacer. Individual chaff fibers are approximately half the thickness of a very fine human hair and range in length from 0.3 to 1 inch or more. To put one strand of chaff in perspective, if a 1-inch-long strand of chaff were laid on this page, most readers would not be able to see the strand. When dispensed from aircraft, the bundle breaks apart to form an electronic “cloud” that interferes with the radar signal and temporarily hides the maneuvering aircraft from radar detection. The light fibers drift in the prevailing wind and ultimately settle on the surface where they readily degrade in soil or water. The plastic end caps and felt spacer fall to the ground as debris after being released from the aircraft. Representative chaff types include RR-180 and RR-188, which are training chaff that do not interfere with radar. A maximum of 10,000 chaff cartridges would be expended annually in the Bourbon MOA/ATCAA (the cartridge itself remains on the aircraft). Actual quantities are dependent on the type of training scenario being performed. The annual totals would fluctuate and likely be less than 10,000.

Each flare cartridge measures 1-inch by 1-inch by 8-inches and remains on the aircraft after its contents are ejected. A cartridge contains a magnesium pellet, two 1-inch by 1-inch plastic end caps, felt spacers, and a plastic piston. Once released from the aircraft, the magnesium pellet burns at a temperature in excess of 2,000 degrees Fahrenheit to simulate jet exhaust and is fully consumed within 3 to 5 seconds during which it would fall no more than 500 feet. The end caps, spacers, and piston, if not consumed with the burning magnesium pellet, fall to the ground as debris. In SUA over non-government-owned or -controlled property, release of flares is not permitted below 2,000 feet above ground level (AGL), to ensure flare burnout before it can reach the ground or water. The military uses flares in most MOAs, Restricted Areas, and Warning Areas. Representative defensive flare types include M-206, MJU-61, and MJU-7. A maximum of 10,000 flare cartridges would be expended annually in the Bourbon MOA/ATCAA (the cartridge itself remains on the aircraft). Actual quantities are dependent on the type of training scenario being performed. The annual totals would fluctuate and likely be less than 10,000.

2.4 Alternatives Considered but not Carried Forward for Detailed Analysis

The following alternatives were considered, but not carried forward for detailed analysis in this EA as they did not meet the purpose and need for the project or satisfy the reasonable alternative screening factors presented in Section 2.2.

2.4.1 Conduct Flight Training in New SUA to the Southwest of NAS JRB NOLA

The Navy considered requesting that FAA establish a new block of SUA southwest of NAS JRB NOLA near the city of Houma in Terrebonne Parish that would have offered a closer entry point of 13 NM from NAS JRB NOLA, but it did not connect to existing offshore SUA (screening factor #3). Since this block of airspace would not connect to other SUA, it would need to be sized large enough to accommodate not only the VFC-204 mission profile but also large enough to support large scale exercises that include multiple aircraft. Given the amount of existing civil traffic in this area, establishing a new larger MOA in this location would conflict with civil aviation (screening factor #5) and thus would not be supported by FAA (screening factor #6). Also, being over land, a MOA in this area would have higher altitude restrictions for supersonic flight activity (screening factor #2). A new block of SUA to the southwest of NAS JRB NOLA large enough to accommodate individual and large scale exercises would not meet the

reasonable alternative screening factors. Therefore, this alternative was considered but is not being carried forward for detailed analysis in the EA.

2.4.2 Conduct Flight Training in Existing SUA Offshore from Naval Air Station Key West

The Navy considered the use of existing SUA offshore from NAS Key West. This alternative would require pilots to travel to NAS Key West and conduct their training from that location rather than from their home air station. Fighter Squadron Composite 111 (VFC-111), a Navy Reserve adversary squadron, is based at NAS Key West and operates F-5N/F aircraft similar to those operated by VFC-204 out of NAS JRB NOLA. NAS Key West is surrounded on three sides by large expanses of SUA (i.e., W-465A/B/C and W-174A/B/C/D/E/F/G) that accommodate large operations, air-to-air combat training, air combat maneuvers, and air-to-air gunnery operations. Traveling to NAS Key West for training would increase transit time, increase fuel costs, and not offer a long-term training solution. This alternative is not carried forward for detailed analysis in the EA because it does not meet the reasonable screening factor of providing a closer entry point for SUA in order to increase training efficiency (screening factor #1).

2.4.3 Conduct Simulated Flight Training

The use of flight simulators are an essential part of the aircrew's flight training program. Flight simulators can provide training efficiencies (no transits required), and there are no airspace scheduling conflicts associated with simulated training. Simulators are currently used to the maximum extent possible and provide good skills training that cannot be replicated accurately and/or safely in the aircraft, such as engine-out training. However, the complete substitution of simulator training for flight training is not a viable alternative to the Proposed Action. Though simulation technology has provided increased realism over the years, simulators still lack the external environment realism, and the necessary level of fidelity or interoperability that provides pilots with airmanship, critical thinking, and seasoning under real-world flight conditions. Therefore, a simulated training alternative is not carried forward for detailed analysis in the EA because it does not meet the reasonable screening factor for the establishment of SUA for training to the VFC-204 mission profiles (screening factor #2).

3 Affected Environment and Environmental Consequences

This chapter presents a description of the environmental resources and baseline conditions that could be affected from implementing any of the alternatives and an analysis of the potential direct and indirect effects of each alternative.

All potentially relevant environmental resource areas were considered for analysis in this Environmental Assessment (EA). In compliance with the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations, and Department of Navy and Federal Aviation Administration (FAA) guidelines, the level of detail used in describing a resource is commensurate with the anticipated level of potential environmental impact. In considering whether the effects of the Proposed Action are significant, agencies shall analyze the potentially affected environment and degree of the effects of the action (40 Code of Federal Regulations [CFR] part 1501.3). “Significantly,” as used in NEPA, requires consideration of both context and intensity. Context means that the significance of an action must be analyzed in several contexts such as society as a whole, the affected region, the affected interests, and the locality. Significance varies with the setting of a proposed action. Intensity refers to the severity or extent of the potential environmental impact, which can be thought of in terms of the potential amount of the likely change.

This section includes a detailed discussion of airspace management, noise, biological resources, coastal zone, visual effects, cultural resources, and environmental justice.

The potential impacts to the following resource areas are considered to be negligible or non-existent so they were not analyzed in further detail in this EA:

Air Quality and Greenhouse Gases (GHGs): Air quality is defined by the concentration of various pollutants in the atmosphere. Criteria pollutants include ozone, carbon monoxide, nitrogen oxides, sulfur dioxide, lead, inhalable particulate matter and fine inhalable particulate matter that are regulated under the Clean Air Act. The mixing height is the altitude at which the lower atmosphere will undergo mechanical or turbulent mixing. Pollutants that are released above the mixing height typically will not disperse downward and thus will have little or no effect on ground level concentrations of pollutants. For air quality assessments for aircraft operations, United States (U.S.) Environmental Protection Agency (USEPA) defines 3,000 feet above ground level (AGL) as an acceptable value for the mixing height (40 CFR part 93.153(c)(2)). Aircraft from Naval Air Station Joint Reserve Base New Orleans (NAS JRB NOLA) currently transit through the proposed airspace at approximately 10,000–18,000 feet AGL to access the existing Special Use Airspace (SUA) to the east of the base (Snake Military Operations Area (MOA)/Air Traffic Control Assigned Airspace [ATCAA] and Warning Areas). The creation of the Bourbon MOA/ATCAA would allow the aircraft to fly as low as 4,000 feet mean sea level (MSL), which is approximately 4,000 feet AGL in this area. Therefore, pollutant emissions from existing and proposed aircraft activity would have no interaction with the lower atmosphere below the mixing height and there would be no effect to ground level concentrations of pollutants from the Proposed Action. Therefore, air quality was eliminated from further consideration.

GHGs are pollutants that specifically impact our climate by trapping heat in the lower atmosphere, resulting in global warming that contributes to climate change. GHG emissions result from the combustion of fossil fuels, and these gases reside throughout the altitude profile of the troposphere (up to about 11 miles at the New Orleans latitude). Therefore, consideration of impacts from GHGs include evaluation of the entire flight profile, not just those occurring below the mixing height (3,000 feet AGL).

The projected number of sorties would not change as compared to those occurring currently (see **Table 2.3-1**) meaning the number of transits to and from the airspace would not change, either. As shown in **Table 2.3-1**, the time spent in the Bourbon MOA/ATCAA would increase but this time is currently spent training in the adjacent SUA and would not represent an overall increase in training time in the region. There would be negligible change in the GHG emissions and the social cost of carbon associated with training operations in the region. Thus, GHGs were eliminated from further consideration.

Land Use: The proposed MOA/ATCAA would primarily overlies open waters, bayous, and marshes. Due to the limited amount of land above sea level, relatively few residential or commercial land uses underlie the proposed MOA/ATCAA. The anticipated noise from aircraft training activities would not be at a level that would be incompatible with existing land use (see **Section 3.2, Noise**). Therefore, this resource was eliminated from further consideration.

Farmlands: The Farmland Protection Policy Act regulates Federal actions with the potential to convert farmland to non-agricultural uses. There are no mapped Prime Farmland, Unique Farmland, or Farmland of Statewide Importance below the proposed MOA/ATCAA nor would the Proposed Action result in conversion of any agricultural land. Therefore, there would be no impact to farmlands and the resource was eliminated from further consideration.

Geology, Topography, and Soils: The Proposed Action would be limited to flight training only and would not include any project components that would directly disturb soil. Therefore, there would be no impact on geology, topography, or soil resources associated with the Proposed Action and the resource was eliminated from further consideration.

Hazardous Materials, Solid Waste, and Pollution Prevention: The type of training that would occur in the proposed Bourbon MOA/ATCAA would be the same types of training that currently occur in adjacent SUA. There would be no change in the types or quantities of hazardous materials or solid waste or the storage and handling of these materials at NAS JRB NOLA. Therefore, there would be no impact on hazardous materials, solid waste, and pollution prevention associated with the Proposed Action and the resource was eliminated from further consideration.

Natural Resources and Energy Supply: A discussion of natural resources and energy supply is required under FAA NEPA guidance to determine a proposal's consumption of natural resources (such as water, asphalt, aggregate, wood, etc.) and use of energy supplies (such as coal for electricity, natural gas for heating, etc.). Consumption of natural resources and use of energy supplies would typically result from construction, operation, and maintenance activities. The Proposed Action would not involve extractive activities or changes in the energy supply. Energy supplies in the form of jet fuel would be consumed during training operations; however, the Navy does not anticipate an increase in fuel consumption as a result of the proposed action. Therefore, there would be no impact on natural resources and energy supply associated with the Proposed Action and the resource was eliminated from further consideration.

Public Health and Safety: The health and safety analysis includes consideration of any activities, occurrences, or operations that have the potential to affect the safety, well-being, or health of members of the public. A safe environment is one in which there is no, or optimally reduced, potential for death, serious bodily injury or illness, or property damage. The primary goal is to identify and prevent potential accidents or impacts on the general public and ensure there are no disproportionately high health and safety risks to children per Executive Order (EO) 13045. The proposed MOA/ATCAA would be directly adjacent to an existing SUA complex. As described in Section 1.5, due to the limited amount of land

above sea level, relatively few residential or commercial structures underlie the proposed MOA/ATCAA. Sparsely inhabited areas are only found underlying the very western point of the MOA/ATCAA boundary. The proposed use of the new MOA/ATCAA would include the same types of non-hazardous training activities that currently occur in the adjacent Snake MOA/ATCAA. Continued adherence to existing rules and operating procedures designed to ensure safety of flight and minimize risk to people and property on the ground would result in a negligible change in safety risk. The noise exposure from the proposed flight training in the new MOA/ATCAA would not be at a level that would result in noise-induced hearing loss (see **Section 3.2, Noise**). Completion of the FAA aeronautical analysis of the airspace proposal ensures the proposed MOA/ATCAA would be compliant with airspace regulations and the safe and efficient use of the navigable airspace. Therefore, there would be no change to public health and safety and the resource was eliminated from further consideration.

Socioeconomics: Socioeconomics is defined as the basic attributes and resources associated with the human environment (i.e., population, employment, income, and housing). There would be no change in personnel associated with the Proposed Action that would result in a change to population, employment, income, housing, schools, or public services. The main concern for socioeconomics resources would be the potential for economical impacts to recreational and commercial airspace users from the establishment of the new MOA/ATCAA. Potential impacts to non-participating Instrument Flight Rules (IFR) aircraft from restricted access to the MOA/ATCAA during activation periods would be negligible since the restricted access would be localized and temporary, last only for the duration of the training, and would be returned to the controlling agency once training is complete. The number of other users of the airspace that would be impacted and the additional flight time to avoid the active MOA/ATCAA would be minimal, see **Section 3.1, Airspace Management**. Publication of the Bourbon MOA on a sectional aeronautical chart would provide recreational and commercial airspace users the expected times of use allowing these users to plan their activities accordingly and further reduce the potential for socioeconomic impacts.

Water Resources: The Proposed Action would be limited to flight training activities only and would not have any impact on surface water, groundwater, or wetland resources. Floodplains are protected by EO 11988, *Floodplain Management*, which requires that each Federal agency “...take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains.” The proposed MOA/ATCAA would not impact floodplain management. The use of chaff and flares in the new MOA/ATCAA would be consistent with the use in the adjacent SUA. Flares are fully consumed within the airspace within approximately 5 seconds of release. Chaff fibers are widely distributed with prevailing wind conditions and ultimately settle to the surface. The fibers are non-toxic and readily degrade in water and do not alter water quality. The potential effects of chaff and flares and the residual materials (i.e., end caps and felt spacers) have been studied in previous analyses with the overall conclusion that the chemical components of chaff and flares and the presence of residual materials do not impact water resources, particularly in insignificant quantities of these components (Department of the Air Force, 1997, 2011, 2023; Air National Guard, 2002). Therefore, water resources were eliminated from further consideration.

3.1 Airspace Management

The FAA manages all airspace within the U.S. and the U.S. territories. Airspace, which is defined in vertical and horizontal dimensions and by time, is considered to be a finite resource that must be managed for the benefit of all aviation sectors including commercial, general, and military aviation.

3.1.1 Regulatory Setting

Specific aviation and airspace management procedures and policies to be used by the Navy are provided in Commander, Naval Air Forces Manual 3710.7, *Naval Air Training and Operating Procedures Standardization General Flight and Operating Instructions*. The proposed MOA/ATCAA would be available to all Department of Defense (DoD) aircraft. Users would follow Service-specific policy for airspace management and procedures. Other applicable regulations regarding SUA management include specific FAA Orders.

FAA Order 1050.1F (issued July 16, 2015), *Environmental Impacts: Policies and Procedures*, provides FAA policy and procedures to ensure agency compliance with the requirements set forth in the CEQ regulations for implementing the provisions of the NEPA; Department of Transportation Order 5610.1C, *Procedures for Considering Environmental Impacts*; and other related statutes and directives.

FAA Joint Order (JO) 7400.2P (issued April 20, 2023), *Procedures for Handling Airspace Matters*, provides procedures for administration of the airspace program. Specifically, Part 5, Chapter 21, prescribes specific policies and procedures to establish/designate airspace in the interest of national defense, security, and/or welfare. SUA is published annually in FAA JO 7400.10F, *Special Use Airspace* (current effective publication is February 16, 2024).

3.1.2 Affected Environment

The airspace proposed for the Bourbon MOA/ATCAA is currently used by military aircraft transiting from NAS JRB NOLA to existing SUA located east of the base. These military flights constitute over 4,000 flights (or sorties) per year (see **Table 2.3-1**) or approximately 330 flights per month. In addition to the military aircraft transiting the airspace, civil aircraft also use the airspace. FAA's Performance Data Analysis and Reporting System (PDARS) data was used to determine the existing civil traffic in the proposed MOA/ATCAA that could be potentially affected if the MOA/ATCAA is established. A review of the PDARS data determined that over the course of one month in 2023, 251 total civil flights traversed the airspace in the proposed Bourbon MOA (105 civil flights) and associated ATCAA (146 civil flights) during the proposed times of use of the MOA/ATCAA. Commercial air carriers were the most common aircraft transiting through the proposed MOA and ATCAA.

Within the proposed MOA, the most common direct flights were: Orlando International, Florida to/from Louis Armstrong New Orleans International, Louisiana; Fort Lauderdale, Florida to/from Louis Armstrong New Orleans International, Louisiana; Palm Beach International, Florida to/from Lakefront Airport, Louisiana; and Miami International, Florida to/from Louis Armstrong New Orleans International, Louisiana. Within the proposed ATCAA, only three direct flights occurred in the dataset: Cancun International, Mexico to/from Minneapolis Saint Paul, Minnesota; Fort Lauderdale International, Florida to/from Dallas Fort Worth, Texas; and Orlando International, Florida to/from Louis Armstrong New Orleans International, Louisiana.

3.1.3 Environmental Consequences

The analysis of airspace use considers the potential impact to civilian aircraft users from the establishment of SUA where there was not any previously. A detailed Airspace Impact Analysis is provided in **Appendix C**. That analysis describes the potential impacts to air carrier traffic and other non-military traffic (Air Taxi and General Aviation); the results of that analysis are summarized here. The impact to non-military users is described in terms of the additional travel time that would be required to avoid an active MOA/ATCAA. The Airspace Impact Analysis is based on 30 days of radar data from February 20 through March 22, 2023 (see **Appendix C** for methodology).

3.1.3.1 No Action Alternative

Under the No Action Alternative, there would be no change to existing military aircraft overflight tempo, patterns, or use of the airspace. The area proposed as the Bourbon MOA/ATCAA would continue to be used by military aircraft transiting to existing SUA east of NAS JRB NOLA and civilian users as described in **Section 3.1.2**. There would be no change to existing airspace management.

3.1.3.2 Conduct Flight Training in New SUA to the East of NAS JRB NOLA (Preferred Alternative)

Table 3.1-1 provides the military usage of the proposed Bourbon MOA/ATCAA. As shown, the expected activation of the MOA/ATCAA would be 5 hours during the published days of use. Potential impacts to civil traffic would only occur when the MOA/ATCAA is active.

Table 3.1-1 Military Usage of Proposed Bourbon MOA/ATCAA

<i>Metric</i>	<i>Bourbon MOA/ATCAA</i>	<i>Assumptions</i>
Number of Proposed Sorties ¹	4,169	Average sorties in adjacent Snake MOA/ATCAA
Hours per Year – Activation	1,200	Total activation time
Hours per Day – Activation	5	240 days per year
% Time Military Aircraft Present	~55%	Monday to Friday, 0800–1700 Local

Note: ¹One sortie includes the takeoff, mission, and landing of one aircraft.

Legend: ~ = approximately; % = percent; ATCAA = Air Traffic Control Assigned Airspace; MOA = Military Operations Area

As shown in **Table 3.1-1**, the expected activation of the Bourbon MOA and ATCAA would be 5 hours during the published days of use. Potential impacts to civil traffic would only occur when the MOA is active. Impacts to civil aircraft operations are discussed for the MOA and ATCAA.

Commercial air carriers were the most common aircraft transiting through the proposed MOA and ATCAA. Impacts to rerouting civil traffic around the MOA would result in 1 to 8 minutes of additional travel time depending on the route. Impacts to rerouting civil traffic around the ATCAA would result in less than 1 minute to 6 minutes of additional travel time.

The numerous existing SUAs along the Gulf Coast make rerouting around the proposed MOA and ATCAA to the north impractical without incurring excessive route deviations. The Airspace Impact Analysis (**Appendix C**) concluded that the low count of civil traffic in the proposed Bourbon MOA/ATCAA is because civil traffic is already bound by the existing Snake High MOA/ATCAA, Snake Low MOA, and a large complex of Warning Areas to the east, and most traffic would likely already be routed to circumnavigate existing SUA. Thus, the establishment of the Bourbon MOA/ATCAA adjacent to this existing large complex would not have a significant impact on civil users or result in a change to airspace management.

3.2 Noise

Noise is unwanted sound that interferes with normal activities or otherwise diminishes the quality of the environment. Noise may be intermittent or continuous, steady or impulsive, stationary or transient. Stationary sources are normally related to specific land uses, e.g., housing tracts or industrial plants. Transient noise sources move through the environment, either along relatively established paths (e.g., highways, railroads, and aircraft flight tracks around airports), or randomly. There is wide diversity in responses to noise according to the type of noise and the characteristics of the sound source, the sensitivity and expectations of the receptor, the time of day, and the distance between the noise source (e.g., an aircraft) and the receptor (e.g., a person or animal).

The physical characteristics of noise and sound include its intensity, frequency, and duration. Sound is created by acoustic energy, which produces minute pressure waves that travel through a medium, like air, and are sensed by the eardrum, much like how ripples in water move when a stone is dropped into it. As the acoustic energy increases, the intensity or amplitude of these pressure waves increase, and the ear senses louder noise. The unit used to measure the intensity of sound is the decibel (dB). Sound intensity varies widely (from a soft whisper to a jet engine) and is measured on a logarithmic scale. Human hearing ranges from 0 dB (barely audible) to 120 dB, where physical discomfort is caused by the sound.

The frequency of sound is measured in cycles per second, or hertz (Hz). This measurement reflects the number of times per second the air vibrates from the acoustic energy. Low frequency sounds are heard as rumbles or roars, and high frequency sounds are heard as screeches. Sound measurement is further refined by “weighting.” The normal human ear can detect sounds that range in frequency from about 20 Hz to 15,000 Hz, with the human ear most sensitive to frequencies in the 1,000 to 4,000 Hz range. Sound measurements are “A-weighted,” and are indicated in terms of A-weighted decibels (dBA). A-weighting accounts for the frequency sensitivity of the human ear. The dBA is also appropriate for measuring continuous sounds. “C-weighting” is typically applied to impulsive sounds such as a sonic boom or ordnance detonation and indicated as C-weighted decibels (dBC).

3.2.1 Noise Metrics and Modeling Software

The word “metric” is used to describe a standard of measurement. Many different types of noise metrics have been developed to represent the effects of environmental noise.

The metrics supporting the assessment of noise from aircraft operations used in this EA are the A-weighted and C-weighted Day-Night Average Sound Level (DNL and CDNL, respectively), Maximum Sound Level (L_{max}), and Sound Exposure Level (SEL). Each metric is briefly explained below. As is done in many environmental documents, the “A” in dBA is dropped for brevity to refer to A-weighted sound levels. All sound levels presented in this document are A-weighted unless otherwise denoted as C-weighted or dBC.

The DNL is a cumulative noise metric that measures subsonic aircraft noise based on annual average daily aircraft operations. DNL is the DoD standard metric for modeling the cumulative noise exposure and assessing community noise impacts (DoD Instruction 4715.13, *Operational Noise Program*). DNL uses two time periods: daytime (acoustic day) and nighttime (acoustic night). Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m. local time. Based on the higher sensitivity to noise and associated annoyance during nighttime hours, a 10 dB penalty is assigned to single event sound levels that occur during acoustical nighttime. CDNL is a similar cumulative noise

metric to DNL with regards to acoustic day- and night-time periods and a nighttime 10 dB addition to single event sound levels; however, CDNL weighting focuses on the lower frequencies of sound levels associated with supersonic noise.

A common metric used to describe a single aircraft noise event is the maximum sound level, or L_{max} , measured in dB. L_{max} is the highest A-weighted sound level that occurs during the aircraft overflight. L_{max} describes the maximum level of a noise event but does not take into account its duration. The SEL, measured in dB, is a composite metric that represents both the magnitude and duration of an aircraft overflight. The SEL is a measure of the total acoustic energy in the event, but does not directly represent the sound level heard at any given time. The SEL is the building block for calculating DNL.

3.2.1.1 Relationship Between Noise and Annoyance

Annoyance, which is based on perception, represents the primary effect associated with aircraft noise. Generally, the louder the noise, the more annoyance it causes. Attitudinal surveys conducted over several decades show a consistent relationship between DNL and the percentages of groups of people who express various degrees of annoyance. This relationship was originally suggested by Schultz (1978). The updated relationship by Finegold et al. (1994) which does not differ substantially from the original, is the current federally-accepted form and is shown in **Table 3.2-1**. The Committee on Hearing, Bioacoustics, and Biomechanics (1981) developed the equivalent relationship between annoyance and CDNL from sonic booms. The relationship of annoyance to DNL and CDNL is presented in **Table 3.2-1**. While not a determination of significance, the calculated DNL and CDNL for the MOA/ATCAA addressed in this EA can be compared against **Table 3.2-1** to provide an estimate of the percentage of the population that would be “highly annoyed” by the noise. These data provide a perspective on the level of annoyance that might occur. The study results summarized in **Table 3.2-1** are based on outdoor noise levels.

Table 3.2-1 Relationship of Annoyance to DNL and CDNL

<i>DNL (dB)</i>	<i>Estimated Percentage of Population “Highly Annoyed”</i>	<i>CDNL (dB)</i>
45	.083	42
50	1.66	46
55	3.31	51
60	6.48	56
65	12.29	60
70	22.10	65

Note: Noise impacts on individuals vary as do individual reactions to noise. This is a general prediction of the percentage of the population potentially highly annoyed based on environmental noise surveys conducted around the world.

Legend: dB = decibel; DNL = A-weighted Day-Night Average Sound Level; CDNL = C-weighted Day-Night Average Sound Level

Sources: Department of Defense Noise Working Group (DNWG), 2009; Committee on Hearing, Bioacoustics, and Biomechanics, 1981; Finegold et al., 1994

3.2.1.2 Noise Induced Hearing Loss

Noise induced hearing loss risk has been extensively studied, with the consensus that populations exposed to noise greater than 80 dB DNL are at the greatest risk of potential hearing loss (DoD, 2009). Because no person or place would be exposed to noise levels greater than 80 dB DNL from the Proposed Action activities, noise induced hearing loss is not discussed further in this analysis.

3.2.1.3 Noise Modeling Software

The noise associated with aircraft operations can be subsonic or supersonic. Subsonic noise is noise generated by an aircraft's engines and airframe. This is the most familiar form of noise. Supersonic noise is the noise generated when an aircraft flies faster than the speed of sound and has the potential to create sonic booms. A sonic boom is the sound associated with shock waves generated when the aircraft travels at supersonic speeds.

Subsonic noise analysis is performed using the accepted Noisemap suite of noise modeling programs (Wyle, 1998; Wasmer Consulting, 2006). MR_NMAP is the specific program used to define noise levels within SUA associated with military aircraft operations (DoD, 2020). Military training within a MOA/ATCAA is dispersed throughout the confines of the MOA/ATCAA; as such, the software assumes an even distribution of noise across the entire airspace modeled and calculates a single DNL value. Therefore, noise contour results are not illustrated for aircraft noise in MOAs/ATCAAs.

Supersonic noise analysis is performed using the accepted noise modeling program BooMap (Blue Ridge Research and Consulting, 2021; DoD, 2020). This software is used to develop noise levels associated with military aircraft supersonic operations. Long-term military air combat training analysis shows that military aircraft typically operate in elliptical areas within the boundaries of the airspace when performing supersonic operations (Plotkin et al., 1992).

3.2.2 Regulatory Setting

The analysis of the acoustic environment involves consideration of many factors including the types, locations, and frequency of aerial operations, the classification of existing airspace, and the amount of air traffic using or transiting through a given area. This analysis quantifies the anticipated subsonic and supersonic noise from military aircraft activity within the existing and proposed airspace.

The USEPA has identified 55 dB DNL as a level that protects public health and welfare with an adequate margin of safety (USEPA, 1982). This means that 55 dB DNL is a threshold below which adverse noise effects are not expected to occur. According to the Federal Interagency Committee on Urban Noise (FICUN), noise exposure greater than 65 dB DNL is considered generally incompatible with residential, public use (i.e., schools), or recreational and entertainment areas (FICUN, 1980).

The U.S. Army Public Health Command indicates that 62 dB CDNL is the level at which one could expect a rise in annoyance similar to that of a DNL level of 65 dB for subsonic noise. Areas with less than 62 dB CDNL are considered compatible with residential and noise sensitive areas (U.S. Army Center for Health Promotion and Preventive Medicine, 2005).

Per FAA Order 1050.1F, a noise sensitive area is defined as an area where noise interferes with normal activities associated with its use. Normally, noise sensitive areas include residential, educational, health, and religious structures and sites, and parks, recreational areas, areas with wilderness characteristics, wildlife and waterfowl refuges, and cultural and historical sites.

For airspace actions, FAA requires that an action proponent identify where noise will change by the following specified amounts in noise sensitive areas (FAA Order 1050.1F):

- For DNL 65 dB and higher: +/- DNL 1.5 dB (significant)
- For DNL 60 dB to <65 dB: +/- DNL 3 dB (reportable)
- For DNL 45 dB to <60 dB: +/- DNL 5 dB (reportable)

3.2.3 Affected Environment

Existing military operations in the airspace proposed as the Bourbon MOA/ATCAA are composed of transit flights from several types of aircraft from NAS JRB NOLA to the existing SUA in the east (Snake MOA/ATCAA and Warning Areas). The current subsonic noise exposure from these flights is low, estimated at 35 dB DNL with less than one daily event exceeding 65 dB SEL (**Table 3.2-2**). Based on this DNL, the Finegold (1994) analysis (see **Table 3.2-1**) predicts less than 0.83 percent of the population underlying the proposed Bourbon MOA/ATCAA is highly annoyed with the existing aircraft activity. There is currently no supersonic flight in the airspace proposed as the Bourbon MOA/ATCAA.

Table 3.2-2 DNL for Annual Military Aircraft Operations – Existing Conditions

<i>Operations</i>	<i>Airspace</i>	<i>DNL (dB)</i>	<i>Estimated Percentage of Population “Highly Annoyed”</i>	<i>Number of Daily Events >65 SEL</i>
Subsonic	Existing, uncharted	35	< 0.83	< 1

Legend: < = less than; dB = decibel; DNL = A-weighted Day-Night Average Sound Level; SEL = Sound Exposure Level

Source: Stantec 2024a,b,c

Land use under the airspace proposed as the Bourbon MOA/ATCAA consists primarily of uninhabitable swamp and marsh lands and intertidal waters. Single- and multi-family residences are present along rural areas of State Routes 46 and 624. Additionally, various recreational vehicle parks, marinas, lodging, and charter services are located along these highways. An historic property, Fort Proctor, is located beneath the proposed MOA/ATCAA. Both roadway and waterway vehicle operations would be the dominate noise source of the area, with the occasional military and civilian aircraft overflight.

3.2.4 Environmental Consequences

A detailed description of the methodology for determining noise impacts and a detailed noise assessment for this Proposed Action is provided in **Appendix D**. A summary of the results is provided in this section.

3.2.4.1 No Action Alternative

Under the No Action Alternative, a new permanent MOA/ATCAA would not be established; however, military aircraft from NAS JRB NOLA would continue to use the airspace during transit to and from the Snake MOA/ATCAA and other existing SUA. The current noise environment in the area proposed for the Bourbon MOA/ATCAA would remain unchanged and includes noise exposure from roadway and waterway vehicle operations and overflight by various types of military and civilian aircraft at various altitudes. The subsonic military aircraft noise level associated with the No Action Alternative would be the same as existing conditions presented in **Section 3.2.3** and **Table 3.2-2**.

3.2.4.2 Conduct Flight Training in New SUA to the East of NAS JRB NOLA (Preferred Alternative)

The noise analysis used approved software to predict the DNL in the proposed MOA/ATCAA to compare against the USEPA, FICUN, and FAA thresholds described in **Section 3.2.2**. The Proposed Action includes both subsonic and supersonic activity from aircraft within the proposed MOA/ATCAA. While not a determination of significance, an estimate of the percentage of the population that would be “highly annoyed” by the noise from the resulting DNL and CDNL is also provided (see **Table 3.2-1**).

While DNL is the DoD standard metric for assessing noise impacts (DoD Instruction 4715.13, *Operational Noise Program*), supplemental metrics are used to provide more detailed noise exposure information for the decision process and to improve communication with the public and stakeholders. Supplemental

metrics are not intended to replace the DNL metric as the primary descriptor of cumulative noise exposure and anticipated significance of impacts, but rather are useful tools to supplement the impact information disclosed by the DNL metric. Thus, the noise analysis includes supplemental data for single events to better describe the “loudness” of individual aircraft overflights for the aircraft proposed to operate in the MOA/ATCAA at various power settings at the lowest possible altitudes (i.e., the floor of the MOA). These metrics are different from DNL and therefore, cannot be compared against **Table 3.2-1** to predict annoyance.

Cumulative Noise Metrics (DNL and CDNL)

Under the Preferred Alternative, the Bourbon MOA/ATCAA would be established and used for training Monday through Friday. **Table 3.2-3** shows the modeled DNL and CDNL for annual military aircraft operations within the proposed MOA/ATCAA. The subsonic noise level from aircraft operations within the proposed MOA/ATCAA would be 52 dB DNL. This level would not exceed 65 dB DNL, the significance threshold defined by FAA. Additionally, the noise level from aircraft operations within the proposed MOA/ATCAA would not exceed the USEPA’s identified threshold of 55 dB DNL, a level below which adverse noise effects are not expected to occur. From a land use perspective and according to the FICUN, the FAA, the USEPA, and the Defense Centers for Public Health (formerly the U.S. Army Public Health Command), this level would be compatible with all land use types to include residential, public use (i.e., schools), recreational, and entertainment areas. Based on this DNL, the Finegold (1994) analysis (see **Table 3.2-1**) predicts less than 3.31 percent of the population would be highly annoyed by the subsonic noise within the proposed Bourbon MOA/ATCAA (**Table 3.2-3**), and less than one daily event would exceed 65 SEL.

Table 3.2-3 Proposed Noise Levels within Proposed Bourbon MOA/ATCAA

<i>Operations</i>	<i>Airspace</i>	<i>Noise Level (dB)</i>	<i>Estimated Percentage of Population “Highly Annoyed”</i>	<i>Number of Daily Events >65 SEL</i>
Subsonic	Bourbon MOA/ATCAA	52 DNL	< 3.31	< 1
Supersonic	Bourbon MOA/ATCAA ¹	34 CDNL	< 0.83	n/a
Supersonic	Bourbon MOA/ATCAA ²	42 CDNL	0.83	n/a

Notes: ¹Supersonic operations within Bourbon MOA/ATCAA West (inside) of the 12 NM arc above 30,000 feet MSL.

²Supersonic operations within Bourbon MOA/ATCAA East (outside) of the 12 NM arc above 4,000 feet MSL.

Legend: < = less than; ATCAA = Air Traffic Control Assigned Airspace; CDNL = C-weighted Day-Night Average Noise Level; dB = decibel; DNL = A-weighted Day-Night Average Noise Level; MOA = Military Operations Areas; n/a = not applicable; SEL = Sound Exposure Level

Source: Stantec 2024a,b,c

The projected DNL for the proposed subsonic aircraft activity would increase by 17 dB DNL over the No Action Alternative, which would be a reportable increase in some noise sensitive areas in accordance with FAA Order 1050.1F. As noted previously, the majority of the MOA/ATCAA is located over water, swamps, and marshes. There are some residences, recreational businesses, and an historic property beneath the proposed MOA/ATCAA, but these are all located along the western boundary of the proposed MOA/ATCAA where training operations would be infrequent. There are no wilderness areas, religious, or educational facilities. Biological resources and cultural resources beneath the MOA/ATCAA are addressed specifically in **Sections 3.3 and 3.6**, respectively; however, no significant impacts to any of these resources were identified.

Supersonic aircraft operations within the proposed MOA/ATCAA would operate below 62 dB CDNL and be compatible with all land use types according to the standards published by the U.S. Army Public

Health Command. Further, supersonic aircraft operations would not directly occur over residences or businesses along State Route 46 or 624 at an altitude below 30,000 feet MSL. Based on these CDNL values, the Committee on Hearing, Bioacoustics, and Biomechanics (1981) (see **Table 3.2-1**) predicts approximately 0.83 percent of the population would be highly annoyed by the noise from supersonic operations within the proposed Bourbon MOA/ATCAA. Refer to **Figure 2.3-2** for an illustration of authorized supersonic altitudes; inside of the arc shown, supersonic operations would be above 30,000 feet MSL and outside of the arc shown, supersonic operations would be above 4,000 feet MSL.

Single Event Metrics

The noise analysis calculated single event metrics (i.e., a single overflight directly overhead) for each of the military fighter aircraft that would use the proposed MOA/ATCAA. These metrics were calculated for each aircraft at afterburner at the lowest possible altitude within the proposed MOA/ATCAA, that is, the floor of the MOA. In general, during training events, aircraft do not travel substantial distances on the floor of the MOA, but rather start at the floor and quickly climb to higher altitudes. It is estimated that fighter aircraft would operate in the lowest altitude band (4,000 to 5,000 feet MSL) approximately 5 percent of the full sortie duration and of that time only 1 percent would be at afterburner power (see **Appendix D, Noise Report**, for the aircraft operation assumptions by aircraft). **Table 3.2-4** provides only the loudest possible event within the proposed MOA/ATCAA to provide additional perspective on what an observer on the ground may experience (see **Appendix D** for the full results). An F-15, F-18, or F-35 in afterburner at 4,000 feet MSL results in an L_{max} of 105 dBA. At 4,000 feet MSL, a direct overflight by any of the aircraft that would be using the airspace would be noticeable but would typically last only a few seconds. These noise levels are estimated for an observer being outdoors at the time of the overflight. Being indoors with windows closed would account for a 25 dB reduction in sound level (15 dB reduction for open windows) which would lessen noise exposure for a direct overflight. Experiencing such an overflight would be infrequent given the number of proposed sorties, the fact that aircraft would spend very little time at these low altitudes during the training scenarios, and the limited land area beneath the MOA/ATCAA. Additionally, military aircraft observe a 5 NM standoff distance from the internal edge of the MOA/ATCAA boundary to ensure they remain within the MOA/ATCAA during training. All residences, businesses, and Fort Proctor are within the 5 NM standoff distance which further reduces the possibility of direct military aircraft overflight.

Table 3.2-4 Maximum Sound Level for Single Overflight within Proposed Airspace

<i>Aircraft</i>	<i>Lowest Altitude</i>	<i>Maximum Sound Level (L_{max}) (dBA)</i>
F-5E with afterburner	4,000 feet MSL	98
F-15C with afterburner	4,000 feet MSL	105
F-18E/EA-18 ¹ with afterburner	4,000 feet MSL	105
F-35B with afterburner	4,000 feet MSL	105

Note: ¹F-18E used as aircraft surrogate to model EA-18.

Legend: dBA = A-weighted decibels; L_{max} = Maximum Sound Level; MSL = mean sea level

Source: Stantec 2024a,b,c

Normally, the most sensitive components of a structure to noise are the windows and, infrequently, the plastered walls and ceilings. Conservatively, only sound lasting more than 1 second above a sound level of 130 dB is potentially damaging to structural components (Committee on Hearing, Bioacoustics, and Biomechanics, 1977). Noise-induced structural vibration may also cause annoyance to dwelling occupants because of induced secondary vibrations or rattling of objects within the dwelling. Windowpanes may also vibrate noticeably when exposed to high levels of airborne noise. Sound levels

from normal aircraft operations are typically much lower than 130 dB. Even sound from low-altitude flyovers of heavy aircraft do not reach the potential for damage (Sutherland et al., 2000). Since the highest L_{max} of a single overflight under this proposal would be 105 dB, structural damage and secondary vibration impacts are not expected to occur with this Proposed Action.

In summary, subsonic aircraft operations and the resulting cumulative noise (DNL) within the proposed Bourbon MOA/ATCAA would be below the significance level established by the FAA. The projected increase in DNL would be a reportable increase for noise sensitive receptors according to FAA significance criteria; however, the few noise sensitive receptors that exist beneath the MOA/ATCAA are located along the western boundary of the MOA within the standoff distance. It would be rare for any of these receptors to experience a low-level direct overflight. The DNL is also below the level defined by USEPA (55 dB DNL) to protect public health and is at a level defined by FICUN as compatible with all land uses. The percentage of the population predicted to be highly annoyed by the cumulative subsonic noise based on the Finegold (1994) analysis would be low (<3.31 percent). Direct overflights at lower altitudes (4,000 feet MSL), while noticeable, would be rare and typically last for only a few seconds or less. Structural damage or secondary vibration impacts are not expected to occur based on the maximum sound exposure. An individual location is not expected to experience a low-level direct overflight on a routine basis since aircraft operations would be distributed over a wide area.

Supersonic aircraft operations and resulting cumulative noise within the Proposed Bourbon MOA/ATCAA would be below 62 dB CDNL, compatible with all land uses and sensitive receptors pursuant to U.S. Army Public Health Command standards. Based on the CDNL value, the Committee on Hearing, Bioacoustics, and Biomechanics predicts a low percentage of the population (<0.83) would be highly annoyed. As such, there would be no significant impacts due to noise from the Proposed Action flight operations within the Bourbon MOA/ATCAA. The noise from the proposed aircraft operations could impact other resource areas such as biological resources, cultural resources, and environmental justice. Those impacts are addressed in their respective sections of this document.

3.3 Biological Resources

Biological resources include living, native, or naturalized plant and animal species and the habitats within which they occur. Plant associations are referred to generally as vegetation, and animal species are referred to generally as wildlife. Habitat can be defined as the resources and conditions present in an area that support a plant or animal. For the Proposed Action, biological resources are limited to wildlife species that may be impacted by aircraft operations in the proposed MOA/ATCAA.

3.3.1 Regulatory Setting

Special status species, for the purposes of this assessment, are those species listed as threatened or endangered under the federal Endangered Species Act (ESA) and species afforded special protection under the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA).

The purpose of the ESA is to conserve the ecosystems upon which threatened and endangered species depend and to conserve and recover listed species. Section 7 of the ESA requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration (NOAA) Fisheries also known as National Marine Fisheries Service, as appropriate, to ensure that any action the agency (i.e., the Navy or FAA) authorizes, funds, or carries out is not likely to jeopardize the continued existence of any federally-listed threatened or endangered species, or result in the destruction or adverse modification of critical habitat.

The MBTA protects native bird species by prohibiting the take of migratory birds. EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, requires federal agencies to take actions to promote the conservation of migratory bird populations. Under the MBTA, it is unlawful by any means or in any manner to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, [or] possess migratory birds or their nests or eggs at any time, unless permitted by regulation. The 2003 National Defense Authorization Act gave the Secretary of the Interior authority to prescribe regulations to permit the Armed Forces to incidentally take migratory birds during approved military readiness activities without violating the MBTA. The final rule authorizing the DoD to take migratory birds in such cases includes a requirement that the Armed Forces must confer with the USFWS to develop and implement appropriate conservation measures to minimize or mitigate adverse effects of the proposed action if the action has a significant negative effect on the sustainability of a population of a migratory bird species.

In addition to the MBTA, bald and golden eagles are protected under the BGEPA (16 U.S. Code [U.S.C.] section 668). The Act states that no one, without a permit issued by the Secretary of the Interior, may take bald or golden eagles, including their parts, nests, or eggs. Take is defined as “to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” In addition, BGEPA further defines disturbance as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

The Magnuson-Stevens Fishery Conservation and Management Act provides for the conservation and management of fisheries. Under the Act, essential fish habitat consists of the waters and substrate needed by fish to spawn, breed, feed, or grow to maturity.

The Marine Mammal Protection Act (MMPA) prohibits any person or vessel from taking marine mammals in the U.S. or the high seas without authorization. The MMPA defines take to mean “to harass, hunt, capture, or kill or attempt to harass, hunt, capture, or kill any marine mammal.”

3.3.2 Affected Environment

The affected environment for this EA includes the protected species potentially occurring beneath the proposed Bourbon MOA/ATCAA.

3.3.2.1 ESA Protected Species

Federally ESA-listed wildlife species with the potential to occur below the Bourbon MOA/ATCAA are presented in **Table 3.3-1**. This list was generated from the USFWS Information for Planning and Consultation tool (USFWS, 2024a) (**Appendix E**). The table provides the USFWS listing status, presence of critical habitat beneath proposed airspace, and description of general habitat for these species.

Gulf Sturgeon. The gulf sturgeon was listed as threatened under the ESA on September 30, 1991 (56 *Federal Register* 49653). Gulf sturgeons and its critical habitat are located along the estuaries and coast of Louisiana under the MOA/ATCAA. Gulf sturgeons are anadromous fish and migrate from saltwater to large coastal rivers to spawn during the warmer months. This species spends most of its life in freshwater rivers, can grow up to 9 feet in length and weigh up to 300 pounds (USFWS and Gulf States Marine Fisheries Commission, 1995).

Table 3.3-1 Federally Listed Species Beneath the Proposed Bourbon MOA/ATCAA

<i>Species</i>	<i>USFWS Status</i>	<i>Critical Habitat</i>	<i>Habitat</i>
Fish			
Gulf Sturgeon <i>Acipenser oxyrinchus</i> (= <i>oxyrhynchus</i>) <i>desotoi</i>	Threatened	Yes	Gulf sturgeons are anadromous fish and migrate from saltwater to large coastal rivers to spawn during the warmer months. This species spends most of its life in freshwater rivers (USFWS and Gulf States Marine Fisheries Commission, 1995). Gulf sturgeons and critical habitat are located along the estuaries and coast of Louisiana under the MOA/ATCAA.
Reptiles			
Hawksbill Sea Turtle <i>Eretmochelys imbricata</i>	Endangered	No	In the U.S., hawksbill sea turtles are found off the coast in the Gulf of Mexico from southern Texas to southern Florida. This species nests on sandy beaches globally in the subtropics and tropics and migrates among coastal waters (USFWS, 2013).
Loggerhead Sea Turtle <i>Caretta caretta</i>	Threatened	No	In the U.S., loggerhead sea turtles occur along the coast of the Gulf of Mexico and the Atlantic coast. The population that occurs in Louisiana is the Northwest Atlantic Ocean DPS (USFWS, 2024b). Females lay eggs on sandy beaches.
Leatherback Sea Turtle <i>Dermochelys coriacea</i>	Endangered	No	The leatherback sea turtle may be found off the coast of most of the continental U.S., including Louisiana. This species nests on beaches and shorelines with a variety of substrate (USFWS, 2020).
Kemp's Ridley Sea Turtle <i>Lepidochelys kempii</i>	Endangered	No	Kemp's ridley sea turtles are found along the Gulf coast, including Louisiana, as well as the Atlantic coast from Georgia to Maryland. Major nesting beaches are mainly found in Mexico, Texas, Alabama, and Florida (USFWS, 2011, 2015).
Green Sea Turtle <i>Chelonia mydas</i>	Threatened	No	The green sea turtle is found globally in subtropical and temperate waters but may be found as far north as southern Alaska. The population that occurs off the coasts of Louisiana is the North Atlantic DPS (USFWS, 2024f). Major nesting beaches of this DPS are found in Florida, and smaller nesting sites occur in the U.S. Virgin Islands, Puerto Rico, Georgia, South Carolina, and North Carolina (NOAA Fisheries, 2024)
Birds			
Rufa Red Knot <i>Calidris cantus rufa</i>	Threatened	No	The rufa red knot migrates from coastal marine environments to the northern Arctic. During the nonbreeding season, red knots are found in coastal marine environments like coastal Louisiana where they forage along sandy beaches, lagoons, saltmarshes, eelgrass beds, and mangrove swamps (Cornell University, 2024a).

<i>Species</i>	<i>USFWS Status</i>	<i>Critical Habitat</i>	<i>Habitat</i>
Piping Plover <i>Charadrius melodus</i>	Threatened	No	Piping plovers are found on bare shorelines and beaches of rivers, lakes, and coasts with little vegetation or disturbance and spend the nonbreeding season along the Gulf Coast, including Louisiana (Cornell University, 2024b).
Eastern Black Rail <i>Laterallus jamaicensis</i> <i>ssp. jamaicensis</i>	Threatened	No	The eastern black rail may be found year-round along the Gulf Coast of Louisiana. This species is elusive but may be found in dense marshes (Cornell University, 2024c).
Mammals			
Tricolored Bat <i>Perimyotis subflavus</i>	Proposed Endangered	No	The tricolored bat roost in caves, abandoned mines, and culverts and forages for insects during warm nights. In the spring through fall, this species is found in forested habitats, and it hibernates during winter in caves and abandoned mines (USFWS, 2024c).
West Indian Manatee <i>Trichechus manatus</i>	Threatened	No	The West Indian manatee is found along the Gulf of Mexico and Atlantic coasts as well as in the Caribbean. This species grazes on sea grasses and other aquatic plants in warm coastal waters. Manatees require access to freshwater habitat to stay hydrated and are therefore found near freshwater outlets (LDWF, 2024a).
Invertebrates¹			
Monarch Butterfly <i>Danaus plexippus</i>	Candidate	No	Monarch butterflies migrate from central Mexico through Louisiana to the northern U.S. annually. Monarchs may pass through the low airspace beneath the MOA during migration.

Note: ¹Due to the nature of the Proposed Action, no effects to invertebrates are anticipated. Therefore, the monarch butterfly is not carried forward for analysis.

Legend: ATCAA = Air Traffic Control Assigned Airspace; DPS = Distinct Population Segment; LDWF = Louisiana Department of Wildlife and Fisheries; MOA = Military Operations Area; U.S. = United States; USFWS = United States Fish and Wildlife Service

Sources: Cornell University, 2024a,b,c; LDWF, 2024a; USFWS and Gulf States Marine Fisheries Commission, 1995; NOAA Fisheries 2024; USFWS 2011, 2013, 2020, 2024a-f

Hawksbill Sea Turtle. The hawksbill sea turtle was listed as endangered under the ESA on June 2, 1970 (35 *Federal Register* 8491). Hawksbill sea turtles are found off the coast in the Gulf of Mexico from southern Texas to southern Florida in the U.S., and tropical waters around the world. This species nests on sandy beaches globally in the subtropics and tropics and migrates among coastal waters (USFWS, 2013). Hawksbill sea turtles eat mollusks, sea urchins, fish, algae, and crustaceans.

Loggerhead Sea Turtle. The loggerhead sea turtle was originally listed as threatened on July 28, 1978 (43 *Federal Register* 32800) and in 2011, the USFWS determined that the loggerhead sea turtle exists in nine distinct population segments (DPS) (76 *Federal Register* 58868). The DPS that occurs off the Louisiana coast is the Northwest Atlantic Ocean DPS, and this DPS was kept listed as threatened. Other DPS are listed as endangered. Loggerhead sea turtles occur along the coast of the Gulf of Mexico and the Atlantic coast. Females lay eggs on sandy beaches and this species uses its large beak to eat crustaceans

and hard-shelled prey (USFWS, 2024b). Mean straight carapace length of adults in the southeastern U.S. is approximately 36 inches and average weight is about 250 pounds (USFWS, 2024b).

Leatherback Sea Turtle. The leatherback sea turtle was listed as endangered under the ESA on June 2, 1970 (35 *Federal Register* 8491). This species is found off the coast of most of the continental U.S., including Louisiana. Leatherback sea turtles nest on beaches and shorelines with a variety of substrate (USFWS, 2020). The leatherback sea turtle is the largest sea turtle and can reach up to 8 feet in length and weigh up to 2,000 pounds. This species is also the most migratory sea turtle and is found all over the world.

Kemp's Ridley Sea Turtle. The Kemp's Ridley sea turtle was listed as endangered under the ESA on December 2, 1970 (35 *Federal Register* 18319). The Kemp's Ridley sea turtle is the smallest sea turtle and reaches only about 2 feet in length and weighs up to 100 pounds. Females come onshore to nest while males, after hatching, spend their entire life in the ocean. This species eats crustaceans, clams, jellyfish, and fish. This species is found along the Gulf coast, including Louisiana, as well as the Atlantic coast from Georgia to Maryland. Major nesting beaches are mainly found in Mexico, Texas, Alabama, and Florida (USFWS, 2011, 2015).

Green Sea Turtle. The green sea turtle North Atlantic DPS was listed as threatened on April 6, 2016 (81 *Federal Register* 20058). The green sea turtle is herbivorous, consuming seagrasses and algae, and is the largest hard-shelled sea turtle (NOAA Fisheries, 2024). They occur throughout the world and are split into 11 DPS. In the U.S., this species is primarily found nesting in the Hawaiian Islands, the U.S. Pacific Island territories, Puerto Rico, the Virgin Islands, and Florida. Small nesting areas also occur in Georgia, South Carolina, North Carolina, and Texas (NOAA Fisheries, 2024).

Rufa Red Knot. The rufa red knot was listed as threatened under the ESA on January 12, 2015 (79 *Federal Register* 73705). The red knot migrates from coastal marine environments, such as the shores of Louisiana, to the northern Arctic where they nest on tundra slopes. During migration and overwintering, red knots are found in coastal marine environments where they forage along sandy beaches, lagoons, saltmarshes, eelgrass beds, and mangrove swamps. Rufa red knots have been recorded around the estuaries and islands off the coast of New Orleans (Cornell University, 2024a) during the nonbreeding season and are likely to pass through the low airspace beneath the MOA floor.

Piping Plover. The piping plover (Atlantic Coast and Northern Great Plains populations) was listed as threatened on December 11, 1985 (50 *Federal Register* 50726). The piping plover nests along shores in the Northeast as well as along lakeshores, rivers, and wetlands in the Great Lakes and northern Great Plains. Piping plovers nest in sandy areas with sparse vegetation and forage along beaches, mudflats, and sandflats. This species has been recorded along the Gulf Coast of Louisiana during the nonbreeding season (Cornell University, 2024b) and is likely to pass through the low airspace beneath the MOA floor.

Eastern Black Rail. The eastern black rail was listed as threatened under the ESA on October 8, 2020 (85 *Federal Register* 63764). The eastern black rail may be found year-round along the Gulf Coast of Louisiana. This species is elusive and rare but may be found in dense marshes. The eastern black rail forages in shallow water in marshes, wet meadows, salt marshes, and impounded wetlands where they prey on small aquatic invertebrates (Cornell University, 2024c). This species is highly vulnerable to climate change and changing water levels as well as destruction of wetlands and natural shorelines (USFWS, 2024d).

Tricolored Bat. The tricolored bat was proposed to be listed as an endangered species on September 14, 2022 (87 *Federal Register* 56381). The tricolored bat was once a common species in the eastern and central U.S., but populations have been decimated due to white-nose syndrome which has resulted in an estimated 90 percent decline in affected colonies (USFWS, 2024c). During the winter, tricolored bats roost in caves, abandoned mines, and culverts near roads. During the spring through fall, this species is found in forested habitats where they roost in hardwood trees, pine trees, and Spanish moss, as well as some human-built structures (USFWS, 2024c). Tricolored bats forage around tree-top height often over waterways and forest edges at night for insects (Davis and Mumford, 1962; USFWS, 2021) and are found throughout Louisiana including the shoreline (USFWS, 2024c).

West Indian Manatee. The West Indian manatee was originally listed as an endangered species under the ESA on March 11, 1967 (32 *Federal Register* 4001) but was downlisted to threatened in 2017 (82 *Federal Register* 16668). The West Indian manatee is found along the Gulf of Mexico, Atlantic coasts, and the Caribbean. This species grazes on sea grasses and other aquatic plants in warm coastal waters. West Indian manatees require access to freshwater habitat to stay hydrated and are therefore found near freshwater outlets in ocean habitats, such as river estuaries (Louisiana Department of Wildlife and Fish [LDWF], 2024a). This species often freely ranges between marine and freshwater habitats that provide warm water and can often be found near industrial sites that expel warm water (USFWS, 2024d). Manatee populations are generally stable but experience human-related threats including watercraft, habitat destruction, and climate change (USFWS, 2024d).

3.3.2.2 MBTA and BGEPA Protected Species

The migratory bird species potentially occurring beneath the proposed Bourbon MOA/ATCAA are listed in **Table 3.5-2**. This list also includes the bald eagle (*Haliaeetus leucocephalus*) that is protected by the BGEPA. Not all the migratory bird species breed in this area and the breeding timeframe for those that do varies greatly throughout the year.

Table 3.5-2 Migratory Birds Beneath the Proposed Bourbon MOA/ATCAA

<i>Bird</i>	<i>Breeding Season</i>
American Oystercatcher (<i>Haematopus palliatus</i>)	April 15 to August 31
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	September 1 to July 31
Black Skimmer (<i>Rynchops niger</i>)	May 20 to September 15
Brown Pelican (<i>Pelecanus occidentalis</i>)	January 15 to September 30
Chimney Swift (<i>Chaetura pelagica</i>)	March 15 to August 25
Common Loon (<i>Gavia immer</i>)	April 15 to October 31
Gull-billed Tern (<i>Gelochelidon nilotica</i>)	May 1 to July 31
King Rail (<i>Rallus elegans</i>)	May 1 to September 5
Lesser Yellowlegs (<i>Tringa flavipes</i>)	Breeds elsewhere
Magnificent Frigatebird (<i>Fregata magnificens</i>)	Breeds elsewhere
Marbled Godwit (<i>Limosa fedoa</i>)	Breeds elsewhere
Painted Bunting (<i>Passerina ciris</i>)	April 25 to August 15
Prothonotary Warbler (<i>Protonotaria citrea</i>)	April 1 to July 31
Red-breasted Merganser (<i>Mergus serrator</i>)	Breeds elsewhere
Reddish Egret (<i>Egretta rufescens</i>)	March 1 to September 15
Ring-billed Gull (<i>Larus delawarensis</i>)	Breeds elsewhere
Royal Tern (<i>Thalasseus maximus</i>)	April 15 to August 31
Ruddy Turnstone (<i>Arenaria interpres</i>)	Breeds elsewhere
Sandwich Tern (<i>Thalasseus sandvicensis</i>)	April 25 to August 31

<i>Bird</i>	<i>Breeding Season</i>
Short-billed Dowitcher (<i>Limnodromus griseus</i>)	Breeds elsewhere
Swallow-tailed Kite (<i>Elanoides forficatus</i>)	March 10 June 30
Willet (<i>Tringa semipalmata</i>)	April 20 to August 5
Wilson's Plover (<i>Charadrius wilsonia</i>)	April 1 to August 20

Legend: ATCAA = Air Traffic Control Assigned Airspace; MOA = Military Operations Area

Source: USFWS, 2024a

3.3.3 Environmental Consequences

3.3.3.1 No Action Alternative

Under the No Action Alternative, there would be no change to existing military aircraft overflight tempo. Military flights from NAS JRB NOLA would continue to transit the airspace to access existing SUA to the east. There would be no change in impacts to biological resources.

3.3.3.2 Conduct Flight Training in New SUA to the East of NAS JRB NOLA (Preferred Alternative)

Under the Proposed Action, the new Bourbon MOA/ATCAA would be established to accommodate required flight training activities for squadrons stationed at NAS JRB NOLA. The Proposed Action could have potential impacts to ESA protected species, migratory birds and bald eagles from the use of chaff and flares and noise disturbance. Flight training activities also present a BASH risk.

The Navy is engaging in informal consultation with the USFWS and NOAA Fisheries concerning the potential impacts to species protected under ESA, MBTA, and BGEPA. Correspondence and documentation associated with these consultations are provided in **Appendix E**.

Potential Impacts from Chaff and Flares

Potential impacts from chaff and flares could occur from the introduction of chaff fibers into the environment, distribution of residual materials in the form of debris, and potential for wildfire from flare usage. Chaff is made of aluminum coated silica fibers. The chaff concentrations that animals could be exposed to following the release of multiple cartridges (e.g., following a single day of training) depends on several variable factors. Specific release points are not recorded and tend to be random, and chaff dispersion in air depends on prevailing atmospheric conditions. Chaff fibers would drift in prevailing winds and ultimately land on the ground or water beneath the MOA/ATCAA. Chaff fibers expended over water would be expected to float on the sea surface for some period, depending on wave and wind action. The individual chaff fibers would be dispersed by sea currents as they float and slowly sink toward the bottom. Residual materials from chaff and flares include plastic end caps, felt spacers, and plastic pistons (see **Section 2.3.2.2**). These materials land on the ground or sink to the bottom of aquatic environments.

Under the Proposed Action, up to 10,000 chaff cartridges and 10,000 flare cartridges would be expended annually in the MOA/ATCAA. Based on these annual totals, approximately one piece of residual material would occur per 5 acres of area on average. This is assuming even distribution of residual materials, and likely there would be some grouping of residual material. However, the overall number of chaff and flare residual material reaching the ground and ocean would be small and would be scattered in a large area.

Critical habitat for the gulf sturgeon occurs under the MOA/ATCAA. Residual materials from chaff and flare use could land in critical habitat, but these materials would be widely distributed throughout the

MOA/ATCAA as described above and are not expected to collect in any substantial quantity in a single location. The materials themselves are benign and would not impact water or sediment quality. Therefore, this critical habitat would experience no effect from the Proposed Action.

Toxicity of Chaff

There have been no observed toxicological effects of chaff on terrestrial or aquatic organisms, even when subject to higher concentrations than would occur under this Proposed Action (Department of the Air Force, 1997, 2011, 2023). Chaff fibers in an aquatic environment have not been found to significantly increase the concentration of any toxic aluminum constituents in sediments (Department of the Air Force, 1997). Concentrations of chaff in test environments were not found to result in a significant change in mortality to a variety of marine organisms in the Chesapeake Bay area; no effect was seen in marine organisms exposed to concentrations of 10 times and 100 times the expected environmental exposure (Department of the Air Force, 2023).

Potential Impacts from Strike

The relatively slight force of a small piece of plastic (residual materials) striking any animal would not be expected to have any effect (Department of the Air Force, 2011). The wide distribution of these materials throughout the MOA/ATCAA would further reduce the likelihood that any animal would be struck by residual materials.

Potential Impacts from Ingestion

Terrestrial animals, to include domestic animals, have not been observed ingesting chaff or residual materials. In a study on cattle, the animals were only found ingesting chaff after it was coated in molasses, and it passed through the digestive system without harm (Department of Air Force, 1997). Selective ingestion of chaff filaments or residual materials by aquatic animals is not likely, but inadvertent consumption could occur during normal feeding activities (Department of the Air Force, 1997). The primary concern would be disruption of digestive processes such as blockage of the system. Like with terrestrial animals, no reports were found documenting ingestion of chaff or residual materials by aquatic organisms in nature.

Birds have not been documented using chaff filaments or residual materials as nesting material or food, but residual materials still pose an ingestion risk to birds. Chaff does not accumulate to any great degree and the fibers, if found, are often mistaken for natural elements such as animal fur or plant material. The fibers generally dissipate within a few days due to mechanical breakdown from wind, sediment erosion, and rain or snow.

Potential Impacts from Wildfire

The possibility of a wildfire from flare usage would be remote considering the reliability of flares and the amount of surface water beneath the MOA/ATCAA. Flares would not be released below the MOA floor (4,000 feet MSL) which is above the standard minimum release altitude of 2,000 feet AGL, ensuring the flare has substantial time to burn out before contacting the ground or treetops. Flares are designed to burn completely.

Chaff and Flare Conclusions

As described above, the occurrence of residual material from chaff and flares and the distributed chaff fibers result in small potential negative impacts to marine and terrestrial species. Therefore, chaff and flare use in the Proposed Action may affect, but is not likely to adversely affect the gulf sturgeon,

hawksbill sea turtle, loggerhead sea turtle, leatherback sea turtle, Kemp's Ridley sea turtle, green sea turtle, rufa red knot, piping plover, eastern black rail, and the West Indian manatee. Chaff and flare use would have no effect on the tricolored bat or critical habitat for gulf sturgeon.

Potential Impacts from Noise

Aquatic Animals

Marine mammals, turtles, and fish (and other aquatic animals) would experience minimal impacts from noise resulting from the Proposed Action due to the increased distance of these animals from the sound source and the muffling effects on in-air sound translating to underwater. When exposed to in-air noise or sonic booms, aquatic species typically at most show a slight startle response. For reptiles, instances have been documented of "freezing" (brief cessation of activity), but most of these studies examined noise exposure over much longer periods of time than would occur for an overflight (Bowles, 1995a; Sun and Narins, 2005). Noise disturbance is not expected to harass or agitate these animals. Aircraft overflights are not expected to cause chronic stress as it is extremely unlikely that individual turtles or sturgeon would be repeatedly exposed to low altitude overflight noise. Sea turtles and manatees are unlikely to be affected by aircraft noise while at the surface and while submerged, due to infrequent exposure. Exposure would be brief (a matter of seconds as aircraft passed overhead) and infrequent, given the dispersed nature of flights over such a large area.

Terrestrial Animals

Continuous, intense noise exposure has been shown to cause health effects in laboratory experiments, but some research shows that intermittent noise, such as what would occur with the Proposed Action, may not, because some animals' ears can recover between the intermittent exposures and intermittent exposures result in lower total noise (Bowles, 1995a,b; Pienkowski and Eggermont, 2010). The proposed training is episodic, and would not create a consistent, significant noise source in any one location. In addition, the DNL throughout the MOA/ATCAA from the proposed aircraft operations would be low (52 dB DNL, see **Table 3.2-3**). While an infrequent event due to size of the MOA/ATCAA and flight altitude and annual number of sorties, there is the possibility that wildlife could be subjected to a very brief direct overflight and experience a maximum noise level (L_{max}) of up to 105 dB. Exposure to maximum noise levels would last only a few seconds and the animal would need to be directly beneath the flight path to experience this level of noise as the noise reduces the further the animal is from the flight path. Even at 105 dB, no harm to hearing capacity is anticipated as damage to hearing only occurs at levels over 140 to 150 dB (Bowles, 1995a).

Bats

Tricolored bats use echolocation to forage for insects at night from the spring through the fall (USFWS, 2021). Although noise would result from the flights of the Proposed Action, these flights are only scheduled to occur from 0800–1700 Local Time and would therefore generally not occur during the nocturnal foraging period of the tricolored bat. There may be small instances of overlap in dusk hours during the winter when daylight hours are fewer, but tricolored bats mostly hibernate during the winter (USFWS, 2021) and would therefore not be foraging during this time. Short, intermittent flight noise above foraging or roosting locations would be unlikely to cause significant disturbances to this species. A study in Wisconsin analyzed the effect of underground mine blasting on nearby bat roosts during hibernation, and the results indicated that blasting and vibrations from the blasting did not cause significant increases of bat activity (Summers et al., 2023). Although studies have demonstrated that

bats are sensitive to disturbance during hibernation (Haarsma and de Hullu, 2012), other studies have demonstrated that bats are not sensitive to non-tactile disruptions, such as noise or light (Speakman et al., 1991), which would indicate that aircraft noise is unlikely to be significantly disruptive to bat hibernation. While the proposed operations within the MOA/ATCAA would create a noise disturbance for bats, this disturbance is expected to be intermittent and minor. Therefore, the aircraft activity within the proposed MOA/ATCAA may affect but is not likely to adversely affect the tricolored bat.

Birds

Most concerns related to the effects of noise on birds involve the masking of communications among members of the same species, reducing the detectability of biologically relevant signals including the sounds of predators and prey, and temporarily or permanently decreasing hearing sensitivity (Dooling and Popper, 2007; Vincelette et al., 2020). These effects range from temporary pauses or elevated noise from birds after an aircraft disturbance (Vincelette et al., 2020), to disruptions of bird behavior and mating (Habib et al., 2007). In a study of ovenbirds, Habib et al. (2007) found chronic noise exposure near compressor stations affected pairing success, attributable to masking and distorting the song of breeding males on territories. Noise exposure under the Proposed Action would be intermittent and loud but would not represent continuous hours of noise disruptions at a time in one location.

In a literature review including bird responses to military aircraft noise, Mancini et al. (1988) found that most raptors did not show a negative response to overflights. When negative responses were observed, they were predominantly associated with rotor-winged aircraft or jet aircraft that were repeatedly passing within 0.5 mile of a nest. Ellis et al. (1991) analyzed the effects of low-level military jet aircraft and mid- to high-altitude sonic booms (both actual and simulated) on nesting peregrine falcons and seven other raptors (common black hawk, Harris' hawk, zone-tailed hawk, red-tailed hawk, golden eagle, prairie falcon, bald eagle). Re-occupancy and productivity rates were within or above expected values for self-sustaining populations (Ellis et al., 1991). In a 1997 helicopter overflight study, Mexican spotted owls did not flush from a nest or perch unless a helicopter was as close as 330 feet (Delaney et al., 1999). Researchers in Colorado found that Mexican spotted owl responses to F-16 overflights were often less significant than responses to naturally occurring events such as thunderstorms. Similarly, Delaney et al. (1999) found that Mexican spotted owls quickly returned to normal day-roosting behavior after being disturbed by helicopters. A 6-year study in the Gila National Forest found that low-level aircraft overflight had no effect on occupancy of Mexican spotted owl activity centers and found no correlations among measures of aircraft exposure and nesting success (Air Combat Command, 2008).

A study performed on black ducks and wood ducks showed that ducks habituated to both visual and auditory aircraft activity over the course of 17 days (Conomy et al., 1998), suggesting that waterfowl may initially react to aircraft activity, but the disturbances would be unlikely to represent significant harm over time. In a study evaluating the impacts of military and civilian overflights on water birds, including least terns, beneath a MOA in North Carolina, no evidence was found that visual or acoustic stimuli from military aircraft flying between 2,100 feet AGL and 3,500 feet AGL elicited behavioral stress responses that would negatively impact nesting colonial waterbird demographic rates (Hillman, 2012). Flights within the Bourbon MOA/ATCAA would not be below 4,000 feet MSL (which in this area is approximately the same as 4,000 feet AGL).

Animal responses to sonic booms have been suggested to be similar to responses to thunder and have been shown to be brief with animals returning to normal behavior quickly thereafter (Lynch and Speake,

1978), and research has suggested that animals may habituate to sonic booms after successive exposures (Workman et al., 1992).

In summary, bird and bat responses to aircraft are influenced by many variables, including size, speed, proximity (both height above the ground and lateral distance), engine noise, flight profile, and radiated noise. The type of aircraft (e.g., fixed-wing [jets] versus rotary-wing [helicopters]) and type of flight mission may also produce different levels of disturbance, and thus varying responses.

Noise Impact Conclusions

The Proposed Action would result in random, intermittent loud sounds across the area, but would not represent long-term continuous loud sound in any one area. Minor, temporary effects from aircraft noise are possible, but these effects are unlikely to pose long-term or population-level impacts to any species. Therefore, the noise exposure associated with the Proposed Action may affect, but is not likely to adversely affect the gulf sturgeon, hawksbill sea turtle, loggerhead sea turtle, leatherback sea turtle, Kemp's Ridley sea turtle, green sea turtle, rufa red knot, piping plover, eastern black rail, tricolored bat, and West Indian manatee.

MBTA and BGEPA

Based on the impact discussions described above for birds, the Proposed Action would not have significant impacts to migratory birds or bald or golden eagles. Migratory birds and eagles may experience brief disruptions from noise when flights pass overhead which may elicit startle responses, briefly mask intraspecific vocalizations, or result in the individual temporarily leaving the area, as discussed above. However, these disturbances would not represent long term or significant effects on migratory birds or eagles. The Proposed Action would not result in the take of species protected under MBTA or BGEPA.

Bird/Wildlife Aircraft Strike Hazard

Bird/Wildlife aircraft strikes are a substantial concern due to the risk of damage to aircraft, injury, or loss of life to aircrews or the local population in the event of an aircraft crash, as well as the risk to the bird species in collisions.

Migratory waterfowl (ducks, geese, and swans, etc.) are the most hazardous birds to low flying aircraft because of their size and their inclination for migrating in large flocks at a variety of elevations and times of day. Migrations happen during spring and fall, and waterfowl usually pose as hazards only during migratory seasons. The altitudes of migrating birds vary with weather, wind, terrain elevations, clouds, and other variables. Over 90 percent of reported bird strikes occur at or below 3,000 feet AGL but strikes at higher altitude are possible during migration. Ducks and geese have been observed up to 7,000 feet AGL (FAA, 2021); however, these birds typically migrate at night and generally fly between 1,500 to 3,000 feet AGL during the fall migration, and from 1,000 to 3,000 feet AGL during the spring migration.

Raptors, shorebirds, gulls, herons, songbirds, and other birds are also at risk for strikes. Peak migration periods for raptors, especially eagles, occur from October to mid-December and from mid-January to the beginning of March. Generally, flights above 1,500 feet AGL would be above most migrating and wintering raptors, and flights in the proposed Bourbon MOA/ATCAA would occur above this altitude. Songbirds have nocturnal migration periods and frequently navigate along major rivers, typically between 500 to 3,000 feet AGL.

The tricolored bat would potentially be found flying underneath the airspace of the MOA/ATCAA; however, it is highly unlikely that this species would pose a BASH risk. Tricolored bats forage mostly at night and at treetop, or similar, level (Davis and Mumford, 1962; USFWS, 2021). Aircraft would not be flown at treetop level and most sorties would occur during daylight hours and would therefore be unlikely to overlap with tricolored bat flight occurrences in both space and time.

The Avian Hazard Advisory Safety System (AHAS) is managed by the Department of the Air Force and available to all services to detect and assess the risk of a bird strike. AHAS is informed by various sources to include data from Next Generation Radar and NOAA (Air Force Safety Center, 2015). AHAS uses multiple risk assessment methods to identify the risk for a given flying area that contains biological activity. AHAS, together with specific procedures defined in a unit's BASH Management Plan, can be used to evaluate local and enroute bird strike risks and manage flight operations on low level routes, training ranges, and special use areas.

Aircrews operating in the Bourbon MOA/ATCAA would be required to follow applicable procedures outlined in the NAS JRB NOLA BASH Reduction Plan (Navy, 2017) as they do currently. Adherence to BASH programs has minimized bird/aircraft strikes. When safety procedures identify an increased risk, limits are placed on low-altitude flights and some types of training. Special briefings are provided to pilots whenever the potential exists for greater bird-strike risks within airspace.

The overall potential for BASH would not be significantly different than the current risk in the region. The Proposed Action would have no measurable increase in potential for and therefore no significant effect on bird/aircraft strikes due to the high altitude, intermittent flights, and implementation of BASH prevention measures.

3.4 Coastal Zone

The coastal zone is the interface between land and water and is vital to the well-being of the nation. It supports half of the nation's population and supports ecologically important habitat and natural resources.

3.4.1 Regulatory Setting

Through the Coastal Zone Management Act (CZMA) of 1972, Congress established national policy to preserve, protect, develop, restore, or enhance resources in the coastal zone. This Act encourages coastal states to properly manage use of their coasts and coastal resources, prepare and implement coastal management programs, and provide for public and governmental participation in decisions affecting the coastal zone. To this end, the CZMA imparts an obligation upon federal agencies whose actions or activities affect any land or water use or natural resource of the coastal zone to be carried out in a manner consistent to the maximum extent practicable with the enforceable policies of federally approved state coastal management programs.

In accordance with the CZMA, the State and Local Coastal Resources Management Act of 1978 (Act 361, La. R.S. 49:214.21 et seq.) is the state of Louisiana's legislation creating the Louisiana Coastal Resources Program (LCRP). The LCRP establishes policy for activities in the coastal zone, defines and updates the coastal zone boundary, and creates regulatory processes. The LCRP is under the authority of the Louisiana Department of Energy and Natural Resources (LDENR) Office of Coastal Management. Per the CZMA, all proposed federal projects within the coastal zone must undergo a Consistency Determination by the Office of Coastal Management for that project's consistency with the state's Coastal Resources

Program (i.e., LCRP). The Louisiana coastal zone boundary is established in Louisiana Revised Statutes Article 49, Section 214.24 (Louisiana Department of Energy and Natural Resources, 2015).

3.4.2 Affected Environment

Louisiana has 15,000 miles of meandering shoreline that extends from the Pearl River westward to the Sabine River. The Louisiana coastal zone is located in twenty southern parishes and habitats include a variety of ecological systems. Covering 8.5 million acres, the Louisiana coastal zone includes large open bays and lakes, barrier islands, cheniers, and natural levee forests. The marshes, swamps, and bottomland hardwoods that sprawl inland from the Gulf of Mexico comprise 41 percent of the continental U.S. coastal wetlands. Almost one-third of Louisiana's people live in the coastal area (Louisiana Department of Energy and Natural Resources, 2015).

The proposed SUA is located mostly over St. Bernard Parish with a small portion of the airspace entering Plaquemines Parish. The entirety of the proposed SUA is within Louisiana's coastal zone boundary.

Figure 3.4-1 shows where the Bourbon MOA/ATCAA overlaps the parishes and coastal zone of Louisiana.

3.4.3 Environmental Consequences

3.4.3.1 No Action Alternative

Under the No Action Alternative, there would be no change to the existing land use within the coastal zone of Louisiana. Military flights from NAS JRB NOLA would continue to transit the area as they do currently. Therefore, no changes to impacts to the coastal zone would occur with implementation of the No Action Alternative.

3.4.3.2 Conduct Flight Training in New SUA to the East of NAS JRB NOLA (Preferred Alternative)

The noise exposure associated with flight training activities in the Bourbon MOA/ATCAA are at a level considered compatible with all land uses (see **Section 3.2.4**). The Proposed Action would not change any existing land use or prohibit access to any coastal resources. Individuals recreating on the land or waters beneath the MOA/ATCAA may see or hear an overflight. The maximum noise level from a direct overflight lasts only a few seconds but given the recreation activity or situation the sound may be annoying or startling to a person, may mask natural sounds like bird calls or rustling leaves, or temporarily interrupt outdoor conversation. This experience is not expected to be much different from existing flight activities in the area. The use of chaff and flares would result in the distribution of residual materials on the land and water beneath the MOA/ATCAA. As described in Section 2.3.2.2, up to 10,000 chaff cartridges and 10,000 flare cartridges would be expended annually in the MOA/ATCAA (the cartridges remain on the aircraft, only the contents are expended). Based on these annual totals, approximately one piece of residual material (end caps, spacers, and pistons) would occur per 5 acres of area on average. This is assuming even distribution of residual materials, and likely there would be some grouping of residual material. However, the overall number of chaff and flare residual material reaching the ground and ocean would be small and would be scattered in a large area. Flight operations are widely dispersed throughout the MOA/ATCAA which reduces the potential for the accumulation of this debris in any location. These materials do not impact the soil or water quality and have been found to not impact terrestrial or aquatic wildlife (see **Section 3.3.3**).

There would be no significant impacts to coastal resources. The proposed project would be consistent to the maximum extent practicable with the enforceable policies of Louisiana's federally approved Coastal Resources Program.

Due to the overlap of the proposed SUA with the Gulf of Mexico and its location within the coastal zone, a Coastal Consistency Determination for the Preferred Alternative was prepared, as required under Section 307 of the CZMA, and is provided in **Appendix F**.

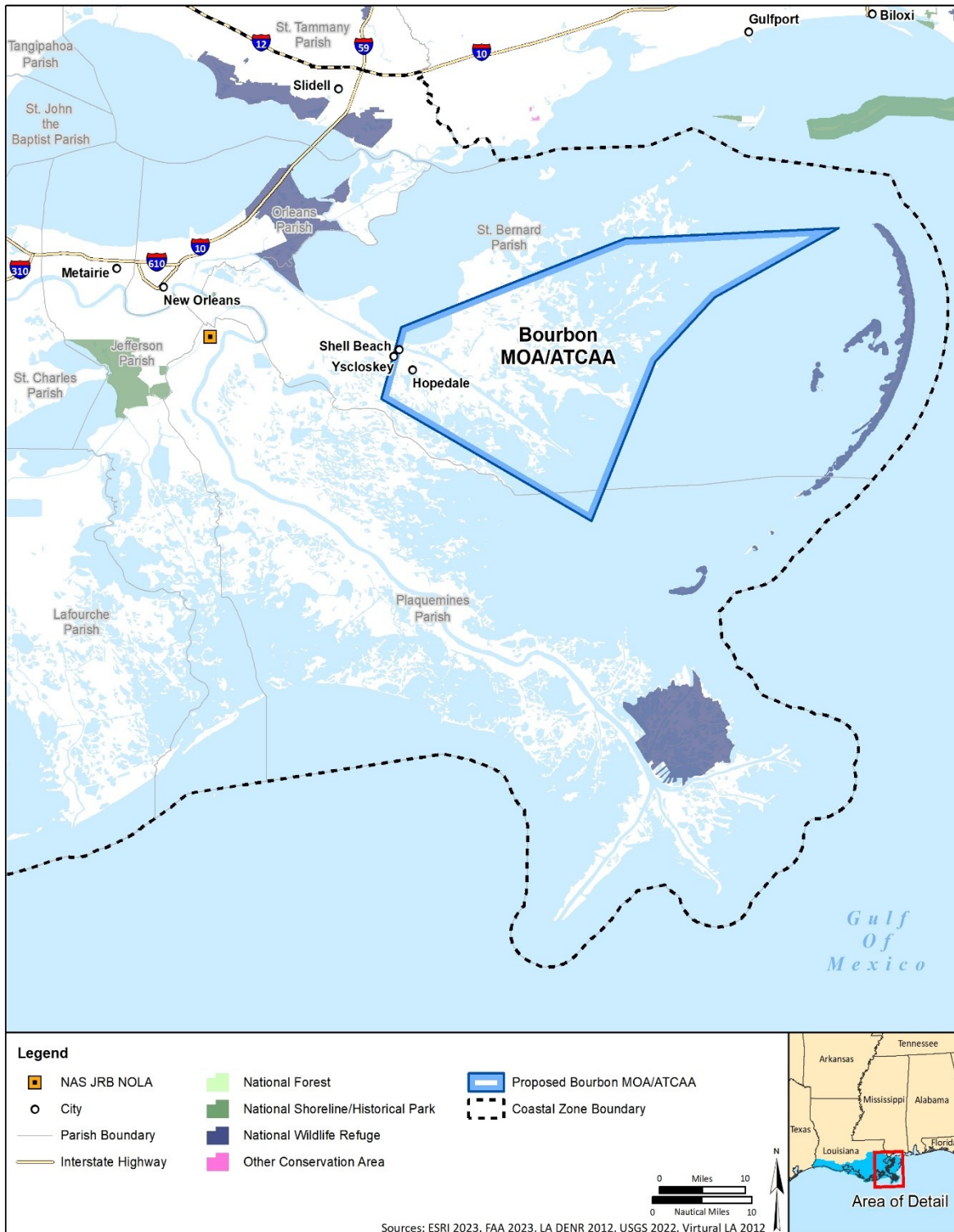


Figure 3.4-1 Bourbon MOA/ATCAA Location within the Coastal Zone

3.5 Visual Effects

Visual effects deal broadly with the extent to which the Proposed Action would either: 1) produce light emissions that create annoyance or interfere with activities; or 2) contrast with, or detract from, the visual resources and/or the visual character of the existing environment. The proposed times of use for the Bourbon MOA/ATCAA are 8:00 a.m. to 5:00 p.m., thus nighttime operations are unlikely and light emissions will not be further discussed. This analysis will focus on visual resources which include buildings, sites, traditional cultural properties, and other natural or manmade landscape features that are visually important or have unique characteristics.

3.5.1 Regulatory Setting

There are no special-purpose laws or required permits or approvals specific to visual resources (FAA, 2023). However, some visual resources may be protected under federal, state, or local regulations. Examples include National Scenic Areas, historic properties, and wildlife refuges. Visual resources are also protected on federal resource lands, including lands under U.S. Forest Service Land Management Plans and the Bureau of Land Management Visual Resource Management System. However, no national forests or Bureau of Land Management-administered lands occur near the proposed airspace.

3.5.2 Affected Environment

The study area for visual resources consists of the proposed Bourbon MOA/ATCAA airspace, as well as land and water surface areas from which aircraft operations in the airspace could be viewed. These land and water areas primarily occur underneath the proposed MOA/ATCAA but extend beyond the boundary for a distance from which aircraft could be observed. The affected environment consists of the visual resources and visual character of the study area. Visual resources include the natural landforms, vegetation, water features, panoramic views, cultural properties, and other man-made features that are visually important or have unique characteristics. These features collectively determine a landscape's visual aesthetic quality. Visual character refers to the overall existing visual makeup of the affected environment (urban, forest, etc.).

The study area is located within the Louisiana coastal plain and is associated with the Mississippi River delta. The area is flat overall, with an elevation near sea level. Except for limited development near the Mississippi River Gulf Outlet Canal, the study area is characterized as a remote, expansive mosaic of marsh vegetation and open water. Marsh vegetation is dense but relatively low and generally does not block views of the sky. Trees are limited to a few ridges (Louisiana Department of Wildlife and Fish [LDWF], 2024b). Open water includes small portions of Lake Borgne and Chandeleur Sound, as well as many lakes, sloughs, bays, and man-made channels interspersed throughout the marsh. Part of one protected area, the Biloxi Wildlife Management Area, occurs under the northern portion of the proposed Bourbon MOA/ATCAA (**Figure 3.5-1**). Typical activities in this secluded area, which is managed by the LDWF, include fishing, hunting, boating, and wildlife viewing (LDWF, 2024b). Wildlife in the managed area is considered representative of the study area in general and includes ducks, geese, racoons, rabbits, nutria, muskrats, and alligators, among others (Hunting Land Rentals by Owner, 2016). Waterfowl are particularly abundant during migratory seasons. Military aircraft currently transit the study area between NAS JRB NOLA and the existing Snake MOA/ATCAA and Warning Areas. Civilian aircraft associated with commercial and general aviation airports in the region, such as Louis Armstrong New Orleans International Airport (flightconnections.com, 2024), also transit the study area (see **Section 3.1**).

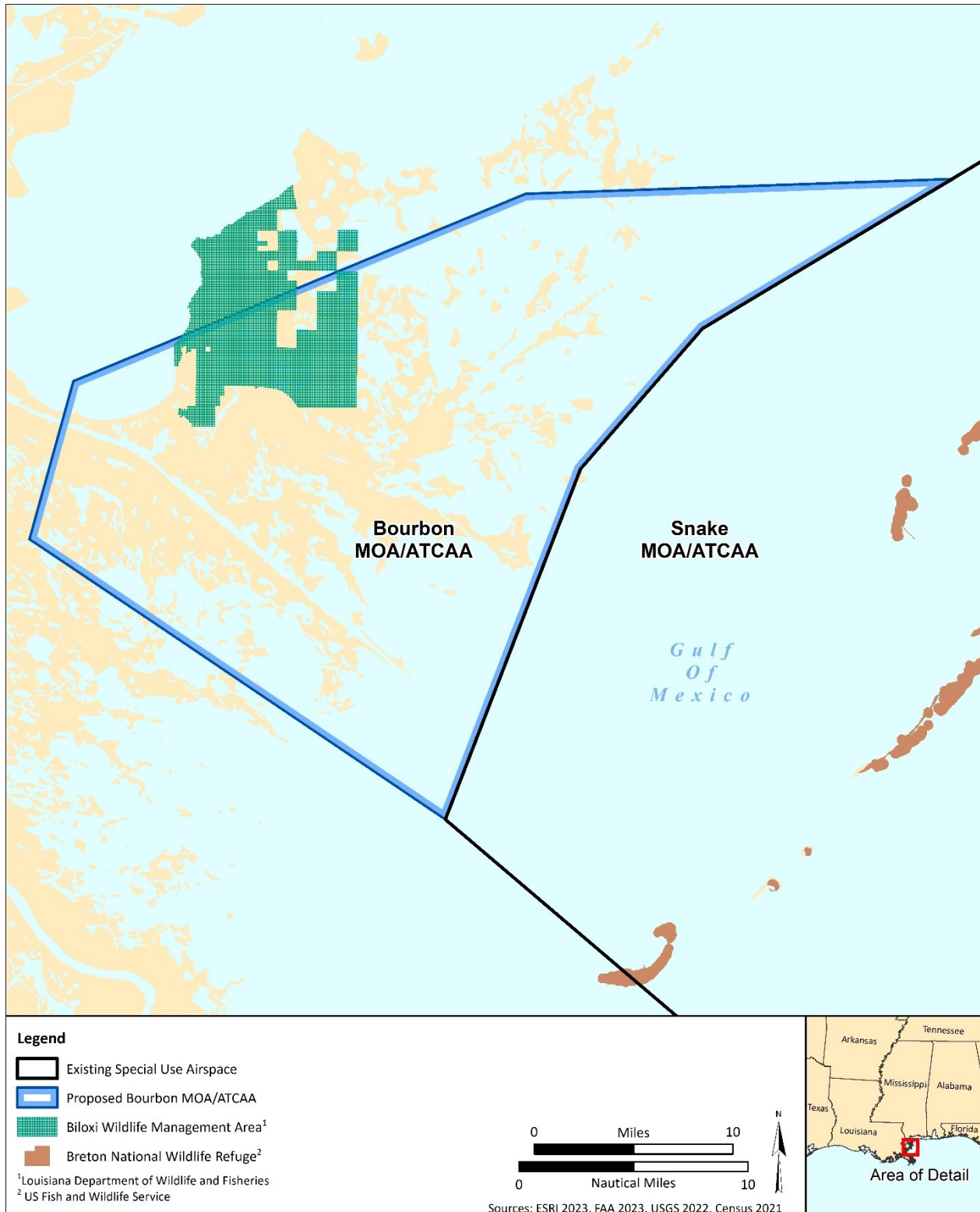


Figure 3.5-1 Biloxi Wildlife Management Area

The study area includes Shell Beach, Yscloskey, and Hopedale, which are narrow developed areas along the Mississippi River Gulf Outlet Canal and smaller adjoining canals. Development is mostly limited to elevated houses, boat docks, and other structures related to boat storage and maintenance. Disturbed ground, concrete and gravel parking areas, trees and shrubs, and turf grass occur within the developed areas. Trees also line the canals in some locations.

3.5.3 Environmental Consequences

Neither the Navy nor the FAA has established significance criteria for visual resource impacts but FAA has identified factors to consider when evaluating the context and intensity of potential impacts. These factors consist of the extent to which an action would have the potential to: (1) affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources; (2) contrast with the visual resources or visual character of the study area; or (3) block or obstruct views of visual resources (FAA, 2015, 2023).

3.5.3.1 No Action Alternative

Under the No Action Alternative, there would be no change to existing military aircraft overflight tempo, patterns, or other features of the study area that could affect the visual aesthetic quality. There would be no significant impact on visual resources.

3.5.3.2 Conduct Flight Training in New SUA to the East of NAS JRB NOLA (Preferred Alternative)

The Proposed Action would not involve development, construction, or any other physical changes to landform or water features in the study area. No project elements would block or obstruct views of visual resources. Therefore, the overall visual character of the study area would remain the same. Potential impacts on visual resources would consist of changes to military aircraft operations that affect panoramic views when, from the perspective of an observer, those views include the sky. Compared to existing conditions, the annual number of aircraft and operations in the airspace would not change and, therefore, the proposed activities would generally be consistent with ongoing military, commercial, and private aircraft operations in the area. However, instead of straight transit flights, military aircraft would conduct various types of training flights in the Bourbon MOA/ATCAA. This would change the flight patterns and increase the length of time aircraft would be present and viewable in the study area and could represent some level of contrast with the visual resources of the existing environment.

A relatively small number of the persons with potential to view aircraft would be residents along the Gulf Outlet Canal and smaller adjoining canals. Most would be those participating in various recreational activities in the marsh and open water areas, including the Biloxi Wildlife Management Area.

Recreationists may view the panoramic landscape as part of their leisure experience. The number of people present in the study area is low overall due to the area's remoteness. The marsh area is expansive and only accessible by boat.

The Bourbon MOA/ATCAA would typically be used on weekdays between 8:00 a.m. and 5:00 p.m. during most weeks of the year, and operations could occur up to 5 hours per day. Therefore, for a person present in the study area on a weekday, there is a reasonable chance that a training operation would occur at the same time. Viewers could notice aircraft maneuvers that are different from those conducted under existing conditions. Some viewers could perceive such an overflight as a negative impact on the natural landscape and solitude of the study area, while others could potentially perceive it as a neutral or positive experience. Sensitivity would likely be lower for overflights that do not interfere

with a viewer's activity (e.g., hunting or fishing). There would be no operations on weekends when recreational activity level would presumably be higher.

The potential for a viewer to notice an aircraft overflight and perceive it as a negative experience would be influenced by the aircraft's altitude and lateral distance. Generally, objects at greater altitude and lateral distance are less noticeable than objects near the horizon or near an observer, although the potential to observe a moving object is generally greater in open landscapes such as that of the study area. Operational altitude of training missions would range from 4,000 to 32,000 feet MSL. There is no generally accepted threshold altitude above which aircraft are considered unnoticeable. However, as a comparison point, analysis of commercial aircraft operations near San Antonio, Texas, concluded that views of aircraft operating above 3,000 feet would not usually be considered intrusive (FAA, 2022). The analysis presumably only considered straight transit flight paths. Similarly, analysis of a proposed new commercial airport in Sydney, Australia concluded that commercial aircraft at 3,000 feet are not prominent visual features, and that at 7,000 feet they are likely difficult to discern from ground level and are not visually obtrusive (Commonwealth of Australia, 2016). Additional factors that would influence the probability of viewing an aircraft include weather (e.g., cloud cover), location of the sun relative to the aircraft and viewer, camouflaging color of the aircraft, and a viewer's level of focus on activities near ground level.

The specific flight patterns, altitudes of those patterns, and length of time that an aircraft would be viewable from a relatively stationary point in the study area would vary depending on the training scenario. However, flights would be dispersed vertically and horizontally in the MOA/ATCAA, decreasing the likelihood of visual obtrusion from any given location. Also, observation would be temporary for overflights other than those that involve maneuvers in a relatively small area.

It would be unlikely for persons in the study area to observe a chaff or flare release due to the dispersed area of operations, altitude of release, and size of the items. Analysis of chaff and flare use in military training areas concluded that chaff fibers have low visibility and generally do not accumulate in quantities noticeable to most people (National Guard Bureau, 2002). Chaff debris is usually noticed only in open locations such as cleared, maintained, or sparsely vegetated areas. Chaff would not likely be noticed in the dense vegetation of the study area. Similarly, chaff and flare debris (e.g., end caps) could cause, at most, a minor visual impact. The wide distribution area of these items would significantly reduce the likelihood of seeing these materials. It is not expected that they would accumulate in a small area.

In summary, the proposed activities would not substantially affect the visual character of the study area. The addition of training flights in the Bourbon MOA/ATCAA would result in different flight patterns and potentially the length of time aircraft would be viewable. These changes would contrast with the existing environment and could be perceived negatively by some viewers. Due to the lateral area and altitude range in which aircraft could operate, and the transient nature of some overflights, effects would probably be only mildly discernible. Airspace operations do not commonly cause adverse visual effects (FAA, 2023). Chaff and flare expenditures would likely result in negligible to minor effects on the visual aesthetics of the study area. Implementation of the Preferred Alternative would not result in significant impacts on visual resources.

3.6 Cultural Resources

Cultural resources consist of prehistoric and historic sites, structures, artifacts, and any other physical or traditional evidence of human activity considered relevant to a particular culture or community for scientific, traditional, religious, or other reasons. For the purposes of this analysis, cultural resources are assessed to determine if they are significant and exhibit integrity, in accordance with the National Register criteria (36 CFR part 63) to qualify for listing in the National Register of Historic Places (NRHP).

3.6.1 Regulatory Setting

Cultural resources are governed by federal laws and regulations, including the NHPA, Archaeological and Historic Preservation Act, American Indian Religious Freedom Act, Archaeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1990. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties. For the purposes of this analysis, the term “cultural resource” refers to all resources of cultural importance protected by these federal laws.

Federal agencies’ responsibility for protecting historic properties is defined primarily by Sections 106 and 110 of the NHPA. Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. Through consultation with interested parties, the federal agency identifies historic properties potentially affected by the undertaking, assesses effects, and seeks ways to avoid, minimize, or mitigate any adverse effects on historic properties. Section 110 of NHPA requires federal agencies to establish – in conjunction with the Secretary of the Interior – historic preservation programs for the identification, evaluation, and protection of historic properties.

3.6.2 Affected Environment

The Area of Potential Effects (APE) for this Proposed Action includes areas directly or indirectly affected beneath the airspace. For this Proposed Action, the Navy determined that the APE is the land and water under the newly proposed airspace shown in **Figure 2.3-1**.

A search of the National Register database was conducted with one NRHP structure identified under the proposed airspace (National Park Service, 2024). The historic property is Fort Proctor located in St. Bernard Parish, north of Shell Beach on Lake Borgne. The fort’s construction commenced in 1856 with building materials of granite, brick, and cast iron I-beams. Even though the fort was not complete, the unique construction with the use of iron prior to the Civil War and the expanded living quarters for the soldiers, including bathrooms, deemed the property significant for recommendation to the NRHP. The National Register form for Fort Proctor, which was submitted and approved for listing on the NRHP in 1978, noted that the land has receded and Lake Borgne has partially engulfed approximately two-thirds of the outer earthworks. Currently, Fort Proctor is surrounded by water at least a foot deep and modern aerial imagery confirms the site is still heavily inundated.

A search of the Louisiana National Register was conducted for all NRHP-listed or eligible districts and individual properties under or adjacent to the proposed airspace (Louisiana Division of Historic Preservation, 2024). In addition to Fort Proctor, two other properties were identified: the Samuel Proctor House and an unnamed residential property. The Samuel Proctor House was described in a 1982 standing structural survey form to the Louisiana State Historic Preservation Office (SHPO) as an

unoccupied, deteriorated, four bay cottage built circa 1840 (Louisiana Division of Historic Preservation, 2024). Current aerial images from the SHPO database do not show evidence that the structure is still standing (Louisiana Division of Historic Preservation, 2024). The second structure was described in the same 1982 standing structural survey form as a deteriorated residential structure with an unknown construction date (Louisiana Division of Historic Preservation, 2024). Current aerial images from the SHPO database clearly show this building is no longer extant and has been replaced by a larger, more modern structure.

A search of the NOAA Automated Wreck and Obstruction Information System database (NOAA, 2024) noted two shipwrecks under the proposed airspace: the Queen Mary II, a half-submerged 36-foot cabin cruiser, and an unknown shipwreck. Both are in shallow water, and neither are noted as significant.

The Navy has requested consultation with the Chitimacha Tribe of Louisiana to determine whether there are traditional cultural properties and/or sacred sites, or other historic properties that the Navy has not identified within the APE, and to see if they have other concerns with the proposed action (**Appendix G**).

3.6.3 Environmental Consequences

Analysis of potential harm to cultural resources considers both direct and indirect impacts. A direct effect to a historic property would include the physical destruction of, or damage to, all or part of a historic property; alteration of a historic property in a way that is not consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties and applicable guidelines; or the removal of the property from its historic location. Indirect impacts are activities that may change the character of the property's use or of physical features within the property's setting that contribute to its historic significance, or introduce visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features.

3.6.3.1 No Action Alternative

Under the No Action Alternative, there would be no change to existing military aircraft overflight tempo or the noise exposure within the region. Military flights would continue to transit the area to access existing SUA. Current subsonic noise exposure is very low, 35 dB DNL. There is not currently any supersonic operation in this area, thus no supersonic noise exposure. Therefore, no significant impacts to cultural resources would occur with implementation of the No Action Alternative.

3.6.3.2 Conduct Flight Training in New SUA to the East of NAS JRB NOLA (Preferred Alternative)

Under the Preferred Alternative, defensive countermeasure devices would be used; however, no weapons testing, or ordnance expenditure would occur within the new MOA/ATCAA. Chaff and flare residual materials (i.e., end caps) would be widely distributed beneath the MOA/ATCAA and would not be readily visible on the ground or accumulate in a substantial quantity in any given location. It would be possible, but unlikely, that a piece of residual material or chaff fibers would land directly on any of the cultural resources in the APE given the limited amount of these materials and the limited cultural resources beneath the MOA/ATCAA. If a piece of residual material did land on a resource, it is not large enough to cause physical damage and would likely be quickly dispersed by wind. As such, no direct impacts from the use of chaff and flares would occur to cultural resources in the APE.

Previous studies have found it is unlikely that noise and vibration associated with air operations would cause structural damage to buildings. In fact, several studies of the effects of noise on historic properties located in high aircraft-noise zones have found that vibration resulting from the activities of tour groups,

and even vacuuming, generated more structural vibration than that generated by aircraft noise (NASA, 1976, 1978; National Research Council, 1977). Subsonic sound of less than 130 dB is highly unlikely to damage structural elements. Noticeable vibration of windowpanes and objects within buildings may occur at sound levels of 110 dB or greater (Wyle Laboratories, 1988). Overflights in the MOA/ATCAA would not exceed these levels (see **Section 3.2.4**).

There are no known aboveground archaeological sites or TCPs, and the one existing architectural resource located within the APE would not be impacted by the Proposed Action. Fort Proctor is located on the western boundary of the MOA/ATCAA where supersonic flights would occur above 30,000 feet MSL, which would reduce the number of sonic booms. In the eastern portion of the MOA/ATCAA, supersonic flights could occur as low as 4,000 feet MSL; however, most of the area beneath the MOA/ATCAA in the east is open water or marsh with little to no development. Visual intrusions are also expected to be minimal (see **Section 3.5, Visual Effects**). Implementation of the Preferred Alternative would not result in significant impacts to cultural resources.

The Navy conducted NHPA Section 106 compliance for the proposed undertaking and the results are included in **Appendix G**. The Navy consulted with the Louisiana SHPO and the Chitimacha Tribe of Louisiana.

3.7 Environmental Justice

EO 14096, *Revitalizing Our Nation's Commitment to Environmental Justice for All* (April 21, 2023) defines environmental justice as the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, tribal affiliation, or disability, in agency decision making and other federal activities that affect human health and the environment.

3.7.1 Regulatory Setting

Consistent with EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), the Navy's policy is to identify and address any disproportionately high and adverse human health or environmental effects of its actions on minority and low-income populations.

EO 14096 supplements EO 12898 to address environmental justice. EO 14096 establishes a policy to pursue a whole-of-government approach to environmental justice. With respect to environmental reviews under NEPA, EO 14096 directs federal agencies to: (1) analyze direct, indirect, and cumulative effects of federal actions on communities with environmental justice concerns; (2) consider best available science and information on any disparate health effects (including risks) arising from exposure to pollution and other environmental hazards, such as information related to the race, national origin, socioeconomic status, age, disability, and sex of the individuals exposed; and (3) provide opportunities for early and meaningful involvement in the environmental review process by communities with environmental justice concerns potentially affected by a proposed action.

The Navy followed the steps outlined in the USEPA's 2016 report, *Promising Practices for EJ Methodologies in NEPA Reviews* (USEPA, 2016), to determine whether there would be disproportionately high and adverse impacts to minority and low-income populations from the Proposed Action. These steps are summarized as follows:

- **Define the Affected Environment.** The environment of the area(s) to be affected or created by the alternatives under consideration was described.

- **Identify the presence or absence of minority and low-income populations.** The presence of minority and low-income populations was determined if the percentage of low-income or minority individuals residing within the selected geographic units of analysis (block groups) was equal to or greater than the percentage of individuals residing within the reference community (St. Bernard Parish). The low-income analysis used the Census Bureau data showing the poverty status of households in the past 12 months. The Census Bureau uses income thresholds that vary by family size and composition to determine who is in poverty.
- **Perform impact analysis.** The potential direct, indirect, and cumulative impacts on minority populations and low-income populations were compared to the non-minority populations and non-low-income populations in the affected environment. This included both human health and environmental impacts from the agency's programs, policies, or activities.
- **Determine if there would be disproportionately high and adverse effects on minority and low-income populations.** Impacts to resource areas from the Proposed Action were analyzed to determine whether there would be any disproportionately high and adverse effects to minority and low-income populations when compared to non-minority and non-low-income populations in the affected environment.

3.7.2 Affected Environment

The affected environment for environmental justice is defined using demographic data that identifies low-income populations and minority populations relative to locations that would be affected by the Proposed Action. The area that makes up the region of influence (ROI) consists of the census tracts where the project is located or where effects of the Proposed Action are felt (see **Figure 3.7-1**). The only populated census tract in the ROI is St. Bernard Parish Census Tract 301.05, Block Group 2. Block groups are a statistical division of census tracts that typically have between 600 and 3,000 people. These are the smallest geographical units for which the U.S. Census Bureau publishes survey data. The U.S. Census Bureau provides estimates of the population that are minority or below the poverty level.

The reference community selected to determine the presence of minority or low-income populations (environmental justice populations) within the larger community is St. Bernard Parish because it represents the smallest geographic unit that incorporates the affected population.

Census block groups that have a minority population or have households with low income (in this case, households with incomes below the poverty level) at a higher percentage than the reference community (St. Bernard Parish) would be considered environmental justice communities, as defined by the CEQ (CEQ, 1997). There are no environmental justice communities in the ROI (**Table 3.7-1**).

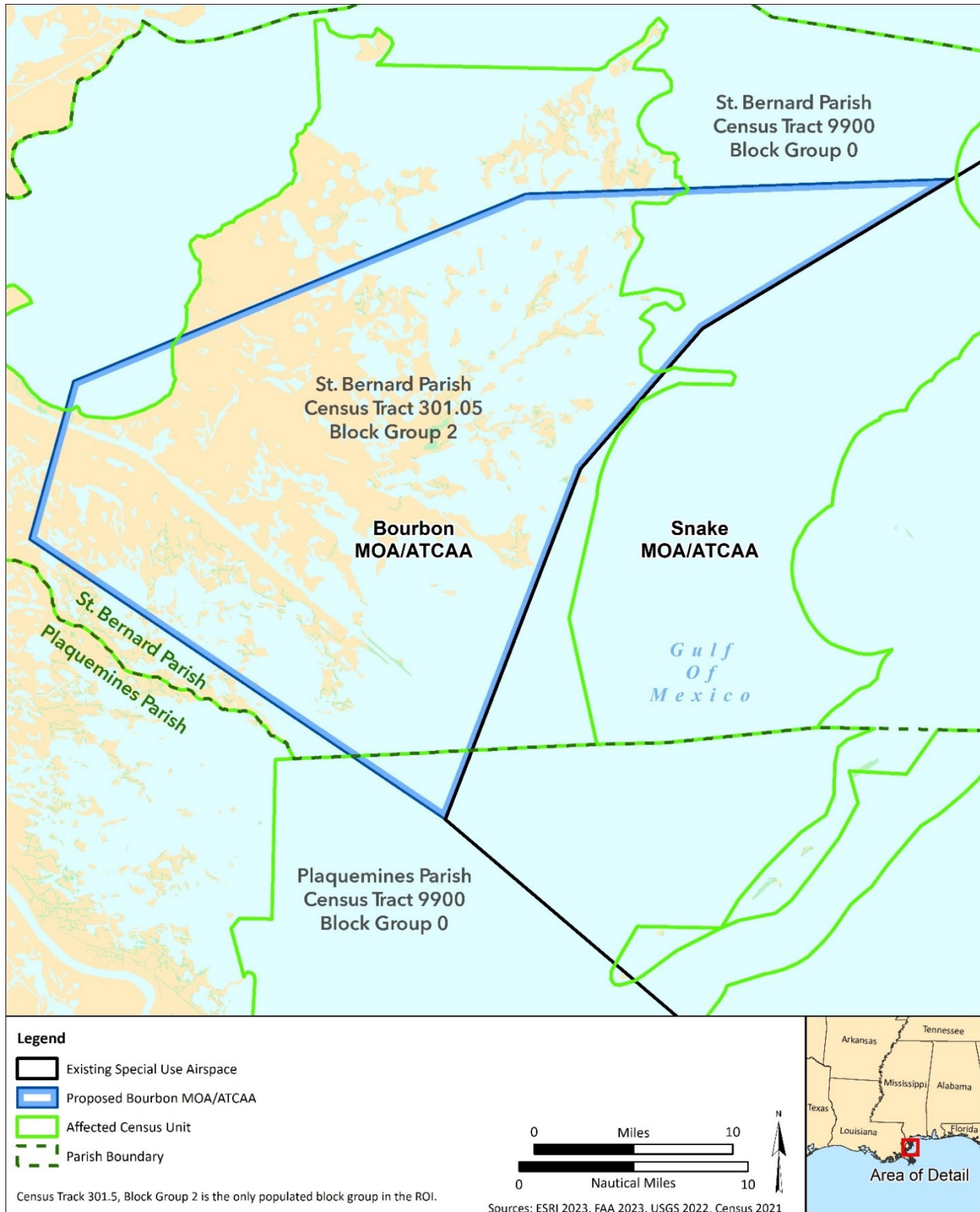


Figure 3.7-1 Environmental Justice ROI

Table 3.7-1 Environmental Justice Communities

<i>Area</i>	<i>Population</i>	<i>Percent of Population that Is Minority</i>	<i>Population for Whom Poverty Is Calculated¹</i>	<i>Percentage of Households Whose Income in the Past 12 Months Is Below the Poverty Level</i>
Reference Community				
St. Bernard Parish; Louisiana	44,038	30	15,732	22
Census Tract Block Groups Within the Affected Environment²				
Census Tract 301.05, Block Group 2	230	22	116	9

Notes: ¹“Population for Whom Poverty is Calculated” is from the U.S. Census Bureau American Community Survey Five-Year Estimate and does not take into consideration institutionalized persons, persons in military group quarters and in college dormitories, and unrelated individuals under 15 years old, and therefore, may differ from the total population.

²Two other block groups are located in the Affected Environment. Census Tract 9900, Block Group 0 in Plaquemines Parish and Census Tract 9900, Block Group 0 in St. Bernard Parish. Both these block groups are over water with no recorded population.

Sources: U.S. Census Bureau, 2024a,b

Characteristics of the ROI were evaluated using the USEPA screening tool EJScreen. The screening tool identifies the extent to which selected areas are currently impacted by various environmental pollutants and contaminants or the extent to which selected areas are at risk of environmental impacts or have demographic populations that could be at greater risk of impacts, relative to other areas statewide or nationally. This review compared the 12 EJScreen Environmental Justice Indexes and Supplemental Indexes for the ROI to the characteristics of the state and country. A filter of the Environmental Justice Indexes and Supplemental Indexes for the project area using the 80th percentile filter recommended by USEPA (USEPA, 2024) indicated no indexes that exceeded the threshold when compared to the state or country.

3.7.3 Environmental Consequences

This analysis focuses on the potential for a disproportionately high and adverse exposure of specific off-base population groups to the projected adverse consequences discussed in the previous sections of this chapter.

3.7.3.1 No Action Alternative

Under the No Action Alternative, there would be no change to existing military aircraft overflight tempo. Because there would be no changes, existing conditions for environmental justice communities would not change, and there would be no additional environmental justice impacts relative to baseline conditions.

3.7.3.2 Conduct Flight Training in New SUA to the East of NAS JRB NOLA (Preferred Alternative)

Implementation of the Preferred Alternative would not result in disproportionately high and adverse human health or environmental effects on minority or low-income communities. There are no minority or low-income communities located in the ROI and therefore no potential for these communities to be impacted by the Proposed Action.

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4 Cumulative Impacts

This section (1) defines cumulative impacts; (2) describes past, present, and reasonably foreseeable future actions relevant to cumulative impacts; (3) analyzes the incremental interaction the Proposed Action may have with other actions; and (4) evaluates cumulative impacts potentially resulting from these interactions.

4.1 Definition of Cumulative Impacts

The approach taken in the analysis of cumulative impacts follows the objectives of the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations, and CEQ guidance. Cumulative impacts are defined in 40 Code of Federal Regulations (CFR) part 1508.1(g)(3) as “effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.”

To determine the scope of environmental impact analyses, agencies shall consider cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact analysis document.

In addition, CEQ and United States (U.S.) Environmental Protection Agency (USEPA) have published guidance addressing implementation of cumulative impact analyses—*Guidance on the Consideration of Past Actions in Cumulative Effects Analysis* (CEQ, 2005) and *Consideration of Cumulative Impacts in EPA Review of NEPA Documents* (USEPA, 1999). CEQ guidance entitled *Considering Cumulative Effects Under NEPA* (1997) states that cumulative impact analyses should “...determine the magnitude and significance of the environmental consequences of the proposed action in the context of the cumulative impacts of other past, present, and future actions...identify significant cumulative impacts...[and]...focus on truly meaningful impacts.”

Cumulative impacts are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in close proximity to the proposed action would be expected to have more potential for a relationship than those more geographically separated. Similarly, relatively concurrent actions would tend to offer a higher potential for cumulative impacts. To identify cumulative impacts, the analysis needs to address the following three fundamental questions.

- Does a relationship exist such that affected resource areas of the proposed action might interact with the affected resource areas of past, present, or reasonably foreseeable actions?
- If one or more of the affected resource areas of the proposed action and another action could be expected to interact, would the proposed action affect or be affected by impacts of the other action?
- If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the proposed action is considered alone?

4.2 Scope of Cumulative Impacts Analysis

The scope of the cumulative impacts analysis involves both the geographic extent of the effects and the timeframe in which the effects could be expected to occur. For this Environmental Assessment (EA), the study area delimits the geographic extent of the cumulative impacts analysis. In general, the study area will include those areas previously identified in Chapter 3 for the respective resource areas. The timeframe for cumulative impacts centers on the timing of the Proposed Action.

Another factor influencing the scope of cumulative impacts analysis involves identifying other actions to consider. Beyond determining that the geographic scope and timeframe for the actions interrelate to the Proposed Action, the analysis employs the measure of “reasonably foreseeable” to include or exclude other actions. For the purposes of this analysis, public documents prepared by federal, state, and local government agencies form the primary sources of information regarding reasonably foreseeable actions. Documents used to identify other actions include notices of intent for Environmental Impact Statements (EISs) and EAs, management plans, land use plans, and other planning related studies.

4.3 Past, Present, and Reasonably Foreseeable Actions

This section will focus on past, present, and reasonably foreseeable future projects with the potential to affect the same resources as the Proposed Action. In determining which projects to include in the cumulative impacts analysis, a preliminary determination was made regarding the past, present, or reasonably foreseeable action. Specifically, using the first fundamental question included in **Section 4.1**, it was determined if a relationship exists such that the affected resource areas of the Proposed Action (included in this EA) might interact with the affected resource area of a past, present, or reasonably foreseeable action. If no such potential relationship exists, the project was not carried forward into the cumulative impacts analysis. In accordance with CEQ guidance (CEQ, 2005), these actions considered but excluded from further cumulative effects analysis are not catalogued here as the intent is to focus the analysis on the meaningful actions relevant to informed decision-making. Projects included in the cumulative impacts analysis are listed in **Table 4.3-1** and briefly described in the following subsections.

Table 4.3-1 Cumulative Action Evaluation

Action	Level of NEPA Analysis Completed	Potential Cumulative Resource Areas Affected
Past Actions		
Adversary Aircraft Transitions at Naval Air Station Fallon, Nevada and Naval Air Station Joint Reserve Base New Orleans, Louisiana.	CATEX (2021)	Airspace Management
Federal Aviation Administration VORTAC Facility Vegetation Clearing at Naval Air Station Joint Reserve Base New Orleans, Louisiana	CATEX (2019)	Biological, Coastal, Visual, and Cultural Resources
Runway Approach Obstructions, Bird/Animal Aircraft Strike Hazard, and Vegetation Control at Naval Air Station Joint Reserve Base New Orleans, Louisiana	EA (2020)	Biological, Coastal, Visual, and Cultural Resources
Airfield Bird/Animal Aircraft Strike Hazard Wetlands Fill Project at Naval Air Station Joint Reserve Base New Orleans, Louisiana	EA (2014)	Biological, Coastal, Visual, and Cultural Resources
Runway Extension at Naval Air Station Joint Reserve Base New Orleans, Louisiana	EA (2003)	Biological, Coastal, Visual, and Cultural Resources
Present and Reasonably Foreseeable Future Actions		
Air National Guard F-15EX Eagle II & F-35A Lightning II Operational Beddowns	EIS, Ongoing	Airspace Management, Noise, Biological, Coastal, Visual, and Cultural Resources
Atlantic Fleet Training and Testing	SEIS/OEIS, Ongoing	Biological, Coastal, and Visual Resources

Legend: CATEX = Categorical Exclusion; EA = Environmental Assessment; EIS = Environmental Impact Statement; NEPA = National Environmental Policy Act; OEIS = Overseas Environmental Impact Statement; SEIS = Supplemental Environmental Impact Statement; VORTAC = Very High Frequency Omnidirectional Range/Tactical Aircraft Control

4.3.1 Past Actions

Record of Categorical Exclusion for Adversary Aircraft Transitions at Naval Air Station Fallon, Nevada and Naval Air Station Joint Reserve Base New Orleans, Louisiana. On July 22, 2021, Commander, U.S. Fleet Forces Command signed a Record of Categorical Exclusion (citing Categorical Exclusions [CATEX] #11 and #38 of Office of Chief of Naval Operations Manual M-5090.1, Environmental Readiness Program Manual) for the adversary aircraft transitions at Naval Air Station (NAS) Fallon and Naval Air Station Joint Reserve Base New Orleans (NAS JRB NOLA). At NAS JRB NOLA, 12 F/A-18 aircraft were replaced by 12 F-5N/F aircraft. The adversary aircraft are operated by Fighter Squadron Composite Two Zero Four (VFC-204). The aircraft transition took place in 2022 and 2023.

Federal Aviation Administration Very High Frequency Omnidirectional Range/Tactical Aircraft Control (VORTAC) Facility Vegetation Clearing at NAS JRB NOLA, Louisiana. The Federal Aviation Administration (FAA) and NAS JRB NOLA collaborated on preparing a Record of Categorical Exclusion to evaluate the effects of establishing a 1,000-foot clear zone around the VORTAC Facility at NAS JRB NOLA. Located in the northern part of the airfield, near the proposed Runway 22 project area, the VORTAC is situated on an abandoned former runway. This initiative involved clearing approximately 72 acres of land surrounding the facility. While vegetation growth in the cleared area had been managed since 1963, lack of maintenance had led to vegetation becoming overgrown by 2019 (Navy, 2019). The vegetation clearing has been completed.

Runway Approach Obstructions, BASH, and Vegetation Control at NAS JRB NOLA, Louisiana. The Navy conducted an EA to evaluate the impacts of two main actions at NAS JRB NOLA: removing air navigation obstructions along runway approaches and implementing new vegetation to reduce Bird/Aircraft Strike Hazard (BASH) risks. These actions spanned four separate project areas covering approximately 527 acres, including 205 acres of wetlands. Safety enhancements for runway approaches involved tasks like clearing trees, adjusting drainage systems, and introducing new vegetation (Navy, 2020).

Airfield BASH Hazard Wetlands Fill Project at NAS JRB NOLA, Louisiana. The Navy conducted an EA to examine the potential effects of grading and filling 44 acres of land adjacent to the airfield at NAS JRB NOLA, aiming to mitigate BASH risks. Among these acres, 15 were wetlands under U.S. Army Corps of Engineers jurisdiction. The EA evaluated both the proposed action—grading and filling the 44 acres—and a No Action Alternative. Following this assessment, the Navy concluded in December 2014 that the proposed action would not result in significant environmental impacts, leading to the issuance of a Finding of No Significant Impact (FONSI). This determination allowed the Navy to proceed with the project as planned (Navy, 2014).

Runway Extension at NAS JRB NOLA, Louisiana. The Navy conducted an EA to assess the impacts of extending the main runway at NAS JRB NOLA. Four alternatives, including a No Action Alternative, were examined. Alternatives 1 and 2, involving extensions of 4,000 feet and 2,000 feet, respectively, to the southwest, were identified as the only feasible options meeting evaluation criteria. The wetland fill associated with the project was estimated at 53 acres for Alternative 1 and 40 acres for Alternative 2. Alternative 2 was selected as the preferred option. A FONSI for the action was issued in 2003, and the project has since been completed (Navy, 2003).

4.3.2 Present and Reasonably Foreseeable Future Actions

Air National Guard F-15EX Eagle II & F-35A Lightning II Operational Beddowns Environmental Impact Statement. The National Guard Bureau proposes to replace F-15C/D aircraft with F-15EX or F-35A aircraft at Westfield-Barnes Regional Airport (Massachusetts), Fresno Yosemite International Airport (California), and NAS JRB NOLA. No fighter wing would receive both aircraft. The legacy F-15C/D aircraft would be retired from the inventory due to their age and resulting maintenance costs. The Proposed Action also includes personnel needed to operate and maintain the F-15EX and F-35A, and construction of new facilities and/or modification of existing facilities to support the beddowns (National Guard Bureau, 2024).

Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement Atlantic Fleet Training and Testing. Atlantic Fleet Training and Testing activities are located in the seaspace and airspace over the Atlantic Ocean, eastern coast of North America, portions of the Caribbean Sea, and the Gulf of Mexico. These activities account for force structure (organization of ships, weapons, and personnel) changes and include training with new aircraft, vessels, unmanned/autonomous systems, and weapon systems. The third (Phase III) comprehensive review of potential environmental effects of military readiness activities was published in September 2018 (Navy, 2018). Supplemental NEPA analysis began in fall 2023 to support renewal of current federal regulatory permits and authorizations that expire in November 2025 (88 *Federal Register* 80286).

4.4 Cumulative Impact Analysis

Where feasible, the cumulative impacts were assessed using quantifiable data; however, for many of the resources included for analysis, quantifiable data is not available and a qualitative analysis was

undertaken. In addition, where an analysis of potential environmental effects for future actions has not been completed, assumptions were made regarding cumulative impacts related to this EA where possible. The analytical methodology presented in Chapter 3, which was used to determine potential impacts to the various resources analyzed in this document, was also used to determine cumulative impacts.

4.4.1 Airspace Management

The action to replace adversary aircraft at NAS JRB NOLA is inherently included in the Proposed Action and would not be a cumulative impact. A reasonably foreseeable action affecting the cumulative effect on airspace management includes the proposed *Louisiana Air National Guard F-15EX Eagle II & F-35A Operational Beddowns Environmental Impact Statement* assessing the Louisiana Air National Guard (LAANG) replacement of the existing F-15C aircraft with either the F-15EX or F-35A aircraft. There were no established requirements for an increase in airspace capacity, lateral or vertical changes, or changes to published times of use for local Special Use Airspace (SUA) within the proposed beddown action. The resulting impacts to airspace from the beddown were determined to be the same as those in existing conditions. The proposed F-15EX and F-35A operations under the Beddown Action were based on LAANG aircraft operations. These proposed operations were accounted for in the assessment of impacts to airspace with the establishment of the Bourbon Military Operations Area (MOA) and Air Traffic Control Assigned Airspace (ATCAA). While the sorties from LAANG may increase slightly from the sorties proposed in this EA, this is not expected to have a cumulative impact to airspace management since the times of use and expected activation of the MOA/ATCAA would stay the same regardless of the number of users. Additional sorties would likely be distributed among this and other regional SUA. A portion of these sorties would only use the Bourbon MOA/ATCAA to transit to adjacent SUA. The potential increase in sorties would not impose restrictions to access for Visual Flight Rules (VFR) aircraft and the Bourbon MOA/ATCAA times of use and activation would remain the same, resulting in comparable impacts to civil traffic as in the Proposed Action. The activation of the MOA/ATCAA drives impacts to civil traffic, not the number of sorties. Thus, implementation of the Proposed Action, together with reasonably foreseeable future actions, would not result in significant cumulative impacts to airspace management since utilization of the Bourbon MOA/ATCAA would remain unchanged with implementation of cumulative actions.

4.4.2 Noise

The proposed *Louisiana Air National Guard F-15EX Eagle II & F-35A Operational Beddowns Environmental Impact Statement* could interact with noise impacts from the Proposed Action to create cumulative impacts within the study area. The replacement of the existing F-15C aircraft would result in additional sorties in the Bourbon MOA/ATCAA from those assessed in the Proposed Action. The total military operations originating from NAS JRB NOLA and utilizing the proposed Bourbon MOA/ATCAA would increase based on the LAANG aircraft operations. The LAANG has stated the preferred alternative is to replace the F-15C with the F-15EX at NAS JRB NOLA. However, since a Record of Decision has not been signed for that action, the noise analysis of both aircraft types is included in this cumulative analysis. The beddown would not include both replacement aircraft types. The noise levels within Proposed Bourbon MOA/ATCAA from implementation of the LAANG action, with either aircraft selection (F-35A or F-15EX), would increase and are presented in **Table 4.4-1**.

Table 4.4-1 Cumulative Noise Levels for Annual Aircraft Operations in Proposed Bourbon MOA/ATCAA

<i>Cumulative Scenario (Sorties)</i>	<i>Operations</i>	<i>Airspace</i>	<i>Noise Level (dB)</i>	<i>Estimated Percentage of Population "Highly Annoyed"</i>	<i>Number of Daily Events >65 SEL</i>
F-15EX (3,000)	Subsonic	Bourbon MOA/ATCAA	54 DNL	< 3.31	< 1
	Supersonic	Bourbon MOA/ATCAA ¹	34 CDNL	< 0.83	n/a
	Supersonic	Bourbon MOA/ATCAA ²	45 CDNL	< 1.66	n/a
F-35A (3,000)	Subsonic	Bourbon MOA/ATCAA	55 DNL	3.31	< 1
	Supersonic	Bourbon MOA/ATCAA ¹	34 CDNL	< 0.83	n/a
	Supersonic	Bourbon MOA/ATCAA ²	44 CDNL	< 1.66	n/a

Notes: ¹Operations within Bourbon MOA/ATCAA West of the 12 NM arc above 30,000 feet MSL.

²Operations within Bourbon MOA/ATCAA East of the 12 NM arc above 4,000 feet MSL.

Legend: > = greater than; < = less than; ATCAA = Air Traffic Control Assigned Airspace; CDNL = C-weighted Day-Night Average Noise Level; dB = decibel; DNL = A-weighted Day-Night Average Noise Level; MOA = Military Operations Areas; n/a = not applicable; SEL = Sound Exposure Level

Source: Stantec 2024a,b,c

Subsonic aircraft operations under both cumulative scenarios, either implementation of the F-15EX or F-35A, and when combined with the Proposed Action but without the F-15C operations, the resulting cumulative noise within the proposed Bourbon MOA/ATCAA would be below the significance level of 65 decibels (dB) A-weighted Day-Night Average Sound Level (DNL) established by the FAA. The addition of F-15EX or F-35A aircraft to the Proposed Action without F-15C aircraft operations would result in 54 dB DNL and 55 dB DNL, respectively and below and equal to the Federal Interagency Committee on Urban Noise (FICUN) and USEPA levels compatible with all land use types to include residential, public use (i.e., schools), recreational, and entertainment areas. The DNL increase of 19 dB and 20 dB would fall under the "reportable" level according to the FAA as there is a 5 dB increase between 45 dB DNL and 60 dB DNL, when compared to the No Action Alternative. The percentage of the population expected to be highly annoyed by the cumulative noise from subsonic aircraft operations would be low (3.31 percent) and less than 1.0 daily event would exceed 65 dB Sound Exposure Level (SEL).

Structural damage or secondary vibration impacts are not expected to occur based on the maximum sound exposure. An individual location is not expected to experience direct low-level overflights on a routine basis since aircraft operations would be distributed over a wide area. Supersonic aircraft operations and resulting cumulative noise within Proposed Bourbon MOA/ATCAA would be below 62 dB C-weighted Day-Night Average Sound Level (CDNL), compatible with all sensitive resources when applying U.S. Army Public Health Command standards, and a low percentage of the population (<1.66 percent) would be expected to be highly annoyed. The addition of F-15EX or F-35A aircraft to the Proposed Action without F-15C aircraft operations would result in 45 dB CDNL and 44 dB CDNL, respectively. As such, the Proposed Action along with other reasonably foreseeable actions would not have significant cumulative impacts from noise.

4.4.3 Biological Resources

The study area considered in the cumulative analysis for biological resources consists of the surface water, ground, and low airspace around the MOA/ATCAA. Because the Proposed Action would not result in direct surface water or ground impacts, the only impacts considered are noise impacts to wildlife, chaff and flare impact to wildlife, and BASH. The projects that could contribute noise and chaff

and flares impacts are the *Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement Atlantic Fleet Training and Testing* and *Louisiana Air National Guard F-15EX Eagle II & F-35A Operational Beddowns Environmental Impact Statement*. The proposed activities assessed in these projects could introduce noise in the environment that would disturb wildlife in the area. The LAANG beddown project would slightly increase the noise exposure within the Bourbon MOA/ATCAA (see **Section 4.4.2, Noise**); however, the noise exposure would remain relatively low and would not exceed significance thresholds for noise. Changes in Atlantic Fleet Training and Testing activities would result in fewer overall aircraft overflights in the Gulf of Mexico Range Complex and Gulf of Mexico Range Complex Inshore locations, thus reducing the long-term potential for noise exposure in this general vicinity. The changes in noise exposure from reasonably foreseeable projects would not present long-term, consistent noise disruptions to wildlife.

Use of chaff and flares from the Proposed Action is not expected to contribute significantly to cumulative chaff and flare use. Chaff and flares are part of both contributing projects, but the levels of chaff and flare deployment would not be expected to cause harm to biological resources in any individual projects. The operations areas addressed in those documents are substantially larger than the Bourbon MOA/ATCAA. Thus, the distribution of chaff and flares and their residual materials would be widespread and not expected to overlap with the Bourbon MOA/ATCAA area.

Several past projects have implemented measures to reduce BASH concerns in the runway environment at NAS JRB NOLA (VORTAC facility, Runway Approach Obstruction project, Airfield BASH Wetlands Fill project, and Runway Extension). The extensive BASH safety measures discussed in **Section 3.3.3** reduce the BASH risk from the Proposed Action. The other projects have cumulatively improved BASH concerns and reduced the risk as much as possible. Therefore, the Proposed Action when combined with other past and reasonably foreseeable actions is not expected to have a significant cumulative impact with respect to BASH risk.

4.4.4 Coastal Zone

The cumulative analysis study area for the coastal zone is located in the region below and around the proposed MOA/ATCAA. The cumulative actions outlined in **Section 4.3.1** encompass past ground disturbing activities within Louisiana's coastal zone (VORTAC facility, Runway Approach Obstruction project, Airfield BASH Wetlands Fill project, and Runway Extension). The Proposed Action solely involves airspace operations above this zone. Consequently, the impacts on the coastal zone from the Proposed Action are disparate and only anticipated to have minimal impacts on coastal resources from chaff and flare deployment. Present and foreseeable future actions linked to the proposed project, described in **Section 4.3.2**, entail aircraft training, potentially occurring near or within the coastal zone beneath the proposed airspace. All these cumulative projects have established consultation with the Louisiana Department of Energy and Natural Resources (LEDNR) to ensure consistency with the Louisiana Coastal Resources Program (LCRP). Under the Preferred Alternative, the Navy would adhere to all applicable state and federal regulations regarding the implementation of the new MOA/ATCAA. The proposed project and cumulative actions would be consistent, to the maximum extent practicable, with the enforceable policies of Louisiana's federally approved Coastal Resources Program. Therefore, implementation of the Preferred Alternative combined with past, present, and reasonably foreseeable future projects, would not result in significant cumulative impacts to the coastal zone.

4.4.5 Visual Effects

The past actions included in cumulative impacts analysis involved wetland fill, vegetation removal, and changes to vegetation composition in areas on and near NAS JRB NOLA. These actions have caused some change to views of the natural landscape, which observers may perceive as a negative effect on the visual aesthetic quality of the region. However, the affected areas are likely not viewed or accessed often for recreational activities because of their proximity to the installation. The Air National Guard action to replace F-15C/D aircraft would not substantially change the number of aircraft potentially viewable from the study area. Changes in Atlantic Fleet Training and Testing activities would result in fewer overall aircraft overflights in the Gulf of Mexico Range Complex and Gulf of Mexico Range Complex Inshore locations (which include Gulfport, Mississippi, Lake Borgne, and the Pascagoula River). Vessel use would also decrease overall in these areas, although there is a small increase associated with Gulfport and Pascagoula specifically. The increase would probably not be noticeable in the context of existing vessel traffic and would not change the visual character of the region, including the study area. U.S. Coast Guard activities involving vessels and aircraft would not change to the extent that they contrast with the existing environment. The Proposed Action, if combined with past, present, and reasonably foreseeable actions, would not contribute to significant cumulative impacts on the visual resources or visual character of the study area.

4.4.6 Cultural Resources

The region of influence (ROI) for cumulative impacts to cultural resources is the Area of Potential Effects (APE) underneath the Bourbon MOA/ATCAA. Cumulative impacts to cultural resources from past, present, and future actions within the APE would be less than significant because no historic properties would be directly or indirectly impacted within the project APE. Implementation of the Preferred Alternative would not affect archaeological sites or architectural resources. The noise exposure from the proposed training activity in the Bourbon MOA/ATCAA when combined with the expected additional noise from the *Air National Guard F-15EX Eagle II & F-35A Operational Beddowns Environmental Impact Statement* would remain below significant levels (see **Section 4.4.2, Noise**).

The past, present, and future projects also did not result in individual significant impacts. All projects discussed under cumulative effects would comply with federal laws and regulations concerning the protection of cultural resources. NAS JRB NOLA Integrated Cultural Resources Management Plan (Crowell, 2008) includes Standard Operating Procedures that governs the management and protection of any cultural resources discovered during operations or project implementation. Therefore, implementation of the Proposed Action when combined with the past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts to cultural resources.

5 Other Considerations Required by the National Environmental Policy Act

5.1 Consistency with Other Federal, State, and Local Laws, Plans, Policies, and Regulations

In accordance with 40 Code of Federal Regulations (CFR) part 1502.16(c), analysis of environmental consequences shall include discussion of possible conflicts between the Proposed Action and the objectives of federal, regional, state and local land use plans, policies, and controls. **Table 5.1-1** identifies the principal federal and state laws and regulations that are applicable to the Proposed Action and describes briefly how compliance with these laws and regulations would be accomplished.

5.2 Irreversible or Irretrievable Commitments of Resources

Resources that are irreversibly or irretrievably committed to a project are those that are used on a long-term or permanent basis. This includes the use of non-renewable resources such as metal and fuel, and natural or cultural resources. These resources are irretrievable in that they would be used for this project when they could have been used for other purposes. Human labor is also considered an irretrievable resource. Another impact that falls under this category is the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment.

Implementation of the Proposed Action would allow for more efficient use of fuel resources by establishing Special Use Airspace (SUA) closer to Naval Air Station Joint Reserve Base New Orleans (NAS JRB NOLA) for Navy training activities. The Proposed Action is not expected to increase use of fuels. There would be no unavoidable destruction of natural resources. There would be no irreversible or irretrievable commitments of resources.

5.3 Unavoidable Adverse Impacts

The National Environmental Policy Act (NEPA) requires a description of any significant impacts resulting from implementation of a proposed action, including those that can be mitigated to a less than significant level. Based on the analysis in this Environmental Assessment (EA), the Proposed Action would not result in any significant or unavoidable adverse impacts to any resource area. As such, no mitigation actions are required.

5.4 Relationship between Short-Term Use of the Environment and Long-Term Productivity

NEPA requires an analysis of the relationship between a project's short-term impacts on the environment and the effects that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. This refers to the possibility that choosing one development site reduces future flexibility in pursuing other options, or that using a parcel of land or other resources often eliminates the possibility of other uses at that site.

The Proposed Action would involve the establishment of SUA closer to NAS JRB NOLA to support Navy training activities. While establishing these areas would limit non-military use of the airspace during times the Military Operations Area (MOA) is active, this impact is not expected to be significant (see **Section 3.1.3, Airspace Management Environmental Consequences** and **Appendix C**) or impact the long-term productivity of the area.

Table 5.1-1 Principal Federal and State Laws Applicable to the Proposed Action

<i>Federal, State, Local, and Regional Land Use Plans, Policies, and Controls</i>	<i>Status of Compliance</i>
NEPA; CEQ NEPA implementing regulations; Navy and FAA procedures for implementing NEPA	This EA has been prepared in accordance with NEPA and complies with Navy and FAA NEPA procedures.
Clean Air Act	The Preferred Alternative would be implemented in accordance with the Clean Air Act. There are no expected impacts to air quality since all operations would occur above the mixing height. The General Conformity Rule does not apply. There would be no change to GHGs from existing conditions.
Coastal Zone Management Act	The Preferred Alternative would be consistent, to the maximum extent practicable, with the enforceable policies of the LCRP. A Coastal Consistency Determination was submitted to LDENR.
National Historic Preservation Act	The Preferred Alternative would have no adverse effect on historic properties. SHPO and Chitimacha Tribe of Louisiana consultation is ongoing.
Endangered Species Act	The Preferred Alternative may affect, but is not likely to adversely affect species listed under the ESA. There would be no effect to critical habitat. Consultation with USFWS and NOAA Fisheries is ongoing.
Migratory Bird Treaty Act	The Preferred Alternative would be implemented in accordance with MBTA.
Bald and Golden Eagle Protection Act	The Preferred Alternative would be implemented in accordance with the Bald and Golden Eagle Protection Act.
Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations	There are no environmental justice communities within the Project Area. Therefore, the Preferred Alternative is compliant with this order.
Executive Order 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All	There are no environmental justice communities within the Project Area. Therefore, the Preferred Alternative is compliant with this order.
Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks	The Preferred Alternative would comply with this order.
Executive Order 13175, Consultation and Coordination with Indian Tribal Governments	Consultation with Chitimacha Tribe of Louisiana is ongoing.

Legend: CEQ = Council on Environmental Quality; EA = Environmental Assessment; ESA = Endangered Species Act; GHG = greenhouse gas; LCRP = Louisiana Coastal Resources Program; LDENR = Louisiana Department of Energy and Natural Resources; MBTA = Migratory Bird Treaty Act; NEPA = National Environmental Policy Act; SHPO = State Historic Preservation Office(r); USFWS = United States Fish and Wildlife Service

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