RCS 04-565

EGLIN AIR FORCE BASE
Florida

REPAIR AND DREDGING OF BEAR CREEK MARINA

FINAL ENVIRONMENTAL ASSESSMENT

JUNE 2007

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FINDING OF NO SIGNIFICANT IMPACT
FOR
REPAIR AND DREDGING OF BEAR CREEK MARINA
AT EGLIN AIR FORCE BASE, FLORIDA
RCS 04-565

Introduction

This finding and the analysis upon which it is based was prepared pursuant to the President's Council on Environmental Quality regulations for implementing the procedural provisions of the National Environmental Policy Act as put into effect by 40 Code of Federal Regulations [CFR] 1500-1508 and the U.S. Air Force *Environmental Impact Analysis Process* as effected by 32 CFR Part 989. The Department of the Air Force has conducted an Environmental Assessment (EA) of the probable environmental consequences for the Repair and Dredging of Bear Creek Marina at Eglin Air Force Base (AFB).

Purpose and Need

The purpose of the Proposed Action is to restore utility and navigability to the marina which was affected by the Lower Memorial Lake levee failure and Hurricane Ivan in 2004.

The levee failure introduced sediment into the marina altering the bottom contours presenting a hazard to navigation. The dredging and repairs are needed to allow recreational users access to and from the marina. The reduced utility of the marina has resulted in a loss of revenue to Eglin Outdoor Recreation and loss of service to tenants currently renting boat slips.

Description of Proposed Action and Alternatives

Proposed Action. The Proposed Action is to dredge Bear Creek Marina, which was inundated with sediments from Lower Memorial Lake from a levee failure, deposit the dredged material at an upland location, remove sunken boats, and repair the dock and pilings damaged by Hurricane Ivan. Under the Proposed Action, approximately 3000 cubic yards of sediment would be dredged using a hydraulic or suction dredge and deposited via an aboveground pipeline to an area near Jack's Lake. The proposed dredge deposit area was previously used for disposal of tree and yard waste and for marina dredged disposal in 1995. The proposed pipeline route was selected through coordination with the 96th Civil Engineer Group, Environmental Management Division, Cultural Resources Branch (96 CEG/CEVH) to avoid direct impacts to cultural resources. The pipeline would run from the marina along Choctawhatchee Bay approximately 35 feet landward of the Mean High Water Line following Camp Robbins Road for a distance of about 1200 feet, after which the route would turn eastward toward the disposal site.

No Action Alternative. The No Action Alternative would be to not repair and dredge Bear Creek Marina.

Alternatives Considered but Not Carried Forward

The Proponent investigated a number of alternatives for the pipeline route. Standard procedures for developing alternatives were conducted through collaboration with resource managers to determine the most suitable alignment for the pipeline. One alternative was to extend the pipeline 1,800 feet east along the shoreline from the marina then turn north through the wooded areas to the disposal site. This option would likely require the use of heavy machinery to clear portions of the wooded areas to allow for the installation of the pipeline. Another alternative route would have followed Camp Robbins Road along the shoreline and extended past the Camp Robbins picnic area before turning northward to the disposal site. This route was the original proposed route but was found to overlay a cultural resource site.

Summary of Anticipated Impacts

Section 4, p. 4-1 through 4-17 of the EA discusses in detail potential environmental consequences to the following resources:

Soils and Sediments. There would be no significant impacts to soils and sediments from the dredge and repair of the marina. Disturbance would be short term. Sediments that entered the marina from Lower Memorial Lake were not contaminated. The dredge contractor will sample marina sediments prior to dredging to determine the presence of wood preservatives and other contaminants. (Section 4, p. 4-1).

Biological Resources. There would be no significant impacts to biological resources. Threatened and endangered species (sturgeon and sea turtles) would not be affected. Marine mammals (dolphins) would not be affected. Essential fish habitat would not be affected. Section 4, p. 4-2). A turbidity curtain used primarily to minimize impacts to water quality would also restrict sediments from affecting seagrass beds outside of the marina and deter sturgeon, sea turtles and marina mammals from entering the marina during dredging. The dredge contractor will monitor the area for sea turtles and dolphins prior to beginning dredge operations.

Water Resources. There would be no significant impacts to water resources. The dredge would disturb and suspend sediments creating a temporary reduction in water clarity and quality. A hydraulic suction dredge would be used to minimize turbidity. As a best management practice, a turbidity screen weighted at the bottom would be employed to constrain fine particulates to the area of the marina. Surface waters would not be significantly impacted from sediments and water disposed at the dredge deposit area. Since dredging operations would occur in the surface waters of the marina, wetlands and wetland vegetation fringing parts of the marina would not be affected. Isolated wetlands near the proposed disposal site would not be affected. As a best management practice, staked haybales would be employed around the berm of the disposal area as secondary containment for dredged sediment. The dredge contractor will employ double-walled pipes for the transport of dredged material. The pipes will be pressure tested with water prior to use.

Socioeconomics. There would be no significant adverse impacts to socioeconomics. Beneficial impacts would be realized with the restoration of the full utility of the marina. (Section 4, p. 4-8).

Air Quality. There would be no significant impacts to air quality. During operations the dredge machinery would emit a low amount combustive emissions which would not persist. No changes to Eglin's air quality permit would be required. (Section 4, p. 4-9).

Noise. There would be no significant noise impacts. The noise from the dredge reaching the nearest residential area would not exceed levels sufficient to result in human annoyance. (Section 4, p. 4-11).

Cultural Resources. There would be no significant impacts to cultural resources. The pipeline route avoids cultural resources. If during operations new cultural resources were discovered, operations would immediately cease and 96 CEG/CEVH would be contacted. (Section 4, p. 4-12).

Cumulative Impacts. There would be no significant cumulative impacts. Regional and base development projects that result in increased stormwater runoff could affect water quality in Choctawhatchee Bay. Though the proposed action would also have some affect on water quality, these effects would largely be confined to the marina and minimized through use of sediment curtains.

Permits

A Joint Application for Works in the Waters of Florida would need to be filed with the U.S. Army Corps of Engineers, the FDEP, and the Northwest Florida Water Management District.

Agency Review and Public Comment Period

A public notice was published in the *Northwest Florida Daily News* inviting the public to review and comment upon the EA and Draft Finding of No Significant Impact/Finding of No Practicable Alternative. The public comment period closed on May 23, 2005 and no comments were received.

FINDING OF NO SIGNIFICANT IMPACT

After a review of the EA by the Environmental Impact Analysis Process Environmental Assessment Working Group of the Environmental Protection Committee, it has been concluded that the proposed repair and dredging of Bear Creek Marina Eglin AFB Florida, would not have a significant adverse impact of a long-term nature to the quality of the human or natural environment. Therefore, an Environmental Impact Statement will not be prepared. This analysis fulfills the requirements of the National Environmental Policy Act, the President's Council on Environmental Quality, and codified at 32 CFR Part 989.

DENNIS D. YATES, Colonel, USAF
Commander, 96th Civil Engineer Group

19 Jul 07
Date

REPAIR AND DREDGING OF BEAR CREEK MARINA

FINAL ENVIRONMENTAL ASSESSMENT

Prepared for:

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June 2007

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LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS

µg/cm^3	Micrograms per Cubic Centimeter
µPa	Micropascal
96 CEG/CEVCE	Environmental Compliance Branch, Environmental Engineering Section
96 CEG/CEVH	Cultural Resources Branch
96 CEG/CEVSN	Natural Resources Section
AFB	Air Force Base
AICUZ	Air Installation Compatible Use Zone
AQCR	Air Quality Control Region
BASH	Bird Aircraft Strike Hazard
BMP	Best Management Practices
BRAC	Base Realignment and Closure
CCA	Chromated Copper Arsenate
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CZMA	Coastal Zone Management Act
dB	Decibels
dBA	A-Weighted Decibels
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EOD	Explosive Ordnance Disposal
ESA	Endangered Species Act
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FMRI	Florida Marine Research Institute
FY	Fiscal Year
GCPEP	Gulf Coastal Plain Ecosystem Partnership
GIS	Geographic Information System
GPS	Global Positioning System
Hz	Hertz
I-10	Interstate 10
IJTS	Initial Joint Training Site
JSF	Joint Strike Fighter
L_{dn}	Day-Night Average Sound Level
LMR	Living Marine Resources
MFH	Military Family Housing
MMPA	Marine Mammal Protection Act
MPE	Minimum Population Estimate
MSFCMA	The Magnuson-Stevens Fishery Conservation and Management Act
MXS/TMDE	Maintenance Squadron Test, Measurement, and Diagnostic Equipment Flight
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NWI	National Wetlands Inventory
ORA	Okaloosa Regional Airport

LIST OF ACRONYMS ABBREVIATIONS, AND SYMBOLS CONT'D

PAH	Polycyclic Aromatic Hydrocarbons
PBR	Potential for Biological Removal
PCB	Polychlorinated Biphenyls
PM	Particulate Matter
ppm	Parts per Million
ppt	Parts per Thousand
REEF	University of Florida Research and Engineering Education Facility
SO_2	Sulfur Dioxide
SQAG	Sediment Quality Assessment Guidelines
SR	State Route
U.S.	United States
USC	United States Code
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WFRPC	West Florida Regional Planning Council

1. PURPOSE AND NEED FOR ACTION

1.1 PROPOSED ACTION

The Proposed Action is to dredge the marina, which was inundated with sediments from Lower Memorial Lake from a levee failure, deposit the dredged material at an upland location, remove sunken boats, and repair the dock and pilings damaged by Hurricane Ivan. The regional setting of the Proposed Action is shown in Figure 1-1, and an aerial view of the marina and proposed dredge deposit site is provided in Figure 1-2.

1.2 PURPOSE AND NEED FOR PROPOSED ACTION

The failure in summer 2004 of the levee at Lower Memorial Lake has damaged the existing marina. The introduced sediment has altered the bottom contours of the marina and now presents a hazard to navigation. The dredging and repairs are needed to allow recreational users access to and from the marina. The reduced utility of the marina has resulted in a loss of revenue to Eglin Outdoor Recreation and loss of service to tenants currently renting boat slips. The Bear Creek Marina is one of three marinas provided for military personnel, contractors, and families at Eglin Air Force Base (AFB). Bear Creek Marina consists of 60 boat slips, which rent for $110 per month. When fully operational, the marina has the capability of bringing in revenues of $79,200 annually. Prior to Hurricane Ivan, approximately 50 percent of the marina was being utilized.

In its current affected state, Bear Creek Marina only has 21 boat slips being utilized; 10 slips were vacated as a result of the storm. The remaining slips that are being used have little or no access (U.S. Air Force, 2004a). Current impact to the marina from the storm is $13,200 per year in lost income from the 10 vacated slips.

1.3 OBJECTIVE OF THE PROPOSED ACTION

The objective of the Proposed Action is to make the marina fully functional again.

1.4 RELATED ENVIRONMENTAL DOCUMENTS

There are no related environmental assessments or environmental impact statements related to the Proposed Action. However, the Eglin AFB Environmental Impact Analysis Process was initiated for repair of the Lower Memorial Lake levee. The levee failure was a major contributor to the need for the Proposed Action. The Air Force Form 813 review of RCS # 04-561 addresses the repair of the levee between Bear Creek Marina and Lower Memorial Lake. An Air Force Form 813 review of the levee repair concluded that the repair was covered by a National Environmental Policy Act (NEPA) Categorical Exclusion and no further analysis was required. The levee repair has been completed. Levee repair needed to be completed before dredging could begin.

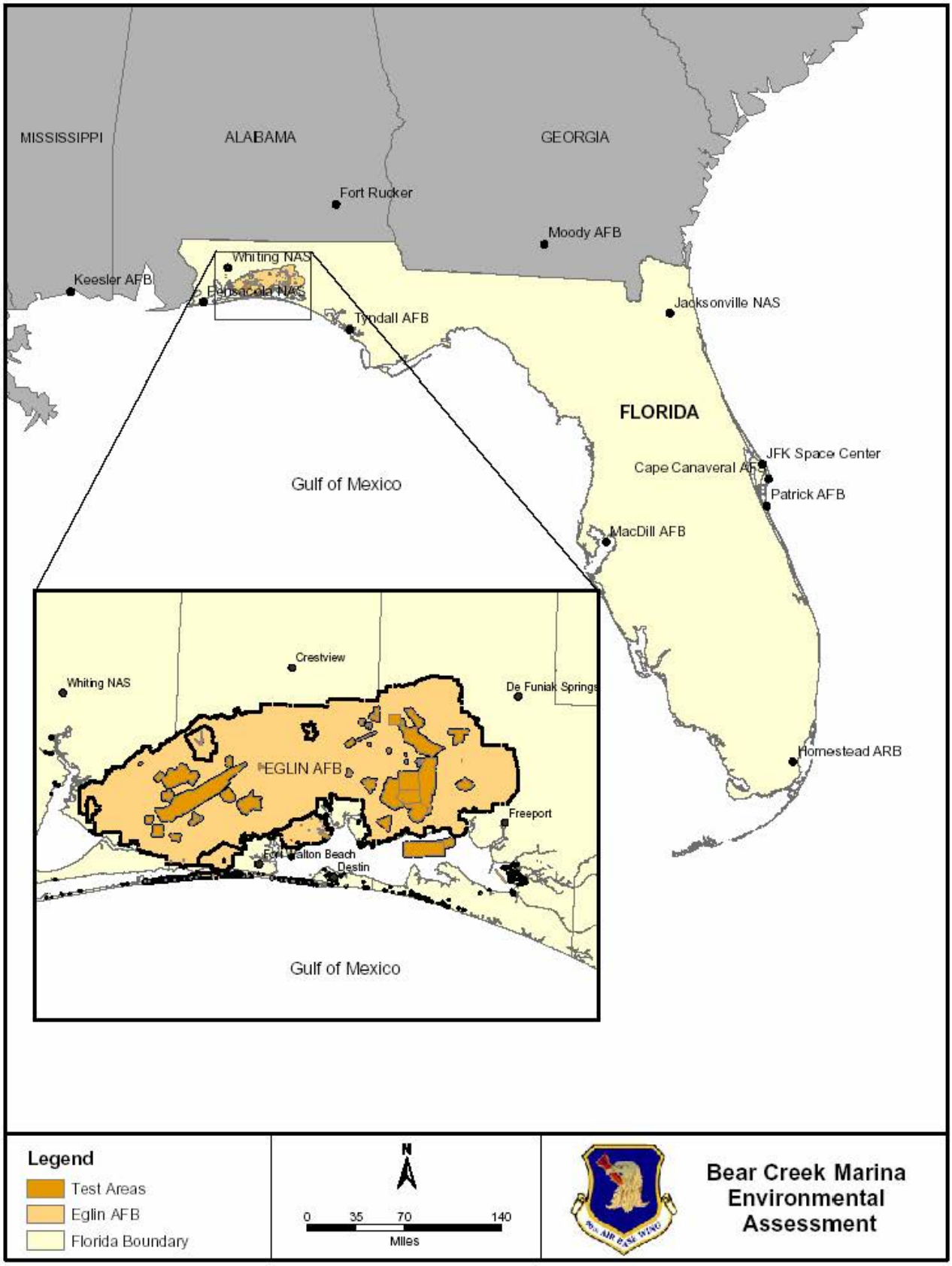

Figure 1-1. Regional Location

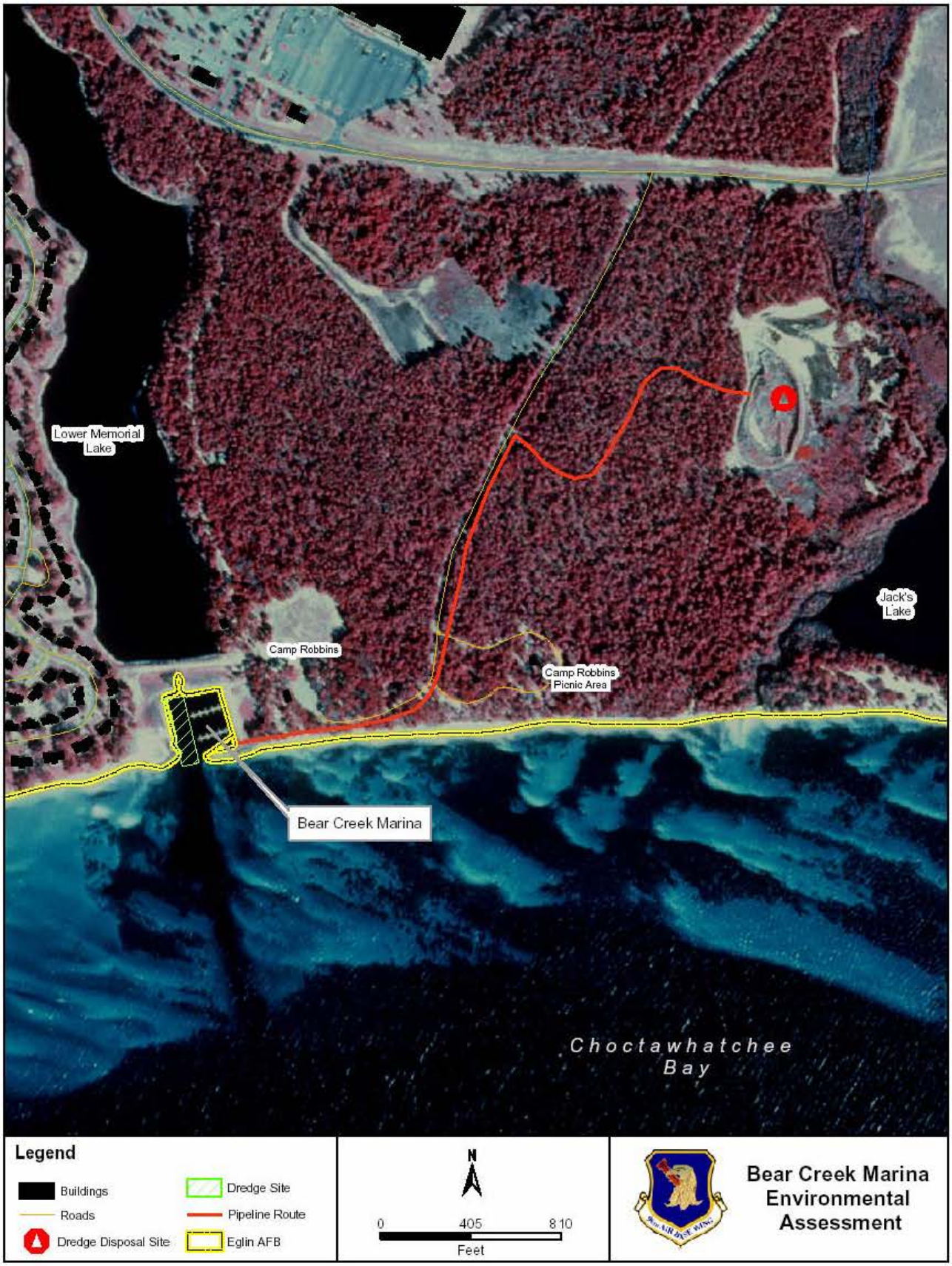

Figure 1-2. Aerial Photograph of Proposed Action Location

1.5 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

This document was prepared in accordance with the requirements of NEPA of 1969, the Council on Environmental Quality (CEQ) regulations of 1978, and 32 Code of Federal Regulations (CFR) Part 989.

1.5.1 Issues Eliminated from Detailed Analysis

Based on the scope of the Proposed Action, the No Action Alternative, and a preliminary analysis, the following issues were eliminated from further analysis.

- Small quantities of gasoline/diesel will be involved in the dredge operation, and some boats stored at the marina contain gasoline/diesel for their motors; however, hazardous materials would not be stored at the site as a result of the Proposed Action. Therefore, hazardous materials and hazardous waste were not analyzed. Risk of surface water contamination from fuels that may have been onboard sunken vessels is low as sailing vessels likely carried little or no fuel. Vessel hulls appear to be intact and will protect fuel tanks from damage as the vessel is raised. Potential contamination of soils or sediments with toxic and/or hazardous substances is addressed under "Soils and Sediments."
- According to the Eglin geographic information system (GIS), utilities are not located directly within the area of the Proposed Action. There are no underground utilities south of the marina or in the bay, and the proposed pipeline route does not cross underground utilities. Dredging would not damage water, sewer, gas or electric lines.
- Environmental Justice (Executive Order 12898) and Protection of Children from Environmental Health Risks and Safety Risks (Executive Order 13045) concerns were eliminated as a potential issue. The marina is fenced, which would prevent children from accessing the area. Effects of the Proposed Action would be limited to the main base area and would not disproportionately affect minorities or low-income persons in the surrounding community. The nearest off-base community is approximately 1 mile west of the marina.
- Bird Aircraft Strike Hazard (BASH) safety issues were eliminated as a concern. There are two water bodies, Upper Memorial Lake and Jack's Lake Branch, located in either direction from the proposed dredge spoil site that are closer to the Eglin Main airfield. These water bodies provide food and habitat for birds of higher quality than dredge spoil. The presence of the dredge spoil has no bearing on bird proximity to the airfield given the existence of two much larger, much closer water bodies.

1.6 APPLICABLE REGULATORY REQUIREMENTS AND COORDINATION

A Joint Application for Works in Waters of Florida (dredge and fill permit) will be required for this action from the Florida Department of Environmental Protection (FDEP), U.S. Army Corps of Engineers (USACE), and the Northwest Florida Water Management District. Design plans and permits must be first coordinated through the 96th Civil Engineer Group, Environmental Management Division, Environmental Compliance Branch, Environmental Engineering Section (96 CEG/CEVCE).

Under 16 United States Code (USC) 1531 to 1544, 1997-Supp, Endangered Species Act (ESA) of 1973, federal agencies must ensure that their actions (including permitting) do not jeopardize the continued existence of any endangered or threatened species or destroy or adversely modify the habitat of such species without a permit and must set up a conservation program. Through informal consultation, the U.S. Fish and Wildlife Service (USFWS) concurred with Air Force findings that the Proposed Action would not likely adversely affect listed species or critical habitat. The consultation is attached as Appendix C.

The Florida State Clearinghouse reviewed the Draft Environmental Assessment (EA) for a Coastal Zone Consistency Determination in accordance with Florida's Coastal Zone Management Act (CZMA). The Air Force Coastal Consistency Determination is provided in Appendix A.

1.7 DOCUMENT ORGANIZATION

This EA follows the organization established by the CEQ regulations (40 CFR, Parts 1500-1508) (USEPA, 1998). This document consists of the following chapters.

1.0 Purpose and Need for Action
2.0 Description of Proposed Action and Alternatives
3.0 Affected Environment
4.0 Environmental Consequences
5.0 Plan, Permits, and Management Requirements
6.0 List of Preparers
7.0 List of Contacts
8.0 References

APPENDIX A Agency Comments
APPENDIX B Air Force Form 813 Review
APPENDIX C Public Review Process
APPENDIX D U.S. Fish and Wildlife Service Coordination

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2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

As required by federal regulation, this EA addresses the possible environmental impacts of the Proposed Action and a No Action Alternative.

2.1 PROPOSED ACTION (PREFERRED ALTERNATIVE)

The Proposed Action is to repair and dredge Bear Creek Marina. During the spring and summer of 2004, there were two catastrophic events that occurred that adversely impacted the marina. In the spring, a levee that separates Bear Creek Marina from Lower Memorial Lake failed, draining the lake and introducing a two-foot thick layer of sediment into the marina. Consequently, boats cannot access the marina, and those presently in their slips cannot leave. In the summer of 2004, Hurricane Ivan damaged portions of the docks and sunken boats, further limiting access to the marina. Marina services and revenue have been greatly reduced ($79,200/year to $27,720/year) as a result of these events.

2.1.1 Dredging and Disposal Operations

Under the Proposed Action, approximately 3,000 cubic yards of sediment would be dredged using a hydraulic or suction dredge and deposited via an aboveground pipeline to an area near Jack's Lake (Figure 1-2). The dredge deposit area was previously used for disposal of tree and yard waste (Figures 2-1 and 2-2). The area selected as the confined disposal site was chosen based upon several factors. The relatively flat site is expansive (7.3 acres) and has been previously cleared. It was previously used for dredge disposal in 1995. The soils are classified as Lakeland Sand, which is excessively drained to allow for rapid percolation (dewatering) of the dredge spoil material through the soil profile.

The hydraulic dredge would vacuum a slurry of water and sediment in a 4 to 1 ratio by volume such that the total amount of materials deposited would be 3,000 cubic yards of sediment and 2.4 million gallons (12,000 cubic yards by volume) of water for a total of 15,000 cubic yards of slurry. The area to be dredged, shown in Figures 2-3 through 2-5, is approximately 100 yards by 30 yards. A layer of sediment less than three feet thick was deposited during levee failure and would be removed. The dredge would be based on land or mounted on a barge situated within the marina.

Based on a typical dredge rate of 150 cubic yards (30,000 gallons) per hour, dredging operations would take 80 hours to complete. For an 8-hour workday the time for project completion equates to less than two weeks. The actual dredge rates and therefore completion time may vary.

The proposed pipeline route was selected through coordination with the 96th Civil Engineer Group, Environmental Management Division, Cultural Resources Branch (96 CEG/CEVH) to avoid direct impacts to cultural resources. The pipeline would run from the marina along Choctawhatchee Bay approximately 35 feet landward of the mean high water line following Camp Robbins Road for a distance of about 1,200 feet, after which the route would turn eastward toward the disposal site (Figure 1-2). An existing cleared area, approximately 8 feet wide, connects Camp Robbins Road with the disposal site. No additional clearing would be required.

The pipeline would overlay access roads to the Camp Robbins Picnic Area restricting vehicle access to this area.

Dredged materials pumped to the disposal area would be contained within a berm and the water allowed to percolate through the soil. Secondary containment around the berms would be achieved using staked hay bales and entrenched silt fences to contain the sediment in the event water overflows the berm (FDEP, 2002). Prior to dredging operations, the Air Force dredge contractor will sample and analyze sediments to identify contaminants per FDEP request. Excessively contaminated sediments as defined by FDEP sediment quality guidelines would not be disposed at the upland site, but would be handled in accordance with U.S. Environmental Protection Agency (USEPA) specifications. Disposal of contaminated sediments would be coordinated with Air Force environmental personnel, the USACE and the FDEP. Additionally, the dredging contractor will use double-walled pipe and will pressure test the pipe to check for leaks before pumping.

2.1.2 Dock Repair

Approximately five pilings and less than 20 planks of decking need to be replaced. New pilings would be installed using a water jet, which displaces sediments using a compressed stream of water while allowing pilings to become embedded in the substrate. Repairs would be completed in less than one week and would not add any new additional surface area to the dock. The marina is fenced, which will eliminate potential safety issues to onlookers and other non-project personnel.

2.1.3 Boat Removal

Sunken boats would be removed by crane or shore barge. Presently, two sunken sailboats located in their slips, are impeding access to and from other slips (Figure 2-6). Boat removal would be completed in less than one day.

2.2 NO ACTION ALTERNATIVE

The No Action Alternative would be to not conduct dredging of the marina and to not effect repairs of the damaged dock. Sunken boats would not be removed. Economic losses would continue and the marina would be of little value to recreational users.

2.3 ALTERNATIVE PIPELINE ROUTES CONSIDERED

The Proponent investigated a number of alternatives for the pipeline route. Standard procedures for developing alternatives were conducted through collaboration with resource managers to determine the most suitable alignment for the pipeline.

One alternative was to extend the pipeline 1,800 feet east along the shoreline from the marina then turn north through the wooded areas to the disposal site. This option would likely require the use of heavy machinery to clear portions of the wooded areas to allow for the installation of the pipeline.

Another alternative route would have followed Camp Robbins Road along the shoreline and extended past the Camp Robbins picnic area before turning northward to the disposal site. This route was the original proposed route but was found to overlay a cultural resource site. This alternative would require the use of a protective webbing over the cultural site and extensive monitoring by cultural resource personnel during the project. This route would also require mechanical land clearing for access through the wooded areas.

These pipeline route alternatives were eliminated in lieu of the selected route, which runs adjacent to the shoreline and existing roadways, is easily accessible and avoids cultural resources.

Figure 2-1. Proposed Dredge Disposal Site (View East)

Figure 2-2. Proposed Dredge Disposal Site (View South)

Figure 2-3. South View of Bear Creek Marina

Figure 2-4. View of Marina from Broken Levee

Figure 2-5. West View of Area Proposed for Dredging

Figure 2-6. Sailboat Sunk During Hurricane Ivan

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3. AFFECTED ENVIRONMENT

3.1 SOILS AND SEDIMENTS

3.1.1 Sediment Quality

Sediment quality issues in Choctawhatchee Bay include excess nutrients; sediment contamination; low dissolved oxygen; and decreased biological resources in western urban area bayous, in deep central areas, and at the Choctawhatchee River mouth (Livingston, 1987).

Metal and organic contaminants at concentrations below detection in the water column are incorporated and often concentrated in the sediments (USEPA, 1993). Their availability then becomes dependent on the number of physical, chemical, and biological factors. Sediments with smaller grain size (e.g., silts) and high organic carbon bind contaminants tightly making them less available to aquatic organisms. Benthic organism communities impacted by contaminated sediments can in turn lead to negative impacts for species higher in the food web. Metals were found in Choctawhatchee Bay at several sites in amounts that indicate an anthropogenic source, such as urban stormwater runoff, agriculture, or industry. Burrowing organisms and dredging activity can release these contaminants into the water column. Toxic organic compounds such as pesticides, polychlorinated biphenyls (PCBs), and dioxin were not found at any of the sample stations in 1987 (Livingston, 1987).

Sediments from Lower Memorial Lake have been sampled and determined to be free of metals or pesticides (U.S. Air Force, 2004). However, sediments within the marina have not been sampled. Prior to the existing dock structure, creosote treated pilings were used at the marina, and residual creosote may be present in the sediments.

3.1.2 Soil Types

The soils at the dredged disposal site are predominantly Lakeland series soils shown in Figure 3-1, which is more than 90 percent sand. The Lakeland series consists of very deep, very strong acidic soils from a marine sand on broad, nearly level to very steep uplands in the Lower Coastal Plain. Runoff is very slow and permeability is rapid to very rapid. Depth to seasonal water table is more than 80 inches. Percolation rates of Lakeland soils are 20 to 28 inches per hour.

The soils around the marina are arents, as shown in Figure 3-1. Arents are soils that result from urbanization. They have a variety of uses from recreation to engineering purposes due to their low permeability caused from compaction and their high seasonal water tables. They are high in gravel content and usually are of a sandy loam that becomes consolidated with depth.

Figure 3-1. Soils at the Proposed Dredge Disposal Site

3.2 WATER RESOURCES

3.2.1 Surface Waters

Dredge Disposal Site Surface Waters

There are no surface waters within 500 feet of the dredge disposal site. Jack's Lake Branch is located 550 feet east of this disposal site and represents the closest surface water. Jack's Lake Branch feeds into Jack's Lake, which is located southeast of the proposed disposal site. The Air Force allows catch-and-release fishing in this 25-acre freshwater lake. Bear Creek Marina is located 3,450 feet west of the proposed spoil site (Figure 3-2).

Bear Creek Marina Surface Waters

When operational, Bear Creek Marina serves as a full-service marina with 60 boat slips. The marina has no fueling stations and/or fuel storage areas, reducing the possibility of hydrocarbons and other contaminants from adversely impacting water quality. General boat traffic in the marina stirs up particles of bottom sediments, which decreases water clarity in the water column. The measure of particulates in the water is called turbidity. The marina is located 250 feet from a military housing complex (Wherry/Capehart Housing Area), which may contribute nutrients from fertilizers, pesticides, herbicides, and pet waste through urban stormwater runoff following rain events. Chromated copper arsenate (CCA)-treated lumber used to construct the marina's pier and boat slips has likely resulted in an increase of these inorganic chemical constituents in the water filling the spaces between grains of sediments (pore waters).

Bear Creek Marina is located between two water bodies, Lower Memorial Lake and Choctawhatchee Bay. Lower Memorial Lake is north and adjacent to the marina. The marina's southern extent has an open connection to Choctawhatchee Bay (Figure 3-2).

Lower Memorial Lake

Lower Memorial Lake was historically freshwater with input from urban stormwater runoff from adjacent housing complexes and landscaped areas. The 35-acre lake has since become dry after the artificial impoundment that separates the lake from Bear Creek Marina failed.

Choctawhatchee Bay

Choctawhatchee Bay is approximately 27 miles long and consists of brackish waters surrounded by marsh grasses and oyster beds (Livingston, 1986). The bay receives saltwater from Santa Rosa Sound, Destin Pass, and the Intercoastal Waterway. Likewise, freshwater enters the bay by way of the Choctawhatchee River and other small creeks and tributaries (Wolfe et al., 1988). Salinity for the waters near the marina ranges from 15 to 20 parts per thousand (ppt). Sea grass meadows, or submerged aquatic vegetation occurs in shallow flats of the bay primarily in the mid and western areas.

Figure 3-2. Aquatic and Wetland Features Near the Proposed Project Area

3.2.2 Wetlands

"Jurisdictional wetlands" are those wetlands over which the USACE has regulatory control under Section 404 of the Clean Water Act. *Wetlands* are defined in the USACE Wetlands Delineation Manual as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (USACE, 1987). The majority of jurisdictional wetlands in the United States are described using the three wetland delineation criteria: hydrophytic vegetation, hydric soils, and hydrology (USACE, 1987). USFWS uses a simpler classification system that is satisfied by any one of the above three characteristics. Wetlands depicted in Figure 3-2 are from USFWS National Wetlands Inventory (NWI) maps residing in the Eglin GIS.

Dredge Disposal Site Wetlands

The site selected to contain the dredge spoil is classified as uplands. Two small (less than 0.05 acre), intermittent (seasonal), anthropogenic (human-induced), NWI freshwater wetlands were identified in the Eglin GIS and verified during a site visit (February 2004). These areas are demarcated by the occurrence of common reed (*Phragmites austialis*) near the southern portion of the Jack's Lake limb disposal area, identified as the proposed dredge disposal area in Figure 3-2.

Historically, this area has been used to dispose of landscaping debris. In 1995, this area was used to deposit dredge spoil after Hurricanes Erin and Opal (U.S. Air Force, 2004b). Wetland areas associated with Jack's Lake Branch are located 525 feet east of the dredge disposal site (Figure 3-2). There are no surface waters in the immediate vicinity of the proposed pipeline route.

Bear Creek Marina Wetlands

The areas classified as wetlands approximately 20 feet from the proposed work site are characterized by poorly drained soils and exhibit vegetation characteristics (hydrophytes) of wet environments. Typical plant species include emergent (herbaceous) vegetation such as dominant stands of common reed (*Phragmites austialis*) near the littoral zone and scattered plugs of cordgrass (*Spartina* spp.) waterward of the mean high water line.

3.2.3 Floodplains

Dredge Disposal Site Floodplains

The dredge disposal site is located outside of the Federal Emergency Management Agency (FEMA) 100-year flood zone.

Bear Creek Marina Floodplains

The land area surrounding the marina includes floodplain areas as defined by FEMA. Approximately 0.5 acre is located within the 100-year flood zone. The action would not occur within the floodplain.

3.3 BIOLOGICAL RESOURCES

Biological resources include the native and introduced aquatic and terrestrial plants and animals around Eglin AFB. Eglin is home to unusually diverse biological resources including several sensitive species and habitats.

3.3.1 Ecological Associations

Eglin uses a classification system based on ecological associations that were developed based on floral, faunal, and geophysical characteristics. These ecological associations are described in the *Eglin AFB Integrated Natural Resources Management Plan* (U.S. Air Force, 2003) and the *Environmental Baseline Study Resource Appendices* (U.S. Air Force, 2003a). Seven ecological associations occur throughout the Eglin Land Test and Training Range: Sandhills, Sandpine, Flatwoods, Open Grassland/Shrubland, Swamp, Barrier Island, and Landscaped/Urban.

Dredge Disposal Site Ecological Associations

The site for the disposal of dredged materials is located at the Jack's Lake limb disposal area approximately 0.5 mile from the marina as presented in Figure 3-3. The Jack's Lake limb disposal area is classified as a Landscaped/Urban area. The area is disturbed and has been used for landscaping waste disposal and as a spoil site for previous dredging operations. The area is predominately cleared and surrounded by a plant community consisting of longleaf pine (*Pinus palustris*), turkey oak (*Quercus laevis*), scrub live oak (*Quercus geminata*), saw palmetto (*Serenoa repens*), and other upland vegetation. This site represents a heavily disturbed urban association.

The area surrounding the disposal site is a scrubby flatwoods association. The scrubby flatwoods community is found on slightly elevated sandbars and dunes that are underlain by rapidly drained sandy soil. Scrubby flatwoods consists of soils that are excessively drained, strongly acidic, brownish-yellow soils, low in natural fertility and organic content (U.S. Air Force, 2003).

Bear Creek Marina Ecological Associations

Bear Creek Marina is located north of the Choctawhatchee Bay and south of the Lower Memorial Lake as seen in Figure 3-3. Lower Memorial Lake is a freshwater lake that has become dry due to a break in the dam that separates it from the northern boundary of the marina. The typical ecological association surrounding the marina is sand pine forest to the east. The west boundary is adjacent to an urban family housing area. The topography surrounding the marina is characterized by low relief with steep slopes leading to the beaches of the bay, with elevation ranging from 5 to 17 feet above sea level. The beach varies in width and is relatively flat.

Figure 3-3. Ecological Associations of the Proposed Project Area

3.3.2 Sensitive Habitats

Bear Creek Marina

Seagrass

Field verification and aerial photography of Bear Creek Marina revealed emergent vegetation (discussed in Section 3.2.2, *Wetlands*) coverage along the east and west sides of the channel entrance to the marina from Choctawhatchee Bay as presented in Figure 3-2. In addition, submerged aquatic vegetation, also referred to as seagrass, was found to occur in this area.

The two species of submerged vegetation documented in Choctawhatchee Bay are *Halodule wrightii* (Cuban shoalgrass) and *Ruppia maritima* (widgeon grass). Widgeon grass is most common in brackish waters but can tolerate higher salinities (Dawes, 1987). Cuban shoalgrass has been characterized as rather tolerant of environmental stresses, withstanding heat, desiccation, and turbidity with greater success than other Florida species (Dawes, 1987). Populations of shoalgrass occur primarily west of the Okaloosa-Walton County line while widgeon grass occurs east of the Okaloosa-Walton County line (Livingston, 1986).

Seagrass habitat has been declining since the 1940s as indicated from an analysis of aerial photographs (Livingston, 1986). Historical accounts given by local residents, though not scientifically validated, place losses since 1929 at about 80 percent (Livingston, 1986). The Florida Marine Research Institute (FMRI) estimates seagrass coverage in Choctawhatchee Bay and the Okaloosa County portion of Santa Rosa Sound at 4,160 acres (Sargent et al., 1995).

Submerged grass habitats serve as important nursery grounds for numerous fish species and are crucial to maintaining health in the bay system. These various plant species anchor sediments, stabilize the shorelines by reducing wave action/erosion, and act as filters for stormwater runoff. The filtering system can remove pollutants and toxins from the runoff that, in high quantities, often result in algal blooms, or Red Tides (FDEP, 2001).

Essential Fish Habitat

The conservation and management of living marine resources (LMRs) in the United States is entrusted to the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS), which carries out its charge under many laws, treaties, and legislative mandates from the U.S. Congress. Most of the agency's stewardship responsibilities come from five statutes. Of these statutes, the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), which regulates fisheries within the U.S. Exclusive Economic Zone (EEZ), is most relevant to this study.

The Magnuson-Stevens Fishery Conservation & Management Act requires federal agencies to assess potential impacts to Essential Fish Habitat (EFH) for commercial fisheries managed by the (NOAA) Fisheries. As defined in section 3(10) of the Magnuson-Stevens Act, EFH is those "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (Federal Register, 2002). Many commercial species are migratory, moving from estuaries to open Gulf waters or up and down the coast with the seasons. Numerous species pass through or occur in this region and thus Gulf estuarine waters, including Choctawhatchee Bay, fall within

the essential habitat of one commercial fish species or another at any given time of the year (Gulf of Mexico Fishery Management Council, 1998). EFH is located in Choctawhatchee Bay; however, it is not located in the marina.

Dredge Disposal Site

Jack's Lake limb disposal area has been used for landscaping debris disposal in the past. As a result, the vegetation at this site consists of native and non-native plant species. There is no evidence of sensitive species or habitats in the area.

3.3.3 Sensitive Species

Sensitive species include those with federal endangered or threatened status, federal candidate species, and state endangered, threatened, and species of special concern status. An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is any species that is likely to become endangered in the future throughout all or a significant portion of its range due to loss of habitat, anthropogenic effects, or other causes. Federal candidate species and all state-listed species are those that should be given consideration during planning of projects, but have no protection under the ESA. Once legally protected, it is a federal offense to "take" (import, export, kill, harm, harass, possess, or remove) protected animals from the wild without a permit.

Bear Creek Marina

Gulf Sturgeon (Acipenser oxyrinchus desotoi)

The USFWS and the NOAA Fisheries designated the Gulf sturgeon (*Acipenser oxyrinchus desotoi*) as threatened under the ESA; listing became official on 30 September 1991. The sturgeon is also considered a species of special concern by the state of Florida. A special rule is in place to allow individuals to take Gulf sturgeon for educational and scientific purposes, for zoological exhibition, for propagation or survival of the fish, and for other conservation purposes consistent with the ESA (USFWS and Gulf States Marine Fisheries Commission, 1995).

The Gulf sturgeon is a large, cylindrical fish with an extended snout, vertical mouth, and chin barbells. The skin is scaleless and imbedded with five rows of bony plates or scutes. Adults range from 1.2 to 2.4 meters in length, with adult females generally larger than males. Historically the Gulf sturgeon occurred in most major rivers from the Mississippi River to the Suwannee River in addition to marine waters from the central Gulf of Mexico to Florida Bay. Although it still may occasionally be found throughout this range, the species is now believed to be effectively restricted to the area between the Mississippi Delta and the Suwannee River, which includes Choctawhatchee Bay. The Gulf sturgeon is almost depleted throughout much of its range.

Spawning takes place during April through June in freshwater (Paruka, 1996). Migration into fresh water generally occurs from March to May, while migration into salt water occurs from October through November. Spawning takes place in the Pascagoula, Apalachicola, Escambia, Yellow, Blackwater, Pearl, and Choctawhatchee Rivers. These locations encompass deeper water with clean bottoms, often consisting of limestone bluffs and outcroppings, cobble,

limestone bedrock covered with gravel and cobble, and sand. After spawning, adults may move downstream to areas referred to as summer resting, holding, or staging areas. Although the reasons for aggregation in these areas are uncertain, they may include feeding as well as acclimation to changing water salinities. During winter, the sturgeon may inhabit offshore areas and inland bays. Critical habitat for the Gulf sturgeon occurs in the Choctawhatchee Bay as designated by the USFWS. However, Bear Creek Marina is not part of the Gulf sturgeon critical habitat. As defined in the Federal Register (50 CFR 226.214), Gulf sturgeon critical habitat "includes the main body of Choctawhatchee Bay, Hogtown Bayou, Jolly Bay, Bunker Cove, and Grassy Cove. All other bayous, creeks, rivers are excluded at their mouths/entrances" (Federal Register, 2003).

Gulf sturgeons are bottom feeders. Juvenile and young-of-the-year feed in freshwater, taking in invertebrates and detritus. Adult fish feed primarily on invertebrates, including amphipods, lancelets, insect larvae, mollusks, polychaetes, gastropods, shrimp, isopods, brachiopods, and crustaceans. Little is known about the offshore distance the Gulf sturgeon travels. They are typically considered to occur within one mile of shore, but stomach content analyses suggest that feeding may occur as far as 20 miles offshore (Page and Burr, 1991). The biggest threats to Gulf sturgeon populations are from shrimp trawls, dams, oil exploration activities, and waste disposal (Wooley and Crateau, 1985; Minerals Management Service, 1990; Paruka, 1996).

Eglin AFB Conservation Measures

Eglin's Natural Resources Section (96 CEG/CEVSN) does not conduct any active management for Gulf sturgeon at the present time. Passive management consists of erosion control to reduce sedimentation into the Yellow River system from Eglin's extensive network of dirt roads. The 96 CEG/CEVSN also assesses potential impacts to Gulf sturgeon from proposed mission activity and recommends conservation measures to avoid impacts to Gulf sturgeon. The 96 CEG/CEVSN assists the USFWS with annual sturgeon monitoring in the surrounding Eglin waters. Through the Gulf Coastal Plain Ecosystem Partnership (GCPEP), Eglin contributes to the monitoring of this species, but the FDEP Aquatic Preserves program leads the monitoring of this species in the panhandle.

Atlantic Bottlenose Dolphin

Atlantic bottlenose dolphins (*Tursiops truncatus*) are federally protected under the Marine Mammal Protection Act (MMPA).

Density and population estimates of the bottlenose dolphin in Gulf of Mexico coastal bays, sounds, and estuaries were reported in Waring et al. (1999) and derived from aerial surveys conducted by NOAA Fisheries from September to October 1993.

NOAA Fisheries is required to estimate abundance, provide a minimum population estimate (MPE) and calculate the potential for biological removal (PBR) for each marine mammal stock. The PBR is the number of human-caused mortality events that a population could withstand and not be in jeopardy. NOAA Fisheries estimated bottlenose dolphin abundance in Choctawhatchee Bay to be between 188 and 242 individuals or approximately .58 to .74 dolphins per square kilometer. The MPE and PBR for the Choctawhatchee Bay stock is 188 and 1.9, respectively. No aerial surveys have been conducted over Choctawhatchee Bay since 1993; bottlenose dolphin

abundance estimates as reported in the 1999 U.S Atlantic and Gulf of Mexico Marine Mammal Stock Assessments (Waring et al., 1999) were unchanged from the 1993 estimates.

Atlantic bottlenose dolphins feed on fish, crabs, squid, and shrimp (Wynn and Schwartz, 1999).

Sea Turtles

Five species of sea turtles inhabit the waters in, or near, the eastern Gulf and may enter the estuarine areas. These are the Leatherback sea turtle (*Dermochelys coriacea*), Atlantic hawksbill sea turtle, (*Eretmochelys imbricate*), the green turtle (*Chelonia mydas*), the loggerhead turtle (*Caretta caretta*), and the Kemp's ridley sea turtle (*Lepidochelys kempii*). Of the five species protected by state and federal governments, all but the loggerhead is classified as endangered. The loggerhead is classified as threatened by both the Florida and federal governments. Juvenile sea turtles may venture into Choctawhatchee Bay and Santa Rosa Sound where they are most likely to occur in and around seagrass beds, which they use for food and refuge (Sargent et al., 1995).

3.4 SOCIOECONOMICS

The Bear Creek Marina is one of three marinas provided for military personnel, contractors, and families at Eglin AFB. Bear Creek marina consists of 60 boat slips, which rent for $110/month. When fully operational, the marina has the capability of bringing in revenues of $79,200/year. Prior to Hurricane Ivan, approximately 50 percent of the marina was being utilized.

In its current affected state, Bear Creek Marina only has 21 boat slips being utilized; 10 slips were vacated as a result of the storm. The remaining slips that are being used have little or no access (U.S. Air Force, 2004a). Current impact to the marina from the storms is $13,200/year in lost income from the 10 vacated slips.

3.5 AIR QUALITY

Air quality in a given location is described by the concentration of various pollutants in the atmosphere, generally expressed in units of parts per million (ppm) or micrograms per cubic centimeter ($\mu g/cm^3$). The size and topography of the air basin, and the prevailing meteorological conditions influences air quality.

Eglin AFB is located in the Mobile (Alabama)–Pensacola–Panama City (Florida)–Southern Mississippi Interstate Air Quality Control Region (federal AQCR 5). The USEPA has classified this AQCR as attainment for all criteria pollutants, which are pollutants the USEPA identifies as indicators of air quality.

Although activities at Eglin result in various sources and volumes of air emissions, the regional air quality is good, attaining both federal and state standards. The input of air emissions from land areas within Santa Rosa, Okaloosa, Walton, Escambia, and Gulf counties is small due to the lack of heavy industry. Air pollutants are emitted from mobile and stationary sources and general maintenance activities, government and privately owned vehicles, jet engine testing,

aircraft operations, prescribed burning, wildfires, mission test and training operations, and the open burning/open detonation of unexploded ordnance (U.S. Air Force, 1996).

3.6 NOISE

In the project region, ambient noise (the surrounding background noise) currently exists as a result of transportation-related and other human activities. Many types of civil and military aircraft operate throughout the region and also make use of the military training airspace overlying the area. Vehicles on roads are also sources of noise, as well as boats entering and exiting the marina.

Noise Measurements and Thresholds

Based on numerous sociological surveys and recommendations of federal interagency councils, the most common benchmark referred to is a day-night average sound level of 65 dBA (A-weighted decibels). This threshold is often used to determine residential land use compatibility around airports, highways, or other transportation corridors. Two other average noise levels are also useful:

- A day-night average noise level of 55 dBA was identified by the USEPA as a level ". . . Requisite to protect the public health and welfare with an adequate margin of safety" (USEPA, 1974). Noise may be heard, but there is no risk to public health or welfare.

- A day-night average noise level of 75 dBA is a threshold above which effects other than annoyance may occur. It is 10 to 15 dBA below levels at which hearing damage is a known risk (Occupational Safety and Health Administration, 1983). However, it is also a level above which some adverse health effects cannot be categorically discounted.

Public annoyance is the most common impact associated with exposure to elevated noise levels. When subjected to day-night average sound levels of 65 dBA, approximately 12 percent of persons so exposed will be "highly annoyed" by the noise. At levels below 55 dBA, the percentage of annoyance is correspondingly lower (less than 3 percent). The percentage of people annoyed by noise never drops to zero (some people are always annoyed), but at levels below 55 dBA, it is reduced enough to be essentially negligible (Feingold et al., 1994).

The day-night average sound level (L_{dn}) sums individual noise events and averages the resulting level over a specified length of time, usually a 24-hour period. Thus, it is a composite metric representing the maximum noise levels, the duration of the events, and the number of events that occur. However, this metric also considers the time of day during which noise events occur. This metric adds 10 dB (decibels) to those events that occur between 10:00 p.m. and 7:00 a.m. to account for the increased intrusiveness of noise events that occur at night when ambient noise levels are normally lower than during the daytime.

Due to the proximity of Bear Creek Marina to the Eglin Main Base Airfield, aircraft noise dominates the existing noise environment. Department of Defense Instruction 4165.57, Air Installation Compatible Use Zones (AICUZ) requires military departments to develop, implement, and maintain an AICUZ program for each installation with a flying mission in order

to manage airfield associated concerns, such as noise and safety, with surrounding land usage. AICUZ average noise contours obtained from the Eglin GIS indicate Bear Creek Marina is exposed to an average of 65 dBA from airfield operations. AICUZ noise contours are depicted in Figure 3-4.

3.7 CULTURAL RESOURCES

The National Historic Preservation Act (NHPA) was enacted in 1966. Section 106 of the NHPA requires that federal agencies analyze the impacts of federal activities on historic properties. Section 110 of the NHPA requires that federal agencies inventory any cultural resources that are located within their boundaries and to nominate those found to be significant for inclusion into the National Register. Mitigation measures are developed to minimize impacts.

In the event of unexpected discovery of cultural resources, all activity in the immediate vicinity will cease until the Base Historic Preservation Officer and Cultural Resources has been notified and a determination of significance has been rendered (U.S. Air Force, 2005).

The 96 CEG/CEVH identified two cultural resource sites in the vicinity of Bear Creek Marina, specifically near the pipeline route. The pipeline route has been designed to avoid completely these cultural resources, which consist of archeological deposits. A consultation with the State Historic Preservation Office is not required. To protect these sites their specific locations cannot be disclosed. There are no cultural resources in or near the dredge material disposal area.

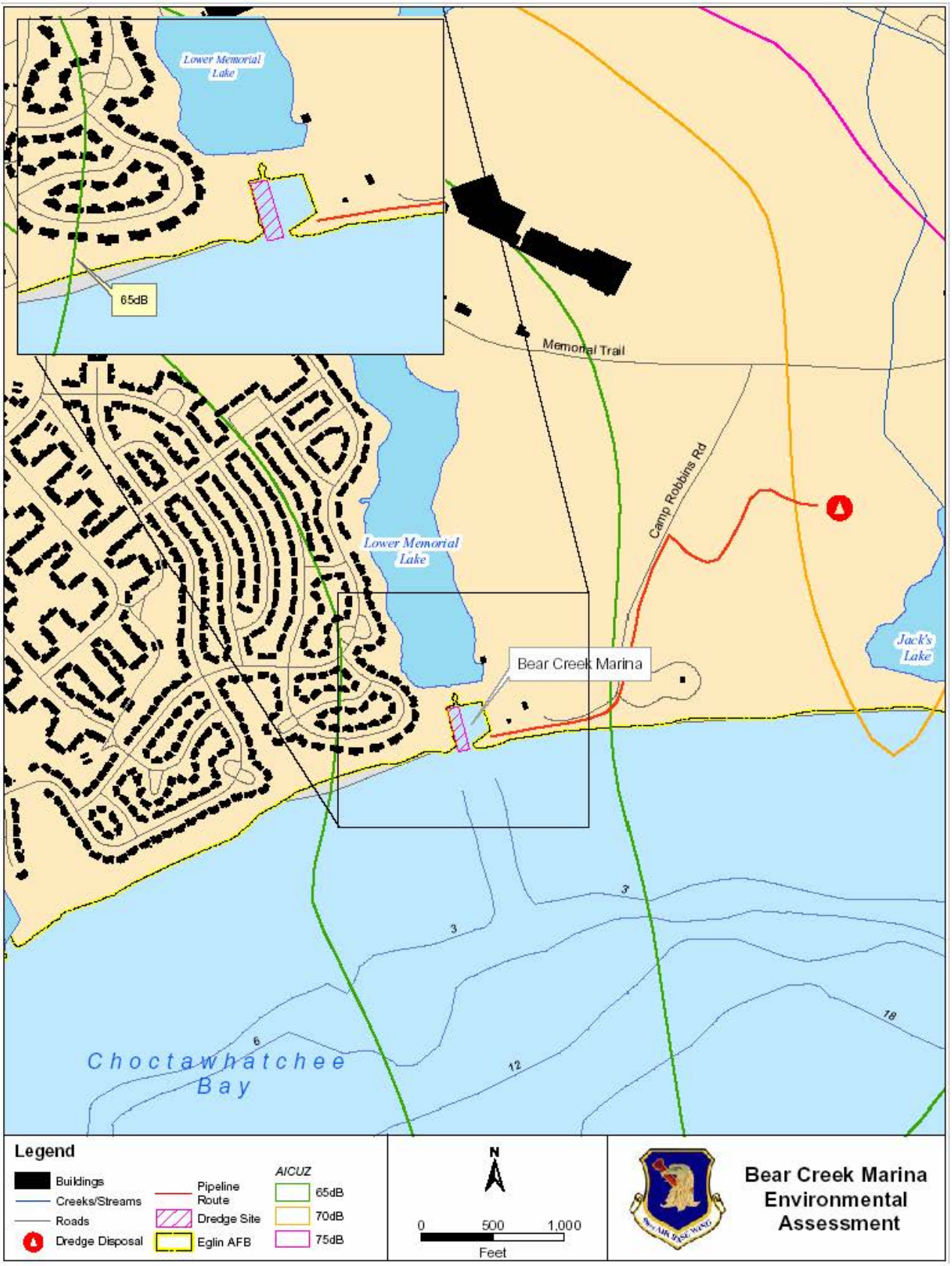

Figure 3-4. Existing Noise Environment of Bear Creek Marina

4. ENVIRONMENTAL CONSEQUENCES

4.1 SOILS AND SEDIMENTS

4.1.1 Proposed Action

Dredge Site

The Proposed Action is to dredge the marina, which was inundated with sediments from Lower Memorial Lake, remove sunken boats, and repair the dock and pilings damaged by Hurricane Ivan. The dredged material will be pumped into an upland area and contained within a berm. Containment will allow water pumped with the dredged material to percolate through the underlying soil. The area receiving the dredged material is sufficient space to receive the more than 15,000 cubic yards of dredged material. The Lakeland soils of the disposal area will allow for rapid filtration into the ground at a rate of 20 to 28 inches per hour (U.S. Air Force, 2003a). In the event volume and rate of input exceeds the berm capacity such that overflow occurs, operations will cease until additional containment berms can be constructed.

Sediments from Lower Memorial Lake have been sampled and determined to be free of contaminants (U.S. Air Force, 2004). Prior to dredging, the dredging contractor will sample sediments of the proposed dredge area in the marina. The removal and replacement of pilings opposite the dredged area may release trapped wood preservatives (i.e., creosote) during water jetting. The creosote potentially present remains from previous marina structures, now removed. Current marina structures are preserved with CCA.

The primary material used in construction in marine environments (i.e., docks and piers), and which makes up structures at Bear Creek Marina, is CCA-treated lumber. The USEPA opted for a voluntary industry "ban" on the manufacture of CCA-treated wood for residential use effective December 31, 2003 (USEPA, 2003). Recent studies and innovations have determined that concrete, steel-reinforced pilings, recycled plastic pilings, and other methods of construction are more environmentally-responsible alternatives and can effectively reduce the introduction of toxins into the marine ecosystem. Consideration of the use of these materials is encouraged.

In the event contaminants are discovered in the marine soils, site management actions (i.e., treatment of dredged materials, site controls such as liners and covers, etc.) will be required to reduce possible contamination at the disposal site.

If sediments are excessively contaminated as defined by FDEP sediment quality assessment guidelines (SQAGs), an alternate means of disposal will be required. The SQAGs are intended to assist sediment quality assessment applications, such as identifying priority areas for non-point source management actions, designing wetland restoration projects, and monitoring trends in environmental contamination (FDEP, 2004). In order to protect human health, sediment analysis and the subsequent land disposal of the dredged material will be done in accordance with the SQAGs.

Disposal Site

When dredged material is placed in an upland environment, physical and/or chemical changes may occur. The dredge material initially is dark in color and reduced, with little oxygen (USEPA/USACE, 2004). The dredged material is likely to become oxidized and lighter in color when the ponded water has been removed. Salt accumulations will develop as the material dries out. Any dredge material discharge is regulated under Section 404 of the Clean Water Act (USACE) and subject to water quality certification under Section 401 of the Clean Water Act (FDEP). The Proposed Action would restore the original control depths of the marina prior to the failure of the impoundment and would in no scenario be dredged less than 4 feet mean low water in accordance with 62-312.430(5).

Large areas within the proposed dredge spoil site are denuded (void) of vegetation. These areas will be utilized to discharge the dredged material, therefore eliminating potential adverse impacts to vegetation and wetland areas. No listed plant species were identified during a recent site survey.

4.1.2 No Action Alternative

No repairs would be made. Therefore, no impacts would occur.

4.2 BIOLOGICAL RESOURCES

4.2.1 Proposed Action

Sensitive Habitats

Seagrass

Dredge and fill activities have been widely recognized as a major anthropogenic disturbance contributing to the destruction of seagrass meadows. The direct and immediate effect of dredging on seagrass communities is mortality due to their removal and / or burial. In addition, there are indirect losses resulting from the disturbance of sediments during dredging operations. Sediment disturbance results in increased turbidity and decreased light availability. Seagrasses have high light requirements and the decreased light availability associated with sediment resuspension has been closely associated with seagrass loss (FDEP, 2001 and Texas Parks and Wildlife, 1999).

The submerged vegetation that occurs around the marina is on the east and west sides of the boat channel in Choctawhatchee Bay. The location of seagrass beds was confirmed through aerial photography and a site visit in November 2004. No direct impacts to seagrasses would occur because these resources are only found outside of the marina. Suspended sediments and increases in turbidity arising from dredging activities will be controlled through dredging best management practices (BMPs) such as sediment curtains. Thus impacts to seagrass outside of the marina are not anticipated.

Equipment will not be staged or transported through emergent vegetation along the shorelines of the marina.

Essential Fish Habitat

Essential fish habitat, defined as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (Federal Register, 2002) will not be affected. EFH is not found in the marina. The nearest EFH, seagrass beds in Choctawhatchee Bay, are located outside the marina. These areas would not be directly affected by dredging, and turbidity from dredging operations is not anticipated to result in decreases in water clarity beyond the marina. A turbidity curtain extending from the substrate to the water surface will be placed at the mouth of the marina to entrain suspended sediments and prevent their transport into the bay. Other BMPs will be implemented to contain suspended sediments. The dredge and barge, if required, will stay within mean high water inside the marina. Consultation with NOAA Fisheries is not required.

Sensitive Species

Sensitive species as discussed in this section refer to plants or animals listed as threatened or endangered under the ESA or marine mammals, which are protected under the MMPA. The Gulf sturgeon, sea turtles and Atlantic bottlenose dolphins occur in Choctawhatchee Bay.

Under 16 USC 1531 to 1544, 1997-Supp, ESA of 1973, federal agencies must ensure that their actions (including permitting) do not jeopardize the continued existence of any endangered or threatened species or destroy or adversely modify the habitat of such species without a permit and must set up a conservation program. A Section 7 consultation with the NMFS/USFWS would be required if a take, which is defined as pursuing or harming a protected species, were to occur. If the Proposed Action were likely to adversely affect a federally protected species, the NMFS/USFWS would determine whether jeopardy or non-jeopardy to the species population would occur. As a result, Air Force projects that may affect, either directly or indirectly, federally protected species, species proposed for federal listing, or critical habitat for protected species are subject to Section 7 of the ESA prior to the irreversible or irretrievable commitment of resources (U.S. Air Force, 2003). Eglin has developed an overall goal within the Integrated Natural Resources Management Plan to continue to protect and maintain populations of native threatened and endangered plant and animal species within the guidelines of ecosystem management (U.S. Air Force, 2003).

Under 16 USC 1361 et seq., 1997-Supp, the MMPA of 1972, as amended, provides for the conservation and management of marine mammals and their habitats. Formulated in 1972, the original Act established a moratorium on targeted killing of marine mammals as well as on importing any of their products. The MMPA and its subsequent amendments set up management schemes for: 1) subsistence harvest by native tribes, 2) incidental take in commercial fisheries, 3) incidental take by activities other than fisheries, 4) stock assessments of marine mammal populations, and 5) an expert board to review marine mammal population information.

The Act requires that stocks remain at their optimum sustainable levels and that a plan be implemented to restore populations that are below this measure. The MMPA prohibits the "take" of any marine mammal whereby "take" is defined as harassing, hunting, capturing,

collecting, or killing any marine mammal. The Act defines harassment as "an act of pursuit, torment or annoyance which has the potential to injure, or disturb by causing disruption of behavioral patterns, a marine mammal or marine mammal stock in the wild" (16 USC 1361).

Gulf Sturgeon (Acipenser oxyrhynchus desotoi)

The Gulf sturgeon occurs in Choctawhatchee Bay and adjacent bayous. According to the USFWS, juveniles and adults of this species prefer areas near Alaqua Bayou and Hogtown Bayou, respectively (USFWS, 2001 and 2003). Occurrence of Gulf sturgeon decreases west of the Mid-Bay Bridge. Since the areas in which the species is more commonly found are far removed from the marina, and prey species would not occur in the marina, the Proposed Action would have no effect on this species. A consultation with the USFWS was completed. Documentation of Eglin Natural Resources coordination with USFWS on the Proposed Action is provided in Appendix D.

Gulf Sturgeon Critical Habitat

Choctawhatchee Bay and some of the adjoining bayous have been designated by the USFWS as Gulf sturgeon critical habitat. The Proposed Action would occur in an area already considered developed and disturbed by human activity. Components of preferred sturgeon habitat such as clean sandy substrates and organisms upon which they feed are not found at the marina. The marina is not part of Gulf sturgeon critical habitat. During dredging, a turbidity curtain will be placed across the mouth of the marina to constrain suspended sediments and prevent them from affecting water or sediments beyond the marina. Thus, the Proposed Action would have no effect on critical habitat.

Atlantic Bottlenose Dolphin (Tursiops truncatus)

Like all cetaceans (dolphins and whales), the Atlantic bottlenose dolphin may be affected by loud sources of underwater noise. Marine mammals use sound for communication, navigation, detection of predators and prey, and mate attraction (Richardson et al., 1995). A wide range of frequencies is utilized for these tasks. Anthropogenic noise can disrupt or interfere with natural behaviors, or if powerful enough, have potential physiological impacts to marine mammals. The effects of loud sounds on cetaceans can range from behavioral changes such as feeding alterations, to physiological damage such as eardrum rupture and hearing loss (Richardson et al., 1995).

For the Proposed Action, dredging would produce noise of between 160 and 180 dB at 1 meter in the 50 to 500 hertz (Hz) frequency band (Greene and Moore, 1995). This level of noise at one meter from the dredge would not be physically harmful to dolphins. If exposed for prolonged periods of time to this level of noise, dolphins may experience a decrease in hearing sensitivity (Finneran and Schlundt, 2004). It is assumed dolphins would avoid the area and not approach the sound, preventing any prolonged exposure. The use of a turbidity curtain designed to prevent suspended sediments from entering the bay would deter dolphins from entering the marina during dredging. Prior to dredging, the dredge contractor will monitor the area for dolphins, delaying dredging until the area is clear. Therefore the likelihood is low that noise effects would occur. Eglin Natural Resources Section has determined that there would be no effect to MMPA

species. Thus, the Proposed Action would have no effect on dolphins, and a consultation is not required.

Sea Turtles

The likelihood of other sensitive species being affected by the dredge activities is low for the same reasons given above. Sea turtles, which may enter into the bay and most probably would be found in seagrass beds are not expected to enter into the marina, particularly during times of construction, dredging, or other human activity. Prior to dredging, the dredge contractor will monitor the area for sea turtles and delay dredging until the area is clear. The use of a turbidity curtain designed to prevent suspended sediments from entering the bay would also prevent turtles from entering the marina during dredging. Thus, impacts to sea turtles would not occur.

Summary of Potential Effects to Sensitive Species

The Air Force finds there would be no effect to ESA or MMPA listed species from dredging and repair operations of Bear Creek Marina. A turbidity curtain would serve to keep protected species from approaching the dredge.

There are no listed plant species at the proposed dredge spoil site. There are no other federally listed animals within the project area that would be potentially affected by dredging operations, dredge disposal or boat removal.

4.2.2 No Action Alternative

No repairs would be made. Therefore, no impacts would occur.

4.3 WATER RESOURCES

The following section describes the potential direct and indirect impacts to water quality as a result of the Proposed Action and Alternative. A list of BMPs designed to avoid or minimize any such impacts is provided in Chapter 5.

Dredging activities can result in temporary impacts to water quality through increased turbidity. The management requirements outlined in Chapter 5 will be taken to minimize any impacts to the water quality of Bear Creek Marina during dredging operations. All proposed activities will take place on land owned by Eglin AFB.

4.3.1 Proposed Action

Water Quality

Under the Proposed Action, dredge operations at Bear Creek Marina would remove approximately 3,000 cubic yards of sediment deposited from Lower Memorial Lake after the impoundment failure. In addition, the Proposed Action involves the removal of sunken vessels and repairs to the dock. The sediment would be removed from Bear Creek Marina using a

suction dredge pump and transported to the upland disposal site by way of a constructed pipeline. The proposed pipeline would be placed in upland areas away from any surface waters. Sediments would be contained via constructed berms with secondary containment around the berms from staked hay bales and entrenched silt fences (FDEP, 2002). Appropriate sedimentation controls (outlined in Chapter 5) will ensure that water quality standards are maintained in the unlikely event of pipeline failure. Additionally, the dredging contractor will use double-walled pipe and/or pressure test the pipe with water prior to pumping to prevent leaks of dredged material. The Lakeland soils at the dredge disposal site will allow for rapid percolation through the underlying soil profile. Percolation rates for Lakeland soils range from 20 to 28 inches per hour. Given the underlying soil characteristics of the proposed dredge disposal site, ground-water will flow slowly southeast toward Jack's Lake (U.S. Air Force, 2003). The Air Force dredge contractor would sample the marina sediments for contaminants prior to dredging and if necessary implement alternate means of disposal or treatment at the spoil site. Water leached from dredge spoil would not significantly affect groundwater or Jack's Lake.

Lower Memorial Lake drained abruptly in the spring of 2004. Sediments now present in the marina from that event may contain high levels of nutrients such as nitrogen and phosphorus from anthropogenic sources, which could be released to the water column during dredging. Such nutrients are not expected to adversely impact the disposal site. Increased nutrient levels in the water column would be temporary and localized, and would quickly be diluted. A recent sample of sediments from Lower Memorial Lake did not contain pesticides or metals (U.S. Air Force, 2004).

Bear Creek Marina has no fuel facilities and no fuel storage areas (U.S. Air Force, 2004a). Therefore, polycyclic aromatic hydrocarbons (PAH) would not be released to the water column from sediments during dredging. Because the marina currently uses CCA wood preservatives, and previous structures at the marina used creosote, these compounds may be released during dredging or dock repairs, temporarily affecting water quality. These effects would not be significant given the volume of water at the marina that would dilute concentrations of potential contaminants.

No drinking water wells would be affected by dredge disposal. Thus, the Proposed Action would not adversely impact drinking water.

Increased turbidity at Bear Creek Marina would occur as a result of dredging operations. The replacement of five pilings at the Marina is also likely to increase turbidity. Given the substrate's fine texture and small particle size, sediments would become suspended in the water column. This increased turbidity would be temporary and localized. This increase in turbidity often results in reduced light penetration and inhibits photosynthesis to light-dependent resources. Methods for construction and for minimizing turbidity are discussed in the *Best Management Practice* section in Chapter 5. The BMPs outlined in Chapter 5 will minimize any impacts associated with increased turbidity. Replacement pilings and deck boards will not increase the overall footprint of the facility and will not create any new boat slips. As a result, the Proposed Action is not expected to adversely impact water quality at Bear Creek Marina, nor at the dredge disposal site.

Wetlands

Dredging and Disposal

The littoral areas of Bear Creek Marina support wetland plant communities. Emergent (herbaceous) vegetation dominates the natural perimeter of the marina. Except for two small human-induced (created by human activity such as modifying the ground) seasonal wetland areas near the disposal site, natural wetlands do not occur at the proposed dredge disposal site. Dredge equipment will not be used, or staged, in, or adjacent to wetland areas. Furthermore, dredging operations will not take place outside the marina in areas of submerged aquatic vegetation, or seagrass beds. Thus, the Proposed Action would have no adverse impacts to wetland resources.

Dock Repair

Piling replacement would not alter hydrology or adversely impact wetland plant communities. Equipment to support this activity would not be stored or staged in wetlands or transported through emergent wetland vegetation.

The BMPs outlined in Chapter 5 will minimize any impacts associated with dredging operations, disposal, and piling replacement. As a result, the Proposed Action is not expected to adversely impact wetlands at Bear Creek Marina.

Boat Removal

A barge crane would be used to remove sunken boats. The crane would avoid contact with shoreline wetland areas and emergent wetland vegetation. Thus, no impacts to wetlands would occur.

Floodplains

Approximately 0.5 acre of floodplains as defined by FEMA exists at the northern extent of Bear Creek Marina. The Proposed Action involves the removal of subaqueous sediment and would pose no adverse impacts to this floodplain area. The proposed dredge disposal site is located outside of the designated 100-year floodplain. The replacement of five pilings and associated decking will have no impact on floodplain resources. Thus, the Proposed Action would result in no adverse impacts to the 100-year floodplain.

4.3.2 No Action Alternative

Under this Alternative, dredging would not occur and repairs would not be made to the marina. No adverse impacts would result to surface waters, wetlands, or the 100-year floodplain.

4.4 SOCIOECONOMICS

4.4.1 Proposed Action

Dredging and repairing the marina would have positive economic impacts for the current renters by restoring full access to the marina, and thus eliminating the wasted dollars spent on a service they cannot use.

The pipeline route may temporarily restrict access to the Camp Robbins Picnic Area for a two-week period. Based upon final pipeline specifications, the Proponent may elect to trench the pipeline under the dirt road used to access the Picnic Area so that vehicles could still gain access to the Camp Robbins Picnic Area. Impacts to socioeconomic (i.e., recreation) resources from restricted access to the Picnic Area would be temporary and would have no adverse long-term effect.

4.4.2 No Action Alternative

Socioeconomic impacts would continue under this alternative. The marina would not be repaired or dredged, and recreational users would have limited access to boat slips. Losses in revenue would continue.

4.5 AIR QUALITY

4.5.1 Proposed Action

The dredge would produce small amounts of combustive emissions over an approximate two-week period. The combustion of diesel fuel produces nitrogen oxides (NO_x), sulfur dioxide (SO_2), particulate matter (PM), carbon monoxide (CO), carbon dioxide, oxygen and hydrocarbons (USEPA, 2000). Of these, PM, NO_x, SO_2, and CO are included among the six criteria pollutants for which the USEPA has developed standards (Table 4-1). The USEPA has developed numerical concentration-based standards, or National Ambient Air Quality Standards (NAAQS), for the six pollutants (based on health-related criteria) under the provisions of the Clean Air Act Amendments of 1970. States may adopt the federal standards or implement more stringent requirements.

There are two kinds of NAAQS: primary and secondary standards. Primary standards prescribe the maximum permissible concentration in the ambient air to protect public health including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards prescribe the maximum concentration or level of air quality required to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings (40 CFR Part 50).

Each state is required to develop a state implementation plan that sets forth how Clean Air Act provisions would be imposed within the state. The state implementation plan is the primary means for the implementation, maintenance, and enforcement of the measures needed to attain and maintain the NAAQS within each state and includes control measures, emissions limitations, and other provisions required to attain and maintain the ambient air quality standards

(Table 4-1). Air quality within the project area is in attainment for all criteria pollutants (see Section 3.5).

Table 4-1. National and State Ambient Air Quality Standards for Pollutants Emitted from the Proposed Action

Criteria Pollutant	Averaging Time	Federal Primary NAAQS[1,2,3]	Federal Secondary NAAQS[1,2,4]	Florida Standards
Carbon Monoxide (CO)	8-hour 1-hour	9 ppm[5] (10 mg/m^3)[6] 35 ppm (40 mg/m^3)	No standard No standard	9 ppm (10 $\mu g/m^3$)[7] 35 ppm (40 $\mu g/m^3$)
Nitrogen Dioxide (NO_2)	Annual	0.053 ppm (100 $\mu g/m^3$)	0.053 ppm (100 $\mu g/m^3$)	0.053 ppm (100 $\mu g/m^3$)
Particulate Matter ≤10 Micrometers (PM_{10})	Annual 24-hour[8]	50 $\mu g/m^3$ 150 $\mu g/m^3$	50 $\mu g/m^3$ 150 $\mu g/m^3$	50 $\mu g/m^3$ 150 $\mu g/m^3$
Particulate Matter ≤2.5 Micrometers ($PM_{2.5}$)	Annual 24-hour[9]	15 $\mu g/m^3$ 65 $\mu g/m^3$	15 $\mu g/m^3$ 65 $\mu g/m^3$	15 $\mu g/m^3$ 65 $\mu g/m^3$
Sulfur Dioxide (SO_2)	Annual 24-hour 3-hour	0.03 ppm (80 $\mu g/m^3$) 0.14 ppm (365 $\mu g/m^3$) No standard	No standard No standard 0.50 ppm (1300 $\mu g/m^3$)	0.02 ppm (60 $\mu g/m^3$) 0.10 ppm (260 $\mu g/m^3$) 0.50 ppm (1300 $\mu g/m^3$)

Source: FDEP, 2000

1. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year.
2. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C (degrees Celsius) and a reference pressure of 760 millimeters (mm) of mercury; ppm refers to parts per million by volume.
3. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
4. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
5. ppm = parts per million
6. mg/m^3 = milligrams per cubic meter
7. $\mu g/m^3$ = micrograms per cubic meter
8. The PM_{10} 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
9. The $PM_{2.5}$ 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

The proposed dredging operations consist of hydraulic removal of sediment from an area approximately 100 yards long and 30 yards wide, using diesel-powered pumps mounted on a barge. The project would be completed in less than a month. Impacts to air quality from pump and barge combustive engine emissions would be temporary and would have no adverse long-term effect. As stated above, emissions on the order of tons per year would be required to constitute an impact at an existing source. Emissions from the Proposed Action would constitute a minor part of all possible emissions sources occurring at Eglin. The project would contribute negligible amounts of emissions to the total produced by other sources.

4.5.2 No Action Alternative

Under this alternative there would no change to air quality.

4.6 NOISE

4.6.1 Proposed Action

Dredge noise would potentially affect residents adjacent to the marina. The noise from a suction dredge is approximately 88 dBA at 50 feet (USACE, 2000). The noise reaching the residential area can be estimated using the rule of thumb of sound loss through spherical spreading, which states that noise decreases by 6 dB for every doubling of distance from the sound source. Table 4-2 below provides estimates of hydraulic dredge noise at several distances from the point of dredge operations. The residential area is approximately 250 feet from the proposed dredge area.

Table 4-2. Estimated Hydraulic Dredge Noise

Noise Level (dBA)	Distance (Feet)
88	50
82	100
76	200
70	400

Based on the information in the table above, residents would potentially be exposed to noise from the hydraulic dredge at levels between 70 and 76 dBA, sufficient to cause annoyance. These noise levels would not be harmful but could affect outside activities.

The residential area is located within the 65 L_{dn} AICUZ noise contour, a level of noise attributable to frequent aircraft activities associated with the main base airfield. The 65 L_{dn} is an annual average. Dredge noise was averaged in similar fashion to determine any potential average noise increase that would occur. Based on 80 hours of dredge operation, the L_{dn} or day-night average noise level for a point approximately 250 feet away would be 63 L_{dn}. Considering the location of the residential area within the 65 L_{dn} AICUZ noise area, the project would not cause a substantial increase in the annual average noise level of the area. Given the temporary nature of the project, no significant noise effects would occur.

Underwater noise from marine dredging reportedly ranges from 160 to 180 dB referenced to 1µPa (micropascal) at 1 meter for 1/3 octave bands with peak intensity between 50 and 500 Hz (Greene and Moore, 1995). Potential effects to protected species are discussed in Section 4.2.

4.6.2 No Action Alternative

Under this alternative, dredging and marina repairs would not occur. The noise environment would not change.

4.7 CULTURAL RESOURCES

4.7.1 Proposed Action

Cultural resources would not be affected by the Proposed Action. Coordination with 96 CEG/CEVH during the planning process enabled selection of a pipeline route that avoids contact with known cultural resources sites in the vicinity of the project area.

If during the course of the Proposed Action, new cultural resources were discovered, operations would cease and 96 CEG/CEVH would be contacted.

4.7.2 No Action Alternative

Under this alternative, dredging and repairs would not occur. Cultural resources would not be affected.

4.8 CUMULATIVE IMPACTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.8.1 Cumulative Impacts Definition

According to CEQ regulations, cumulative effects analysis should consider the potential environmental impacts resulting from "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 1508.7).

Cumulative impacts can result from individually minor, but collectively substantial, actions undertaken over a period of time by various agencies (federal, state, and local) or individuals. In accordance with NEPA, a discussion of cumulative impacts resulting from projects that are proposed, under construction, or recently completed is provided within this section.

In this EA, an effort has been made to identify all actions on or near the action area that are being considered and are in the planning stage at this time. To the extent details regarding such actions exist and the actions have a potential to interact with the Proposed Action outlined in this EA, these actions are included in the cumulative analysis.

Past, Present, and Reasonably Foreseeable Actions

This EA applies a stepped approach to provide decision-makers with not only the cumulative effects of the Proposed Action, but also the incremental contribution of past, present, and reasonably foreseeable actions.

Past and Present Actions Relevant to the Proposed Action and Alternative

The relevant past and present actions associated with the impacts of the Proposed Action include existing base development and operations, plus nearby development and infrastructure

improvements such as roads, pipelines, and power transmission lines. Past and present actions in and around the action areas associated with these activities may have cumulative effects on the local environment. The repair of the levee adjacent to Bear Creek Marina is a past action relevant to the Proposed Action.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions include projects occurring on Eglin Main cantonment areas and selected major regional construction with a potential for cumulative effects.

Cantonment Area Projects

Base Realignment and Closure (BRAC) actions will establish the Joint Strike Fighter (JSF) Initial Joint Training Site (IJTS) at Eglin AFB for joint Air Force, Navy, and Marine Corps JSF training organizations. It will relocate 200 instructors to Eglin AFB. Potential impacts from this program due to changing mission and additional personnel may include noise, air quality, munitions storage concerns, transportation, and utilities concerns, among others. Implementation of the BRAC decisions will also relocate the Army 7th Special Forces Group Airborne to Eglin AFB from Fort Bragg, North Carolina. The BRAC recommendations also included relocating Weapons and Armaments In-Service Engineering Research, Development and Acquisition, and Test and Evaluation from Hill AFB, Utah, to Eglin AFB and relocating the Defense Threat Reduction Agency National Command Region Conventional Armament Research from Fort Belvoir, Virginia, to Eglin AFB.

Eglin AFB plans to build a new 40,673 square-foot complex for the 96th Security Forces Squadron in order to house all of the squadron's administrative, confinement, mobility, and control activities in one location. This facility would be located on Nomad Way. In addition to the facility, a parking lot and sidewalks, a bridge/roadway, and a stormwater retention pond or swales would be constructed. This project would also include the demolition of buildings 272, 883, and 796.

Eglin AFB has proposed plans to relocate and construct a new Explosive Ordnance Disposal (EOD) complex on the southwest side of Nomad Way adjacent to the current military dog training facility. The 17,505-square-foot facility would also include utilities, parking and landscaping. Eglin AFB is currently conducting an EA for that project. The existing EOD facility would be demolished.

Eglin AFB also plans to build a new 28,330 square-foot Precision Measurement Equipment Laboratory Facility for the 46th Maintenance Squadron Test, Measurement, and Diagnostic Equipment Flight (MXS/TMDE) to the east of building 613, off Eighth Street. In addition to the facility, construction would include a stormwater retention pond or swales.

Future plans to develop the area in and surrounding the existing softball fields located to the north of Foster Road and to the east of Eglin Boulevard on Eglin AFB have been proposed. These plans include realigning the existing softball fields in their current location and constructing two athletic fields, eight tennis courts, two basketball courts, and a parking lot east of the softball fields to create a base recreational sports compound. A fitness/aquatic center and

an exercise pad are proposed for construction just south of Foster Road to create a base fitness compound.

Eglin AFB has plans for the construction of a concrete slab as a permanent training area for the Motorcycle Safety Training Program. It would be located on a currently forested area north of building 721, on Foster Road. The construction of this training area would include a stormwater retention pond or swales and in the future, a storage shed built upon a concrete foundation adjacent to the motorcycle training area. Construction of this training area would result in about 60,240 square feet of land disturbance.

Eglin AFB and the Veterans Administration are currently developing a proposal for a 16,200-square-foot (0.372-acre) community-based outpatient clinic on a 10-acre parcel of land adjacent to the Eglin Regional Hospital. In addition to the facility, parking lots, and sidewalks, the Veterans Administration would build an access road and a stormwater retention pond. The total amount of land to be cleared for this development would be approximately 4.02 acres.

The Air Force is accelerating the improvement of military family housing (MFH) through privatization. This improvement process involves the demolition, construction, and renovation of MFH units through implementation of the MFH Demolition, Construction, Renovation, and Leasing Program, otherwise known as MFH Privatization, at Eglin AFB and Hurlburt Field. A Revised Draft Environmental Impact Statement to assess the impacts of MFH privatization was published for public comment in 2006.

On Eglin AFB, there are plans to use the Ben's Lake area and a portion of the Wherry housing area for future development of community services and hospital expansion. These plans are in the early concept phase and the Air Force only considers them as "desirables" for these areas.

The Air Force currently plans to close the Bayou Village Mobile Home Park in June 2008, which has fewer than 100 families (with that number steadily declining).

The Okaloosa Regional Airport (ORA) on Eglin AFB is proposing construction of a separate rental car parking and maintenance area. The proposal involves utilizing 36 acres of land adjacent to the ORA, leased from the Air Force, to construct a new rental car facility. The ORA would develop the proposed 36-acre site to provide parking areas for five separate rental car agencies totaling 800 parking spots; two new access points; a truck inspection area; an office; a maintenance bay; a car wash and fueling area; an electrical duct extension from State Route (SR) 85; and expanded stormwater management facilities. Environmental documentation has not identified any significant impacts to resources associated with the project.

The University of Florida Research and Engineering Education Facility (REEF) is contemplating expansion of its facilities on Eglin AFB property to include a research park and other support facilities. No detailed information is currently available on this proposal, as it is currently in the initial concept phase. However, it is likely that this development would utilize land areas adjacent to the existing REEF site and would involve construction and land clearing activities.

Regional Development Actions

Review of the latest West Florida Regional Planning Council (WFRPC) Annual Report (2005) shows that there are no "Developments of Regional Impact" that entered the review process during 2005. As of the 2004 review process, WFRPC summary, the only Developments of Regional Impact associated with Okaloosa County were related to proposed changes at Bluewater Bay (northeast of Niceville) and Emerald Bay (at the south Okaloosa-Walton County line).

The Destin/Fort Walton Beach Airport is planning many new construction projects over the next few years. In fiscal year (FY) 2007, they are planning to construct an air traffic control tower and overlay the runway with asphaltic concrete. There are FY 2008 plans to install an approach lighting system for Runway 32/14. In FY 2010, plans are to install a global positioning system (GPS) approach and acquire a strip mall property for a south approach.

The Mid-Bay Bridge Authority has plans to widen the Mid-Bay Bridge and the northern corridor up to SR 20 to four lanes. They are also planning a four-lane "bypass" from the Mid-Bay Bridge to SR 85, going around the city of Niceville. These plans together would provide four-lane access to Destin from Interstate 10 (I-10). However, all three of these projects are only in the very early planning stage. This construction would be paid for by the collection of tolls (Okaloosa-Walton Transportation Planning Organization: Project Priorities FY 2007–2011).

The Florida Department of Transportation (FDOT) is considering a proposed action to construct two interchanges: one at the southern intersection of SR 85 and SR 123, and another adjacent to the ORA. The proposed interchange is a two-lane flyover for northbound traffic on SR 85 to connect with SR 123, eliminating the traffic signal that currently handles left-turning traffic onto northbound SR 123. The FDOT would construct a second overpass at the current intersection between SR 85 and the airport exit at the east end of the airport to a flyover for both airport entry from and exit to SR 123. SR 85 entry to and exit from the airport would occur directly from SR 85. Additionally, FDOT would construct a frontage road that parallels SR 85 to connect SR 123 to the airport entrance and exit flyover. Southbound traffic on SR 123 turning left at SR 85 would relocate onto the frontage road; SR 85 southbound traffic turning right onto SR 123 would use the same east airport entrance intersection and frontage road. The proposed action would require 35.4 acres for right-of-way expansion and a lease involving the clearing of 4.6 wooded acres to widen the existing roads, construct the interchange, construct the frontage road, place five stormwater dry retention beds, and relocate existing utilities. FDOT would conduct the proposed action on Eglin-owned land and would require an easement across federal property to provide additional rights-of-way to accommodate the proposed construction.

4.8.2 Analysis of Cumulative Impacts

Cumulative effects from the repair of the levee between Lower Memorial Lake and Bear Creek Marina would be minimal. There will not be any overlap of impacts since repairs for this action have already been completed prior to initiation of marina dredging and repair. Both actions would have beneficial effects, leading to restoration of water levels to Lower Memorial Lake and resumed utility of the marina.

The demolition and construction of the Wherry/Capehart housing area would occur adjacent to Bear Creek Marina. Dredging of the marina is anticipated to be complete well in advance of any work associated with Eglin MFH. Demolition and construction of MFH will not start before 2007. Since the two actions would not overlap in time, direct combination of effectors such as noise or sedimentation would not occur. The Proposed Action is a short-term project, whereas the MFH project would occur over several years. Erosion, a potential concern with construction activities associated with the Eglin MFH would not have cumulative effects with the sediment disturbance from dredging operations. Cumulative impacts to resources from regional development and base construction projects are discussed further in the following sections.

Soils and Sediments

The Proposed Action would disturb sediments, temporarily affecting water quality in Bear Creek Marina. Regional development and base construction projects can increase the transport of eroded soils through stormwater runoff, ultimately affecting water quality in Choctawhatchee Bay. Due to their scale and expected overlap in time, the regional development projects and base construction actions would have cumulative impacts, which would be minimized through National Pollutant Discharge Elimination System (NPDES) construction site erosion control measures. Combined effects with the Proposed Action are not anticipated given the different timeframes in which these actions would occur. Further, the Proposed Action and the regional development and base construction actions would implement measures to control or minimize the effects of sediment and soil runoff.

Biological Resources

Discussion of impacts to Biological Resources is not necessary as the Proposed Action would not affect protected species.

Socioeconomics Resources

There would be no significant socioeconomic impacts associated with the Proposed Action.

Air Quality

The impacts from this action would be negligible, but when combined with other past, present, and future actions the impact would be cumulative, long-term and regional.

Noise

The Proposed Action would not contribute significantly to the average noise environment. Regional and base actions would dominate the noise environment, in particular through the addition of new types of aircraft and personnel and construction associated with these additions as a result of BRAC and MFH programs. Additionally, the Proposed Action would be completed prior to the initiation of BRAC actions, MFH, or other regional development projects.

Cultural Resources

The Proposed Action would avoid cultural resources entirely.

5. PLANS, PERMITS, AND MANAGEMENT REQUIREMENTS

The following is a list of the plan, permit, and management requirements associated with the Proposed Action. The need for these requirements was identified by the environmental analysis process in this EA and was developed through cooperation between the proponent and Eglin environmental personnel. These requirements are to be considered as part of the Proposed Action and would be implemented as such.

Plans

The Proponent will outline an operational contingency plan for effective action to minimize unanticipated events encountered during proposed project operations. The plan will identify key personnel to implement emergency procedures to quickly address safety concerns and/or environmental impacts. Such events may include pipeline failure, fuel spills, or the discovery of contaminated sediments. For such events, operations will cease and the Environmental Management staff will be contacted immediately. Any incidents will be properly documented and reported to the appropriate agencies.

Permits

For dredging, a Joint Application for Works in the Waters of Florida would need to be filed with the USACE, the FDEP, and the Northwest Florida Water Management District.

Management Requirements

All requirements will be included in the contract for performing the dredging. The contract inspector will be responsible for insuring compliance of the management requirements**.**

Water Quality and Wetlands

Sediment controls, such as turbidity screens with weighted bottoms, will be installed prior to dredging operations to contain the suspended sediments and prevent turbidity in seagrass areas. Entrenched, silt fences will be installed along the entire perimeter of the proposed dredge disposal site and along the shoreline extent of the pipeline. Staked hay bales will be used to create a secondary berm to contain the excavated sediment at the dredge disposal site.

Water quality and sediment sampling for contaminants will be conducted at the request of the regulatory agencies and in accordance with the FDEP SQAGs. In the event that dredged sediment contains any contaminants above background levels, disposal of the sediment will be accomplished in accordance with Federal and State contaminated sediment management strategies.

The following BMPs will be incorporated into the final design to prevent any direct or indirect impacts to water quality and/or wetland resources.

BMPs for the Dredge Disposal Site

- The dredging contractor will use double-walled pipes for the transport of dredged material or pressure test the pipes before pumping to check for leaks.
- To the greatest extent possible, the Proponent and its contractor will consider underground pipeline trenching at road crossings in an effort not to impede access to the Camp Robbins Picnic Area.
- Haybales and silt fences will be used as secondary containment to filter sediments in the event spoil material overflows the berm.
- All erosion and sediment control measures will be installed prior to any construction and will remain in effective operating condition until the construction project has been completed and all permitting conditions have been satisfied.
- Regular inspections of the controls will be conducted and documented, particularly after each rain event.
- The Proponent and its contractor will ensure the removal of mud and vegetative debris from tires/tracks of all construction vehicles.

BMPs for the Bear Creek Marina Site

- Dredge operations will restore original control depths of Bear Creek Marina prior to the failure of the impoundment.
- All dredging operations will be conducted using a hydraulic suction dredge that will minimize turbidity within the water column.
- Excavated dredge material will be deposited in a self-contained upland area designed to prevent spoil material and/or return water from entering any surface waters or interfering with natural drainage.
- Siltation curtains (with weighted bottoms) will be installed around the active dredge footprint prior to the commencement of dredging activities to contain any temporary increase in turbidity within the water column.
- All erosion and sediment control measures will be installed prior to any construction and will remain in effective operating conditions until the construction project has been completed and all permitting conditions have been satisfied.
- Regular inspections of the controls will be conducted and documented, particularly after each rain event.
- Permanent site stabilization by way of mulching, planting and/or seeding (using native vegetation) will be undertaken upon completion of the site clean-up.
- The Proponent and their contractor will ensure the removal of mud and vegetative debris from tires/tracks of all construction vehicles.

4.8.3 Irreversible and Irretrievable Commitment of Resources

NEPA requires that environmental analysis includes identification of any irreversible and irretrievable commitments of resources that will be involved in the Proposed Action should it be implemented. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of specific resources such as energy and minerals that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action, such as extinction of a threatened or endangered species or the disturbance of a cultural site.

Proposed and Alternative Actions

For the Proposed Action and No Action Alternative, there would be no resources such as cultural resources and endangered species that would be irreversibly or irretrievably lost.

BMPs for the Repairs to the Existing Marina

- The Proponent will consider the use of environmentally-friendly pilings constructed of concrete, or plastic recycled material with degradation times greater than 10 years.
- The Proponent and their contractor will utilize turbidity screens (with weighted bottoms) to reduce sediments suspended by boat dock repair.
- The Proponent and its contractor will ensure the removal of mud and vegetative debris from tires/tracks of all construction vehicles.

Biological Resources

- Seagrass beds and emergent vegetation will be avoided by barges and dredge equipment.
- The dredge contractor will monitor for the presence of dolphins and sea turtles prior to dredging and, if present, will dredging until the area is clear of these species

Cultural Resources

If during the course of the Proposed Action new cultural resources were discovered, operations would cease and 96 CEG/CEVH would be contacted.

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6. LIST OF PREPARERS

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Name/Qualifications	Contribution	Experience
Atchison, William P.	Author	4.5 years environmental science
Brandenburg, Catherine	Document Specialist	4 years experience in document production and management
Garrison, Becky	Editor	25 years document editing experience
McKee, W. James	Project Manager, Author	19 years Environmental Science with experience in freshwater, estuarine, and marine applications
Nation, Mike	GIS Analyst	4 years experience as an environmental consultant; Interagency Coordination; GIS Arc View applications
Nemzoff, Eloise	Editor	36 years experience in document writing, editing, and production
Robau, Dave	Author	3.5 years of experience in environmental permitting and science
Stepp, Heather	Author	8 years of experience in environmental science

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7. LIST OF CONTACTS

Mr. Tim Willingham, Eglin Outdoor Recreation
Contacted regarding marina usage.

Mr. Bob Miller, Eglin Natural Resources, 96 CEG/CEVSN
Contacted regarding protected species within the project area.

Mr. Brian Dykes, U.S. Army Corps of Engineers, Mobile District
Contacted regarding dredging operations.

Ms. Lynn Shreve, Eglin Cultural Resources, 96 CEG/CEVH
Contacted regarding cultural resources within the project area and alternate pipeline routes.

Ms. Judy Ramsey, Eglin AFB, 96 CEG/CEV
Contacted regarding previous dredging project.

Ms. Robin Bjorkland, Eglin AFB, 96 CEG/CEVR
Contacted regarding possible disposal option procedures for contaminated sediments.

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8. REFERENCES

Clean Water Act, 1977. P.L. 95-217m as amended, permitting dredge, fill, or flooding of wetlands.

Dawes, C. J., 1987. *The Dynamic Seagrasses of the Gulf of Mexico and Florida Coasts,* In Proceedings of the Symposium on Subtropical-Tropical Seagrasses of the Southeastern United States edited by Michael J. Durako, Ronald C. Phillips, and Roy R. Lewis III, Florida Marine Research Publications No. 42, St. Petersburg, FL.

Executive Order 11990, 42 FR 26961, 1977. Protection of Wetlands. Office of the President. United States of America. May 24, 1977. http://www.archives.gov/federal_register/executive_orders/1977_carter.html.

Federal Register, 2002. Magnuson-Stevens Act Provisions, Essential Fish Habitat. Vol. 67, No. 12 / Thursday, January 17, 2002 / Rules and Regulations.

————, 2003. Sec. 226.214 Critical Habitat for Gulf Sturgeon. U.S. Government Printing Office, Washington, DC. Pp 216 – 258.

Finegold, L. S., C. S. Harris, and H. E. von Glerke, 1994. Community Annoyance and Sleep Disturbance: Updated Criteria for Assessing the Impacts of General Transportation Noise on People. Noise Control Engineering Journal. Jan-Feb 1994.

Finneran, J, and C. Schlundt, 2004. Effects of Intense Pure Tones on the Behavior of Trained Odontocetes. Technical Report 1913. SPAWAR Systems Center, U.S. Navy. San Diego.

Florida Department of Environmental Protection (FDEP), 2000. Title 62 – Department of Environmental Protection, Florida Administrative Code 62-272.300 – Ambient Air Quality Standards. http://fac.dos.state.fl.us/faconline/chapter62.pdf.

————, 2001. Seagrass Management Plan: Big Lagoon and Santa Rosa Sound. Florida Department of Environmental Protection. December 2001.

————, 2002. Technical Report. Florida Stormwater, Erosion, and Sedimentation Control Inspector's Manual.

————, 2004. Approach to the Assessment of Sediment Quality in Florida Coastal Waters. Volumes 1 and 2. Office of Water Policy. Tallahassee.

Greene, C. R. J., and S. E. Moore, 1995. Man-made Noise. Pp 101-158 in Marine Mammals and Noise. W. J. Richardson, C. R. J. Greene, C. I. Malme, and D. H. Thomson (ed.), Academic Press, San Diego.

Gulf of Mexico Fishery Management Council (GMFMC), 1998. Generic amendment for addressing essential fish habitat requirements. Gulf of Mexico Fishery Management Council, Tampa, FL. NOAA Award No. NA87FC0003. 238 pp.+ appendices. May 8, 1999.

Livingston, R. J., 1986. *Choctawhatchee River Bay System. Final Report, Volumes 1-4,* Florida State University Center for Aquatic Research and Resource Management, Tallahassee, FL.

————, 1987. *Distribution of Toxic Agents and Biological Response of Infaunal Macroinvertebrates in the Choctawhatchee Bay System,* CARRMA, Florida State University, Tallahassee, FL.

Minerals Management Service (MMS), 1990. Gulf of Mexico Sales 131, 135, and 137: Final Environmental Impact Statement. Volume II: Sections IV.D through IX. U.S. Department of the Interior, Minerals Management Service Gulf of Mexico OCS Regional Office, New Orleans, Louisiana. OCS EIS/EA MMS 90-0042. pp. G-3 – G-16.

Occupational Safety and Health Administration (OSHA), 1983. Occupational Noise Exposure Standard. Code of Federal Regulations, Title 29, Part 1910, Section 1910.95 (29 CFR 1910.95).

Page, L. M., and B. M. Burr, 1991. *A Field Guide to Freshwater Fishes.* The Peterson Field Guide Series, Houghton Mifflin Comp., Boston, Massachusetts. pp. 27.

Paruka, F., 1996. U.S. Fish and Wildlife Service, Panama City, Florida. Personal communication with A. Helmstetter (SAIC). June 25, 1996.

Richardson, W. J., C. R. Greene, Jr., C. I. Malme, and D. H. Thomson, 1995. *Marine Mammals and Noise*. Academic Press, San Diego, CA.

Sargent, F. J., T. J. Leary, D. W. Crewz, and C. R. Kruer, 1995. Scarring of Florida's Seagrasses: Assessment and Management Options, FMRI Technical Report TR-1, FDEP, St. Petersburg, FL.

Texas Parks and Wildlife, 1999. Seagrass Conservation Plan for Texas, Resource Protection Division, Austin, TX. 79pp.

U.S. Air Force, 1996. *Environmental Baseline Study - Resource Appendices* (SAIC). AFDTC (Air Force Test Development Center), 46 TW/XPE, Range Environmental Planning Office, Eglin Air Force Base, FL. 32542-6808.

————, 2003. *Integrated Natural Resources Management Plan (INRMP).* Department of the Air Force, Eglin Air Force Base, Florida. May.

————, 2003a. *Environmental Baseline Study Resource Appendices*. Volume 1, Eglin Land Test and Training Ranges. 46th Test Wing, Range Environmental Planning Office (46TW/XPE), Eglin Air Force Base, Florida.

————, 2004. Personal communication between SAIC and 96 Environmental Engineering Section (CEG/CEVCE) regarding sediment quality in Lower Memorial Lake and Bear Creek Marina. December 1.

————, 2004a. Personal communication between SAIC and Eglin AFB Outdoor Recreation regarding decreases in revenue and socioeconomic impacts at Bear Creek Marina. October.

————, 2004b. Personal communication between SAIC and Eglin AFB 96 Environmental Management Division (CEG/CEV) regarding site selection for a possible dredge spoil site. 1 December.

————, 2005. Personal communication between SAIC and Eglin AFB 96 Cultural Resources Branch (CEG/CEVH) (Cultural Resources). 8 February.

————, 2005a. *Eglin Military Family Housing Public Draft Environmental Impact Statement*, Eglin Air Force Base and Hurlburt Field, FL. U.S. Air Force, Air Force Materiel Command, and Air Force Special Operations Command. March 2005.

U.S. Army Corps of Engineers (USACE), 1987. Wetlands Delineation Manual.

————, 2000. Oakland Harbor Navigation Improvement (-50 Foot) Project Final Environmental Impact Statement.

U.S. Environmental Protection Agency (USEPA), 1974. Information on Levels of Environmental Noise Requisite to Protect the Public Health and Welfare With an Adequate Margin of Safety. EPA Report 550/9-74-004.

————, 1993. Selecting Remediation Techniques for Contaminated Sediment. USEPA-823-B93-001. Washington, D.C.

————, 1998. 9 December 1998, 40 CFR Part 1500-1508, *Final Rule, Environmental Appeals Board*. EPA, Washington DC.

————, 2003. Natural Wetlands and Urban Stormwater: Potential Impacts and Management.

U.S. Environmental Protection Agency (USEPA)/U.S. Army Corps of Engineers (USACE), 2004. "Evaluating Environmental Effects of Dredged Material Management Alternatives- A Technical Framework," EPA842-B-92-008, U.S. Environmental Protection Agency and U.S. Army Corps of Engineers, Washington, D.C.

U.S. Fish and Wildlife Service (USFWS), 2001. Personal communication between SAIC and USFWS, Panama City Office regarding Gulf sturgeon in Choctawhatchee Bay. August.

————, 2003. Personal communication between SAIC and Frank Paruka, USFWS, concerning Gulf sturgeon densities in Choctawhatchee Bay and Santa Rosa Sound. Panama City, Florida.

U.S. Fish and Wildlife Service (USFWS) and Gulf States Marine Fisheries Commission, 1995. Gulf Sturgeon Recovery Plan. Atlanta, Georgia. 170 pp.

Waring, G. T., D. L. Palka, P. J. Clapham, S. Swartz, M. C. Rossman, T. V.N. Cole, L. J. Hansen, K. D. Bisack, K. D. Mullin, R. S. Wells, D. K. Odell, and N. B. Barros, 1999. U.S. Atlantic And Gulf of Mexico Marine Mammal Stock Assessments – 1999. NOAA Technical Memorandum NMFS-NE-153. U.S. Department of Commerce, National Oceanic, National Marine Fisheries Service And Atmospheric Administration, Northeast Fisheries Science Center. Woods Hole, MA. October.

Wolfe, S. H., J. A. Reidenauer, and D. B. Means, 1988. Ecological characterization of the Florida panhandle. *U.S. Fish and Wildlife Service Biological Report 88(12).* Minerals Management Service 88-0063. Washington, D.C. New Orleans.

Wooley, C. M., and E. J. Crateau, 1985. *Movement, Microhabitat, Exploitation, and Management of Gulf of Mexico Sturgeon, Apalachicola River, Florida.* North American Journal of Fisheries Management, Vol. 5, No. 4. pp. 590-605.

Wynn, K. and M. Schwartz, 1999. Guide to Marine Mammals & Sea Turtles of the U.S. Atlantic & Gulf of Mexico. Rhode Island Sea Grant, University of Rhode Island. Narragansett. 122p.

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APPENDIX A

AGENCY COMMENTS

INTRODUCTION

This document provides the State of Florida with the U.S. Air Force's Consistency Determination under Coastal Zone Management Act (CZMA) Section 307 and 15 Code of Federal Regulation (CFR) Part 930 sub-part C. The information in this Consistency Determination is provided pursuant to 15 CFR Section 930.39 and Section 307 of the CZMA, 16 United States Code (USC) Section 1456, as amended, and its implementing regulations at 15 CFR Part 930.

Proposed Federal Agency Action:

The proposed action is to dredge the Bear Creek Marina (which was inundated with sediments from Lower Memorial Lake after a levee failure), deposit the dredged material at an upland location, remove sunken boats, and repair the dock and pilings damaged by Hurricane Ivan. All dredge material will be contained within a berm. Containment will allow water pumped with the dredged material to percolate through the underlying soil. The area receiving the dredged material is sufficient space to receive the more than 15,000 cubic yards of dredged material. The Lakeland soils of the disposal area will allow for rapid filtration into to ground at a rate of 20 to 28 inches per hour. The regional setting of the Proposed Action is shown in Figure 1-1 of the EA and an aerial view of the marina and proposed dredge deposit site is provided in Figure 1-2 of the EA.

The recent failure of the levee at Lower Memorial Lake has damaged the existing marina. The introduced sediment has altered the bottom contours of the marina and now presents a hazard to navigation. The dredging and repairs are needed to make the marina fully functional again and allow recreational users access to and from the marina. The reduced utility of the marina has resulted in a loss of revenue to Eglin Outdoor Recreation and loss of service to tenants currently renting boat slips.

Federal Consistency Review

Statutes addressed as part of the Florida Coastal Zone Management Program consistency review and considered in the analysis of the proposed action are discussed in the following table.

Pursuant to 15 CFR 930.41, the Florida State Clearinghouse has 60 days from receipt of this document in which to concur with or object to this Consistency Determination, or to request an extension, in writing, under 15 CFR 930.41(b). Florida's concurrence will be presumed if Eglin AFB does not receive its response on the 60th day from receipt of this determination.

Florida Coastal Management Program Consistency Review

Statute	Consistency	Scope
Chapter 161 *Beach and Shore Preservation*	The proposed project would not adversely affect beach and shore management, specifically as it pertains to: -The Coastal Construction Permit Program. -The Coastal Construction Control Line (CCCL) Permit Program. -The Coastal Zone Protection Program.	Authorizes the Bureau of Beaches and Coastal Systems within FDEP to regulate construction on or seaward of the states' beaches.
Chapter 163, Part II *Growth Policy; County and Municipal Planning; Land Development Regulation*	The proposed action would not affect local government comprehensive plans.	Requires local governments to prepare, adopt, and implement comprehensive plans that encourage the most appropriate use of land and natural resources in a manner consistent with the public interest.
Chapter 186 *State and Regional Planning*	The proposed action would not have a negative effect on state plans for water use, land development or transportation.	Details state-level planning requirements. Requires the development of special statewide plans governing water use, land development, and transportation.
Chapter 252 *Emergency Management*	The proposed action would not increase the state's vulnerability to natural disasters. Emergency response and evacuation procedures would not be impacted by the proposed action.	Provides for planning and implementation of the state's response to, efforts to recover from, and the mitigation of natural and manmade disasters.
Chapter 253 *State Lands*	For dredging, a Joint Application for Works in the Water of Florida would need to be filed with the U.S. Army Corps of Engineers, the Florida Department of Environmental Protection, and the Northwest Florida Water Management District.	Addresses the state's administration of public lands and property of this state and provides direction regarding the acquisition, disposal, and management of all state lands.
Chapter 258 *State Parks and Preserves* Chapter 259 *Land Acquisition for Conservation or Recreation* Chapter 260 *Recreational Trails System* Chapter 375 *Multipurpose Outdoor Recreation; Land Acquisition, Management, and Conservation*	State parks, recreational areas and aquatic preserves would not be affected by the proposed action. The proposed action would not affect the acquisition of land to create a recreations trails system. Completion of proposed action would be in the public interest as it will create access to the marina for outdoor recreation.	Addresses administration and management of state parks and preserves (Chapter 258). Authorizes acquisition of environmentally endangered lands and outdoor recreation lands (Chapter 259). Authorizes acquisition of land to create a recreational trails system and to facilitate management of the system (Chapter 260). Develops comprehensive multipurpose outdoor recreation plan to document recreational supply and demand, describe current recreational opportunities, estimate need for additional recreational opportunities, and propose means to

Florida Coastal Management Program Consistency Review Cont'd

		meet the identified needs (Chapter 375).
Chapter 267 *Historical Resources*	There are no known cultural resources located in the area of the proposed action. Coordination with 96 CEG/CEVH (Eglin Air Force Base Cultural Resources branch) during the planning process enabled selection of a pipeline route that avoids contact with known archaeological and historical resources sites in the vicinity of the project area. If during dredging operations new cultural resources were discovered, operations would cease and 96 CEG/CEVH would be contacted.	Addresses management and preservation of the state's archaeological and historical resources.
Chapter 288 *Commercial Development and Capital Improvements*	The proposed action is not anticipated to have a negative effect on future business opportunities on state lands, or the promotion of tourism in the region. Dredging and repairing the marina would have positive socioeconomic impacts from the increase in marina revenues. Completion of the proposed action would create boat slip rental availability and restore the potential net revenue of the marina. Opportunities for recreation on state lands would not be affected.	Provides the framework for promoting and developing the general business, trade, and tourism components of the state economy.
Chapter 334 *Transportation Administration* Chapter 339 *Transportation Finance and Planning*	The proposed project would not have an impact on transportation. The proposed project would have no effect on the finance and planning needs of the state's transportation system.	Addresses the state's policy concerning transportation administration (Chapter 334). Addresses the finance and planning needs of the state's transportation system (Chapter 339).
Chapter 370 *Saltwater Fisheries*	Although the proposed project would occur in a marina within Choctawhatchee Bay, no negative impacts to saltwater fisheries are anticipated.	Addresses management and protection of the state's saltwater fisheries.
Chapter 372 *Wildlife*	The proposed action would occur in an area already considered developed and disturbed by human activity, therefore no modification to Gulf sturgeon critical habitat would occur as a result. Impacts to seagrass outside of the marina are not anticipated as suspended sediments and increases in turbidity would be controlled through dredging best management practices (such as sediment curtains) discussed in Chapter 4, Section 4.2 of the EA. It is very unlikely that federally listed species will be affected by the dredge activities as the dimensions of the barge exceed potentially harassing noise emitted from the dredge. No consultation under the ESA will be completed as no impacts are anticipated to federally listed species or their habitats.	Addresses the management of the wildlife resources of the state.

Florida Coastal Management Program Consistency Review Cont'd

Chapter 373 *Water Resources*	Nutrients may be present in dredged sediments but are not expected to adversely impact the disposal site. Bear Creek Marina has no fuel facilities or fuel storage areas; therefore, polycyclic aromatic hydrocarbons would not be released to the water column as a result of dredging. The marina currently uses CCA wood preservatives and previously used creosote; while these compounds may be released during dredging or repairs (temporarily affecting water quality), these effects would not be significant given the volume of water at the marina. If contaminants are discovered in the excavated sediment, dredge operations will cease and 96 CEG/CEVCE staff (Eglin AFB Environmental Engineering Section) will be contacted immediately. Appropriate measures will then be taken to properly dispose of the sediments. The proposed action would have no adverse impacts to wetland resources. See water analysis in Chapter 4, Section 4.3 of the EA.	Addresses the state's policy concerning water resources.
Chapter 376 *Pollutant Discharge Prevention and Removal*	The proposed action does not involve the transfer, storage, or transportation of pollutants.	Regulates transfer, storage, and transportation of pollutants, and cleanup of pollutant discharges.
Chapter 377 *Energy Resources*	Energy resource production, including oil and gas, and the transportation of oil and gas, would not be affected by the proposed action.	Addresses regulation, planning, and development of energy resources of the state.
Chapter 380 *Land and Water Management*	Under the proposed action, development of state lands with regional (i.e., more than one county) impacts would not occur. Areas of Critical State Concern or areas with approved state resource management plans such as the Northwest Florida Coast would not be affected. Changes to coastal infrastructure such as bridge construction, capacity increases of existing coastal infrastructure, or use of state funds for infrastructure planning, designing or construction would not occur.	Establishes land and water management policies to guide and coordinate local decisions relating to growth and development.
Chapter 381 *Public Health, General Provisions*	The proposed action will have no effect on the state's policy concerning the public health system.	Establishes public policy concerning the state's public health system.
Chapter 388 *Mosquito Control*	The proposed action would not affect mosquito control efforts.	Addresses mosquito control effort in the state.
Chapter 403 *Environmental Control*	The proposed action would not affect ecological systems and water quality of state waters. Impacts to air quality from pump and barge emissions would be temporary and would have no adverse long-term effects. Air quality criteria would not be exceeded and the impacts would not be significant.	Establishes public policy concerning environmental control in the state.
Chapter 582 *Soil and Water*	Coordination with 96 CEG/CEVCE would be required to modify the dredge and fill permit.	Provides for the control and prevention of soil erosion.

Florida Coastal Management Program Consistency Review Cont'd

Conservation	Should volume and rate of input exceed the berm capacity such that overflow occurs, operations will cease until additional containment berms can be constructed. Introduction of toxins into the marine ecosystem would be controlled through best management practices, and is addressed in further detail in Chapter 4, Section 4.1 of the EA.	

State Clearinghouse Review Response and CZMA Concurrence

The Florida State Clearinghouse provided comments on the Draft EA and a determination that the project is consistent with the Florida Coastal Management Program. This correspondence is provided below as Attachment A-1.

Department of Environmental Protection

Jeb Bush
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Colleen M. Castille
Secretary

May 27, 2005

Ms. Elizabeth B. Vanta, Acting Chief
Environmental Stewardship Branch
Department of the Air Force
501 DeLeon Street, Suite 101
Eglin AFB, FL 32542-5133

RE: Department of the Air Force – Draft Final Environmental Assessment – Repair and Dredging of Bear Creek Marina, Eglin Air Force Base – Okaloosa County, Florida.
SAI # FL200503280643C

Dear Ms. Vanta:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the referenced Draft Final Environmental Assessment (DEA).

As noted in the DEA, a wetland resource permit from the Florida Department of Environmental Protection (DEP) will be required prior to commencement of the proposed project, pursuant to Part IV of Chapter 373, *Florida Statutes* (*F.S.*), and Chapter 62-312, *Florida Administrative Code* (*F.A.C.*). The applicant is advised to provide analyses of water quality and sediment quality within the area to be dredged to ensure that the project will not cause or contribute to violations of state water quality standards. [Chapter 62-302, *F.A.C.*] In addition, plan view and cross-sectional drawings of the marina repair and dredging activities should be included with the permit application. A sovereignty submerged lands authorization may also be required if the state determines ownership of Bear Creek. [Chapter 253, *F.S.*, and Chapter 18-21, *F.A.C.*] Please note: if the U.S. Air Force can supply documentation that Bear Creek Marina was previously permitted prior to Hurricane Ivan, the repair and/or reconstruction of the structure might meet the criteria set forth in the Fourth Amended Consolidated Emergency Final Order. If a permit cannot be supplied, these activities can be incorporated into one permit. Please contact the DEP Northwest District Office in Pensacola at (850) 595-8300 for further information and assistance regarding the state's permit requirements.

Attachment A-1. Correspondence from Florida State Clearinghouse

Ms. Elizabeth B. Vanta
May 27, 2005
Page 2 of 2

Based on the information contained in the subject DEA and the comments provided by our reviewing agencies, the state has determined that, at this stage, the proposed project is consistent with the Florida Coastal Management Program (FCMP). The applicant must, however, address the issues identified by DEP staff prior to project implementation. The state's continued concurrence with the project will be based, in part, on the adequate resolution of issues identified during this and subsequent reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting stage.

Thank you for the opportunity to review the proposed project. If you have any questions regarding this letter, please contact Ms. Lauren P. Milligan at (850) 245-2170.

Yours sincerely,

Sally B. Mann

Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/lm

Enclosures

cc: Barbara Ruth, DEP, Northwest District

Attachment A-1. Correspondence from Florida State Clearinghouse Cont'd

Project Information	
Project:	FL200503280643C
Comments Due:	04/27/2005
Letter Due:	05/27/2005
Description:	DEPARTMENT OF THE AIR FORCE - DRAFT FINAL ENVIRONMENTAL ASSESSMENT - REPAIR AND DREDGING OF BEAR CREEK MARINA, EGLIN AIR FORCE BASE - OKALOOSA COUNTY, FLORIDA.
Keywords:	USAF - REPAIR AND DREDGING OF BEAR CREEK MARINA, EGLIN AFB - OKALOOSA CO.
CFDA #:	12.200

Agency Comments:

WEST FLORIDA RPC - WEST FLORIDA REGIONAL PLANNING COUNCIL

No Comments - Generally consistent with the West Florida Strategic Regional Policy Plan.

OKALOOSA - OKALOOSA COUNTY

COMMUNITY AFFAIRS - FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS

FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

No Comment

STATE - FLORIDA DEPARTMENT OF STATE

No comment/Consistent

ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

As noted in the DEA, a wetland resource permit from the DEP will be required prior to commencement of the proposed activities, pursuant to Part IV of Chapter 373, F.S., and Chapter 62-312, F.A.C. The applicant is advised to provide analyses of water quality and sediment quality within the area to be dredged to ensure that the project will not cause or contribute to violations of state water quality standards. [Chapter 62-302, F.A.C.] In addition, plan view and cross-sectional drawings of the marina repair and dredging activities should be included with the permit application. A sovereignty submerged lands authorization may also be required if the state determines ownership of Bear Creek. [Chapter 253, F.S., and Chapter 18-21, F.A.C.] Please note: if the U.S. Air Force can supply documentation that Bear Creek Marina was previously permitted prior to Hurricane Ivan, the repair and/or reconstruction of the structure might meet the criteria set forth in the Fourth Amended Consolidated Emergency Final Order. If a permit cannot be supplied, these activities can be incorporated into one permit. Please contact the DEP Northwest District Office in Pensacola at (850) 595-8300 for further information and assistance regarding the state's permit requirements.

NORTHWEST FLORIDA WMD - NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

No Comment

For more information please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD MS-47
TALLAHASSEE, FLORIDA 32399-3000
TELEPHONE: (850) 245-2161
FAX: (850) 245-2190

Visit the Clearinghouse Home Page to query other projects.

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Attachment A-1. Correspondence from Florida State Clearinghouse Cont'd

COUNTY: OKALOOSA
SCH-USAF-EG
2005-02,792

DATE: 3/28/2005
COMMENTS DUE DATE: 4/27/2005
CLEARANCE DUE DATE: 5/27/2005
SAI#: FL200503280643C

MESSAGE:

STATE AGENCIES	WATER MNGMNT. DISTRICTS	OPB POLICY UNIT	RPCS & LOC GOVS
COMMUNITY AFFAIRS	NORTHWEST FLORIDA WMD		
ENVIRONMENTAL PROTECTION			
FISH and WILDLIFE COMMISSION			
X STATE			

RECEIVED
APR 1 4 2005
OIP / OLGA

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.

X Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.

Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.

Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:
DEPARTMENT OF THE AIR FORCE - DRAFT FINAL ENVIRONMENTAL ASSESSMENT - REPAIR AND DREDGING OF BEAR CREEK MARINA, EGLIN AIR FORCE BASE - OKALOOSA COUNTY, FLORIDA.

To: Florida State Clearinghouse
AGENCY CONTACT AND COORDINATOR (SCH)
3900 COMMONWEALTH BOULEVARD MS-47
TALLAHASSEE, FLORIDA 32399-3000
TELEPHONE: (850) 245-2161
FAX: (850) 245-2190

EO. 12372/NEPA
☑ No Comment
☐ Comment Attached
☐ Not Applicable

Federal Consistency
☑ No Comment/Consistent
☐ Consistent/Comments Attached
☐ Inconsistent/Comments Attached
☐ Not Applicable

From:
Division/Bureau: Division of Historical Resources
Bureau of Historic Preservation

Reviewer: S. EDWARDS Laura A. Kammerer, Deputy SHPO

Date: 4-12-05 4-12-2005
NHPA / 43-K

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HISTORIC PRESERVATION
2005 MAR 30 P 2:36

Attachment A-1. Correspondence from Florida State Clearinghouse Cont'd

COUNTY: OKALOOSA

DATE: 3/28/2005
COMMENTS DUE DATE: 4/27/2005
CLEARANCE DUE DATE: 5/27/2005
SAI#: FL200503280643C

MESSAGE:

STATE AGENCIES	WATER MNGMNT. DISTRICTS	OPB POLICY UNIT	RPCS & LOC GOVS
COMMUNITY AFFAIRS	X NORTHWEST FLORIDA WMD		
ENVIRONMENTAL PROTECTION			
FISH and WILDLIFE COMMISSION			
STATE			

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

_ Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.

X Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.

Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.

_ Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

DEPARTMENT OF THE AIR FORCE - DRAFT FINAL ENVIRONMENTAL ASSESSMENT - REPAIR AND DREDGING OF BEAR CREEK MARINA, EGLIN AIR FORCE BASE - OKALOOSA COUNTY, FLORIDA.

To: Florida State Clearinghouse

AGENCY CONTACT AND COORDINATOR (SCH)
3900 COMMONWEALTH BOULEVARD MS-47
TALLAHASSEE, FLORIDA 32399-3000
TELEPHONE: (850) 245-2161
FAX: (850) 245-2190

EO. 12372/NEPA
☑ No Comment
☐ Comment Attached
☐ Not Applicable

Federal Consistency
☐ No Comment/Consistent
☐ Consistent/Comments Attached
☐ Inconsistent/Comments Attached
☐ Not Applicable

NO COMMENTS

From:
Division/Bureau: NWFWMD
Resource Management Div.
Reviewer: Duncan J. Cairns
Date 30 MARCH 2005

Date:

Attachment A-1. Correspondence from Florida State Clearinghouse Cont'd

APPENDIX B

AIR FORCE FORM 813 REVIEW

Request for Environmental Impact Analysis

Report Control Symbol **RCS: 04-565**

INSTRUCTIONS: Section I to be completed by Proponent; Section II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item number(s).

Section I = PROPONENT INFORMATION

1. TO *(Environmental Planning Function)*	2. FROM *(Proponent organization and functional address symbol*	2a. Telephone No
EMSP	GS-12 BERRONG DWIGHT 796 CES/CEOOM	882-6969

3. Title of Proposed Action

DREDGING AND REPAIR OF BEAR CREEK MARINA BEAR CREEK MARINA

4. Purpose and Need for Action *(Identify decision to be made and need date)*

The levee failure of Lower Memorial Lake damaged the head wall of the marina and deposited approxiamtely two feet of silt over the entire marina. Presently, the customers can not navigate in the marina. We need to dredge the marina and repair the head wall.

5. Description of Proposed Action and Alternatives *(DOPAA) (Provide sufficient details for evaluation of the total action.)*

We intend to have a contractor dredge or otherwise remove deposited silts in Bear Creek Marina. The dredge spoil will be pumped via a temporary pipeline to a bermed area in the old tree and yard waste landfill near Jack's Lake for dewatering and disposition.none No Action.

6. Unit Environmental Coordinator *(Name and Grade)*	6a. Signature	6n. DATE
MR. DWIGHT BERRONG	Electronically Submitted	6/24/2004

SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY. *(Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect, 0 = no effect, - = adverse effect, U = unknown effect)*

	+	0	-	U
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE *(Noise, accident potential, encroachment, etc.)*				X
8. AIR QUALITY *(Emissions, attainment status, state implementation plan, etc.)*				X
9. WATER RESOURCES *(Quality, quantity, source, etc.)*				X
10. SAFETY AND OCCUPATIONAL HEALTH *(Asbestos/radiation/chemical exposure, explosives safety quantity-distance, etc.)*				X
11. HAZARDOUS MATERIALS/WASTE *(Use/storage/generation, solid waste, etc.)*				X
12. BIOLOGICAL RESOURCES *(Wetlands/floodplains, flora, fauna, etc.)*				X
13. CULTURAL RESOURCES *(Native American burial sites, archaeological, historical, etc.)*				X
14. GEOLOGY AND SOILS *(Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)*				X
15. SOCIOECONOMIC *(Employment/population projections, school and local fiscal impacts etc.)*				X
16. OTHER *(Potential impacts not addressed above.)*				X

SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION

17 [ ] PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # _____ ; or

[X] PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED

18. REMARKS

An environmental assessment is required.

19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION	19a. SIGNATURE	19b. DATE
ELIZABETH B. VANTA, GS-13	Elizabeth B. Vanta	7/20/2004

AF FORM 813, AUG 93 *(EF-V1)*

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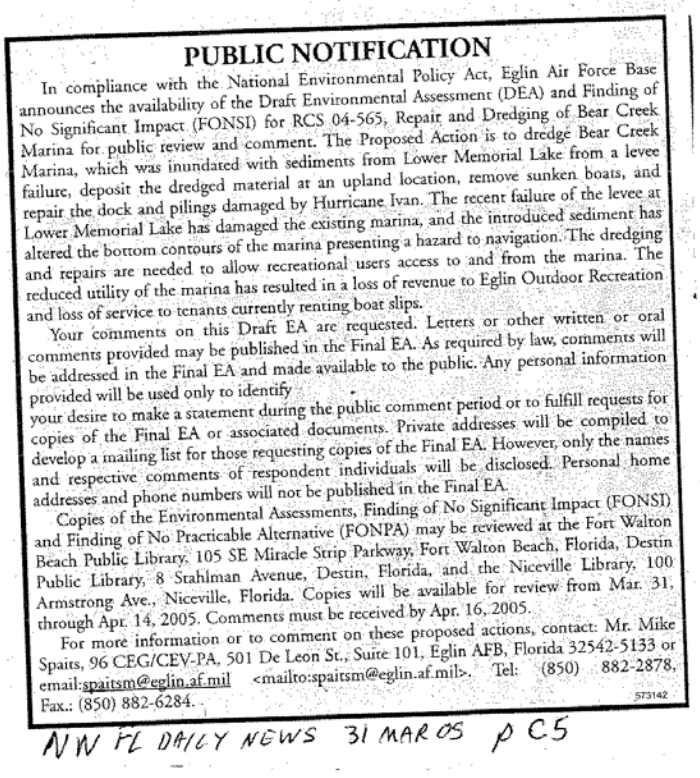
APPENDIX C

PUBLIC REVIEW PROCESS

PUBLIC REVIEW PROCESS

The public review process provides an opportunity for members of the public to comment on federal actions addressed in NEPA documents. A public notice was placed in the Northwest Florida Daily News announcing the availability of copies of the Draft Repair and Dredging of Bear Creek Marina, Eglin Air Force Base, at area libraries. A copy of the ad as it ran in the newspaper is shown below (Figure C-1).



PUBLIC NOTIFICATION

In compliance with the National Environmental Policy Act, Eglin Air Force Base announces the availability of the Draft Environmental Assessment (DEA) and Finding of No Significant Impact (FONSI) for RCS 04-565, Repair and Dredging of Bear Creek Marina for public review and comment. The Proposed Action is to dredge Bear Creek Marina, which was inundated with sediments from Lower Memorial Lake from a levee failure, deposit the dredged material at an upland location, remove sunken boats, and repair the dock and pilings damaged by Hurricane Ivan. The recent failure of the levee at Lower Memorial Lake has damaged the existing marina, and the introduced sediment has altered the bottom contours of the marina presenting a hazard to navigation. The dredging and repairs are needed to allow recreational users access to and from the marina. The reduced utility of the marina has resulted in a loss of revenue to Eglin Outdoor Recreation and loss of service to tenants currently renting boat slips.

Your comments on this Draft EA are requested. Letters or other written or oral comments provided may be published in the Final EA. As required by law, comments will be addressed in the Final EA and made available to the public. Any personal information provided will be used only to identify your desire to make a statement during the public comment period or to fulfill requests for copies of the Final EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA. However, only the names and respective comments of respondent individuals will be disclosed. Personal home addresses and phone numbers will not be published in the Final EA.

Copies of the Environmental Assessments, Finding of No Significant Impact (FONSI) and Finding of No Practicable Alternative (FONPA) may be reviewed at the Fort Walton Beach Public Library, 105 SE Miracle Strip Parkway, Fort Walton Beach, Florida, Destin Public Library, 8 Stahlman Avenue, Destin, Florida, and the Niceville Library, 100 Armstrong Ave., Niceville, Florida. Copies will be available for review from Mar. 31, through Apr. 14, 2005. Comments must be received by Apr. 16, 2005.

For more information or to comment on these proposed actions, contact: Mr. Mike Spaits, 96 CEG/CEV-PA, 501 De Leon St., Suite 101, Eglin AFB, Florida 32542-5133 or email:spaitsm@eglin.af.mil <mailto:spaitsm@eglin.af.mil>. Tel: (850) 882-2878, Fax.: (850) 882-6284.

573142

NW FL DAILY NEWS 31 MAR 05 p C5

Figure C-1. Public Notification of the Availability of the Bear Creek Repair and Dredging EA

No comments were received over the 30-day comment period as confirmed by the memorandum below (Figure C-2).

MEMO

8 June 2005

FROM: 96th CEG/CEV-PA

TO: EMSP

SUBJECT: **PUBLIC NOTICE "Bear Creek Marina EA," Eglin AFB, Florida**

A public notice was published in the *Northwest Florida Daily News* on Mar. 31st and May 12th, 2005 to disclose completion of the Draft EA and FONPA, selection of the preferred alternative, and request comments during the 30-day pre-decisional comment period.

The 30-day comment period ended on May 26th, with the comments required to this office not later than May 28th, 2005.

No comments were received during this period.

//SIGNED//
Mike Spaits
Public Information Specialist

Figure C-2. Memorandum from Eglin AFB Public Affairs Confirming No Public Comments

APPENDIX D

U.S. FISH AND WILDLIFE SERVICE COORDINATION

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 96TH AIR BASE WING (AFMC)
EGLIN AIR FORCE BASE FLORIDA

15 DEC 2005

Mr. Stephen M. Seiber
Chief, Natural Resources Section
501 De Leon Street, Suite 101
Eglin AFB FL 32542-5133

RECEIVED
DEC 20 2005

Ms. Gail Carmody
U.S. Fish and Wildlife Service
1601 Balboa Avenue
Panama City FL 32405

Dear Ms. Carmody

The following information is being submitted to fulfill requirements under Section 7 of the Endangered Species Act (ESA). Briefly, this report assesses potential impacts to the Gulf sturgeon and Gulf sturgeon critical habitat associated with dredging activities at Bear Creek marina, Eglin Air Force Base, Florida.

Description of Proposed Action

The proposed action is to dredge the Bear Creek marina, which was inundated with sediments from Lower Memorial Lake from a levee failure, and deposit the dredged material at an upland location. The proposed action also includes removing sunken boats and repairing the dock and pilings damaged by Hurricane Ivan. The regional setting of the proposed action is shown in Figure 1 and an aerial view of the marina and proposed dredge deposit site is provided in Figure 2.

Under the proposed action, approximately 3000 cubic yards of sediment would be dredged using a hydraulic or suction dredge and deposited via pipeline to an area near Jack's Lake (Figure 2). Based on a typical dredge rate of 150 cubic yards (24,000 gallons) per hour, dredging operations would take 100 hours to complete. For an 8-hour workday the time for project completion equates to less than two weeks. Approximately five pilings and less than 20 planks of decking need to be replaced. New pilings would be installed using a water jet, which displaces sediments using a compressed stream of water while allowing pilings to become embedded in the substrate. Dock repairs would be completed in less than one week. Sunken boats would be removed by crane or shore barge. Presently, two sunken sailboats located in their slips, are impeding access to and from other slips. Boat removal would be completed in less than one day.

Biological Information

The Gulf sturgeon migrates from salt water into large coastal rivers to spawn and spend the warm months. It lives predominately in the northeastern Gulf of Mexico,

where it ranges from the Mississippi Delta east to the Suwannee River in Florida. However, it can be found in the bays and estuaries throughout this range. Critical habitat for the Gulf sturgeon was designated in March 2003 (Federal Register, 2003). Critical habitat for the Gulf sturgeon is comprised of 14 geographic areas, or units. The units collectively encompass almost 2,800 river kilometers and over 6,000 square kilometers of estuarine and marine habitat. Of interest to this BA is Unit 12, Choctawhatchee Bay in Okaloosa and Walton Counties, FL. The Federal Register, 2003 states: "Unit 12 includes the main body of Choctawhatchee Bay, Hogtown Bayou, Jolly Bay, Bunker Cove, and Grassy Cove. All other bayous, creeks, and rivers are excluded at their mouth/entrances."

Choctawhatchee Bay provides important habitat for maintaining the health of subadult and adult Gulf sturgeon as evidenced by a large number of Gulf sturgeon over wintering in the system. The Choctawhatchee Bay offers a feeding area for both subadults and adults. Tagged subadults show a preference for shoreline habitats which are predominated by sandy substrates, low salinity and water depths less than 3 meters. Most adult Gulf sturgeon have been located in shallow water (2-4 meters) with predominantly (greater than 80 percent) sandy sediment. Ghost shrimp, a component of the sturgeon diet, are typically found in substrates ranging from sandy mud to organic silty sand, and their densities were greatest nearshore along the middle and eastern portions of the Choctawhatchee Bay, the area frequented by the Gulf sturgeon (Federal Register, 2003).

Determination of Impacts

Although the proposed action is not located within critical habitat and no data indicate Gulf sturgeons have ever been within the marina, it is possible that the species could be there. Choctawhatchee Bay contains important habitat such as sandy sediment for the Gulf sturgeon. Figure 3 shows areas of submergent vegetation in Choctawhatchee Bay near Bear Creek marina. Given the Gulf sturgeon's habitat preference for sandy mud and organic silty sand (instead of submergent vegetation which is near Bear Creek marina) and Gulf sturgeon prey densities are less in the western portion of Choctawhatchee Bay near Bear Creek marina, it is very unlikely that a Gulf sturgeon would be found near Bear Creek marina. Eglin Natural Resources believes the proposed action is **Not Likely to Adversely Affect** the Gulf sturgeon.

No impacts outside of the marina are anticipated and no modification to critical habitat would occur from the proposed action. There will be no obstructions. Suspended sediments and increases in turbidity arising from dredging activities would be controlled through dredging best management practices (BMPs) such as sediment curtains. Thus impacts to seagrass outside of the marina are not anticipated. Equipment would not be staged or transported through emergent vegetation along the shorelines of the marina. Eglin Natural Resources believes the proposed action is **Not Likely to Adversely Modify** Critical habitat for the Gulf sturgeon.

The U.S. Fish and Wildlife Service will be notified immediately if any of the actions considered in this proposed action are modified or if additional information on listed species becomes available, as a re-initiation of consultation may be required. If impact to listed species occurs beyond what has been considered in this assessment, all operations will cease and the Service will be notified. Any modifications or conditions resulting from consultation with the Service will be implemented prior to commencement of activities. Eglin Natural Resources believes this fulfills all requirements of the Endangered Species Act and no further action is necessary.

If you have any questions regarding this letter or any of the proposed activities, please do not hesitate to contact either Mr. Bob Miller (850) 883-1153or myself at (850) 882-8391.

Sincerely

STEPHEN M. SEIBER, GS-13

4 Attachments:
1. Figure 1
2. Figure 2
3. Figure 3
4. Reference Used

INFORMAL CONSULTATION REGARDING

IMPACTS TO FEDERALLY LISTED SPECIES
RESULTING FROM DREDGING BEAR CREEK MARINA EGLIN AFB FL

Prepared by: J Mike Nunley 12/15/05
Mike Nunley Date
Marine Scientist
SAIC
Eglin Natural Resources

Reviewed by:

Bob Miller 12/15/05
Bob Miller Date
Endangered Species Biologist
Eglin Natural Resources

Bruce Hagedorn 12/15/05
Bruce Hagedorn Date
Endangered Species Biologist
Chief, Wildlife Section
Eglin Natural Resources

[signature] 19 DEC 05
Stephen M. Seiber Date
Chief, Eglin Natural Resources

USFWS CONCURRENCE:

[signature] 1/4/06
Project Leader Date
U.S. Fish and Wildlife Service
Panama City, FL

FWS Log No. 4-P-06-096

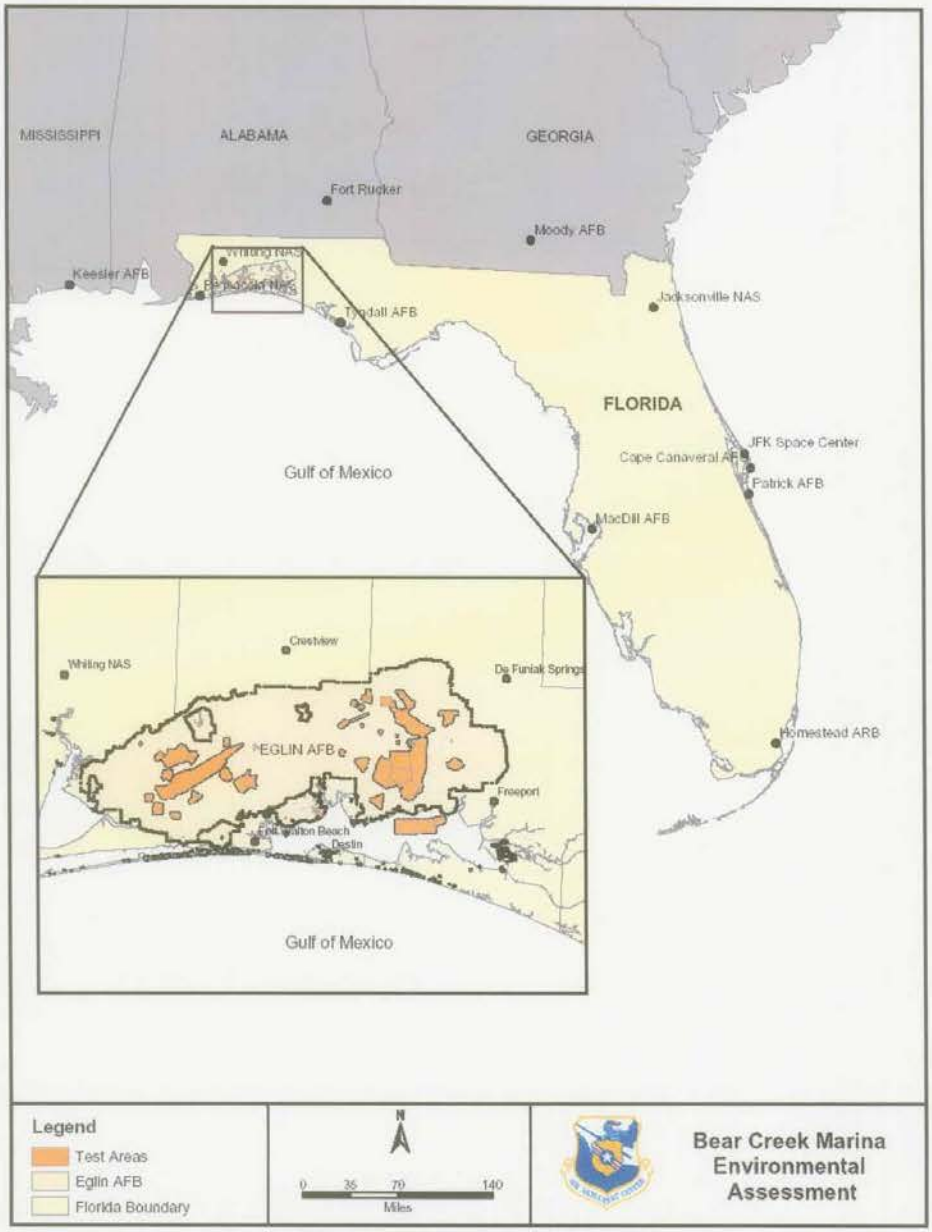


Figure 1. Proposed Action Location

Figure 2. Aerial Photograph of Proposed Action Location

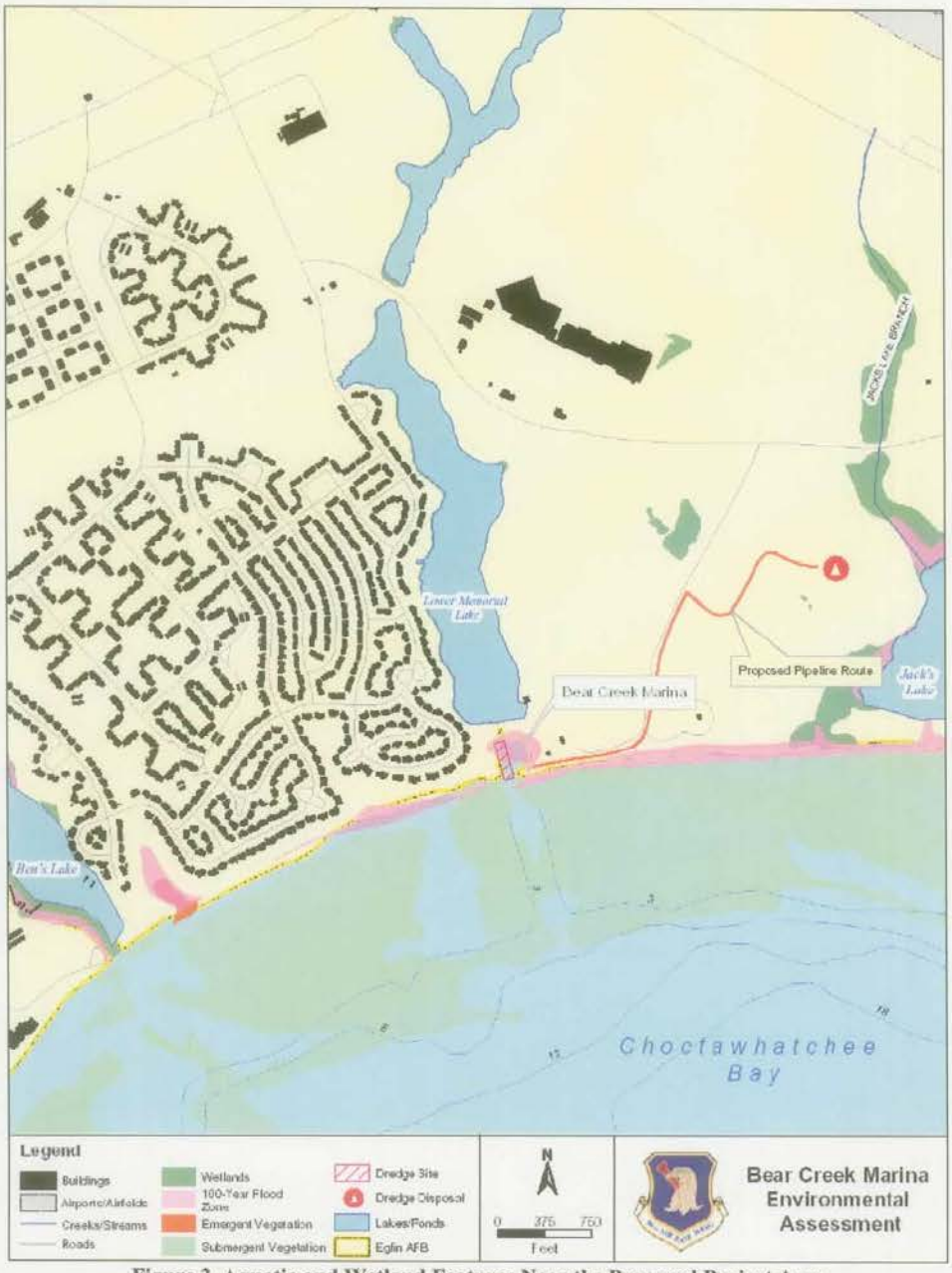


Figure 3. Aquatic and Wetland Features Near the Proposed Project Area

REFERENCE

Federal Register, 2003. 68 Federal Register 13369-13418; Department of the Interior, Fish and Wildlife Service, 50 CFR (Code of Federal Regulations) Part 17; Department of Commerce, National Oceanic and Atmospheric Administration, 50 CFR Part 226. *Endangered and Threatened Wildlife and Plants, Designation of Critical Habitat for the Gulf Sturgeon; Final Rule.* March 19, 2003. http://frwebgate6.access.gpo.gov/cgi-bin/waisgate.cgi?WAISdocID=57442248883+0+0+0&WAISaction=retrieve