

Headquarters U.S. Air Force

Integrity - Service - Excellence

Air Force Support to Gulf of Mexico Goals



**Gulf of Mexico Alliance Federal
Workgroup Meeting
NAS Pensacola, FL
February 2009**

**Vic Verma, P.E., M.B.A.
Air Force Regional Environmental Office
Eastern Region**

U.S. AIR FORCE



Air Force Installations in GOM

U.S. AIR FORCE

- **Eglin AFB**
- **Hurlburt AFB**
- **MacDill AFB**
- **Keesler AFB**
- **Tyndall AFB**



Air Force Projects

U.S. AIR FORCE

	FY00	FY01	FY02
	\$, In Thousands		
Improve Sewage Collection and Treatment	1,778	1,241	205
Restore and Protect Habitat	1,627	1,625	1,6373
Improve Scientific Support to Gulf States (Monitoring, Modeling and Coastal Research)	63	80	535
Total – Air Force	3,468	2,946	2,377

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Air Force Projects Eglin AFB

	FY00	FY01	FY02
	\$, In Thousands		
Improve Sewage Collection and Treatment		276	
Restore and Protect Habitat	1,534	1,532	1532
Improve Scientific Support to Gulf States (Monitoring, Modeling and Coastal Research)	38	30	35
Total – Eglin AFB	3,144	3,676	3,134

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Air Force Projects ***FY 00-02***

Eglin AFB

- **Correct Stormwater Deficiencies at Wash Rack**
- **Eliminate Stormwater Cross-connections**
- **Restore/Protect wetlands and wetland riparian zones by stopping point and non-point source erosion that destroys habitat and degrades wetlands**
 - **RE: FTFAEM0006 and OS-00584**
 - **Choctawhatchee River watershed, Rocky, Turkey Tom Creek Watershed Drainage**
- **Restore Protect habitat for the federally listed Okaloosa Darter**
 - **RE: FTFAEM004**
 - **Rocky Creek System, Choctawhatchee Bay Drainage**



U.S. AIR FORCE

Air Force Projects

FY 00-02

Eglin AFB

■ **Restore/Protect T&E Species including green and loggerhead sea turtles, piping and snowy plover, Santa Rosa beach mice, peregrine falcon, bald eagle and the perforate lichen**

● **RE: FTFAEM0109**

● **Santa Rosa and Okaloosa Islands and Cape san Blas in Northwest Florida**

■ **Monitor T&E Species including green green and loggerhead sea turtles, piping and snowy plover, Santa Rosa beach mice, peregrine falcon, bald eagle and the perforate lichen**

● **RE: O&S 005083**

● **Santa Rosa and Okaloosa Islands and Cape san Blas in Northwest Florida**



U.S. AIR FORCE

Air Force Projects Hurlburt AFB

	FY00	FY01	FY02
	\$, In Thousands		
Improve Sewage Collection and Treatment		200	50
Restore and Protect Habitat			
Improve Scientific Support to Gulf States (Monitoring, Modeling and Coastal Research)			
Total – Hurlburt AFB		200	50



U.S. AIR FORCE

Air Force Projects

FY 00-02

Hurlburt AFB

- **Install Reuse Water Lines**



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Air Force Projects MacDill AFB

	FY00	FY01	FY02
	\$, In Thousands		
Improve Sewage Collection and Treatment	1,778	765	155
Restore and Protect Habitat			
Improve Scientific Support to Gulf States (Monitoring, Modeling and Coastal Research)	25	50	500
Total – MacDill AFB	1,803	815	655



U.S. AIR FORCE

Air Force Projects

FY 00-02

MacDill AFB

- Tertiary Filter Demonstration 1-year Operation Evaluation
- WWTP Construct Two New Clarifiers
- Lift Station Improvements – Design
- Lift Station Improvement – Construction
- WWTP Automation Design
- WWTP Automation – Construction
- WWTP Environmental Equipment Enclosure
- Watershed Analysis Report
- Regional Storm Water Pond – Design
- Regional Storm Water Pond - Construction



U.S. AIR FORCE

Air Force Projects Keesler AFB

	FY00	FY01	FY02
	\$, In Thousands		
Improve Sewage Collection and Treatment			
Restore and Protect Habitat			12
Improve Scientific Support to Gulf States (Monitoring, Modeling and Coastal Research)			
Total – Keesler AFB			12



U.S. AIR FORCE

Air Force Projects

FY 00-02

Keesler AFB

■ **Remove Chinese Tallow Trees**

● **RE: OS-005103**



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Air Force Projects Tyndall AFB

	FY00	FY01	FY02
	\$, In Thousands		
Improve Sewage Collection and Treatment			
Restore and Protect Habitat	93	93	93
Improve Scientific Support to Gulf States (Monitoring, Modeling and Coastal Research)			
Total – Tyndall AFB	93	93	93



U.S. AIR FORCE

Air Force Projects

FY 00-02

Tyndall AFB

- **Endangered Species Monitoring (TYN000031)**
- **Wildlife Habitat Improvement (TYN000034)**
- **Endangered Species Protection (TYN000035)**
- **Endangered Species Protection (TYN000036)**
- **Endangered Species Protection (TYN000037)**



Air Force Projects

U.S. AIR FORCE

	FY08	FY09	FY10
	\$, In Thousands		
Water Quality for Healthy Beaches and Shellfish Beds	32	32	32
Wetland and Coastal Conservation and Restoration	35,120	220	39,120
Environmental Education	20		
Identification and Characterization of Gulf Habitats	328	50	334
Reducing Nutrients Input to Coastal Ecosystems			
Coastal Community Resiliency			
Total – Air Force	\$75,288	35,500	39,486

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Air Force Projects Eglin AFB

	FY08	FY09	FY10
	\$, In Thousands		
Water Quality for Healthy Beaches and Shellfish Beds			
Wetland and Coastal Conservation and Restoration	35,000		38,000
Environmental Education			
Identification and Characterization of Gulf Habitats	109	50	
Reducing Nutrients Input to Coastal Ecosystems			
Coastal Community Resiliency			
Total – Eglin AFB	35,109	50	38,000

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Air Force Projects

Eglin AFB

■ Protected Species Habitat Modeling in the Eglin Gulf Test and Training Range (EGTTR)

- **Project focused on developing the ability to predict marine mammal occurring in the EGTTR based on oceanographic features that are remotely observable.**
- **Cost: \$109,320**
- **Completed in FY 08**
- **Funded by the DoD Legacy Resource Management Program**

■ Tracking Gulf Sturgeon movements in the Near Shore Environment of the EGTTR

- **Project will use sonic tags (transmitters) placed in Gulf Sturgeon and stationary receivers placed strategically in the GOM to track coastal movements in habitat use of this federally listed threatened species.**
- **Cost - \$50,040**
- **FY09 project**
- **Funded by the DoD Legacy Resource Management Program**

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Air Force Projects

Eglin AFB

■ **Construct Seawalls, Santa Rosa Island Range Complex**

- **Includes 5 miles of shoreline restoration**
- **Cost \$35M**
- **FY08**
- **MILCON Funded**

■ **Santa Rosa Island Land Mass Restoration**

- **Includes Dune Restoration**
- **Cost - \$38M**
- **FY10**
- **MILCON Funded**



U.S. AIR FORCE

Air Force Projects Hurlburt AFB

	FY08	FY09	FY10
	\$, In Thousands		
Water Quality for Healthy Beaches and Shellfish Beds	32	32	32
Wetland and Coastal Conservation and Restoration			
Environmental Education	20		
Identification and Characterization of Gulf Habitats	52		
Reducing Nutrients Input to Coastal Ecosystems			
Coastal Community Resiliency			
Total – Hurlburt AFB	104	32	32

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Air Force Projects

Hurlburt AFB

- **Wetlands and Coastal Conservation and Restoration**
 - **Herbicide treatment of invasive exotics such as Chinese tallow and cogon grass;**
 - **Prescribed burning;**
 - **Firebreak maintenance;**
 - **Stream restoration; and**
 - **fire plow line rehabilitation**
- **Environmental Education**
 - **Onsite stormwater pollution prevention training for shop personnel**
- **Identification and Characterization of Gulf Habitats**
 - **Base-wide comprehensive rare species and habitat inventory**

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Air Force Projects MacDill AFB

	FY08	FY09	FY10
	\$, In Thousands		
Water Quality for Healthy Beaches and Shellfish Beds			
Wetland and Coastal Conservation and Restoration	120	220	1,120
Environmental Education			
Identification and Characterization of Gulf Habitats			
Reducing Nutrients Input to Coastal Ecosystems			
Coastal Community Resiliency			
Total – MacDill AFB	120	220	1,120

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U.S. AIR FORCE

Air Force Projects

MacDill AFB

- **The Oyster Reef Shoreline Stabilization and Enhancement project**
 - **Construct oyster reef using artificial structures parallel to the shoreline. Each artificial structure, known as an 'oyster dome' can hold up to 300 oysters. Each oyster filters roughly 9 gallons of water a minute. Between FY08 and FY10 we will be installing 3980 oyster domes along the shoreline at a cost of \$360,026 - spread evenly over all three years (i.e. ~\$120K per year).**
- **Restore a mangrove estuary adjacent to the bay as well as retrofit an existing stormwater treatment system (freshwater lake) to convert the freshwater system into an estuarine system.**
 - **In FY10 MacDill AFB will be implementing this partnering project with the Southwest Florida Water Management District and NOAA.**
 - **This project will have a direct positive impact on Hillsborough and Tampa Bay by improving and expanding fisheries habitat, and improving water quality. The project is planned to be constructed in FY10, and will cost ~\$1.0M.**



U.S. AIR FORCE

Air Force Projects

MacDill AFB

■ Implement a mangrove restoration project is FY09, to restore 2.65 acres of mangrove habitat.

● This project will restore natural hydrology along a small section of mosquito ditch in the southern portion of the base. The project should improve mangrove habitat value by removing the mosquito ditch mounds, as well as the exotic invasive species that reside there. The project will cost ~\$100K.



U.S. AIR FORCE

Air Force Projects Keesler AFB

	FY08	FY09	FY10
	\$, In Thousands		
Water Quality for Healthy Beaches and Shellfish Beds			
Wetland and Coastal Conservation and Restoration			
Environmental Education			
Identification and Characterization of Gulf Habitats			
Reducing Nutrients Input to Coastal Ecosystems			
Coastal Community Resiliency			
Total – Keesler AFB			



U.S. AIR FORCE

Air Force Projects Tyndall AFB

	FY08	FY09	FY10
	\$, In Thousands		
Water Quality for Healthy Beaches and Shellfish Beds			
Wetland and Coastal Conservation and Restoration			
Environmental Education			
Identification and Characterization of Gulf Habitats	167		334
Reducing Nutrients Input to Coastal Ecosystems			
Coastal Community Resiliency			
Total – Tyndall AFB	167		334

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Air Force Projects

Tyndall AFB

- **XLWUOS2008 MGT, Species and Predators**
- **XLWUOS2014 MGT, INVASIVE SPECIES**
- **XLWUOS2006 MGT, HABITAT, NATIVE ECOSYSTEMS**
- **XLWUOS2005 MGT, HABITAT, DUNE RESTORATION PROGRAM**
- **XLWUOS2007 MGT, SPECIES, PREDATOR**
- **XLWUOS2008 MGT, SPECIES, BEACH MICE**
- **XLWUOS2015 CONTRACTOR SUPPORT, CN, LONG LEAF PINE RESTORATION**