

UNITED STATES DEPARTMENT OF DEFENSE READINESS AND ENVIRONMENTAL PROTECTION INTEGRATION PROGRAM

2022 NATIONAL COASTAL RESILIENCE FUND DEPARTMENT OF DEFENSE RECIPIENTS

The REPI Program's Investment in Coastal Resilience

The Department of Defense's (DOD) Readiness and **Environmental Protection Integration (REPI) Program** protects military priorities by addressing and mitigating activities outside installations and ranges that may compromise critical missions. Incompatible actions, such as development pressures, endangered species restrictions, and climate change impacts, may hinder the military's ability to conduct vital testing and training operations. To address these actions, the REPI Program has the authority under 10 U.S. Code § 2684a to promote compatible land uses, conserve critical landscapes for endangered species, and increase military installation resilience to climate change by developing off-base natural infrastructure solutions. These natural infrastructure solutions may include, but are not limited to:



Constructing living shorelines to reduce coastal erosion.



Executing prescribed burns to reduce wildfire risk.



Enhancing groundwater recharge to reduce drought impacts.

In 2020, the REPI Program established a partnership with the National Fish and Wildlife Foundation (NFWF) to conserve wildlife habitats, protect at-risk species, and accelerate the development of natural infrastructure solutions outside DOD installations and ranges. Through this partnership, the REPI Program contributes funding annually to NFWF's National Coastal Resilience Fund (NCRF) to establish projects that **preserve natural environments** in support of military mission capabilities. Projects that receive REPI funding through the NCRF fund aim to **restore, increase, and strengthen coastal habitats** to benefit communities, species, and the military alike.



2022 NCRF Projects Enhance Military Installation Resilience to Climate Change

On December 6, NFWF awarded over \$136 million to 88 projects across 29 states and territories. Of this \$136 million, the REPI Program contributed **\$15 million in REPI Challenge funding** to **seven NCRF projects** that use natural infrastructure solutions to protect key coastal installations. The seven projects neighboring DOD installations received an additional **\$7 million in matching funds from the National Oceanic and Atmospheric Administration (NOAA)** to be coupled with **\$7 million in partner contributions.** By leveraging funding from multiple federal agencies, DOD installations and their partners can advance project planning, development, and implementation at a rate that would be unachievable without shared support.

Read more on existing REPI projects at www.repi.mil/Buffer-Projects/Project-List/



- 1. Marine Corps Air Station New River and Marine Corps Base Camp Lejeune North Carolina | REPI Funds: \$511K
- 2. Marine Corps Recruit Depot Parris Island South Carolina | REPI Funds: \$1.0M
- 3. Naval Submarine Base Kings Bay Georgia | REPI Funds: \$584K
- 4. Naval Air Station Pensacola Florida | REPI Funds: \$6.6M
- 5. Keesler Air Force Base Mississippi | REPI Funds: \$5.2M
- 6. Joint Base Pearl Harbor-Hickam Hawai'i | REPI Funds: \$500K
- 7. Naval Air Station Whidbey Island Washington | REPI Funds: \$600K



Marine Corps Air Station New River and Marine Corps Base Camp Lejeune, North Carolina

Designing Living Shorelines to Protect Critical Infrastructure and Estuarine Habitat

- Located along the North Carolina coast, Marine Corps Air Station (MCAS) New River and Marine Corps Base (MCB) Camp Lejeune provide critical aviation support for the Marines and maintain three state-of-the-art training facilities to ensure combat-ready units for expeditionary deployment. The coastal training areas and facilities are vulnerable to extreme weather events and changes in coastal environments, including storm surge, sea level rise, and coastal flooding.
- To protect critical installation assets and reduce risk from coastal hazards, the North Carolina Coastal Federation will construct 2,650 linear feet of living shorelines along the New River in areas that have been experiencing high levels of erosion. These living shorelines will safeguard the installation's transmission antennas, which are critical to air traffic control, and preserve Administrative Land Zones for the 2nd Marine Logistics Group Area Command.
- This project supports goals of the Eastern North Carolina Sentinel Landscape, benefits threatened species, including manatees, sea turtles, and Atlantic sturgeon, and increases the resilience of MCAS New River and MCB Camp Lejeune.



Marine Corps Staff Sgt. Matthew Jensen conducts routine preventative maintenance on an CH-53E Super Stallion over Marine Corps Air Station New River, N.C. (U.S. Marine Corps photo by Marine Corps Cpl. Makayla Elizalde)



REPI Funds: \$511K Partner Contributions: \$510K

Total: \$1.02M

NOMINATING PARTNER North Carolina Coastal Federation, Inc.



Marine Corps Recruit Depot Parris Island, South Carolina

Increasing Resilience of Marine Corps Recruit Depot Parris Island Through Living Shorelines

- Marine Corps Recruit Depot (MCRD) Parris Island serves as the premier recruit training site for the Marine Corps, training over 20,000 recruits annually. The coastal installation is 21 feet above sea level at its highest point, making the land vulnerable to any amount of sea level rise.
- This NCRF project will construct over 4,500 Manufactured Wire Reefs, or modified crab traps, to cover 1.9 acres of habitat and restore 1.2 acres of coastal shoreline for a total footprint of 3.1 acres. Through these new habitats, the installation will reduce erosion, stabilize shorelines, and reduce storm surge impacts near critical transportation routes, including U.S. Highway 12, the only causeway providing access to the base.
- Personnel from MCRD Parris Island will help construct and deploy the oyster reef substrate, assist with local community engagement efforts, and educate residents on the project benefits.



Marine Corps recruits provide security during the Crucible, the final challenge of recruit training, at Marine Corps Recruit Depot Parris Island. (U.S. Marine Corps photo by Marine Corps Staff Sgt. Kyle Talbot)



NOMINATING PARTNER South Carolina Coastal Conservation League, Inc.





Naval Submarine Base Kings Bay, Georgia

Building Resilience Capacity to Protect Coastal Communities at Naval Submarine Base Kings Bay

- Home to six Ohio-class Trident submarines and two guided missile submarines, Naval Submarine Base Kings Bay is integral to the nation's strategic deterrence program. This installation's coastal mission is threatened by sea level rise, tidal flooding, and extreme weather events. During the past 100 years, sea level has risen by nine inches in the area surrounding Kings Bay and is projected to rise between 3.7 and 6.1 feet by the end of the century.
- Through REPI funding, this site assessment and preliminary design project will build on existing resilience plans across Camden County to assess hydrodynamic conditions and collect data necessary for determining suitable locations for natural infrastructure solutions outside the installation, including setting aside land for salt marsh retreat, living shorelines, and beneficial use of dredged materials.
- By researching ideal locations for coastal restoration projects, partners are ensuring these solutions will provide the greatest resilience benefits to the installation, the Georgia Sentinel Landscape, and surrounding communities.



The ballistic missile submarine USS Tennessee gold crew returns to its home port at Naval Submarine Base Kings Bay, Ga., Jan. 11, 2019, following a strategic deterrence patrol. (U.S. Navy photo by Navy Petty Officer 2nd Class Bryan Tomforde)



NOMINATING PARTNER Georgia Tech Research Corp.

Georgia Research Tech Corporation

Naval Air Station Pensacola, Florida

Implementing a Living Shoreline along Magazine Point at Naval Air Station Pensacola

- Naval Air Station Pensacola serves as the premier initial training site for all U.S. Navy, Marine Corps, Coast Guard Aviators, Naval Flight Officers, and U.S. Air Force Combat System Officers. The coastal location allows pilots access to unencumbered airspace and deepwater docking facilities necessary for U.S. Navy missions. Coastal sites along the installation are continually threatened by hurricanes, such as Hurricane Sally in 2020, which significantly eroded 3,000 linear feet of shoreline next to the installation.
- Partners in Escambia County will combat these threats by constructing 33 acres of emergent marsh, establishing 5 acres of oyster reef breakwaters, and providing natural recruitment of up to 25 acres of submerged aquatic vegetation. These habitat improvements are expected to protect 6,200 linear feet of exposed shoreline and benefit coastal bird species.
- Implementing natural infrastructure solutions along the installation's Magazine Point will protect the U.S. Navy's 500-foot vessel exclusion zone and training facilities for 5,000 enlisted Navy and Marine Corps trainees.



The Blue Angels, the Navy's flight demonstration squadron, conducted the final flight on the F/A-18 A/B/C/D "Legacy" Hornets over Pensacola, Fla. (U.S. Navy photo by Navy Petty Officer 2nd Class Cody Hendrix)



NOMINATING PARTNER **Escambia County**





Keesler Air Force Base, Mississippi

Living Shoreline Restoration in Back Bay to Enhance Community and Military Resilience

- Ideally situated along the Gulf Coast, Keesler Air Force Base trains over 30,000 officers, airmen, and civilian employees of the Air Force. The installation operates one of the largest Air Force medical facilities and hosts the only Air Force Reserve Command Wing in Mississippi. Marshes directly neighboring the installation are being lost at a rate of nearly 1 foot per year due to accelerating rates of sea level rise and increased frequency of storms.
- To curb erosion impacts next to the base's shoreline, Mississippi State University will construct a 2.5-mile living shoreline using marsh sill and fill, native species planting, and segmented breakwaters to enhance the landscape's resilience to climate change. Once construction is complete, partners will also monitor how the habitat impacts bird and animal safety hazards for the installation.
- Serving as the second largest living shoreline project along the Mississippi coast, this project will combine living shoreline techniques to maximize benefits for the military, coastal wildlife, and the City of Biloxi.



Airmen complete an airdrop at Keesler Air Force Base, Miss. (U.S. Air Force photo by Air Force Master Sgt. Jessica Kendziorek)



NOMINATING PARTNER Mississippi State University MISSISSIPPI STATE



Joint Base Pearl Harbor-Hickam, Hawai'i

Shoreline and Off-Shore Island Restoration West Loch, Pearl Harbor

- Situated in the Indo-Pacific Region, Joint Base Pearl Harbor-Hickam (JBPHH) is critical to the Navy's berthing and shore side support to submarines, as well as essential ship maintenance and training. The U.S. Naval Ammunition Depot in West Loch, Pearl Harbor, faces impeded sight lines from invasive red mangroves and increased risk of flooding from degraded storm drainage systems.
- This project will leverage committed partners in the Pu`uloa (Pearl Harbor) Strategic Partnership, which consists of the Honolulu City and County Resilience Office, U.S. Fish and Wildlife Service, Sea Grant-University of Hawai'i, JBPHH, and others, to restore a minimum of 200 acres of coastal wetland habitat along Pearl Harbor shorelines.
- To conserve these landscapes, partners will use a multi-pronged community engagement approach to enhance coordination between governmental groups that are currently members of the Pu`uloa Strategic Partnership and Hawaiian land and water stewards in the region.



An MV-22 Osprey assigned to Marine Medium Tiltrotor Squadron (VMM) 161 flies over the San Antonio-class amphibious transport dock ship USS Anchorage (LPD 23) during the Association of Southeast Asian Nations summit. (U.S. Navy photo by Chief Mass Communication Specialist John M. Hageman)



NOMINATING PARTNER Hui o Ho`ohonua



Naval Air Station Whidbey Island, Washington

Expanding Coastal Conservation and Restoration and Building Resilience on Admiralty Bay

- Naval Air Station Whidbey Island is the premier naval aviation installation in the Pacific Northwest and home to the Navy's tactical electronic attack squadrons, which fly the EA-18G and protect the ability to train with new electronic warfare aircraft. The installation faces several issues affecting operations ranging from increasing development to sea level rise and storm surge.
- To secure the Navy's long-term mission capabilities, the Whidbey Camano Land Trust will permanently protect and restore 210 acres of shoreline, forest, and open agricultural fields on the western central portion of Whidbey Island. Once protected, the Land Trust will transition 35 acres of farmland into regenerative agriculture practices to improve soil health, restore a 15-acre coastal buffer back to native vegetation, and remove a bulkhead along more than 300 feet to restore the continuity of the shoreline function.
- These project activities will increase the resilience of the Navy's outlying landing field, which is immediately north of the project location and hosts the NAS Whidbey Island's Field Carrier Landing Practice.



A P-8A Poseidon aircraft assigned to the Skinny Dragons of Patrol Squadron (VP) 4 taxis on Ault Field at Naval Air Station Whidbey Island (NASWI) following an intelligence, surveillance, and reconnaissance mission. (U.S. Navy photo by Mass Communication Specialist 2nd Class Juan S. Sua)



NOMINATING PARTNER Whidbey Camano Land Trust

