

COASTAL RESTORATION RETURNS



U.S. Fish & Wildlife Service
creates local jobs and dollars

Our U.S. coastal regions are economic engines

In 2010, 39 percent of Americans lived in coastal shoreline counties.¹ Coastal regions:

SUPPORT
51
MILLION JOBS²

GENERATE
45%
OF THE NATION'S GROSS DOMESTIC PRODUCT (GDP)³

SUPPORT
\$70
BILLION
IN INTERNATIONAL FISHERIES TRADE⁴

SUPPORT
\$19.5
BILLION
IN SALTWATER REC FISHING⁵

PROVIDE
\$291
BILLION
IN LEISURE AND HOSPITALITY WAGES⁶

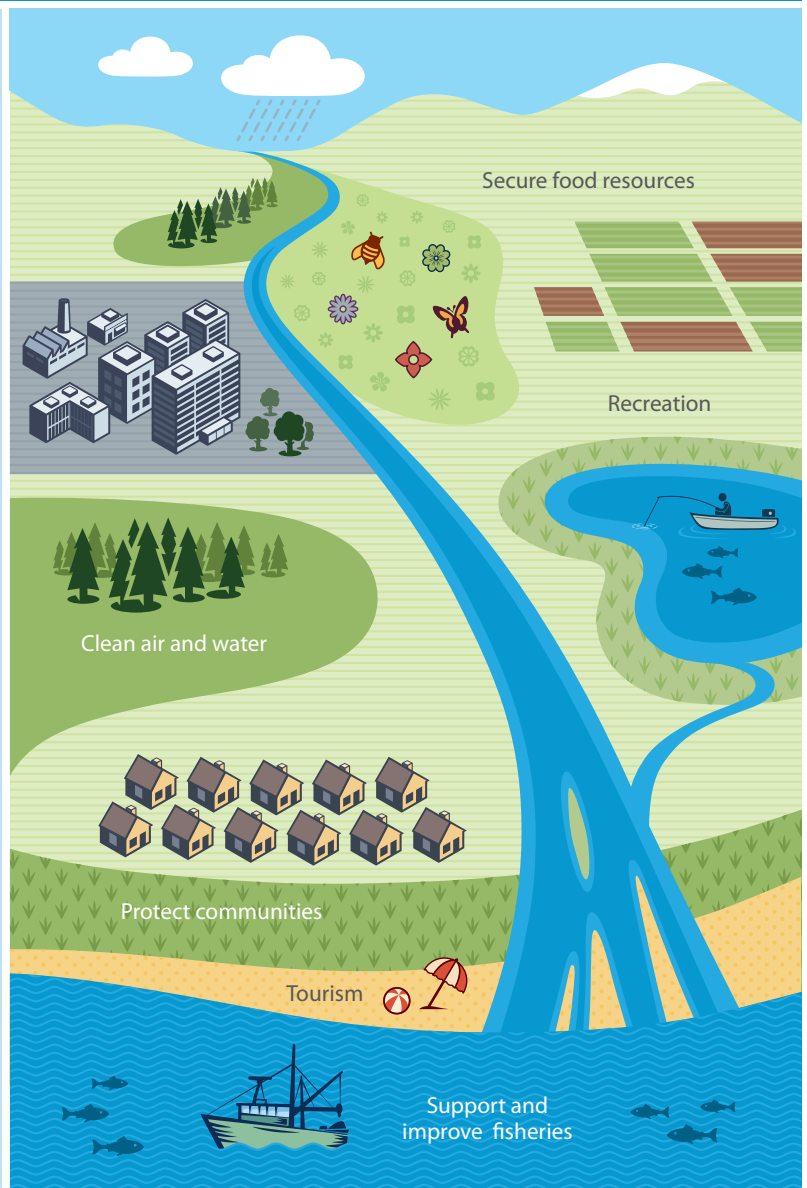
U.S. coastal counties combined would rank #3 for Global GDP behind U.S. and China if seen as an individual country.⁷

BENEFITS OF HEALTHY COASTLINES

Healthy natural areas along our coastlines provide many benefits to local communities. They:

- Secure food resources by conserving soil, controlling pests and benefiting pollinators.
- Provide for tourism and recreation such as fishing, boating, hunting and birding.
- Provide clean air and water by filtering pollutants.
- Protect communities from flood damage and extreme weather.
- Support and improve commercial and recreational fisheries.

Economists estimate the value of these benefits to local communities and the public to be over \$100 billion a year.⁸



Coastal Program: Partners for voluntary restoration

The Coastal Program works with communities and partners to do on-the-ground projects that protect and restore vital wildlife habitat. It is one of the U.S. Fish and Wildlife Service's most effective recovery programs, due in large part to the project design and technical assistance that partners receive in addition to project funds. Projects include removing invasive species, replanting salt marsh and seagrasses, and installing living shorelines to prevent erosion.

Since its beginning, the Coastal Program has:

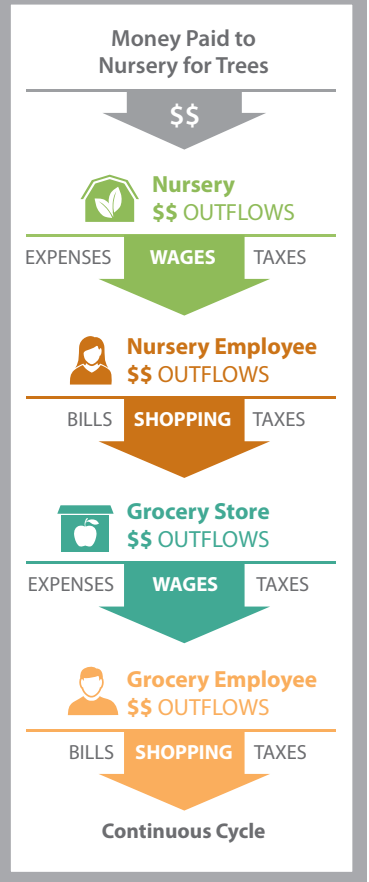
- **Partnered** with more than 5,000 federal, tribal, state and local agencies, non-governmental organizations, corporations and private landowners.
- **Restored** 300,616 acres of wetland, 135,033 acres of upland and 2,160 miles of stream habitat.
- **Protected** more than two million acres of coastal habitat.
- **Provided** technical assistance to a diverse range of conservation partners.

Restoration: healthy coasts, healthy economies

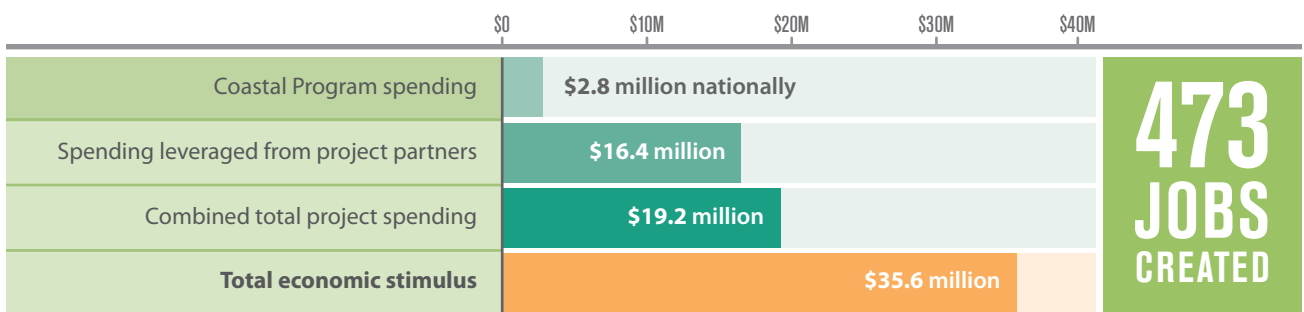
Coastal Program projects create jobs and provide income in coastal communities. Here's how it works:

1. Project funds leverage non-federal funds from other partners.
2. Project spending supports local businesses.
3. Businesses hire and pay employees.
4. Workers and businesses spend money in the local economy.
5. Spending produces local tax revenues.

The Local Multiplier Effect of TREE PLANTING



Numbers at a glance FY 2011



This reflects spending for on-the-ground restoration projects completed in FY 2011. Program spending for protection activities and staff time to support technical assistance is not included.

ECONOMIC RETURNS



Every **\$1** the Coastal Program invested in a project leveraged **\$6.86** in total project funding, which created **\$12.78** in economic returns.

JOBS FROM SELECTED COASTAL PROGRAM PROJECTS



331 jobs created in 4 states alone.

SAN DIEGO BAY, CALIFORNIA

South San Diego Bay project creates critical bird habitat and adds **130 jobs** and **\$13.4 million** to local economy



“More than 1/3 of wildlife refuges are in coastal areas and are local economic engines. The Coastal Program is vital in forwarding the mission of the refuge system and makes very good economic and environmental sense.”

DAVID HOUGHTON, PRESIDENT,
NATIONAL WILDLIFE REFUGE ASSOCIATION

Development has dramatically altered the shoreline of San Diego Bay over the past 150 years. Dredging and filling has led to the loss of:

- 70% of the bay’s salt marshes
- 84% of the intertidal mudflats
- 42% of the shallow subtidal habitat
- Most of the wetlands and upland habitats

The goal of the South San Diego Bay project was to reverse this trend. The project restored and enhanced a total of 300 acres of estuarine habitats at three different sites in South San Diego Bay.

The largest project was at the Western Salt Ponds, where 223 acres were restored. This area is part of the San Diego Bay National Wildlife Refuge. Steps included:

- Taking ponds out of salt production
- Dredging to create a range of habitats
- Breaching to allow tides to bring in water
- Planting with native plants

South San Diego Bay is vital habitat for birds. The American Bird Conservancy declared it a Globally Important Bird Area. More than 90 species of migratory and resident birds are benefiting from the project.

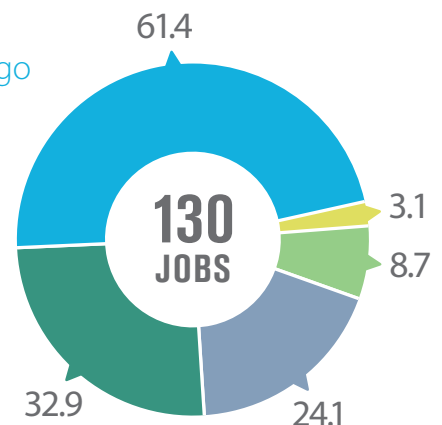
Just days after the project was finished, tens of thousands of shorebirds started using the new intertidal habitat. Avocets, stilts, plovers, pelicans, heron and more gathered to roost and to eat fish. *The Active Times* ranked San Diego’s Bayshore Bikeway as the best bike path in the nation.

The project was recognized by the Administration with the prestigious Coastal America Partnership Award. Project partners included 11 different federal, state and local agencies, along with nonprofit organizations. The Coastal Program worked with partners on grant writing, environmental assessment, funding, project design and implementation.

South San Diego Bay project

JOBS ADDED

- Agriculture
- Service
- Construction
- Trade
- Other



CHESAPEAKE BAY, MARYLAND

Maryland project removes invasive nutria and adds **55 jobs** and **\$2.5 million** to local economy



"Tudor Farms is over 6,500 acres, of which 2,000 acres are marshland. Without the removal of the nutria on our property, our marshes would be gone forever! We are a great supporter of this project financially and by serving on the management advisory board for the past 12 years."

KEVIN COMPTON, OWNER OF TUDOR FARMS



Nutria are invasive South American rodents. They are wreaking havoc in wetlands across the United States.

These large rodents eat plant roots in marshlands. Without root mats to anchor wetland grasses, open water takes the place of marshes. This destroys habitat for striped bass, blue crabs and other commercial species.

Nutria were imported into Dorchester County, Maryland, in 1943 for their fur. They have no natural predators.

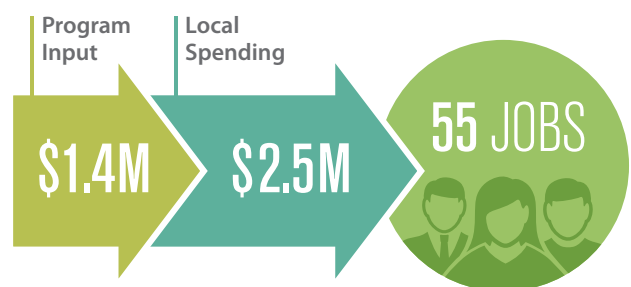
The nutria population in Maryland has exploded. In 1968 there were less than 150 animals on 10,000 acres of the Blackwater National Wildlife Refuge. In 1998 there were as many as 50,000 nutria. The damage is severe: Blackwater has lost half of its wetlands since nutria arrived.

The Maryland Nutria Project aims to eradicate nutria and restore the state's coastal marshes. It is a partnership between the U.S. Fish and Wildlife Service and 27 federal, state and private partners. The Service has worked with partners on research, planning, coordination and project management. The Nutria Eradication and Control Act of 2003 authorized funding.

Since 2000, nutria have been removed from over 150,000 acres of public and private land in Dorchester County, Maryland. Strategies include trapping, tracking and searches to find elusive animals.

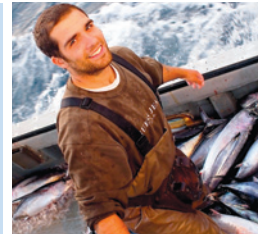
Trapping and other methods used to manage nutria are very labor intensive, leading to many jobs. Workers and their families spend more of their money on services and retail goods than businesses do. This has a large impact on the local economy.

The Maryland Nutria Project has resulted in \$2,560,000 in local spending and 55 much needed jobs.



PUGET SOUND, WASHINGTON

Puget Sound project removes lost or abandoned fishing gear, **returning value** to fishing industry



“The Coastal Program partners with state agencies to support implementation of the National Fish Habitat Partnership and State Wildlife Action Plans to conserve sport- and at-risk fish species.”

RON REGAN, EXECUTIVE DIRECTOR,
ASSOCIATION OF FISH & WILDLIFE AGENCIES



The waters of Puget Sound and the Northwest Straits contain hundreds of tons of derelict fishing gear. This includes nets, lines, crab and shrimp traps and other equipment that has been abandoned or lost from fishing vessels. Modern nets and fishing line are made of plastic materials that may take decades, even centuries, to decompose in water.

Derelict fishing gear poses many problems for people, fish and marine animals:

- Abandoned nets continue to catch fish, marine mammals and birds, wounding or killing them.
- Divers have become entangled and drowned.
- Boat propellers and rudders can be snagged and damaged.

Since 2002 the Northwest Straits Foundation has been removing derelict fishing gear from Puget Sound and other Washington state waters. A major focus is the San Juan Islands, an area of fast currents, rocks and reefs that snag large amounts of gear.

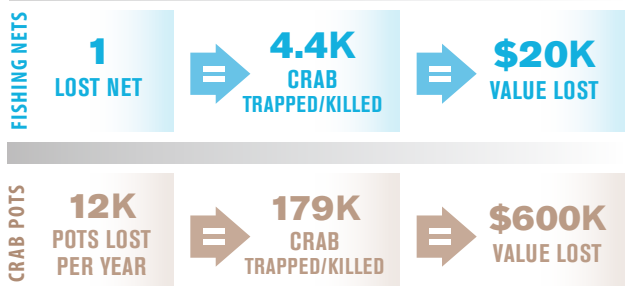
Dungeness crab is the primary species trapped and killed in abandoned crab pots. There are tens of thousands of abandoned crab pots in Puget Sound. The total annual loss of Dungeness crab from the derelict pots is estimated at 372,000 crab, with a value at the dock of

\$1.2 million. This loss is about 30 to 40 percent of the average annual commercial catch of Dungeness crab in Puget Sound.⁹

Salmon, rockfish and lingcod have been found in derelict fishing nets. All are important commercial and recreational fish. Each derelict net may kill fish and shellfish worth \$1,760 over its 10-year lifespan. As of 2007, the derelict nets removed to date had killed fish and shellfish worth more than \$1 million dollars. Other benefits to removing derelict fishing gear include reduced threats to human safety and boating.¹⁰

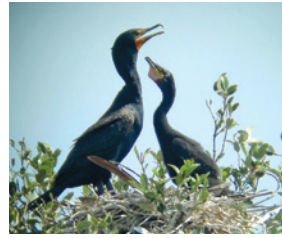
A \$20,000 investment by the U.S. Fish and Wildlife Service was matched by the National Oceanic and Atmospheric Administration. The initial investment led to \$51,000 in economic output in Puget Sound.

LOST VALUE TO CRAB FISHERY^{11,12}



BIRD ISLAND, FLORIDA

Bird Island project protects water birds and adds **\$742,000** to Florida economy



“Our lands are so vulnerable. We [land trusts] work to protect habitat and the Coastal Program is phenomenal at assisting us with restoring the property when the time comes.”

SCOTT FISHER, PRESIDENT,
HAWAIIAN ISLANDS LAND TRUST

Bird Island is a prime water bird rookery. It is home to hundreds of birds, including herons, egrets, ibis and pelicans. In 2012 one hundred pairs of wood storks, a federally listed endangered species, nested on the island. The Indian River National Estuary Program calls it “one of the most important bird nesting colonies in South Florida.”

The island’s eastern shoreline is constantly washing away. Boats cruise by in the Intracoastal Waterway, only 500 feet away, leaving wakes that erode the shoreline.

To make matters worse, hurricanes in 2004 and 2005 uprooted many of the mature mangroves. More than half of the island’s canopy cover has been lost.

This project built on prior attempts to stabilize the shoreline. Among the project’s features:

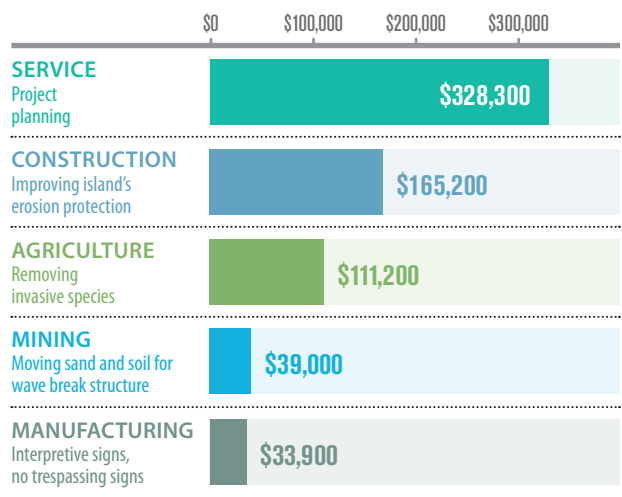
- Restored native mangrove vegetation in 1-1/2 acres of the two-acre island.
- Built a permanent wave break structure to stabilize about 800 feet of shoreline.
- Added interpretive signage to educate boaters and protect the island.

Good news: roseate spoonbills and great white herons successfully nested on Bird Island in 2012. This is the first

recorded nesting of either species in Martin County, Florida.

The project involved workers from several different industries, adding \$742,000 to the local economy. Over time, restoration of Bird Island is likely to attract birdwatchers, increasing tourism dollars. The Coastal Program’s investment of \$76,000 leveraged \$414,000 in funding from other project partners.

INDUSTRIES DIRECTLY INVOLVED IN BIRD ISLAND PROJECT



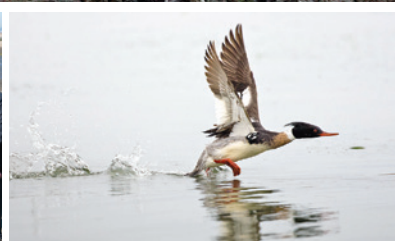
Other economic impacts: Transportation – \$29,000; Trade – \$33,200; Government – \$2,600

“

Coastal Program staff are critical partners for local restoration efforts during every project phase, from helping with design to leveraging additional partners. USFWS involvement results in healthier coastal habitat and major economic benefits to local communities.”

”

– Jeff Benoit, President and CEO, Restore America’s Estuaries



ENDNOTES

- ¹ <http://oceanservice.noaa.gov/facts/population.html>
- ² http://stateofthecoast.noaa.gov/coastal_economy/welcome.html
- ³ http://stateofthecoast.noaa.gov/coastal_economy/welcome.html
- ⁴ http://stateofthecoast.noaa.gov/com_fishing/welcome.html
- ⁵ http://stateofthecoast.noaa.gov/rec_fishing/welcome.html
- ⁶ <http://www.oceaneconomics.org/Market/coastal/coastalEcon.asp>
- ⁷ http://stateofthecoast.noaa.gov/coastal_economy/welcome.html
- ⁸ http://stateofthecoast.noaa.gov/coastal_economy/nonmarket.html
- ⁹ <http://www.nwstraits.org/uploads/pdf/Derelict%20Gear%20CostBenefit%20Analysis%202007.pdf>
- ¹⁰ <http://www.nwstraits.org/uploads/pdf/Derelict%20Gear%20CostBenefit%20Analysis%202007.pdf>
- ¹¹ <http://www.derelictgear.org/Impact.aspx>
- ¹² <http://www.derelictgear.org/Research.aspx>

Unless referenced separately, all data in this report are from “Restoration Returns: The Contribution of Partners for Fish and Wildlife Program and Coastal Program Restoration Projects to Local U.S. Economies,” by Drew Laughland, Linh Phu and Joe Milmoe, U.S. Fish and Wildlife Service, 2014.

PHOTO CREDITS

Cover: Large photo – Joe Milmoe | Pg 5: Fisherman – N. Rahaim
Pg 4: Nutria photo – Alois Staudacher

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