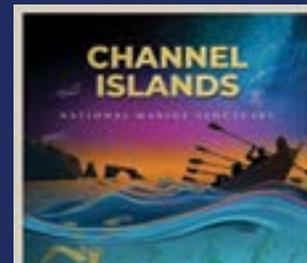
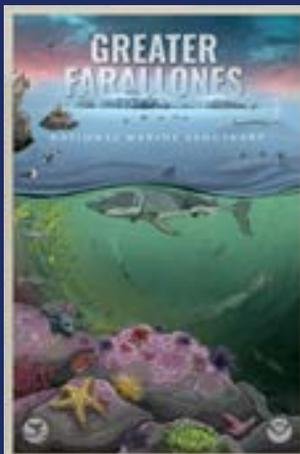
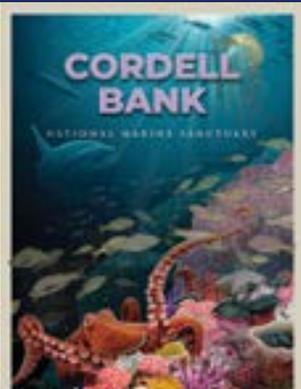
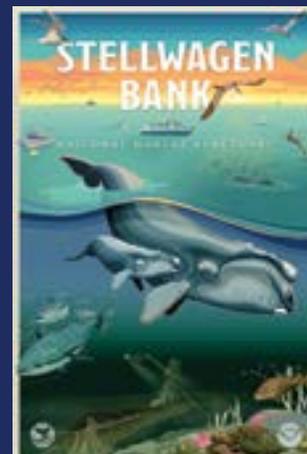
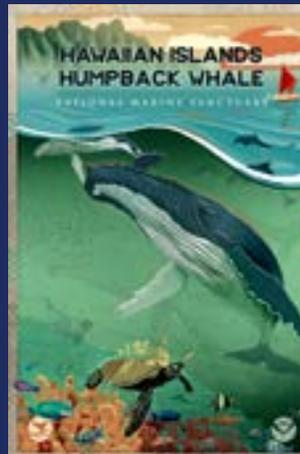
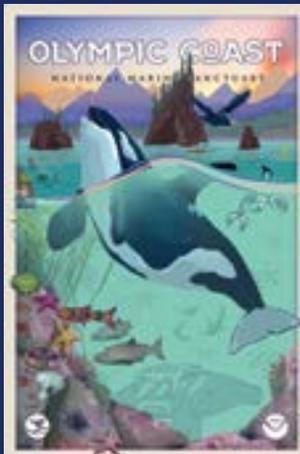
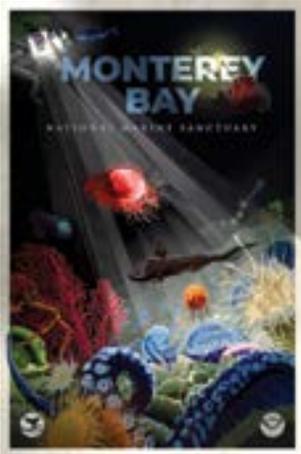
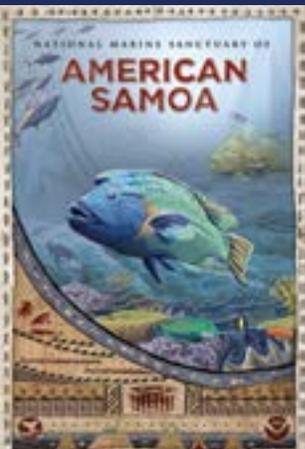
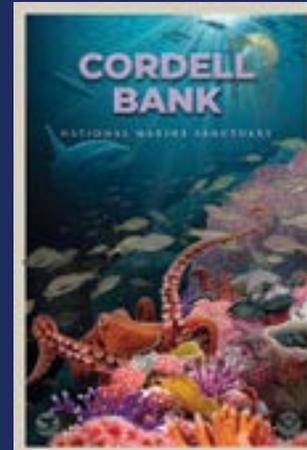
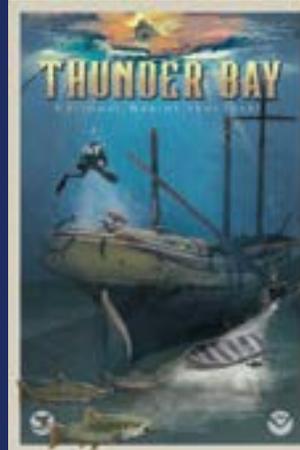
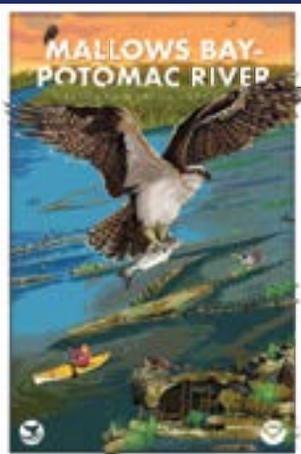
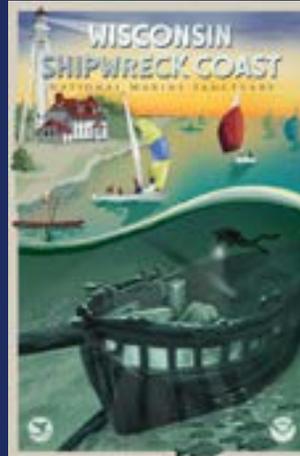
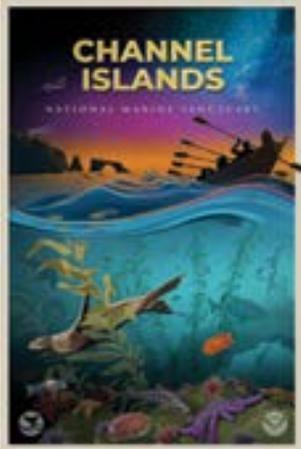
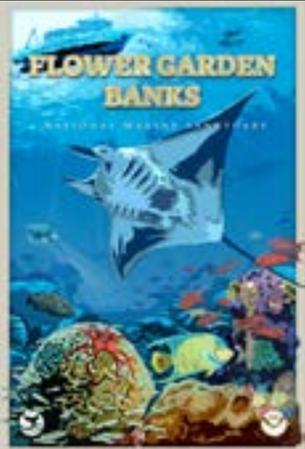
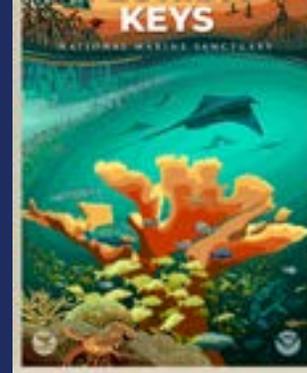
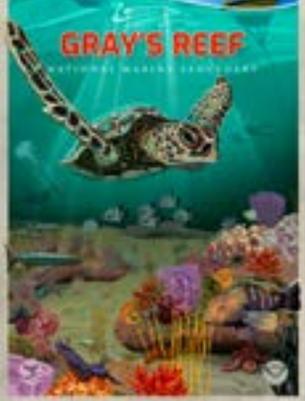


# FORCE BLUE

## NATIONAL MARINE SANCTUARIES

“TOUR OF DUTY”







**Here is your country. Cherish these natural wonders, cherish the natural resources, cherish the history and romance as a sacred heritage, for your children and your children's children. Do not let selfish men or greedy interests skin your country of its beauty, its riches or its romance.**

*- Theodore Roosevelt*

In 2022, to commemorate the 50th Anniversary of the formation of NOAA's National Marine Sanctuary System, the Special Operations veterans of FORCE BLUE launched an "until it's finished" campaign to conduct marine conservation missions in and around each of the country's eighteen (18) currently designated National Marine Sanctuaries (NMS).

Working with some of our nation's top scientists and environmentalists, as well as community volunteers, civic leaders and corporate partners from across the U.S, FORCE BLUE began engaging in projects like sea grass monitoring, marine debris removal, fish population surveys, coral restoration, kelp reforestation, data buoy installation, shipwreck mapping and more.

Each of these missions also includes a public engagement component designed to instill ownership and inspire action in those communities that are nearest to, and benefit the most from, our national marine sanctuaries.

Dubbed our "Tour of Duty" because of the distance FORCE BLUE veterans will travel to complete it, the program has one over-arching goal — to open eyes, ears and minds to the beauty and fragility of these national treasures while, at the same time, positively contributing to their preservation.

As we head into 2026 and the semi-quincentennial of our nation's founding — and with the goal of raising \$500,000 annually to support this important effort — FORCE BLUE will be approaching individuals, organizations, corporations and other like-minded NGO's who believe in this mission and would like to play a role in its success.

**THE TIME HAS NEVER BEEN BETTER, OR THE NEED MORE URGENT.**

# NATIONAL MARINE SANCTUARIES MAP



In 1972, the U.S. ushered in a new era of ocean conservation by creating the National Marine Sanctuary System. Since then, that system has grown into a nationwide network of eighteen (18) national marine sanctuaries that conserve more than 620,000 square miles of spectacular ocean and Great Lakes waters. National marine sanctuaries support coastal

communities and drive local economies by providing jobs and opportunities for people to discover, recreate, and form life-long connections with these spectacular places.

# **COMPLETED TOUR OF DUTY STOPS**

2022 - 2025



## MALLOWS BAY NATIONAL MARINE SANCTUARY

Located in an 18-square-mile portion of the Potomac River in Charles County, Maryland, Mallows Bay-Potomac River National Marine Sanctuary protects the remnants of more than 100 World War I-era wooden steamships known as the “Ghost Fleet.” The tidal freshwater river that comprises the majority of the sanctuary supports species of ecological, economic, and cultural importance, while the shipwrecks of the Ghost Fleet serve as islands of life that provide structure and habitat.

**TOUR OF DUTY DATE:** September 2022

**SCIENTIFIC PARTNERS:** Mallows Bay NMS, Maryland Department of Natural Resources

**OBJECTIVES:** To survey 33 separate sites within Mallows Bay NMS for the presence of certain

Submerged Aquatic Vegetation (SAV) species — underwater grasses — which are critical in providing habitat, food source, and nursery grounds for fish, shellfish and waterfowl.

**RESULTS:** The survey conducted by six (6) FORCE BLUE veterans found that most of the sites had relatively high submerged aquatic vegetation (SAV) density, with 19 of the 33 surveyed sites having a total estimated SAV coverage of 70% to 100%. Six sites had coverage of 40% to 70%, four sites had coverage of 10% to 40% and three sites had coverage of less than 10%. High density of SAV is a positive indicator, as it can suggest a highly resilient system against storms and a suitable habitat for animals. Species richness varied across the sites, with a range of 0 to 6 different species present at any given site.

**COMMUNITY ENGAGEMENT:** FORCE BLUE produced a documentary video teasing its Tour of Duty with the Mallows Bay NMS mission as its backdrop. The video was subsequently made public via NOAA’s National Marine Sanctuary Foundation.

**[WATCH MALLOWS BAY MISSION VIDEO](#)**

# FLORIDA KEYS NATIONAL MARINE SANCTUARY

Located in the coastal waters surrounding the Florida Keys, stretching over 200 miles from the northern boundary near Biscayne National Park down through the Keys and into the Gulf of America and Florida Bay, Florida Keys National Marine Sanctuary is home to a diverse community of underwater habitats, ranging from the only coral barrier reef in the continental United States to the largest documented contiguous seagrass community in the Northern Hemisphere. More than 6,000 animal species are found here, along with an array of submerged historical and cultural resources.

## **TOUR OF DUTY DATE:**

August 2024

## **SCIENTIFIC PARTNERS:**

Florida Keys NMS, Inwater Research Group

**OBJECTIVES:** To measure and tag as many adult and juvenile Green and Loggerhead sea turtles as possible. Check each turtle for signs of the debilitating, often fatal disease

Fibropapillomatosis and remove any infected turtles for immediate emergency care.

**RESULTS:** Seven (7) FORCE BLUE veterans captured, measured, tagged – and safely returned to the sea— a total of 35 turtles (22 Loggerheads and 13 Greens) over a five-day period. None of the captured turtles were found to have Fibropapillomatosis to a severe enough extent that they warranted removal.

## **COMMUNITY ENGAGEMENT:**

At mission's end, FORCE BLUE hosted a 'Community Day' at the EcoCommunity Center in Key West, drawing a crowd of all ages. Attendees participated alongside FORCE BLUE veterans in workshops highlighting the importance of marine conservation. The goal was to educate and empower individuals to become proactive stewards of their local marine environment.

[WATCH](#)

[FLORIDA KEYS](#)

[NMS MISSION](#)

[VIDEO](#)



# THUNDER BAY NATIONAL MARINE SANCTUARY

Located on Lake Huron's Thunder Bay, within the northeastern region of the U.S. state of Michigan, Thunder Bay National Marine Sanctuary protects approximately 4,300 square miles of Lake Huron, as well as over 200 historically significant shipwrecks ranging from 19th century wooden schooners to 20th century steel-hulled steamers.

**TOUR OF DUTY DATE:** September 2024

**SCIENTIFIC PARTNERS:** Thunder Bay NMS

**OBJECTIVES:** Document shipwrecks sites using 360-degree photography and videography. Monitor and assess condition of shipwreck sites. Document and assess condition of mooring buoy system. Conduct water sampling at depth and surface for freshwater acidification research. Conduct transects at designated terrestrial debris and plastic "nurdle" patrol locations.

**RESULTS:** Eight (8) FORCE BLUE veterans monitored, assessed and utilized 360-degree photography on eight (8) shipwrecks. They assessed eight (8) mooring buoy systems,

removed nine (9) buoys and collected 15 samples for a first-of-its-kind freshwater acidification test. FORCE BLUE veterans also participated in the first ever "nurdle" survey in northern Lake Huron searching for plastic pellets (nurdles) used in the manufacturing of plastics. They took part in mapping two beach sites, removing 27 pieces of marine debris. Finally, FORCE BLUE veterans collected biological samples at the Middle Island Sinkhole, an 80-foot deep ecosystem rich with microbial mats.

**COMMUNITY ENGAGEMENT:** FORCE BLUE team members gave two public presentations — one at the Great Lakes Maritime Center, the other for 300 students at Alcona H.S. & Middle School — and conducted numerous local and regional print, radio and television interviews.

**[WATCH THUNDER BAY MISSION VIDEO](#)**





# PAPAHĀNAUMOKUĀKEA NATIONAL MARINE SANCTUARY

Papahānaumokuākea Marine National Monument is the largest U.S. conservation area, encompassing 582,578 square miles of the Pacific Ocean around the Northwestern Hawaiian Islands. In 2025, NOAA designated a National Marine Sanctuary within the Monument to provide further protections.

**TOUR OF DUTY DATE:** June 2025

**SCIENTIFIC PARTNERS:** Papahānaumokuākea NMS, NOAA Office of National Marine Sanctuaries

**OBJECTIVES:** Document the ecological, cultural, and historical importance of this sacred marine environment through film, photography and immersive media.

**RESULTS:** Two (2) FORCE BLUE veterans participated in 52 dives with NOAA scientists and support personnel. The 15-day voyage covered over 2,000 nautical miles and visited six atolls in the

Papahānaumokuākea NMS. FORCE BLUE divers used 360° videography to enhance long-term reef monitoring and 3D modeling. Data supported Nancy Foster Scholar Kailey Pascoe's assessment of coral reef responses to climate change. Three shipwrecks were surveyed using sketches, 360° mapping, GPS, and 3D photogrammetry. Work focused on identifying an unknown wreck on Hikianalia Reef.

**COMMUNITY ENGAGEMENT:** FORCE BLUE supported NOAA NMS communications spotlighting the ecological importance of PNMS, VR and 3D models will aid collaboration with the Mokupāpapa Discovery Center, blending Hawaiian culture with modern science for education. K-12 students from underrepresented groups will be engaged in STEM through VR and underwater live streaming to showcase coral reef life. The survey at Hikianalia Reef will help identify a culturally significant vessel for the Hawaiian community.



# FLOWER GARDEN BANKS NATIONAL MARINE SANCTUARY

Located 80-125 miles off TX/LA coast and initially designated in 1992 to protect East and West Flower Garden Banks, Flower Garden Banks National Marine Sanctuary was expanded in 1996 to include Stetson Bank and then 14 additional banks in 2021, increasing its size to 160 square miles.

## **TOUR OF DUTY DATE:**

August 2025

## **SCIENTIFIC PARTNERS:**

Flower Garden Banks NMS,  
Texas A&M (Galveston)

**OBJECTIVES:** Conduct SCUBA operations at West Flower Garden Bank (WFGB) for the 2025 annual coral spawning field effort. Collect high quality imagery documenting the spawning event, coral spawn surveys and general sanctuary imagery. Install a mooring buoy at WFGB and collect coral fragments

for the Texas A&M Galveston coral spawning laboratory.

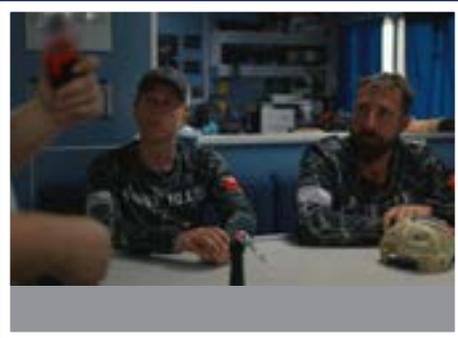
**RESULTS:** Five (5) FORCE BLUE

veterans installed a new mooring buoy within the sanctuary, immediately facilitating invasive lionfish removal by permitted vessels. Additionally, the team collected 10 coral colonies to start the Coral Spawning Lab at Texas A&M Galveston. While the mass spawning event that was predicted was not observed on this cruise, that information is nonetheless important to calibrating the spawning schedule created by coral scientists. Indeed, the collected corals were observed to spawn in the lab approximately a month after the initial predictions, providing additional valuable information on coral reproduction following bleaching events.

## **COMMUNITY ENGAGEMENT:**

Force Blue assisted Flower Garden Banks National Marine Sanctuary staff with their regular Education and Outreach event at Moody Gardens Aquarium. During this "Sanctuary Saturday", FGBNMS staff and Force Blue discussed coral reef ecology and the importance of corals with aquarium visitors as well as the significance of the annual coral spawn.

**[WATCH FLOWER GARDEN BANKS MISSION VIDEO](#)**



IF YOU ARE INTERESTED IN SUPPORTING

# **FORCE BLUE'S** **NATIONAL MARINE SANCTUARY**

“TOUR OF DUTY”

please contact: Jim Ritterhoff, [jim@forceblueteam.org](mailto:jim@forceblueteam.org), 914.841.7230



