

APPENDIX 2. EXAMPLES OF MARINE PROTECTED AREA PUBLIC OUTREACH PROGRAMS

MAKING MARINE PROTECTED AREAS RELEVANT TO A DIVERSE PUBLIC

MARINE PROTECTED AREAS FEDERAL ADVISORY COMMITTEE SEPTEMBER 2017

This appendix provides an overview of some of the MPA outreach programs we have identified throughout the nation that have been established by federal, state, and local agencies, academia, non-governmental organizations, and the private sector. We have also identified examples of programs that are not necessarily dedicated to MPA outreach, but that address MPAs. This document is not intended to be comprehensive; however, we believe that such a comprehensive analysis would be helpful in the future. A wide variety of entities have invested significantly in outreach, education, participation in the implementation of MPAs. California in particular has conducted significant outreach regarding its network of state MPAs and the four national marine sanctuaries that exist off its shores. The material below should be considered a starting point for a subsequent comprehensive analysis by the National Marine Protected Areas Center.

a. Onsite Programs e.g., visitor centers, informal science centers, signage, zoos and aquaria

Examples from California, Florida, Hawaii, Oregon, and nationally.

i. California

- **Ports and Harbor Signage.** [California Department of Fish and Wildlife](#) (CDFW) has signage at key marinas and harbors in Ventura, Morro Bay, Santa Cruz, Berkeley, Richmond, and Crescent City, developed with MPA Collaborative groups and other CDFW partners (MPAs, fishing regulations, local facts). CDFW's [Law Enforcement Division](#) and local community groups are working to additional areas where signage would be helpful.
- **California Marine Sanctuary Foundation signage**
 - Interpretive: 150 across state
 - Harbor: 100 across state
 - Regulatory: Roughly 200 across state
- **Aquaria and Learning Centers.** Examples of MPA displays include:
[Monterey Bay NMS Exploration Center](#), [Coastal Discovery Center at San Simeon Bay](#), [UC Davis Bodega Marine Laboratory](#), [Romberg Tiburon](#)

[Center for Environmental Studies, Aquarium of the Bay, California Academy of Sciences](#) (San Francisco), [Monterey Bay Aquarium](#), [The Marine Mammal Center](#) (Sausalito), [Central Coast Aquarium](#), [Sea Life Aquarium](#), and the [Birch Aquarium](#) (Scripps/La Jolla).

ii. **Florida**

- **Aquaria and Learning Centers.** Examples of MPA displays include
 - Florida Keys NMS [Eco-Discovery Center](#)
 - [The Reef Relief Environmental Center](#)

iii. **Hawaii**

- **Aquaria and Learning Centers.** Examples include:
 - [Waikiki Aquarium](#)
 - Papahānaumokuākea Marine National Monument: [Mokupāpapa Discovery Center](#)

iv. **Oregon**

- **Signage and brochures.** Examples include:
 - [Oregon Marine Reserves](#): Highway displays, brochures and interpretive signs

v. **National**

- [Smithsonian Sant Ocean Hall](#). The National Museum of Natural History's largest exhibit, providing visitors with insights into the global ocean and the understanding that all life, including theirs, depends on the ocean. The hall contains 674 marine specimens and models, high-definition video, and interactive kiosks, and has public programming that leverages the hall's content.

b. **Virtual Programs: Telepresence e.g., live feeds and camera feeds of MPAs accessible via the Internet and websites**

Examples from California, Florida, Hawaii, Oregon, and nationally.

i. **California**

- **Department of Fish and Wildlife (DFW)/California Department of Parks and Recreation.** [Parks Online Resources for Teachers and Students](#) (PORTS), a video-conferencing program that delivered MPA PORTS programs to 17,200 students in 2016. A new MPA PORTS site was created at Point Lobos in 2016.
 - DFW also has an [online MPA curriculum](#) now available for use in conjunction with live-video conferences.

- **California Marine Sanctuary Foundation** produced an [online toolkit](#) with information about all MPAs in California.
- **California Marine Sanctuary Foundation. [Online tour of Central Coast MPAs](#)**
- **The California MPA Collaborative Network** is a group of 14 county-based community groups dedicated to implementing MPAs. The Collaborative team published a [comprehensive review](#) of outreach programs in California.
- The **[California Ocean Protection Council](#)** site provides an overview of California MPAs with guides to key documents and resources.
- **Other California entities** that have online educational and visual resources include:
 - o [Heal The Bay](#)
 - o [WildCoast](#)
 - o [Save our Shores](#)
 - o [Coastkeeper Alliance](#)
 - o [OceanSpaces](#)

ii. Florida

- **[Florida International University](#)**. At FIU, researchers are able to teach classes from the depths of the ocean and visit by offering virtual field trips of the Aquarius undersea laboratory and their coral reef study sites. Aquarius also features the Teacher Under the Sea program, which provides unique experiential learning opportunities to engage today’s explorers and tomorrow’s problem solvers.
- **[MOTE Marine Laboratory & Aquarium](#)**. Field trips, educational programs, digital classroom visits, special lecture series

iii. Hawaii

- **[Waikiki Aquarium](#)**. Seminar series on ocean issues

iv. Oregon

- **[Oregon Marine Reserves Partnership](#)**. Online marine reserve game
- **[FishAlerts](#)**. iOS app with MPA information directed at anglers

v. National

- **[NOAA Office of Ocean Exploration and Research](#)**. Telepresence via the NOAA Ship *Okeanos Explorer*.

- [Nautilus Live](#). Explore the ocean live with Dr. Robert Ballard and the Corps of Exploration
- [Channel Islands National Park & National Marine Sanctuary](#). Live stationary cameras that allow those with Internet access to watch wildlife in real time.
- [National Marine Protected Areas Center](#). Information about all the MPAs in the United States , via the MPA Inventory maintained by the MPA Center.
- [Smithsonian Ocean Portal Website](#). This portal provides a wide range of information about all things ocean – including marine protected areas
- [National Marine Sanctuaries Virtual Dives](#). Virtual reality dives are available at the American Samoa, Florida Keys, Flower Garden Banks, Gray’s Reef and Thunder Bay national marine sanctuaries.

c. Social Media

Many MPA programs and sites have a strong social media presence. Below are some examples.

i. California

- [Whale and Dolphin Conservation \(WDC\)](#) hosts MPA Mondays.
- **Other organizations** post regularly about local MPAs and issues including from Potter Valley, [Heal The Bay](#), [WildCoast](#), and the [Santa Barbara Channel Keepers](#), as well as the Tolowa Dee-ni’ Nation and Chumash Indians.
- [California Ocean Science Trust](#). Information about monitoring of California MPAs.
- **Hashtag campaigns**. California MPAs

ii. Massachusetts

- [Cape Cod National Seashore](#). Measured and directed use of social media e.g. [Facebook](#), [Twitter](#), [Instagram](#), [YouTube](#), etc.) Social Media is their most effective and heavily used outreach tool. Sharing of their posts by others greatly magnifies their reach.

iii. National

- Facebook [MPA Center](#)
- YouTube [USOceanGov](#)
- Instagram [NOAA Sanctuaries](#)

- [National BioBlitz Facebook](#). Provides information about a variety of habitats including MPAs.

d. Newsletters and News Alerts

i. California

- **California Department of Fish and Wildlife (CDFW)**. Developed regional guidebooks and brochures with MPA-specific maps and regulations, posters featuring a map of the statewide network with key species and habitats, outreach events, MPA-related meetings, public presentations, email correspondence, blog posts, onsite signage, and video-conferencing classroom programs. View CDFW outreach materials [here](#).
 - An MPA logo was also developed to help with public recognition of the protected areas.
 - Updated and newly printed MPA publications included 63,500 guidebooks, 105,000 brochures, and 3,000 information cards. Over 39,000 of the publications were shipped to 360 locations such as sporting goods stores, scuba and ecotourism groups, academic institutions, parks, harbors, non-profit businesses, commercial fishing enterprises, and individuals.
 - The guidebooks and brochures were also made available online, through CDFW offices, and at special events such as the International Sportsmen's Expos and Fred Hall Shows, MPA Collaborative meetings, coastal Marine Interpretation meetings, and other ocean-related venues. CDFW staff such as wildlife officers and California Recreational Fisheries Survey (CRFS) samplers also assisted with distribution of MPA outreach materials.
 - CDFW also wrote informational articles appearing in NOAA's MPA Center CONNECTIONS eNewsletter, California's Collaborative Network blog, and in the March/April 2016 issue of Outdoor California magazine, titled Conserve & Protect: California's Oldest Marine Protected Area Safeguards Resources for Generations to Come.
- **Other Newsletters include.** [California MPA Collaborative Newsletter](#)

ii. Hawaii

- [Hawaii Division of Aquatic Resources](#). Posters and outreach materials

iii. National

- [National MPA Center's CONNECTIONS eNewsletter](#)

e. Film / Video e.g., ocean related film festivals. Film / speaker programs, etc.

i. California

- **The California MPA Education and Outreach Initiative.** A compilation of over 30 films and videos and video contests.
- **Other examples include. Humboldt Ocean Film Night, Bay Institute Film & Lecture Series**

ii. Hawaii

- **Hawaiian Islands Humpback Whale National Marine Sanctuary.** Lectures and events

iii. Oregon

- **Oregon Marine Reserves Partnership.** Photography, videos, and other information.

iv. Florida

- **BLUE Ocean Film Festival.** A wide variety of films about ocean stewardship, including films about MPAs.

v. Georgia

- **Gray's Reef Film Festival.** A wide variety of films about ocean stewardship, including films about MPAs.

vi. National

- **National Oceanic and Atmospheric Administration's Science On a Sphere.** SOS owners have access to a library of videos which they can access and feature on their SOS in their home institution. These are primarily global data sets which help convey information on a global scale e.g. ocean temperature, productivity and acidification.
- **National Oceanic and Atmospheric Administration's Ocean Today Kiosk.** Computer interactive kiosks placed at venues such as informal science and learning centers that feature short videos with ocean-related topics and related educational packages. The lead Kiosk is in Sant Ocean Hall and satellite Kiosks carrying the same content have been placed at informal science and learning centers around the county, in addition to several international locations.
- **NOAA National Marine Sanctuaries - Stories from the Blue.** Short videos about people interacting with sanctuaries.
- **International Ocean Film Festival.** An annual film festival supported in part by Cordell Bank National Marine Sanctuary.

f. **Publications e.g., The State of... reports, Annual Reports, Fact Sheets**

i. **National**

- **MPA Center Products**
- ***Oceanography Journal, March 2017 Supplement***. A special issue on MPA explorations.

g. **Public Programs e.g., Capitol Hill Ocean Week, Summits/Forums, Conferences, Workshops**

i. **California**

- **Ocean Communicators Alliance**. Ocean-centered organizations pledged to engaging in public communication
- World **Oceans Day**
- **OCMPAC** Science Symposium

ii. **National**

- **Capitol Hill Ocean Week**
- **Earth Optimism Summit**

h. **House and Senate Ocean Caucuses**. Bipartisan groups working to increase awareness and find common ground in responding to issues facing the oceans and coasts, which support millions of U.S. jobs and contribute to the country's GDP.

i. **Community Based Programs**. Examples include California's 14 county-based MPA Collaborates of governmental, tribal, private sector, NGO, and academic members to help educate and implement programs; citizen science programs, some of which are carried out on the national level; and others.

California

- **ChannelKeepers MPA Ambassadors**
- **WildCoast MPA Ambassadors**
- **Tolowa Ambassadors for Youth**
- **Monterey Bay National Marine Sanctuary - MERITO** (bilingual education)
- **Beach Watch**. Greater Farallones National Marine Sanctuary
- **LiMPETS**. California National Marine Sanctuaries
- **Golden Gate Collaborative Ambassador Program**
- **California Academy of Sciences Citizen Science Programs**

Florida

- **Team OCEAN.** Florida Keys National Marine Sanctuary Team OCEAN volunteers are stationed on sanctuary vessels at heavily visited reef sites throughout the Keys during peak recreational boating seasons and heavy-traffic holiday weekends. Volunteers inform the public about the sanctuary and its special zones, encourage proper use of sanctuary resources, and provide tips on how to practice basic safety. Volunteers also participate in beach clean-ups. In 2010, Team OCEAN staff and volunteers collected more than 10,000 pounds of marine debris.
- **Blue Star Program.** This Florida Keys National Marine Sanctuary established program recognizes charter operators who promote sustainable use of the sanctuary.
- **Marine Zoning Works for Me** is focused on engaging people in the Florida Keys National Marine Sanctuary and Florida Keys National Wildlife Refuges ongoing regulatory review process with the goal of improving the condition of natural resources while providing sustainable uses long into the future. The group uses public programs, presentations, and distribution of materials to promote their goal of long-term conservation of sanctuary and refuges resources.
- **Biscayne National Park.** The National Parks Conservation Association (NPCA) staff and program at Biscayne engages community partner groups (**Mahogany Youth**; Junior Scientists in the Sea; Divers for Environmental Education; **Miami Dade County Park and Recreation**) to advocate in support of marine sanctuaries and marine reserve zones. The programs highlight pressures on natural resources (fishing pressure, marine debris, water quality) and how marine sanctuaries and marine reserve zones help to address those pressures. They are meeting with elected officials in support of a marine sanctuary/reserve zone at Biscayne National Park.
- **Adaptive Aquatics.** A veteran-led dive group for disabled and able-bodied people that works with the NPCA and National Park Service to help monitor Biscayne National Park's Maritime Heritage Trail. This group currently monitors shipwrecks and will soon begin conducting fish surveys in the area of the proposed marine sanctuary in Biscayne.

Guam

- **Reef Rangers.** **War in the Pacific National Historic Park** and partnered **Pacific Historic Parks**, enlist 4th and 5th graders to monitor coral and reef health. Outreach and education is done in person and through web-based

learning. These young native Guamanians are mentored by high school-aged students who have been in the Reef Ranger program.

Hawaii

- **Coral Reef Alliance.** Voluntary standards for marine recreation
- **Hawaiian Islands Humpback Whale National Marine Sanctuary**
 - o Art programs
 - o **Ocean Awareness Training.** Voluntary training and ambassador program
 - o **Sanctuary Ocean Count.** An annual citizen-science humpback whale count

j. NOAA MPA Educational Resources

- **NOAA MPA Center Educational Resources.** The Center maintains a website with a list of programs, trainings, and curricula available for marine educators.
- **NOAA Sanctuaries Education.** Web-based resources for teachers, students and children, student scholarship information, games and activities, a media library, and other MPA-focused educational materials.
- **Nancy Foster Scholarship Program.** A graduate level scholarship program that seeks to increase the number of women and minorities in scientific disciplines as they relate to the mission of the NOAA Office of National Marine Sanctuaries.

k. Best Practices for Reaching a Diverse Public

Achieving and maintaining healthy coastal and marine ecosystems requires a fundamental understanding of the relationships between people and their environment. Having two-way conversations, understanding what is important to people and what they want to accomplish, and reaching out in broad and diverse ways is an integral part of developing relationships, and the relationship between people and their environment. Recent work by NOAA and the National Park Service that support this baseline include reports, trainings, targeted audience activities e.g. Kiwanis, senior citizens and youth, online products and toolkits, and social media.

The Marine Protected Areas Center [website](#) features general resources along with products directly relevant to the FAC's charge. Recent select resources include:

- **Stakeholder Engagement Reports and Participatory Mapping Training**, the latter being efforts that engage the public in the process of identifying their resources, perspectives, and priorities. The process of creating maps can clarify relevance and build consensus.

- **MPA Outreach and Engagement** was also the focus of two 2014 efforts:
 - 1) An MPA-funded study by the University of Michigan’s School of Natural Resources and the Environment synthesizes lessons from MPA managers on engaging local communities; and,
 - 2) *Best Practices in Constituent Communication*, Recommendations from the MPA Federal Advisory Committee.
- **A Cultural Resources Toolkit** was also produced in 2014 and includes a section on engagement, outreach and interpretation. Cultural relationships and connections among people and historic, natural, and place-based heritage resources need to be preserved and perpetuated in ways that recognize and share multiple cultural voices and knowledge systems. This toolkit provides an overview on the topic and resources that support this concept.

Educational Resources for teachers and students on the topic of diversity and relevance pay forward in countless ways and include online curriculum that can be downloaded for use in classrooms, activities for teachers to engage with students, and grant-funded awards, among other products. A unique effort in Texas where the Flower Garden Banks National Marine Sanctuary lies 100 miles offshore is **SEEDS** (Students Engaging the Environment by Discovery and Science). Interested third through fifth graders meet weekly to learn about their marine sanctuary and the young advocates continue to pass their knowledge on to fellow students and also visit other schools to share knowledge about their shared MPA.

In addition, recent NOAA Sanctuaries (2016) mini-grant projects (less than \$10K each) with a focus on diversity and inclusion have enabled grade and high school students, some of whom had never experienced the ocean before, to get on the water and learn about marine conservation; adaptation of formal education materials to work with Hispanic and Dominican communities; ocean acidification training to underrepresented students in STEM, and enhanced visitor center programs that reach a high percentage of Title 1 school students.

Recreational Activities. In addition to protection, many MPA authorities call for allowing compatible uses that include many types of recreation. Reaching people about these special places through the sport or pastime they enjoy enables an immediate connection. For example, most (98 percent) of national marine sanctuary waters are open to recreational fishing.

- The annual **Sanctuary Classic** caters to a broad spectrum of recreational fishing enthusiasts, illustrating the benefits of light touch recreational fishing, and providing conservation guidelines.

- Flower Garden Banks National Marine Sanctuary hosts an annual *Lionfish Invitational* that rallies recreational SCUBA divers to help remove this invasive species from the sanctuary.
- The nationwide “*Get Into Your Sanctuary*” celebration attracts attention across the nation as visitors explore and recreate in America's underwater parks while also contributing to coastal economies.

The **National Park Service** (NPS) reaches diverse audiences through a variety of programs. Their Centennial year allowed for an enhanced reach through these programs and also asked people to consider parks in new ways through their **Find Your Park** campaign. The campaign highlighted that parks are as unique and varied as the people who visit them. By asking people to discover their own parks, the NPS also enabled ‘non-aware’ users to become aware that there were parks in their own area that they were easily accessible, and in some cases (e.g., dense urban areas), could be areas they had been using for recreation since childhood. A full two-thirds of the National Park System is comprised of historic sites. These parks, often in urban areas and reachable by public transit, are places where people can learn uniquely American stories and understand our shared heritage. The park service also raised awareness that activities just outside parks (i.e., ‘gateway activities’), supported access to and use of parks, and thus also supported the NPS mission.

NPS programs with a focus on diversity and inclusivity for youth and young adults also provide a foundation for youth interested in full time positions with NPS. These programs also reach individuals that might not otherwise have simple access to such opportunities. Key NPS youth and young adult programs include:

- The **Youth Conservation Corps** engages high school students in summer work experiences, many of which revolve around STEM topics, and fosters their sense of environmental stewardship.
- The **Conservation Service Corps** is a private-public partnership that reaches veterans and young adults by providing them with in-demand job skills development through jobs on public lands, waterways and cultural heritage sites. The Corps reaches these individuals through the common purpose of strengthening and preserving some of America’s most beautiful places that are also critically important to hunters, anglers, recreationalists and rural economies.
- The **Mosaics in Science** Diversity Internship Program Reaches minority youth that are under-represented in natural resource science career fields through on-the-ground, science-based, work experience in the NPS and provides opportunities for undergraduate/graduate college students and recent graduates to work on inventorying and monitoring, research, GIS and other technologies and interpretation and education projects. This program also introduces them to careers in the NPS and increases relevance, diversity, and inclusion.