California MPA Education and Outreach Needs Assessment

Major Findings and Recommendations

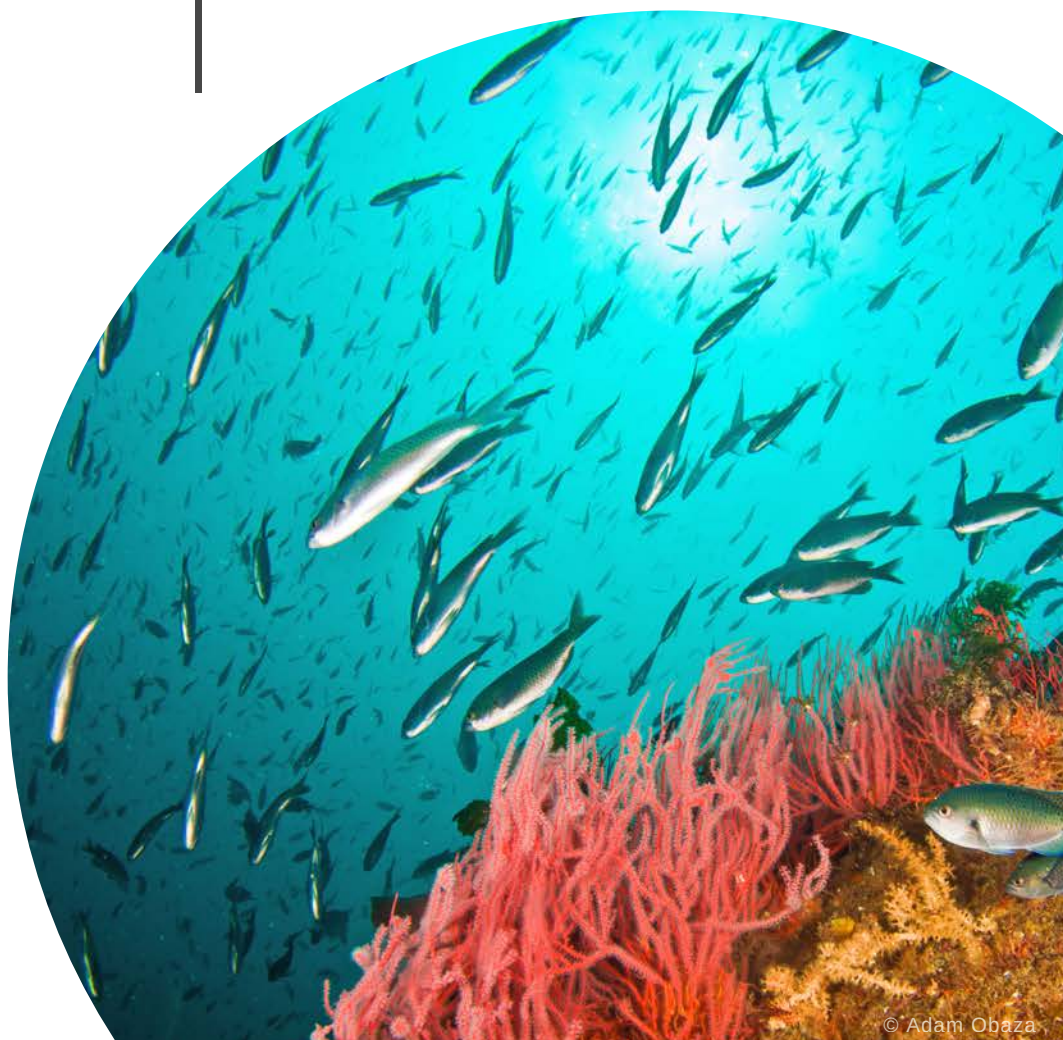### September 2018
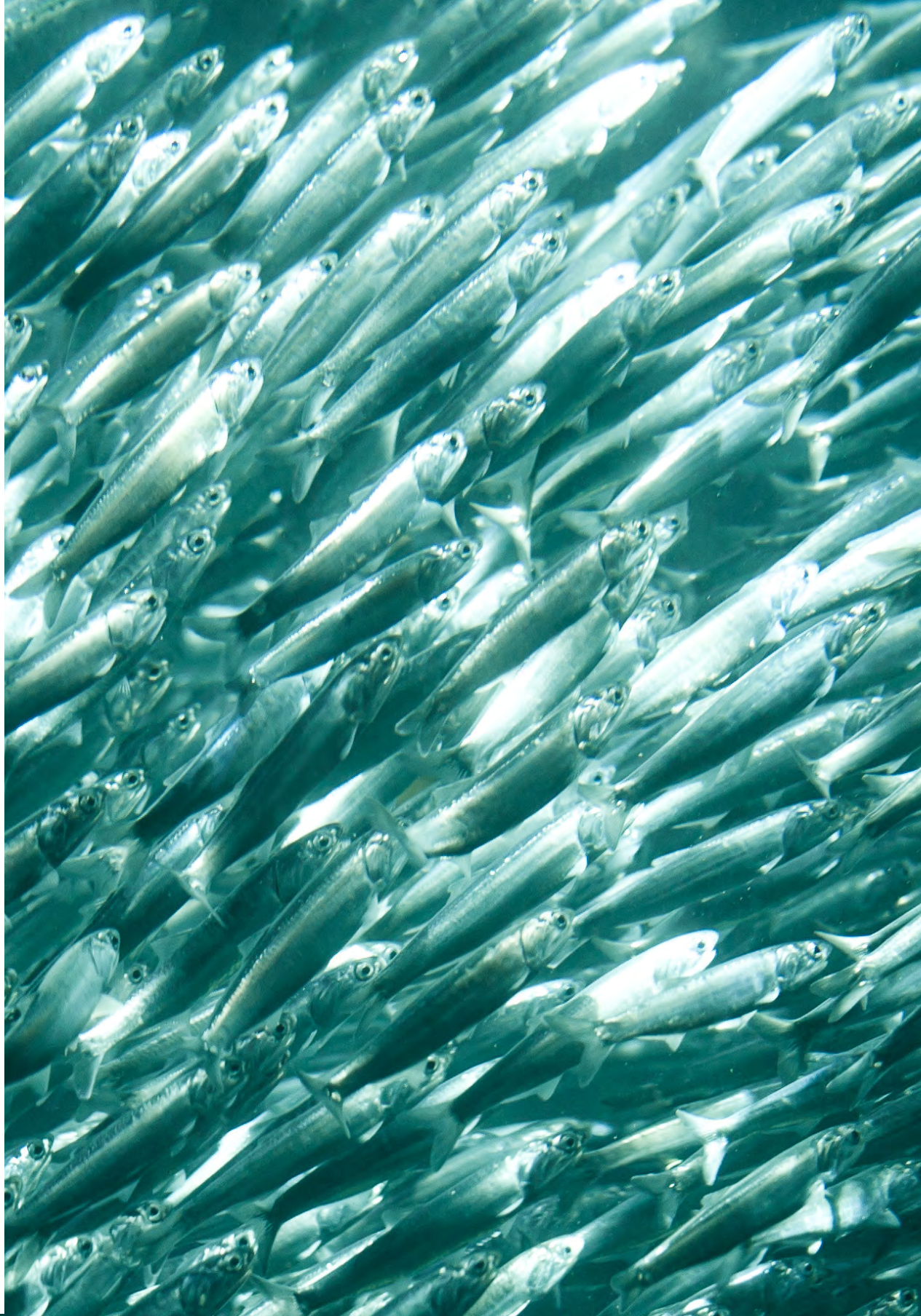
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EXECUTIVE REPORT

California boldly leads the nation with its broad, forward-thinking legislation and policy for healthy ocean ecosystems, demonstrated by the 1999 adoption of the Marine Life Protection Act (MLPA). As part of the MLPA, the California Ocean Protection Council, the California Department of Fish and Wildlife and many partners are implementing a statewide network of marine protected areas (MPAs), using a collaborative approach that empowers partners to play an active role in education and outreach, monitoring and research.

Over the past decade, much has been accomplished towards increasing awareness of and stewardship for the MPA Network, which is cause for celebration and recognition of the partnership approach adopted by the state. The diversity of partners (state, federal and local governments, California tribes and governments, NGOs, academic/research institutions, fishermen, non-consumptive recreational users and the private sector) attests to the strength and potential outreach capacity across the MPA Network.

EXECUTIVE REPORT

This report focuses on the education and outreach aspects of the partnership approach. As with any effective management team in any organization, constant evaluation, assessment, and refinement comprise a critical part of strategic planning. A needs assessment is a valuable methodology to detect discrepancies between expectations and current offerings, allowing identification of priority needs, problems, and opportunities to fill key gaps. To this end, the California Ocean Protection Council (OPC), California Department of Fish and Wildlife (CDFW), the MPA Statewide Leadership Team, and the California Marine Sanctuary Foundation (CMSF) embarked upon a needs assessment to shed light on MPA education and outreach and develop strategies to overcome and resolve key issues across the state.

Local community participation in this needs assessment was remarkable, due in part to targeted outreach to key constituencies, audiences, partners, and regions of the state. Surveys, interviews, site visits, and input were received from 231 individuals, representative of strategic partners in MPA education and outreach. Those who took part expressed an overwhelming appreciation for being asked to participate and a high interest in having future opportunities to support the statewide network of MPAs. To the best of our ability, we believe that the findings presented accurately capture real-world conditions and opinions from constituents covering the majority of MPA users.

Based upon the input received from the survey group, we have identified important outstanding issues to address. Doing so will help increase compliance & enforcement, and awareness of California's MPAs. Key findings are presented below, and a detailed description of key gaps and recommendations is provided in the full report. A series of logical next steps that allow us build upon the recently completed MPA education and outreach resource inventory are also offered. Results of this needs assessment will help to focus attention and direct funding and efforts to fill priority gaps, ensuring that California continues its role as a national leader in ocean conservation.

KEY FINDINGS

The key findings presented below have implications for compliance and enforcement and public awareness goals. The full report beginning on **page 12** details recommendations that address each goal.

01 The recreational fishing community remains an underserved audience and potentially powerful ally in need of targeted MPA outreach.

The recreational fishing community widely reports that finding local MPA information is challenging and inaccessible. Fishermen seek information on MPAs while searching for local conditions and regulations. Yet, MPA content is largely compartmentalized, making navigating to or "stumbling across" information during these searches, unlikely. MPA content should be bundled with other content of interest and in places of interest to fishermen.

The fishing constituency is interested in a different type of information than is available. While CDFW has invested considerable effort into regulatory brochures and the CDFW MPA mobile website, survey recipients communicate that local MPA and related fisheries materials are lacking from commonly used mobile apps, navigational charts, and tide web sites. They are largely interested in "stories" of successes, scientific studies and anecdotes about trends in ocean conditions.

The need for language translations was modest, with a few site and community-specific fishing groups recommending bilingual or trilingual translations. Demand for translation, particularly regulatory language, is needed in specific pockets of active, fishing communities throughout the state, in places like Humboldt, San Francisco, San Diego and Los Angeles counties.

02 Printing, distribution and continued replenishment of materials are major obstacles to sustained outreach.

Many MPA materials have been distributed broadly and are well received, but these are regularly out of stock. Reproduction and distribution are an ongoing struggle, which require: a) a system for reprinting and updating, b) a source of sustained funding, and c) a coordinated approach for distribution and replenishment. While harbors, marinas, bait shops, tourism centers, Chambers of Commerce, state, county and local parks are willing allies, reprinting, distribution, and refreshing of print and online materials are major obstacles to sustained outreach.

KEY FINDINGS

03 Basic knowledge of local MPAs is commonly absent for strategic outlets that interface with millions of visitors to California's coast each year.

Educational presentations and/or trainings for audiences who interface with coastal visitors such as lifeguards, businesses, harbors and marinas, tourism outlets, and elected officials are sorely needed. Within each region, MPA toolkits should be made available, and a "train the trainers" educational strategy should be implemented. For many State and County Parks, aquaria, and popular interpretive centers, initial outreach on MPAs was conducted to educate and arm staff with MPA materials. However, due to high staff and volunteer turnover, **continued trainings are needed on a regular basis**.

04 Locally-relevant, interesting and "hopeful" MPA content in contemporary media formats is needed.

Early CDFW MPA outreach efforts were largely focused on ensuring regulatory awareness. Now we are at a stage where upbeat, fact-filled, story-based narratives about local areas are desired. Partners are eager and well-suited to integrate MPA messaging into existing outreach materials. Content that connects people to places and showcases success stories would allow new partners to incorporate MPAs into their communications. This should be relatively easy, as for many MPAs, great content already exists that can serve as a starting point to adapt existing messages or develop new materials.

MPA Content should be packaged in a format conducive to today's mobile platforms and applications (e.g. Facebook, Instagram, YouTube). For many, social media has become the primary means of information gathering and brings a large demand for easily digestible stories accompanied by graphically appealing images. Resources need updating to be more visually appealing and modern technologies, mobile platforms and applications should be adopted. Most view MPAs positively and would be willing outreach partners if content were more easily available and appealing for their audiences.

MPA messaging should be combined with other ocean topics. There was a consistent request to bundle MPA content with other issues, rather than be treated as a stand-alone topic. When exploring many facets of the world's ocean, people intermingle multiple topics and typically stumble upon MPA content while searching a range of other topics. Partners need breadth and flexibility to communicate about MPAs in concert with other relevant issues.

KEY FINDINGS

05 Strategic, targeted, and audience- specific tools and approaches are needed for each product, program, or training.

There is considerable demand for MPA materials across the state, though it needs to be geographically- and audience-specific. Print publications, presentation slides, website content, and infographics were the most common requests. Each product must be tailored strategically to the particular target audience, with both the product and dissemination method critical to success.

The image below identifies the tools that rise to the top of requests for each audience.

AUDIENCE- SPECIFIC **TOOLS REQUESTED**

- **The Fishing Community** request pocket-size waterproof brochures and digital maps that include MPA coordinates and regulations.
- **Ocean Recreation Businesses** overwhelmingly request waterproof brochures, laminated PowerPoint notebooks with local ocean content, and pocket-sized printed maps.
- **Harbors and Marinas** need pocket waterproof brochures, CDFW regulatory books, and local MPA website overview pages.
- **Tourism Outlets/Chambers of Commerce** want interesting website and social media content and presentations to local elected officials.
- **Tribal Communities** need site-specific, broad ocean resource stewardship messaging that utilizes traditional storytelling for their ancestral lands.
- **Government Agency Staff** desire staff educational sessions, presentations and informal updates on local coastal issues.
- **Educators** (NGOs, Aquaria, docents, teachers) have diverse needs which largely represent the specific audience or issues they focus on.

RECOMMENDATIONS

High-level actions that fill key gaps and leverage the past decade of accomplishments are presented below, aligned with the MPA outreach objective goals: 1) **Compliance & Enforcement** and 2) **General Public Education**.

A menu of projects that fulfill the needs articulated by respondents are presented in the full report, with estimates of the cost, effort, and impact to help the Statewide MPA Leadership Team to make informed decisions when allocating resources.

OBJECTIVE

TOP RECOMMENDATIONS

COMPLIANCE & ENFORCEMENT

1. Get MPA materials into the hands of the recreational fishing community.

2. Develop and deliver compliance/enforcement presentations to increase knowledge of partner agencies, boaters, and ocean recreation businesses.

3. Incorporate MPA boundaries into digital charts, popular mobile apps, and Tidebooks and advertise to boating community.

4. Integrate MPAs into broader CDFW agency outreach efforts.

5. Publish "stories" in popular fishing magazines, websites, and newsletters.

6. Expand recreational fishing kiosks at enforcement problem sites.

7. Address priority translation needs at key compliance AND enforcement problem sites.

8. Address remaining high priority harbor/boat launch signage gaps.

GENERAL PUBLIC AWARENERSS

1. Targeted distribution of MPA interpretive toolkits to high value places and programs.

2. Create story-like content to supplement existing outreach and publish in popular digital and print publications.

3. Develop an ongoing MPA educational program to train docents, volunteers, and agency staff.

4. Amplify, support and coordinate social media campaigns.

5. Weave MPA messaging into non-MPA partner content.

6. Address high value audience needs (tribes, non-english speakers, teachers, camps, youth programs).

NEEDS ASSESSMENT FINDINGS

GAPS IN AVAILABLE MPA CONTENT

85%

WANT CALIFORNIA MPA SUCCESS STORIES

72%

WANT SITE-SPECIFIC STORIES FOR LOCAL MPAS

MPA EDUCATION AND OUTREACH OBSTACLES

87%

ARE IN NEED OF PRINTED MATERIALS

86%

HAVE DIFFICULTY DISTRIBUTING AND REPLENISHING MATERIALS

82%

THINK MPA CONTENT SHOULD BE BUNDLED WITH OTHER OCEAN CONSERVATION CONTENT

66%

LACK THE STAFF TO CONDUCT MPA OUTREACH

TRANSLATED MATERIALS

54%

INDICATE NO NEED FOR TRANSLATED MATERIALS

OF THOSE THAT EXPRESSED A NEED FOR TRANSLATION:

34%

REQUEST SPANISH TRANSLATION

17% REQUEST MANDARIN TRANSLATION

17% REQUEST VIETNAMESE TRANSLATION

MAIN REPORT

ABOUT THE SURVEY

To complement and leverage existing investments in the MPA Management Program, CMSF created a needs assessment survey to identify key gaps in MPA education and outreach efforts. The survey design and questions were advised by ERG/Blue Earth Consultants and was distributed to over 1,500 people statewide via newsletters, directed email, email list serves, phone calls, and in-person meetings. Groups surveyed included ocean recreation businesses, chambers of commerce and tourism outlets, NGOs, interpretive centers, local, state, county and agency staff, tribal communities, scientists, docents/volunteers, recreational and commercial fishermen, harbors/marinas, and MPA Collaborative members. In total, 231 surveys were completed with representative responses by county, occupation, and targeted audiences (Figures 1,2,3). To view the survey questions, please see Appendix A. In addition, over 30 post survey interviews were conducted with key experts to further refine and explore recommendations and ascertain effort, costs, and obstacles for priority actions. Where any gaps were identified, CMSF reached out to fill those gaps to gain a better understanding of an underrepresented audience, location, or group. To date, a lot of effort has ensured traditional outlets (e.g. interpretive centers, NGOs, aquaria, state parks) have access to MPA resources. However, the people likely to be *using* the MPAs access them from different places, often marinas, tackle shops, and ocean recreation businesses. These customers generally have an affinity for nature and want to experience being on the water. For this reason, CMSF also directed surveys towards these somewhat untapped, potential new partners.
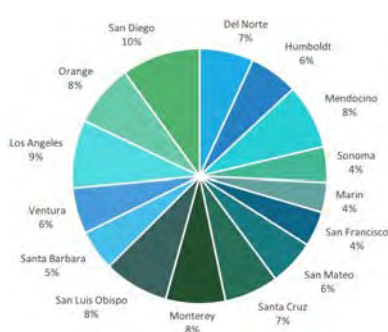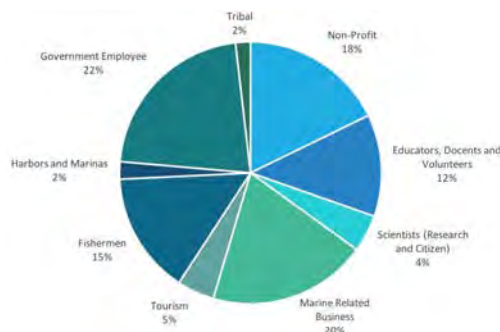

FIGURE 1: Survey Respondents by County

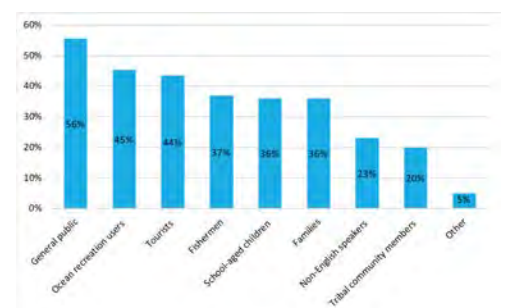**FIGURE 2:** Survey Respondents by Occupation

FIGURE 3: Survey Respondents by Targeted Audience

KEY FINDINGS

Five major findings that have implications for *increasing compliance and enforcement and increasing public awareness of MPAs* were identified. A summary infographic of major findings can be found in Appendix B. In addition, respondents from all constituencies communicated a need to focus on 1) **distribution, dissemination, tracking success**, 2) **trainings and educational presentations**, and 3) **providing positive, captivating, graphically appealing MPA content** so that new and existing partners can be assets in spreading the word about MPAs. Findings are discussed in more detail below.

1 THE RECREATIONAL FISHING COMMUNITY REMAINS AN UNDERSERVED AUDIENCE AND POTENTIALLY POWERFUL ALLY IN NEED OF TARGETED MPA OUTREACH

Recreational anglers almost unanimously report a major lack of easily accessible information about MPAs. While CDFW has invested considerable effort in regulatory brochures, booklets, and website content, which fishers greatly appreciate, there is a call for details about fisheries, responses to protection efforts, enforcement effectiveness, and local stories connected to MPAs. In addition, requests for more "guys on the water" armed with easy to understand MPA information was consistently cited. CDFW survey respondents indicated that a small percentage of the fishing community are aware of the MPAs and are willfully breaking the law, given the investment of their outreach to date. However, responses from anglers in our survey widely counter this assumption and indicate a genuine interest in, yet confusion about MPAs. Addressing the content, distribution, and replenishment needs above would alleviate many concerns and fill this critical gap in MPA outreach. To reach fishermen directly, suggestions included placing local MPA content in "other" places where anglers receive information such as pop-up windows when purchasing fishing licenses online, inclusion in digital charts and mobile apps, and stories in fishing magazines

Demand for translated materials is modest, location dependent and varies with regulatory and interpretive needs; overall, 54% of respondents indicated there is no need for translated materials (Figure 4), with much of the demand originating from the enforcement wardens for simplified regulatory language.
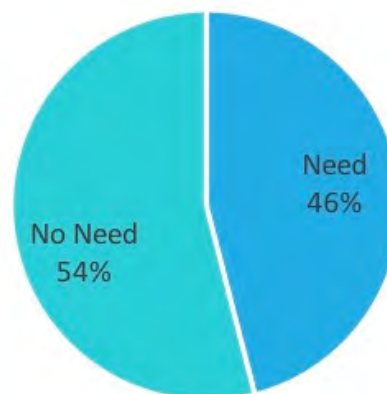
FIGURE 4: Need for Translated Materials

KEY FINDINGS

Requests for language translations generally derive from needs of small pockets of active fishing communities such as in Humboldt County, San Francisco, San Mateo, and Southern California counties that need addressing. Spanish (34%) is the most commonly requested, followed by Mandarin (17%) and Vietnamese (17%), with the remainder in Cantonese, Laotian, Portuguese and Korean. Most businesses and tourism sites prefer English. Of those that requested interpretive translations, they requested printed materials (brochures, flyers, maps, signs) rather than videos, kids' activities, or teaching/training materials.

2 PRINTING, DISTRIBUTION, AND CONTINUED REPLENISHMENT OF MATERIAL IS A MAJOR OBSTACLE TO SUSTAINED OUTREACH

While a cadre of organizations incorporate MPA content into their outreach, the majority report an inadequate supply of materials or a lack in the type of content needed for effective communication as a problem (87%) (Figure 5). Having sufficient printed materials to distribute is their single largest obstacle to awareness building, with 66% reporting it is a big problem. At bait and tackle shops, harbors, marinas, and ocean recreation businesses, demand is high for waterproof regulatory brochures. Chambers of Commerce, interpretive and tourism centers request interpretive brochures and maps.

Distribution and replenishment of undersupplied materials is also a major obstacle. 86% of respondents indicated difficulties in distributing and disseminating materials to their audiences (Figure 5). Print publications are consistently out of stock and regular stocking is near impossible due to lack of funding.
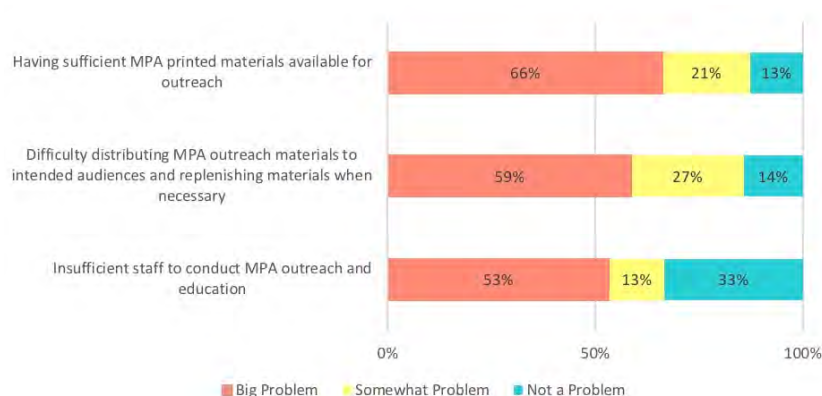
FIGURE 5: MPA Education and Outreach Obstacles

Similarly, a lack of capacity to replenish, update, and check in with strategic distribution points was noted as a constant challenge (66%) (Figure 5), resulting in inability to disseminate materials in a timely and consistent manner to appropriate audiences. Targeted and strategic distribution was consistently requested across audiences. Fortunately, harbors, bait shops, tourism centers, Chambers of Commerce, state, county and local parks are all willing allies and expressed interest in assisting with MPA outreach if given sufficient materials.

KEY FINDINGS

3 — BASIC KNOWLEDGE OF LOCAL MPAS IS COMMONLY ABSENT FOR STRATEGIC OUTLETS THAT INTERFACE WITH MILLIONS OF VISITORS TO CALIFORNIA'S COAST

Awareness of MPAs at the most basic level is widely lacking across the state. 66% of respondents indicated they lack sufficient staff to conduct outreach and disseminate resources on local MPAs (Figure 5). While trainings of local municipal, state, and waterfront enforcement staff, and ocean recreation businesses has been accomplished in some locations, seasonal trainings and refreshers are necessary to keep up with staff turnover. Almost all ocean recreation businesses were interested in staff presentations; local NGOs, interpretive centers and docent and volunteer programs requested regular, rolling trainings; and state agency staff including State Parks would like scheduled annual staff trainings that highlight their local area, issues, and MPAs. Among local agencies and ocean recreation businesses, educational presentations and informal discussion sessions were highlighted as the most effective strategy for increasing awareness. Content for the trainings was requested to be hopeful, interesting, and inclusive of local stories and details, rather than exclusively rules and regulations. Responses suggest that a local, strategic "boots on the ground" approach may be most effective.

4 — LOCALLY-RELEVANT, INTERESTING AND "HOPEFUL" MPA CONTENT IN CONTEMPORARY MEDIA FORMATS IS NEEDED

The biggest gap in available content is easy-to-understand, positive messaging with uplifting visuals. Requests for site-specific "stories" featuring local species and facts, with limited regulatory and scientific language were considerable. Current MPA messaging was viewed as overly complicated and uninspiring, with words such as ecosystem, habitat, diversity, and connectivity called out as overly complex. Specifically, respondents requested success stories (85%) and local MPA stories that connect readers to a place (72%) (Figure 6).

Content that is grounded to people and places, with graphics, audio and story was called out specifically. Regulatory content was not viewed as a major gap, with 89% indicating this content widely available.

FIGURE 6: Gaps in MPA Content

Stories should be produced in a manner suitable for distribution on contemporary mobile media platforms. By first updating content to be more dynamic and progressive, and then adopting new technologies and platforms for dissemination, broader and diverse audiences can be targeted. This will amplify our reach across audiences, platforms, and issues, embracing new and younger partners.

KEY FINDINGS

The majority of respondents (82%) requested that MPA content be packaged with other ocean issues (Figure 7). Thirty percent of respondents already conduct MPA outreach in conjunction with other ocean conservation issues (e.g. climate change, plastic pollution). As research conducted by Resource Media indicated in 2011, people are not "searching" for MPA content, rather they come across it while learning about other topics (local parks to visit, things to do, etc.). This suggests that MPA content be placed in popular outlets where large numbers of people will happen upon it.
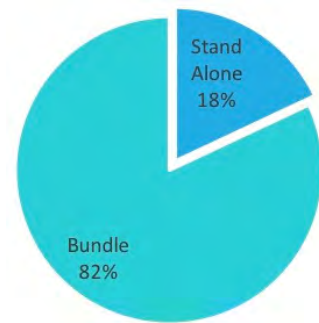

FIGURE 7: Request for Bundled Ocean Conservation Content and Messaging

5   STRATEGIC, TARGETED, AND AUDIENCE- SPECIFIC TOOLS AND APPROACHES ARE NEEDED FOR EACH PRODUCT, PROGRAM OR TRAINING

Depending upon whether the goal is compliance and enforcement, or increasing public awareness, the preferred tool varies considerably. The need for site- and audience-specific tools was mentioned repeatedly. For each audience, the primary tool and approach requested is identified below. In order of overall demand, they are (1) print publications, (2) web content, (3) educational training, (4) waterproof maps, and (5) local stories. A consistent comment received alluded to the need for partners doing outreach to first consider their target audience and how that audience best receives information before selecting the right tools that meet the needs of their audience, geography, and programmatic needs.

Generally, each location prefers a tool specifically tailored to their location, audience and approach. Often this tool is very different than what is perceived by interpretive experts as needed, and in some cases, it does not exist. Of respondents that have MPA outreach materials to use, brochures (53%) and signs/exhibits (33%) are the most popular tools (Figure 8).
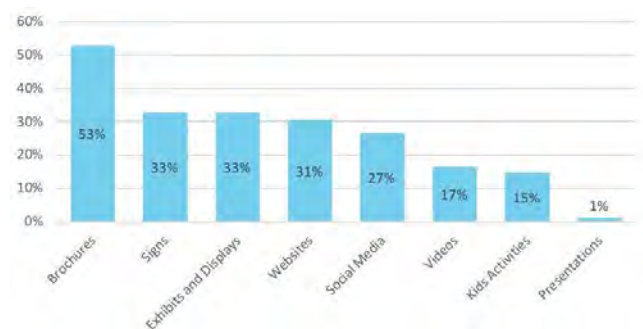
FIGURE 8: Materials Used for MPA Outreach

To review a compilation of requested needs by audience and existing products that could be modified and/or reproduced, please see Appendix C and D categorized by Enforcement/Compliance and Public Awareness.
For each goal, the appendices specify the most commonly requested needs by respondents, and then identify existing products – available from a number of partner sources across the state- that can be modified or adapted. While not a comprehensive list, these appendices are a testament to MPA education efforts that state and partner organizations have invested to date.

KEY FINDINGS

TABLE 1. FINDINGS BY AUDIENCE.
For each audience, the current level of awareness and interest in participating/contributing to MPA outreach is identified. The second column identifies requested tools and content to serve their education needs. The third column identifies repeated or noteworthy comments of respondents.

ENFORCEMENT AND COMPLIANCE

AUDIENCE	CURRENT AWARENESS OF MPAS & INTEREST LEVEL	REQUESTED NEED	COMMENTS
Harbors and Marinas	• Highly variable awareness and interest	1. Printed Materials (CDFW regulatory booklets, Waterproof brochures and pocket guides) 2. Website content 3. Exterior Displays (signs, kiosks, exhibits)	• Most have CDFW regulatory booklets as well as local brochures, yet these need consistent distribution and replenishment
Fishing Community	• Commercial fishers/charter captains largely aware • Individual recreational fishermen/smaller operations largely unaware • Most learned about MPAs from CDFW regulatory handbooks or harbor-specific MPA brochures	1. Printed Materials (CDFW regulatory booklets, waterproof brochures and pocket guides) 2. Integrate MPAs into digital charts and mobile apps 3. Exterior Displays (1-stop informational kiosk)	• Pocket size guides well received, yet largely out of supply • Vast majority of fishermen want to understand rules, but difficulty of obtaining information contributes to lack of awareness
Government Staff: Local, State & Federal Agencies	• Variation in knowledge depending on site & agency • High interest in their particular geography	1. Presentations/trainings 2. Exhibits/displays 3. Website content	• Keen interest in understanding local connections to coastal issues for outreach and policy purposes

GENERAL PUBLIC AWARENESS

AUDIENCE	CURRENT AWARENESS OF MPAS & INTEREST LEVEL	REQUESTED NEED	COMMENTS
Ocean Recreation Businesses: SCUBA shops & clubs, boat rentals, charter & wildlife observing businesses	• Vast majority have limited knowledge • Small number expressed negative opinion of MPAs • Willingness to educate staff/clients, if armed with appropriate content	1. Local waterproof brochures 2. Waterproof, local, upbeat content 3. Website content	• Concern over amount of poaching they witness inside MPAs expressed • Many play an active role in informing offenders
Tourism Outlets, Chambers of Commerce, Visitor Centers	• Little to no knowledge • Eager and interested	1. Website content 2. Print materials (brochures) 3. Exhibits/posters 4. Social media content 5. Educational sessions	• Delivery is critical and must be locally grounded, with charismatic species, overview maps, and attention-grabbing detail
Educators: NGOs, docents, aquaria, teachers	• Awareness of MPAs varies depending upon source – some NGOs etc. are very aware of MPAs, while others are not • High interest	1. Local stories 2. Brochures 3. Presentations 4. Display Materials (exhibits, posters) 5. Social media content 6. Tabling materials for events	• Need messaging that can be integrated into existing outreach materials and programs • The vast majority conduct MPA outreach in conjunction with other topics
Tribal Communities	• High awareness • MPAs are just one component of ocean stewardship and cultural history messaging	1. Cultural stories connected to place, tribal history, language, use, and knowledge of MPAs 2. Programs and Materials	• Many MPAs are located in ancestral lands • Little outreach/messaging acknowledges the connection between tribal uses and protections of these areas

RECOMMENDATIONS

While considerable progress has been accomplished over the past decade, recommendations are presented below to build upon previous investments and existing partner capital. For each recommendation, values for the following attributes were estimated: complexity, time to implement, effort required to implement, cost, impact of that activity to marine resources, and investment lifetime (Table 2 and 3). Using these attributes for each recommendation, a cost-benefit, complexity analysis was conducted (Figure 9 and 10). This is a method (sometimes referred to as a value-complexity analysis) that offers a framework for prioritizing among various implementation options. Such an approach is often used in the business world, when making difficult decisions. Recommendations for 1) increasing compliance and enforcement, and 2) increasing general public awareness are presented independent of one another.

A general approach for all recommendations is suggested as a precursor to implementation:

1. Identify the strategic target audience.
Highest impact sites and contacts at local, regional, and statewide scales must be compiled. A distribution plan and database should be created, and new, untapped partners should be engaged.

2. Tailor MPA content to target audiences.
A wealth of site-specific, local content must be modified, adapted, or created for target purposes.

3. Distribute and disseminate MPA products and/or programs.
The oft-missing component of distribution and sustained dissemination must become a higher priority.

4. Assign an oversight coordinating committee.
To ensure implementation is organized, cost-effective and successful, a coordinating body should assist with implementation, monitor use of approved messaging and templates and track progress.
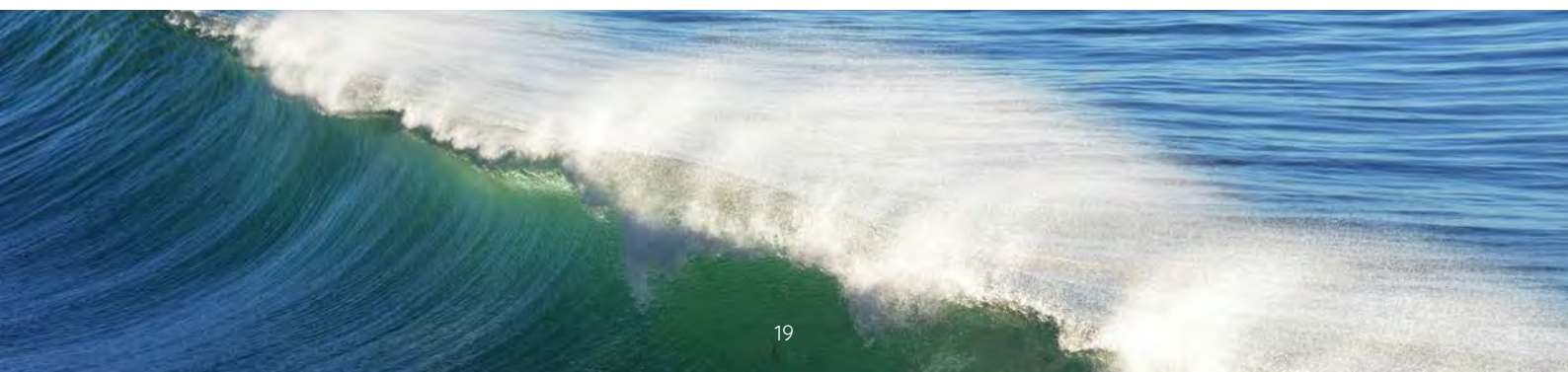
RECOMMENDATIONS TO INCREASE COMPLIANCE AND ENFORCEMENT OF MPAS

A considerable body of successes are available to build upon and use as models for implementation. Appendix E provides an overview of the pilots and successful examples. The appendix is organized by recommendation. All of these recommendations would benefit from annual, semi-annual or biennial refreshing and delivery.

1 TARGETED DISTRIBUTION OF MPA PRINT MATERIALS TO THE RECREATIONAL FISHING COMMUNITY

1.a: Reprint and distribute harbor brochures to recreational anglers through key conduits.
Every harbor has existing MPA brochures that require updating, reprinting, and replenishment. Important conduits include bait and tackle shops, West Marine, boat launches, and fishing clubs. Specific attention is required to fill North Coast gaps and violation areas.

1.b: Distribute CDFW regulatory booklets to recreational anglers.
Early efforts by CDFW to distribute MPA booklets were remarkably effective, however stocks are out in many locations and should be replenished. Direct contact is recommended to build critical relationships, understand concerns, and address specific opportunities within the fishing community.

1.c: Create, print and distribute ocean recreation guides to key recreational fishing users. Guidebooks that orient fishers to fishing regulations with common sense guidance for wildlife disturbance and local MPAs have been piloted as laminated notebooks for use on the water. They have been highly effective and can be tailored to each region. A statewide template is available, and should be accompanied by 90 second and 3-minute scripts for training staff and ocean users. These should be produced, localized, printed, and distributed statewide.

1.d: Distribute all of the above (1.a-1.c) in an ocean recreation MPA toolkit.
The number one demand by those surveyed is the combination of the materials referenced above in an MPA toolkit (Appendix F), including adding several excellent resources that are available in specific regions from local partners. Materials must be distributed in the hands of the people that need them most. Unfortunately, historically the materials have needed printing, updating, or distribution.

Note: For each activity, a manageable, finite number of key businesses service the recreational fishing community along the coast. Within each region a prioritized list of high-value target audiences needs to be identified for each locality and effort dedicated to those outlets. A coordination body at the local and statewide level is needed to develop strategic targets, create and update content, package materials, facilitate cost-effective distribution and replenishment, and track outcomes.

RECOMMENDATIONS TO INCREASE COMPLIANCE AND ENFORCEMENT OF MPAS

 # 2 DEVELOP AND DELIVER PRESENTATIONS TO INCREASE KNOWLEDGE OF ENFORCEMENT OFFICIALS AND COMPLIANCE BY CONSUMPTIVE USERS

2.a: Enforcement Trainings targeting allied agencies to increase effectiveness and efficiency of MPA compliance conducted in coordination with CDFW.

2.b: Boating Seminars targeting recreational fishermen, yacht clubs, Coast Guard Auxiliary, port captains in informal settings.

2.c: Local Presentations targeting County/State Parks, Lifeguards, Port Districts, elected officials and citizen science groups that interact with consumptive users. The content would vary depending on the audience, and will need to be locally tailored and of interest to issues of importance to each specific community.

Note: For the above, priority attendees and venues would be identified. A template would be crafted that can be modified with local facts, graphics, and stories tailored to each audience. A coordinating body should help facilitate cost-effective implementation through the use of templates, approved messaging, and access to relevant local content for presentations.

 # 3 INCORPORATE MPA BOUNDARIES INTO DIGITAL CHARTS, MOBILE APPS, AND TIDEBOOKS

MPA boundaries and regulations need to be incorporated into digital charts and popular apps in a way that does not require the user to add, update, or select MPAs. We recommend emphasis on existing commercial products, programs and software, rather than developing a novel platform.

3.a: Have Trimble and Garmin add MPAs into their products. Efforts are underway to identify technical obstacles that are anticipated to be resolved with Garmin products in 2019. At that time, advertising and awareness-building to anglers will be critical and is recommended.

3.b: Have NOAA Coast Survey include MPA boundaries in the S-57 Marine Charts. Upload state MPAs into online, downloadable charts and incorporate into print publications and charts.

3.c: Address major online, mobile app needs. We recommend targeting popular fishing applications to include state MPAs. Currently, the CDFW mobile website is insufficient. Internet is needed to operate, which most boaters do not have access to while on the water. Alternatively, support for a functional high-quality recreational fishing app (e.g., Fish Legal) could be provided by promoting the app, providing technical expertise, and linking with agency regulatory content.

3.d: Get MPAs onto Google Earth maps. Currently, the MPAs appear on Google Earth maps as a point, however the boundaries are not automatically loaded, rather one must have the actual GIS files to add to their computer. This issue is of most concern to the NGO community that supports the fishing community, since Google Earth is not typically the way that fishermen find regulatory information. Addressing this would however enable NGOs to create materials that could then be useful in outreach.

RECOMMENDATIONS TO INCREASE COMPLIANCE AND ENFORCEMENT OF MPAS

3.e: Include MPA boundaries and regulations in online and hard-copy Tidebook publications. While some localized efforts to include MPAs in Tidebooks have been successful (Dept. of Boating and Waterways, Seabird Protection Network, The Bay Foundation), a statewide, universal effort should seek for the inclusion of MPAs in nearly all Tidebooks produced and distributed, beyond those sponsored by NGOs and DBW. The most widely used source of online tide information is the NOAA tide charts, though it will likely be highly challenging to add site specific California content to this federal website.

4   INTEGRATE MPAS INTO BROADER CDFW AGENCY OUTREACH EFFORTS

4.a: Modify fishing license application process to prompt user to read about MPAs. The objective is to place information in the places where anglers are most likely to interface with it. There are currently three ways to obtain a fishing license in California:

1. *Online:* Add a link to MPA webpage on online mobile license sales and service page.
2. *License Agent:* Using tracking information collected by CDFW on where sales of fishing licenses occur, identify high priority commercial agents (Big 5, CVS, Walmart, Dicks, Turner Outdoorsman), and target these with MPA print materials.
3. *CDFW license sales office*: There are five major coastal offices for license applications. Supply these with MPA print and online materials.

4.b: Allow the California Recreational Fisheries Survey program to instruct port samplers to perform valuable MPA outreach with their normal responsibilities. Port samplers could hand out MPA materials and answer questions as part of their outreach during the fishing season.

4.c: Develop an awareness campaign for the recreational charter fleet. Concerns about MPA regulation compliance by recreation charter fishing vessels were raised consistently. To address this compliance issue, a dedicated educational campaign targeting recreational charter fishing vessels, captains, and crew should be implemented. The campaign would entail distribution of informational materials, phone calls, and site visits to targeted charter vessels. In combination with boating seminars, recreational charter companies should be enlisted as partners in hosting open events for dialogue.

4.d: Improve presence of MPA information on CDFW website. Finding MPA information from the CDFW homepage is difficult and not intuitive for anglers searching for regulations that impact where and how they fish. Including a link from the "fishing" page, and packaging content in one location with spatial, temporal, and species regulations would help those using the CDFW website to better understand the complex web of regulatory rules they need to follow.

RECOMMENDATIONS TO INCREASE COMPLIANCE AND ENFORCEMENT OF MPAS

5 PUBLISH STORIES FOR POPULAR FISHING MAGAZINES, WEBSITES AND NEWSLETTERS

There are only a few recreational fishing magazines and websites that have high readership and circulation. A long-term strategy to insert positive MPA information into interesting articles should be developed. While initially the articles may not be exclusively focused on the MPAs, the long-term goal is to infiltrate popular fishing magazines and communications with value-add content that helps inform them about the MPAs.

5.a: Host a working group meeting with scientists, fishermen, and local monitoring groups to brainstorm story ideas and explore sources of information including OST blogs, anecdotes, and interesting observations of trends and issues.

5.b: Craft stories of significance to recreational fishermen. Stories that deliberately focus on those topics of concern to anglers (species facts, natural history, ocean conditions) are in high demand. Work collaboratively with a few well-respected anglers to craft articles of interest to the fishing community, engaging them as ambassadors of stewardship, and easing infiltration of MPA articles into relevant publications.

5.c: Target key online and print outlets. For both digital and print publications, only a few have popular readership. A long- term approach of infiltrating popular publication outlets with MPA content is suggested. A schedule for publication statewide for these high-value targets must be developed in a coordinated manner with partners on cross-issue topics.

6 EXPAND FISHING AND MPA KIOSKS AT ENFORCEMENT PROBLEM SITES

Additional fishing kiosks at select harbors and boat ramps are recommended, on a site-by-site need. This pilot project successfully integrates all sorts of recreational fishing information into a one stop shop. It incorporates the need to include cross-topic content and orients the visitor to the harbor/boat launch commercial space. We recommend installing kiosks at fish cleaning stations, parking meters, and bathrooms for enforcement problem locations, remote sites, and high visitation areas. Ongoing maintenance and content refreshment problems must be addressed.

7 ADDRESS PRIORITY TRANSLATION NEEDS FOR SPANISH, MANDARIN AND VIETNAMESE AT ENFORCEMENT PROBLEM SITES

At a few active fishing communities and a handful of problem enforcement locations, language appears to be the driver for lack of compliance. These problem sites could easily be addressed on a case by case basis. Within each non-English speaking community, a small portion of the members actively collect invertebrates and fish typically from piers and bluffs along the coast. Many are unaware of the regulations, and with tailored outreach (which may or may not require printed materials), compliance of MPA regulations may be greatly increased.

RECOMMENDATIONS TO INCREASE COMPLIANCE AND ENFORCEMENT OF MPAS

7.a: Create key phrase translation cards and train CDFW and allied agency officials in appropriate use. A pilot project with translations of key phrases for CDFW wardens and allied partner use could be replicated where needed.

7.b: Legal translations of fishing regulations. Translations of specific regulations for those problem sites in appropriate languages could be addressed.

7.c: Install additional icon signs to circumvent the need for language translations. In no take MPAs, placement of no fishing/no collecting icon signs may alleviate compliance issues.

7.d: Targeted outreach to non-English speaking communities at venues where they will be receptive to information. Tight knit communities of non-english speaking fishermen (typically those who collect invertebrates from the intertidal zone and fish from shore and piers) exist in small pockets of the state. Business owners who supply them with bait suggest that hosting informational sessions at community gathering places (temples, churches, and community centers) would be the most effective strategy to reach them.

8 ADDRESS REMAINING SIGNAGE GAPS AT HARBORS, MARINAS AND BOAT RAMPS

In enforcement problem locations, high use areas, and remote sections of the coast, key signage gaps should be filled.

PRIORITY RECOMMENDATIONS
TO INCREASE COMPLIANCE AND ENFORCEMENT OF MPAS

Each recommendation was classified based on a number of attributes to provide a framework for determining how to prioritize and select among various implementation options. For the compliance and enforcement recommendations, each activity was assessed based on: 1) complexity, 2) time to implement, 3) effort required, 4) cost, 5) impact to resource and 6) investment lifetime*. To provide a structure for determining how to prioritize among various recommendation activities proposed, a cost–benefit complexity analysis was conducted. For each activity proposed, numeric values based on input from experts across the state were assigned, which correspond to the EASY (1–3), MODERATE (4–6), HIGH (7–10) categorizations in the subsequent Table. Numeric values were used to graph each recommendation onto a prioritization framework to evaluate the complexity of the activity versus the impact to the resource of each recommendation. Figure 9 below represents the findings of this analysis and illustrates a comparison among options. Activities in green are those that are relatively easy to accomplish and high impact. Those in yellow require more effort, but are also high impact, and may be considered more strategic options. Those in orange are easy to accomplish, but relatively low

importance or impact, and those in red are costlier and less impactful than other options. While the graph and table below presents information in a simplified narrative form, the numeric values assigned for each variable are available in Appendix G. While many real-world variables will influence the selection of specific activities, this framework is offered as an approach for selection.

Given the ranking system, the next recommended steps are to evaluate these options through the lens of the MPA Statewide Leadership team priorities to determine which are of highest priority and to identify synergies with other ongoing efforts.

A considerable body of successful products and programs are available as starting points for modification, adaptation and adaptation for many of these recommended activities, and can be found in Appendix E.

FIGURE 9. Cost–Benefit Analysis of Recommendations to Increase Compliance and Enforcement of MPAs

1a: Print/distribute harbor brochures
1b: Distribute CDFW brochures
1c: Localize/distribute ocean guides
1d: Print/distribute MPA Toolkits
2a: Enforcement trainings
2b: Boating seminars
2c: Local agency education
3a: Work with Garmin/Trimble
3b: Get MPAs in NOAA charts
3c: Mobile app (fishing) needs
3d: Get MPAs onto Google Earth maps
3e: Include MPA boundaries in Tidebooks
4a: Modify fishing license application to prompt users to read about MPAs
4a1: Online application
4a2: License agent
4a3: CDFW License office
4b: CRFS include MPAs in outreach
4c: Recreational charter fleet outreach
4d: Improve MPA presence on CDFW website
5a: Capture scientific/fishing anecdotes
5b: Craft stories of significance to anglers
5c: Target key outlets for publication
6: Expand fishing kiosks
7: Fill translation needs
8: Fill signage gaps

*Note: Since investment lifetime varies considerably, a numeric value was not calculated for this attribute, though it is presented here as informational to decision-making.

PRIORITY RECOMMENDATIONS
TO INCREASE COMPLIANCE AND ENFORCEMENT OF MPAS

TABLE 2. Recommendations to Increase Compliance and Enforcement

Activity	Complexity	Time	Effort	Cost	Impact to Resource	Investment Lifetime
1. Targeted Printing and Distribution of Materials to Fishing Community						
1a. Print and distribute harbor brochures	EASY	*	EASY	$$	HIGH	BIENNIAL
1b. Distribute CDFW booklets	EASY	*	EASY	$$	HIGH	BIENNIAL
1c. Localize and distribute Ocean Guides	EASY	*	MODER-ATE	$$	LOW	BIENNIAL
1d. Print and distribute MPA Toolkits (1a-1c)	EASY	**	MODER-ATE	$$$	MODERATE	BIENNIAL
2. Trainings						
2a. Enforcement Trainings	MODERATE	**	MODER-ATE	$$	HIGH	BIENNIAL
2b. Boating Seminars	EASY	*	MODER-ATE	$	MODERATE	BI-ANNUAL
2c. Local Agency Education	MODERATE	**	MODER-ATE	$	MODERATE	BIENNIAL
3. Incorporate MPAs into Digital Charts, Mobile Apps, and Tidebooks						
3a. Work with Garmin/Trimble[1]	HARD	***	HARD	$$$	HIGH	ONE-TIME
3b. Get MPAs into NOAA charts	HARD	***	HARD	$$$	HIGH	ONE-TIME
3c. Mobile App (Fishing) needs	MODERATE	**	HARD	$$	HIGH	ONE-TIME
3d. Get MPAs into Google Earth map	MODERATE	***	HARD	$$	MODERATE	ONE-TIME
3e. Include MPA boundaries online and in Tidebooks	MODERATE	*	HARD	$$$	LOW	BIENNIAL
4. Key CDFW Actions to Integrate MPAs into their Broader Outreach						
4a. Modify fishing license application to prompt user to read about MPAs						
4a.1. Online	EASY	**	MODER-ATE	$$	HIGH	ONE-TIME
4a.2. License Agent	EASY	*	MODER-ATE	$	HIGH	ANNUAL
4a.3. CDFW License Office	EASY	*	MODER-ATE	$	MODERATE	ANNUAL
4b. Have CRFS include MPAs in their outreach	EASY	**	MODER-ATE	$	HIGH	ANNUAL
4c. Targeted communication to Recreational Charter Fleet	MODERATE	**	MODER-ATE	$$	HIGH	ONE-TIME
4d. Improve presence of MPA information on CDFW website	EASY	**	EASY	$$	MODERATE	ONE-TIME
5. Craft Local Stories						
5a. Capture scientific/fishing anecdotes	MODERATE	*2	EASY	$	LOW/MODERATE	ANNUAL
5b. Craft stories of significance to fishermen	MODERATE	**	EASY	$	MODERATE	ANNUAL
5c. Target key outlets in print and online	MODERATE	**	EASY	$	MODERATE	ANNUAL
6. Expand Fishing Kiosks	MODERATE	*	MODER-ATE	$$$	HIGH	ONE-TIME
7. Translations	MODERATE	**	MODER-ATE	$$	HIGH	ONE-TIME
8. Signage Gaps	EASY	*	EASY	$$	HIGH	ONE-TIME

LEGEND:

Complexity: Degree of difficulty as measured by jurisdictional, agency, bureaucratic or administrative ease in gaining approval to proceed.

Time to implement:
* Within 12 months
** ~ 1–2 years
*** 2–5 years.

Effort: Amount of effort required to achieve the task, if one assumes that the complexities are removed. So, for example, something may be highly complex (require coordination among State agencies and businesses) but if implemented the actual effort required could be minimal.

Cost: (rough estimates)
$: Up to 50,000
$$: 50,000–200,000
$$$: > $200,000K

Relative Impact of Activity to Resource: Degree to which implementation of the activity will have a positive impact to marine resources, as measured by number of people reached, ability to reach target audience, and effectiveness of outreach approach.

Investment Lifetime: Some activities require initial investment, while others require repetitive follow up. Time estimates to investment renewal needed are provided in this column.

NOTES:
Many activities can be done in parallel. Costs will vary. All recommendations require some level of follow up and maintenance. A considerable body of successes are available to build upon and use as models for implementation. Appendix E provides an overview of the pilots and successful examples.

[1] Efforts to address this are underway, and while challenging, this may be resolved within the near future.
[2] The time to craft the stories and organize groups is relatively short, however the strategy is a long term one that will require confidence building and collaboration over time. Benefits may not be immediately evident, but impactful over long-term.

RECOMMENDATIONS TO INCREASE GENERAL PUBLIC AWARENESS OF MPAS

A considerable body of successes are available to build upon and use as models for implementation. Appendix E provides an overview of the pilots and successful examples. The appendix is organized by recommendation. All of these recommendations would benefit from annual, semi-annual or biennial refreshing and delivery.

1 TARGETED DISTRIBUTION OF MPA INTERPRETIVE TOOLKITS (EXHIBITS, POSTERS, BROCHURE, LAMINATES, ETC.) TO PLACES AND PROGRAMS.

In each region, a few strategic outlets (interpretive centers, aquaria, NGOs, Chambers of Commerce, Informational centers) will be armed with MPA interpretive toolkits (See Appendix F for example of toolkits).

1a. Reprint or revise materials for MPA toolkits.

1b. Assemble and package MPA interpretive toolkits. Toolkits will be unique depending upon what is available and relevant in each locality.

1c. Supply key outlets and programs with local MPA toolkits. Digital or print packets of local MPA toolkits will be supplied to high-value targets in each region/location. Examples of potential recipients include MPA Watch, LIMPETS, iNaturalist, Junior Park Rangers, Junior Lifeguards.

Note: High-value target audiences need to be identified for each locality and effort dedicated to those outlets, only. A local, regional and statewide coordinating body should help facilitate cost-effective implementation.

2 CREATE STORY-LIKE CONTENT TO SUPPLEMENT EXISTING OUTREACH

To supplement partner outreach and make it more impactful, stories with images, anecdotes, and scientific findings for a range of MPAs should be crafted.

2.a. Host a working group meeting with local partners in each region to brainstorm story ideas, discuss possible outlets for publication, and coordinate writing/editing/publication effort.

2.b. Craft a few stories for each region.

2.c. Utilize story excerpts in social media campaigns (Recommendation 4 below).

2.d. Publish MPA stories in popular digital and print outlets (magazines, newspapers). In each region/area of state, a few key popular print and online outlets are good candidates for MPA stories and content. Example ideas include incorporating a few slides or talking point stories into partner presentations, cell phone tours, online publications, or educational sessions. Each region should identify these, develop a schedule for publication and responsibility, and ensure that these targets receive MPA stories on a somewhat regular basis.

Note: High priority outlets must be identified first, to plan for and target story creation to those outlets. Content will vary by geography, outlet, audience and target. A calendar should be created with target magazines, newsletters and online publications for a few stories per regions each year. A statewide coordinating body should assign writing and advertising responsibilities for story creation.

RECOMMENDATIONS TO INCREASE GENERAL PUBLIC AWARENESS OF MPAS

3 TRAIN THE TRAINERS

Create and deliver educational training program for docents & agency staff on MPAs. In some instances, in person presentations are required, whereas in other situations video trainings or webinars can be effective, depending on the target audience.

3.a. Create a video training for the state (short, fun, and entertaining) that can be used by ocean recreation businesses, clubs, Chambers of Commerce, Visitors Centers).

3.b. Create regional template PowerPoints with scripted text for a few audiences by region and deliver trainings (in-person or via webinars) to key institutions (State Parks, County Parks, Lifeguards, NGOs).

Note: Trainings, PowerPoints, and educational materials must be designed to match the locally relevant scale and audience.

4 SOCIAL MEDIA AND ONLINE MPA OUTREACH

Amplify social media with coordinated approach. Arm organizations with pre-packaged social media materials including photos, text, and hashtags for Twitter, Facebook and Instagram.

4.a: Create social media packets for delivery to partners. Package captivating content into ready-to-use bundles for incorporation across social media platforms by a diversity of organizations and partners. Refresh annually with new text and photos.

4.b: Organize/coordinate statewide campaign. Host a coordination summit. Implement campaign.

4.c: Create overview web page of local MPA groups for each area. Drawing from existing webpages and stories, create an overview page that showcases all local MPAs as a group, not on an individual basis, for high value online outlets (e.g., NGOs, Chamber of Commerce, Wikipedia, 101 Things to do, Visit Sonoma County).

Note: At the statewide scale there are only a few major organizations conducting interpretive MPA outreach. Within each region, the unique subset of active organizations needs to be identified and enlisted as part of this effort.

5 WEAVE MPA MESSAGING INTO NON-MPA SPECIFIC PARTNER CONTENT

In each region or area, the combination of participating organizations will be unique, and should leverage the ongoing efforts of those active, successful and dedicated partners. The idea is not to build new events, but to leverage existing successes and programs. The local or statewide partners will work to coordinate messaging and amplify/draft off of one another's outreach efforts. The following steps are needed:

5.a: Host coordination summit with key groups to identify, plan and implement high value collaborative opportunities to cross-message on topics of interest.

RECOMMENDATIONS TO INCREASE GENERAL PUBLIC AWARENESS OF MPAS

5.b: Develop calendar of events including tabling opportunities, presentations, and trainings. Assign partners to events.

5.c: Implement high value opportunities.

Note: At the statewide scale there are only a few major organizations. Within each region, the unique subset of active organizations need to be identified and enlisted as part of effort.

6 ADDRESS HIGH VALUE AUDIENCE NEEDS

At the statewide level, a few key audiences are critical to engage as partners in meeting long-term MPA outreach and education goals. The groups below are the few that were mentioned as serving irreplaceable roles in informing audiences who will serve to increase compliance and enforcement of MPAs. For each group, a committee of experts should be convened to determine the compelling **gap and explore the most effective means of addressing that gap.**

6.a: Tribes. Tribal communities are critical partners in MPA implementation with unique stories to share, educational programs to support, and interpretive centers and events that could benefit from MPA content. While some progress has been made to address signage and exhibit needs in a few locations, a dedicated effort to work with each tribe and understand the highest, most impactful way of integrating ocean stewardship content into their programming and products is needed. A wealth of traditional ecological knowledge about the MPAs exists from tribal histories and should be captured for a variety of purposes.

6.b: Non-English speakers. For specific programs, events, educational opportunities and outreach, interpretive materials are needed in various languages to meet the specific target audience needs. These should be addressed on a case by case basis, with serious consideration given to the best way to reach and communicate with the target audience. Modern forms of communication, such as YouTube, social media, videos and PSAs may be a much more effective tool in comparison to print materials for translation.

6.c: Teachers, Camps and Youth Programs. While many individual NGOs or agencies conduct outreach with youth, the predominant suggestion among educational experts is to bring together a strategic planning team to investigate the most compelling need, and then address that at a statewide level. Likely, this will require broadening the content beyond just MPAs. Experts recommended a focus on integrating existing curriculum into programs that are proven successful (Junior Guards, Boy Scouts, Camps), rather than creating new programs.

PRIORITY RECOMMENDATIONS
TO INCREASE PUBLIC AWARENESS OF MPAS

Each recommendation was classified based on a number of attributes to provide a framework for determining how to prioritize and select among various implementation options. For the public education and awareness recommendations, each activity was assessed based on: 1) complexity, 2) time to implement, 3) effort required, 4) cost, 5) impact on awareness building and 6) investment lifetime*. To provide a structure for determining how to prioritize among various recommendation activities proposed, a cost-benefit complexity analysis was conducted. For each activity proposed, numeric values based on input from experts across the state were assigned, which correspond to the EASY (1-3), MODERATE (4-6), HIGH (7-10) categorizations in the subsequent Table. Numeric values were used to graph each recommendation onto a prioritization framework to evaluate the complexity of the activity versus the impact to the resource of each recommendation. Figure 10 represents the findings of this analysis and illustrates a comparison among options. Activities in green are those that are relatively easy to accomplish and high impact. Those in yellow require more effort, but are also high impact, and may be considered more strategic options. Those in orange are easy to accomplish, but relatively low importance or impact, and those in red are costlier and less impactful than other options. While the graph and table below presents information in a simplified narrative form, the numeric values assigned for each variable are available in Appendix G. While many real-world variables will influence the selection of specific activities, this framework is offered as an approach for selection.

Given the ranking system, the next recommended steps are to evaluate these options through the lens of the MPA Statewide Leadership team priorities to determine which are of highest priority and to identify synergies with other ongoing efforts.

A considerable body of successful products and programs are available as starting points for modification, adaptation and adaptation for many of these recommended activities, and can be found in Appendix E.

*Note: Since investment lifetime varies considerably, a numeric value was not calculated for this attribute, though it is presented here as informational to decision-making.
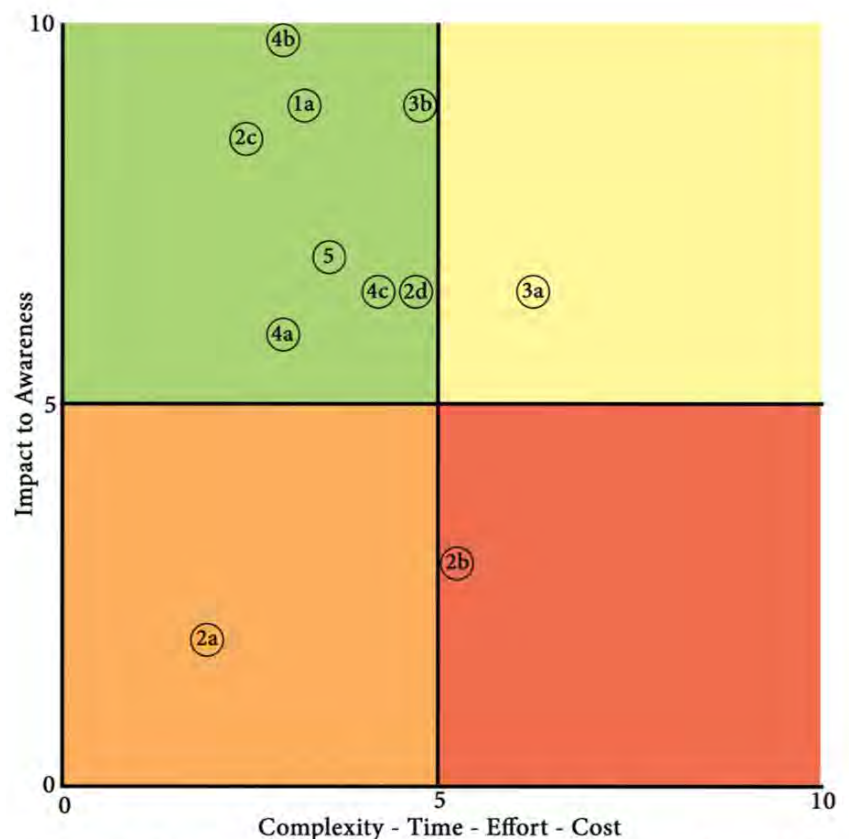

FIGURE 10. Cost-Benefit Analysis of Recommendations to Increase Public Awareness of MPAs

1a: Revise and reprint MPA Toolkits
2: Create story-like content to supplement existing outreach
2a: Create a working group
2b: Craft a few stories per region
2c: Utilize story excerpts in social media campaigns
2d: Publish MPA stories in popular digital and print outlets
3a: Create and deliver training videos to host on YouTube
3b: PowerPoint training template & deliver trainings to key locations
4: Social Media & Online MPA Outreach
4a: Create & deliver social media packets for partners
4b: Organize a statewide campaign
4c: Create overview we pages of local MPA groups for each area
5: Weave MPA messaging into non-MPA specific content

PRIORITY RECOMMENDATIONS
TO INCREASE PUBLIC AWARENESS OF MPAS

TABLE 3. Recommendations to Increase Public Awareness of MPAs

Activity	Complexity	Time	Effort	Cost	Impact on Awareness	Investment Lifetime
1. Target Distribution of MPA Print Materials to Interpretive Community						
1. Revise, reprint and distribute MPA Toolkits	EASY	*	EASY	$$	HIGH	BIENNIAL
2. Create Story-Like Content for MPAs						
2a. Create a working group	EASY	*	EASY	$	LOW	ONE-TIME
2b. Craft a few stories per region	MODERATE	**	MODER-ATE	$$	LOW	BIENNIAL
2c. Utilize story excerpts in social media campaigns[3]	EASY	**	EASY	$	HIGH	ANNUAL
2d. Publish MPA stories in popular digital and print outlets	MODERATE	**	EASY	$$	MODERATE	ANNUAL
3. Train the Trainers						
3a. Create and deliver training videos	MODERATE	**	HARD	$$	MODERATE	ONE-TIME
3b. Powerpoint training template & deliver trainings	EASY	**	MODER-ATE	$$	HIGH	ANNUAL
4. Social Media & Online Outreach						
4a. Create social media packets	EASY	**	EASY	$	MODERATE	ANNUAL
4b. Organize a statewide campaign	MODERATE	*	EASY	$	HIGH	ONE-TIME
4c. Create overview webpages of local MPA groups	EASY	**	MODER-ATE	$	MODERATE	ONE-TIME
5. Weave MPA Messaging into Non-MPA Partner Content						
5. Implement high value opportunities	VARIABLE[4]	*	VARI-ABLE	$	HIGH	ANNUAL
6. Address High Value Audience Needs[5]						
6a. Tribal content	VARIABLE	*	VARI-ABLE	?	VARIABLE	ANNUAL
6b. Non-english speakers	VARIABLE	*	VARI-ABLE	?	VARIABLE	ANNUAL
6c. Kids camps, youth, and teachers	VARIABLE	*	VARI-ABLE	?	VARIABLE	ANNUAL

LEGEND:

Complexity: Degree of difficulty as measured by jurisdictional, agency, bureaucratic or administrative ease in gaining approval to proceed.

Time to implement:
* Within 12 months
** ~ 1–2year
*** 2–5 years.

Effort: Amount of effort required to achieve the task, if one assumes that the complexities are removed. So, for example, something may be highly complex (require coordination among State agencies and businesses) but if achieved the actual effort required could be minimal.

Cost: (rough estimates)
$: 1–50,000
$$: 50,000–200,000
$$$: >$200,000K.

Impact on Awareness: Degree to which implementation of the activity will raise visibility of MPAs.

Investment Lifetime: Many activities require repetitive follow up; time estimates to investment renewal are provided in this column.

NOTES:
[3] 2a and 2b must be done in order to achieve 2c and 2d, so at times activities are predicated on the successful completion of less impactful, important activities, but those activities provide the content for a highly impactful outcome.
[4] This will depend upon the specific site targeted.
[5] Since precise implementation activities will depend upon the specific activity selected, these were not classified with numeric values, and therefore do not appear in the prioritization matrix.

QUOTES

FISHERMEN

"*You need to educate not punish. Most of the dive and fish charters want to do the right thing, but there are no materials that aren't filled with rules and what you can't do. The fishermen could be your friends.*"

"*MPAs marked very clearly on GPS units. Many boaters and fishermen get the MPA boarders wrong. The GPS/Sonar companies need to make it unmistakable that there in an MPA area on their chart and update info frequently. no one tells us what's going on in them now. No idea about where to get stuff about MPAs except the charts.*"

CHARTER BOAT

"*We need things to read on board, we just look up the rules and boundaries on SIRI since there is no good place when on the water. There is nowhere to get good local information about the MPAs– just stories, what's going on, what are people seeing happening, what changes are happening.*"

WHALE WATCHING BOAT

"*We would like a local field note book with the MPAs in it, with cool facts about the local marine wildlife. *"

HARBOR

"*There is NO information on Catalina about the MPAs– everything is word of mouth – you need brochures, books for boats, notebooks for the water, email updates would be good about what's going on– how do you expect us to know what's happening if no one communicates with us.*

OCEAN RECREATION BUSINESS

"*We need brochures, trainings for staff and local waterfront people. No one really knows much about what good they are doing, or where they MPAs are.*"

"*We need tourism friendly, boat friendly materials and people telling good stories not heavy-handed regulation with fine print that no one can understand.*"

"*Rather than having numerous brochures from numerous different looking sources we would prefer to have less waste/paper and have more all-inclusive easy to digest brochures specifically geared to recreational boating/fishing and another for on land information such as clean up after your dogs/less water usage/less fertilizers and chemicals etc. Connecting environmental stewardship to personal impact seems to be key.*"

"*You need to realize that people on the water have no way of knowing about these places. People poach all the time, and there is no enforcement of the rules, so reaching the rec fishermen is the best approach.*"

QUOTES CTD.

TOURISM

"We don't have any MPA content. Anything would be helpful. We would love maps– for the wall and social media content, and newsletters."

"You are not reaching the tourism sector at all, we are a small community (Cambria) and most people are not aware of the MPAs, they know about the elephant seals but we need to make sure that our coasts are not over run with people. There are people everywhere on the coast– they don't know the rules and there is almost no wardens or enforcement on the water."

NON-GOVERNMENT ORGANIZATIONS

"At the end of the day, the real problem is getting the materials into the hands of people! The biggest need is reaching the people on and around the water."

"We've never seen any brochures or other info, and only know of MPA through our own initiative in reaching out, and the sign board installed in an odd location at Navarro Beach, and no coordination with the outdoor display our non-profit installed."

"Other than the one interpretive sign, we've seen no other MPA materials, or been approached by anyone at MPA about needs. Would be great to have brochures and other take-aways to share with the visiting public, the majority of whom are English speakers."

EDUCATORS

"Thank you for taking the time to gauge the effectiveness of MPA Education and Outreach Materials. I am stationed in Fort Bragg, Mendocino, and it is a bit of a "dead zone" for outreach and education regarding MPAs. I would like to start going to local schools in Mendocino and teaching about MPAs, so more kid-friendly materials/activities are greatly appreciated!"

"We need training of State Parks staff and teach them about the marine part as well. New employees should get overview of MPAs and land sea connections, needs to be tailored to our geography and issues. We could use talking points and refreshers and interesting updates about what is happening in ocean. We need little stories to share, with cool images."

PARKS

"Someone should come give talks or presentations to our County Parks staff so they are aware of MPAs. Currently have little knowledge of them. We would love materials that talk about the local ocean and issues, why the MPAs are here, and what is happening in them here, locally."

"We need training of State Parks staff and teach them about the marine part as well. New employees should get overview of MPAs and land sea connections, needs to be tailored to our geography."

LIFEGUARDS

"We need a waterproof book about the MPAs and trainings to staff, with photos, maps and interesting local information. Make it relevant to here, connect people to the place with actual facts not generic words."

CONCLUSIONS

These needs assessment findings should provide encouragement for the effort that the California Department of Fish and Wildlife, California Ocean Protection Council, Resources Legacy Fund, and partners have dedicated towards raising awareness. MPAs are largely viewed positively and, across every constituency surveyed, respondents are largely interested in becoming educated, informed, and contributing partners to improving compliance and awareness of our MPAs. However, while the vast majority of those surveyed show interest in learning more, significant shortfalls in the type, dissemination, and access to information remain. There is much to accomplish if large gaps in knowledge about the MPA network are to be filled. The needs assessment points to several key areas for improvements.

First, MPA education and outreach is most effective when done in an iterative manner; all strategic plans should account for continuity. Given staff turnover and competing priorities, MPA outreach in the form of both educational trainings and materials must be supplied, refreshed, and revisited regularly. It warrants mentioning that the mundane printing, distribution, coordination, replenishment, and reengagement of key outlets is a critical, yet often overlooked component of effective outreach.

Second, several large user groups remain underserved and uninformed due to a lack of easily accessible content, but the majority of these users are interested in MPA information. By placing content in locations, both digitally and physically, that underserved groups frequent, large gaps in public knowledge can easily be filled.

Third, targeted, customized approaches that tailor content and distribution methods to the specific geography and desires of user groups will be much more effective in generating interest in MPAs. Those surveyed say that non-specific, regulatory language is not engaging to users and they overwhelmingly requested narrative content that incorporates science, conservation successes, and stories related to the local MPAs. By supplying user groups with tailored information in the ways they have specifically asked for we can directly access a target audience in an effective and efficient way.

Finally, there is an immense wealth of resources, both in content and infrastructure, that can be used as a starting point from which to enact the above recommended actions. Too often outreach efforts try to "reinvent the wheel" rather than adapting or modifying an existing effective tool. More conscience efforts to examine what already exists should be made prior to creating anything new. The new, comprehensive MPA Resource Library should always serve as a starting resource.
To view the MPA Resource Library, click here.

APPENDICES

A: Survey Questions

B: Survey Findings Infographic

C: Requested Needs & Available Products- Enforcement and Compliance

D: Requested Needs & Available Products- Public Awareness

E: Successes to Build On

F: MPA Toolkit Examples

G: Priority Recommendation Ranking System

Appendix A: Survey Questions

ASSESSING NEEDS FOR MPA EDUCATION AND OUTREACH MATERIALS

Part 1: Understanding Current Activities in MPA Outreach and Education

1. Please specify the county where you conduct MPA education and outreach work:

2. Please select which category best describes your job or position related to MPA outreach and education.
- Non-profit organization representative
- Involved citizen
- Docent or volunteer
- Research scientist
- Citizen scientist
- Recreational fishermen
- Commercial fisherman

Government agency employee (Federal, State Local)
Educator
Ocean recreation business
Tribal community member
Tribal government
Tourism
Other (please specify)

3. What audiences do you target for MPA education and outreach? Check all that apply.

School-aged children
Families
General public
Tourists
Fishermen

Ocean recreation users
Tribal community members
Non-English speakers
Other (please specify)

4. What materials do you use to conduct MPA outreach? Check all that apply.

Brochures
Videos
Activity booklets for children
Signs

- Websites
- Exhibits or interpretive displays
- Social Media
- Other

5. If you chose 'Website' or 'Social Media' in the above question, please specify websites and/or social media platforms:

6. How do you most commonly conduct MPA education and outreach? Check all that apply.

Exhibit displays
Special Events (conferences, tabling opportunities)
Trainings or Webinars
Community Meetings
Online (web content, social media)
Kids or Family Programs

- Distribution of printed materials (brochures, flyers, activity booklets, etc.)
- Docent Led Tours
- In conjunction with other conservation topics (climate change, seabird protection, State Parks, etc.)
- Other:

7. How do you most commonly conduct MPA education and outreach? Check all that apply.
- Obtaining audience (kids, families, fishermen, etc.) appropriate MPA messaging
- Obtaining MPA products for distribution to specific audiences (kids, families, fishermen, etc.)
- Having sufficient MPA printed materials (brochures, maps, flyers, etc.) available for outreach
- Lack of translated MPA resources for outreach
- Insufficient staff to conduct MPA outreach and education
- Your staff is not trained to conduct MPA outreach and education. Training materials or trainings are needed for your staff.

Appendix A: Survey Questions Ctd.

Part 2: Assessing Needs for Specific Materials

The following questions are focused on assessing needs for outreach and education materials focused on MPAs, such as content that may be lacking and specific materials that you may need.

8. How do you learn about products available for conducting outreach about MPAs? Please rank the following options. 1 is the least effective method, 5 is the most effective.

- Word of Mouth
- Newsletter
- Relationships with organizations

- Membership in a group (please specify below)
- Online/Websites

9. Please rank the following choices to identify where the biggest gaps are in available MPA content. 1 is content is largely available, 8 no available content.

- Types of MPAs and regulations
- Science of MPAs
- How MPAs are monitored
- Species and habitats benefitting from MPAs

- Local MPA and sitespecific knowledge
- Translated MPA information
- Stories of California MPA success
- Kid friendly content

10. Do you have adequate materials to support the MPA education and outreach goals of your role/business/organization?

- Yes
- No

11. What is your biggest MPA product content need? Please choose up to 3.

- Science of MPAs
- Types of MPAs and regulations
- How MPAs are monitored
- Species and habitats benefitting from MPAs
- Local MPA information (species and habitats protected, facts, stories, etc.)

Social Media content
Translated content
Training content (presentations, curricula, etc.)
Kid friendly content
Content targeted at fishermen
Other:

12. What is your biggest MPA resource need? Please choose up to 3.

- Translated materials
- Training materials
- Materials for display at events and visitor centers
- Retail swag
- Volunteers/ interns

- Partners, more collaboration
- Speakers for programs & events
- Kid friendly activities
- Other:

13. Are there any existing resources you would like to see repurposed for other areas? (Brochures, signs, videos, activities, etc.)

- Yes
- No

14. Please provide links (or share a description) to specific examples of materials you would like to see repurposed for other areas:

Appendix A: Survey Questions Ctd.

Part 3: Assessing Needs for Specific Messaging and Audiences

The following questions are intended to understand the need for customized messaging for specific audiences and opportunities.

15. Is there a need for tailored MPA messaging for a certain audience? Please choose up to 5.

- Schoolage children
- College students
- Adults
- Tourists
- NonEnglish speakers
- Tribal communities

- Educators, docents and volunteers
- Citizen scientists
- Fishing community
- Coastal businesses
- Ocean recreation users
- Other:

16. Is there an opportunity to incorporate MPA messaging that isn't being taken advantage of? Check all that apply.

- Ocean recreation shops (surf, dive, kayak, bait and tackle, etc.)
- Local waterfront businesses (restaurants, visitors centers, tourist shops, etc.)
- Tourism outlets
- Lifeguards and water front personnel
- Integration into existing docent programs

Training and knowledge of local government/municipal staff
Crossmessaging with other ocean conservation issues or protected areas (NMS, California Coastal National Monuments, National Estuaries, climate change, marine debris, etc.)
Other:

17. In your opinion, should MPA content be bundled with other ocean conservation issues, such as climate change, seabird protection, and clean boating, or stand alone?

Stand Alone
Bundle with other ocean conservation issues

Part 4: Assessing Needs for Translated Materials

The following questions are meant to assess any needs for translated materials. This information will help us understand what languages are needed to inform MPA outreach as well as what resources are best suited to address these needs.

18. In terms of MPA outreach materials, what languages do you see a need for? Check all that apply.

- Spanish
- Vietnamese
- Cantonese
- Portuguese

Mandarin
Laotian
No demand for multilingual content
Other:

19. What MPA material needs to be translated? Please rank the following options, 1 is the lowest need, 8 is the highest.

MPA Regulations
Science of MPAs
Local MPA specific information
Kids activities and games

Teaching and training materials
Videos and animations
Printed materials (brochures, flyers, maps)
Exhibits or posters for display

Appendix A: Survey Questions Ctd.

20. Are there any existing resources you would like to see translated? (Brochures, signs, videos, activities, etc.)
- Yes
- No

21. Please provide links (or share a description) to specific examples of materials you would like to see translated:

22. Are there any existing translated resources that you would like to see repurposed for other areas?
- Yes
- No

23. Please provide links (or share a description) to specific examples of translated materials you would like to see repurposed for other areas:

Part 4: Background Questions

If you would like to share your personal information please do so, but it is not required. Email addresses will only be used to notify you of an upcoming webinar that will be presented on the new MPA Education and Outreach Public Resource Library once it is completed.

- Name:
- What agency, organization, or company do you work for?
- Please include your email if you would like to be included in an upcoming webinar regarding the MPA Education and Outreach Public Resource Library upon completion.
- Is there anything else you would like to tell us?

Thank you!

We appreciate you taking the time to complete this survey. If you provided your email address, we will notify you upon completion of the MPA Outreach and Education Public Resource Library and scheduled webinar.
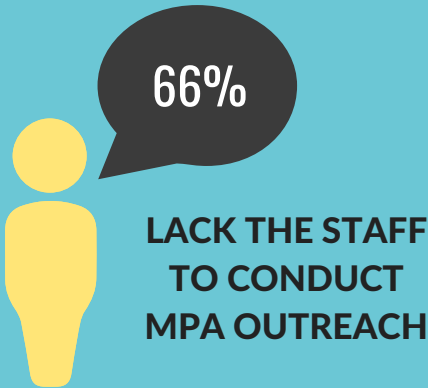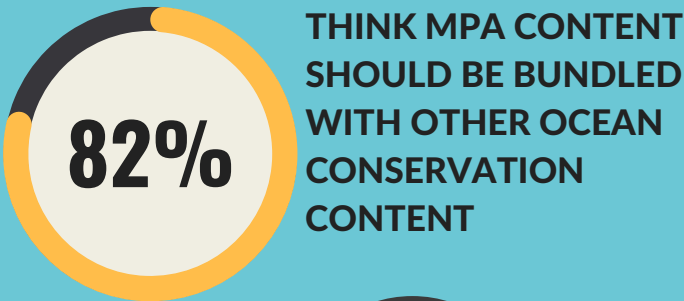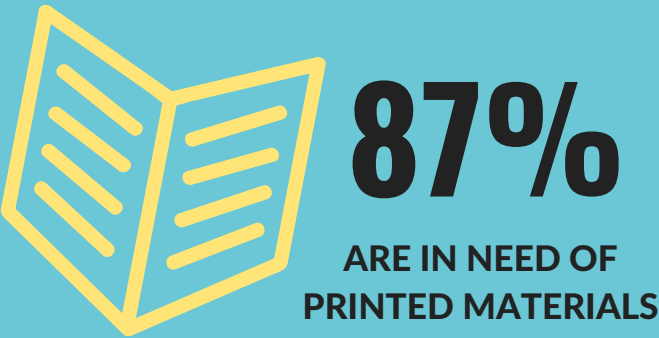
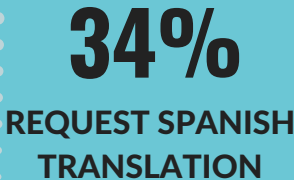CALIFORNIA MPA EDUCATION AND OUTREACH
NEEDS ASSESSMENT FINDINGS

GAPS IN AVAILABLE MPA CONTENT

85%
WANT CALIFORNIA MPA SUCCESS STORIES

72%
WANT SITE-SPECIFIC STORIES FOR LOCAL MPAS

MPA EDUCATION AND OUTREACH OBSTACLES

87%
ARE IN NEED OF PRINTED MATERIALS

86%
HAVE DIFFICULTY DISTRIBUTING AND REPLENISHING MATERIALS

82%
THINK MPA CONTENT SHOULD BE BUNDLED WITH OTHER OCEAN CONSERVATION CONTENT

66%
LACK THE STAFF TO CONDUCT MPA OUTREACH

TRANSLATED MATERIALS

54%
INDICATE NO NEED FOR TRANSLATED MATERIALS

OF THOSE THAT EXPRESSED A NEED FOR TRANSLATION:

34%
REQUEST SPANISH TRANSLATION

17% REQUEST MANDARIN TRANSLATION

17% REQUEST VIETNAMESE TRANSLATION
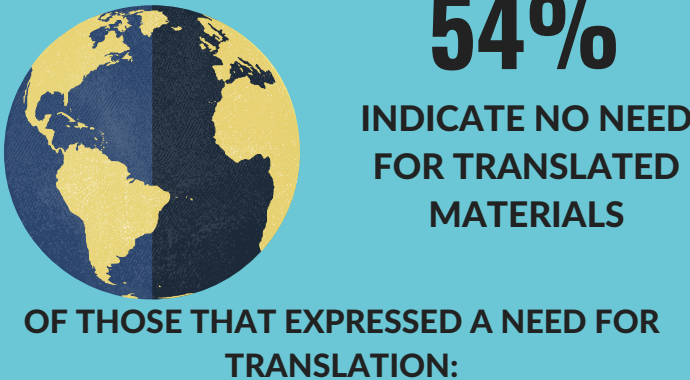
Appendix C:
Requested Needs and Available Products

INCREASING COMPLIANCE AND ENFORCEMENT OF MPAS

The following tables show specific requested needs and available products to address needs, by audience following the format below. Products highlighted are links, which will bring you to external example documents.

REQUESTED NEED
- Products available for modification and reproduction
- Products available for reproduction statewide

Harbors & Marinas

PRINTED MATERIALS FOR HANDOUT
- Regulatory Brochures & Booklets
- Waterproof Fishing Guides
- MPA Translation Cards

EXTERIOR DISPLAYS
- Fishing Kiosks
- Regulatory Signs

WEBSITE CONTENT
- Blog Posts
- MPA Webpages (in production)
- Success Stories
- Articles: Online   Magazines   News
- Existing websites
- Science Stories
- Videos

Fishing Community

PRINTED MATERIALS FOR HANDOUT
- Regulatory Brochures & Booklets
- Waterproof Fishing Guides
- MPA Translation Cards

COORDINATES INTEGRATED INTO DIGITAL CHARTS
- Mobile Applications

EXTERIOR DISPLAY MATERIALS
- Fishing Kiosks
- Regulatory Signs

Government Staff

PRESENTATIONS AND TRAININGS
- Trainings and Scripted Powerpoints
- Docent Training Handbooks

EXHIBITS AND DISPLAYS
- Fishing Kiosks
- Regulatory Signs

WEBSITE CONTENT
- Blog Posts
- MPA Webpages (in production)
- Success Stories
- Articles: Online   Magazines   News
- Existing websites
- Science Stories
- Videos

Appendix D:
Requested Needs and Available Products
EDUCATING THE PUBLIC AND INCREASING AWARENESS OF MPAS

The following tables present audience specific requested needs as identified in the assessment and available products that could be modified and/or reproduces to address needs. Products listed in color are links, which will bring you to external example documents unless noted.

REQUESTED NEED
- Products available for modification and reproduction
- Products available for reproduction statewide

Ocean Recreation Businesses

LOCAL WATERPROOF BROCHURES
- Regulatory Brochures & Booklets
- Interpretive Brochures

WATERPROOF, LOCALLY RELEVANT, UPBEAT INTERPRETIVE CONTENT
- MPA Ocean Recreation Guide
  - Monterey Diving
  - Santa Cruz
- MPAs, Wildlife & Recreation Guide

WEBSITE CONTENT
- Blog Posts
- MPA Webpages (in production)
- Success Stories
- Existing websites
- Articles: Online
                Newspapers
                Magazines
- Science Stories
- Videos
- Scuba Dive Portal
- Fishing Maps
- NatGeo Open Explorer

Tourism

PRINTED MATERIALS FOR HANDOUT
- Regulatory Brochures & Booklets
- Interpretive Brochures

EXHIBITS AND POSTERS
- MPA Posters
- MPA Exhibits

EDUCATIONAL SESSIONS
- Trainings and Powerpoint Presentations
- Docent Training Handbooks

SOCIAL MEDIA CONTENT
- Existing Campaigns
  - #MPAMonday
  - #CalifMPAs

WEBSITE CONTENT
- Blog Posts
- MPA Webpages (in production)
- Success Stories
- Existing websites
- Articles: Online
                Newspapers
                Magazines
- Science Stories
- Videos
- Scuba Dive Portal
- Fishing Maps
- NatGeo Open Explorer

Appendix D ctd.

Requested Needs and Available Products

Educating the Public and Increasing Awareness of MPAs

REQUESTED NEED
- Products available for modification and reproduction
- Products available for reproduction statewide

Educators

No single request was made, rather a variety of highly specific needs, reflective of their particular audience, capacity of staff and issues of focus.

LOCAL STORIES
- Blog Posts
- MPA Webpages

BROCHURES
- Interpretive Brochures

PRESENTATIONS
- Powerpoint Presentations

DISPLAY MATERIALS
- Exhibits
- Posters
- Interpretive Sign Replicas

TABLING MATERIALS
- Brochures
  - MPA Network Brochure
  - Interpretive Brochures
- MPA Flyer
- Kids Activities
  - MPA Passport
  - Kids Activity Book
  - Kids Coloring Book *In production

SOCIAL MEDIA CONTENT
- Existing Campaigns
  - #MPAMonday
  - #CalifMPAs

Tribal Community

STORIES
- Cultural stories connected to place, tribal history, language, use and knowledge of MPAs

PROGRAMS AND MATERIALS REFLECTING ABOVE CONTENT
- Posters
- Videos
- Signs with Integrated Tribal Content
- MPA Education Program
- Tribal MPA Paper (Wishtoyo Chumash Foundation)

PRIORITY RECOMMENDATIONS
SUCCESSES TO BUILD ON

A considerable body of successful products and programs are available as starting points for modification, adaptation and reproduction for many of the recommended activities, and can be found following pages. While not a comprehensive list, these products and programs are a testament to MPA education efforts that state and partner organizations have invested to date.

SUCCESSES TO BUILD ON

TO INCREASE COMPLIANCE AND ENFORCEMENT OF MPAS

TARGETED DISTRIBUTION OF MPA PRINTED MATERIALS TO THE FISHING COMMUNITY

WATERPROOF FISHING BROCHURES

Waterproof brochures with fold-out maps and MPA regulations have been produced for every major harbor in California. Some organizations have also translated them into Spanish. These brochures have been disbursed to harbors and bait & tackle shops, and distributed at harbor and marina trade shows and outreach tabling events. These guides are continually requested, applauded for their utility on the water, and excellent tools for increasing compliance of MPAs. They are often out-of-stock.

### CDFW MPA GUIDEBOOKS & BROCHURES

CDFW regulatory resources exist for every region. The booklet guides contain maps and full regulations for every MPA in each region while the tri-fold brochures provide an overview of the regional MPAs. While critical for compliance, they are not stocked in many strategic outlets.

LAMINATED MPA REGULATORY SIGNS

Regulatory signs exist for every major harbor in California. Reprinting, laminating and distributing to bait & tackle shops, harbormaster offices, Visitors Centers, Chambers of Commerce, etc., has proven to be a cost- effective for increasing compliance.

OCEAN RECREATION GUIDES
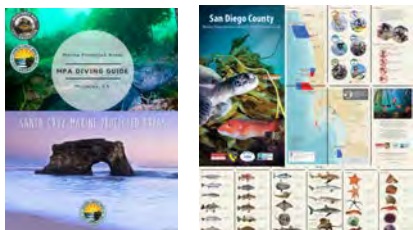
Various ocean recreation guides are being tested throughout the state to provide a more public friendly overview of the local marine life and MPAs. San Diego MPA Collaborative is creating an attractive marine wildlife guide, California Marine Sanctuary Foundation (CMSF) has piloted a laminated, waterproof guide for several locations, and the Monterey MPA Collaborative created a local diving guide. With maps, regulations and local MPA content on board, they are invaluable to charter companies to assist with compliance.

TARGETED DISTRIBUTION

In pockets across California, efforts to target and distribute materials to harbors, marinas, and fishing groups have been successful. Channel Islands National Marine Sanctuaries (NMS) saturated nearby harbors with outreach, and CDFW, CMSF, WildCoast, and Shark Stewards have successful models of distribution at various scales. DBW vessel program targets key outlets. Contact lists for strategic partners are available in many locations as a starting point for targeted, effective outreach to critical outlets needed to increase compliance.

SUCCESSES TO BUILD ON
TO INCREASE COMPLIANCE AND ENFORCEMENT OF MPAS

DEVELOP & DELIVER COMPLIANCE AND ENFORCEMENT PRESENTATIONS

ENFORCEMENT TRAININGS

MPA Enforcement Trainings conducted by MPA Collaborative Network staff in 2015–2016 were well received and of interest to allied agencies.

BOATING SEMINARS

The Department of Boating and Waterways (DBW), NMS, United States Power Squadron, and CMSF have piloted successful open boater seminars in informal settings. Presentations given at harbor/marina trade shows, yacht clubs, and fishing clubs have proven effective strategies to reach this critical audience and increase compliance and enforcement of MPAs.

LOCAL PRESENTATIONS

Several organizations conduct regular trainings to clubs and businesses (i.e. Wildcoast, Santa Barbara Channel Keepers, CMSF, West Marin EAC). A "Train the Trainers" model where individuals in positions to teach, mentor, or train others attend a training was piloted by a consortium (e.g. Monterey Bay Aquarium, Southern California Aquarium Collaborative, CMSF in 2007). As a byproduct, annual MPA trainings still occur at many partner locations (including Año Nuevo State Park, Pt. Lobos State Natural Reserve), which is now a core component of their curriculum. This approach results in pockets of informed interpreters and can be expanded for a comprehensive statewide program.

INCORPORATE MPA BOUNDARIES INTO DIGITAL CHARTS AND MAPS

GARMIN, TRIMBLE, NOAA CHARTS

Efforts are underway by Anthropocene to identify technical obstacles to hosting MPA regulations in digital charts and boating maps such as those produced by Garmin and Trimble.

CDFW MPA MOBILE WEBSITE

Since most boaters do not have access to internet while on the water, the current CDFW mobile website is incompatible with anglers needs. However, this platform could serve as a starting point for an application that provides the same information, but that is available offline.

FISHLEGAL MOBILE APPLICATION

This mobile application contains all California saltwater fishing regulations, in addition to MPAs. For a small annual fee, users can access relevant maps, fish identification information, and more, all pre-loaded for offline use while on the water.
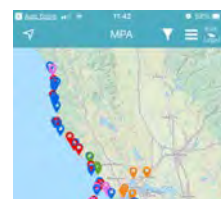
INCLUDE MPA BOUNDARIES AND REGULATIONS IN TIDEBOOK PUBLICATIONS AND ONLINE

MPAs have been hosted in various tide book print publications including those produced by the Seabird Protection Network, DBW, and the Bay Foundation. Online tide charts are one of the best sources of information for those planning fishing trips, and links to MPA content can easily be included on websites.

SUCCESSES TO BUILD ON
TO INCREASE COMPLIANCE AND ENFORCEMENT OF MPAS

INTEGRATE MPAS INTO BROADER CDFW MARINE OUTREACH

CALIFORNIA RECREATIONAL FISHERIES SURVEY PROGRAM

Annually, the California Recreational Fisheries Survey (CRFS) conducts over 7,000 sampling assignments and contacts over 68,000 fishing parties, providing vital information to consumptive users. MPA information could easily get incorporated into this ongoing outreach effort.

TARGETED ENGAGEMENT WITH RECREATIONAL CHARTER FLEET

The Department of Boating and Waterways (DBW) partnered with Save Our Shores to form the Dockwalkers Program, which provides one-on-one outreach in local harbors to help boaters appropriately discard of used oil, share best clean boating practices, and waste products

PUBLISH STORIES IN POPULAR FISHING AND BOATING MAGAZINES, NEWSLETTERS AND ON WEBSITES

PUBLISHING IN MAGAZINES AND NEWSLETTERS

MPAs have been highlighted through efforts by CMSF in SlackTide, Latitude 38, Changing Tides, and other local recreational fishing and boating newsletters and magazines. This represents a unique, directed outreach approach to get information to anglers and boaters.

PUBLISHING ON WEBSITES

Examples of excellent MPA webpages exist. This localized content could easily be repurposed for hosting on popular fishing and boating websites.

EXPAND FISHING KIOSKS AT ENFORCEMENT PROBLEM SITES

FISHING KIOSKS

To date, seven fishing kiosks have been installed in California. While ongoing maintenance is a challenge, these places provide a centralized location at harbors to communicate regulations (both fishing and MPAs) to consumptive users.

SUCCESSES TO BUILD ON
TO INCREASE COMPLIANCE AND ENFORCEMENT OF MPAS

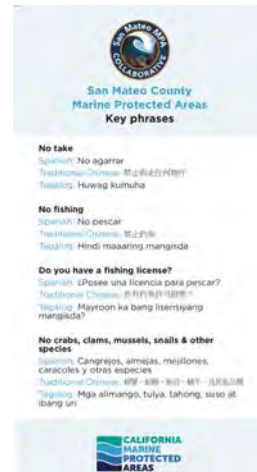## TRANSLATE REGULATIONS FOR KEY LOCATIONS

TRANSLATED SIGNS

Existing signs with regulations can be translated to Spanish, Mandarin, and Vietnamese for key sites in California. These small, aluminum signs are a cost–effective way to target pocket fishing communities in need of multiple language translations.

TRANSLATION CARDS

The San Mateo County MPA Collaborative has produced a simple pocket card that translates key consumptive user phrases (no fishing, no take, etc.) into Spanish, Chinese and Tagalog. This same approach could be adapted to other regions with high compliance issues related to a lack of translated materials and provided to enforcement officials, docents, guides, etc.

TRANSLATED BROCHURES

Existing brochures with regulations can be translated to Spanish, Mandarin, and Vietnamese for key sites in California. These waterproof brochures are a cost–effective way to target pocket fishing communities in need of multiple language translations.

ADDRESS REMAINING SIGNAGE GAPS

FILL SIGNAGE GAPS AT HARBORS, MARINAS AND BOAT RAMPS

Efforts by CDFW, CMSF, and the Ocean Protection Council (OPC) to target harbors, marinas, boat launches, and boat ramps with signage have been successful. This approach can be expanded to particular campgrounds and remote launches to fill remaining North Coast needs.

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SUCCESSES TO BUILD ON
## TO INCREASE PUBLIC AWARENESS OF MPAS

TARGETED DISTRIBUTION OF MPA INTERPRETIVE TOOLKITS

INTERPRETIVE BROCHURES

General public brochures currently exist for many areas in California, and templates can be adapted to other regions of the state. They have proven useful to docents at State, County and local parks, Visitors Centers, aquaria and Chambers of Commerce for increasing public awareness.

EXHIBITS
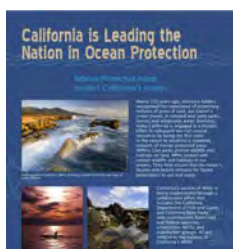
CMSF created a 16-panel MPA exhibit that was originally displayed at the Pacific Grove Museum of Natural History. Upon closure of the exhibit, CMSF worked with the Morro Bay Natural History Museum, Año Nuevo State Park, and Point Reyes National Seashore to provide permanent homes for portions of the exhibit. Since then the exhibit has also been adapted to suit different audiences and purposes. Laguna Bluebelt, Save our Shores and other organizations have created MPA photo exhibits that are excellent for display to increase public awareness.

POSTERS

Statewide posters by CDFW and CMSF have been displayed at ocean recreation businesses, interpretive and tourism centers, outreach events. In addition, regional posters like that produced by the Southern California Aquarium Collaborative have been useful at outreach events and for display at aquaria.

OCEAN RECREATION GUIDES

Various ocean recreation guides are being tested throughout the state to provide a more public friendly overview of the local marine life and MPAs. San Diego MPA Collaborative is creating an attractive marine wildlife guide, California Marine Sanctuary Foundation (CMSF) has piloted a laminated, waterproof guide for several locations, and the Monterey MPA Collaborative created a local diving guide. These have resulted in great success, with requests for additional information, staff presentations, and copies.

CURRICULUM

Various MPA curriculum resources exist that can be integrated into outreach programming. The SoCal Aquarium Collaborative generated curriculum and collaborated with partner interpretive outlets to integrate MPA materials into many locations in the south. The Ocean Communicators Alliance developed MPA Docent Training Handbooks for each coastal region of California. These handbooks are geared towards docents, naturalists, and interpretive staff.
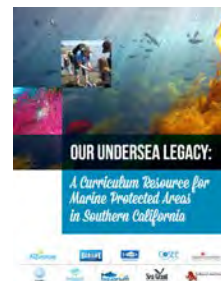
SUCCESSES TO BUILD ON
TO INCREASE PUBLIC AWARENESS OF MPAS

CREATE STORY-LIKE CONTENT TO SUPPLEMENT EXISTING OUTREACH

STORIES THAT CONNECT PEOPLE TO PLACE

A variety of engaging stories that connect people to various MPAs across the state have been created by a number of partners including but not limited to Wildcoast, Surfrider, CDFW and the North Coast Environmental Center.

SCIENTIFIC MPA SUCCESS STORIES

In an effort to simplify overly scientific research articles documenting success of MPAs worldwide, CMSF has curated a library of success stories in a more public-friendly, accessible language.

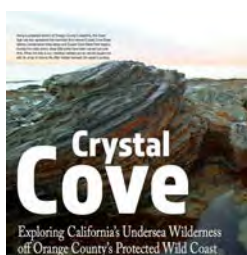### PUBLISHING MPA STORIES IN HIGH PROFILE MAGAZINES AND NEWSPAPERS

Stories and content focused on California's MPA network have been highlighted in Sunset Magazine, California Sunday Magazine, Visit California and Outdoor California Magazine.

TRAIN THE TRAINERS

VIDEO TRAININGS

Several examples of video trainings exist that could serve as a starting point for a short, fun and entertaining MPA video training for the state. These video trainings could be accessed by anyone (from agency staff to the general public) on YouTube in a cost-effective manner.

POWERPOINT PRESENTATIONS

In 2007, Monterey Bay Aquarium, CMSF, ReefCheck, Ocean Conservancy implemented a training program with on demand videos, PowerPoints presentations and YouTube content.

SUCCESSES TO BUILD ON
TO INCREASE PUBLIC AWARENESS OF MPAS

ONLINE AND SOCIAL MEDIA MPA OUTREACH

WIKIPEDIA
Wikipedia pages exist for most MPAs. They could serve as an excellent starting point for hosting additional MPA information or as a platform to leverage content from CDFW MPA webpages currently in production.

TRIP ADVISOR
Trip Advisor pages have become popular for certain marine protected areas in California and could be built upon in the future. Tourists regularly use this platform when planning vacations and placing MPA information here increases the odds that these potential visitors may stumble upon it.


ONLINE BLOGS
A variety of partner blogs (Heal the Bay, MPA Collaboratives, Save Our Shores, CDFW) and tourism sites (Visit CA) have highlighted California's MPAs. Leveraging and sharing blog content on social media platforms will amplify its reach.

SOCIAL MEDIA CAMPAIGNS
Several social media hashtag campaigns are regularly used to help draw attention to California's marine protected areas #OceansDayCA, #CalifMPAs, #MPAMondays.

#OceanOptimism: A Twitter initiative launched in June 2014, spread widely as a flag for stories reporting progress in solving marine conservation challenges. Reaching over 60 million Twitter users since its inception, #OceanOptimism has inspired an international outpouring of marine conservation success stories. Implementing a similar statewide initiative for California's MPAs could prove successful.
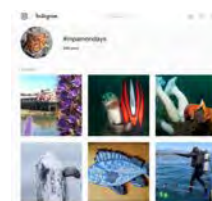
WEAVE MPA MESSAGING INTO NON-MPA SPECIFIC PARTNER CONTENT

ANNUAL COORDINATION
DBW, Seabird Protection Network, CMSF, and the Bay Foundation host a biannual coordination meeting, resulting in inclusion of MPAs in TideBooks, and harbor/marina, boat, and trade show events. The needs assessment points to continued cross messaging like this on related ocean conservation issues.

GLOBAL WAVES CONFERENCE

This international event bridged the topics of ocean conservation and ocean recreation and brought together the brightest minds in the two realms. Similar events like this in the future would continue to bridge the gap between ocean recreation and conservation communities.

OCEAN CONSERVATION CROSS-MESSAGING

Cross messaging on ocean conservation related issues such as marine mammal disturbance (Fort Ross Conservancy and Sea Otter Savy) and tidepool etiquette have been developed.
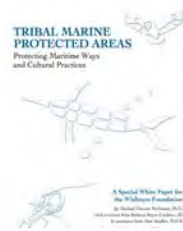
SUCCESSES TO BUILD ON
TO INCREASE PUBLIC AWARENESS OF MPAS

ADDRESS HIGH VALUE AUDIENCE NEEDS

TRIBES

Progress has been made to address outreach needs in a few locations with signs, exhibit materials and cultural stories. The Wishtoyo Foundation and Tolowa– Dee–Ni have developed various outreach materials.

NON-ENGLISH SPEAKERS

A suite of resources have been developed in Spanish, ranging from interpretive brochures and exhibits , to posters, videos and kids activities. These resources, created by organizations across the state, are a great starting point for targeting non–english speakers.

TEACHERS, CAMPS AND YOUTH PROGRAMS

An array of resources including curriculum, hands–on activities, games, posters and more have been developed by various partners and can easily be integrated into existing education programs targeted at youth.
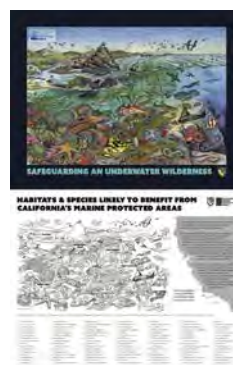
Appendix F: MPA Toolkit Examples

TOOLKIT FOR THE OCEAN RECREATION COMMUNITY

TOOLKIT FOR THE FISHING COMMUNITY

Appendix G: PRIORITY RANKING SYSTEM

NUMERIC VALUES FOR COMPLIANCE AND ENFORCEMENT RECOMMENDATIONS

Activity	Complexity	Time	Effort	Cost	Impact to Resource	Investment Lifetime
1. Targeted Printing and Distribution of Materials to Fishing Community						
1a. Print and distribute harbor brochures	2	2.5	2	5	7	BIENNIAL
1b. Distribute CDFW booklets	1	2	2	6	7	BIENNIAL
1c. Localize and distribute Ocean Guides	2.5	3.5	5	4.5	3	BIENNIAL
1d. Print and distribute MPA Toolkits (1a-1c)	2	4.5	6	7	5.5	BIENNIAL
2. Trainings						
2a. Enforcement Trainings	4	5.5	4.5	4	9.5	BIENNIAL
2b. Boating Seminars	3.5	3.5	3.5	3.5	7.5	BI-ANNUAL
2c. Local Agency Education	5.5	6.5	4.5	3.5	6	BIENNIAL
3. Incorporate MPAs into Digital Charts, Mobile Apps, and Tidebooks						
3a. Work with Garmin/Trimble[6]	8.5	7.5	7.5	8.5	10	ONE-TIME
3b. Get MPAs into NOAA charts	9	9	10	9	10	ONE-TIME
3c. Mobile App (Fishing) needs	5	6.5	8	7.5	9	ONE-TIME
3d. Get MPAs into Google Earth map	4	8	9	6	5.25	ONE-TIME
3e. Include MPA boundaries online and in Tidebooks	4.5	3	8	8.5	4	BIENNIAL
4. Key CDFW Actions to Integrate MPAs into their Broader Outreach						
4a. Modify fishing license application to prompt user to read about MPAs						
4a.1. Online	1	5.5	4	5.5	9	ONE-TIME
4a.2. License Agent	1	3	4	3	9	ANNUAL
4a.3. CDFW License Office	1	3	5	3	6.5	ANNUAL
4b. Have CRFS include MPAs in their outreach	2	4.5	6	5.5	7.5	ANNUAL
4c. Targeted communication to Recreational Charter Fleet	6	4	5	4	10	ONE-TIME
4d. Improve presence of MPA information on CDFW website	1	4	1	4	4.5	ONE-TIME
5. Craft Local Stories						
5a. Capture scientific/fishing anecdotes	5	3	1	1	3.5	ANNUAL
5b. Craft stories of significance to fishermen	6	4	1	1	4	ANNUAL
5c. Target key outlets in print and online	6	6	3	3	5.5	ANNUAL
6. Expand Fishing Kiosks	5	3.5	4.5	8.5	7	ONE-TIME
7. Translations	7	4	6	4.5	8.5	ONE-TIME
8. Signage Gaps	2	3	3	5	9	ONE-TIME

NUMERIC VALUES FOR PUBLIC AWARENESS RECOMMENDATIONS

Activity	Complexity	Time	Effort	Cost	Impact on Awareness	Investment Lifetime
1. Target Distribution of MPA Print Materials to Interpretive Community						
1. Revise, reprint and distribute MPA Toolkits	1	3	2	7	9	BIENNIAL
2. Create Story-Like Content for MPAs						
2a. Create a working group	1	3	1	2	2	ONE-TIME
2b. Craft a few stories per region	5	6	6	4	3	BIENNIAL
2c. Utilize story excerpts in social media campaigns[3]	3	4	1.5	1	8.5	ANNUAL
2d. Publish MPA stories in popular digital and print outlets	6	5	3	4	6.5	ANNUAL
3. Train the Trainers						
3a. Create and deliver training videos	6	6	7.5	5.5	6.5	ONE-TIME
3b. Powerpoint training template & deliver trainings	3	5	5	5.5	9	ANNUAL
4. Social Media & Online Outreach						
4a. Create social media packets	2	4	3	2	6	ANNUAL
4b. Organize a statewide campaign	4	3	3	1	10	ONE-TIME
4c. Create overview webpages of local MPA groups	5	5	4	3	6.5	ONE-TIME
5. Weave MPA Messaging into Non-MPA Partner Content						
5. Implement high value opportunities	3	3	5	3	7	ANNUAL
6. Address High Value Audience Needs[5]						
6a. Tribal content	VARIABLE	*	VARIABLE	?	VARIABLE	ANNUAL
6b. Non-english speakers	VARIABLE	*	VARIABLE	?	VARIABLE	ANNUAL
6c. Kids camps, youth, and teachers	VARIABLE	*	VARIABLE	?	VARIABLE	ANNUAL