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MESSAGING STRATEGIES: Engaging a Disenfranchised Stakeholder Group in Marine Protected Area Managment

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MESSAGING STRATEGIES

**Engaging a Disenfranchised Stakeholder Group
in Marine Protected Area Management**

**Scripps Institution of Oceanography
M.A.S. Marine Biodiversity and Conservation
Final Capstone Report
June 16, 2012**

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Capstone Advisory Committee Final Capstone Project Signature Form

Messaging Strategies:

Engaging a Disenfranchised Stakeholder Group in Marine Protected Area Management

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Spring 2012
MAS Marine Biodiversity and Conservation
Capstone Project

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ABSTRACT

The Marine Life Protection Act Initiative helped guide a planning process to design a network of marine protected areas along the California coast. On January 1, 2012 the South Coast marine protected area regulations went into effect. The current management phase includes short- and long-term monitoring, the results of which will be used for adaptive management. Many South Coast fishers have expressed feeling disenfranchised by the marine protected area planning process and results, displaying a lack of trust for science, scientists, environmental non-governmental organizations and the legacy of the Marine Life Protection Act Initiative as management of the new network proceeds. By collecting the opinions of the recreational fishing community through informal interviews and formal surveys, we determined a list of present barriers to communication with and among this sub-group, as well as this sub-group's core concerns regarding marine protected area management. Existing messages from both the South Coast recreational fishing community's least trusted information source (environmental non-governmental organizations) and most trusted information source (recreational fishing associations) were reviewed through the lens of identified barriers to develop a set of messaging themes that may better address core concerns in a constructive, forward-looking way as Marine Life Protection Act implementation continues.

BACKGROUND

A new network of marine protected areas (MPAs) went into effect along the South Coast of California on January 1, 2012. The design of the South Coast region was part of a unique process called the Marine Life Protection Act Initiative (MLPA Initiative) that divided the state into planning regions to create an interconnected network of MPAs along the entire California coast. The MLPA Initiative was created and guided by two memorandums of understanding (MOUs) and an amendment to the second MOU signed in 2004, 2007, and 2008 respectively. These MOUs were signed as a public-private partnership between California Resources Agency, California Department of Fish and Game, and Resources Legacy Fund Foundation¹ in order to reinstate the Marine Life Protection Act (MLPA), which had stalled due to lack of funding.² Additionally, although the MLPA mandates a public process, some argue that early efforts to implement the MLPA employed a top-down approach that alienated user groups and also played a part in initial failed implementation attempts.

¹ California Marine Life Protection Act Initiative, 2004; California Marine Life Protection Act Initiative, 2007; California Marine Life Protection Act Initiative, 2008

² Law Offices of Allen, Matkins, Lock, Gamble, Mallory & Natsis LLP, February 14, 2011, 3: 8-14

In 1999, the California Legislature determined that

California's marine protected areas (MPAs) were established on a piecemeal basis rather than according to a coherent plan and sound scientific guidelines... As a result, the array of MPAs creates the illusion of protection while falling far short of its potential to protect and conserve living marine life and habitat.³

In codifying the MLPA, the Legislature mandated an improved MPA system that would be "designed and managed...as a network."⁴ For the purposes of the statute

"Marine protected area" (MPA) means a named, discrete geographic marine or estuarine area seaward of the mean high tide line or the mouth of a coastal river, including any area of intertidal or subtidal terrain, together with its overlying water and associated flora and fauna that has been designated by law, administrative action, or voter initiative to protect or conserve marine life and habitat.⁵

Although the MLPA states that a network may include MPAs allowing various uses and affording different degrees of protection, its language declares that the program shall include "an improved marine life reserve component."⁶ A marine life reserves is a specific type of MPA that excludes extractive uses like commercial and recreational fishing from its borders. According to the MLPA,

Marine life reserves are an essential element of an MPA system because they protect habitat and ecosystems, conserve biological diversity, provide a sanctuary for fish and other sea life, enhance recreational and educational opportunities, provide a reference point against which scientists can measure changes elsewhere in the marine environment, and may help rebuild depleted fisheries.⁷

Despite the named benefits of restricting fishing in some areas, many fishermen and fisherwoman (fishers) believe that the ability to extract ocean resources is a right to be protected by the State of California, and therefore oppose the establishment of marine life reserves in state waters.⁸ The public's disagreement over the right of a citizen to fish versus the right of the Legislature to regulate fishing rendered the MLPA a politically contentious statute from the start.

³ California Fish & Game Code §2851(a)

⁴ California Fish & Game Code §2853(b)(6)

⁵ California Fish & Game Code §2852(c)

⁶ California Fish & Game Code §2853(c)(1)

⁷ California Fish & Game Code §2851(f)

⁸ Many recreational fishermen support their right to open fishing by citing the California Constitution's Article 1, Section 25: "The people shall have the right to fish upon and from the public lands of the State and in the waters thereof..." However, the same section and article grants the Legislature the ability to "provide for the...conditions under which the different species of fish may be taken."

The MPLA Initiative employed a regional planning approach, described in the first MOU as "phased design and evaluation."⁹ This regional approach was designed for inclusive stakeholder participation and placed different timelines on MPA planning along various sections of the California coast. The California coast was divided into five regions: North Coast, North Central Coast, San Francisco Bay, Central Coast, and South Coast. To date, new MPA regulations are in effect for the Central Coast, North Central Coast, and South Coast. The final North Coast regulations were recently adopted by the California Fish and Game Commission with implementation expected in January 2013.¹⁰



Figure 1

The South Coast region runs from Point Conception (off the coast of Santa Barbara, CA) to the United States-Mexico border (Figure 1¹¹) and consists of 50 MPAs and 2 special closures that include varying levels of protection ranging from areas that allow some consumptive use to marine life reserves where no commercial or recreational take is allowed.

There were several key bodies created by the MLPA Initiative for the South Coast including a Blue Ribbon Task Force, a Master Plan Science Advisory Team, and a Regional Stakeholder Group. The Regional Stakeholder Group was made up of members familiar with the uses and resources of the South Coast region and reflecting diverse interests. These individuals discussed options for MPA boundaries and level of protection and developed MPA alternatives to present to the Blue Ribbon Task Force.¹² Many individuals directly represented recreational fishing interests on the South Coast Regional Stakeholder Group including Bob Osborn of United Anglers of Southern California, Robert C. Fletcher of the Sport Fishing

⁹ California Marine Life Protection Act Initiative, 2004, Exhibit A, 3

¹⁰ Stapler, Traverso, 2012

¹¹ Image credit: MLPA Initiative, 2012

¹² Department of Fish and Game, Undated

Association of California, John Ballotti of Los Angeles Rod and Reel, Joel Greenburg of Recreational Fishing Alliance, and M.J. Kennedy and Paul Lebowitz of Kayak Fishing Association of California.¹³

All MPA proposals developed by the Regional Stakeholder Group were reviewed by the Science Advisory Team, the Blue Ribbon Task Force, the Department of Fish and Game, and MLPA Initiative staff for the South Coast region. After review, MPA proposals could be amended, allowing the Regional Stakeholder Group to consider and integrate science and policy feedback. After three "rounds" of review, final proposals were sent to the Blue Ribbon Task Force. The Blue Ribbon Task Force then reviewed each of the final MPA proposals and recommended a "preferred alternative" to the California Fish and Game Commission which is the "final decision making body in the MLPA process."¹⁴ Once the Commission adopts a regional network of MPAs, those MPAs become codified in Fish and Game regulation.

The MLPA Initiative committed that "data and other information...from resource users and other stakeholders who possess first-hand knowledge about marine resources and socioeconomic factors"¹⁵ would be actively solicited as part of MPA planning. Additionally, "participation from the general public [was] solicited through periodic statewide and regional meetings and workshops, review and comment on key concepts, and other opportunities for timely and meaningful participation..."¹⁶ However, once the California Fish and Game Commission has completed the rulemaking process, if the public wants to challenge the MLPA regulations it is too late to do so within the framework of the MLPA Initiative. At this point, the public may use the courts as a pathway to seek remedy. The MLPA Initiative helped facilitate a planning process that was highly organized, and although it was designed to be equally inclusive of all stakeholder voices, many fishers feel that the process and outcome of the planning was unfair and illegal. The court did not uphold those claims from a legal standpoint, however it is undeniable that from an emotional and practical standpoint the MPA planning process left fishing stakeholders disenfranchised.

¹³ Department of Fish and Game, March 25, 2009

¹⁴ Department of Fish and Game. Undated.

¹⁵ California Marine Life Protection Act Initiative, August 27, 2004, Exhibit A: 2-3

¹⁶ California Marine Life Protection Act Initiative, August 27, 2004, Exhibit A: 3

THE NEXT STEP: MONITORING

The MLPA mandates monitoring of California's MPA network to ensure that the goals of the act are achieved, and to inform future adaptive MPA management.¹⁷ On August 3, 2011 the California Fish and Game Commission adopted the *South Coast MPA Monitoring Plan* into the MLPA Master Plan. Based on the guidance of this monitoring plan, the Ocean Protection Council awarded 4 million dollars to support baseline monitoring of the South Coast MPA network. A peer review process administered by California Sea Grant selected ten regional projects to receive the funds and undertake baseline monitoring.¹⁸

One of the selected projects is entitled "California spiny lobsters and South Coast MPAs: a partnership to quantify baseline levels of abundance, size structure, habitat use, and movement" (Lobster Monitoring Project). This project, a collaboration between researchers from San Diego State University and Scripps Institution of Oceanography, representatives from California Department of Fish and Game, the non-profit San Diego Oceans Foundation, and commercial lobster fishers from the California Lobster Trap Fishermen's Association, intends to estimate lobster densities inside and outside six of the new MPAs. A central question being addressed is whether "spillover" from South Coast MPAs can be documented.¹⁹ This project includes several objectives including the implementation of a spiny lobster tag/recapture program which, combined with existing lobster datasets, will estimate spiny lobster abundance, size-frequency distribution, growth, spillover, and mortality. The tagging aspect of the research began in September 2011, and will be ongoing for three years.

PROBLEM CONTEXT

Soon after the tagging program was initiated, outreach to the South Coast lobster fishing community began. The goal was to educate the fishers about this specific monitoring project, inform them what a tagged lobster looked like (Figure 2²⁰), and describe how and why to report any tags they may find during the open lobster season.

¹⁷ MPA Monitoring Enterprise. August 2011, 9

¹⁸ MPA Monitoring Enterprise. July 15, 2011

¹⁹ Johnson, May 15, 2012

²⁰ Image Credit: Barber, October 2012

Outreach tactics took several forms. First, a basic informational webpage with Lobster Monitoring Project information was created and housed on the San Diego Oceans Foundation website. This page was linked to an independent URL (www.taggedlobster.com) that was optimized to appear in an Internet search engine should an individual find a tagged lobster and want to learn more about the project. This allowed the public to access the information



Figure 2

without the need to enter through the San Diego Oceans Foundation website. This link included a simple tag reporting form, so that individuals could log the location and tag number of lobsters they caught. Then, an event was held at Catalina Offshore Products in mid-September to enlist support for the project and provide a forum for members of the commercial lobster fishing community to converse with project representatives about the tagging program. Material was distributed to area tackle shops and sport fishing charters about the project and a well-known member of the sport fishing community was recruited to generate an informational forum post placed on the popular recreational fishing forum *BD Outdoors*.²¹

Although the core commercial community seemed to reluctantly accept the project, the response from the recreational community and "edge" commercial community was decidedly negative. Hostile responses on the forum thread were self-perpetuating, outlining the mistrust of the scientific process, the project's association with an environmental non-governmental organization (ENGO), and the dominant opinion that to help with MPA monitoring would equate with helping support implementation of the MLPA and a feared agenda of more MPA restrictions. Soon, an email also found its way to the contact email listed on the Lobster Monitoring Project's website indicating that anyone involved in the project deserved to die.²² By late October, credible sources from within the lobster fishing community began to report that individuals were removing tags from lobsters in an effort to sabotage MPA monitoring.²³

Although many essential outreach elements existed in initial efforts, it was possible that these efforts were counterproductive. Outreach messaging addressed the needs of the project,

²¹ Barber, May 30, 2012

²² Barber, Kristina. May 30, 2012: Email was sent in September 2011 to the project contact listed at the time on <www.taggedlobster.com>.

²³ Parnell, November 17, 2011

loosely addressed the benefits of collaboration, and focused on the need for more data to monitor the MPAs. However, messages were unstructured and did not appropriately address the fishing community's core concerns, or the common mistrust of scientists and ENGOs that had been further inflamed by the MLPA Initiative. The experience with this project's floundering initial outreach serves as a case study of a larger issue of existing messaging available to the fishing community at large. Fishers are essential stakeholders in our ocean resources and should be included in messaging that will engage them.

WHY REENGAGE THE FISHING COMMUNITY

It is important to reengage the fishing community in the MLPA process. As consumptive users, fishers have a disproportionate ability to disrupt the benefits of MPAs if they should choose not to comply with regulations. When poaching occurs inside an MPA, yield and biomass decline almost linearly with poaching pressure²⁴ (Figure 3²⁵), limiting the ability of the ecosystem to

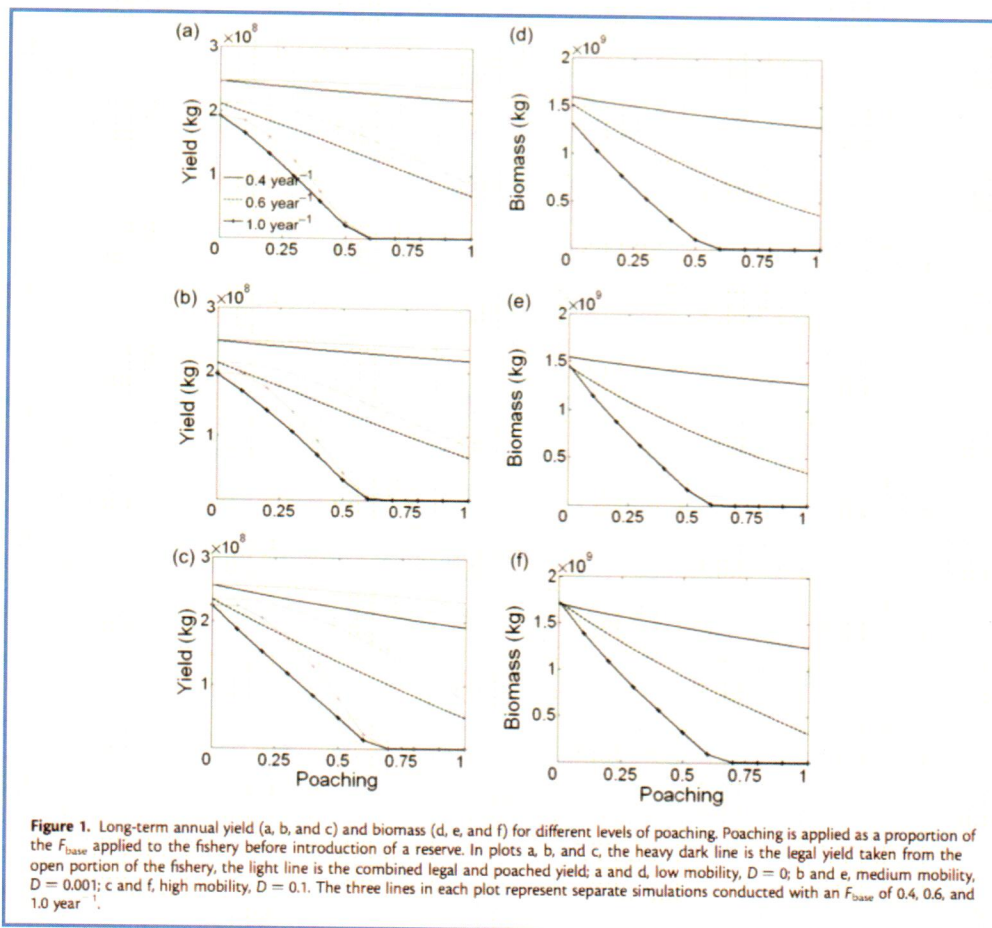


Figure 3

²⁴ Le Quesne, W. F. 2009

²⁵ Image Credit: Le Quesne, W. F. 2009, Figure 1

convey the resilience and spillover that California's MPA network is designed for. This "failure" has great potential to breed more distrust, providing confirmation to the fishing community that MPAs don't work and in turn may spur even more poaching.

Encouraging MPA compliance through trust rather than fear of fines is an imperative factor in the success of the network, but the need extends further than simply the attainment of MLPA goals. Traditional fisheries management requires scientific assessment and monitoring of target species, and it has become increasingly clear that collaboration of multiple stakeholders on scientific projects is needed to create results buy-in and aid in the acceptance of management structures.²⁶ Fisheries management plans are often built off of data-poor studies, so stakeholder participation in data collection may be a key to producing more accurate results and better-structured plans. In the case of the South Coast MPAs, the more complete the baseline monitoring data, the more informed decision-makers will be when they reassess the network during the adaptive management phase.

Rebuilding trust within the fishing community is also essential because it is important that this stakeholder group to be willing to sit at the table again. Their interests must be represented for future decision-making processes related to or unrelated to MPAs. Decision-making will be much more effective if stakeholders come back to the table ready to communicate with rebuilt trust that their ideas will be taken into account. Proper messaging strategies can improve communication to and amongst this stakeholder group. By approaching the conversation with a proper message that addresses core concerns, a better public dialogue can be achieved that will facilitate the process of trust building.

Finally, although the regulations have been implemented in the South Coast, monitoring and management of MPAs will continue far into the foreseeable future. The collection of baseline data and long-term monitoring will help determine the effectiveness of the network, and inform future management decisions. If constructive communication to fishers and among fishers can be established, future management can be more effective.

RECREATIONAL FISHING STAKEHOLDERS

For the purpose of our research, we view the fishing community as three sub-groups: commercial fishers, sport fishing charter interests, and individual recreational fishers. Although it can be argued that public dialogue needs to be redirected and renewed with all three groups, we

²⁶ Parnell, November 17, 2011

chose to focus our research and messaging strategies on individual recreational fishers of the South Coast. We felt recreational fishers were especially interesting to investigate because unlike commercial and sport charter interests, they have little direct economic incentive to oppose the network. As such, individual recreational fishers have a lesser consequence to poaching in that they risk only personal fines or restriction of fishing permissions rather than loss of livelihood if they choose not to comply with regulations.

The recreational fishing community has a significant impact on Southern California fisheries. For example, the South Coast spiny lobster fishery is a successful, well-organized, 11 million dollar per year commercial fishery,²⁷ and yet it is estimated that the recreational lobster community still accounts for more than 49% of the take.²⁸

Lastly, the recreational community is, by comparison, more loosely structured than commercial or sport charter community. However, this community rallied behind recreational fishing association leaders, were active participants at the MLPA public comment meetings, and supporters of their Regional Stakeholder Group representatives.

METHODS

Our project and survey design took a social science approach, outlined in literature and practiced by environmental communication agencies, to identify core values, interests, trusted sources of information, and barriers to communicating information within the recreational fishing community.²⁹ We also gathered data on individual opinions about MPAs, likelihood of compliance with MPA closures, and likelihood of participation in scientific monitoring of MPAs. The data acquired from informational interviews and surveys guided our recommendations for better communication. The informational interviews and formal surveys targeted recreational fishers that use kayaks, personal vessels, or charter/sport boats as their primary vessel to fish from.

Survey Design:

A. Informal interviews with recreational fishers and other key participants in the MLPA Initiative provided us with background information, personal anecdotes, and opinions about the MLPA Initiative that are not yet published in literature. These conversations also helped us identify key members of the community that may champion a message of collaboration, and

²⁷ Sweetnam, D. (Ed.). 2011

²⁸ Buck, Neilson, Kalvass, Barsky, Asletine-Neilson. March 2010

²⁹ Fischhoff 2007, Roberts 2011, Resource Media n.d. (A)

guided our survey design. Background research was also conducted by reviewing literature, media coverage, and key recreational fishing and ENGO websites (Appendix 1).

B. Seventeen survey questions (Appendix 2) were developed focused on identifying the values of recreational fishers, opinions about the benefits and negative impacts of marine life reserves (described in survey nomenclature as "no-take MPAs"), opinions about scientific monitoring, likelihood of compliance with no-take MPA regulations, likelihood of participating in a scientific monitoring project, trusted sources of information, and basic demographic information. Many questions included multiple-choice answers and/or a ranking scale. Of special note: for the two questions about the benefits and negative impacts of no-take MPAs, the answer choices were developed based on current messages about the benefits and negative impacts of MPAs gathered from ENGOs and recreational fishing associations (RSAs). One goal was to help determine if recreational fishermen saw value in the messages from ENGOs.

C. Initial drafts of the survey questions were reviewed by our capstone committee members and recreational fishing contacts. After revisions, a pilot/pretest of the survey was conducted on a small group of fishers to help determine the clarity of questions, and the optimal location and time of day to conduct the survey. The UCSD Human Research Protections Program reviewed the survey questions and certified our project as "...exempt from IRB approval under 45 CFR 46.101(b), category 2..." (Appendix 3). The final draft of the survey was printed for in-person data collection at boat launches and beaches, and posted online through a link on the recreational fishing forum *BD Outdoors* (www.bdoutdoors.com).

Data Collection:

Over a 50-day span, we collected a total of 58 responses (48 unsolicited and 10 solicited) from individual recreational fishermen. Each participant gave verbal or informed consent and was aware that the results would be used for an academic research project.

A. Unsolicited responses were collected by posting the survey on *BD Outdoors*, a popular website, blog, and fishing forum based in San Diego, but with more than 70,000 members from

How you feel about lobster and the MLPA

I have a friend doing a class project on the impact of the MLPA on fisherman. Her focus is orientated around lobsters. I have spent hours talking with her about why we fish and how this effects us. It would be great if you all could take her survey and tell her how you feel about the MLPA. I know she has been down at Shelter island talking to people but she is very shy and gets hit on by most of us. So she is a little gun shy now.

If you take it you can be entered to win \$50 to somewhere. (i forgot) Its like 5-10 min at most.

Figure 4

various geographic regions.³⁰ A link to the survey was posted under a new forum thread by a recreational fisher who is an established and long-term member of the website. The member used his own words to describe the content of the survey, and possible 'reward' for participating (Figure 4).³¹

The approach of having an established recreational fisher open a forum thread and post a link to the survey was taken because background research and previous challenges experienced with outreach for the Lobster Monitoring Project indicated that information posted by 'scientists' or 'academics' would not be trusted or well-received within the recreational fishing community. The recreational fishing member's informal and familiar language and appeal to helping out a friend was found to be more easily received, and added a degree of credibility and trust to the source of the survey.

BD Outdoors was selected as the website to post the survey because it is respected within the recreational fishing community and it reaches a wide audience (visited 500,000 times monthly).³² Its members and visitors are an ideal target audience for this project because background research showed that many *BD Outdoors* blog and forum posts over the past several years were critical of MPAs and of the South Coast MLPA process (Appendix 1). This site is also one of the partners actively promoting the *Save California Fishing* campaign that solicits donations to fund legal action against the MLPA Initiative.³³ Results are representative, rather than random, however gathering opinions and values from this target audience is critical to help inform future communication efforts.

Participants who clicked through to the survey read a message in our own words detailing the survey goals, affiliation with UCSD, participant anonymity, and how to enter to win a gift certificate at the end of the survey (Figure 5). The survey was

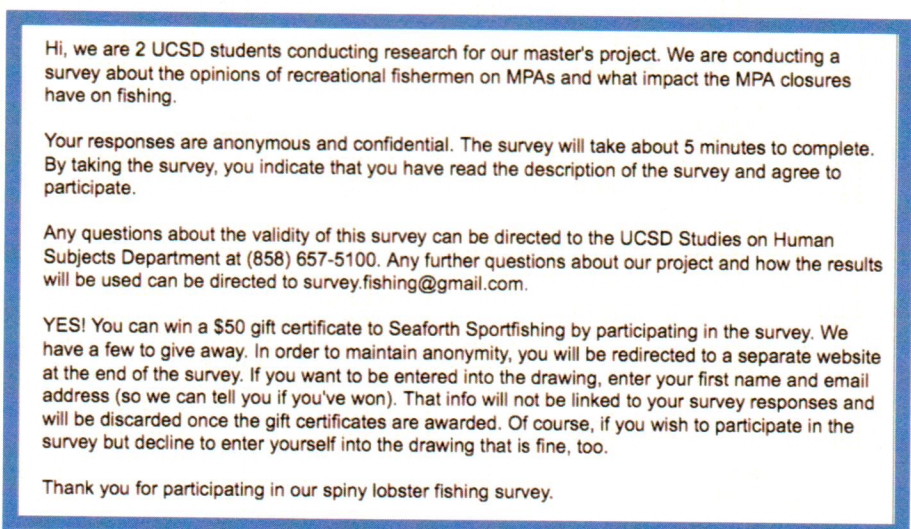


Figure 5

³⁰ bdoutdoors 2012 (A)

³¹ Full forum posting and responses can be found in Appendix 4

³² bdoutdoors n.d.

³³ bdoutdoors 2012 (B)

'live' on *Survey Monkey* (www.surveymonkey.com) from February 10 – March 30, 2012.

B. Solicited responses were collected in-person at the Shelter Island boat ramp in San Diego on February 15 and 25, and at the kayak access point on the beach in La Jolla Shores on March 4, 2012. We were at Shelter Island at a time when lobster fishers would likely be returning from a fishing trip, generally from 8pm – 11pm. We approached fishers once they had hauled their boat out of the water because it was more likely to be a minimally intrusive time. We were at La Jolla Shores at a time when kayak fishers would be returning from a fishing trip, generally from 10am – 2pm. In total, ten surveys were completed at these locations and three fishers declined to take the survey. Participants could choose whether or not to answer each individual question, although we did request they complete all questions.

Data Collection Discussion:

Overall, we found the online survey method produced more participants and was more user-friendly than in-person surveys of our target audience. We attribute this to several reasons. First, although none of the questions were complicated, the printed length of the survey was several pages and it took most participants more than 10 minutes to read and complete. Completing the survey at night under poor lighting also took longer and was inconvenient (we offered small flashlights and headlamps, but fishers declined to use them). In addition, asking participants to take the survey after a long day or night of fishing posed an inconvenience to them. Finally, the vast majority of thoughtful survey comments were left by participants who took the survey online. The online survey took only 5 minutes to read and complete (per comments on the forum post), participants could take the survey at a time convenient to them, and we suspect there was a higher level of anonymity and trust online than there was being approached in person. In-person participants were wary when we approached them, assuming we were either Department of Fish and Game or paid students who were only asking them to complete the survey because it was our job. Informal interviews and pilot surveys had indicated that our target population almost universally sought information from *BD Outdoors* and the personnel availability of our project combined with time requirements of waiting for fishers to come in from the water made in-person surveys inefficient.

Analysis:

The *Survey Monkey* program provided us with basic analytics about question's responses. Data was further analyzed using the "cross-tab" feature of *Survey Monkey* and by processing data on an Excel Spreadsheet. Qualitative responses were assigned quantitative values so that results could be efficiently compared. For example, all responses with the qualitative value "none" were assigned the numerical value of "0" while all responses with the qualitative value of "Extremely" were assigned the numerical value of "4." Most questions for analysis were general, however three questions related specifically to lobster fishers and the lobster monitoring program discussed in the PROGRAM CONTEXT section, and for each question, responses were properly sorted to account for this distinction.

RESULTS

Within the recreational fishing community, our survey results helped to identify values, core concerns, opinions about MPAs, sources of information, likelihood of MPA compliance, and likelihood of participation in MPA monitoring projects. The survey also helped identify several key barriers to communication and illuminated gaps in current MPA messaging strategies that are frequently used by environmental non-profit organizations. Please see Appendix 5 for the results from each question. Please see Appendix 6 for corresponding survey comments. Key results are discussed below:

Demographics of Respondents:

A total of 58 surveys were completed online and in-person.

- Ages of respondents were: 51.7% age 30 – 50; 32.8 % age over 50; 15.5 % age under 30.
- The majority of respondents, 63.8 %, fish using their own private boat; 17.2 % fish using kayaks; 12.1 % fish using charter or party boats; 5.2 % fish using someone else's private boat; 1.7 % fish from the shore or dock.
- The majority of respondents, 69.1%, have been fishing more than 20 years; 5.1 % have been fishing 11 – 20 years; 5.1 % have been fishing 6 – 10 years; and 1.7% have been fishing 1 – 5 years.
- The respondents all fish a variety of species including lobster, other crustaceans, ground fish, other finfish and mollusks.
- The frequency of fishing varied across target species.

Question: How concerned are you with the populations size/health of recreationally targeted species?

- 41.8 % of respondents indicated they were ‘extremely’ concerned
- 23.6% indicated they were ‘very’ concerned
- 21.8% indicated ‘some’ concern
- 9.1% indicated ‘minimal’ concern
- 3.6 % indicated ‘no’ concern.
- The average concern is 2.9 out of 4, which corresponds to ‘very’ concerned.
- Comments expressed a general value for healthy fish and responsible and fair management of the resource.

Question: How much do you value the Following Aspects of Recreational Fishing? Responses are averaged (Figure 6).

- Respondents placed ‘very’ to ‘extreme’ value for the following aspects of recreational fishing: access to ocean, being outdoors, healthy fish populations, fishing as a leisure activity, fishing as a sport, time with friends and family, passing the tradition on to children and grandchildren, eating fresh seafood.
- Respondents placed a slightly less than ‘very’ value on contributing to conservation through fishing licensing fees.

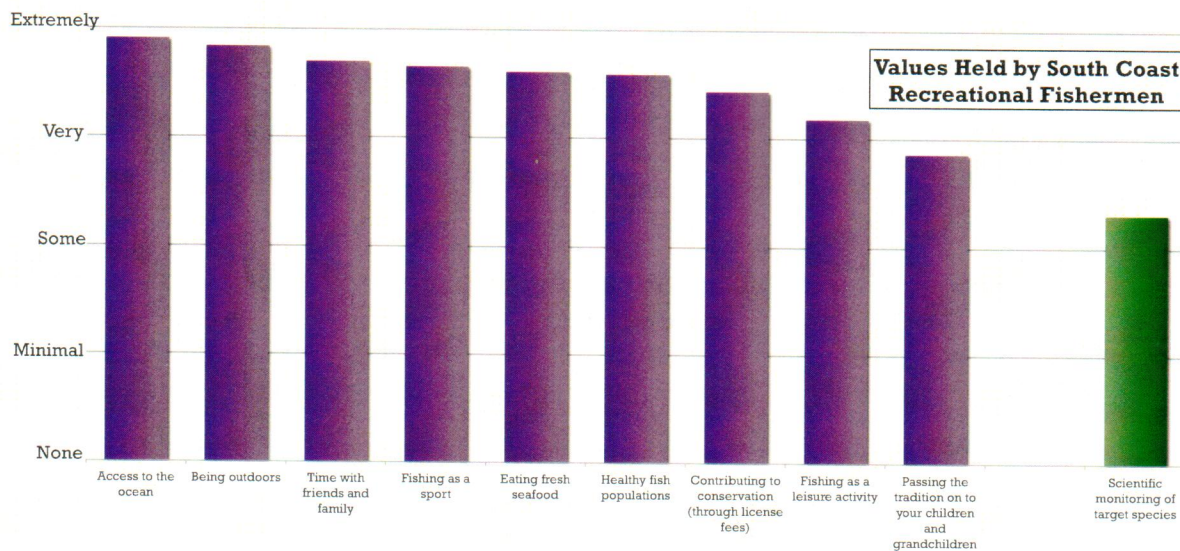


Figure 6

Question: Do You Support MPAs?

Respondents could choose multiple answers from four choices.

- 3.7 % chose: Yes, MPAs will benefit San Diego/ South Coast
- 14.8 % chose: Yes, in general MPAs work to preserve the marine ecosystem and fish stocks
- 53.7 % chose: No, in general MPAs do not work to preserve the marine ecosystem and fish stocks
- 81.5 % chose: No, the MPA planning process in San Diego / South Coast was 'unfair' or 'illegal'
- Of the 81.5% that did not support the MPA planning process because it was 'unfair' or 'illegal', 7% supported MPAs in general.
- In addition to comments citing the 'unfair' and 'illegal' planning process, respondents also listed 'mistrust of the science' and 'MPAs are a poor management tool' as reasons for not supporting them.

Question: Where have you heard about San Diego/South Coast marine protected areas (MPAs)?

- 100 % of respondents had heard about South Coast MPAs, and had gotten their information from multiple sources.
- The top three sources of information were within the recreational fishing community: online recreational fishing forums/website; friends, relatives or other fishermen; fishing organization or club.
- For those that support MPAs, the highest reported information sources were the MLPA Initiative and online recreational fishing forums and these respondents were also more likely to get information from scientific journals and marine scientists.

Question: How likely are you to trust information about MPAs from these sources? (Figure 7)

Responses are reported grouped on respondents' 'support' or 'no support' for MPAs.

- On a ranking scale, both groups (regardless of 'support' or 'no support') ranked a 'very' level of trust for recreational fishing associations.
- Those that support MPAs are slightly more likely to trust information from environmental NGOs, however that level of trust was only ranked at 'minimal'.

- Both groups were between 'minimal' and 'somewhat likely' to trust information from newspapers, government agencies and marine scientists.
- It is noted that the only source of information rated as 'very' trustworthy was the recreational fishing organization
- No source of information was rated 'extremely' trustworthy.

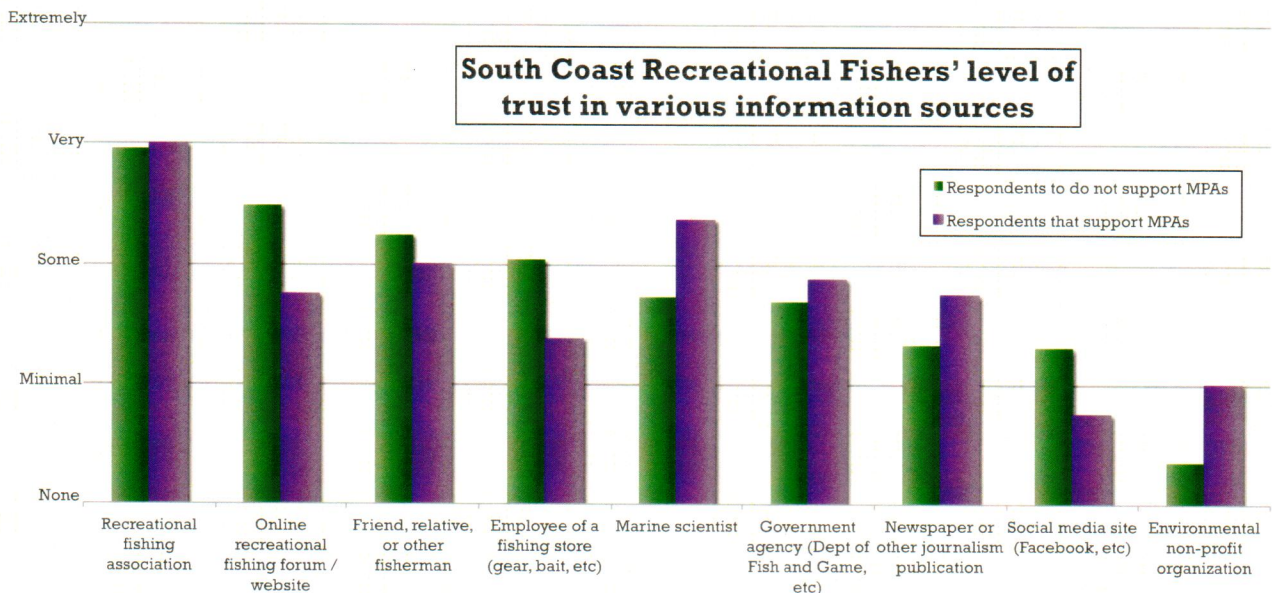


Figure 7

Question: To what extent do you think the following are negative impacts of no-take MPAs on recreational fishing? To what extent do you think the following are benefits of no-take MPAs on recreational fishing? (Figure 8)

Results are averaged on a scale of 0 - 4.

- The average 'negative impacts' value is 3.2, which corresponds to slightly more than 'very' on our scale.
- Increased possibility of additional closures, reduced access to the ocean and fishing grounds, and congestion of fishing grounds were the highest rated negative impacts.
- The average 'benefits' aspect value is 0.98, which corresponds to slightly less than 'minimally' beneficial on our scale.
- The perception that MPAs are not an effective management tool was also listed in several comments as a reason that MPA benefits were rated as 'none' to 'minimal'.

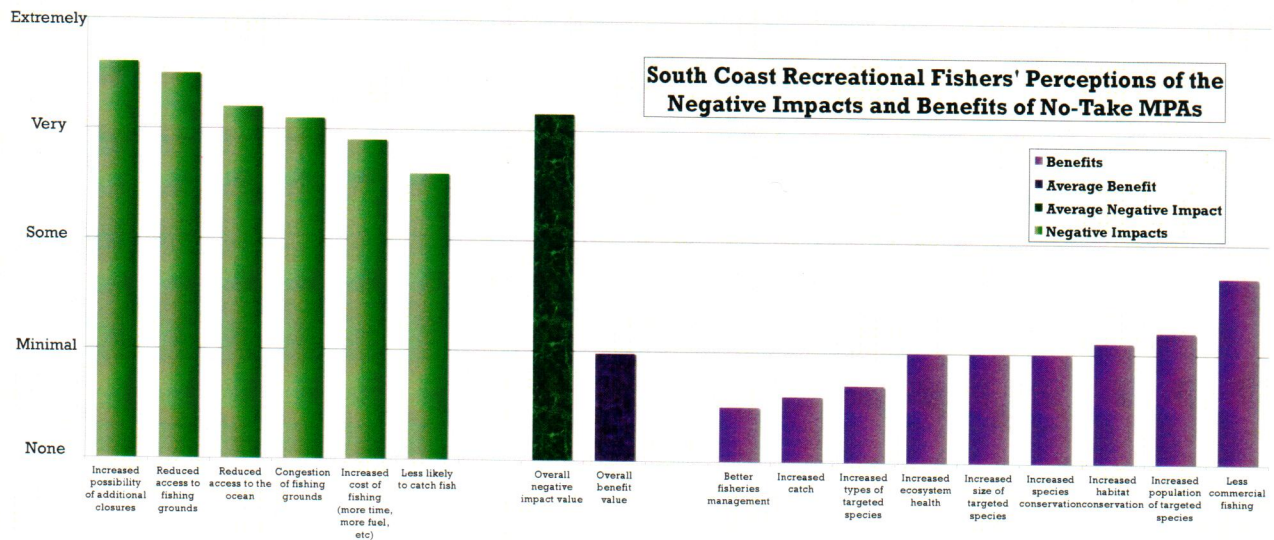


Figure 8

Question: How often did you fish in areas that are now closed?

- 75.5 % of respondents stated they 'always', 'very often', or 'often' fished in areas that are now MPAs.

Question: How likely are you to comply with the MPA closures?

- 54.4 % of respondents indicated they would 'always' comply with the MPA closures.
- 33.3 % indicated they were 'likely' to comply.
- 1 in 8 fishermen indicated they were 'somewhat likely', 'not likely' or 'never' likely to comply.
- Comments received for this question listed 'will obey the law' and 'risk of fines' as reasons for compliance.
- No comments indicated that compliance would be based on perceived benefits.
- Comments from respondents likely to poach listed 'unenforceable' and 'unfair process' as reasons for noncompliance.

Questions: To what extent do you think scientific monitoring of recreationally targeted species is beneficial? If you catch a tagged lobster, how likely are you to report the tag?

- For the question about the benefits of scientific monitoring, responses from all respondents were analyzed. Results are averaged and rated 2.3 out of 4, which corresponds to a 'somewhat' value.

- For the question asking the likelihood of one returning a tag, only responses from respondents who indicated lobster was one of their targeted species were analyzed. Results are averaged and rated 3.25, which corresponds to more than "likely."
- 52% of lobster fishers who responded to our survey had heard about the tagging program.
- The more a respondent valued scientific monitoring, the more likely he was to report a tag.
- Comments from respondents 'somewhat', 'very' or 'extremely' likely to report a tag indicated that helping to report data would be useful for management.
- Comments from respondents 'never' and 'minimally' likely to report a tag indicated the reason is that they do not think the data will be used fairly by the government and environmental NGOs to inform management, and that the data would be used to support additional fishing closures.

DISCUSSION

A. Our survey results helped to identify several key values of the recreational fishing community. These include:

- Access to the ocean and access to good/established fishing grounds
- Fishing is valued as a social and recreational activity with an emphasis on being outdoors and spending time with friends and family
- Healthy fish populations
- Majority view scientific monitoring as beneficial and are likely to report a lobster tag

B. Our survey helped to identify several core concerns within the recreational fishing community regarding MPAs. These include:

- Reduced ocean access and reduced access to good/established fishing grounds due to MPAs
- Congestion of fishing grounds due to MPAs
- Possibility of more fishing closures in the future due to MPA management decisions
- Unhealthy fish populations due to pollution
- Concern that scientific monitoring data collected in association with MPA monitoring will be biased

C. One of the key goals of our project was to identify communication and message barriers in the recreational fishing community about MPAs and monitoring. These include:

- Less than 'some' level of trust of information from scientists
- 'None' to 'minimal' level of trust of information from ENGOs (tasked with outreach for monitoring projects)
- Do not trust collected data will be used fairly to inform management (for their interests)
- Vast majority do not support MPAs as a tool to improve the ecosystem health or increase fish stocks
- Vast majority of fishers perceive the planning process as 'unfair' or 'illegal'. This may be one of the biggest factors influencing fishers' willingness to trust and participate in collaborative monitoring and management efforts moving forward.
- Low level of support for MPAs in general
- Low level of 'belief' of the scientific benefits of MPAs (increased population, size, catch of fish species, habitat conservation, ecosystem health)
- Knowing lobster data such as location and habitat is not likely to be a motivating factor in whether one reports a tag/ participates in monitoring.
- NGOs are not trusted as the 'gatekeeper' for the collected data
- Those that do support MPAs show a higher level of trust for information from ENGOs, news, government, and marine science messengers than do those that indicated they do not support MPAs, but both groups remain very trusting of RFAs

COMMUNICATIONS AND MESSAGEING

What makes a communications strategy effective? In the context of marketing a product, politics, or environmental advocacy, one tries to connect a message to the values, interests and needs of the target audience.³⁴ The 'right' message will be different depending on the audience's beliefs, goals, contexts and attitudes.³⁵ Accurate and credible scientific data is important, but technical information is unlikely to be persuasive because many decisions are value judgments that do not require additional science.³⁶ Dawn Martin, the president of SeaWeb, a non-profit specializing in strategic messaging on ocean issues, articulates that facts are meaningless unless

³⁴ Schreiber 2011, Roberts 2011

³⁵ Osborne 2011

³⁶ Schreiber 2011

they are communicated in a way that strikes an emotional chord.³⁷ Often scientific facts are missing the human element, yet the changes we are seeing in the ocean are driven by humans.³⁸ Resource Media, an agency that develops messaging and communications campaigns for environmental issues, summarizes their approach as preparing “compelling, values-based messages...(and) deliver(ing) the right messages to the right audiences via credible messengers.”³⁹

Advocacy, whether political or environmental, can reach people that hold viewpoints in the middle ranges of an issue. Subtle social appeals tend to be more effective, and they need to be repeated over long exposures.⁴⁰ In addition, experts, spokespeople, and real-life characters are central to any story.⁴¹ Resource Media makes the case that the right spokespeople are relatable, add credibility, and can be an icon for the story you are trying to tell.⁴² With an issue like MPAs, where the benefits and justifications for conservation and are rooted in science, facts are an essential part of the story. An audience is more receptive when “credible facts come from sources trusted for their competence and honesty.”⁴³ The results of our survey indicate that the recreational fishing community does not perceive ENGO representatives as trusted spokespeople to communicate facts about MPAs. This is important to consider because ENGOs are one of the main sources tasked with, and funded for, communication and outreach about California’s network of MPAs.

Another main challenge to communicating the benefits of MPAs to a consumptive user group like recreational fishers, is that the costs of MPA restrictions are immediate and are felt in this community on an emotional level as an assault against their identity and core values. Social ‘descriptive’ norms help describe how most people will behave in a situation and motivate both public and private actions.⁴⁴ Research also suggests that the more important a social category is to an individual’s social identity, the more likely that person will be to follow the norms of that category.⁴⁵ The results of our survey indicate that there is no social norm within the recreational fishing community to value MPAs as either an effective ecosystem conservation tool or fisheries management tool. The recreational fishing community has a very strong sense of social identity

³⁷ Roberts 2011

³⁸ Roberts 2011

³⁹ Resource Media n.d. (A)

⁴⁰ Schreiber 2011

⁴¹ Resource Media n.d. (B)

⁴² Resource Media n.d. (B)

⁴³ Fischhoff 2007

⁴⁴ Goldstein 2008

⁴⁵ Goldstein 2008

that is displayed through participation on public online fishing forums, chatting with friends, family, and employees of fishing stores, and with time spent on the water fishing.

It is also important to remember that communication is listening as well as speaking.⁴⁶ For California's network of MPAs, it is important to maintain a public dialog among all stakeholder groups because the monitoring and management process will evolve over time. The goal of our communications recommendations outlined in this report is to maintain a public dialog between recreational fishermen, research scientists, and ENGOs about the management and future of MPAs. Human behavior will shape the extent and effects of MPAs, and communications strategies will help shape those behaviors.⁴⁷

MPA Messaging Strategies from ENGOS & RFAs:

Many ENGOs target a broad public audience. This aligns with their goals of education and awareness, fundraising, and garnering public support for legislation. Their messages include scientifically accurate information about MPAs and are disseminated through websites, blogs, videos, aquarium exhibits, media interviews, collateral materials, and more. Appropriately for their goals, their messages often have an agenda of maximum environmental protection, which on the issue of planning for California's network of MPAs, conflicts with the recreational fishing agenda of maintaining access to the ocean and minimizing fishing closures.

The California Ocean Communicators Alliance (OCA), a group of 300 professionals in ocean-related organizations, agencies, and businesses, held a workshop in April 2012 that focused on messaging, delivery, and collaboration to advance the outreach and communication about MPAs in California.⁴⁸ Presenters at the workshop included representatives from Ocean Conservancy, NOAA Office of National Marine Sanctuaries, Cabrillo Marine Aquarium, California Department of Fish and Game, and Channel Islands National Marine Sanctuary. Notes from the workshop's preliminary report highlight that developing a simple, consistent, and positive message is key. It is noted that talking about 'ocean zoning', 'fisheries management', 'crisis management', and 'biological diversity' were not effective ways to engage the public on the issue of MPAs.⁴⁹ It is better to connect with the things people know and love - like parks and coastal places where

⁴⁶ Fischhoff 2007

⁴⁷ Fischhoff 2007

⁴⁸ Ocean Communicators Alliance 2012 (A)

⁴⁹ Ocean Communicators Alliance 2012 (B)

people like to spend time.⁵⁰ Framing MPAs as a ‘solution’ and focusing on what you can do (snorkeling, surfing, tidepooling), rather than what you can’t do (fishing inside reserves) is also a recommended.⁵¹ “Effective Solution Words” words such as ‘safe havens’, ‘healthy’, ‘protects’, ‘restore’, and ‘balance’ were outlined during the workshop; as well as “Words to Avoid”, such as ‘restrict’, ‘prohibit’, and ‘closure’. “Effective Problem Words” to use include ‘declined’, ‘at risk’, ‘threatened’ and ‘vanished.’⁵²

The OCA workshop detailed four main messaging themes to communicate the importance of MPAs to the public. They focused on safeguarding the ocean for future generations, positive impacts on ocean wildlife, branding MPAs as an equivalent to National Parks on land, and recreational activities allowed inside MPAs. The themes are: Legacy, Fat Old Female Fish, Underwater Parks, and What About Me? (Figure 9⁵³)



Legacy
“Marine protected areas ensure our kids and grandkids can enjoy a healthy, productive ocean.”

Fat Old Female Fish
“Marine protected areas provide a place where ocean wildlife can feed, breed and thrive, and a home for the big old fat females that replenish our oceans.”

Underwater Parks
“Marine protected areas are like underwater parks. They protect the Yosemite of the sea – special places like La Jolla’s kelp forests, or (insert local example)...”

What about me?
“You can swim, dive, surf, tidepool, kayak or watch birds and mammals at the marine protected area at (insert local example). Or help study local wildlife and habitats through X program.”

Figure 9

⁵⁰ Ocean Communicators Alliance 2012 (B)

⁵¹ Ocean Communicators Alliance 2012 (B)

⁵² Ocean Communicators Alliance 2012 (B)

⁵³ Ocean Communicators Alliance 2012 (B)

In addition to words, visual imagery is an important element in communications. Complicated scientific graphs, tables, and maps are not the best way to clearly communicate information to the public. In a review of several ENGO and government websites that communicate about MPAs (Appendix 7), we found that all used imagery of beautiful ocean and coastal scenes, images of megafauna such as sea otters and whales, iconic ecosystems such as kelp forests, and images of children and families engaged in non-consumptive ocean activities. Images of recreational fishing activities are absent.

The general public is an important stakeholder group that is needed to build support for California's MPAs. But, are these key messaging themes and visuals also effective when communicating with a consumptive user group like recreational fishermen? Our survey results indicate that these messages will not appeal or be persuasive to recreational fishers because they do not address the core values or concerns of the community. Although recreational fishers value a healthy ocean and fish stocks, they also place a high value on access to fishing grounds, are very concerned about fair management of the resource, do not believe spillover is a scientifically proven benefit, and believe that fishing closures inside MPAs will negatively impact adjacent ecosystems and fish stocks. They have both a tangible and emotional investment in the resource, and the consequences of MPA closures impact them in a more immediate and direct way than the general public. Additionally, the recreational fishing community's negative opinions about MPAs are likely influenced to a degree by their mistrust and anger over the MPA planning process, as detailed earlier in this report. It is also worth noting that messaging and communications from ENGO's are unlikely to even reach or be seen by recreational fishers because they are not a trusted source of information. Messages that are seen are likely to be discounted as biased and not inclusive or representative of the goals of the community.

The OCA Workshop did include a discussion session on ways to reach out to consumptive user groups like fishers. Recommendations from the session include having a credible and respected messenger promote MPA messages (like an "old-timer fisherman with personal experience"), include fishers in the process, face-to-face communication, correcting misinformation, and relationship building within the community. It was recommended to connect the message at a local or personal level by having a local messenger or by citing recent scientific research in the region. Emphasis was also placed on showing respect for the fisher's way of life, getting out to fisher's events and where they fish, and finding ways to empower

consumptive users to be stewards and make a difference.⁵⁴ Based on our research, relationship building, finding a credible messenger, collaboration, and showing empathy are all necessary tactics, however, the overall messaging themes from the session still seem to align with those recommended for the general public that focus on the science and benefits of MPAs, such as creating an “insurance policy” for the future. With this approach we will still be stuck in a battle of values and trying to convince fishers to change their minds about the policy.

In stark contrast, MPA messaging themes from RFAs speak directly to a fishing identity and lack of fairness in the MLPA Initiative planning process. Messages focus on one’s ‘right to fish,’ proclaim the fisher’s ‘way of life is threatened,’ and that the ‘corrupt process’ should be stopped.⁵⁵ There are appeals to maintain public access to the ocean and for collaboration, but almost all messages spotlight the negative impacts of MPAs on recreational fishing.⁵⁶

⁵⁴ Marquis, May 15, 2012

⁵⁵ United Anglers of Southern California, 2011

⁵⁶ One suggestion from the OCA Workshop was that a beneficial ‘tool’ to introduce to consumptive users would be to let them know about local areas still open to fishing and where other fishers are. Our research shows there are numerous ‘fishing reports’ on various websites that give daily reports of where recreationally targeted fish are seen and caught. It seems unlikely that similar information coming from an ENGO would be necessary, credible, or even read by fishermen.

Messaging Comparison:

Following is a chart that compares existing messages about MPAs from ENGOs and RFAs. Also shown are survey comments that align with the messages of the RFAs, clearly showing that ENGO messages have not been effective or persuasive with this audience.

1) Core concern of reduced access to fishing grounds:

Environmental NGO	Recreational Fishing Association
"...leaving nearly 90 percent of the coast open for fishing" (CalOceans)	"massive fishing closures off the coast of California" (Sport fishing Association of California)

Survey results

75.5 % of respondents stated they 'often', 'very often' or 'always' fished in the areas that are now MPAs

2) Core concerns of additional fishing closures and biased science in management decisions:

Environmental NGO	Recreational Fishing Association
Through continuous monitoring of MPAs, California is utilizing an adaptive management strategy whereby future management plans are informed by real-time monitoring results. (Monterey Bay Sanctuary Foundation)	MLPA closures are “adaptive”, that is, more areas can be closed in the future (United Anglers of Southern California)

Survey comments

“What’s not to stop more closures based on poor science?”

“Not worth my time (to report lobster tag data), any information provided will be used against the recreational fisherman as another reason to close additional areas.”

3) Barrier of 'unfair' or 'illegal' planning process:

Environmental NGO	Recreational Fishing Association
<p>The new south coast marine protected areas were planned by local residents. Tens of thousands of southern Californians weighed in to urge the protection of beloved kelp forests, rocky reefs and coral gardens. (CalOcean)</p>	<p>Backed by deep corporate pockets, environmentalists are driving California's MLPA process towards their desired conclusion (more restricted public access), regardless of what science, economics and even procedure dictate. (United Anglers of Southern California)</p>

Survey comments

- "It was pushed forward by extremist and special interest groups. It was a flawed process, which was called out upon several times. Very blatant horse and pony show."
- "The entire process was/is a joke"
- "Lost faith in the system that created the MPAs"

4) Barrier of 'illegal' planning process and that MPAs are not the correct management tool:

Environmental NGO	Recreational Fishing Association
<p>Southern California residents were overwhelmingly supportive of the protections during the two-year public planning process. (CalOcean)</p>	<p>... fundamentally transformed MLPA implementation into a process that the Legislature would not have recognized. Under this process, statutory requirements have been ignored, environmental review has been flawed, and private meetings that should have been open to the public were held, during which important decisions were made. (Save California Fishing)</p>

Survey comments

- "While I am 100% behind protecting fish/lobster stocks, MPAs are not the way to do this. The same amount of people will still fish, which will deplete the open areas even further... Smaller bag limits, increased size limits, and shorter seasons are much more effective ways of managing and protecting the resource."

5) Core concern over reduced access to ocean and fishing grounds:

Environmental NGO	Recreational Fishing Association
Marine protected areas are good for fish and for fishermen. (Ocean Conservancy)	If these draconian measures are passed, it could threaten a way of life for millions of people. (United Anglers of Southern California)

Survey comments

- "They 'TOOK' the most productive areas without concern of the economic and overcrowding implications"

6) Core concern over reduced access to ocean and fishing grounds:

Environmental NGO	Recreational Fishing Association
Soon, the state will have a system of "marine protected areas" dotting the coast like a string of pearls, and protecting iconic areas like Point Reyes, Big Sur, and La Jolla. (Cal Ocean)	California's MLPA process is being driven towards a conclusion of more restricted public access, regardless of what science, economics and even legal procedure dictate. (Ocean Access Protection Fund)

Survey comments

- "The 'environmental conservationists' concern is to remove the ugly, fuel burning fishermen off the water, NOTHING ELSE."

7) Perception of current fisheries management:

Environmental NGO	Recreational Fishing Association
<p>Some fish populations off California are depleted to less than 10 percent of historic levels, and many may take decades to recover to healthy, sustainable levels. Fishermen are now catching less than half of what they did in 1990 and the fish they do catch are 45 percent smaller. We need new tools to protect ocean ecosystems. MPAs can help. (Ocean Conservancy)</p> <p>A Network of Hope Spots: Hope Spots are special ocean places that are cause for hope in a time when the ocean faces many threats. (Monterey Bay Sanctuary Foundation)</p>	<p>Since the late-1990s, the health of California’s fisheries improved significantly. Thanks to the enactment and enforcement of important conservation aspects of state and federal laws such as the Marine Life Management Act and the Magnuson-Stevens Act, overfishing along the entire Pacific coast is no longer occurring and California’s marine fish stocks are rebuilding. This approach clearly has demonstrated that fish stocks can be effectively managed and rebuilt under existing fishery management regulations and without the aid of the MLPA closures and their associated adverse economic and environmental impacts on fishing and coastal communities. (Save California Fishing)</p>

Survey comments

- “We have the best managed fisheries in the world - Southern California is an example of what great fish management can do.”

8) Core concern that MPAs will not work as promised:

Environmental NGO	Recreational Fishing Association
<p>The science is clear: marine protected areas work. Marine protected areas allow fish, mammals, and other marine life to breed, feed, and succeed without human interference. Extensive scientific research demonstrates that MPAs can help bring back big fish and restore habitats — especially in highly protected marine reserves, where fishing is prohibited.</p> <p>(Ocean Conservancy)</p>	<p>Banning fishing in these areas may increase the fish populations within them, but how does it enhance the marine habitat and how does it offer improved recreational and educational opportunities? The bottom line is that it doesn't. It just makes it appear as if the environmentalists are doing something productive. The bottom line is that ... if (the MLPA is) left unchecked, it could very easily lead to a complete collapse of our fishing lifestyle. (editorial on bdoutdoors.com)</p>

Survey comments

- "MPAs will increase the biomass inside the reserve only. Outside the reserve the biomass will decrease due to increased fishing pressure. Since the closed areas are not fishable, this will not benefit the recreational angler or the ecosystem as a whole."

MESSAGING RECOMMENDATIONS

Our research indicates the need for a new communications approach to engage the recreational fishing community in the monitoring and management of California's network of MPAs. There is a desire for healthy oceans and fish stocks that remains common ground among all the stakeholder groups. There is a desire for participation and a voice in management decisions that remains common ground. But how do you persuade recreational fishers to support a policy that they not only believe won't be effective, but also believe will cause additional ecosystem damage and poses a significant 'threat' to a key part of their identity and enjoyment? The answer is: You don't. At least not yet, because fishers are unlikely to believe in benefits they can't see. Baseline data collection is just beginning in the South Coast region and the scientifically based benefits of MPAs, such as larger and older fish, spillover, and ecosystem resilience aren't going to be 'proven' or 'unproven' for at least ten years. Similarly, fishers out on the water won't have the opportunity see bigger fish as a result of MPA protections for several years.

Instead of advocating support 'for' or 'against' MPAs, we are recommending that communication efforts are designed with the goal of maintaining a public dialog and keeping the fishing community engaged in the monitoring and management process. We are presenting key messaging themes targeted towards the recreational fishing community from two different perspectives. The first perspective is from someone who is known and respected as a part of the recreational fishing community. This person will be a spokesperson or 'champion' of the message. This perspective was chosen because information coming from the recreational fishing community is rated at the highest level of trust by our survey respondents. The second perspective is from an ENGO, which would receive funds for public communication efforts about MPAs, but which is rated at the lowest level of trust by our survey respondents. From both perspectives, the key themes are meant to address the core values of recreational fishers and the barriers to communication within the community, and some are phrased as 'action' words that will engage fishermen to make a choice. Common to both sets of themes is the necessity and invitation to stay engaged in the monitoring and management process.

Recreational Fishing Champion:

Current messaging from RFAs and online forums focus on the negative impacts of MPAs. We want to shift some of the messages to focus on the benefits of staying involved in MPA

monitoring and management. There is a need to provide accurate information, and our messaging themes are developed based on some of the core values we identified: fair management of the resource, access to the ocean and good fishing grounds, and wanting their voices to be heard and respected in the management process. We also identified the need for accurate, accessible, and straightforward explanations of the science and the adaptive management process. The science is an integral part of this issue and cannot be ignored, and using social appeals to stay involved and informed might be one way to help break down the community's mistrust of science. If our champion was posting to a fishing forum, speaking at a meeting, or responding to someone else's negative post about MPA monitoring and management, he could incorporate these themes:

Stay Engaged

- Let's look forward as the monitoring and management of MPAs evolves.
- Let's remember that we had a voice in the planning process and many of the MPA boundaries were compromised based on our input.
- We will be a more respected voice now and in the future about issues this community cares about if we stay engaged.
- We aren't going to believe the science unless we have a collaborative role in data collection and monitoring projects.
- Stay engaged and be a 'watchdog' to ensure MPA monitoring and management is fair.

Maintain Identity

- Fishermen are survivors. We're upset and we've lost fishing access to parts of the ocean we love, but we are still a strong community of fishers.
- Our sport, traditions, the time we spend with friends and family on the water will persist.
- Fish are our assets. We depend on a healthy ocean for recreation, relaxation, building family memories and fresh seafood. Are there other policies or conservation efforts that we can actively support- like slot limits or pollution controls?

Stay Informed

- Post links to updates on monitoring projects.
- Post links to unbiased information using simple language on issues like adaptive management.

- Post links to meetings or other opportunities to stay informed.

ENGO:

Current messaging from ENGOs focuses on the scientific benefits of MPAs and protecting the resource for future generations. As we've shown, these messages are not effective or inclusive of the recreational fishing community. When reaching out to recreational fishers we recommend that ENGOs incorporate the following themes in an effort to start building a degree of credibility within the community. The themes were developed based on some of the main barriers to communication we identified: the belief that MPAs don't work and that science is biased, the unknown and uncertain future of the adaptive management process, and the low level of trust of environmental NGOs. These themes may be used during a meeting, personal conversation, or other communication methods targeted at recreational fishers:

Acknowledgement

- We understand that new regulations have impacted a lot of fishers.
- We understand that fishers feel displaced and upset.
- We acknowledge that you have concerns about the negative impacts of MPAs and the role of science and politics in management decisions.

Invitation

- We want you as a partner in MPA monitoring and data collection.
- Opportunities exist for collaboration on projects important to fishers.
- We'll publicize opportunities for collaboration and participation on information sources that you use.

Manage Expectations

- Adaptive management is an evolving process. Thresholds that might signal a change in MPA boundaries or level of protection aren't determined yet.
- Every MPA will respond differently based on ecology, level of protection, and compliance with closures.
- Monitoring is a long-term process and we need to allow time for baseline data collection and monitoring results.

- We will communicate monitoring progress, including positive or negative ecological and socioeconomic impacts, and not just wait for final results.

Application:

To close our project we are producing a video that applies our message themes to communicate with fishers about the Lobster Monitoring Project and explain why they should be engaged in MPA monitoring whether they support the MLPA policies or not. Although we presented our message themes as separate lists, we agree that a collaboration between messengers and combination of all themes will be much more effective. The themes are represented in this video subtly from a Community Champion and Project Partners. It is a work in progress as we continue to collect footage and edit to produce a final product that will be mutually beneficial to project partners for outreach and for us to test our recommended themes. The finished product will be housed on the San Diego Oceans Foundation website to be informative about the project and invite participation.

CONCLUSION

Challenges still exist when communicating with recreational fishers. Individual fishers can be a powerful voice in the monitoring and management of California's MPAs. Although some "champions" are open to correcting misinformation and publicly supporting collaborative efforts, we have not investigated the feasibility that RSAs will adopt some or all of our messaging recommendations. It also remains unclear how dedicated ENGOs are to including the fishing community in their outreach efforts. Funds should be awarded to these organizations based on communication plans that are inclusive of all user-groups, and include a clear metric to measure success. Locally based ENGOs with established relationships in the fishing community may be effective organizations to receive MPA outreach funds (provided they also demonstrate a clear communications plan with measurements of success). One caveat is that some local ENGOs may be too small to have a staff member who is dedicated and knowledgeable about communication strategies. This leads us to consider if there is another 'type' of organization (other than an ENGO) that has enough credibility to receive MPA outreach funds that may be seen as a more trusted source of information among the fishing community.

We have identified several outlets for sharing our results and messaging themes, and have been pleased to find that there is interest from individuals and organizations on both sides of

this issue. Outlets for sharing include the MPA Monitoring Enterprise, California Ocean Communicators Alliance, San Diego Oceans Foundation, and several respected individuals from within the recreational fishing community. Next steps in this project include completing the video for the lobster tagging project and determining future research needs, such as how to measure the success of messaging efforts.

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APPENDIX 1: Survey Design Resources

Personal communications, and media, website and literature review conducted for background research about MPAs that helped inform the design of our survey questions.

Personal communications:

Ed Parnell, Scripps Institution of Oceanography marine scientist involved in MLPA Initiative;
Kelly Sayce, Strategic Earth Consulting, MLPA Initiative Public Outreach and Education
Coordinator;

Lyall Belquist, Drew Cole, Levi Lewis, recreational fishers;
Ayelet Gneezy, Professor at the Rady School of Business/UCSD, survey design and marketing
Elizabeth Keenan, PhD student at the Rady School of Business/UCSD, survey design and marketing
Kristina Barber, Outreach Volunteer for San Diego Oceans Foundation

Media, website and literature review:

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APPENDIX 2: All Survey Questions

Recreational Fishing Survey

*** 1. How much do you value the following aspects of recreational fishing?**

	none	minimal	some	very	extremely
Being outdoors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fishing as a sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to the ocean	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fishing as a leisure activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eating fresh seafood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contributing to conservation (through license fees)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time with friends and family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Healthy fish populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Passing the tradition on to your children and grandchildren	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)					

*** 2. What species do you fish for recreationally? And how often?
Mark all that apply.**

	Daily	Weekly	Monthly	A few times per season
Lobster	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Crustaceans (crab, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Groundfish (rockfish, halibut, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other finfish (yellowtail, white sea bass, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mollusks (clams, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)				

*** 3. How concerned are you with the population size/health of recreationally targeted species?**

	none	minimal	some	very	extremely
Lobster	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other target species	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reasons					

***4. Where have you heard about San Diego/South Coast marine protected areas (MPAs)?**

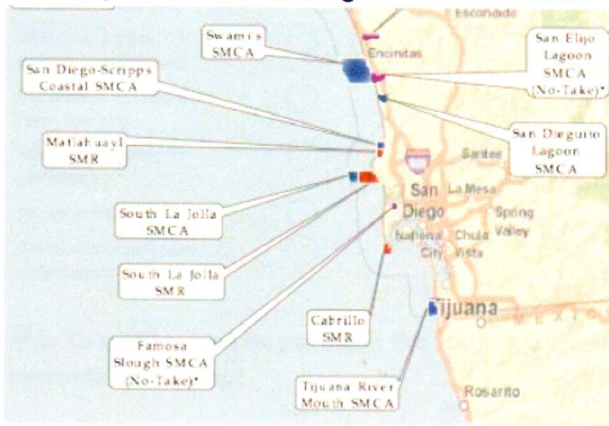
Mark all that apply.

- Haven't heard about local MPAs
- Fishing organization / club
- Online recreational fishing forum / website
- Social media site
- Online journalism article
- Conversation with scientist
- Scientific journal
- Friends/relative/other fishermen
- Government official/publication
- MLPA Initiative
- Other

Please specify the name of the sites, journals, forums, etc, where you learn about MPAs

Definition: Marine protected areas (MPAs) are areas of the ocean that have been designated by laws or regulations to protect part or all of the natural and cultural resources within their boundaries. MPAs range widely in size, location, purpose, and level of protection. Some MPAs include no-take areas where fishing is prohibited.

This map shows the San Diego no-take closures.



***5. How often did you fish in the areas that are now closed?**

	never	a few times	often	very often	always
Lobster	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other target species	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. How likely are you to comply with the MPA closures?

never
 not likely
 somewhat likely
 likely
 always

Reasons

***7. Do you support MPAs?**

Mark all that apply.

<input type="checkbox"/> Yes, in general MPAs work to preserve the marine ecosystem and fish stocks	<input type="checkbox"/> Yes, MPAs will benefit San Diego/ South Coast
<input type="checkbox"/> No, in general MPAs do NOT work to preserve the marine ecosystem and fish stocks	<input type="checkbox"/> No, the MPA planning process in San Diego/ South Coast was 'unfair' or 'illegal'

***8. How likely are you to trust information about MPAs from these sources?**

	None	Minimal	Some	Very	Extremely
Online recreational fishing forum / website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friend, relative, or other fisherman	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social media site (Facebook, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Government agency (Dept of Fish and Game, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Newspaper or other journalism publication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employee of a fishing store (gear, bait, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recreational fishing association	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marine scientist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental non-profit organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***9. To what extent do you think the following are negative impacts of no-take MPAs on recreational fishing?**

	None	Minimal	Some	Very	Extremely
Reduced access to the ocean	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduced access to fishing grounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Congestion of fishing grounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased cost of fishing (more time, more fuel, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less likely to catch fish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased possibility of additional closures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

***10. To what extent do you think the following are benefits of no-take MPAs for recreational fishing?**

	None	Minimal	Some	Very	Extremely
Less commercial fishing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased population of targeted species	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased catch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased types of targeted species	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased size of targeted species	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased habitat conservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased species conservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased ecosystem health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better fisheries management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

***11. To what extent do you think scientific monitoring of recreationally targeted species is beneficial?**

None
 Minimal
 Some
 Very
 Extremely

Reasons (please specify)

***12. Have you heard about the spiny lobster monitoring program going on within the South Coast MPAs?**

No
 Yes (specify where you heard)

Definition: The spiny lobster tagging program is a 3-year project to assess the mobility and habitat range of the California spiny lobster. Lobsters found within the boundaries of the MPAs are tagged with individual numbers. Information about the location of the lobsters will be collected when they are caught in the future.

***13. As a recreational fisherman, how useful to you is information about the location and habitat of California spiny lobsters in San Diego?**

None
 Minimal
 Some
 Very
 Extremely

***14. If you catch a tagged lobster, how likely are you to report the tag?**

None
 Minimal
 Some
 Very
 Extremely

Reason(s)

*** 15. How many years have you been fishing recreationally ?**

	Less than 1 year	1-5 years	6-10 years	11-20 years	Over 20 years
For lobster	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For other target species	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 16. What is your primary mode of fishing?**

shore/dock your own boat other's private boat charter/party boat kayak

*** 17. What is your age?**

under 30 30 - 50 over 50

End of survey

APPENDIX 3: Letter From IRB

120046XX



UNIVERSITY OF CALIFORNIA, SAN DIEGO
HUMAN RESEARCH PROTECTIONS PROGRAM

Date: February 9, 2012
To: Holly Rindge Mailcode: 0208
Re: Project #120046XX
Recreational Fishing Community Survey

Dear Ms. Rindge:

Your project was reviewed by an IRB Chair, IRB Chair designee, or the Director of the Human Research Protections Program and certified as exempt from IRB approval under 45 CFR 46.101(b), category 2: Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:

- a. information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and
- b. any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Please note: When a study has been certified as exempt from IRB review, continuing review and approval is not required. Certification of Exemption is effective for the life of the study. However, all modifications to a study that has been certified exempt must be submitted to the IRB for prospective review and certification of exemption prior to implementation. In some circumstances, changes to the protocol may disqualify the project from exempt status.

On behalf of the Institutional Review Board,

A handwritten signature in black ink, appearing to read 'M. Caligiuri'.

/mc

Michael Caligiuri, Ph.D.
Director, Human Research Protections Program
(858) 657-5100

APPENDIX 4: BD Outdoors link

Link to complete bdoutdoors.com survey post and responses

BD survey thread: <http://www.bdoutdoors.com/forums/marine-life-protection-act-initiative-mlpa/399549-how-you-feel-about-lobter-mpla.html>

APPENDIX 5: All Survey Responses

Response Summary

Total Started Survey: 58
Total Completed Survey: 58 (100%)

1. How much do you value the following aspects of recreational fishing?

[Create Chart](#) [Download](#)

	none	minimal	some	very	extremely	Response Count
Being outdoors	0.0% (0)	0.0% (0)	0.0% (0)	19.0% (11)	81.0% (47)	58
Fishing as a sport	0.0% (0)	1.7% (1)	6.9% (4)	20.7% (12)	70.7% (41)	58
Access to the ocean	0.0% (0)	0.0% (0)	1.7% (1)	12.1% (7)	86.2% (50)	58
Fishing as a leisure activity	0.0% (0)	0.0% (0)	3.4% (2)	24.1% (14)	72.4% (42)	58
Eating fresh seafood	1.7% (1)	5.2% (3)	19.0% (11)	24.1% (14)	50.0% (29)	58
Contributing to conservation (through license fees)	5.2% (3)	5.2% (3)	24.1% (14)	27.6% (16)	37.9% (22)	58
Time with friends and family	0.0% (0)	5.2% (3)	6.9% (4)	17.2% (10)	70.7% (41)	58
Healthy fish populations	0.0% (0)	0.0% (0)	1.7% (1)	25.9% (15)	72.4% (42)	58
Passing the tradition on to your children and grandchildren	1.8% (1)	3.5% (2)	14.0% (8)	8.8% (5)	71.9% (41)	57
					Other (please specify)	2
					Show Responses	

2. What species do you fish for recreationally? And how often? Mark all that apply. [Create Chart](#) [Download](#)

	Daily	Weekly	Monthly	A few times per season	Response Count
Lobster	0.0% (0)	18.2% (8)	15.9% (7)	65.9% (29)	44
Other Crustaceans (crab, etc)	0.0% (0)	4.0% (1)	4.0% (1)	92.0% (23)	25
Groundfish (rockfish, halibut, etc)	0.0% (0)	21.8% (12)	40.0% (22)	38.2% (21)	55
Other finfish (yellowtail, white sea bass, etc)	1.9% (1)	24.1% (13)	42.6% (23)	31.5% (17)	54
Mollusks (clams, etc)	0.0% (0)	0.0% (0)	0.0% (0)	100.0% (23)	23
				Other (please specify) Show Responses	8
answered question					57
skipped question					1

3. How concerned are you with the population size/health of recreationally targeted species? [Create Chart](#) [Download](#)

	none	minimal	some	very	extremely	Response Count
Lobster	5.5% (3)	23.6% (13)	18.2% (10)	16.4% (9)	36.4% (20)	55
Other target species	3.6% (2)	9.1% (5)	21.8% (12)	23.6% (13)	41.8% (23)	55
					Reasons Show Responses	20
answered question						57
skipped question						1

4. Where have you heard about San Diego/South Coast marine protected areas (MPAs)? Mark all that apply.

[Create Chart](#) [Download](#)

		Response Percent	Response Count
Haven't heard about local MPAs		3.4%	2
Fishing organization / club		58.6%	34
Online recreational fishing forum / website		86.2%	50
Social media site		36.2%	21
Online journalism article		46.6%	27
Conversation with scientist		19.0%	11
Scientific journal		8.6%	5
Friends/relative/other fishermen		62.1%	36
Government official/publication		41.4%	24
MLPA Initiative		56.9%	33
Other		8.6%	5
Please specify the name of the sites, journals, forums, etc, where you learn about MPAs			27
			Show Responses
answered question			58

5. How often did you fish in the areas that are now closed?

[Create Chart](#) [Download](#)

	never	a few times	often	very often	always	Response Count
Lobster	33.3% (17)	27.5% (14)	9.8% (5)	19.6% (10)	9.8% (5)	51
Other target species	3.8% (2)	20.8% (11)	17.0% (9)	49.1% (26)	9.4% (5)	53
answered question						56
skipped question						2

6. How likely are you to comply with the MPA closures?

[Create Chart](#) [Download](#)

		Response Percent	Response Count
never		3.5%	2
not likely		3.5%	2
somewhat likely		5.3%	3
likely		33.3%	19
always		54.4%	31
Reasons Show Responses			22
answered question			57
skipped question			1

7. Do you support MPAs? Mark all that apply.

[Create Chart](#) [Download](#)

		Response Percent	Response Count
Yes, in general MPAs work to preserve the marine ecosystem and fish stocks		14.8%	8
No, in general MPAs do NOT work to preserve the marine ecosystem and fish stocks		53.7%	29
Yes, MPAs will benefit San Diego/ South Coast		3.7%	2
No, the MPA planning process in San Diego/ South Coast was 'unfair' or 'illegal'		81.5%	44
Other (please specify) Show Responses			21
answered question			54
skipped question			4

8. How likely are you to trust information about MPAs from these sources?

[Create Chart](#) [Download](#)

	None	Minimal	Some	Very	Extremely	Response Count
Online recreational fishing forum / website	3.4% (2)	8.6% (5)	48.3% (28)	24.1% (14)	15.5% (9)	58
Friend, relative, or other fisherman	0.0% (0)	19.0% (11)	51.7% (30)	17.2% (10)	12.1% (7)	58
Social media site (Facebook, etc)	31.0% (18)	20.7% (12)	39.7% (23)	8.6% (5)	0.0% (0)	58
Government agency (Dept of Fish and Game, etc)	19.0% (11)	19.0% (11)	29.3% (17)	25.9% (15)	6.9% (4)	58
Newspaper or other journalism publication	15.8% (9)	40.4% (23)	35.1% (20)	8.8% (5)	0.0% (0)	57
Employee of a fishing store (gear, bait, etc)	10.3% (6)	17.2% (10)	46.6% (27)	15.5% (9)	10.3% (6)	58
Recreational fishing association	6.9% (4)	3.4% (2)	32.8% (19)	39.7% (23)	17.2% (10)	58
Marine scientist	14.0% (8)	24.6% (14)	26.3% (15)	28.1% (16)	7.0% (4)	57
Environmental non-profit organization	65.5% (38)	19.0% (11)	12.1% (7)	3.4% (2)	0.0% (0)	58
answered question						58

9. To what extent do you think the following are negative impacts of no-take MPAs on recreational fishing?

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	None	Minimal	Some	Very	Extremely	Response Count
Reduced access to the ocean	3.5% (2)	8.8% (5)	10.5% (6)	14.0% (8)	63.2% (36)	57
Reduced access to fishing grounds	0.0% (0)	3.5% (2)	10.5% (6)	22.8% (13)	63.2% (36)	57
Congestion of fishing grounds	1.8% (1)	5.4% (3)	19.6% (11)	21.4% (12)	51.8% (29)	56
Increased cost of fishing (more time, more fuel, etc)	3.5% (2)	17.5% (10)	21.1% (12)	12.3% (7)	45.6% (26)	57
Less likely to catch fish	1.8% (1)	14.0% (8)	35.1% (20)	17.5% (10)	31.6% (18)	57
Increased possibility of additional closures	1.8% (1)	1.8% (1)	1.8% (1)	19.3% (11)	75.4% (43)	57
				Other (please specify)		9
				Show Responses		
				answered question		57
				skipped question		1

10. To what extent do you think the following are benefits of no-take MPAs for recreational fishing?

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	None	Minimal	Some	Very	Extremely	Response Count
Less commercial fishing	19.3% (11)	28.1% (16)	28.1% (16)	14.0% (8)	10.5% (6)	57
Increased population of targeted species	21.1% (12)	45.6% (26)	22.8% (13)	8.8% (5)	1.8% (1)	57
Increased catch	48.2% (27)	41.1% (23)	8.9% (5)	1.8% (1)	0.0% (0)	56
Increased types of targeted species	52.6% (30)	35.1% (20)	7.0% (4)	3.5% (2)	1.8% (1)	57
Increased size of targeted species	40.4% (23)	33.3% (19)	15.8% (9)	8.8% (5)	1.8% (1)	57
Increased habitat conservation	33.9% (19)	32.1% (18)	23.2% (13)	8.9% (5)	1.8% (1)	56
Increased species conservation	31.6% (18)	47.4% (27)	12.3% (7)	7.0% (4)	1.8% (1)	57
Increased ecosystem health	39.3% (22)	32.1% (18)	21.4% (12)	5.4% (3)	1.8% (1)	56
Better fisheries management	66.7% (38)	21.1% (12)	7.0% (4)	3.5% (2)	1.8% (1)	57
					Other (please specify) Show Responses	12

11. To what extent do you think scientific monitoring of recreationally targeted species is beneficial?

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	Response Percent	Response Count
None	5.3%	3
Minimal	14.0%	8
Some	28.1%	16
Very	31.6%	18
Extremely	21.1%	12
	Reasons (please specify) Show Responses	20
	answered question	57
	skipped question	1

12. Have you heard about the spiny lobster monitoring program going on within the South Coast MPAs? [Create Chart](#) [Download](#)

	Response Percent	Response Count
No	57.1%	32
Yes (specify where you heard) Show Responses	42.9%	24
answered question		56
skipped question		2

13. As a recreational fisherman, how useful to you is information about the location and habitat of California spiny lobsters in San Diego? [Create Chart](#) [Download](#)

	Response Percent	Response Count
None	17.5%	10
Minimal	22.8%	13
Some	38.6%	22
Very	8.8%	5
Extremely	12.3%	7
answered question		57
skipped question		1

14. If you catch a tagged lobster, how likely are you to report the tag? [Create Chart](#) [Download](#)

	Response Percent	Response Count
None	7.3%	4
Minimal	9.1%	5
Some	20.0%	11
Very	30.9%	17
Extremely	32.7%	18
Reason(s) Show Responses		15
answered question		55
skipped question		3

15. How many years have you been fishing recreationally ?

[Create Chart](#) [Download](#)

	Less than 1 year	1-5 years	6-10 years	11-20 years	Over 20 years	Response Count
For lobster	6.1% (3)	18.4% (9)	32.7% (16)	12.2% (6)	30.6% (15)	49
For other target species	0.0% (0)	5.5% (3)	3.6% (2)	7.3% (4)	83.6% (46)	55
answered question						58
skipped question						0

16. What is your primary mode of fishing?

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	Response Percent	Response Count
shore/dock	1.7%	1
your own boat	63.8%	37
other's private boat	5.2%	3
charter/party boat	12.1%	7
kayak	17.2%	10
answered question		58
skipped question		0

17. What is your age?

[Create Chart](#) [Download](#)

	Response Percent	Response Count
under 30	15.5%	9
30 - 50	51.7%	30
over 50	32.8%	19
answered question		58
skipped question		0

End of results.

Comments appear as written...not edited for grammar or spelling.

Question 7: Do You Support MPAs?

A. Comments from respondents who answered: No, in general & No, planning process was unfair or illegal. Most common reasons were: MPAs are not an effective method to protect fish species (9), the MLPA planning process was unfair (6), don't trust science used for MPA assessments (2), and other (3).

- The so called science and stats to establish these closures are a joke. Way way off how many fish are out there and NOT endangered populations. NO WAY
- While I am 100% behind protecting fish/lobster stocks, MPAs are not the way to do this. The same amount of people will still fish, which will deplete the open areas even further. The overall percentage of the coastline which is protected is small, but if you look at the percentage of good fish/lobster habitat that is left open, it is much smaller. Smaller bag limits increased size limits, and shorter seasons are much more effective ways of managing and protecting the resource.
- The entire process was/is a joke.
- I might be inclined to support them if I felt the closures were not permanent.
- There is no empirical data with fish stocks in the South Coast area. The BRTF science PHD's were using 'model' based on assumptions. Hardly in sync with the Scientific Method. The MPA's are part of the 'fact' assumptions they operated with. The recreational and commercial users of the resource have a vested interested in preserving and enhancing the resource.
- We have a Dept of Fish and game that sets limits, regulations and species specific closures if needed. What species are the MPAs going to protect? Why not just modify the limits or seasons for those?
- Pollution is the main threat
- Fish stocks could have been regulated by reduced bag limits and larger size requirements. The MLPA has no defined way to evaluate the results of the closures and no real means to control other environmental impacts such as contaminates water runoff (a key factor in reduced fish stocks).
- There are numerous other methods to control what comes out of the ocean; size limits, take quantities, and seasonal closures. Lobster fishing is a perfect example.

B. Comments from respondents who answered: No, planning process was unfair or illegal

- Backdoor meeting , Bringing in bus loads of grade school kids that had no clue what the MLPA was about!
- Predetermined outcome.
- They "TOOK" the most productive areas without concern of the economic and overcrowding implications. Most fisherman are conservationists, unfortunately the MLPA's was rammed down our throats by "environmentalists".
- Fish/Fishing needs to be expensive before any change will be valuable. MPAs do nothing to increase fishing cost thus people will fish just as much and eat as much fish.

C. Comments from respondents who answered: Yes, in general

- Of course MPA will work, you can't take anything there. There are many alternatives but none were even considered
- Very well educated in design of MPAs, whether they work may depend on each MPA

Question 6: How likely are you to comply with the MPA closures?

For respondents who answered 'always' or 'likely' to comply, the most common reasons were: because it is a law (12), they do not want fines or to risk of losing their fishing license (6). For respondents who answered 'not likely' or 'never' to comply, the reasons were: the law is unenforceable (1), the MLPA was an unfair process (1).

A. Comments from respondents who answered: Always

- Unlike the MLPA process, I will obey the law.
- I do not knowingly break the law
- The only reason I will comply is because of the expensive fine if i get caught
- The rules are the rules and I play by the rules
- I don't have a choice. Either stay out or become a poacher.
- Plenty of other places to fish, it just severely impacts the sport fishing industry in San Diego and LA/OC
- As a fisherman I try to follow the rules. Sometimes I don't agree with them, but have to follow the laws.

- I always follow all laws regarding fishing and hunting
- It's the law, and fines will be high
- Not worth the risk of losing my license
- It's the law and there isn't a strong reason to break it.
- Fines
- I will not break the law

B. Comments from respondents who answered: Likely

- Law abiding angler.
- Don't want to pay a fine for our legal right to fish our costal waters.
- It is law, a poorly designed one but a law.
- I would fish there if not or the Jack-booted-thugs that our government is becoming.
- It's the law, a stupid one, but a law no less.

C. Comments from respondents who answered: Somewhat likely

- It's BS

D. Comment from respondent who answered: Not likely

- Unenforceable due to lack of personnel, unable to tell if you are in the area or not-it is a MAJOR navigation exercise to tell if you are in or out, lastly, there is no proof that creating these things will have any impact on fish populations.

E. Comment from respondent who answered: Never

- It was pushed forward by extremist and special interest groups. It was a flawed process which was called out upon several times. It was even said by members of the panel that it was an anti-fishing initiative rather than an effort to save the marine life. Very blatant horse and pony show for those who want to control our natural resources.

Question 9: To what extent do you think the following are negative impacts of no-take MPAs on recreational fishing?

The reasons were: the MLPA was an unfair process (4), congestion of fishing grounds leads to negative impact on ecosystem (3), more closures are likely in the future (2)

- Lost faith in the system that created the MPAs
- The biggest impact will be in the non-closure areas. What's left will be hit extremely hard and push those areas toward collapse of certain species
- Fishing industry losing money. Added ego boost for extremist.
- Give them an inch and they will take 3-miles
- Lobster is next, I know its next to fall
- This is letting the fox get its nose in the hen house door. The 'environmental conservationists' concern is to remove the ugly, fuel burning fishermen off the water, NOTHING ELSE. Case in point is the Laguna Beach situation
- Example on a dive two weeks ago, at Crystal Cove (Reef Point to be exact) I ran into four sets of divers suiting up in the parking lot, we all laughed and said " what are you doing in my spot!" we all said prior to MPA we would never see anybody out there
- All were getting from MPA is more concentration of people fishing smaller areas, which will impact that area in a negative way
- What's not to stop more closures based on poor science?

Question 10: To what extent do you think the following are benefits of no-take MPAs on recreational fishing?

The reasons were: MPAs are not an effective or correct management tool (8), MPAs cause congestion of fishing grounds which leads to negative impacts on ecosystem (1), other factors like pollution contribute or are the main cause of problem (3), other (1).

- What about sewage or other contaminants
- Pollution is the threat
- Benefits are Only Inside the MPA Boundaries and only with local non migrating species typically groundfish. Pelagics and migrating species would be unaffected.
- MPA's are not fisheries management
- Again conservation NOT closure
- Take a real long look at the seal & sealion population, there is your problem
- Case in point, La Jolla has a closed area for years. I see no difference in the amount of fish in that area when compared to other La Jolla areas with like habitat (diving).

- MPAs will increase the biomass inside the reserves only. Outside the reserve the biomass will decrease due to increased fishing pressure. Since the closed areas are not fishable, this will not benefit the recreational angler or the ecosystem as a whole.
- MPA provides zero benefits in its current form
- Some closures laguna are only to make public ocean private
- Changes to size and bag limits would be far more effective, even seasonal closure would be better
- We all catch and release far MORE fish than was equated into the closure process

Question 3: How concerned are you with the populations size/health of recreationally targeted species?

The reasons were: expressed a general value of healthy fish and responsible, fair management (10), fish populations are fine (6), noticeable negative impact (3), gear is destructive (1).

A. Comments from respondents who answered: Extremely concerned

- Conical hoopnets are really effective and are taking a toll on the lobster population.
- It is important that our fisheries stay healthy and population size reflects health.
- The resource needs to be managed! Use Florida & Texas as examples. Their concern is healthy, sustainable fish stocks. They consider take limits, slot limits and environmental factors. The BRTF's only concern was to get fishermen off the water.
- As a responsible fisherman I would like to see healthy stocks of fish. If it takes proper and fair regulation I'm all for it.
- We must have a solid, sustainable fishery for our future generations
- Love the ocean
- Healthy fish populations are essential to our ecosystem and for sport fishing alike

B. Comments from respondents who answered: Very concerned

- Overfishing is bad for everyone
- Noticeable fishing impacts
- Most all populations are healthy all over/too many small bass kept
- Shark finning & Humboldt squid

- In shore commercial fishing
- Size and slot limits NOT closure
- So there are sustainable fisheries

C. Comments from respondents who answered: Some concern

- Catching lots of lobster and fish
- I know how to fish

D. Comments from respondents who answered: Minimal concern

- Current fish populations seem to be fine as is. Certain species seem to have become more abundant over the last several years such as white seabass and halibut. Lobster populations seem to be getting smaller, but there are still plenty out there. Due to these fish (as well as lobsters) being non migratory, stricter regulations are important.
- I have no issue with stocks of lobster, lobster, halibut, and YT. I don't target others.

E. Comment from respondent who answered: No concern

- We have the best managed fisheries in the world - Southern California is an example of what great fish management can do.

Question 14: If you catch a tagged lobster, how likely are you to report the tag?

Most common reasons given by those 'somewhat', 'very' and 'extremely' likely to report a tag was that better data would be useful for management (5). Most common reason given by those 'minimally' and 'never' likely to report a tag was that they did not think the data would be used fairly by the government or environmental NGOs to inform management, and that the data would be used to support additional fishing closures (7).

A. Comments from respondents who answered: Extremely

- Better information, better decisions about the resource.
- All real data is extremely useful. My fear is that it will be misused by the NGO's that get involved. Like the sap that I am, I will always participate while hoping for an honest account of the resource. It is in my interest to keep the stocks at healthy levels. Again, I urge you to check

Florida and Texas with respect to the management of the Redfish stocks. Totally supported by all the consumptive and C&R users of the resource.

B. Comments from respondents who answered: Very

- Helps out - but in reality there is no real need to waste money on lobster, the catch reports from the commercial guys have been steady since the 60's
- Because that is what you do when you find a tagged fish/lobster/anything
- I wouldn't cut my hand off trying to save a tag, but I would make every effort to return a tag in the hope of expanding the database.
- Depends what I have to do to report it. Best way would be if I could just drop it in a mail box, but assuming you would need more info about location, etc... So the more effort I would have to put into it the less likely I would.

C. Comments from respondents who answered: Some

- Depends on the outreach to anglers and how the program is administered.
- I'm concerned the info from a tagged lobster might be used in a way that won't be in favor of fishermen. I have caught 3 tagged lobsters and reported the info but in the future I'm not sure if I will.
- Lobster populations are not down nor endangered so what's the purpose?
- Don't trust the government, they only report what they want to.
- Well it would be nice to know the exact location of lobster so I can drop my nets in the right areas. If I do find a tag I'll probably return it. More likely if there is an incentive like they did with the white sea bass heads at Hubbs Sea World.

D. Comment from respondent who answered: Minimal

- Not worth my time, any information provided will be used against the recreational fisherman as another reason to close additional areas.

E. Comment from respondent who answered: None

- Why so they can close another area?? Fuckum! Do their own hunting and catching the tagged lobster!

- Why would I help the same people that just screwed us on the MPAs?

Question 11: To what extent do you think scientific monitoring of recreationally targeted species is beneficial?

Reasons included the need for accurate and unbiased data for management, the science used to inform the MLPA Initiative was biased, and California does not have a problem with fisheries management.

A. Comments from respondents who answered: Extremely

- To properly regulate a particular stock or ecosystem, you need to have accurate data on size of stock, health of population, breeding tendencies, ect., proper monitoring is essential.
- Only if real science is adapted by scientists not bought by special interest groups. Cherry picking data to push forward an agenda is flawed.
- When done fairly and properly
- Successful Game Management relies on accurate monitoring and data to support the current condition of the targeted species.

B. Comments from respondents who answered: Very

- Gives a clear picture on the species, but F&G did a good job with management, California does not have a problem with fish management. The MPA's fixed an issue that never needed fixing.
- It is vital to monitor fish species to prevent overfishing and also to prevent unnecessary closures and restrictions
- The better idea we have about fish stocks the better we can manage them.
- If done in an unbiased manner

C. Comments from respondents who answered: Some

- Depends on what and where. Rockfish and finfish populations at the Channel Islands, Cat, Clemente are VERY healthy, no monitoring needed, the data was bogus
- Science can be incorrect, I would trust my own experience as a fisherman more than a scientific opinion

- Doesn't trust the science

D. Comments from respondents who answered: Minimal

- Minimal because without the support of anglers who are on the water more than anyone, and who love and respect the ocean more than anyone...
- Impossible to truly monitor what is happening. Conclusions are at best guesses
- Depends on who is paying the scientist
- The MLPA process is supposed to monitor the MPAs with respect to fish stocks. This has not happened with the Central Coast area yet...
- No consistent way to assess the catch

E. Comments from respondents who answered: None

- They are biased
- Grant money to verify what we already know, our California fishing stocks are HEALTHY now.

Question 4: Where have you heard about San Diego/South Coast marine protected areas (MPAs)?

Online recreational fishing forums:

- socaloffshore.com
- bloodydecks.com
- Big waters edge
- spearboard,
- Scsurffishing
- Sdfish
- 976 tuna
- sportfishingreport
- kayakportfishing.com
- Allcoast Sportfishing
- GetBent Sportfishing

MLPA:

- Ecotrust
 - attended meetings
- BRTF meetings

NGOs:

- Baykeeper
- Oceans Foundation

Events:

- Fred Hall shows
- Day at the Docks

Social Media:

- Facebook

Journalism Article:

- LA Times
- OC Register
- Anglers San Diego Log newspaper
- San Diego Union Tribune
- Pacific Coast Sportfishing magazine
- Western outdoor news

Fishing Associations:

- California lobster and trap Fishermen's Association
- National Fisherman
- Southern Calif. Tuna Club
- San Diego Yacht Club
- Balboa Angling club

Government agency / publication:

- CA Dept Fish & Game

- California Sportfishing Regulations
- CDFG workshops / CDFG employees
- Government online publication

End of comments

APPENDIX 7: Sources of Message Comparisons

<http://oceanaccessprotectionfund.org/>

<http://www.unitedanglers.com/page.php?21>

<http://www.savecafishing.org/mlpa-info/>

<http://www.savecafishing.org/category/california-mlpa/>

<http://www.bdoutdoors.com/article/so-cal-scene-mlpa/>

<http://www.californiampas.org/>

<http://www.oceanconservancy.org/our-work/marine-protected-areas/>

<http://www.caloceans.org/>

<http://www.sdcoastkeeper.org/>

<http://www.wildcoast.net/programs/8-marine-protected-areas>