



## ***Fishery Data Collection and Analysis Project***

In support of the  
California Marine Life Protection Act (MLPA) Initiative  
North Coast Study Region

## **Project Overview**

### **Goals and Methods**

Ecotrust has been retained by the California Marine Life Protection Act (MLPA) Initiative to collect, compile, and analyze information pertaining to commercial, commercial passenger fishing vessel (CPFV) and recreational fisheries along the northern California coast. The Fishery Data Collection and Analysis Project is a unique opportunity to bring fishermen's knowledge directly to bear on the marine planning process. By asking fishermen to share their knowledge of their fishing grounds and giving them a forum in which to express their values, the project engages stakeholders, provides better information to the planning process, and integrates the human dimension into marine spatial planning.

The goal of this project is to compile a comprehensive profile of the commercial, CPFV and recreational fishing use patterns along the northern California coast, from Alder Creek near Point Arena to the California/Oregon border, using the expert knowledge of fishermen themselves. The main objectives are to:

1. Incorporate commercial fishermen's knowledge into deliberations by the Science Advisory Team (SAT), Blue Ribbon Task Force (BRTF), Fish and Game Commission (FGC), Regional Stakeholder Group (RSG), and MLPA Initiative staff on the design and evaluation of Marine Protected Areas (MPAs);
2. Use this information to improve the spatial resolution and the accuracy of landings and logbook data;
3. Develop accurate maps of the local fishing grounds and of their economic importance to local fishermen; and
4. Estimate the maximum potential socioeconomic impact of the alternative MPA proposals on commercial fisheries.

This kind of spatially explicit information on commercial and recreational fisheries and their value will ensure representation of socioeconomic values in the design, implementation, and management of MPAs.

The results of this project will considerably improve on what data are currently available. This is because Ecotrust has designed the methods and processes of this project to minimize the "garbage in, garbage out" problem that has plagued other marine planning processes. Fishermen have every incentive to tell the truth; any strategic reporting or misrepresenting the actual fishing grounds has the potential to do more harm than good. In addition, Ecotrust works very closely with fishermen throughout the entire project on validating and verifying the information collected.

### **Outreach and Education**

Outreach and education efforts describing the purpose and intent of the project are crucial to providing the fishing community with a clear understanding of how this project fits within the larger MLPA Initiative process. It also provides an opportunity for us to discuss with the fishing community concerns, such as the handling, use, and analysis of data. Based on Ecotrust's previous experience, we believe that a proactive approach to addressing these sensitive issues will minimize misinterpretation of the project and products later in the process. This is best done by:

1. Meeting with key representatives from the fishing community (e.g., leaders of various fishing associations, members of the region stakeholder group, harbor masters, individual fishermen) who have expressed interest in working together and who understand the value of the project;
2. Soliciting suggestions and ideas from these representatives for improving the project;
3. Identifying key individuals from the different fishing fleets of interest;
4. Holding meetings with fishing groups and partners to discuss and clarify what data are being collected, why we are collecting these data, and how they will be used in the marine planning process;
5. Distributing documents that clearly describe the purpose of the project, including the consent form each fisherman is asked to sign before his/her data can be used and Ecotrust's protocol for handling and aggregating data; and
6. Continuing to work with the fishing community throughout the project.

## Interview Process

During the summer months and fall months of 2009, Ecotrust personnel will interview approximately 160 commercial fishermen, 200 recreational fishermen, and 30 charter boat owner/operators along the northern California coast. These numbers may be adjusted as the project progresses due to time and/or budget issues. Ecotrust's interview approach is based on peer-reviewed, social science techniques for collecting local expert knowledge. Fishermen will be selected based on their willingness to participate as well as California Department of Fish and Game (CDFG) data and recommendations by peers. Ecotrust personnel will contact fishermen directly and arrange for interviews with contracted staff based in the region (from Alder Creek near Point Arena north to the California/Oregon border).

The format includes in-person one-on-one or small group interviews. The bulk of the interview will focus on characterizing the fishing grounds and assessing the relative importance of each fishing ground to each fisherman. Ecotrust personnel will capture this information using Open OceanMap, a computer interface that contains electronic charts and a series of tools for entering information. Respondents will draw or describe areas directly on this electronic interface, allocate pennies, and capture other important information. Open OceanMap will collect the information in a geospatial, relational database that forms the basis for the subsequent analysis.

- **Commercial Fishermen**

The commercial fishery sample is designed to capture the majority of landings for the most significant regional fisheries, as well as the depth of expertise of longtime and successful fishermen. While there are numerous species of importance to commercial fishermen in the North Coast, we will focus our collection efforts on the following species: Dungeness Crab (Trap), Salmon (Troll), Nearshore Fishery (Hook & Line), Urchin (Dive), Sablefish (Longline), Hagfish (Trap), Shrimp (Trap), California Halibut (Hook & Line), Smelt (Brail/Dip Net), and Herring (Gillnet).

- **CPFV Owner/Operators**

The CPFV fishery sample is designed to capture at least half (when possible, we'll attempt to capture all operations) of the CPFV and six-pack operations in each of the port groups in the North Coast region. Outreach to CPFV operators will be done through a sector liaison who will work with associations, owners and operators to identify and contact individuals participating in this sector.

For CPFV fishermen, we will focus our collection efforts on the following species: Salmon, Dungeness Crab, Rockfish, California Halibut, Pacific Halibut, and Humboldt Squid.

- **Recreational Fishermen**

The recreational fishery sample is designed to be broadly representative of the different recreational user groups within the region. Interviews will be conducted in person and/or online using a web-based version of Open OceanMap.

If you are willing to participate, either online or in person, please sign up at [www.ecotrust.org/mlpa/interviewsignup](http://www.ecotrust.org/mlpa/interviewsignup). We will send you an email with a link to the online survey once it is ready or will contact you by phone to set up an interview.

For recreational fishermen (private boat anglers, kayak anglers, and dive), we will focus our collection efforts on the following species: salmon, Dungeness crab, rockfish, Ca. halibut, Pacific halibut, leopard shark, spiny dogfish, brown smoothhound, sevengill shark, and Humboldt squid. Abalone and urchin for dive only.

- **Other**

Information on tribal in-river salmon fishery (Klamath) will also be collected. Also the commercial harvest of seaweed is being considered, still seeking input.

### **Confidentiality**

Ecotrust will take every measure possible to protect the confidentiality of sensitive information provided by fishermen during and after the interview process. These measures include functions in Open OceanMap, consent forms for individual participants, and collection and analysis protocols that mask all names and identifying characteristics of an individual's fishing grounds.

- Explicit consent will be obtained from all participants and will be recorded by Ecotrust personnel.
- All information on the individual level will remain anonymous and confidential. Only Ecotrust staff (operating under a strict confidentiality protocol) will handle the raw data collected during the interviews.
- Analyses and results will be presented in aggregate form for participating fishermen from each fishery to review before results are finalized.
- Open OceanMap has been customized to protect individual confidentiality. Participants will not be allowed to add to existing or previously created data to Open OceanMap.

### **Quality Assurance/Quality Control**

While Ecotrust field staff is conducting interviews, Ecotrust analysts will begin creating and editing "clean" datasets based on additional notes regarding the exact location of certain areas provided during the interview. After the information has been cleaned, fishermen will be contacted and given the opportunity to review their individual information at their convenience through a secure, web-based application that Ecotrust developed for the North Central and South Coast Study Regions. This application allows each participant to log in to verify that his/her shapes and information are accurate and to review the final characterization of the fishing grounds to which s/he contributed. Those without access to the internet will be sent a hard copy of their information to verify.

Once interviews have been completed, Ecotrust will hold follow-up meetings with participants and fishing community representatives in each port. After the participants review and accept the final data products and verify their accuracy and content for public consumption (MLPAI process), Ecotrust will submit the products for use in the marine planning process.

### **Analysis and Evaluation of Fishing Grounds**

Ecotrust analysts in our Portland, Oregon, office will standardize and compile all the responses. These responses will then be aggregated into a series of maps that show the total extent of the fishing grounds for each fishery, as well as the areas of greater use or greater economic significance. Gradations of color will indicate areas where more pennies were allocated, effectively showing areas that are more frequently used and/or more important. These intermediary products will be validated by fishermen in a series of follow-up meetings to make sure that we captured the information correctly.

Information from this project will be used to create a comprehensive profile of the commercial, CPFV and recreational fishing use patterns and values along the northern California coast. Analyses and results (in aggregate form) will be made available for use in the context of the MLPA Initiative and the discussion, implementation, and management of marine protected areas in California state waters—specifically the North Coast Regional Stakeholder Group. Results may also be written up in a peer-reviewed journal.

All participants, whose explicit consent will be recorded by Ecotrust personnel, agree to let their information be used in this manner.

## Project Consent

The Marine Life Protection Act (MLPA) is a state law directing the California Department of Fish and Game (CDFG) to design and manage an improved network of marine protected areas off California's coast. To implement this law, a public-private partnership has been formed between the California Resources Agency, CDFG, and Resources Legacy Fund Foundation—the MLPA Initiative. As part of this effort, Ecotrust has been retained to collect, compile and analyze information pertaining to commercial and recreational fisheries on the northern California coast. The project is designed to provide spatially explicit socioeconomic information to the MLPA Initiative.

The goal of the Fishery Data Collection and Analysis Project is to compile a comprehensive picture of the commercial and recreational fishing use patterns along the north coast of California, using the expert knowledge of fishermen themselves. The purpose of this project is fourfold:

1. Incorporate commercial and recreational fishermen's knowledge into the deliberations of the Regional Stakeholder Group in the MLPA North Coast Study Region;
2. Use this information to improve on the spatial resolution and accuracy of CDFG landings and logbook data;
3. Develop accurate maps of the local fishing grounds and their economic importance to the local fleets; and
4. Estimate the maximum potential socioeconomic impact of proposed MPA networks to the commercial and recreational fishery sector.

This kind of spatially explicit information on commercial fisheries and their value will ensure representation of socioeconomic values in the design, implementation, and management of marine protected areas.

During the summer and fall months of 2009, Ecotrust personnel will interview approximately 400 fishermen along the northern California coast. Fishermen will be selected based on their willingness to participate as well as CDFG data and recommendations by peers. The interview approach is based on peer-reviewed, social science techniques for collecting local expert knowledge.

Ecotrust personnel will contact fishermen directly and arrange for interviews with contracted staff based in the region (from Alder Creek near Point Arena north to the California/Oregon border). Interviews will be administered one-on-one, in small groups, and/or online. Ecotrust will then conduct follow-up meetings by fishery and/or gear group in which the information collected will be validated by fishermen.

Due to the sensitive nature of commercial fishing information, only Ecotrust staff (operating under a strict confidentiality protocol) will handle the raw data collected during the interviews. All information will be kept anonymous and confidential on the individual level. Analyses and results will be presented only in aggregate form, and will be reviewed in aggregate form by participating fishermen from each fishery. The information will be used to create a comprehensive profile of the commercial fishing use patterns and values along California's north coast, and may also be written up in a peer-reviewed journal.

Your willingness to participate and/or to refer other fishermen we should contact is not only appreciated, but indeed vital to the success of this project. If you have any questions or concerns, contact Charles Steinback at [charles@ecotrust.org](mailto:charles@ecotrust.org) or 971.404.5632 or Jon Bonkoski at [jbonkoski@ecotrust.org](mailto:jbonkoski@ecotrust.org) or 503.467.0804. The project website is [www.ecotrust.org/mlpa](http://www.ecotrust.org/mlpa).

If you agree to participate under the conditions described above, please print and sign your name.

Participant's name \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

Field Staff signature (agent of Ecotrust)

\_\_\_\_\_ Date \_\_\_\_\_

## Interview Questions

### GENERAL:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>▫ Name</li> <li>▫ Mailing address</li> <li>▫ Phone</li> <li>▫ Email</li> <li>▫ Gender</li> <li>▫ Age</li> </ul> | <ul style="list-style-type: none"> <li>▫ Years experience fishing</li> <li>▫ Average number of days fishing per year</li> <li>▫ Map cumulative extent and importance of fishing grounds</li> </ul> |
|--|--|

### FOR COMMERCIAL FISHERMEN:

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>▫ Species fished</li> <li>▫ Gear type(s)</li> <li>▫ Homeport</li> <li>▫ Landing ports</li> <li>▫ State &amp; Federal Vessel ID</li> <li>▫ Vessel length</li> <li>▫ Vessel haul capacity</li> </ul> | <ul style="list-style-type: none"> <li>▫ Number of crew</li> <li>▫ Operating costs as a percentage of gross revenue</li> <li>▫ Crew share as a percentage of operating costs</li> <li>▫ Fuel as a percentage of operating costs</li> <li>▫ Percentage income from commercial fishing</li> <li>▫ Percentage income by species</li> <li>▫ Past fishery participation</li> </ul> |
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### FOR RECREATIONAL FISHERMEN:

- Recreational use type(s): CPFV, Private Vessel, Kayak, Dive

#### *Vessel information (if applicable):*

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>▫ Vessel license</li> <li>▫ Vessel length</li> <li>▫ Years operating a boat</li> <li>▫ Years owning a boat</li> </ul> | <ul style="list-style-type: none"> <li>▫ Owner of boat if participant is not</li> <li>▫ Type of boat storage (e.g., boat slip, trailer)</li> <li>▫ Homeport</li> <li>▫ Launch ports/sites</li> </ul> |
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### **Examples of Additional User Group Specific Questions**

#### **For Charter/Sportfish/CPFV participants:**

- Operating costs as a percentage of gross revenue
- Crew share as a percentage of operating costs
- Fuel as a percentage of operating costs
- Type of charter boat/sportfishing operation (e.g., open, private)
- Trip length (e.g., ½ day, ¾ day, overnight)
- Average number of clients per trip
- Percentage of time by target strategy (e.g., coastal freelance, rockfish)
- Percentage of trips by target species (e.g., halibut, salmon)

#### **For Dive participants:**

- Average number of dives per trip
- Primary access mode to dive locations (e.g., swimming, kayak, private boat)
- Percentage of dives by type (e.g., shore-based, island based)
- Primary dive method (e.g., free dive, SCUBA dive)