MEETING SUMMARY | December 5, 2012
Spiny Lobster Fishery Management Plan
Lobster Advisory Committee

Meeting in Brief

The Lobster Advisory Committee (LAC) gathered for its fourth meeting to review the Marine Life Management Act (MLMA) objectives, discuss bycatch, learn about sustainability and fishery management, and provide initial inputs to the Management Strategy Evaluation (MSE). The LAC received a revised FMP work plan that highlights key LAC milestones and outputs. DFG shared a regulatory proposal to improve the recreational report card system and provided a status update on the economic profile currently being conducted for the spiny lobster fishery. The Center for Ocean Solutions (COS) presented ideas from their recent work, specifically linking the MLMA objectives to FMP processes and outcomes. DFG staff presented bycatch data for spiny lobster and the LAC subsequently discussed ways to better understand the scale and impact of the problem. Shoreline Resource Consultants (SRC) provided an overview of fishery management methods used to ensure sustainability, with a particular emphasis on spiny lobster. Finally, the LAC engaged in an exploratory discussion of preventative management measures in order to provide initial inputs to the MSE modeling effort.

Next Meeting

February 20, 2013 | 8:00 a.m. – 3 p.m. | DFG office in Los Alamitos, downstairs in the Ed Harris classroom

Action Items

Timeline	Name	Action Item
December	DFG	Send spiny lobster report card regulatory proposal to LAC as soon as it is available
December	SRC	Add definition of "bycatch" to LAC Glossary
December	CCP	Add 12-5-12 distribution date to revised work plan and resend to LAC

Lobster Season Update

Commercial, recreational and non-consumptive LAC members and alternates provided brief updates on the characteristics and success rate of the current lobster fishing season. This week, the price of lobster jumped to an all time high of $21 per pound due to a price dispute with Australia who also supplies spiny lobster to China. Many members noted a good harvest to date, with a high number of large lobster caught, and an impressive number of "shorts" being caught and released. It appears lobster may be in shallower waters this season. New MPAs have contributed to consolidation of fishing effort, high trap densities and placement of traps at previously unused sites. Conversely, less consolidation is occurring in some previously fished areas. One member witnessed abundant lobster for the first time in many years in the Point Vicente MPA.

FMP Work Plan Updates and Review of MLMA Objectives

The LAC received an updated FMP work plan that shows quarterly activities through 2014 and highlights key LAC milestones and outputs. Two additional LAC meetings are scheduled for February and April in order to advance collaborative FMP development in 2013. Public meetings,

originally scheduled for April, have been pushed to June in order to demonstrate LAC progress by that time. The FMP public and peer review process takes place in 2014.

The economic profile of the spiny lobster fishery continues to progress for both the recreational and commercial sectors. The recreational survey consists of approximately 400 interviews with divers and hoop netters who returned their report cards. A commercial survey targeting three vessel class sizes was used for reporting and verification purposes. To date, many recreational survey respondents have expressed appreciation for the data collection effort. Questions and comments from the LAC centered on the need to include recreational permit holder expenses, recognize changing operational costs and consider surveying any vessel that catches lobster. Results of the economic profile will likely be discussed at the February or April LAC meeting.

DFG staff shared a regulatory proposal for how the recreational fishery will transition from an annual to a seasonal lobster report card. An informational postcard, to be sent out the first week of January, aims to inform recreational fishermen that report card reporting can be done online as of January 1, 2013, and cards must be returned or reported by January 31, 2013. DFG worked hard to advance this issue, incorporate LAC concerns and suggestions, and maintain minimal fees for unreturned cards. One member suggested extending the 2013 report card to the end of the 2013/2014 fishing season to avoid overlap. Others posed questions about how enforcement officers will adapt to the new system.

As a final work plan update, DFG staff briefly revisited the Marine Life Management Act objectives in order to frame the context and expected outcomes of the FMP process. These include:

1. SUSTAINABILITY – Overarching goal
2. ECOSYSTEM-BASED MANAGEMENT – Conserve species and habitats that make up the lobster ecosystem
3. HABITAT CONSERVATION – Minimize damage from fishing
4. LIMIT BYCATCH – Minimize bycatch
5. RESTORATION – Rebuild depressed fisheries in a specified time
6. FISHING COMMUNITIES – Recognize interests and minimize adverse effects
7. NON-CONSUMPTIVE VALUES – Recognize aesthetic and recreational enjoyment

Center for Ocean Solutions Presentation

Center for Oceans Solutions (COS) staff Melissa Foley, PhD and Erin Prahler, JD presented ideas from the recent COS publication, *Incorporating Ecological Principles into California Ocean and Coastal Management* (Guidebook), specifically linking the MLMA objectives to FMP processes and outcomes. COS is a non-advocacy organization which aims to bring the best science to bear on coastal and marine resource management. COS staff met with the DFG Director in September 2012, at which time the organization was invited to present its work to the LAC.

Development of the Guidebook has been a long-term process -- from an Ecosystem-Based Management (EBM) perspective -- to identify and distill key ecological principles that are critical to inform management. While the FMP under discussion remains species-specific to spiny lobster, the EBM framework considers entire ecosystems, including humans and the social effects of management decisions. Four key principles are considered under an EBM framework:

- Native species diversity
- Habitat diversity and heterogeneity

- Populations of key species
- Connectivity of populations

COS described how the MLMA objectives were applied to the 2002 White Sea Bass FMP with a view towards lessons learned and ways to improve current and future FMP development efforts. The Guidebook links MLMA objectives to checklists that help account for important ecological principles when making management recommendations and decisions. Dr. Foley identified and illustrated key considerations for the California spiny lobster fishery:

- Habitat diversity and heterogeneity (e.g. threats to nursery and adult habitat)
- Climate change (e.g. impacts of sea level rise, temperature change and acidification)
- Cumulative impacts (e.g. additional non-fishing stressors to populations and habitats)

Additional management considerations for the spiny lobster fishery may include:

- Identification of stock locations and pressures facing different stocks
- Understanding of linkages between life cycle stages and habitat use (e.g. eel grass as an important nursery habitat)
- Mapping key habitats
- Monitoring larvae populations over time
- Determining connectivity of populations

LAC comments and questions generally focused on COS funding sources, outreach efforts, lessons learned from the White Sea Bass FMP process, the concept of spatial planning and the challenges associated with different agencies coordinating management efforts. DFG State Fisheries Manager Tom Barnes concluded by emphasizing how lessons learned from the Guidebook will help project contractors develop key sections of the spiny lobster FMP. It remains important that the LAC then review the draft FMP sections and identify additional management considerations.

Discussion on Lobster Fishery Bycatch

Since the start of the spiny lobster FMP process, bycatch has been raised as an issue of concern by DFG staff, during situation assessment interviews and at LAC meetings from some members, alternates and public constituents. The airing of one video showing the failure of destruct clips, and another showing all the fish that swim in and out of a trap after it has been baited, further catalyzed discussion on the issue.

DFG Marine Biologist Travis Buck presented bycatch data from commercial and sport hoop net fishing. The MLMA states that bycatch of marine animals should have no appreciable effect on the marine environment and calls for mitigation efforts when the amount or type is unacceptable. That said, bycatch data in the California spiny lobster fishery is limited. DFG's understanding of the issue comes from three primary sources: commercial fishing logbooks, a sport hoop net study and incoming data from the California Lost Fishing Gear Recovery Project. DFG also received preliminary bycatch information from the current at-sea lobster sampling research program that was funded by the MPA Monitoring Enterprise and is a collaborative project involving Drs. Carrie Culver, Steve Schroeter, and some commercial lobster fishermen. All these sources suggest that the spiny lobster fishery appears to have relatively low bycatch. Short (sub-legal) lobster and Kellet's whelk are the most common non-target animals caught in commercial traps. Data suggests bycatch is less common in sport gear. A recent study of the Mexican spiny lobster fishery recorded a small

number of cormorants caught in commercial traps, but offered no information on trap specifics or the habitat where the traps were set in Mexico.

One LAC member noted the importance of distinguishing bycatch in regularly serviced traps versus ghost fishing occurring in lost traps. Others suggested that lobster traps appear to cause minimal damage to sedentary sea fans and may even serve as temporary habitat where some species freely come and go. Commercial members again highlighted the problem of poachers breaking into traps and stealing lobster. The LAC as a group favored allowing scuba equipment onboard commercial vessels as a means to immediately recover lost traps and thus reduce bycatch. Other comments and suggestions focused on using lighter gauge or biodegradable destruct clips, acquiring lost trap numbers to better understand the problem; defining bycatch in the lobster FMP glossary; discussing ways to limit poaching through better enforcement; and educating the public so as to prevent misinformation and misunderstanding about the issue. The LAC will continue to assist DFG in defining any potential problem and thereby focusing future discussions.

Overview of Sustainability and Fishery Management

Dr. Matt Kay of Shoreline Resource Consultants provided an overview of fishery management methods used to ensure sustainability, with a particular emphasis on spiny lobster. He presented a fishery management framework containing five fundamental elements:

- Harvest regulations (three types: 1-biological; 2-effort-based; or 3-catch-based)
- Data collection
- Stock assessment
- Reference points (target and limit/threshold)
- Harvest control rules

Dr. Kay explained reference points are the primary output of stock assessments. Reference points are quantitative (numerical) values that inform resource managers about the current status of a stock. He likened reference points to a temperature gauge in a car. In this sense, reference points used in fishery management are like a gauge that provides information on the status of the stock. Reference points help resource managers perceive when a stock is in a desirable state (target reference point) or in a state that should be avoided (threshold reference point). Dr. Kay utilized figures and graphs to illustrate possible reference points for the spiny lobster fishery, including:

- Annual catch
- Catch per unit effort (CPUE)
- Harvest rate
- Spawning potential ratio (SPR)
- Yield potential ratio (YPR)

Comments and open discussion following Dr. Kay's presentation highlighted the importance of using multiple reference points to accurately gauge stock status; a desire among commercial members to integrate data on poaching into the MSE process; and the need to further clarify how SPR is determined for the fishery. Some members expressed concern about management decisions based on faulty data. In response, Dr. Kay noted the need to more accurately account for how much lobster habitat occurs inside MPAs such that this can account for reproductive potential if SPR/YPR are used as reference points. Moreover, the accuracy of data increases significantly when multiple reference points are considered in relationship to one another and the information is reviewed over multiple years.

Finally, as a lead-in to the afternoon agenda, Dr. Kay described two hypothetical scenarios designed to initiate discussion about potential lobster harvest control rules (plans of action). Each scenario included reference points indicating a fishery in decline. The scenarios were to provide a catalyst for the LAC to identify and evaluate a regulation (or set of regulations) that would address each hypothetical situation, thereby providing inputs to the MSE modeling process.

Group Discussion on Preventative Measures

The upcoming MSE aims to enhance knowledge of the stock, refine management objectives, identify fishery problems or issues of concern and develop options for corrective action as needed. One key LAC task is to provide the MSE with optional management and conservation measures that may be modeled and subsequently evaluated by the group. The initial discussion focused simply on exploration and evaluation of potential management measures as a means to inform the modeling effort. The LAC did not aim at this meeting to reach consensus, make decisions or provide recommendations to DFG on any particular management approach, regulation or set of regulations. DFG will utilize the discussion outputs below to run the model and provide initial feedback at the February 2013 LAC meeting.

The group expressed interest in discussing ***preventative*** measures before determining management regulations based on a harvest control rule (i.e. crossing a threshold or target reference point and thus triggering a management response). Some noted concern about new fishing restrictions based on faulty data or lack of data. Others stressed that any regulations based on a harvest control rule need to also include thresholds identifying when regulations are rescinded. The LAC noted three distinct yet overlapping management approaches: preventative, corrective and regulatory. Specific management regulations, framed mostly as preventative measures, included:

- **Trap limits** (would reduce overcrowding, bycatch, and gear loss)
    - Trap limit introduced as an option (general concept; need more input on how this would work)
    - Trap limits for new entrants (natural attrition; see also restricted permit)
    - Zonal trap limits (Two zones; introduced as an option but should not limit fishermen to one zone)
    - Corresponding limit in gear used by recreational fisherman (i.e. hoopnets)
- **Improved functionality and enforcement of 96-hour rule** (e.g. use zip ties or some other marker to monitor pulls)
- **Shorten end of the season** (reduce take when lobster begin to breed at end of season)
- **Permit reduction** (2 for 1 buyout; need more input on how this would work)
- **Capacity reduction** (general concept; various arguments against setting a TAC for the commercial fishery; daily bag limit is considered a de facto TAC for recreational fishermen while commercial fisherman have a restricted number of permits and limitations on where they can fish)
- **Restricted permit** (trap limit attached to transferred permits)
- **Zonal limits** (some interest but challenges identified; e.g. domoic acid becomes a problem in one area)
- **Escape port on hoop nets** (introduced as an option, but the opening already functions as an escape port)
- **Annual limit for recreational fishery** (introduced as an option; focus on annual catch/number of lobster caught; need hard data, not anecdotal)

- **General comment**: utilize catch to determine shared sacrifice among the commercial and recreational industry

Additional suggestions/considerations

- Create a map of California indicating commercial capacity (number of traps) that an area can support
- General preference expressed for effort-based regulations over catch-based regulations
- Individual Transferrable Quotas (ITQs) are based on a Total Allowable Catch (TAC) for a particular fishery. A TAC is therefore a prerequisite to establishing ITQs. Some members expressed concern that data required to establish a TAC on a regular basis is not available and would, in any case, be expensive to collect.

Public Comments

Public comment occurred at two different periods during the meeting. In the morning, one individual supported the use of scuba gear on commercial fishing boats to recover lost traps. He also supported other organizations helping with lost trap recovery. He encouraged consideration of benefits derived from bait placed into the environment within lobster traps. One LAC member responded that the impact of bait is currently being studied.

A recreational diver expressed concern that non-consumptive values are getting lost in the FMP discussions. Lobster, she noted, is a good indicator of overall ecosystem health. She also noted that divers have seen lost traps with bycatch and therefore this may still be an issue of concern. She expressed support for scuba gear onboard commercial fishing vessels and offered to provide information on groups that could assist with video documentation of bycatch and recovery of lost gear. Another individual recommended capturing and recording the bycatch that is caught and returned, as well as the type and amount of gear being lost.

Another individual expressed support for preventative fishery management measures, specifically citing interest in the LAC's ideas on a shortened recreational season and commercial trap limits. He emphasized the need to track sub-legal size lobster populations as a method to forecast future harvest. Any such data collection effort should involve fishermen. He also indicated that MPA's have had an adverse impact on lobster fishermen and hopes that lobster generated from within these sites will eventually contribute to the California fishery.

Joe Exline is developing an electronic application for fishermen to report their catch data electronically while also capturing individual data on expenses and catch. Joe brought two tablets to the meeting with a working application that LAC members could test. It will soon be tested at sea by commercial fishermen on a normal trap day.

Closing Remarks

DFG staff thanked the LAC for their efforts and emphasized the agency's ongoing commitment to a transparent and inclusive FMP process. She encouraged the LAC to help the Project Team identify the best meeting approaches to make the process effective, efficient and workable for all parties. Finally, the LAC selected February 20, 2012 as the next meeting date. As with previous meetings, February's gathering will take place from 8 a.m. to 3 p.m. at the DFG office in Los Alamitos.