Chapter 2. Preparation, Adoption, and Implementation of a Fishery Management Plan

The Marine Life Management Act (MLMA) requires that fishery management plans (FMPs) be developed by the Department of Fish and Game (DFG) and implemented through regulations adopted by the Fish and Game Commission (Commission). Fishery management plans will serve as the primary instrument for managing California's sport and commercial marine fisheries [§7070-§7072 Fish and Game Code (FGC)]. Fishery management plans contain a comprehensive environmental and economic analysis of the fishery along with clear objectives and measures to ensure sustainability of that fishery. The DFG's development of an FMP is subject to the California Environmental Quality Act (CEQA) as part of DFG's certified regulatory program [Title 14, California Code of Regulations, §15251 (o).] As a certified agency's environmental document, FMPs are functionally equivalent to an Environmental Impact Report (EIR). An FMP prepared for a federally managed species will conform to the requirements of the Federal Magnuson-Stevens Fishery Conservation and Management Act.

2.1 Fishery Management Plan Requirements

The primary requirements of FMPs pursuant to §7072 FGC are as follows:

- To the extent practical, each sport and commercial marine fishery under the jurisdiction of the state shall be managed under an FMP. Fishery management plans will be developed in priority order.
- Each FMP shall be based on the best scientific information and other relevant information that is available, or that can be obtained, without substantially delaying the preparation of the plan.
- To the extent that conservation and management measures in an FMP provide guidelines for overall harvest, FMPs shall allocate those increases or restrictions of harvest fairly among sport and commercial fishing interests participating in the fishery.

In addition to adhering to the above requirements, the DFG shall seek advice and assistance in developing FMPs from participants in the affected fishery, marine scientists, marine conservationists, and other interested parties.

2.2 Fishery Management Plan Contents

Each FMP prepared by the DFG shall contain the following as specified in §7080-§7088 FGC:

- A summary of the fishery, including:
  - Species, location, number of vessels and participants, fishing effort, historical landings, and a history of conservation and management measures affecting the fishery;
  - The natural history and population dynamics of the target species, along with effects of changing oceanographic conditions

on the target species;

- The habitat for the fishery or species and known threats to the habitat;
- The ecosystem role of the target species and the relationship of the fishery to that role;
- The economic and social factors related to the fishery.

- A fishery research protocol that includes:
  - A description of past and ongoing monitoring of the fishery;
  - Essential fishery information (EFI) for the fishery and identification of additional information, resources, and time needed;
  - Procedures for monitoring the fishery and for obtaining EFI.
- Measures necessary for the conservation and management of the fishery that may include, but not be limited to:
  - Limitations on the fishery;
  - Creation or modification of a restricted access program that contributes to a more orderly and sustainable fishery;
  - A procedure to establish, review, and revise a catch quota;
  - Requirements for permits.
- Measures to minimize adverse effects on habitat caused by fishing.
- Information and analysis on the amount and type of bycatch if it is associated with the target species. Conservation and management measures must be implemented to minimize bycatch, and to minimize mortality of discards that cannot be avoided.
- Criteria for identifying when the stock is overfished and measures to address overfishing if occurring;
- A procedure for review and amendment of the plan.

Appendix B provides an example of a possible format for an FMP.

2.3 Fishery Management Plan Process

FMPs are similar, yet inherently different, and can be divided into separate preparation, adoption and implementation stages. In general, FMPs will follow the process outlined in Figure 2-1. All plans will use an open and collaborative process with frequent consultations with fishery participants or their representatives, fishery scientists, and other interested parties. Public involvement is integral to the entire FMP process – from preparation and adoption to implementation (see Chapter 5).

2.3.1 Fishery Management Plan Preparation

The DFG is the lead agency for all activities during the FMP preparation period.

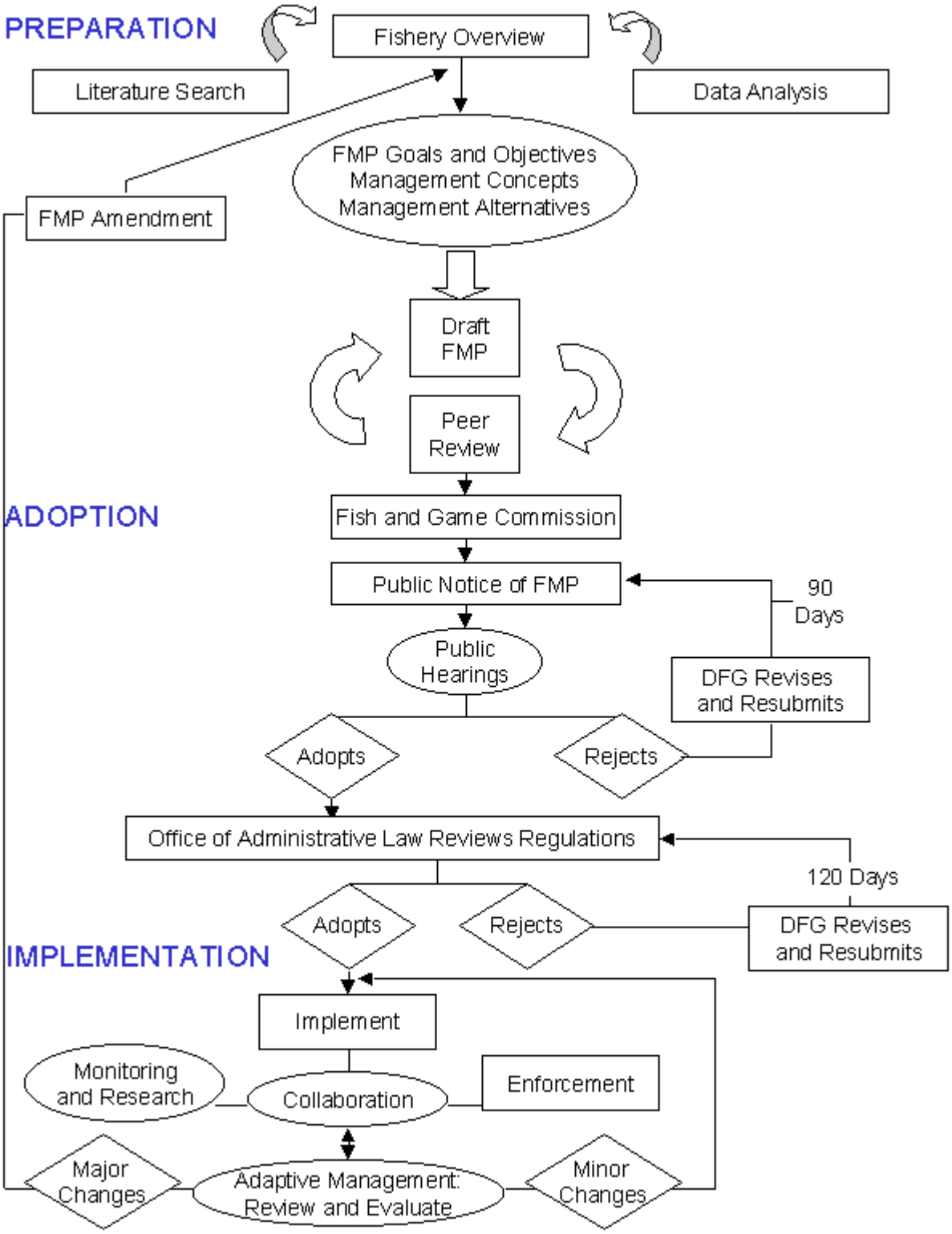

Figure 2-1. Diagram of fishery management plan (FMP) preparation, adoption, and implementation stages. DFG = Department of Fish and Game

The first step in the process is the preparation of a fisheries overview, which may include a literature search, and identification of available EFI and any data gaps. Preliminary data analysis will occur during this time so that a profile of the target species and the fishery can be developed. The second step is the identification of the FMP goals and objectives, as well as potential obstacles to achieving them. This includes the criteria needed to assure sustainability of the fishery, based on the information collected in the previous step. If the fishery is identified as an emerging or depressed fishery, objectives will be identified for the management of that emerging fishery, or the rebuilding of the depressed fishery.

Next, an array of potential management concepts for achieving the FMP objectives will be developed. These may include, but are not limited to, the use of harvest guidelines to achieve maximum sustainable yield (MSY) or optimum yield (OY). The draft FMP will contain management alternatives with recommendations and implementing regulation language.

The final step is the preparation of the draft FMP document, cataloguing all information known and decisions made through the preparation period. Peer review of the scientific basis of the management approaches contained in the draft FMP may occur prior to, during, or just after the final step (see Chapter 6).

Public consultations through meetings, committees, or individual contacts are integral to each step.

In general terms, the following staff are needed to complete the associated tasks during preparation of an FMP and FMP amendments. It is assumed that initial preparation will require substantially different staffing levels than amendments or revisions of the FMP.

<u>Technical staff:</u>

- Assemble or update all known information about the species or species groups, the fishery, and the participants. Ascertain the quality of the data;
- Analyze data and review management approaches already in use within and beyond California;
- Prepare overviews, analyses, and information for consideration and discussion by the public;
- Convene meetings and make presentations about the issues at hand;
- Receive comments and factor them in with other information to develop management options;
- Draft the FMP or amendment and proposed research protocols;
- Assure that peer review has occurred if appropriate, and that resultant changes are incorporated before finalization of the FMP;
- Manage contracts;
- Present management options or amendments and the rationale used to support them.

<u>Enforcement staff:</u>

- Provide perspective to technical staff while they prepare the fishery overview or update;
- Interact with the preparation team during the development of management options since field officers will be required to enforce subsequent regulations or suggest changes designed to meet management objectives;
- Assist at Commission and public meetings.

Administrative staff:

- Assist with meeting logistics;
- Provide clerical and mail support;
- Take and transcribe notes;
- Acquire supplies and equipment;
- Manage contracts.

2.3.2 Fishery Management Plan Adoption

Once an FMP has been prepared through the process discussed above, the draft document along with proposed regulations must be submitted to the Commission for adoption. The DFG will also provide the FMP peer review report to the Commission.

An FMP and associated proposed regulations must be available to the public for review 30 days prior to a hearing by the Commission. All proposed plans, hearing schedules, and agendas must be posted on the DFG's Internet web site pursuant to §7077 FGC. Once the Commission has received the FMP, the following Commission process begins [§7078(a)-7078(f) FGC]:

- The Commission produces a public notice that they will be considering an FMP for adoption.
- The Commission then schedules at least two public hearings prior to adoption. The first of these meetings must be within 60 days following receipt of the plan by the Commission.
- The Commission may adopt the plan at the second public hearing, at the Commission's meeting following the second public meeting, or at any duly noticed subsequent meeting.
- If an FMP is rejected by the Commission, the DFG must make changes and resubmit the FMP within 90 days.
- The Commission shall adopt any regulations necessary to implement an FMP no more than 60 days following adoption of the FMP.
- The regulations must be approved by the Office of Administrative Law (OAL) before they become enforceable.

Under authority of the Administrative Procedures Act, the OAL reviews all proposed state regulations and approves a regulation only when the rulemaking agency has adequately considered public comments and the regulation is easily understood, necessary, authorized, and consistent with law. This process takes a minimum of 30

working days.

During the FMP adoption period, the Commission is the lead for all activities. Public comment made during Commission meetings will become part of the official public records in the rulemaking file for the adoption of regulations to implement the FMP management approach. As stated throughout the Master Plan, public involvement and input are integral to effective management decision-making.

The Commission makes all the arrangements for public notification of meetings, arranges the meetings, and publishes regulatory documents. The DFG provides the background information in the draft FMP and makes changes as directed by the Commission. The DFG is also required to complete a substantial portion of the regulatory paperwork, and respond to public comments received through the adoption process.

Technical staff:

- Attend the Commission meetings to present the draft FMP as well as answer questions from the Commission and public attending the meeting;
- Respond to comments submitted in writing to the Commission or made verbally at Commission meetings;
- Complete the regulatory documents for the adoption of implementing regulations.

Enforcement staff:

- Attend the Commission meetings to answer enforcement questions and review regulations to ensure enforcibility.

Administrative staff:

- Support may be needed for technical and enforcement staff involved in the Commission process.

2.3.3 Fishery Management Plan Implementation

Management provisions of the adopted FMP become official after the implementing regulations are filed with the Secretary of State. This filing begins a process with a longer timeframe, more complexity and less specificity. The DFG again assumes responsibility for assuring the implementation process is conducted appropriately.

If the adopted FMP is simple and contains all necessary management provisions, then regulations will be enforced, monitoring and research programs will begin, and the review or adaptive management process will be started. Additional interactions between the DFG and public may occur while regulations are enforced, and monitoring and research programs take place. These FMPs are flexible documents and can be amended once information is gathered and analyzed. If amendments are recommended, the FMP process may return to the preparation stage.

Enforcement of associated regulations is the first action taken under an FMP. These regulations may be simple or complex, regional or statewide, or seasonal or

year-round. Technical staff will establish monitoring and research programs that may include the public, or collaboration with researchers in other agencies or academia. Data collection begins, especially to fill the most important data gaps. Contracts for research or monitoring programs may also be written.

Although formal public involvement activities will probably lessen, the DFG must inform the public about the implementation activities and results on a continuing basis through printed media, the Internet, advisory committee meetings, and personal contacts. If new or better information of management significance is available before a scheduled formal review of the individual FMP, or results of a management strategy prove to be inappropriate, adaptive management will be applied.

Fishery management plan implementation is a much less structured process than preparation and adoption. As such, it entails regulation enforcement, research and monitoring programs, and opportunities to revise the selected management regimen. Time, staffing, and resources needed to fully implement an FMP are difficult to determine at this time, since each step in the process is based on the provisions for each contained within individual FMPs. The types of activities and appropriate staff can be as follows:

Technical staff:

- Conduct identified monitoring and research programs;
- Collaborate with the public or researchers on assessment, monitoring, or development of projects to meet the objectives of the individual FMP;
- Analyze data collected during implementation;
- Provide information to interested persons during implementation;
- Manage contracts.

Enforcement staff:

- Ensure regulation compliance through enforcement and education activities;
- Collaborate with technical staff to maximize research platforms;
- Interact with the technical staff during management effectiveness review;
- Act as an in-the-field conduit for information to and from the DFG;
- Suggest management or regulation changes designed to meet management objectives during the review process;
- Attend and assist at Commission and public meetings.

Administrative staff:

- Assist with certain data input and editing efforts;
- Manage contracts;
- Acquire equipment and supplies.

2.4 Potential Costs of a Fishery Management Plan

_____Once the Commission adopts the Master Plan pursuant to §7073 FGC, the DFG will begin to prepare, adopt, and implement FMPs for the highest priority fisheries identified in the Master Plan. Each FMP will vary in the amount of funds and time needed for preparation and implementation. These costs will depend on whether the FMP contains a single species or a group of species in a fishery, the size of the geographical area the fishery covers, the quantity and quality of information that exists, the availability of knowledgeable staff, the degree of urgency (e.g., emergency measures), and the amount of staff needed to enforce regulations adopted with the FMP.

Choices will also need to be made regarding how existing DFG funds and staff will be devoted to the preparation and implementation of an FMP if there are limited funds and no new funds scheduled to be allocated. For example, if no new funding is available, the DFG would need to structure the size of an FMP process and devote resources based on factors such as the fishery's value, the level of recreational vs. commercial conflicts, the ecological significance of the fishery, and many others. If a fishery is of small economic value to the state and does not affect a key species in the ecosystem, the DFG may budget an FMP process that has fewer public hearings, spends less money on contracts or staff time for analyzing existing or collecting new data, and generally attempts to generate a relatively simple plan. The costs of developing FMPs mandated by the MLMA needs to be balanced among commercial, recreational and non-consumptive users.

The DFG has no previous history managing fisheries with the FMP process outlined in §7050-7090 FGC. Therefore, detailed costs for the preparation, adoption, and implementation of FMPs are not available. However, one can get an idea of the range of costs associated with an FMP by looking at the following DFG management plans:

1. Pacific Herring. The DFG manages the Pacific herring commercial fisheries (single species) that occur in Humboldt, Tomales, and San Francisco Bays through a CEQA process which is similar to the FMP process. Initially, the cost of preparing the Pacific herring CEQA document was approximately $95,000 in 1991. The preparation cost of the original document is based on a single staff person taking on all aspects of the assignment. It was a data-rich situation that required minimal research. Since that time, the DFG's annual commitment is approximately $1.5 M, of which approximately $850,000 is spent on permanent staffing needs and $630,000 for research, operating, and temporary staffing needs. The DFG's herring management approach has been established for about twenty years and has considerable public involvement. It has been widely recognized in publications, by the fishing industry, by other fishery managers, and in the MLMA as a successfully managed fishery.

2. White Seabass. A White Seabass Management Plan was developed and adopted by the Commission in March of 1996 at an estimated cost of $65,000; however, it was never implemented. The White Seabass FMP is for a single species that includes both sport and commercial take in southern California. The DFG has updated that initial plan to comply with provisions contained in the MLMA. The **estimated** cost

to update, adopt, and implement the White Seabass Plan is approximately $1.4 M.

3. Nearshore Fishery. On the other end of the spectrum is the Nearshore Fishery Management Plan currently under development and due to be adopted by the Commission by January 1, 2002. This is a multi-species FMP, containing 13 rockfish species and six non-rockfish species. It is a fishery that includes both sport and commercial participants statewide, requires considerable monitoring and research to obtain large amounts of missing EFI, and needs a phased-in regulatory approach due to the complexity of the fishery and the species involved. Considerable effort has been made to develop a number of management strategies, and the level of public involvement has been substantial. It is also the first FMP that the DFG has done from the ground up. Due to the complex issues surrounding the Nearshore FMP, the overall **estimated** cost is $6.6 M.

The **estimated** costs for preparation, adoption, and implementation of the above mentioned FMPs are enumerated in Table 2-1. For all three FMPs, implementation costs are expected to represent the greatest share of total costs. As stated previously, public involvement is an important element in all FMPs, and the cost can be as high as 5% of the total. In addition, if a fishery is identified as depressed or emerging, the complexity of the process to prepare, adopt, and implement will increase and potentially require more resources.

Enforcement considerations

The Marine Region law enforcement function was established in 1997 and is currently staffed by 57 peace officers and four engineers. They have the responsibility to enforce all federal and state laws and regulations along approximately 1,100 miles of California coastline and out to sea for 200 miles; a total of 220,000 square miles. Throughout all patrol areas, fishing takes place seven days a week and can occur any time, day or night.

Two essential components of any effective management approach are compliance with and enforcement of regulations. Each FMP will potentially have unique regulatory needs and challenges. Enforcement personnel are faced with structuring and scheduling enforcement activities to address these complex regulations. Without successful compliance with the adopted regulations outlined in each FMP, achieving the management alternatives will be potentially impossible. Enforcement personnel are therefore a critical part of successful FMP implementation.

Table 2-1. Estimated costs for three different fishery management plans (FMPs) at different developmental stages.

Fishery Management Plan	*Pacific herring	White seabass	Nearshore
Preparation**	375 K	155 K	3.1 M
Technical***	315 K	140 K	2.4 M

Administrative	60 K	15 K	0.7 M
Implementation	1.12 M	1.25 M	3.5 M
Technical	660 K	1.06 M	1.7 M
Enforcement	375 K	60 K	1.1 M
Administrative	90 K	125 K	0.7 M

*The Pacific herring fishery has a CEQA document that currently acts as an FMP. It is amended every year in order to incorporate changes in the harvest guidelines set each year based on biomass estimates. The preparation cost of the original CEQA document done in 1991 is estimated to be $95,000.
**Preparation includes the costs of the Commission's adoption of the FMP.
***Technical includes the cost of enforcement's participation in the preparation process.

Marine enforcement staff operate seven large and four mid-size vessels, five large rigid hull inflatables, and 20 small patrol boats for at sea and coastal shoreline patrols. The larger vessels are at sea one to five days at a time and with the current staff, the number of days the boats can patrol is limited. Enforcement activities include:

- Monitoring commercial and sport fisheries (including fishing vessels, shore facilities, and all fishery related infrastructures throughout the state);
- Monitoring of illegal commercialization of public fishery resources; conducting market inspections; monitoring and auditing commercial landings taxes;
- Responding to pollution events; making court appearances; inspecting fish products at airports; performing lengthy investigations and surveillance;
- Maintaining patrol boats, vehicles and specialized equipment;
- Conducting administrative duties; and
- Providing public outreach and education.

Under the restriction of a 40-hour work week and the limited number of marine wardens, it is clear that the state's resources are left unprotected a disproportionate amount of time. This is especially true in the larger urban areas such as the San Francisco Bay Area and southern California. This shortfall in staff and equipment will only increase in the future as MLMA responsibilities increase. All the costs of marine law enforcement activities are ongoing and require a steady source of revenue.

Currently,14 law enforcement positions are directly charged with assisting in the preparation and adoption of FMPs and ensuring compliance with laws and regulations established under the authority of the MLMA. Compliance must be the primary goal of marine enforcement because without compliance the effectiveness of management measures will be undermined. Considering that there will be many FMPs developed in the coming years, it is clear that enforcement responsibilities will increase substantially, resulting in a need for additional staff and equipment in order to achieve compliance and ultimately sustainable fisheries.

2.5 Issues Relevant to the Development of Fishery Management Plans

It has become clear during the development of this initial Master Plan that

several issues need extra consideration or clarification; and full implementation of the MLMA will take several years. Policies or guidelines on issues such as allocation, bycatch, optimal yield, rebuilding depressed fisheries, ecosystem management, habitat considerations, and non-consumptive users are crucial to the success of an FMP. An open public dialogue will serve to educate and provide clear guidance to decision-makers, and the public alike, concerning the complexities of the issues before them. The Master Plan is designed to be a proactive and adaptive document which will be reviewed on a regular basis.

The following issues explain why clarification is needed and how the development of FMPs will benefit from guidance provided by various definitions or application guidelines.

2.5.1 Allocation

For a variety of reasons, many FMPs may need to allocate resources among various interest groups. Fishery management plans may do so either directly or indirectly. For example, available catches may be allocated directly to commercial and sport fishermen through separate quotas. On the other hand, some types of management measures, such as the prohibition of a type of fishing gear may have an indirect effect of allocating fish by decreasing the efficiency of one group of fishermen over another. Catch quotas, seasons, area closures, bag limits, and other common regulations typically affect fishery groups in varying degrees. Such regulatory decisions are likely to be among the most difficult the Commission will make, for they involve complex biological, social, and/or economic objectives.

The MLMA provides some guidance on allocating fishery resources. Section 7072(c) of the Fish and Game Code states that FMPs "shall allocate those increases or restrictions fairly among recreational and commercial sectors participating in the fishery". In addition, §7056(f) FGC states that FMPs have the following objective: "Management of a species that is the target of both sport or commercial fisheries or of a fishery that employs different gears is closely coordinated".

Allocation decisions are often controversial and may benefit from dispute resolution. Direct allocation through catch quotas and other measures invariably causes disputes about "fairness", present vs. historical participation, dependence on the fishery, relative economic value of the catch, effects on local communities, and so on. Such discussions often become contentious as the public, managers, and decision-makers struggle to weight these values. The MLMA states "... and appropriate mechanisms are in place to resolve disputes such as access, allocation, and gear conflicts" [§7055(k) FGC]. A framework, developed in advance in a less contentious atmosphere, could greatly benefit the Commission and public alike by delineating factors to consider when making allocations, such as:

- Present versus historical participation;
- Economics of the fishery, including the costs of fishing;
- Local community impacts;
- Product quality and flow to the consumer;

- Gear conflicts;
- Non-consumptive “use” or values;
- Increasing fishing efficiency;
- Recreational versus commercial sectors.

See Appendix N for information on the dispute resolution process.

2.5.2 Bycatch

The MLMA considers estimates of bycatch and discards to be EFI. Fish and Game Code §90.5 defines bycatch as, “fish or other marine life that are taken in a fishery but which are not the target of the fishery. Bycatch includes discards.” The MLMA further defines what FMPs should contain relative to bycatch, including amount and type of bycatch, ecosystem impacts, and measures to minimize bycatch (§7085 FGC). Bycatch occurs in most sport and commercial fisheries, but the amount varies considerably based on the type of gear used, fishing techniques, fish behavior, and so on. Marketable or desirable fish are kept by sport and commercial fishermen. Fish that are undersized, out of season, or undesirable are discarded by both sport and commercial fishermen, and may be alive or appear alive when discarded.

Of primary concern is how data on bycatch and discards will be collected and considered in the development of FMPs. The amount of bycatch and discards can only be determined accurately by direct observation at sea. Voluntary observer programs have been ineffective due to a high refusal rate to carry observers. It may be necessary to establish a management recommendation on how bycatch information will be collected and used – for example, requiring fishermen to take observers when needed in order to gather EFI and allow the testing of methods to reduce or minimize bycatch.

2.5.3 Optimum Yield

Optimum Yield (OY) is the harvest objective for sport and commercial fisheries when the fishery is managed on the basis of maximum sustainable yield (MSY) [§7056(a) FGC]. Section 97 FGC provides a definition: “ Optimum yield, with regard to a marine fishery, means the amount of fish taken in a fishery that does all of the following: (a) Provides the greatest overall benefit to the people of California, particularly with respect to food production and recreational opportunities, and takes into account the protection of marine ecosystems; (b) Is the maximum sustainable yield (MSY) of the fishery, as reduced by relevant economic, social, or ecological factors; (c) In the case of an overfished fishery, provides for rebuilding to a level consistent with producing maximum sustainable yield in a fishery.” The MLMA does not require that MSY and OY be used as a harvest control to maintain sustainability. There are other management tools other than MSY and OY that could be applied. Each FMP will need to determine the best management alternatives based on the complexity of the FMP (e.g., the number of species or species groups contained in the FMP; geographical range of the species; commercial and/or sport use; the amount of data available; the economic effects of the management alternatives, etc.).

Optimum yield for a species is based on estimation of MSY. Due to limited or uncertain data, as well as environmental uncertainty, calculation of MSY requires making a series of assumptions. Scientists must then derive estimates, or proxies, of the true MSY which vary in accuracy as data are refined. Dealing with this uncertainty while ensuring that stocks are harvested at a sustainable level may require adoption of a hierarchical approach to harvest levels. This means that the less information that is known about a stock and its appropriate harvest level, then the more conservative the harvest strategy must be.

When new or emerging fisheries develop, EFI is often not available. This may also be true when some aspect of a developed fishery suddenly changes. Different harvest levels may be needed as a result. Each harvest level could be based on the availability of established types of EFI for determination of MSY— from data-rich fisheries to data-poor or unassessed stocks. In the absence of harvest strategies, measures such as size limits, seasons, and gear restrictions may not prevent overfishing.

Possible harvest strategies include: adjusting fishing mortality in relationship to stock size, basing harvest levels on a percentage of historic catch, or exercising more caution when uncertainty or risk is high. California waters contain many marine stocks for which limited demographic data are available and which likely must use harvest strategies in lieu of MSY proxies.

Another harvest strategy to be considered is that of protecting a weak or depressed species in a multi-species fishery. Rockfishes (genus *Sebastes)* represent an example of an important California multi-species fishery with several weak species captured jointly with other, more robust species. A potential management approach might be to close a fishery when the OY of a weak species is attained, or alternatively to exceed that species' OY in the interests of achieving the overall OY of the multi-species complex.

The MLMA emphasizes sustainability and defines OY such that it cannot exceed MSY under any circumstance. "The precautionary approach" should be summarized and put into language that the Commission and public can readily understand when determining OY.

2.5.4 Rebuilding Depressed Fisheries

The goal of the MLMA is sustainable fishery management for all sport and commercial fisheries under its jurisdiction. The Act lists several objectives that must be met to achieve this goal. One objective, §7056(c) FGC, requires rebuilding depressed fisheries to the highest sustainable yield consistent with environmental and habitat conditions. In the context of overfishing, [§7086(c)1] FGC also calls for rebuilding stocks in less than 10 years, except in cases where the biology of the population or other environmental conditions dictate otherwise. This is a complex issue, encompassing stock size, harvest strategies or practices, environmental factors, and habitat.

If stock declines are attributed to long-term environmental change or permanent loss of habitat, then all forms of fishery controls, including a complete prohibition on take, may not lead to stock recovery. The MLMA does not address this situation but

assumes that all fish stocks will recover.

One potential approach would be to develop a Commission policy statement that defines the relationship between current stock size and historic stock size as reference points, with appropriate management measures for each reference point. This would offer clear guidance to implement FMPs for depressed stocks. In addition, long term recovery plans for a stock that has declined due to environmental change or habitat loss could be included.

2.5.5 Ecosystem Management and Habitat Considerations

As stated in Chapter 1, the DFG is moving towards an ecosystem-based approach to the management of natural resources. Ecosystem-based management is difficult due to the complexity and vastness of the marine environment and the lack of knowledge and understanding of the interactions among the multiple species within an ecosystem. Nevertheless, the DFG is committed to this form of management and realizes the importance of establishing ecosystem guidelines for inclusion in FMPs. Establishing the guidelines for ecosystem management is a long-term process and will need to be done by collaborating with marine and ecological scientists and other interested persons. As these guidelines are developed, they will be incorporated into the Master Plan and FMPs.

In addition to ecosystem management guidelines, the maintenance, restoration, and enhancement where appropriate of marine habitats is mandated by the MLMA [§7056 (b) FGC], and will be a crucial part of an FMP. The DFG understands that these components of habitat protection must be clarified for the purpose of consistent application across FMPs. Like ecosystem management guidelines, these components need to be discussed and agreed upon by DFG and Commission staff, marine scientists, other management agencies, and the public. Once clarified or defined, the

Master Plan will be amended. Until then, each FMP will address ecosystem and habitat issues relevant to that particular fishery.

2.5.6 Non-Consumptive Users

Traditionally, great commercial and recreational value has been placed on marine resources and habitats. Non-consumptive users place a value on those resources that is difficult to measure. The value of knowing that marine resources will be preserved for future generations cannot be measured using traditional assessments. The ability to assess the impacts on non-consumptive users as a result of a fishery or an FMP needs to be addressed in future FMPs. Further clarification and guidance on the issue is necessary. Once again, as clarification is made, it will be incorporated into the Master Plan and FMPs.

2.6 Proposed Approach for Developing Clarifying Guidance

This framework is intended to be sufficiently flexible to cover a broad range of issues, with particular emphasis on extensive public consultation. The DFG recommends that these key features be incorporated in creating guidance efforts:

- Establish clear goals and objectives for a policy, if one is to be developed;
- Use the most effective and appropriate forms of public involvement as outlined in the Master Plan;
- Inform and involve a full spectrum of targeted members of the public;
- Assign an ad hoc committee to address the above mentioned needs and develop potential policy options for the Commission;
- Employ a “best practices” approach, drawing upon the experiences of other fisheries and resource agencies worldwide;
- Schedule discussion and public comment at a minimum of two regularly-scheduled Commission meetings prior to any guidance or policy adoption.