

## APPENDIX H

### COSTS INVOLVED IN MANAGING PACIFIC COAST HIGHLY MIGRATORY SPECIES

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#### 1.0 INTRODUCTION

This section provides estimated costs of implementing the fishery management plan (FMP) by grouping the costs into categories. The costs of employee benefits are added to all direct labor costs (25.2% for the Southwest Region). Overhead costs incurred by the National Oceanic and Atmospheric Administration are also added to direct labor costs (49.9% for the Southwest Region). Employee benefits and overhead cost figures change periodically. These costs are as of February 11, 2002. For the sake of simplicity, a direct labor cost of \$36.36/hr is assumed for all individuals involved in specific tasks, even though some tasks may be performed at less or more cost depending on the complexity of the task. This is equivalent to a 2002 Federal Government service rate of GS-13, step 5, including locality pay at San Diego, California.

Estimating the actual costs of implementing the FMP is difficult because there is no clear demarcation between what will and what will not be done without an FMP. Through membership in international organizations, the pelagics fishery management plan in the western Pacific, the marine mammal act, and the endangered species act, the Southwest Region has many responsibilities involving highly migratory species.

The number of managed species, their highly migratory nature, and the various fishing gears employed to their harvest raises issues from different sources. A goal of this FMP is to manage the complexity while avoiding duplication of effort.

## 1.1 Administrative Support

Estimates of administrative costs are made by estimating the time to perform certain tasks, such as reviewing and editing documents necessary for management, as well as the costs of meetings and the necessary travel. These kinds of costs are easily underestimated, because there is no way to determine how difficult some issues may be. Nevertheless, estimates are useful for determining what the actual costs may be and for comparing different options that may be proposed. Generally, administrative costs to manage day to day activities of a management plan are small compared to scientific research that might be needed, and in the case of this FMP, observer costs.

All costs are Federal costs only. Estimates are based on staff processing time. Costs above the staff level are included in the overhead costs. This section does not address the question of whether there are enough personnel or enough personnel time available to complete tasks. Airline costs are based on costs at the time of this calculation and for refundable tickets, which are a condition of Federal travel and common business practice. The most inexpensive airline tickets usually contain a non-refundable clause and often are half the cost of refundable tickets.

### 1.1.1 Meetings of the Highly Migratory Species Management Team

Three meetings a year are assumed, which includes a meeting that may be necessary to review the annual SAFE document. Meetings are assumed to require two days. Although there are harvest guidelines for two species, these harvest guidelines are not based on annual assessments and are expected to remain in force from year to year until new data reveals that they should change. Therefore, the meetings included here are primarily to address unexpected issues that will certainly develop. The meetings are assumed to take place in La Jolla, California, and attendance by all members of the Management Team is assumed, although this may not be true of all meetings.

There are 8 team members of which 5 work at the Southwest Fisheries Science Center in La Jolla.

Travel of one team member from Los Alamitos, California:

$$$.365/\text{mile} \times 178 \text{ miles/trip (round trip)} \times 3 \text{ trips} = \$194.91$$

Travel of one team member from Newport, Oregon to Portland International Airport:

$$$.365/\text{mile} \times 282 \text{ miles/trip (round trip)} \times 3 \text{ trips} = \$308.79$$

Airfare from Portland International to San Diego:

$$\$391.50/\text{trip} \times 3 \text{ trips} = \$1,174.50$$

Rental car costs:

$$\$24.59/\text{day} \times 3 \text{ trips} \times 2 \text{ days/trip} = \$147.54$$

Per diem costs:

$$\$145.00/\text{day} \times 3 \text{ trips} \times 2 \text{ days/trip} = \$870.00$$

Travel of one team member from Olympia, Washington to Seattle International Airport:

$\$.365/\text{mile} \times 97 \text{ miles/trip (round trip)} \times 3 \text{ trips} = \$106.22$

Airfare from Seattle to San Diego:

$\$411.50/\text{trip} \times 3 \text{ trips} = \$1,234.50$

Rental car costs:

$\$24.59/\text{day} \times 3 \text{ trips} \times 2 \text{ days/trip} = \$147.54$

Per diem costs:

$\$145.00/\text{day} \times 3 \text{ trips} \times 2 \text{ days/trip} = \$870.00$

Management Team labor costs:

$\$36.36/\text{hr} \times 16 \text{ hrs/meeting} \times 3 \text{ meetings} \times 5 \text{ people} = \$8,726.40$

Regional labor costs resulting from one individual from the Southwest Region attending meetings of the management team:

$\$36.36/\text{hr} \times 16 \text{ hrs/meeting} \times 1 \text{ individual} \times 3 \text{ meetings} = \$1,745.28$

Regional mileage costs:

$\$.365/\text{mile} \times 218 \text{ miles/trip (round trip)} \times 3 \text{ trips} = \$238.71$

#### 1.1.2 Meetings of the Highly Migratory Species Advisory Subpanel

Estimate of the annual cost of sending 13 subpanel members to 3 meetings. Seven members are in southern California. These meetings are also assumed to take place in La Jolla.

Milage from resident to La Jolla, California for subpanel members, either directly to La Jolla or to local airport.

$\$.365/\text{mile} \times 1,828 \text{ miles/trip (round trips for all members)} \times 3 \text{ trips} = \$2,001.66$

Advisory subpanel air fare costs:

4 round trip fares:  $\$1,680.50 \times 3 \text{ trips} = \$5,041.50$

Advisory subpanel per diem (5 members are likely to meet the 50 miles and 12 hrs away from residence):

5 subpanel members  $\times \$145.00/\text{day} \times 3 \text{ meetings} \times 2 \text{ days/meeting} = \$4,350.00$

#### 1.1.3 Notice of Public Meetings and Announcements of Harvest Guidelines

The harvest guidelines required by the FMP are intended to remain in effect until changed; however, publishing a notice of this annually might be worthwhile in an effort to inform the public of the situation. There also would be a notice of the three management team and subpanel meetings.

2 hrs  $\times \$36.36/\text{hr} \times 4 \text{ notices} = \$290.88$

Publication costs:

1 page X \$312.00/page X 4 notices = \$1,248.00

#### 1.1.4 Travel to Council Meetings to Report Activities and Provide Advice

Management team:

\$314.38 (average air fare San Francisco/Sacramento) x 2 individuals x 2 meetings = \$1,257.52

\$138.50/day (Average per diem San Francisco/Sacramento) x 2 individuals x 2 meetings x 2 days/meeting  
= \$1,108.00

\$24.59/day(rental) x 2 individuals x 2 meetings x 2 days/meeting = \$196.72

Advisory subpanel:

\$314.38 (average air fare San Francisco/Sacramento) x 2 individuals x 2 meetings x = \$1,257.52

\$138.50/day (Average per diem San Francisco/Sacramento) x 2 individuals x 2 meetings x 2 days/meeting  
= \$1,108.00

\$24.59/day(rental) x 2 individuals x 2 meetings x 2 days/meeting = \$196.72

Southwest Region:

\$314.00 (average air fare San Francisco/Sacramento) x 1 individual x 2 meetings = \$628.00

\$138.50 (Average per diem San Francisco/Sacramento) x 1 individual x 2 meetings x 2 days/meeting =  
\$554.00

\$24.59(rental) x 1 individual x 2 meetings x 2 days/meeting = \$98.36

Labor cost of meetings:

32 hr (4 days) X \$36.36/hr X 2 individuals (NMFS employees) = \$2,327.04

#### 1.1.5 Coordination

There is a need to include a figure for NMFS day-to-day operations of supporting the FMP (permit and logbook costs are considered separately):

5 hr/week X 52 weeks X \$36.36/hr = \$9,453.60

Also included here is a figure for Council staff day-to-day operations of supporting the FMP.

5 hr/week X 52 weeks X \$36.36/hr = \$9,453.60

#### 1.1.6 Support Services

Telephone costs: \$900

Supplies: \$900

#### 1.1.7 Council Review of HMS issues

An estimate is needed for the time spent by Council members, Council staff, and Council technical committees to review matters concerning the management of HMS.

Scientific review of assessments and other scientific issues:

$$1 \text{ hr/review} \times 3 \text{ reviews} \times 5 \text{ (5 individuals are Federal employees)} \times \$36.36/\text{hr} = \$545.40$$

Review time of the Council members, Council staff, and others, which is assumed to be ½ of a day of a Council meeting per year, which is about \$8,000.

### 1.1.8 Summary of Administrative Support

All of the listed costs in this section are annual costs, that is, the listed costs are an estimate of what costs will occur each year after the FMP is implemented. There are no sunk costs and no one-time costs in this estimate.

#### **Summary of Administrative Support**

Direct Labor	\$40,542
Travel Costs	\$23,091
Publication Costs	\$1,248
Supplies	\$900
Telephone	\$900
Employer's Surcharge (25.2%)	\$10,217
NOAA Support (49.9%)	\$20,230
Total	<u>\$97,128</u>

## 1.2 Scientific Support

### 1.2.1 Southwest Fisheries Science Center Research

The Fisheries Resources Division at the Southwest Fisheries Science Center's La Jolla Laboratory in La Jolla, California, and researchers at the Center's Honolulu Laboratory in Hawaii, study and provide fishery analysis and management information on tropical and temperate tunas, billfishes, and other large pelagic fishes. This work supports the U.S. commitment to international management of tuna fisheries and to regional management of fisheries for billfish and other large pelagic species. The staff:

- ◆ Provides technical advice to the U.S. Commissioners on the Inter-American Tropical Tuna Commission and to other U.S. officials;
- ◆ Assesses stock condition and abundance;
- ◆ Determines effects of fishing on stock condition and the impacts of management decisions on the resources;
- ◆ Provides information on distribution and migration of sport-caught billfishes;
- ◆ Monitors developments in U.S. Pacific and worldwide tuna fisheries; and
- ◆ Develops analytical techniques to improve the precision of the estimates of the status and health of these resources.

Significant costs of around \$3 million are already committed to highly migratory species whether or not an FMP is implemented; therefore, these are sunk costs. There will be scientific efforts resulting from implementation of the FMP but they are not anticipated at this time to be large undertakings. Additional research will most likely be included in existing budgets.

### 1.2.2 Stock Assessment And Fishery Evaluation (SAFE) Report

The SAFE report is expected to require 10 person-weeks to complete. The report includes information on the status of the resources, landings, processing, bycatch, administrative actions, and economics.

$$320 \text{ hrs (40hrs/week x 8 weeks) x } \$36.36 = \$11,635.20$$

### 1.2.3 Summary of Science Costs

Not included in the following table is the cost of existing research, as research on highly migratory species in the FMP (and some not in the FMP) will continue whether or not an FMP for the Pacific coast is implemented.

#### **Summary of Science Costs**

Direct Labor	\$11,635
Employer's Surcharge (25.2%)	\$2,382
NOAA Support (49.9%)	<u>\$4,717</u>
Total	\$18,734

### 1.3 Enforcement Support

#### 1.3.1 Special Agent Support

The estimate of enforcement costs includes the assignment of one special agent to monitor the HMS fisheries, including the installation and maintenance of vessel monitoring equipment. Special agents receive an additional 25% of their normal salary because they are on call 24 hours a day and do not receive overtime pay. Personnel costs also include supervisory costs

$$\text{Personnel costs} = \$83,471$$

Each special agent must be trained, and if one is hired to be responsible for this FMP, a one-time cost will be incurred. This cost is approximately \$ 25,000.

#### 1.3.2 Vessel Monitoring System Costs

Vessel monitoring costs include figures for standby units in the event that malfunctioning gear needs to be replaced. Longline vessels fishing under the western pacific FMP must have VMS, which has been installed at the expense of NMFS. Most vessels fishing from west coast ports have VMS because most vessels fishing from west coast ports have relocated from Hawaii, but there may be as many as 10 vessels that do not have VMS. The cost to the Federal government to purchase and install a VMS is \$2,500.00. Messaging costs, which also are a cost to NMFS are \$3.00 per message.

VMS units 15units x \$2,500 = \$37,500. The cost of VMS units is a one-time cost in this exercise, but communications and maintenance costs are continuing costs..

$$\text{VMS communications and maintenance costs} = \$19,200.$$

$$\text{Travel} = \$6,000$$

$$\text{Supplies} = \$10,000$$

### 1.3.3 Summary of Enforcement Costs

The costs of training a special agent and the cost of the VMS units are not included in the following table because they are one-time costs.

#### **Summary of Enforcement Costs**

Direct labor	\$83,471
Travel	\$6,000
Supplies	\$10,000
VMS support	\$19,200
Employer's Surcharge (25.2%)	\$21,035
NOAA Support (49.9%)	\$41,652
Total	<u>\$181,358</u>

### 1.4 Permit Costs

The Council's preferred alternative is to require a permit for all commercial fishing vessels harvesting HMS with an endorsement for a specific gear, and for all recreational charter vessels. There are no qualification requirements for the permit. The purpose of the permit is to identify all commercial users of the resource so that managers can plan specific actions and measure the effects of proposed actions on the managing agencies and on the entities affected. The number of vessels involved will vary from year to year because the availability of HMS in the temperate waters off the Pacific coast is variable. For this exercise, an average of the number of vessels landing HMS from 1995 through 1999 is used (Table 2-64). The estimated number of vessels by gear is as follows:

Surface hook-and-line:	887
Drift gillnet:	121
Pelagic longline:	47
Purse seine:	27
Harpoon:	32
Recreational charter	<u>250</u>
	1,364

Permits are currently required for vessels fishing on the high seas under the authority of the High Seas Fishing Compliance Act, and registration is required of vessels fishing for tuna under the authority of the Tuna Conventions Act of 1950. Longline vessels fishing under the authority of the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region must also have a permit. Many participants in the HMS fisheries have these permits or will obtain them; therefore, the regulations propose issuing HMS permits to all individuals on NMFS list of vessels identified as using gear to harvest HMS. Vessel owners who have not received a permit to harvest HMS by **[insert date]** would have to apply for an HMS permit. All vessels would need an HMS permit by **[insert date]**. This will avoid duplication of effort and minimize the burden on applicants, many of whom will not need to fill out and submit an application. A review of NMFS data base indicates that there are an estimated 1,364 vessels likely to harvest HMS. Most of these vessels are either on a NMFS list or will be as work continues under NMFS' other permit responsibilities. Initially, for purposes of estimating the work required for this task, an assumption was first made that from 10 percent (136) to 20 percent (273) of the vessels would remain unidentified. Owners of these vessels would have to apply for an HMS permit. Nevertheless, vessel owners will have to renew their permits every 5 years; therefore, the cost

estimate is based on 1,364 vessels annualized over the 5 year period (273).

#### 1.4.1 Basic Implementation Costs

The cost of setting up the permit files on a data base is estimated at \$1,454.40 (40hrs X \$36.36/hr = \$1,454.40). This is a one time cost.

Maintain data base system:

$$1\text{hr/month} \times \$36.36/\text{hr} \times 12\text{ months} = \$436.32$$

Issue permits to all known vessels with commercial gear targeting HMS.

$$\begin{aligned} .25\text{hrs} \times \$36.36 \times 1,364\text{ vessels} &= \$12,398.76 \\ \text{Annualized cost} &= \$12,398.76/5 = \$2,479.75 \end{aligned}$$

Review permit applications for completeness:

$$0.25\text{hr/permit} \times 273 \times \$36.36/\text{hr} = \$2,481.57$$

Phone calls to verify and obtain information:

$$.5\text{ hr/permit} \times \$36.36/\text{hr} \times 27\text{ (10\%} \times 273) = \$490.86$$

Enter permit information in data base:

$$\begin{aligned} .10\text{hr/permit} \times 1,364 \times \$36.36/\text{hr} &= \$4,959.50 \\ \text{Annualized cost} &= \$4,959.50/5 = \$991.90 \end{aligned}$$

Print and mail permit: .

$$\begin{aligned} .25\text{hr/permit} \times 1,364 \times \$36.36/\text{hr} &= \$12,398.76 \\ \text{Annualized cost} &= \$11,307.96/5 = \$2,261.59 \end{aligned}$$

#### 1.4.2 Summary of Permit Costs

The cost of setting up the data base (\$1,454.00) is not in the following table because it is a one-time cost. At the time of this writing, the strategy is to require that permits be renewed on a schedule of every five years; therefore, the cost of issuing permits of \$27,338.00 is prorated over a five-year period to arrive at an annual cost.

##### **Summary of Permit Costs**

Maintain data base	\$436
Issuing permits	\$8,706
Telephone	\$360
Supplies	\$126
Employer's Surcharge (25.2%)	\$2,304
NOAA Support (49.9%)	\$4,562
TOTAL	<u>\$16,494</u>

#### 1.5 Logbook Costs

Each commercial fishing vessel harvesting HMS must maintain a logbook and submit a record of harvest



covering each fishing trip. Each commercial passenger recreational fishing vessel must also maintain a logbook and submit a record of harvest. Currently, logbooks are required under the authority of the Tuna Conventions Act of 1950, the High Seas Fishing Compliance Act, and the regulations implementing the Pelagic species Fishery of the Western Pacific Region for longline vessels with permits issued under that fishery management plan. Drift gillnet vessels, harpoon vessels, and recreational charter vessels are required by the California Department of Fish and Game to submit logbooks. The FMP proposes to use existing logbooks and not require any new logbooks, except in the case of the States of Oregon and Washington. These states do not require a logbook for charter vessels; therefore, a Federal logbook will be necessary. Reporting will increase. For instance, longline vessels that normally fish out of Hawaii that have separated the limited entry permit from the vessel to fish out of west coast ports are not required to submit a logbook. When the FMP is implemented, a logbook will be required. Logbooks are issued to troll vessels targeting albacore tuna, but vessels that do not fish on the high seas are not required to submit a logbook. When the FMP is implemented, a logbook will be required. Vessels chartered for recreational fishing will also be required to submit a logbook. The following estimates costs of the HMS logbook program:

#### 1.5.1 Purse Seine Vessels

The number of vessels targeting tuna varies from year to year. For the purpose of this exercise, 27 vessels are assumed to Fish. Logbooks are required by Federal Regulations at 50 CFR 300.22 implementing the Tuna Conventions Act of 1950 and are distributed by the Inter-American Tropical Tuna Commission; therefore, there is no additional cost in the printing and distribution of logbooks. Commission employees collect information from the logbooks, and this will continue; however, logsheets from each trip will have to be submitted to the Regional Administrator under this FMP. This will entail a minimal processing cost to the Federal Government. Three day trips for 27 vessels is assumed.

$$.25\text{hr}/\text{logsheet} \times 27 \text{ vessels} \times 3 \text{ days}/\text{trip} \times 4 \text{ trips}/\text{year} \times 36.36\text{hr} = \$2,945.16$$

#### 1.5.2 Hook-and-Line Vessels

About 77 percent of the troll hook-and-line vessels submit logbooks; therefore, there will be increased costs because 100 percent compliance will be required. Existing costs are:

Contract to manage logbook distribution:	\$50,000
One fishery biologist to process reports:	\$45,000
Printing costs:	\$ 3,000
Computer costs:	\$ 2,000

Contract costs to manage logbook distribution are not expected to increase, but employee costs are expected to increase proportionally; therefore, based on the average of 887 vessels mentioned in the permit section, costs will increase by about \$13,500 annually. This would be in addition to the costs now being incurred, which are sunk costs, because they will continue whether or not an FMP is implemented.

#### 1.5.3 Drift Gillnet Vessels

All drift gillnet vessels are required to submit a logbook under the State of California regulations. While Federal Regulations implementing the FMP will require a logbook, the state logbook will suffice, and the State of California will continue logbook management. Processing logbooks and providing effort data to NMFS is handled through a contract to the California Department of Fish and Game. This cost is \$90,000 and is a sunk cost, because it has been incurred in the past and is planned to continue. However, this cost may go down because effort in this fishery has been declining.

#### 1.5.4 Longline Vessels

Longline vessels fishing under the authority of the western Pacific regulations governing HMS are required

to maintain a logbook. Approximately 10 vessels fish out of Pacific coast ports that have not held a Hawaii permit. These vessels will be required to maintain and submit a logbook as well. Although many longline vessels in Hawaii have in the past separated their limited entry permit from the vessel to fish in the eastern Pacific and land on the west coast, these vessels continue to maintain a logbook. Under this FMP, those logbooks would have to be submitted to the Regional Administrator. This will result in a coordinated logbook program for longline vessels in the eastern and western Pacific.

$$10 \text{ vessels} \times \$5.00/\text{logbook} = \$50.00$$

$$\text{Processing costs: } .5\text{hr}/\text{log} \times 70 \text{ trips (10 vessels} \times 7 \text{ trips)} \times \$36.36/\text{hr} = \$1,272.60$$

#### 1.5.5 Harpoon Vessels

Length of trip is one day for harpoon vessels. Logbooks are required by the California Department of Fish and Game, and the requirement will continue to be handled by the agency.

#### 1.5.6 Recreational Charter Vessels

There are approximately 250 recreational charter vessels on the west coast fishing for HMS, of which about 88 percent are in California. The California Department of Fish and Game conducts a mandatory logbook program, which would continue upon implementation of the FMP. Federal logbooks, which will be modeled after the California logbook, would be provided for vessels fishing out of Washington and Oregon.

$$30 \text{ vessels} \times \$5.00/\text{logbook} = \$150.00$$

$$30 \text{ vessels} \times 9\text{trips}/\text{year} \times .25\text{hr}/\text{logsheet} \times \$36.36/\text{hr} = \$1,454.30$$

#### 1.5.7 Summary of Logbook Costs

##### **Summary of Logbook Costs**

Direct labor	\$19,172
Logbooks	\$300
Employer's Surcharge (25.2%)	\$4,831
NOAA Support (49.9%)	\$9,568
Total	\$33,871

#### 1.6 Observer Costs

A recent rough estimate of observer costs to cover pelagic longline, tuna purse seine, albacore troll, and drift gillnet fisheries is \$1,000,000 per year, understanding that the percentage of coverage necessary and priorities may change. Observer costs can vary from fishery to fishery. Costs can also vary widely depending on whether services are being contracted for or the observers are NMFS employees. A large part of observer costs is insurance. The Southwest Region's current observer costs are \$650.00/day, which is a contracted cost, but there is training by NMFS that increases the cost. When NMFS employees are used as observers, the cost may be as low as \$300.00/day. The Southwest region has requested funds to conduct an observer

program and has set priorities; therefore, observer costs are considered here to be sunk costs. The degree of coverage for each fishery has not been examined at this point.

### 1.7 Summary of All Costs

There are several kinds of costs presented in this document. Sunk costs are costs that will be expended whether or not there is an FMP. At this point, most of the science costs are included in this category, although the experience of managing fisheries under the FMP may lead to additional science costs. Observer costs could also be placed into sunk costs, because the Southwest Region is planning a larger observer program, although an implemented FMP may change priorities depending on circumstances in the fisheries. A second category of costs is one-time costs. Setting up a data base is a one-time cost. Buying the VMS units is a one-time cost, although there may be a need to buy additional units periodically. Virtually all of the administrative costs are annual costs. These costs will occur every year. The numbers provided here were arrived at through a methodical approach to, basically, predict the future. If the exercise were repeated, different results would occur. Nevertheless, one can gain an idea of the kinds of costs involved and form an opinion on what the real costs might be. One kind of cost that is not included is the attendance of NMFS and potentially members of the Council attending international meetings. These costs are a type of sunk cost, although Council members or staff may not attend an international meeting if there were no FMP.

#### **Estimated Annual Cost**

Administrative	\$97,128
Science	\$18,734
Enforcement	\$181,358
Permit	\$16,494
Logbook	\$37,871
Total	\$351,585

#### **One-time costs**

Set up database	\$1,454
Agent training	\$25,000
VMS units	\$37,500
Total	\$63,954

#### **Sunk Costs**

Research	\$3,000,000
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Hook-and line logbook distribution	\$100,000
Drift gillnet logbook contract	\$90,000
Observers	\$1,000,000
Total	\$4,190,000