

North Pacific Groundfish Observer Program Overview 2001



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Produced by the NPGOP Staff

**Resource Ecology & Fisheries Management Division
Alaska Fisheries Science Center
National Marine Fisheries Service
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PREFACE

The precursor to the North Pacific Groundfish Observer Program (NPGOP) was established in 1973. A small group of U.S. advisory scientists were invited aboard Japanese motherships to monitor the incidental catches of Pacific halibut in the groundfish catches. This group expanded into the Foreign Fishery Observer Program when the Magnuson Fishery Conservation Act of 1976 mandated that foreign vessels operating within the Fishery Conservation Zone accept U.S. citizens as observers.

In 1978, U.S. fishers entered the fishery through joint venture operations with the foreign vessels. Legislative acts in 1988-90 mandated observer coverage of domestic fishing vessels, resulting in the creation of the NPGOP. By 1991, the Americanization of the Alaskan groundfish fisheries was complete and all foreign fishing ended.

The NPGOP headquarters are located in Seattle, Washington, at the Alaska Fisheries Science Center, 7600 Sand Point Way, NE. Satellite offices exist in Anchorage, Kodiak, and Dutch Harbor, Alaska. Our scientific staff oversees the gathering and dissemination of fisheries data collected by biologists (observers) stationed aboard U.S. fishing vessels and at shore-based processing plants.

Additional information concerning our history, current activities, and observer coverage information can be found at our web-site at: <http://www.afsc.noaa.gov/refm/observers/default.htm>

In 1973, 24 observers were invited aboard 11 Japanese vessels.

The following abbreviations are used throughout this report:

AFA	American Fisheries Act
AFSC	Alaska Fisheries Science Center
BSAI	Bering Sea and Aleutian Islands
CDQ	Community Development Quota
EEZ	Exclusive Economic Zone
GOA	Gulf of Alaska
IFQ	Individual Fishing Quota
IPHC	International Pacific Halibut Commission
MMPA	Marine Mammal Protection Act
MSCDQ	Multi-Species Community Development Quota
NMFS	National Marine Fisheries Service
NMML	National Marine Mammal Laboratory
NPGOP	North Pacific Groundfish Observer Program
UAA	University of Alaska Anchorage
USFWS	U.S. Fish and Wildlife Service

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28 YEARS AND STILL GOING STRONG

WHO WE ARE

The North Pacific Groundfish Observer Program (NPGOP) is a program directed by the National Marine Fisheries Service (NMFS). Our purpose has always been to collect and provide the best possible fishery data available. In 1973, we started with a staff of four and 24 observers. As data needs have expanded, our program has grown to a staff of 36 overseeing 350-400 observers annually. This has allowed us to greatly increase the amount of data collected and still strive for data quality.

Observers' primary duties revolve around the collection of groundfish catch data and recording incidental takes of crab, Pacific salmon, Pacific halibut, and Pacific herring. First on the list, however, is to record incidental takes of short-tailed albatross and marine mammals and to collect mammal teeth or tissue samples.

36 biologists and support personnel oversee the work of contracted observers.

OUR MISSION



Eric Holt collecting Pacific salmon scales.

Our mission is to collect and provide the catch, bycatch, and biological data necessary to support in-season monitoring and stock assessment commensurate with the highest level of data quality, data integrity, and professionalism.

Our mission: collect and provide catch, by-catch, and biological data

WHAT WE DO FOR YOU

We provide fisheries managers and stock assessment scientists with the data they need—accurate and on time. Our detailed weekly reports of fishing activity and results to the NMFS Alaska and NMFS Northwest Regional Offices form the basis of the Regions' weekly estimates of groundfish catch. These reports help ensure that fishing closures are timely and appropriate, maintaining the health of the target species stocks and the bycatch species. Industry receives the data they need to make timely fishing decisions, avoid unwanted bycatch, and improve productivity. We provide other government agencies and public interest groups with information pertinent to their interests as well.

WHERE TO FIND US

Our headquarters is located in Seattle:

Alaska Fisheries Science Center
7600 Sand Point Way, NE
Seattle, WA 98115

To maintain a strong presence where the fishing occurs and where observers are based, we also maintain three field stations in Alaska:

FTS Office Complex, Suite 105
Airport Beach Road
Dutch Harbor, AK 99692

Kodiak Fisheries Research Center
301 Research Court
Kodiak, AK 99615

Anchorage Field Station
Resolution Plaza
1029 W 3rd Ave, Suite 150
Anchorage, AK 99501

OBSERVERS AND THE DOMESTIC FISHERY

Pilot Program

NMFS began placing observers on domestic vessels in 1986. This data gathering venture was funded by the fishing industry and occurred in the Bering Sea, north of Port Moller. The bycatch of red king crab was the primary concern.

Marine Mammal Protection Act

Amendments to the Marine Mammal Protection Act (MMPA) in 1988 required that observers be stationed aboard groundfish vessels to



*Stern trawl catcher-processor U.S. Enterprise.
Photo by Tyson Vogeler.*

monitor marine mammal interactions. Amendments to the 1989 Gulf of Alaska (GOA) and Bering Sea and Aleutian Islands (BSAI) groundfish management plans established mandatory observer coverage requirements for vessels and plants involved in the groundfish fisheries.

The Domestic Observer Program began in 1986.

NORTH PACIFIC GROUND FISH OBSERVER PROGRAM

The North Pacific Groundfish Observer Program (NPGOP) was formed in 1990 to oversee the certification training, define observer sampling duties and methods, debrief observers, and manage the collected data.

Approximately 2 million metric tons of groundfish are harvested from the U.S. Exclusive Economic Zone (EEZ) of these regions each year (Figure 1). The NPGOP collects and disseminates information essential for the management of sustainable fisheries in the GOA and BSAI.



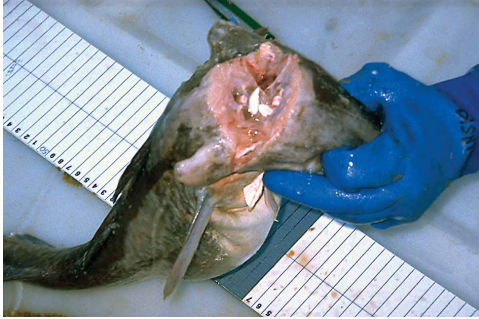
Figure 1. Exclusive Economic Zone of the northeast Pacific and Bering Sea.

The NPGOP deploys observers on a variety of vessels and at processing plants. In 2001, 359 fisheries observers were trained and deployed on 335 vessels and at 23 processing plants. This resulted in 36,577 days where observers monitored groundfish operations (Table 1).

*359 observers spent
36,577 days at sea.*

WHAT DO OBSERVERS COLLECT?

Groundfish Catch Information



Taking otoliths from a walleye pollock. Photo from Observer Program archives.

While on vessels or at processing plants, observers gather information about commercial catches to support in-season catch monitoring, stock assessment, and other functions of NMFS. Observers record data on total catch, species composition, and length frequency measurements. Age structures are taken from target

and prohibited species. Observers monitor vessels for compliance with specific fishery, marine mammal, and marine pollution regulations.

Table 1. Observer sea-days* in the northeast Pacific Ocean and eastern Bering Sea.

Year	No. of Fisheries Observers	No. of Vessels Observed	No. of Plants Observed	No. of Sea-days*
1986	5	4	0	189
1987	10	13	5	397
1988	16	25	8	621
1989	38	82	6	2,618
1990	447	275	31	36,129
1991	445	349	36	41,949
1992	449	388	37	41,951
1993	338	330	29	32,153
1994	346	294	32	33,454
1995	375	393	29	34,851
1996	377	404	25	35,049
1997	339	351	20	31,944
1998	303	356	18	31,610
1999	350	362	20	31,478
2000	441	364	27	36,332
2001	359	335	23	36,577

* Number of days spent by observers actively monitoring vessels and fish processing plants (includes days spent by secondary observers).

NPGOP staff review observer data to ensure the collected information are consistent with program needs and are free of errors. These data are then distributed to NMFS Regional offices for use in monitoring and managing the groundfish fisheries.

Bird And Mammal Interactions

In accordance with the MMPA and the Endangered Species Act, observers record information necessary to support management of marine mammals, seabirds, and other protected species. In 1999, observers began collecting tissue samples from incidentally caught cetaceans. These samples are assayed by staff from the Alaska Fisheries Science Center's National Marine Mammal Laboratory (NMML) to help identify the stock from which these animals originated.

Observers document incidental takes and sightings of marine mammals and seabirds.

Stock Assessment Information

The NPGOP also gathers information in support of other scientific programs. Observers bring back Pacific cod and walleye pollock stomachs to provide stock assessment and predation data from months when NMFS surveys are not conducted. Observers record data for the International Pacific Halibut Commission (IPHC) regarding Pacific halibut caught as bycatch in groundfish fisheries.

Special Projects

Observers are routinely assigned to collect information and/or samples in support of other scientific studies. These collections provide information on the health and age-at-maturity of several groundfish species and give an insight into the feeding habits of Steller sea lions.

STAFF FUNCTIONS

Seattle

Our Seattle office is the primary point of contact for clients of the NPGOP and for the Observer Service Providers. Seattle staff members are responsible for the timely release of in-season and post-season observer data used in fishery management decisions. Fishery enforcement issues are also handled here. The Seattle staff provide the bulk of the technical observer support, including computerized communications and data entry. The majority of the debriefings, data editing, and data checking take place in Seattle.

Field station staff provide the NPGOP with a necessary presence on the docks and in the plants.

Dutch Harbor And Kodiak Field Stations

Our field stations facilitate the collection of high quality data and provide a personal link between the NPGOP and the observers.



Shore-side processing plants in Dutch Harbor. Photo from Observer Program archives.

Observers typically board their vessels or work at plants located in either Dutch Harbor or Kodiak, two of the richest ports in the world (in terms of dollar value of landings). The field stations in Dutch Harbor and Kodiak provide the NPGOP with a necessary presence on the docks and in the plants. Staff located here have extensive interaction with observers,

vessel and plant personnel, and enforcement agents. Staff located at these field stations:

- Provide support for observers
- Facilitate sampling needs
- Answer sampling questions
- Review sampling techniques
- Perform briefings and debriefings
- Meet with observers midway through their cruise to help work through data collection/recording problems
- Restock observer sampling supplies
- Coordinate transportation of special project supplies and samples to and from Seattle
- Install upgraded observer reporting software on vessel computers
- Help fulfill NPGOP's Community Development Quota (CDQ) and Individual Fishing Quota (IFQ) obligations
- Coordinate fish collection projects for the University of Alaska Fairbanks, the University of Alaska Anchorage (UAA), and the Museum of the Aleutians (Dutch Harbor)
- Coordinate gear storage and vehicle use with NOAA Corps vessel personnel (Dutch Harbor)
- Provide a contact point for the general public and the fishing communities in Dutch Harbor and Kodiak

Anchorage Field Station

Staff at the field station in Anchorage work closely with the UAA Observer Training Center. They participate in the full 3 week training sessions and the multi-species CDQ (MSCDQ) training sessions. This ensures continuity of training between the Seattle and Anchorage training centers and also connects the observers with the NPGOP. Observers receive information on debriefing, mid-cruise meetings with field station personnel in Kodiak and Dutch Harbor, and a basic overview of the NPGOP.

All CDQ issues and sampling station inspections are coordinated by the Anchorage staff. Approximately 55 vessels were inspected in 2001.

Anchorage staff also travel to outlying sampling stations. In 2000, they performed inspections and installed the NPGOP's computerized communication system at plants and on vessels at Seward, Cook Inlet, Sand Point, and King Cove. Trips to Seward, King Cove, and Sand Point in 1999, marked the first time a NPGOP staff member had ever visited plants at those locations.

Anchorage staff traveled to Seward... Sand Point, and King Cove, the first time a NPGOP staff member had ever visited plants at those locations.

WHAT SERVICES WE PROVIDE

DATA COLLECTION

Fisheries Data

Our primary function is to collect and provide the best possible fishery data available. These data allow fisheries managers and stock assessment scientists to make informed decisions about fishery openings and closings and the biomass available for harvest. To this



David Hoagland recording catch data.

end, we focus heavily on the types of data collected and the training of quality observers. Without quality observers, our work would be for naught.

We work with fisheries managers and stock assessment scientists to determine what information is necessary and how to best collect it.

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Without quality observers, our work would be for naught.

Vessel Data

Once onboard, observers collect data from the vessel's fishing log:

- Date of fishing activity
- Position (latitude and longitude)
- Type of fishing gear
- Type of vessel (catcher boat, catcher/processor, etc.)
- Fishing depth
- Bottom depth
- Vessel catch estimate
- Fishing effort (time, number of hooks, number of pots)
- Type of fishing (IFQ, MSCDQ, open access)



Richard Jones collecting vessel data.



Brian Fedorko taking a codend measurement.

Observers also make their own estimate of the catch, using measurements of the codend or the fish holding bins, and the density of the fish caught. In 2001, observers collected haul data information from 60,934 hauls or sets aboard vessels and from 7,629 deliveries to plants (Table 2).

Observers collected data from 68,563 hauls and deliveries.

Table 2. Number of hauls, sets, and deliveries associated with observer coverage in the northeast Pacific Ocean and eastern Bering Sea.

Year	No. of Hauls or Sets	Official Total Catch (MT) (Observed Vessels)	No. of Plant Deliveries	Official Total Catch (MT) (Observed Plants)*
1986	772	11,015	0	0
1987	898	11,876	13	2,663
1988	1,037	12,264	78	9,830
1989	5,868	196,375	278	23,952
1990	69,042	2,187,556	4,450	391,533
1991	82,377	2,214,283	7,158	466,783
1992	88,710	2,178,841	7,811	602,288
1993	66,842	1,904,215	6,122	588,671
1994	66,975	2,089,828	6,255	644,804
1995	68,916	2,021,554	7,272	640,681
1996	72,745	1,943,285	7,080	595,483
1997	66,531	1,950,853	7,203	608,235
1998	60,686	1,770,873	7,255	623,022
1999	53,077	1,532,672	7,357	635,889
2000	59,528	1,646,543	8,621	692,051
2001	60,934	1,797,676	7,629	773,196

*Includes tonnage from observed vessels

Observer-collected Biological Data

As fish move along the processing line, observers take random sub-samples of the catch. They record the weight of the sample and whether it was the actual weight or was a portion of the total catch.



Mark Fritch weighing baskets of pollock.

Within the sample, observers routinely:

- Record the number and weight of each species of fish and invertebrates
- Determine the retention percentage of each species
- Measure the length of about 20 fish
- Check for the presence of eggs in female crabs
- Collect age structures (fish scales and/or pairs of otoliths) along with individual length and weight measurements

How Much Data are Collected?

In 2001, observers sampled 44,272 hauls for species composition (Table 3), collected 48,992 age structures (Table 4), took measurements of 1,112,045 fish and crab (Table 5), checked 8,597 female crabs for the presence of eggs and found eggs in 4,390 female crabs (Table 6).

Observers measured over one million fish and crab.

Table 3. Number of hauls or sets sampled by observers for species composition in the northeast Pacific Ocean and eastern Bering Sea.

Year	No. of Hauls or Sets	Official Total Catch of Sampled Hauls (MT)
1986	430	6,294
1987	482	6,745
1988	639	7,601
1989	3,352	127,686
1990	36,278	1,254,938
1991	46,248	1,274,000
1992	53,890	1,383,228
1993	42,906	1,313,217
1994	44,630	1,499,008
1995	45,956	1,479,374
1996	46,829	1,359,936
1997	42,295	1,367,845
1998	41,527	1,322,645
1999	38,455	1,290,262
2000	42,868	1,430,267
2001	44,272	1,587,361

Table 4. Pairs of otoliths and/or fish scales collected by NPGOP observers.

Year	Pollock	Pacific Cod	Rockfish	Flatfish	Sablefish	Atka Mackerel	Pacific Whiting	Pacific Salmon	Total
1986	641							na	641
1987	749		262	200				na	1,211
1988	2,095	691	110	249	304			na	3,449
1989	7,834		171		225	144		na	8,374
1990	20,648	7,354	1,643	2,849	1,537	939	74	na	35,044
1991	20,122	11,504	458	4,800	633	356	1,407	na	39,280
1992	13,901	7,218	566	3,491	418	200	2,651	na	28,445
1993	10,548	4,845	199	1,987	225	80	1,580	na	19,464
1994	10,801	4,233	133	1,535	310	1,031	1,854	na	19,897
1995	8,150	5,643	148	1,664	80	1,086	1,572	na	18,343
1996	8,731	3,721	616	1,280		941	1,842	na	17,131
1997	5,510	4,548	573	1,035	6	126	1,868	3,925	17,591
1998	9,763	3,377	2,250	2,186		733	1,533	4,059	23,901
1999	6,789	5,852	1,470	5,328	2,588	1,636	1,949	3,630	29,242
2000	13,056	10,922	3,609	7,048	4,118	2,697	2,052	3,249	46,751
2001	16,629	9,220	3,743	5,683	4,180	3,332	2,123	4,082	48,992

Table 5. Number of fish measured by NPGOP observers in the northeast Pacific and eastern Bering Sea.

Year	Pacific		Rockfish	Pacific Halibut	Other Flatfish	Pacific Whiting	Sablefish	Atka Mackerel	Pacific Salmon	Crab	Other Fish	Total
	Pollock	Cod										
1986	565	7,568		16,932	435				229	3,086	432	29,247
1987	7,412	5,783	6,785	9,770	3,021				175	3,029		35,975
1988	9,584	10,541	4,509	15,351	7,940		2,325		276	4,428		54,954
1989	196,687	12,225	2,124	26,174	15,706		1,428	3,303	2,686	34,281		294,614
1990	1,180,602	416,769	161,282	231,495	176,912	2,136	65,908	63,692	13,480	177,406	19	2,489,701
1991	1,125,966	619,754	52,934	171,479	484,671	103,886	62,757	50,439	14,980	46,742	1,226	2,734,834
1992	1,029,913	644,167	86,486	143,280	529,485	78,526	54,369	102,859	20,153	21,620	1,611	2,712,469
1993	823,224	399,519	65,833	101,202	406,068	33,144	57,714	88,931	42,321	9,418	395	2,027,769
1994	834,382	470,902	38,091	111,733	386,169	48,123	41,445	82,112	31,839	3,141	225	2,048,162
1995	749,286	558,058	39,958	123,311	337,211	30,285	70,082	86,317	18,580	14,360	101	2,027,549
1996	776,420	607,120	55,436	125,593	357,666	33,209	61,181	115,443	42,297	9,729	15	2,184,109
1997	678,868	628,084	46,339	95,961	485,611	49,591	50,566	60,104	39,919	83,982	445	2,219,470
1998	892,565	635,863	51,947	96,508	403,751	47,789	45,914	73,600	35,158	73,656	1,087	2,357,838
1999	212,834	278,750	27,382	93,510	147,074	49,286	29,509	22,156	25,558	68,163	232	954,454
2000	333,149	306,907	25,880	78,094	160,923	48,153	33,068	17,415	30,009	74,043	693	1,108,334
2001	378,979	316,125	20,691	77,151	126,556	48,426	31,077	19,711	35,737	57,555	37	1,112,045

Table 6. Number of female crab examined for eggs.

Year	No. of Crab With Eggs	No. of Crab Without Eggs	Total No. of Crab Examined
1997	5,834	4,119	9,953
1998	3,686	7,528	11,214
1999	4,156	5,311	9,467
2000	4,699	8,154	12,853
2001	4,390	4,207	8,597

Marine Mammal Observations

Observers monitor for marine mammal interactions with fishing gear. If they witness an interaction, they record:

- Species of mammal
- Type of interaction
- Number of mammals involved
- Condition of the mammal after the interaction

Observers also try to take photographs of the mammal. If the interaction results in a dead mammal, observers attempt to determine the sex of the mammal, measure it's length, collect teeth, and, if it is a cetacean, take a tissue sample. In 2001, 7 mammals were measured, 17 teeth were collected, 26 interaction photos were taken, and 9 tissue samples were collected (Table 7).



Fisheries interactions between fishing gear and marine mammals can result in casualties. Photo from Observer Program archives.

Table 7. Marine mammal interactions reported by NPGOP observers.

Year	No. of Live Mammal Interactions ¹	No. of Dead Mammal Interactions ²	No. of Mammal Interactions with Viability Unknown	No. of Mammals Measured	No. of Mammal Teeth Collected	No. of Interaction Photos Taken ³	No. of Tissue Samples Taken
1989	0	8	0	5	2	0	--
1990	68	54	3	19	13	12	--
1991	21	59	2	27	15	30	--
1992	41	109	2	55	25	42	--
1993	92	74	4	28	11	23	--
1994	80	68	4	43	21	30	--
1995	95	65	4	18	8	18	--
1996	98	66	2	23	9	26	--
1997	172	76	1	28	17	25	--
1998	137	64	1	18	8	26	--
1999	150	57	3	14	13	39	1
2000	241	85	1	12	16	62	12
2001	135	56	2	7	17	26	9

¹Does not include feeding only interactions or multiple deterrence interactions that probably include the same individual marine mammals

²Includes catch of body parts only

³Does not include photos associated with sightings but no interactions

Thar She Blows! (Marine Mammal Sightings)

When observers are not actively sampling the catch, they are frequently on the lookout for marine mammals swimming near the vessel or on the horizon. When a marine mammal is seen, observers record:

- Vessel position
- Date and time
- Sighting conditions
- Beaufort scale
- Surface water temperature
- Distance from vessel
- Species of mammal
- Number of mammals sighted
- Estimated length of mammal
- Behavior
- Sighting cue
- Body information
- Narrative and sketches



A pod of killer whales. Photo from Observer Program archives.

Birds at Sea

Observers monitor seabird interactions and record whether or not the vessel is trying to avoid seabirds, and how effective the avoidance methods are. Birds brought on board are identified to species, counted and weighed, and are checked for tags and bands.



Red-legged kittiwake. Photo by Wayne Palsson

Occasionally, birds collide with fishing vessels. When this occurs, observers record the species, number of individuals, weather, date and time, and the vessel's position (latitude and longitude).

Observers monitor for sea bird interactions and avoidance.

Birds of Special Interest

Special handling is required for certain species of birds. Observers are required to collect all dead short-tailed albatross, spectacled eider, or Steller's eider, for delivery to the USFWS. Observers record the sex for spectacled eiders and Steller's eiders and the maturity stage for all short-tailed albatross, red-legged kittiwakes, and black-legged kittiwakes. Photos of dead kittiwakes and murrelets are taken to verify proper species identification.

When a bird is wearing a tag or band, observers record the tag/band number, color, configuration of the band, which leg it is on, the date and time, and the vessel's position. When possible, dead birds with tags are brought back to Seattle.

Looking For Tags

While observers are performing their regular sampling duties, they are also on the lookout for fish or crabs which have been tagged or marked in some manner.

A Pacific salmon marked by a missing or clipped fin is measured and weighed, scales are taken, the gonads are measured, and the snout is removed. The snout is salted, and is saved for NMFS High Seas Salmonid Task.

A Pacific halibut with a tag is measured and weighed, the tag is removed, and information on the body condition and the tagging wound is collected. If the halibut is dead, otoliths are also collected and the sex is recorded. Tags, otoliths, and documentation are given to the IPHC.

Observers watch for fish or crabs that have been tagged or marked.

If a tagged king crab is found, the crab is measured and weighed and the sex is recorded. If the crab is dead, the tag is recovered as well. If the crab is alive, the tag is left on, but the tag number is recorded, the crab's condition is recorded, and the crab is released. King crab tag information is sent to ADFG.

Tagged marine mammals often have instrumentation attached to their bodies. If the mammal is dead, the instruments are removed, the mammal is measured and weighed (if possible), the tag is collected, and, for fur seals and sea lions, the snout is collected. If the mammal is alive, the tag number is recorded (if possible) and the mammal is released.

For all other marked or tagged fish, the tag is removed, the fish is measured and weighed, information on the body condition and the tagging wound is collected, the sex is recorded, and the otoliths (or the head) are collected.

Pacific Halibut Viability

Observers aboard all groundfish vessels record the viability of the Pacific halibut caught incidentally. Observers stationed aboard longliners record the method used to release the Pacific halibut from the line and its effectiveness in reducing injuries to the fish. They record their overall assessment of the crew's handling practices and an estimate of how many Pacific halibut are killed by handling. Pacific halibut viability results are shown in Table 8.

Observers record the viability of Pacific halibut being returned to the sea.



*Pacific halibut hook injury.
Photo by Hilary Emberton.*

Table 8. Observed Pacific halibut viability by year and gear type in the northeast Pacific Ocean and eastern Bering Sea groundfish fisheries.

Year	Gear Type	Viability			
		Excellent	Poor	Dead	Unknown
1992	Trawl	7,575	13,660	31,486	12,794
1992	Pot	4,949	298	350	947
1992	Longline	16,906	4,884	1,465	8,154
1993	Trawl	10,018	13,465	24,777	4,871
1993	Pot	1,010	110	49	30
1993	Longline	16,568	3,547	1,456	1,320
1994	Trawl	9,157	12,800	21,620	3,201
1994	Pot	2,439	219	92	101
1994	Longline	31,153	6,286	2,415	1,064
1995	Trawl	9,966	11,503	26,051	1,434
1995	Pot	4,052	472	238	93
1995	Longline	28,826	5,854	2,832	3,471
1996	Trawl	8,477	12,083	27,961	3,266
1996	Pot	5,437	280	176	120
1996	Longline	31,271	5,224	1,940	4,129
1997	Trawl	7,995	8,404	25,315	2,739
1997	Pot	2,793	75	56	86
1997	Longline	25,476	3,078	1,216	2,659
1998	Trawl	7,951	8,661	24,237	2,223
1998	Pot	1,215	113	134	123
1998	Longline	30,003	3,696	1,218	1,372
1999	Trawl	7,019	6,653	26,365	3,282
1999	Pot	3,769	230	193	10
1999	Longline	22,070	2,945	901	3,385
2000	Trawl	6,344	8,908	25,802	5,125
2000	Pot	1,916	329	94	33
2000	Jig	0	0	0	1
2001	Trawl	5,066	5,376	29,271	7,379
2001	Pot	1,071	130	105	3

		Injuries ¹				
		Minor	Moderate	Severe	Dead	Unknown
2000	Longline	22,306	3,286	651	843	2,652
2001	Longline	20,148	2,998	669	756	4,179

¹Starting in year 2000, observers monitoring Pacific halibut aboard longliners began recording the severity of the injuries instead of viability.

Observers are there to observe and document.

Pacific Salmon Retention

Vessels and processors work with observers to obtain a count of all incidentally caught Pacific salmon in each BSAI groundfish fishery. The vessels and processors are required to retain all of the salmon until the observer has an opportunity to collect scientific data or biological samples from these fish.

Compliance

Observers are required to monitor activities aboard the vessels and to document all potential violations. To this end, observers receive training on regulations detailing restrictions on seasons, areas, gear, safe handling of prohibited species, and on all special programs (such as MSCDQ). Observers receive training on Marine Mammal Regulations and Marine Pollution Regulations.



Hilary Emberton monitoring a longline catch.

The compliance role is very clear; observers are there to observe and document. When an observer witnesses a violation, simply bringing it to the attention of the skipper or plant manager often results in immediate resolution.

ADDITIONAL PROJECTS

Pacific Halibut Otoliths

In 1999 and 2000, observers were each asked to collect otoliths from 5 Pacific halibut during the first 7 days of each month. The length and the sex of the halibut were recorded along with the vessel name and haul number. The IPHC is studying these otoliths to determine if the timing of the annual growth rings is affected by area and sex.

Atka Mackerel as a Sea Lion Food Source

NMML has been developing a regression relationship between bone size and body length of Atka mackerel to determine the age of Atka mackerel being consumed by marine mammals in the waters surrounding the Aleutian Islands. To assist NMML in this task, several observers collected frozen whole Atka mackerel for analysis.

Flathead Sole Maturity

To determine an acceptable level of harvest for flathead sole, the AFSC’s Status of Stocks Task began a study of flathead sole maturity with the goal being to determine size and age at maturity. Selected observers took length and weight measurements from female flathead sole and collected ovary sections and otoliths. These samples were delivered to scientists at the AFSC for histological examination.



Flathead sole measurements. Photo from Observer Program archives.

Sperm Whales vs. Longliners

Sperm whales feed on fish caught in the sablefish longline fishery. Because much speculation surrounds this issue, NMML designed a sighting project to help separate fiction from fact. Solid evidence is the key. Observers collect this evidence by recording and/or photographing any interactions or evidence of interactions and by recording the lack of any interactions during fishing operations.

Observers record and photograph sperm whale/longline interactions.

Atka Mackerel Parasitic Growth

Occasionally, special projects arise as an offshoot of other observer duties. In 1999, observers involved in the Atka mackerel fishery around Amchitka Island recorded evidence of unusual growths under the skin, near the spine. Scientists studying Atka mackerel were informed, and a new project was born. In 1999 and 2000, observers encountering Atka mackerel looked for unusual growths in the course of their regular sampling duties. When a growth was found, two to three sections were



Atka mackerel catch. Photo from Observer Program archives.

excised and brought back for examination. Length, weight, and sex of the involved fish were recorded, otoliths were removed, and a detailed description of the tumor was recorded. The samples and recorded information were given to members of the Status of Stocks Task and the observer was available for further questioning.

OBSERVER SUPPORT

The field stations and the Seattle office actively provide observer support. Staff serve as “In-season advisors,” contacting most observers on a regular basis, answering questions, and affording a personal link to the NPGOP. Data checks and feedback occur while the observers are still at sea, improving data quality.

Seattle and Anchorage

NPGOP offices in Seattle and Anchorage are involved in the training of observers. Staff serve as the primary instructors at the training center in Seattle, and coordinate all training which occurs at the training center in Anchorage. Staff from the NPGOP office in Anchorage conduct part of the training at the Anchorage training center.

Staff of the NPGOP are in close communication with fishery enforcement agents. Affidavits are studied and enforcement needs are discussed.

Observer Service Providers are located primarily in Seattle and Anchorage. Our presence in these cities allows for a close working relationship between the fishing industry and the NPGOP. Issues and concerns can be addressed face to face with a minimum of effort and expense.

Dutch Harbor and Kodiak

NPGOP offices are located in Dutch Harbor and Kodiak because these two ports are most actively involved in the fishing activities monitored by observers. Staff reside here year round, providing close observer contact throughout the observer’s tour of duty. They are available for mid-cruise briefings, to review the observer’s data and sampling strategy. Questions are answered, alternative sampling options are suggested, and a brief training period is held when redirection is needed. Most of the processing plants are located at Dutch Harbor and Kodiak, so staff are able to provide support to plant observers. Staff are also available for communication with members of the fishing community. This all adds up to timely, improved data.

The field stations are conveniently located to allow staff to perform an observer debriefing and a 1-day briefing. This allows qualified observers to complete one contract and then go right back out to sea on a new contract, saving time and money for Observer Service Providers and vessel owners.

Certification and Oversight of Observer Service Providers

The NPGOP staff work in concert with independent third-party contractors, “Observer Service Providers”, to collect the data needed to manage the groundfish fisheries in the BSAI and GOA. To fish in compliance with the Magnuson-Stevens Fisheries Conservation and Management Act, vessels greater than 60 feet length overall and fish

Increased staff enables us to have a greater presence on the fishing docks.

plants processing more than 500 metric tons of fish per month are required to maintain certain levels of observer coverage. To meet these requirements, fishing companies contract with Observer Service Providers to place certified observers aboard their vessels.

Fishing companies determine the number of observers they will need and the expected dates of deployment. They communicate these needs to one of five Observer Service Providers currently certified to supply fisheries observers (Table 9). Observer Service Providers carry out nationwide searches to locate biologists able to serve on commercial fishing vessels. The Observer Service Providers work with members of our staff and with the Observer Training Center in Anchorage to schedule training sessions to provide the necessary number of NMFS-certified fisheries observers. The Observer Service Provider employs the fisheries observers and transports them to/from the vessel or plant needing observer coverage.

It is the NPGOP’s responsibility to certify and provide oversight of the Observer Service Providers. One way in which this is done is to determine a minimum set of criteria for observers. First-time observers are trained in the manner in which data and samples are to be collected.

The Observer Service Providers are responsible for contracting observers who have the necessary skills and education to allow this training to be done with a minimal amount of effort. The NPGOP’s responsibility is that the trained observers are qualified and are providing data free from any bias which could arise from the arrangement between the vessels and the Observer Service Providers.

Table 9. Observer Service Providers.

Name	Address
Alaskan Observers, Inc.	130 Nickerson, Suite 206 Seattle, WA 98109
Data Contractors, Inc.	4606 Garfield St. Anchorage, AK 99503-6973
NWO, Inc.	654 5th Ave. S., Suite 203 Edmonds, WA 98020
Saltwater, Inc.	733 N. Street Anchorage, AK 99501
TechSea International	2360 W. Commodore Way Seattle, WA 98199

DATA QUALITY

In-season Data Checking

Once the data and samples have been collected, our work does not end. In many ways, it is just beginning. These data are the primary means by which fisheries managers monitor the results of the fishing activities. They must be available for use as soon as possible and as error-free as possible.

Computers at Sea - Timeliness And Data Quality

To improve timeliness and data quality, we developed the computerized entry and transmission system used by observers at sea. Our data entry program provides for fast entry and contains several levels of computer checks to identify errors immediately. Computerized data transmissions from sea allow for timely arrivals of the data in Seattle.

Once the data are received in Seattle, they are run through additional computer checks and questionable data are examined. Questions are communicated back to the observer for resolution. Ship-to-shore and shore-to-ship communication allows timely clarification and resolution of the data.

Faster Access, Greater Detail

Our improved system enables faster access to the data. It provides much more detailed information than ever before, at a reduced cost to the vessels. MSCDQ observers frequently send their data on a daily basis. Detailed species composition and length data are available to industry with no more than a one day delay (Open Access observers usually send their data on a weekly basis). The availability of detailed fishing data on a daily basis enables fishing companies to change their plans quickly, saving them time and money.

Faster Finalization

The new computerized system allows a faster finalization of the data. Most data are now entered at sea (or in the plants). Errors found during the debriefing process are immediately corrected in the database. For the majority of observers, when they have completed the debriefing process, their data have undergone computerized error checks, have been finalized, and are already in the database, available for year-end use.

The end result is that the data for almost every observer is now available for year-end use within a month of their return from sea. Prior to 1998, the year's data were not finalized until the following summer. Data from 1998-2001 have all been available by mid-February of the following year.

Eight-Tier Data Checking System

- At sea, our on-board computer program checks for obvious errors. Faxed data, entered in Seattle, go through the same checks.
- Our computer system in Seattle performs a check for “catastrophic” errors (those which must be fixed before the data can be used for quota monitoring).
- All at-sea observers who have the computerized entry system also have a staff member assigned to them as an “in-season advisor.” These advisors run the data through a more thorough set of computer checks and refer questionable data to their observer for clarification.
- During the mid-cruise debriefing in Dutch Harbor or Kodiak, the observer’s data and collection procedures are reviewed, and further error checking occurs.
- During the final debriefing, the data and the collection procedures are again reviewed.
- In debriefing, the data go through a final computer check before being loaded into the year-end database. Data entered by operators in Seattle go through a final computer check before being loaded into the year-end database.
- Occasionally, the editing staff are called upon to review a data set. When this occurs, they perform a complete examination of the questionable data.
- The final check of the data occurs through feedback from end users. Questionable data are run through the entire set of computerized checks and a visual review is performed as well.

This system allows us to maintain the integrity of our database from the first in-season message through the last debriefing.

DATA SERVICES

The NPGOP is a provider of data services. These data are the ultimate result of the efforts of the observers and NPGOP staff. Through diligence and hard work, we collect and furnish accurate data. We provide a wide variety of information because our clientele are quite diverse.

DATA CONSULTANTS

NPGOP staff are experts in the methodology and limitations associated with observer-collected data. We have extensive experience working as observers and have been supplying information to our clients for over 25 years. This enables us to render effective consultation services when assisting other AFSC personnel in working with the current and historical observer-collected data.

NPGOP staff have extensive experience working as observers and have been providing catch data for over 25 years.

PROVIDE TIMELY INFORMATION VIA THE WORLD WIDE WEB

The NPGOP has established a web site at <http://www.afsc.noaa.gov/refm/observers/default.htm>. It is continually expanding in scope and content, and currently provides a wide range of information options and links. At this site, you can find out more about the history of the NPGOP, dating back to the early days of the foreign fishery. Also available are:

- an overview of the North Pacific Groundfish Observer Program
- detailed information about the past year's coverage of commercial fishing vessels
- information on dates for observer training and briefing
- the entire Observer Sampling Manual currently in use by observers
- observer qualifications and hiring information
- maps of the US EEZ (where NPGOP observers are deployed)

Future plans include the addition of tables and charts detailing non-proprietary information collected by observers.

This site is linked to most of the governmental web sites associated with the Alaskan groundfish fisheries. These links include web pages for:

- National Marine Fisheries Service
- National Marine Mammal Laboratory
- Marine Mammal Protection Act regulations
- US Fish and Wildlife Service
- Alaska Fisheries Science Center
- Alaska Regional Office
- North Pacific Fishery Management Council
- Observer Service Providers
- Association of Professional Observers
- other observer programs
- other state, federal, and scientific organizations

Visit our web site.

WHO ARE OUR CLIENTS?

NATIONAL MARINE FISHERIES SERVICE

- Regional Offices
- Headquarters
- Alaska Fisheries Science Center

Observers are the Eyes and the Ears

By deploying 359 observers (700 deployments) on 335 vessels and at 23 plants in 2001, we were able to provide an extensive overview of the fishing activities in Alaska. Our staff supplied the Alaska Regional



Sorting fish aboard the American Enterprise.
Photo from Observer Program archives.

Office with timely in-season catch data throughout the year. Timely Pacific salmon catch data provided in-season verification of the incidental salmon take. Weekly feeds of catch data allowed the Alaska Regional Office to monitor the groundfish catches. Provisions of daily catch data enabled timely closures to be made.

Data collected by the NPGOP play a key role in assuring the continued health of the fisheries.

Stock Assessment Research

Research plays an important role in stock assessment and the acceptable biological catch. Limited budgets have restricted the number of research surveys and the personnel needed to perform them. Observers, however, are stationed on board commercial vessels throughout the year, and collect samples at all hours of the day and night. This provides a platform of opportunity for collecting samples needed by those performing stock assessment analysis. Data collected by NPGOP observers constitute an important component in assessing



Measuring Pacific cod at the Sand Point Trident plant. Photo by Brian Gay.

the health of the various fisheries impacted by commercial fishing in the eastern Bering Sea and the northeast Pacific Ocean.

An example of this is in the arena of food habits research. Stomach samples are collected by groundfish observers aboard commercial vessels and during existing stock assessment cruises.

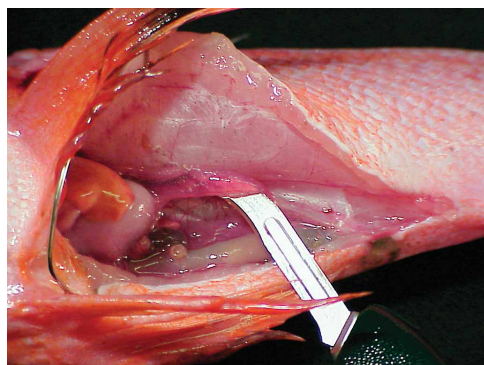
Special sampling collections provide scientists with data not otherwise available.

Since research cruises typically occur only in the summer, observers provide invaluable samples from other times of year, times of day and from areas not surveyed. Data from these samples allow assessments of factors influencing individual species' food habits, including inter-annual changes. Groundfish predation interactions are an important factor in knowing the true nature of resource availability to mammals, birds, and the fishing industry.

Stock Assessment Models

Stock assessment teams employ mathematical models to estimate the number of fish in the population. Length frequency and catch data collected by observers are combined with assumptions about Pacific cod growth, mortality, and the workings of the groundfish fishery to answer the question, "How many fish must have been in the population to produce the observed catch and the observed length frequency?" Once an estimate of the population is made, the Status of Stocks Task can recommend an "Acceptable Biological Catch" — the proportion of the total population which can be safely caught — for the upcoming year.

Status of Stocks personnel rated the importance of observer data in the Pacific cod assessment equal to the data collected during research cruises. Without the catch information and lengths collected by observers, it would not be possible to use this assessment model to



Short spine thornyhead ovaries. Photo by Katherine Pearson.

estimate the Pacific cod population. Other stock assessment models use catch, age, and individual weight data to determine fishery populations. Special observer collections of ovaries and the associated length, weight and otoliths are compared to standard otolith collections to determine whether or not these fish have an opportunity to spawn prior to capture.

Specialized Research

Special projects also allow specialized stock assessment work to be done. Researchers are very concerned about a recent finding of parasitic growths in Atka mackerel. To help in this research, observers collected tissue samples and recorded occurrences of parasitic growths in any Atka mackerel encountered during normal sampling. These collections and records will help researchers determine the extent and ramifications of this recent development.

Economics

Data collected by the NPGOP play a role in ascertaining the economic health of the fisheries as well. The staff of the AFSC's Socio-Economic

Observer data are critical to the Pacific cod stock assessment.

Task utilizes our species catch data in their economic analyses of the commercial fishing operations in the eastern Bering Sea and the northeast Pacific Ocean.

100 Percent Coverage of the Pacific Whiting Fishery

Thirty-six observers were deployed at different times to provide full coverage to the 12 catcher/processor and mothership vessels participating in the 2001 Pacific whiting fishery. These vessels are an important component of the Pacific whiting fishery, and the presence of NPGOP observers supplies the Northwest Regional Office with an estimate of their groundfish catch.

NATIONAL MARINE MAMMAL LABORATORY

The NPGOP collects marine mammal data as well. All observed fishing gear interactions are recorded, detailing the type of interaction and the result. When a death results from the interaction, length and weight measurements, gender identification, teeth (from pinnipeds), and tissue samples (from cetaceans) are collected. Skin samples and sea lion/fur seal snouts are used in genetic studies. A sperm whale/longline interaction study, and the observations of killer whales and the recording of attached instruments, tags, brands, and other markings are used for stock identification, areal distribution, and other aspects of marine mammal life histories.

Killer Whales

Sighting information and photographs are of great value to NMML researchers. In 1998, 75 individual killer whales were identified through information collected by NPGOP observers. Video footage taken by observers while on location have been immensely helpful in understanding the behavior of cetaceans.

75 individual killer whales identified

Sea Lion Decline

Alaska Steller sea lion populations have experienced a sharp decline. Speculation surrounding this decline has resulted in extensive litigation and has elevated this issue to one of utmost concern. Special observer



“Got fish?” Photo from Observer Program archives.

collections of Atka mackerel have been provided to NMML staff for analysis and have increased their knowledge of sea lion feeding habits. Information gleaned from this study may ultimately point to the factors responsible for the decline and may prove useful in improving the health of Alaska Steller sea lion populations.

Marine Mammal Mortality

NMML staff use observer-collected data to calculate marine mammal interaction and mortality estimates associated with the groundfish fisheries.

AUKE BAY LABORATORY

Pacific Salmon Snouts

To provide origin information, staff at Pacific salmon hatcheries along the West Coast and Alaska insert coded wire tags into the snouts of Pacific salmon and mark them by clipping or removing the salmon's adipose fin. When observers encounter these fish, they remove the salmon's snout and preserve it in salt. They fill out a High Seas Salmon Recovery Form, recording vessel, area, and biological information associated with the salmon and its capture. After completion of the cruise, the snout and the form are sent to NMFS' Auke Bay Laboratory to assist in salmon life history studies.

MANAGEMENT COUNCILS

- North Pacific Fishery Management Council (NPFMC)
- Pacific Fishery Management Council (PFMC)

Data collected by NPGOP observers play a vital role in all of the NPFMC's decisions. They are the most complete historical record of catch, location, gear, and effort. NPFMC staff are frequently provided with observer data to assist them in developing recommendations and producing background papers. Industry initiatives are reviewed by using observer data to gauge the expected effects. Time/area/gear closures have been guided by the historical results found in the observer data. Decisions made in the Steller sea lion issue have relied heavily on the catch statistics collected and provided by the NPGOP.

Data collected by NPGOP observers plays a smaller but no less vital role in the PFMC's decision-making process. Observers provide coverage for 100% of the fishing effort expended by catcher/processors and motherships. Their estimates of catch are key to determining the amount of fish caught by these vessels. Much of the critical information on the location and removal of the non-target species comes from observer data.

ALASKA DEPARTMENT OF FISH AND GAME (ADF&G)

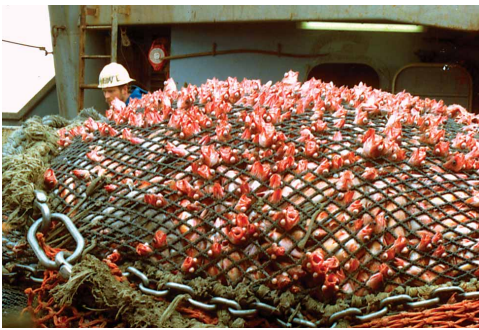
Fishermen often find king crab and groundfish which have been tagged by ADF&G. Observers collect the tags for ADF&G and fill out a tag recovery form. This provides information on date, time, and location of catch, as well as biological information about the specimen.

Decisions made in the Steller sea lion issue relied heavily on NPGOP catch statistics.

Data sharing aids ADF&G scientists.

Data collected by NPGOP observers are available to staff of ADF&G under an agreement of confidentiality. NPGOP staff are frequently consulted on issues of mutual importance, and data sharing is often the result. Observer-collected data on vessel-specific/plant-specific pollock catches in Prince William Sound are used by ADF&G scientists involved in the management and development of commercial fisheries within State of Alaska waters.

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (WDFW)



A codend full of rockfish. Photo from Observer Program archives.

The health of the various rockfish species off the coast of Washington has been an issue of concern for more than two decades. Throughout our entire history of monitoring the foreign, joint venture and domestic fisheries, we have always responded promptly to requests from the WDFW to assist in their efforts to improve the health of these and other species.

INDUSTRY

Data Requests

NPGOP data collections provide crucial information to participants of the commercial groundfish fisheries off Alaska and the western United States. Historical groundfish catch by species and generalized fishing positions are available, and are provided in response to numerous requests each year. Vessel owners/operators often use these data to identify new fishing grounds and new fisheries. Individuals new to the industry have used observer-collected data to determine which species to target and the general location in which to find them. Fishermen seeking loans to build new vessels or perform major modifications to



Full codend aboard the Northern Eagle. Photo from Observer Program archives.

existing vessels have used observer-collected data to convince lending institutions of the potential profitability of their venture. The advent of CDQ and IFQ programs have increased the requests for data as vessel owners and individuals involved in the various fisheries have sought to establish evidence of past fishing involvement.

Improved data availability allows the fishing industry to make timely fishing decisions.

Timely Information

Timeliness is critical for the fishing industry, and the NPGOP has been in the forefront of a move toward data being made available in a more timely manner. We developed a new computerized entry and data transmission system and are now able to selectively provide pertinent fishing information on a next-day basis. Quite a few owners have requested that observer-collected catch and location data from their vessel be provided to a third party for analysis and guidance. This timely feedback has provided the fleet with information which allows them to fish more cleanly, leading to increased fishing time. Fish lengths are available on a weekly basis and can be made available on a daily basis where the situation warrants. This allows the members of industry to make informed fishing decisions in a timely manner.

Quota Programs – a New Way of Doing Business

The fishing industry and the NPGOP continue to be impacted by new legislation and by modifications to the fishery management plans. In 1992, the NPFMC implemented a CDQ program for the purpose of reallocating a portion of the pollock fishery reserves to eligible western Alaska communities. Vessels fishing under the auspices of CDQ were able to fish during open access and during times of closure as well. It allowed some flexibility in operations, but planning was necessary because observers were required aboard all CDQ vessels, regardless of length.

The CDQ program spawned an IFQ program for sablefish and Pacific halibut in 1995 and an expanded CDQ program (including multiple species of groundfish and crab) in 1998. These programs reduce pulse fishing by allowing fishing operations to occur throughout the year, but spread the need for observers throughout the year as well.

In 1998, Congress passed the American Fisheries Act (AFA), which made additional changes to the pollock fishery in the Bering Sea



F.V. Starbound. Photo from Observer Program archives.

and Aleutian Islands. These changes included reallocation of fish among industry segments and increased observer coverage levels on some components of the fleet. It required NPGOP involvement in several aspects of the AFA related to shore-side delivery and processing of pollock.

New Programs - New Responsibilities

Implementation of the new fishing programs has meant ever increasing responsibilities and a changing role for the NPGOP and for the observers. In the open access fishery, observer data are only one of the components used to determine the catch of groundfish and the management of open



Richard Jones at his sampling station.

access fishing is done on a fleet-wide basis. In contrast, MSCDQ and AFA catch accounting for offshore processors is based solely on the data collected by observers. Every haul or set must be sampled by a NMFS-certified CDQ observer. Data collected by the NPGOP are paramount to the success of the MSCDQ and AFA catch accounting.

The success of the MSCDQ and AFA catch accounting hinges on the NPGOP data.

Special programs come with special requirements. Vessels fishing under a CDQ permit must be monitored by observers who have undergone special training to be qualified as a CDQ observer (motherships and catcher/processor vessels require a “lead” CDQ observer as well). In order for observers to be eligible for CDQ training, they must be observers in good standing and must have completed at least 60 days of observer data collection. Lead CDQ observers have additional requirements, including extra sampling onboard the vessel-type they are going to be monitoring. The NPGOP database is an excellent source for determining which observers meet the eligibility requirements for CDQ training, and the various observer service providers request this information on a regular basis.

MSCDQ regulations require that an adequate observer sampling station be established aboard each participating vessel. From the outset, vessels without a certified sampling station were not allowed to fish MSCDQ. Staff from the NPGOP are tasked with the annual certification examination of these sampling stations and so, were soon in high demand. We developed a Vessel Inspection Checklist to help standardize the inspection process. By providing guidance via phone calls and mailers, we were able to instruct each vessel in how to meet the sampling station requirements. We were then able to go aboard the vessels and, with minimal modifications (in most cases), certify that the sampling station requirements had been fulfilled. We worked to ensure that every vessel complied with the regulations in time to participate in the MSCDQ fishery.

NPGOP staff inspect each MSCDQ vessel annually.

NPGOP staff continue to be actively involved in the MSCDQ process. Approximately 55 vessels participate in MSCDQ, and these vessels must be certified by NPGOP staff, annually. Many vessels are certified in Seattle, but having NPGOP staff in Kodiak and Dutch Harbor allows

MSCDQ certification to occur while the vessels are in Alaska. MSCDQ workshops continue to be held and we are active participants.

MSCDQ regulations initiated changes in the data collection procedures. This impacted the training given to observers and to the debriefing process as well. Major revisions were made to the observer training manual. NPGOP staff continue to work with the Alaska Regional Office, the NPFMC staff, and the Observer Service Providers to determine the required levels of coverage and the increase in the number of briefings needed to ensure these levels of coverage can be met.

Enactment of the MSCDQ and the AFA has resulted in significant changes in the expectations placed on observers, their data, and the NPGOP in general, and has required considerable effort from our staff. We have had to develop special selection criteria and training requirements for observers. We developed new sampling strategies and instigated new regulations to enhance the observer's working environment. The legislation has necessitated changes to the data collection procedures and our data management software systems have been completely redesigned. We have worked to enable the success of these programs, while simultaneously trying to strengthen our relationship with the constituents we serve.

Enactment of the MSCDQ and the AFA has placed high expectations on NPGOP observers.

INTERNATIONAL PACIFIC HALIBUT COMMISSION

The NPGOP has a long history of working with the IPHC. Since our beginnings in 1973, observers have collected length data on Pacific halibut. On an annual basis, we have provided the IPHC with a database containing all groundfish catch locations, the number of Pacific halibut found therein, and the associated length data. In 1991, observers started collecting information regarding the viability of Pacific halibut incidentally caught by the groundfish fishery and subsequently returned to the sea. In 1999 and 2000, observers collected Pacific halibut otoliths to assist the IPHC in an age determination study.

Observers collect data regarding Pacific halibut by-catch and viability.

US FISH AND WILDLIFE SERVICE

Monitoring for Seabirds

The incidental capture of seabirds in commercial longline fishing has become a worldwide conservation issue. Millions of birds, including more than 80 species, occur over the waters of the EEZ in Alaska. The presence of "free" food in the form of offal and bait entice many of these birds to come into contact with fishing gear while feeding. Occasionally, they are accidentally hooked and drown.



Concentration of seabirds. Photo from Observer Program archives.

In 1990, observers began recording the number and weight of birds found in their sample as unidentified birds. In 1993, the NPGOP entered into a cooperative venture with the USFWS to obtain accurate information on the mortality of birds related to trawl, longline, and pot vessels. Since that time, observers have been instructed

to identify all caught birds to species or species group. Caught birds are also examined for bands or tags. Banded or tagged dead birds are frozen and brought to Seattle, along with pertinent collection information (date and time, position, etc.). Additionally, observers record details regarding bird interactions or sightings of sensitive species in the Seabird Daily Notes section of their logbook. Samples, data, records, and related fishing information are shared with the USFWS.

Observers are a key component in reducing seabird mortality.

Testing Seabird Deterrence Methods



"Follow the leader." Photo from Observer Program archives.

In 1997, the Alaska groundfish longline industry proposed regulations to reduce seabird bycatch. In 1999, researchers from Washington Sea Grant Program launched a 2-year study to test the effectiveness of the seabird deterrent devices being used. This study took place onboard longline catcher vessels fishing IFQ sablefish and Pacific halibut and on catcher/processor longline vessels targeting Pacific cod. Several NPGOP staff participated, and provided valuable support to this research effort.

Their 2-year research project:

- Test the effectiveness of several different seabird deterrence strategies developed by the fishing industry

Their specific objectives:

- Characterize seabird bycatch and species-specific behavioral interactions associated with longline fishing gear, with and without deterrent devices
- Cooperate with the fishing industry and federal regulatory agencies to develop recommendations for specific seabird bycatch avoidance regulations and performance standards
- Recommend future research

We believe this research will result in improved deterrence designs and will lead to a substantial reduction in the amount of seabird bycatch. Data from the 1999-2000 research project were analyzed and the findings published. Recommendations for changes to the regulations were included in this publication and were presented at the Fall 2001 NPFMC meeting.

UNIVERSITIES

Salmon Tissue Collections



Joseph Gnagey collecting scales from Pacific salmon.

The University of Washington's Fisheries Research Institute (FRI) performs ongoing genetic research on the Pacific salmon stocks which migrate through Alaskan waters. In 1998, observers collected samples of salmon tissue which were provided to FRI biologists working on a Pacific salmon DNA evaluation project.

Database Availability

Our groundfish databases are a treasure trove of information for researchers, and graduate students are no exception. Throughout the years, we have had dozens of requests for information for use in a Master's or Doctorate Thesis, and within the limits of confidentiality, we are always ready to assist. Either working on a project for their thesis, for classroom projects, or for other research projects, when graduate students or professors submit a request for data, we are very timely in responding to their requests.

GENERAL PUBLIC AND ENVIRONMENTAL GROUPS

Requests for access to our databases are not just limited to government agencies, universities or members of the fishing community. Our staff has also responded to requests for information from environmental groups such as GreenPeace and The Sierra Club.

Salmon Report

The health of Pacific salmon stocks on the West Coast and off the coasts of Alaska has generated much interest in recent years. The NPGOP presents an annual report to the North Pacific Anadromous Fish Commission, concerning the incidental catch of Pacific salmon in the groundfish fisheries. Native American tribal communities periodically request additional details relating to incidentally caught salmon.

Our groundfish databases provide a wealth of information.

Environmental groups receive voluminous amounts of information.

Marine Debris

Marine debris and loss of fishing gear have become issues of environmental concern. We have produced maps and reports showing the location of fishing gear losses and where marine debris interactions and sightings have occurred. Observer-collected data have been presented in Pacific Rim marine debris conferences. A map of lost fishing gear locations was well received at a Fish Expo Seminar in November 1999.

OUR ACCOMPLISHMENTS

The NPGOP is an active participant in ensuring the continued health and success of the commercial groundfish fisheries in the waters off the west coast of the United States and in the waters off Alaska. Our accomplishments are numerous and we are proud of them all. The following highlight just a few of our successes, but ones in which we take special pride.

AT-SEA COMMUNICATIONS

From the inception of the Magnuson Fisheries Conservation Management Act in March 1977, observers have been sending fisheries data from sea. These transmissions have progressed from coded bimonthly US Coast Guard Telex transmissions containing minimal amounts of summarized data, to weekly faxes, to rudimentary keyboard entry at sea associated with weekly (and sometimes daily) Standard A satellite transmissions. In 1997, we introduced an At-Sea application which allows computerized data entry and satellite or phone line transmission of all regularly collected observer data and 2-way written communication similar to e-mail. By 2001, the At-Sea application was in use on 6 catcher vessels, all 3 motherships, 79 catcher/processors (out of 87), and at 18 plants (out of 23). All data are typically sent on a weekly basis, but the data can be sent daily when the situation warrants. Out of the 36,577 sea days accumulated by observers in 2001, 26,667 days (73%) were spent onboard vessels or at plants where the At-Sea application was in use. This allowed a more timely transmission of the data and allowed length, age, and mammal data to be transmitted as well as detailed species composition and haul data. Computerized checks ensured that the data being used for management purposes were truly the best data available.

73% of observer sea-days were spent on vessels/plants having the At-Sea computer application.

MSCDQ PROGRAM IMPLEMENTATION

Expanding the CDQ program to include all allocated species required a great deal of work by all parties involved. Collectively working with the Alaska Regional Office, the NPFMC, the Observer Service Providers, the fishing industry, and the observers resulted in a smooth transition to MSCDQ. By working together, we were able to ensure that every vessel had a qualified observer and complied with the regulations in time to participate in the MSCDQ fishery. MSCDQ continues to require large segments of our staff's time as we handle the need for increased training classes and briefings and perform annual inspections on the 55 vessels associated with the MSCDQ program.

Our efforts insured that every vessel complied with the regulations in time to participate in the MSCDQ fishery.

NPGOP WEB SITE

The NPGOP web site provides up-to-date access to our program. It contains general information about our program and explains the steps involved in becoming an observer. The web site provides an important avenue of communication, enabling us to quickly disseminate data about training classes, briefings, and upcoming events. As this site expands to include a posting of timely observer-collected non-proprietary data, this site will increase in value to the fishing industry and to our many other clients.

COMMUNICATION SKILLS TRAINING FOR DEBRIEFERS AND IN-SEASON ADVISORS

The debriefing process is critical in determining the validity of the collected data. Debriefers must be able to draw the appropriate information out of the observer in order to make this determination. The same is true for those performing In-Season Advising. These staff members are in communication with observers while they are at sea, answering questions and providing pertinent information. In 1999, each debriefer and in-season advisor underwent training to understand their own communication style and hone their communication skills. These new skills have improved the communication process, leading to improved data quality.

OBSERVER PROGRAM “CADRE”

New to the Alaskan fishing community, the Observer Program “cadre” is an inherently flexible unit of NMFS employees with skills in a variety of areas, who can be deployed as needed to ports throughout Alaska. This increases the Observer Program’s presence in the field and allows for more “front line” communication between NMFS, observers and the fishing industry.

The “cadre” - a flexible team that can be deployed as needed to ports throughout Alaska.



Aerial view of Akutan. Photo from Observer Program archives.

The cadre’s personal and professional flexibility allows them to be used for field station support, assisting in the training and briefing of observers, mid-cruise debriefing, debriefing, and traveling to remote locations to provide observer support and industry outreach.

The quality of service to our clients has increased dramatically since the cadre was formed. Their presence has led to a significant increase in the number of debriefings held in Alaska, lessening

travel costs to the Observer Service Providers and decreasing the debriefing burden on Seattle staff. Cadre have also visited Akutan and Seward to provide observer support and industry outreach.

Observers have realized many benefits as well. The cadre visit many observer briefings and every Anchorage three-week training class. These visits provide an opportunity to share their knowledge of observer duties, assist with homework assignments, and alleviate the anxiety observers often feel during mid-cruise and final debriefing. Having the opportunity to meet the cadre in training makes observers more willing to seek out a NMFS staff member when they encounter problems or have questions during their deployment.

The cadre have visited vessels in Kodiak and Dutch Harbor to discuss potential improvements to the observer's sampling area. The project, 'Totes on Boats,' has received positive responses from most vessels visited. From these visits, the cadre have made recommendations concerning methods of obtaining observer estimates, sampling species composition, and collecting biological samples.

Observer Program Staff

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