

STATE OF ALASKA  
MANDATORY SHELLFISH ONBOARD OBSERVER PROGRAM  
REPORT TO THE ALASKA BOARD OF FISHERIES

By

Larry Boyle,  
George Pappas  
and  
Ted Spencer

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Alaska Department of Fish and Game  
Commercial Fisheries Management and Development Division  
P.O. Box 920587  
Dutch Harbor, AK 99692  
(907) 581-1239

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## INTRODUCTION

In April 1988 the Alaska Board of Fisheries (BOF) adopted regulations requiring onboard observers on all vessels which processed king crab and *Chionoecetes bairdi* Tanner crab within Alaskan waters. The observer requirement was prompted by Alaska Department of Fish and Game (ADF&G) reports which suggested that illegal processing of undersized and female crabs by at-sea processors was occurring. The reports showed consistently higher production rates by catcher-processors compared to catcher-only vessels. These regulations resulted in creation of the Mandatory Shellfish Onboard Observer Program (Observer Program), which first deployed observers in the September 1988 Bristol Bay red king fishery. Primary goals of the program were to determine the legality of retained crabs, collect catch composition data from sampled crab pots, and collect shell size, age, and condition information from the delivered product.

In the spring of 1990 the BOF made regulations which broadened mandatory observer coverage to include vessels processing *Chionoecetes opilio* Tanner crab. This change was made due to reports of undersized *C. bairdi* Tanner crabs being processed as *C. opilio* Tanner crab. The BOF also defined observer qualifications standards, observer and contractor conflict of interest guidelines, and observer duties and responsibilities. In the fall of 1991 the BOF adopted new regulations concerning observer certification and decertification.

During the spring 1993 BOF meeting, the scallop fishery was designated a high-impact emerging fishery for which the board developed a fishery management plan. One adopted regulation mandated ADF&G institute an observer program for the scallop fishery. The primary goals of the Scallop Observer Program are assessing scallop population dynamics and documenting the impact on other fisheries through analysis of data from scallop dredge samples. The scallop observer program was implemented on June 27, 1993.

Additional changes were adopted to the program from 1993 to 1995. In 1993, the requirement of carrying shellfish observers as a condition of the permit for all vessels fishing for Korean hair crab in the Bering Sea was enacted. Regulations enacted in 1994 required shellfish observers as a condition of the fishing permit for all registration areas for vessels targeting *Chionoecetes tanneri*, *Chionoecetes angulatus*, *Lithodes couesi*, or *Paralomis* spp. Regulations requiring shellfish observers on all vessels fishing for king crabs in the Aleutian Islands registration area were enacted in 1995.

Although Observer Program regulations apply statewide, activities have focused on the Bering Sea and Aleutian Islands crab fisheries, where all at-sea processing of king and Tanner crabs occurs. The policy of ADF&G is that all observer activities for a fishery be handled by the management office responsible for that fishery. Consequently, a vast majority of the crab observer activity has been handled by the Observer Program staff in Dutch Harbor. Scallop observer activity has been more dispersed. The Dutch Harbor office conducted scallop briefings and debriefings of observers deploying to the Bering Sea, Dutch Harbor, Kodiak, and South Peninsula scallop registration areas. Area ADF&G offices in Kodiak, Cordova, and Yakutat also briefed and debriefed observers for various scallop fisheries managed from those offices.

## **SHELLFISH OBSERVER PROGRAM GUIDELINES**

Shellfish Observer Program guidelines were originally defined by the BOF in 1988 and have been refined over time. Guidelines defining the responsibilities of each group (ADF&G, contractors, observers, and vessels) involved in the Observer Program are in regulation.

**ADF&G:** The Alaska Department of Fish and Game is responsible for establishing observer qualifications, conflict of interest standards, and sampling procedures. The department also establishes contractor conflict of interest standards as well as certification and decertification of contracting agents. The department is further charged with review and approval of observer training programs, observer testing, certification, decertification, briefing, debriefings, analysis of observer data, and progress reports. ADF&G is responsible for providing all appropriate forms and supplies to observers for sampling.

**Contractors:** Contractors are required to hire, train, and deploy observers. Contractors also provide all observer logistical support including food, accommodations, sampling equipment, and transportation. Contractors secure contracts directly with vessel owners/operators.

**Observers:** Observer qualifications include a minimum of a Bachelor of Science degree in the Natural Sciences; or a valid National Marine Fisheries Service observer certification; or previous employment history demonstrating the ability, once trained, to perform the duties of a shellfish observer.

Contractors have conducted training of their observers in the past. However, most shellfish observer training since 1991 has been conducted by the staff of the North Pacific Observer Training Center (OTC) in Anchorage. All shellfish observers since 1993 have been trained by the OTC.

Observer candidates are required to undergo ADF&G approved training and pass a written exam. They must also pass a practical training exam administered by Observer Program staff in Dutch Harbor. Observers are required to adhere to a detailed set of standards outlined in regulation to ensure the Observer Program deploys only professional biologists. Observers may not have a financial interest in the fishery or vessel to which they are assigned. Observers are limited to no more than 90 days of duty on a specific vessel during any 12 month period. Trainee Observers have 180 days to gain their certification. Certified observers who are inactive for 12 consecutive months lose their certification. To regain certification they must be retrained and re-tested.

**Vessels:** Regulations require the cost of observers to be borne by the shellfish industry. Vessel owner/operators are required to procure and pay for observers through a qualified contractor and provide food and accommodations equal to that of the vessel's crew.

The vessel must also provide the observer a safe work area, necessary gear, and the opportunity to adequately sample the catch according to ADF&G requirements. Fishing effort and harvest data is provided daily to the observer. Access to communication equipment must also be provided by the vessel.

## **OBSERVER DUTIES**

**Catcher-processor vessels:** Observers assigned to catcher-processors (C/P) are required to conduct various sampling duties. Observers have daily biological sampling duties which include sampling 100 retained crabs for size and shell age and weighing an assigned number of crabs to determine average weight. Observers obtain daily catch records and report production to ADF&G. Additionally, observers sample a specified number of pots to: identify pot location, depth, soak time, pot contents, and document the incidence of bycatch species. New sampling duties include examining a sample of non-retained crabs for fishing related injuries, and also recording the elapsed time that non-retained crabs are on the vessel before being returned to the sea. To monitor compliance of size and sex regulations, observers randomly sample 600 retained crabs throughout the day to determine legal status.

**Floating processor vessels:** Observers assigned to floating processors (F/P) sample the harvest of catcher vessels delivering to that floating processor. Observers conduct confidential interviews with vessel operators to determine fishing effort and location. They conduct random legal tally sampling of 600 crabs and sample 100 crabs for size and shell age from each delivery. Observers also determine average crab weight by counting the number of crabs in three brails of known weight.

**Catcher-only vessels:** The duties of an observer assigned to a catcher-only vessel (F/V) are similar to those on a catcher-processor. Observers sample a specified number of pots on a daily basis to identify pot contents and document the incidence of bycatch species. They also record fishing locations and monitor fishing activities. Daily catch records, fishing efforts, and sampling rates are reported to ADF&G. At each delivery, observers sample 100 crabs per retained species for size and shell age. Observers obtain average crab weight by counting the number of crab in three brails of known weight. To monitor compliance with crabs size and sex regulation, observers randomly sample 600 crabs during delivery.

In addition to these normal duties, observers aboard all three vessel types are assigned numerous special projects ranging from specimen and morphometric data collection to documenting observations of endangered bird species.

If a potential violation is encountered, observers are instructed in the proper documentation, evidence collection, and handling procedures. They will later be interviewed by the Alaska Department of Public Safety, Fish and Wildlife Protection Division, and a written statement may be required. Observers are also required to testify in court when necessary.

## **FISHERIES REVIEW**

Tracking of observer deployments and vessel assignments for all shellfish fisheries in this report are by calendar year. An observer deployment is determined by the total number of days from their briefing until their debriefing. Observer-days are converted to observer-months. One observer-month is the equivalent to 30 observer-days.

**Vessel effort and Observer Coverage:** Observer activity increased during the first three years of the program (Table 1 and Figure 1) then experienced a dramatic increase in activity in 1991. This is the result of BOF decision requiring observer coverage of the Bering Sea *C. opilio* Tanner crab fishery. An increase in the number of at-sea processing vessels also contributed to the increased demand for observers. During the 1993 season, the expanding trend reversed as quotas in the Bering Sea Tanner crab fisheries declined and seasons shortened. Furthermore, fewer catcher-processors participated in the king crab fisheries in the Adak and Dutch Harbor registration areas.

The number of at-sea processors participating in the Bering Sea and Aleutian Islands crab fisheries continued to decline from 51 vessels (32 catcher-processors and 19 floating processors) in 1992 to 24 vessels (13 catcher-processors and 11 floating processors) in 1998. Many catcher-processors have left U.S. fisheries, being sold to Russian companies and now fish in their waters. The decrease in observer catcher-processor activity was partially offset by additional observer coverage requirements enacted by the BOF. Beginning in 1993, all vessels fishing for Bering Sea Korean hair crab and vessels fishing for scallops were required to carry an observer as a condition of their fishing permit. During 1994, all vessels fishing for *C. tanneri*, *C. angulatus*, *L. couesi*, and *Paralomis* spp. were required to carry an observer as a condition of their fishing permit. In 1995 regulations requiring observers on all vessels fishing for king crabs in the Dutch Harbor and Adak registration areas were also enacted. The trend of increasing observer activity since 1994 can be attributed to the requirement of observers on all vessels fishing for king crabs in the Aleutian Islands area fisheries. By BOF action, the former Dutch Harbor and Adak king crab registration areas were combined to form a single Aleutian Islands king crab registration area in September, 1996.

Decline of observer activity in specific fisheries can also be attributed to the reduction of fisheries quotas, closure of fisheries, and the falling prices paid to the fishermen for their harvest. In 1996, ADF&G established quotas for the *C. tanneri* fisheries by registration area which previously did not possess total harvest limits. With the introduction of the reduced *C. tanneri* quotas, no vessels targeted *C. tanneri* in 1997 or 1998. Due to the depressed nature of stocks, the Bering Sea *C. bairdi* commercial fishery was not opened in 1997 and 1998. The quotas for the Bering Sea Korean hair crab fishery have continued to decline resulting in shorter fishing seasons. The falling prices paid to fishermen for harvested shellfish have made many fisheries economically unfeasible to vessels required to bear the costs of carrying an observer. A further decline or absence of observer activity in several fisheries can be expected if the quotas and ex-vessel value of harvested shellfish continue to decline.

Though observer coverage in several fisheries declined during 1998, the observer program saw an overall increase in activity due to the introduction of the Community Development Quota (CDQ) fisheries program. Beginning in 1998, the CDQ fisheries were incorporated into the State managed Bering Sea Aleutian Islands shellfish fisheries. The Magnuson-Stevens Act provided for the development and implementation of a CDQ program for the crab fisheries which take place in the Bering Sea and Aleutian Islands waters. Fisheries covered by the CDQ program are Bristol Bay red king crab, Norton Sound red king crab, St. Matthew blue king crab, Pribilof red and blue king crab, and the Bering Sea *C. bairdi* and *C. opilio* Tanner crab fisheries. During the 1998 crab CDQ fisheries, 100% observer coverage was required aboard vessels which targeted red king crab, blue king crab, and *C. opilio* Tanner crab. The CDQ fisheries quotas are established as a percentage of the total open access fisheries and take place during or following

the open access fisheries. Historic summaries of 1988-1998 vessel and observer activity, by fishery, are presented in Tables 2 through 12.

### **1998 OBSERVER DEPLOYMENT ACTIVITY BY FISHERY**

Observers made 186 trips and logged 203.1 months at sea in 1998 (Tables 1 and 12).

**1998 Aleutian Islands King Crab:** The Aleutian Islands brown king crab fishery begins September 1 each year and continues through August 31 of the following calendar year, unless the fishery is closed by emergency order. The observer deployments in this report are for the calendar year 1998, a period encompassing parts of two fishery seasons which took place in 1998. During 1998, the portion of the Aleutian Islands registration area west of 174° West longitude did not close, while the eastern portion opened September 1, and was closed by emergency order on November 7, 1998. Observers were deployed on 2 catcher-processors, 1 floating processor, and 14 catcher-only vessels, which totaled 63.8 months of observer deployment.

**1998 Bering Sea *C. opilio* Tanner Crab:** This fishery opened on January 15, with a quota of 225.9 million pounds. It closed March 20, 1998, with a harvest of 243.3 million pounds. Observers were deployed on 12 catcher-processors and 11 floating processors, accounting for 56.4 months of observer time.

The 1998 Bering Sea CDQ *C. opilio* fishery was open during the open access fishery but the 20 vessels affected did not begin fishing until after the closure of the open access fishery. Those observers deployed on the 20 fishing vessels accounted for 33.1 months of observer deployments. A total of 8.8 million pounds was harvested during this fishery.

**1998 St. Matthew Blue King Crab:** This fishery opened on September 15, with a quota of 3.96 million pounds. The fishery was closed by emergency order on September 26, with a harvest of 2.97 million pounds. Observers were deployed on two catcher-processors, three floating processors, and one fishing vessel who paid to carry an observer during the fishery to expedite participation in the St. Matthew blue king crab CDQ fishery following the closure of the open access fishery. One floating processor accepted deliveries from both the St. Matthew and the Pribilof fisheries. Observer deployments for this fishery totaled 4.0 months.

The 1998 St. Matthew blue king crab CDQ fishery was open during the open access fishery but vessels did not commence fishing until after the open access fishery closed. Observers were deployed on two fishing vessels accounting for 1.2 months of observer deployments. The fishery closed on September 17, with a harvest of 98,918 pounds.

**1998 Pribilof Red and Blue King Crabs:** The fishery opened on September 15, with a combined quota of 1.25 million pounds. The fishery closed by emergency order on September 28, with a combined harvest of 1.03 million pounds. No catcher-processor vessels have participated in this fishery since 1995 and therefore no observers were deployed.

The 1998 Pribilof red and blue king crab CDQ fishery was open during the open access fishery but vessels did not commence fishing until after the open access fishery closed. One observer was deployed on one fishing vessel accounting for 0.6 months of observer deployments. The fishery closed on November 11, and a total of 35,703 pounds of combined red and blue king crabs was harvested during this fishery.

**1998 Bering Sea Korean Hair Crab:** The fishery opened on November 1, with a quota of 400,000 pounds. The fishery closed by emergency order on November 23, with a harvest of 300,000 pounds. Observers were deployed on 12 catcher-only vessels, logging 6.8 months at sea.

**1998 Bristol Bay Red King Crab:** The fishery opened November 1, with a quota of 15.8 million pounds. The fishery was closed by emergency order on November 6, with a harvest of 14.2 million pounds. Observers were deployed on 11 catcher-processors and 3 floating processors, spending a total of 8.1 months at sea.

The 1998 Bristol Bay CDQ red king crab fishery was open during the open access fishery but vessels did not commence fishing until after the open access fishery closed. Observers were deployed on seven fishing vessels accounting for 2.8 months of observer deployments. The fishery closed on November 21, and a total of 524,336 pounds was harvested during this fishery.

**Weathervane Scallop Fishery:** The 1998 weathervane scallop fisheries opened in federal and state waters on July 1. Efforts remained low in all registration areas in 1998 because the majority of the permitted scallop vessels had returned to the East Coast of the United States in 1996. Statewide, observers were deployed on eight unique scallop vessels (S/V) completing 41 trips in six different scallop areas. These deployments totaled 26.3 months at sea (Table 12 and 14). Table 13 is a summary of observer activity in the scallop fisheries from 1993-1998. Fishery harvest information for scallop areas not managed by the Dutch Harbor ADF&G office is available from the ADF&G offices responsible for managing their respective areas.

**1998 Alaskan Peninsula Scallops:** Observers were deployed on five scallop vessels during this calendar year, with the total deployed time of 3.2 months. One trip occurred in January and February of 1998, as part of the 1997 Peninsula Scallop season. Three observers were briefed in Dutch Harbor for this fishery.

**1998 Bering Sea Scallops:** The Bering Sea scallop season began on July 1, however no vessels entered the fishery until mid-July. Observers were deployed on four scallop vessels during this fishery, totaling six trips and spending 3.3 months at sea. The season was closed by emergency order on September 4 due to the *C. opilio* bycatch level being reached. A total of 93,398 pounds of meat was harvested. There were four briefings conducted in Dutch Harbor for this fishery.

**1998 Dutch Harbor Scallops:** The Dutch Harbor scallop season also began on July 1, but no vessels participated in the fishery until September. The fishery remained open until February 15, 1999, but no vessels fished after November. Four scallop vessels with observers were deployed in this fishery for a total of six trips, a deployed time of 2.6 months, and a total of 44,214 pounds of meat was harvested. Four observers were briefed in Dutch Harbor for this fishery.

**1998 Kodiak Scallops:** Observers were deployed on eight scallop vessels during this fishery, for a total of 12 trips and spending 9.1 months at sea. One observer was briefed in Dutch Harbor for this fishery.

**1998 Prince William Sound Scallops:** Observers were deployed on two scallop vessels with a total deployed time of 0.7 months in the PWS fishery.

**1998 Yakutat Scallops/District 16:** Observers were deployed on eight scallop vessels during the July fishery, for a total of 10 trips and spending 7.4 months at sea. District 16 has a separate guideline harvest level from that of the rest of the Yakutat registration area, but is included in this registration area.

**1998 Miscellaneous Fisheries:** Miscellaneous fisheries have historically included small emerging fisheries where an observer is required as a condition of the fishing permit for vessels to participate. Many of these permit fisheries have targeted previously unexploited shellfish stocks when little or no data is available for proper management. Some of the miscellaneous fisheries occur in sensitive habitat utilized by juvenile stages of commercially important species. Management of these fisheries rely upon collected observer data to determine the impacts of fishing activities conducted in these nursery areas. Miscellaneous fisheries requiring observer coverage did not take place in 1998.

**Observer Briefing and Debriefing Activity:** During the 1998 fishing year, Observer Program staff in Dutch Harbor conducted 156 shellfish observer briefings and 226 debriefings, which included mid-trip debriefings (Table 15). Figure 2 depicts briefings, mid-trip debriefings, and final debriefings by month.

During the first four years of the Observer Program, briefing and debriefing activity was high during the fall, winter, and spring months corresponding to the commercial crab fishing seasons in the Bering Sea and Aleutian Islands areas. Observer activity in 1994-96 increased substantially during the summer months due to Dutch Harbor/Adak/Aleutian Island area king crab fisheries, the deep water Tanner crab fisheries, and the scallop fisheries prior to 1996. The 1997 activity was lower, primarily because no vessels fished the deep water Tanner crabs. Observer program activity increased in 1998 due the addition of the observer coverage requirements for the CDQ fisheries. The numbers of briefings and debriefing sessions for the years 1991-1998 are presented in Tables 1 and 15 and illustrated in Figure 1.

**Observer Exams, Certification, and Decertification:** Twenty-six certification exams have been held since inception of the Observer Program, attended by 466 candidates, of which 406 passed (87%). The North Pacific Fisheries Observer Training Center (OTC) in Anchorage has conducted 17 of these training courses since 1991, accounting for 218 students. Through the end of 1998 there were 64 observers remaining in the Observer Program.

Two shellfish observer training classes were held at the OTC in 1998, one in March and the other in October. A total of 20 individuals attended training and 20 passed the written exam. A training practicum exam was held in Dutch Harbor following each training class. A total of 20 candidates participated and passed the practicum exams. All 20 candidates were issued shellfish observer trainee permits. Seven observers subsequently received full certification by the end of 1998; two were never deployed by their contractor and their trainee permits expired; and four

observers were not certified during the trainee period. The remaining seven observers remain in trainee status at this time. Certification data by year since inception of the Observer Program is presented in Table 16.

Thirty-one crab observers were decertified in 1998 for 12 months of inactivity or for the expiration of their 180 day trainee permit. During 1998, no certified observers were demoted to trainee status for sub-standard performance or decertified for non-compliance with Shellfish Observer Program standards.

The OTC also conducted one scallop observer training session in 1998. Nine candidates attended the June training class and were issued trainee permits. Four observers subsequently received full certification by the end of 1998, one was not deployed by his contractor and his trainee permit expired, and four observer trainees were not certified during the training period. Certification data by year since inception of the scallop Observer Program is presented in Table 17.

**Evidence Collection:** Evidence pertaining to potential illegal activities was collected by observers on 28 percent of the observer trips conducted during the 1998 fisheries. The percentage of trips where evidence was collected was the highest rate since the inception of the observer program. This increase is the result of evidence collection by observers during 13 (52%) of the 25 observer deployments in the 1998 CDQ *C. opilio* fishery. Eleven of the 20 vessels (55%) deployed during the 1998 CDQ *C. opilio* fishery had not previously carried an observer during groundfish or shellfish fishing activities. These evidence collections accounted for 32 percent of all evidence collected during 1998. Evidence collection by observers for the years 1991-1998 is summarized in Tables 18 and Figures 3 through 6.

For the years 1991-1995, the most evidence was collected in the Bering Sea Tanner crab fisheries. In 1996 and 1997, the brown king crab fisheries in the Aleutian Islands accounted for most of the evidence collected by observers. The percentage of deployments where evidence was collected by observers during the brown king crab fisheries in the Aleutians for 1998 remained high (31%).

The 1998 Bering Sea *C. opilio* fisheries accounted for 59 percent of all evidence collected by deployed observers. During 1998, 62 percent of the incidences requiring evidence collection by observers included the documentation of vessels operating illegally stored fishing gear and the documentation of the retention of sublegal/female/illegal species crabs.

**Data Analysis:** The considerable biological data collected by shellfish observers is summarized annually by the Shellfish Observer Program Database staff. A summary and analysis of these data is available in a separate Regional Information Report. The most recent report is entitled "1997 Shellfish Observer Program Database Summary Report." (RIR No. 4K98-50). The report includes all fisheries with crab observer coverage in 1997.

## **PROBLEMS WITH THE OBSERVER PROGRAM**

Some earlier problems with the Observer Program have been resolved through tightening of regulations and better cooperation between industry, observer contractors, observers, and ADF&G. However, the problems inherent to the current system have not been sufficiently addressed. Vessel fishing companies now directly negotiate with the observer contractors for observer services which creates the serious potential for conflict of interest. The competitive pressure on contractors to procure and maintain contracts with fishing vessel companies creates incentives for vessels to manipulate the system to their advantage. The pressure on the contractors to provide observers who meet the needs of their clients' can influence contractor hiring practices.

The current system can place the observer in a position of potential compromise between ADF&G requirements (which include documenting illegal activities and collecting evidence) and possible pressure from the vessel and contractors to ignore violations. This could increase profits to the vessels and ensure the contractor future contracts with the fishing vessel company. Observer profit sharing incentives with their contractor company could further exacerbate the conflict of interest in the current system.

Prior to observer unionization, competitive pressures had resulted in reduced observer salaries which contributed to the high turnover rate of observers. Low observer morale spanning the years prior to observer unionization was principally caused by decreases in observer pay and deploying new, trainee observers over experienced observers. This low morale may have adversely influenced the quality and integrity of the observer data.

These factors led observers in the state shellfish and federal groundfish observer programs to vote to unionize under the Alaska Fishermen's Union in 1997. Collective bargaining agreements with the five observer contractors were finalized and all observer deployments for 1998 were completed by unionized observers. Also, new regulations enacted by the BOF in 1996 require that 65 percent of a contractor's annual observer deployment days be performed by certified observers. These developments should contribute to improving observer morale and retention of experienced observers.

Observers for the National Marine Fisheries Service (NMFS) groundfish observer program are supplied by the same five independent contractors that provide shellfish observers. NMFS still seeks to eliminate the direct negotiations between the observer contractors and the fishing vessel companies and the inherent conflict of interest in the current system. The intended 'arms length' relationship between the vessels and contractors does not exist and all proposals to create this desired relationship have been repealed or rejected to date.

As a result of public testimony, the BOF directed ADF&G to evaluate alternative ways to administer the shellfish observer program, to reduce observer costs to vessels, and to address issues of observer salaries and benefits. On October 28, 1996 ADF&G presented an outline of a proposal to the BOF. Included in the proposal was a plan to fund observer deployments through the harvest and sale of king and Tanner crabs from the Westward Region crab stocks. The proposal would make shellfish observers state employees and it would give the department flexibility to determine observer coverage levels to satisfy data needs by fishery. Currently, all

vessels participating in shellfish fisheries observer coverage benefit from the data collected by observers. Due to the lack of observer deployments, some of the major shellfish fisheries in the Bering Sea have little or no data to represent the non-retained segments and over all health of the shellfish stocks. Adoption of the ADF&G proposed cost recovery funded observer program would eliminate the current cost inequity, where vessels required to carry an observer must pay for the collected data that benefits the entire fleet. Adoption of the proposed changes to the observer program would eliminate the direct costs to each vessel required to carry an observer. Elimination of the direct costs associated with carrying an observer would also benefit vessels wanting to participate in marginal fisheries where the cost of carrying an observer can be financially prohibitive. The BOF will deliberate on the Department's findings during the spring 1999 meeting.

## SUMMARY

Dutch Harbor was again the focal point of the Observer Program during 1998. All observer deployments in the crab fisheries were managed through the Dutch Harbor office. Shellfish observers in the scallop fisheries occurred in six shellfish registration areas. Most observers deployed in the scallop fisheries were briefed and debriefed by the local ADF&G area office that managed each fishery.

During 1998, two crab observer training classes were held at the OTC in Anchorage. Twenty candidates attended training and all twenty candidates passed the written exam. The successful candidates traveled to Dutch Harbor for further training and evaluation before receiving their shellfish observer trainee permits. Seven of the trainee observers eventually obtained full certification by year's end, two were never deployed by their contractors and their trainee permits expired, and four observer trainees were not certified during the trainee period. The remaining seven trainees are continuing to work towards their certification. Also in 1998, there were 31 observers decertified due to inactivity or trainee permit expiration. A total of 51 observers remained in the crab program at year's end.

Nine scallop observers were also trained in one class at the OTC in 1998. Four of these completed their full certification by the end of 1998. A total of nine observers were in the scallop program at that time.

Observers collected evidence on 28 percent of all shellfish observer trips during the 1998 fishing year. The largest portion of evidence (59 percent) was collected by observers deployed in the Bering Sea open access and CDQ *C. opilio* Tanner crab fisheries.

Problems with the Observer Program continue to center around the original third-party contractor system of vessels obtaining and deploying observers. Recent unionization by observers has improved morale. An alternative to the existing program is being developed by Westward Region staff. The BOF will deliberate these and other shellfish observer program issues in the spring of 1999.

Table 1. Summary of vessels, observer trips, number of deployed observers, number of certified observers at year's end, observer months at sea, number of active contractors, and number of briefings and debriefings in Dutch Harbor from inception (first briefing September 20, 1988) through December 31, 1998.

Year	C/P	Vessels <sup>a</sup>			Observer Trips	Deployed Observers	Certified @ Year's End <sup>b</sup>	Observer Months	Brief <sup>c</sup>	Total Debrief <sup>d</sup>	Active Contractors
		F/P	F/V	S/V							
1988	21	6	0	0	46	28	80	31.4	43	42	6
1989	22	12	0	0	124	53	98	124.0	127	123	7
1990	26	15	0	0	140	61	119	163.5	142	137	7
1991	33	18	0	1	282	105	99	352.2	281	370	6
1992	32	19	2	0	225	100	103	280.3	221	310	7
1993	29	21	14	11	235	80	62	216.8	181	231	7
1994	24	17	19	12	185	74	83	178.8	152	198	7
1995	21	15	50	8	211	91	77	213.0	205	273	5
1996	16	13	38	5	209	82	75	250.5	190	301	5
1997	15	11	30	6	157	71	72	184.4	135	213	5
1998	13	11	44	8	186	62	53	203.1	156	226	5

<sup>a</sup>Unique vessels requiring observer coverage: C/P = Catcher Processor, F/P = Floating Processor, F/V = Fishing Vessel, and S/V = Scallop Vessel.

<sup>b</sup>Total number of observers who possess either a shellfish observer trainee permit or a full shellfish observer certification permit on December 31<sup>st</sup>, of each year.

<sup>c</sup>Includes some briefings for the next fishing year.

<sup>d</sup>Includes mid-trip debriefings.

Table 2. Summary of registered vessels, total observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery for the year <sup>a</sup> 1988.

Fishery	Registered Vessels C/P	Vessels F/P	Observer Trips	Percent of Total Observer Trips	Observer Months	Percent of Total Months
Adak Brown King	13	4	20	43.5	21.3	67.8
Bristol Bay Red King	20	5	25	54.3	9.5	30.3
Dutch Harbor Brown King	1	0	1	2.2	0.6	1.9
Totals	34	9	46	100	31.4	100

<sup>a</sup> September 1st, 1988 through December 31st, 1988.

Table 3. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery, for the year 1989.

Fishery	Registered Vessels		Observer Trips	Percent of Total Observer Trips	Observer Months	Percent of Total Observer Months
	C/P	F/P				
Bering Sea Brown King	2	0	2	1.6	1.5	1.2
Bering Sea Bairdi	5	0	6	4.8	8.4	6.8
South Peninsula Bairdi	0	2	2	1.6	0.7	0.6
Norton Sound Red King	7	0	7	5.6	1.6	1.3
Chukchi Sea Experimental	5	0	5	4.0	2.3	1.9
Dutch Harbor Brown King	4	2	8	6.5	7.7	6.2
St. Matthew Blue King	15	6	21	16.9	8.8	7.1
Bristol Bay Red King	18	12	30	24.2	16.6	13.4
Adak King	17	5	43	34.7	76.4	61.6
Totals	73	27	124	100	124.0	100

Table 4. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery, for the year 1990.

Fishery	Registered Vessels		Observer Trips	Percent of Total Observer Trips	Observer Months	Percent of Total Observer Months
	C/P	F/P				
Bering Sea Bairdi (Season A)	9	9	22	15.7	28.8	17.6
Norton Sound Red King	4	0	4	2.9	0.5	0.3
Dutch Harbor Brown King	6	1	7	5.0	8.4	5.1
St. Matthew Blue King	7	3	10	7.1	4.2	2.6
Adak King	11	2	27	19.3	60.7	37.1
Bristol Bay Red King	20	15	35	25.0	19.6	12.0
Bering Sea Bairdi (Season B)	21	10	35	25.0	41.3	25.3
Totals	78	40	140	100	163.5	100

Table 5. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery, for the year 1991.

Fishery	Registered Vessels		Observer Trips	Percent of Total Observer Trips	Observer Months	Percent of Total Observer Months
	C/P	F/P				
Bering Sea Opilio	26	17	149	52.8	216.8	61.6
Dutch Harbor Brown King	4	0	4	1.4	7.3	2.1
St. Matthew Blue King	9	2	11	3.9	5.3	1.5
Adak King	8	0	21	7.5	29.6	8.4
Bristol Bay Red King	25	14	39	13.8	19.8	5.6
Bering Sea Bairdi	26	12	53	18.8	68.8	19.5
Westward Region Scallops	1	0	5	1.8	4.6	1.3
Totals	99	45	282	100	352.2	100

Table 6. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery, for the year 1992.

Fishery	Registered Vessels			Observer Trips	Percent of Total Observer Trips	Observer Months	Percent of Total Observer Months
	C/P	F/P	F/V				
Bering Sea Opilio	30	16	0	106	47.1	156.3	55.8
Bering Sea Brown King	2	0	0	2	0.9	1.2	0.4
Norton Sound Red King	5	0	0	5	2.2	0.9	0.3
St. Lawrence Blue King	1	0	0	1	0.4	0.2	0.1
Dutch Harbor Brown King	5	0	0	6	2.7	7.2	2.6
St. Matthew Blue King	8	7	0	15	6.7	5.8	2.0
Bering Sea Hair Crab <sup>a</sup>	1	0	2	3	1.3	1.3	0.5
Bering Sea Bairdi	23	9	0	43	19.1	64.0	22.8
Adak King	8	1	0	20	8.9	32.8	11.7
Bristol Bay Red King	17	6	0	24	10.7	10.6	3.8
Totals	100	39	2	225	100	280.3	100

<sup>a</sup> Fishing vessels volunteering to carry Alaska Department of Fish and Game staff personnel.

Table 7. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery, for the year 1993.

Fishery	Registered Vessels			Observer Trips	Percent of Total Observer Trips	Observer Months	Percent of Total Observer Months
	C/P	F/P	F/V <sup>a</sup>				
Western Aleutian Hair Crab	1	0	0	1	0.4	0.9	0.4
Bering Sea Snails	1	0	3	5	2.1	5.5	2.5
Bering Sea Surf Clam	0	0	1	1	0.4	0.7	0.3
Bering Sea Opilio	25	21	0	63	26.9	93.8	43.3
Bristol Bay Hair Crab	0	0	7	7	3.0	3.2	1.5
Norton Sound Red King	0	1	0	1	0.4	2.0	0.9
Pribilof Red King	2	2	0	4	1.7	1.8	0.8
St. Matthew Blue King	3	4	0	7	3.0	3.5	1.6
Adak King	5	0	0	12	5.1	18.8	8.7
Bering Sea Bairdi Crab	18	5	0	23	9.8	15.8	7.3
Bering Sea Hair Crab	0	0	12	14	6.0	20.8	9.6
Bristol Bay Red King	16	7	0	25	10.6	13.8	6.4
Statewide Scallops	0	0	11	72	30.6	36.2	16.7
Totals	71	40	34	235	100	216.8	100

<sup>a</sup> Fishing vessels required to carry onboard Shellfish Observers.

Table 8. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery, for the year 1994.

Fishery	Registered Vessels			Observer Trips	Percent of Total Observer Trips	Observer Months	Percent of Total Observer Months
	C/P	F/P	F/V <sup>a</sup>				
Western Aleutian Tanneri	0	0	1	1	0.5	0.6	0.3
Bering Sea Tanneri	0	0	4	4	2.1	4.9	2.7
Eastern Aleutian Tanneri	0	0	3	9	4.7	6.4	3.6
Kodiak Tanneri	1	0	0	1	0.5	0.7	0.4
Alaskan Peninsula Tanneri	2	0	0	2	1.0	1.4	0.8
Bering Sea Opilio	24	17	0	55	29.0	76.6	43.0
Dutch Harbor Brown King	0	1	0	2	1.0	1.6	0.9
Pribilof Red King	0	4	0	4	2.1	2.2	1.2
St. Matthew Blue King	6	1	0	7	3.7	3.6	2.0
Adak King	3	1	0	11	8.4	15.1	8.4
Bering Sea Bairdi	9	1	0	10	5.3	7.0	3.9
Bering Sea Hair Crab	0	0	10	12	6.3	15.2	8.5
Statewide Scallops	0	0	12	67	35.4	43.4	24.3
Totals	45	25	30	185	100	178.7	100

<sup>a</sup> Fishing vessels required to carry onboard Shellfish Observers.

Table 9. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery, for the year 1995.

Fishery	Registered Vessels			Observer Trips	Percent of Total Observer Trips	Observer Months	Percent of Total Observer Months
	C/P	F/P	F/V <sup>a</sup>				
Western Aleutian Tanneri	0	0	3	4	1.9	4.9	2.3
Bering Sea Octopus	0	0	3	3	1.4	1.0	0.5
Bering Sea Surf Clam	0	0	1	1	0.5	1.0	0.5
Bering Sea Tanneri	0	0	8	16	7.6	19.5	9.2
Eastern Aleutian Angulatus	0	0	1	1	0.5	1.0	0.5
Eastern Aleutian Tanneri	0	1	7	15	7.1	23.2	10.9
Southeast Tanneri	1	0	0	1	0.5	0.2	0.1
Alaskan Peninsula Tanneri	1	0	8	16	7.6	11.3	5.3
Bering Sea Opilio	19	15	0	50	23.7	51.4	24.1
Dutch Harbor Brown King	1	0	16	19	9.0	20.0	9.4
Pribilof Red King	1	0	0	1	0.5	0.4	0.2
St. Matthew Blue King	1	4	1 <sup>b</sup>	6	2.8	3.1	1.5
Adak King	2	2	14	29	13.7	35.4	16.6
Bering Sea Bairdi	11	1	0	12	5.7	8.1	3.8
Bering Sea Hair Crab	0	0	21	22	10.4	21.5	10.0
Statewide Scallops	0	0	8	15	7.1	11.0	5.1
Totals	37	23	91	211	100	213.0	100

<sup>a</sup>Fishing vessels required to carry onboard Shellfish Observers.

<sup>b</sup>Fishing Vessel volunteered to carry onboard Shellfish Observer.

Table 10. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery, for the year 1996.

Fishery	Registered Vessels			Observer Trips	Percent of Total Observer Trips	Observer Months	Percent of Total Observer Months
	C/P	F/P	F/V <sup>a</sup>				
Adak Brown King	1	0	18	46	22.0	73.6	29.4
Eastern Aleutian Angulatus	0	0	1	1	0.5	2.6	1.0
Alaska Peninsula Tanneri	0	0	6	10	4.9	10.5	4.2
Western Aleutian Tanneri	0	0	1	2	1.0	4.3	1.7
Bering Sea Tanneri	0	0	3	3	1.4	5.0	2.0
Eastern Aleutian Tanneri	0	0	3	6	2.9	5.8	2.3
Bering Sea Opilio	15	13	0	49	23.4	54.8	21.9
Aleutian Islands Brown King <sup>b</sup>	1	0	16	34	16.3	49.9	19.9
St. Matthew Blue King <sup>c</sup>	3	3	0	7	3.3	3.8	1.5
Bering Sea Hair Crab	0	0	18	21	10.0	19.6	7.8
Bristol Bay Red King	4	1	0	7	3.3	2.5	1.0
Bering Sea Bairdi	2	1	0	3	1.4	1.1	0.4
West. Aleutian Hair Crab/ Bairdi	0	0	1	1	0.5	0.3	0.1
Statewide Scallops	0	0	5	19	9.1	16.7	6.8
Totals	26	18	72	209	100	250.5	100

<sup>a</sup>Fishing vessels required to carry onboard Shellfish Observers.

<sup>b</sup>Combination of the former Adak and Dutch Harbor registration areas.

<sup>c</sup>Includes Pribilof Red and Blue King Crab Fishery.

Table 11. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery, for the year 1997.

Fishery	Registered Vessels			Observer Trips	Percent of Total Observer Trips	Observer Months	Percent of Total Observer Months
	C/P	F/P	F/V <sup>a</sup>				
Aleutian Islands Brown King	3	0	12	53	33.8	82.2	44.6
Bering Sea Opilio	13	11	0	40	25.5	56.7	30.7
St. Matthew Blue King <sup>b</sup>	1	3	0	4	2.5	2.4	1.3
Bering Sea Hair Crab	0	0	16	16	10.2	11.6	6.3
Bristol Bay Red King	8	3	0	15	9.5	5.0	2.7
Statewide Scallops	0	0	6	24	15.3	21.2	11.5
Miscellaneous <sup>c</sup>	1	0	3	5	3.2	5.3	2.9
Totals	26	17	37	157	100	184.4	100

<sup>a</sup> Fishing vessels required to carry onboard Shellfish Observers.

<sup>b</sup> Includes Pribilof Red and Blue King Crab Fishery.

<sup>c</sup> Includes Bering Sea Snails, Opilio Experimental, and Southeast Urchin.

Table 12. Summary of registered vessels, observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea by fishery, for the year 1998.

Fishery	Registered Vessels			Observer Trips	Percent of Total Observer Trips	Observer Months	Percent of Total Observer Months
	C/P	F/P	F/V <sup>a</sup>				
Aleutian Islands Brown King	3	1	13	35	18.8	63.8	31.4
Bering Sea Opilio	12	11	0	35	18.8	56.4	27.8
Bering Sea Opilio CDQ	0	0	20	25	13.4	33.1	16.3
St. Matthew Blue King	2	3 <sup>b</sup>	1 <sup>c</sup>	6	3.2	4.0	2.0
St. Matthew Blue King CDQ	0	0	2	2	1.1	1.2	0.6
Pribilof Red and Blue King	0	0	0	0	0	0	0
Pribilof King CDQ	0	0	1	1	0.5	0.6	0.3
Bering Sea Hair Crab	0	0	12	12	6.5	6.8	3.3
Bristol Bay Red King	11	3	0	22	11.8	8.1	4.0
Bristol Bay Red King CDQ	0	0	7	7	3.8	2.8	1.4
Statewide Scallops	0	0	8	41	22.1	26.3	12.9
Totals	28	18	64	186	100	203.1	100

<sup>a</sup>Fishing vessels required to carry onboard Shellfish Observers.

<sup>b</sup>Includes one vessel that also participated in Pribilof Red and Blue King fishery.

<sup>c</sup>Fishing vessel not required to carry an onboard Shellfish Observer.

Table 13. Summary of scallop vessel registrations, number of observer trips, and observer months at sea for the Alaskan scallop fisheries during 1993 through 1998.

Scallop Fishery	Vessel Registrations						Observer Trips						Observer Months					
	1993	1994	1995	1996	1997	1998	1993	1994	1995	1996	1997	1998	1993	1994	1995	1996	1997	1998
Adak	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0.3	0	0	0
Bering Sea	9	8	0	1	2	4	12	8	0	1	2	6	9.7	12.6	0	2.6	2.6	3.3
Cook Inlet	0	2	0	0	0	0	0	2	0	0	0	0	0	0.3	0	0	0	0
Dutch Harbor	5	3	1	0	1	4	6	4	3	0	1	6	2.0	0.6	2.0	0	.5	2.6
Kodiak	9	11	0	5	5	8	30	26	0	9	10	12	15.5	18.7	0	7.6	10.0	9.1
Prince Wm. Sound	7	0	2	0	1	2	7	0	2	0	1	2	2.1	0	0.9	0	.4	.7
South Peninsula	7	7	0	2	4	5 <sup>a</sup>	9	12	0	2	6	5	3.5	4.9	0	1.1	2.1	3.2
Southeast	1	0	0	0	0	x	1	0	0	0	0	x	0.3	0	0	0	0	x
Yakutat - January	x	10	8	3	4	x	x	10	9	3	4	x	x	3.6	7.8	1.7	5.6	0
Yakutat - July	7	5	x	3	x	8	7	5	x	3	x	10	3.1	2.7	x	3.7	x	7.4
Totals	45	46	12	14	17	31	72	67	15	19	24	41	36.2	43.4	11.0	16.7	21.2	26.3

<sup>a</sup>Includes one vessel-deployment that fished in January of 1998.

x = Constitutes year in which selected fisheries did not occur.

Table 14. Summary of registered vessels, total observer trips, percentage of total observer trips, observer months at sea, and percentage of total observer months at sea for the Alaskan scallop fisheries during 1998.

Fishery	Registered Vessels	Observer Trips	Percent of Total Observer Trips	Observer Months	Percent of Total Observer Months
Alaskan Peninsula Scallops	5	5	12.2	3.2	12.2
Bering Sea Scallops	4	6	14.6	3.3	12.5
Dutch Harbor Scallops	4	6	14.6	2.6	9.9
Kodiak Scallops	8	12	29.3	9.1	34.6
Prince William Sound Scallops	2	2	4.9	0.7	2.7
Yakutat Scallops	8	10	24.4	7.4	28.1
Totals	31	41	100	26.3	100

Table 15. Number of briefing, debriefing, and midtrip debriefing sessions by month and by year, 1991 through 1998.

Briefings	Month												Totals
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	
1991	44	18	34	31	27	9	5	3	12	38	46	14	281
1992	52	19	11	33	3	5	9	17	5	23	32	12	221
1993	44	7	25	3	1	6	7	6	19	32	30	1	181
1994	42	2	25	6	1	3	14	10	19	22	6	2	152
1995	39	18	9	10	9	5	6	23	17	49	17	3	205
1996	32	10	28	5	7	10	11	21	11	25	27	3	190
1997	28	6	16	4	4	3	2	17	8	19	27	1	135
1998	24	3	33	7	4	1	3	20	16	28	17	0	156
Debriefings	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Totals
1991	29	23	28	28	30	37	18	4	11	3	46	24	281
1992	31	21	11	73	5	5	3	13	17	5	27	15	226
1993	18	9	49	10	1	5	5	8	22	3	26	27	183
1994	7	2	54	13	3	3	8	15	19	1	14	16	155
1995	2	48	6	6	12	6	7	10	13	28	33	26	197
1996	6	10	36	3	13	8	10	18	10	9	30	26	179
1997	5	4	31	4	7	5	0	8	7	11	43	9	135
1998	0	3	30	9	19	7	4	7	12	33	33	2	159

Continued

Table 15. (Page2 of 2)

Mid trip debriefings	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Totals
1991	0	15	32	9	6	3	1	0	1	2	4	16	89
1992	18	20	19	5	0	0	1	1	0	0	3	17	84
1993	9	8	1	2	2	3	2	6	1	0	6	8	48
1994	0	0	2	6	4	1	6	13	0	3	6	2	43
1995	0	4	5	7	10	6	3	3	14	7	15	2	76
1996	4	2	4	20	16	8	18	3	13	19	7	8	122
1997	4	12	7	6	4	2	8	0	12	8	12	3	78
1998	8	11	4	4	12	6	2	1	15	4	0	0	67

Table 16. Mandatory Shellfish Observer Program candidates by exam, number of candidates, number passed, number currently certified at year's end, and number of decertified observers.

Year	Number of Exams	Number of Candidates	Number Passed	Number Currently Certified	Number Certified at Year's End	Number Decertified	
						Inactivity <sup>a</sup>	Other <sup>b</sup>
1988	3	105	84	0	80	68	16
1989	1	54	42	2	98	33	7
1990	3	47	29	1	119	26	2
1991	4	66	61	1	99	55	5
1992	2	41	39	1	103	38	0
1993	2	19	19	0	62	16	3
1994	1	6	6	0	83	5	1
1995	3	53	53	9	77	40	4
1996	3	30	30	11	75	17	2
1997	2	25	23	12	55	11	0
1998	2	20	20	7 <sup>c</sup>	44	6	0
Totals	26	466	406	44	Not Applicable	315	40

<sup>a</sup> Decertified due to 12-month shellfish observer employment inactivity or trainee permit expiration after 180 days.

<sup>b</sup> Decertification for non-compliance with Shellfish Observer Program standards.

<sup>c</sup> At year's end, 7 of the 1998 trainees were still working to obtain certification.

Table 17. Mandatory Scallop Observer Program candidates by exam, number of candidates, number passed, number currently certified at year's end, and number of decertified observers.

Year	Number of Exams	Number of Candidates	Number Passed	Number Currently Certified	Number Certified at Year's End	Number Decertified	
						Inactivity <sup>a</sup>	Other <sup>b</sup>
1991	0	5 <sup>c</sup>	5 <sup>c</sup>	0	5 <sup>c</sup>	4	1
1992	0	0	0	0	0	0	0
1993	3	19	19	0	22 <sup>c</sup>	18	1
1994	4	17	16	0	20 <sup>c</sup>	13	3
1995	0	0	0	0	17	0	0
1996	2	10	10	0	6	10	0
1997	2	10	10	5	8	5	0
1998	1	9	9	4	9	5	0
Totals	12	70	69	9	Not Applicable	55	5

<sup>a</sup> Decertified due to 12-month scallop observer employment inactivity or trainee permit expiration after 180 days.

<sup>b</sup> Decertification for non-compliance with Shellfish Observer Program standards.

<sup>c</sup> Additional people briefed and deployed without attending a class.

Table 18. Number of observer trips and observer trips where evidence was collected, excluding scallop trips.

Fishery	Fishing Season (Year)	Observer Trips	Trips with Evidence	Percent of Observed Trips <sup>a</sup>	Percent of Year's Evidence <sup>b</sup>
Saint Matthew/ Pribilof Red and Blue King Crab	1991	11	0	0	0
	1992	15	1	6.7	2.4
	1993	11	1	9.1	5.6
	1994	11	1	9.1	6.7
	1995	7	1	14.3	4.3
	1996	7	4	57.1	19.0
	1997	4	0	0	0
	1998	6	1	16.7	2.5
Dutch Harbor Brown King	1991	4	1	25.0	2.4
	1992	6	1	16.7	2.4
	1993	0	0	0	0
	1994	2	1	50.0	6.7
	1995	19	0	0	0
Adak Area Red and Brown King	1991	21	3	14.3	7.1
	1992	20	5	25.0	11.9
	1993	12	1	8.3	5.6
	1994	11	2	18.2	13.3
	1995	29	5	17.2	21.7
	1996	46	3	6.5	14.3
<i>1996 Brown King fishery only</i> Aleutian Island Brown King <sup>c</sup>	1996	34	6	5.9	28.6
	1997	53	13	24.5	54.2
	1998	35	11	31.4	26.8
Bristol Bay Red King	1991	39	8	20.5	19.0
	1992	24	8	33.3	19.0
	1993	25	3	12.0	16.7
	1994/95	<i>No Fishery</i>	**	**	**
	1996	7	0	0	0
	1997	15	3	20.0	12.5
	1998	22	3	13.6	7.3

-Continued-

Table 18. (page 2 of 3)

Fishery	Fishing Season (Year)	Observer Trips	Trips with Evidence	Percent of Observed Trips <sup>a</sup>	Percent of Year's Evidence <sup>b</sup>
Bering Sea <i>C. opilio</i>	1991	149	18	12.1	42.9
	1992	106	19	17.9	45.2
	1993	63	8	12.7	44.4
	1994	55	8	14.5	53.3
	1995	50	14	28.0	60.9
	1996	49	3	6.1	14.3
	1997	40	4	10.0	16.7
	1998	35	11	31.4	26.8
Bering Sea <i>C. bairdi</i>	1991	53	12	22.6	28.6
	1992	43	8	18.6	19.0
	1993	23	5	21.7	27.8
	1994	10	2	20.0	13.3
	1995	12	2	16.7	8.7
	1996	3	0	0	0
	1997/98	<i>No Fishery</i>	**	**	**
Bering Sea Hair Crab	1992	3	0	0	0
	1993	14	0	0	0
	1994	12	0	0	0
	1995	22	0	0	0
	1996	21	3	14.3	14.3
	1997	16	4	25.0	16.7
	1998	12	2	16.7	4.9
<i>C. tanneri</i> All Areas <sup>d</sup>	1994	17	1	5.9	6.7
	1995	52	1	1.9	4.3
	1996	21	2	9.5	9.5
	1997	0	0	0	0
	1998	0	0	0	0

-Continued-

Table 18. (Page 3 of 3)

Fishery	Fishing Season (Year)	Observer Trips	Trips with Evidence	Percent of Observed Trips <sup>a</sup>	Percent of Year's Evidence <sup>b</sup>
Miscellaneous Fisheries <sup>e</sup>	1992	8	0	0	0
	1993	15	0	0	0
	1994	0	0	0	0
	1995	5	0	0	0
	1996	2	0	0	0
	1997	5	0	0	0
	1998	0	0	0	0
Community Development Quota Fisheries <sup>f</sup>	1998	35	13	37.1	31.7
Summary	1991	277	42		15.2
	1992	225	42		18.7
	1993	163	18		11.0
	1994	118	15		12.7
	1995	196	23		11.7
	1996	190	21		11.0
	1997	133	24		18.0
	1998	145	41		28.3

<sup>a</sup> Percentage of trips evidence collected by fishery.

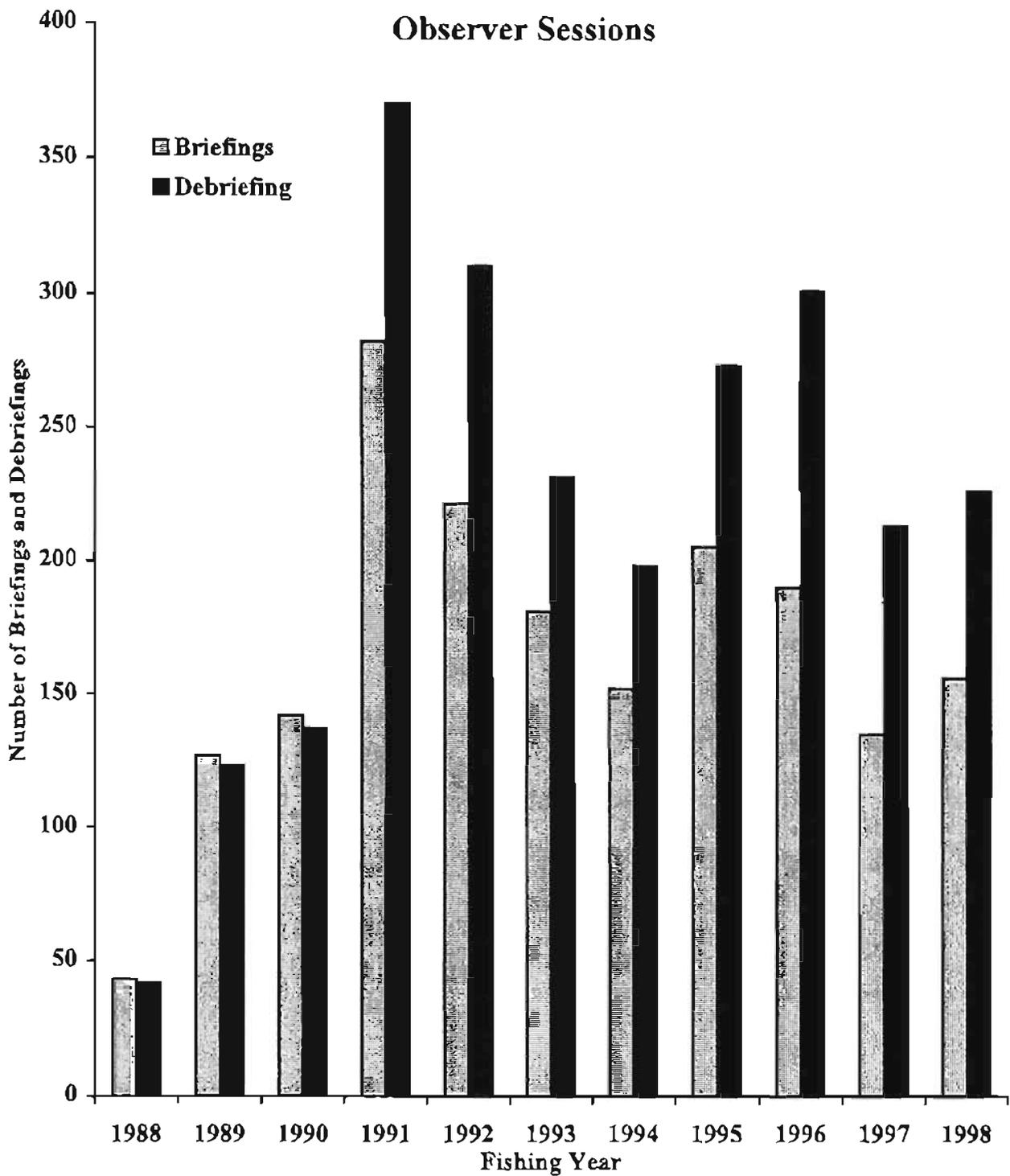
<sup>b</sup> Percentage of total evidence collected for the fishing year January 1 through December 31.

<sup>c</sup> In 1996 the Adak and Dutch Harbor king crab registration areas were consolidated into the Aleutian area 'O' king crab registration area and opened on September 1<sup>st</sup>, the traditional opening time of the former Dutch Harbor area.

<sup>d</sup> *C. tanneri* areas include the following: Bering Sea, Western Aleutian, Eastern Aleutian, Kodiak, Alaskan Peninsula, and Southeast Alaska.

<sup>e</sup> Miscellaneous fisheries for all years can include: Bering Sea brown king crab, Bering sea and Eastern or Western Aleutian Octopus, Surf Clam, Snail, St. Lawrence blue King crab, Norton Sound red king crab, Eastern Aleutian *C. angulatus*, Western Aleutian *C. bairdi*, Western Aleutian hair crab, Southeast Miscellaneous (urchins, shrimp, etc.), and Bering Sea Opilio CDQ Experimental.

<sup>f</sup> CDQ fisheries included Bering Sea Opilio, St. Matthew blue king, Pribilof red and blue king, and Bristol Bay red king crab fisheries.



**Figure 1.** Number of briefing and debriefings (including midtrip debriefing) sessions by Fishery year, 1988-1998.

## Observer Sessions

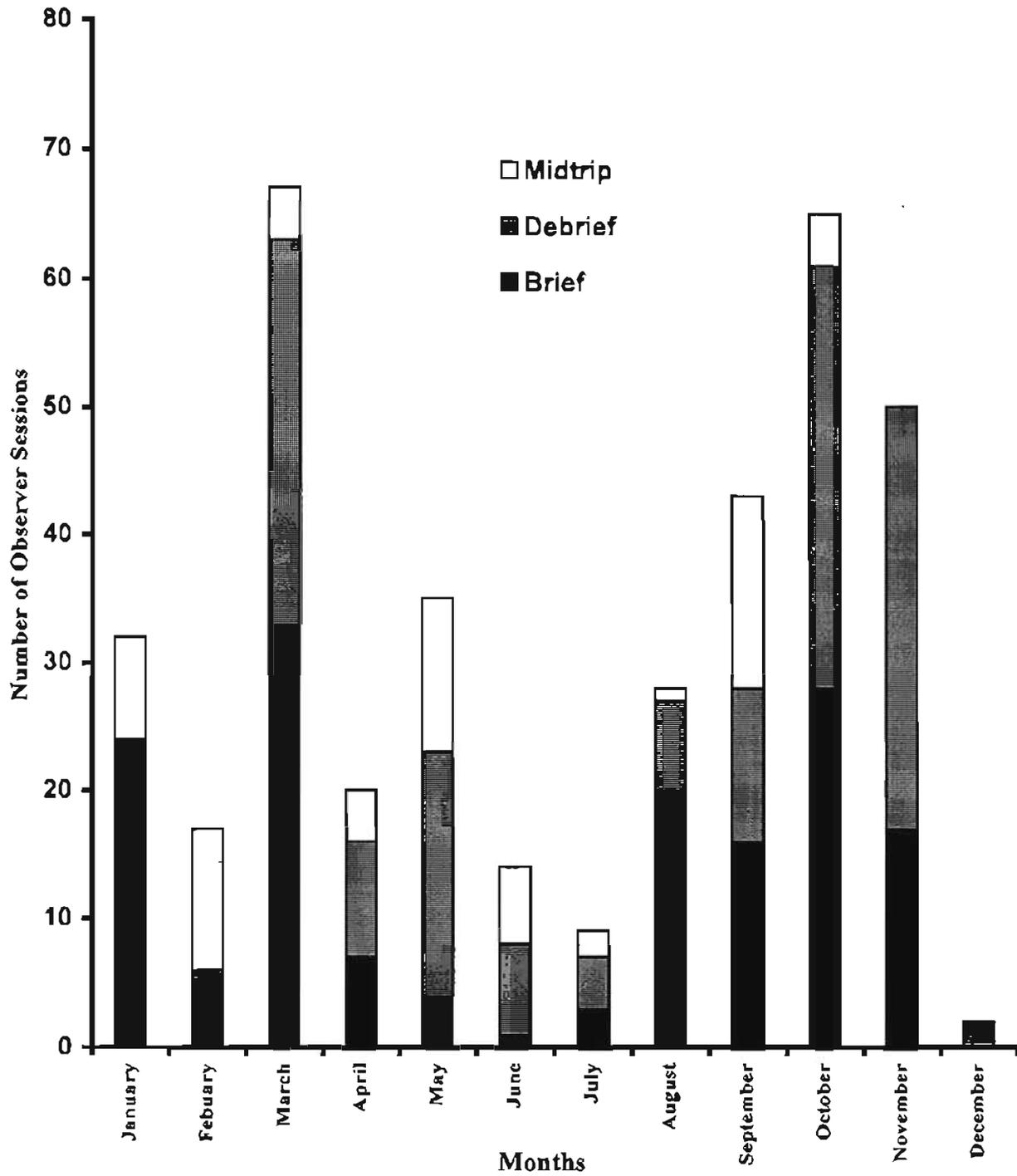
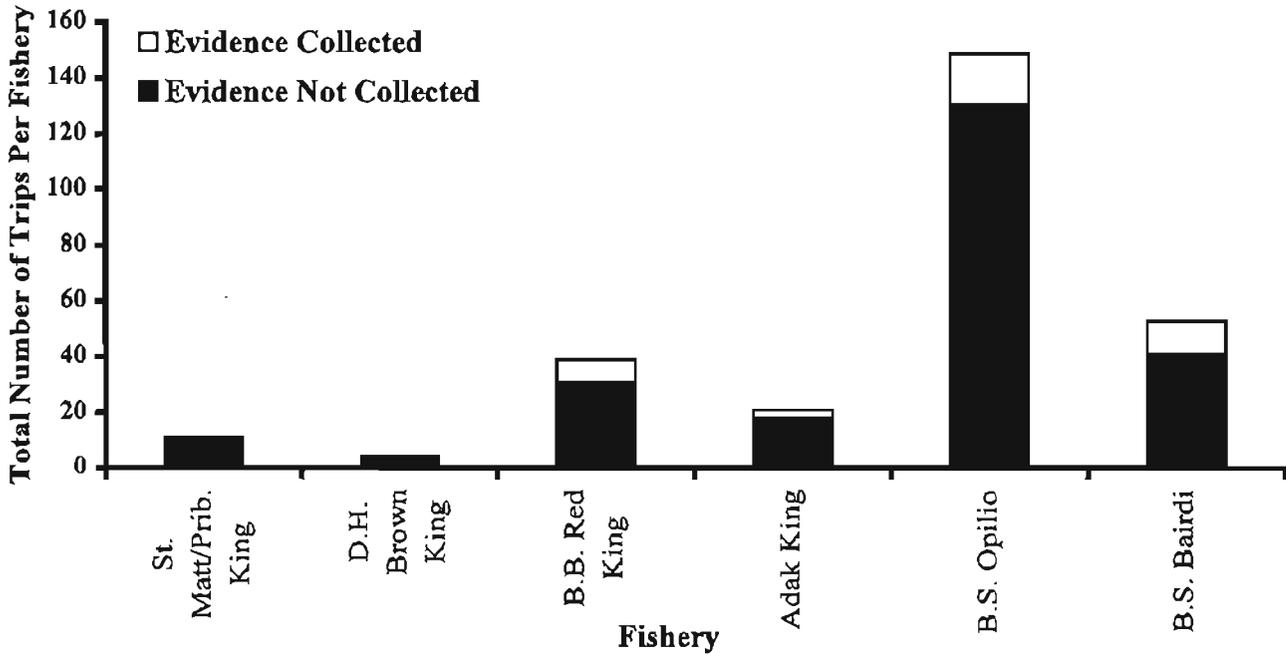
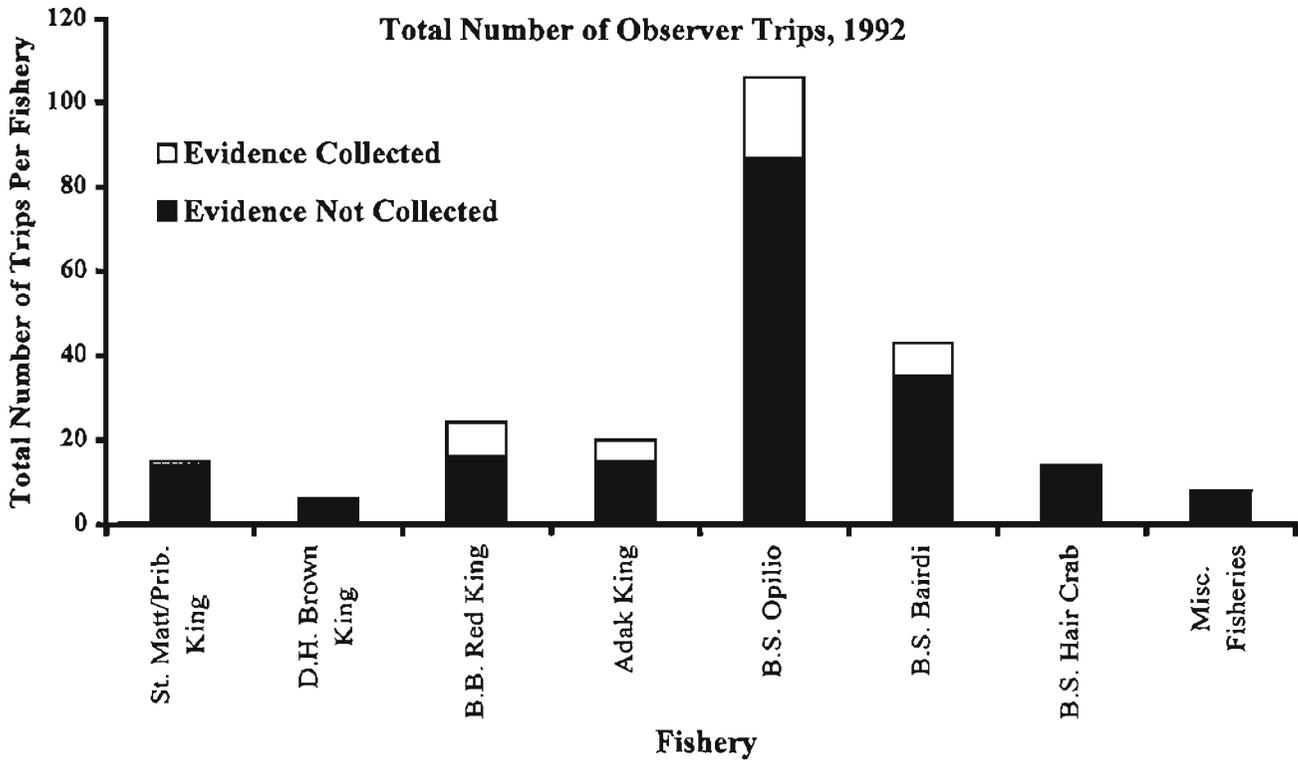


Figure 2. Number of observer sessions by month and session type (briefings, debriefings, midtrip debriefings) for the year 1998.

**Total Number of Observer Trips, 1991**

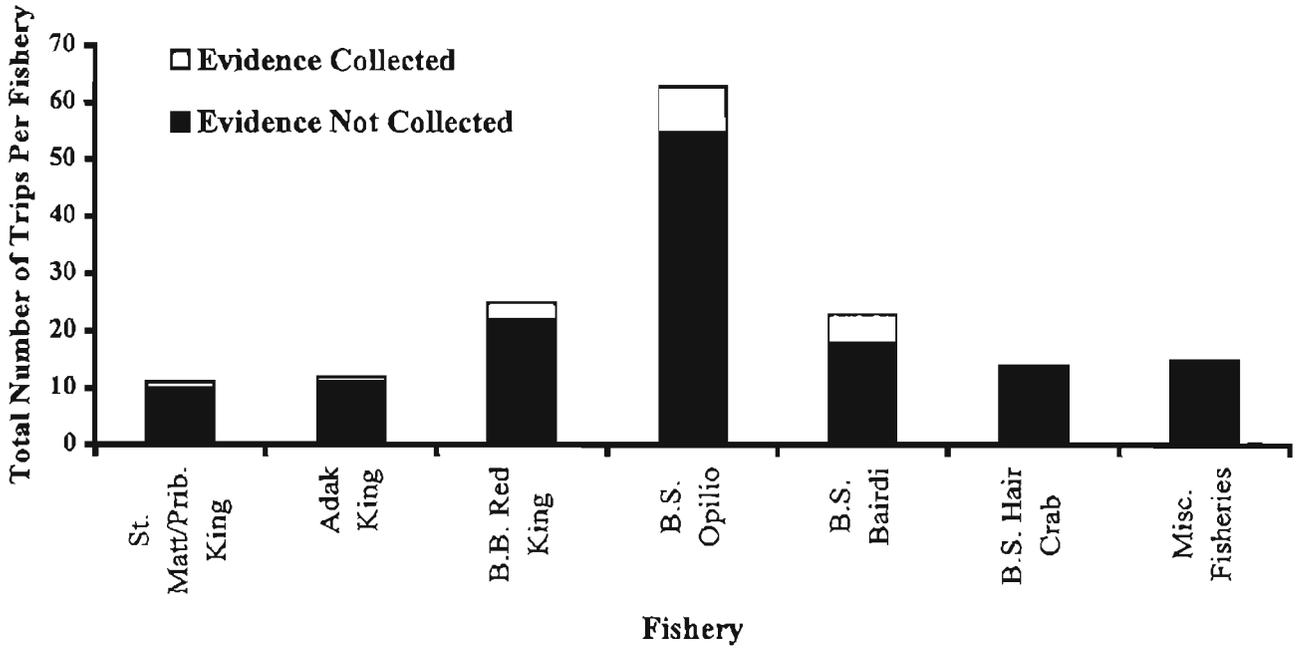


**Total Number of Observer Trips, 1992**

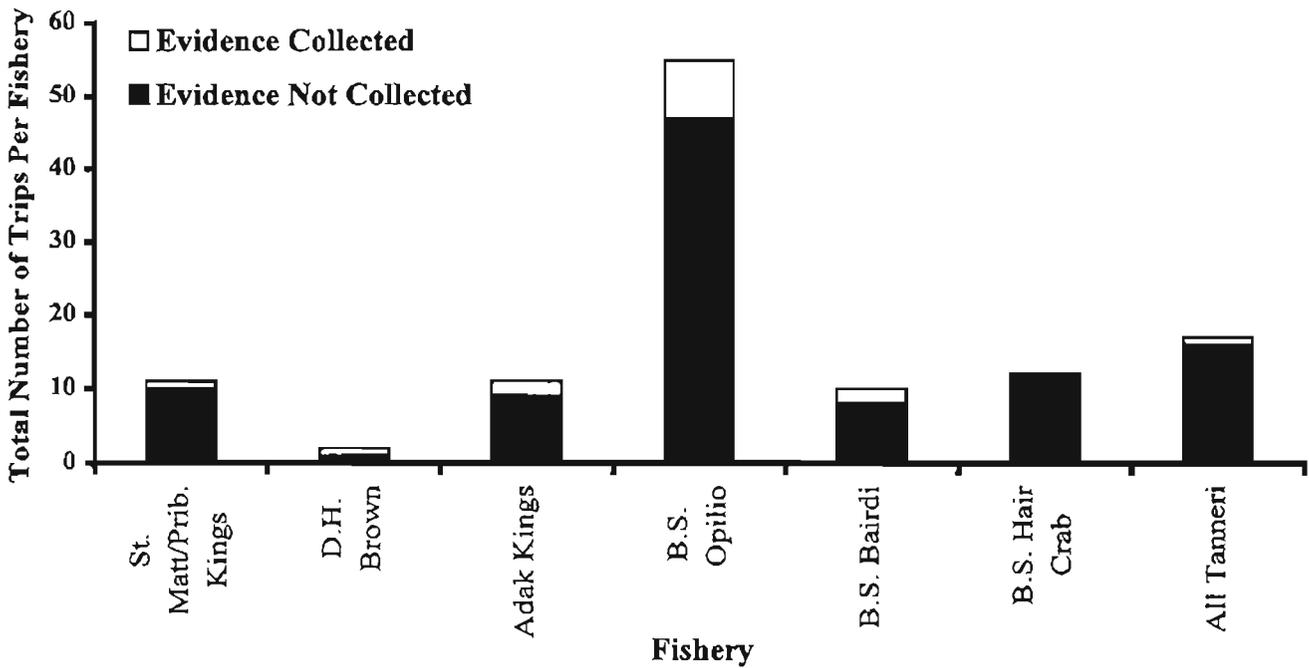


**Figure 3.** Total number of observer trips and trips where evidence was collected for the years 1991 and 1992.

**Total Number of Observer Trips, 1993**

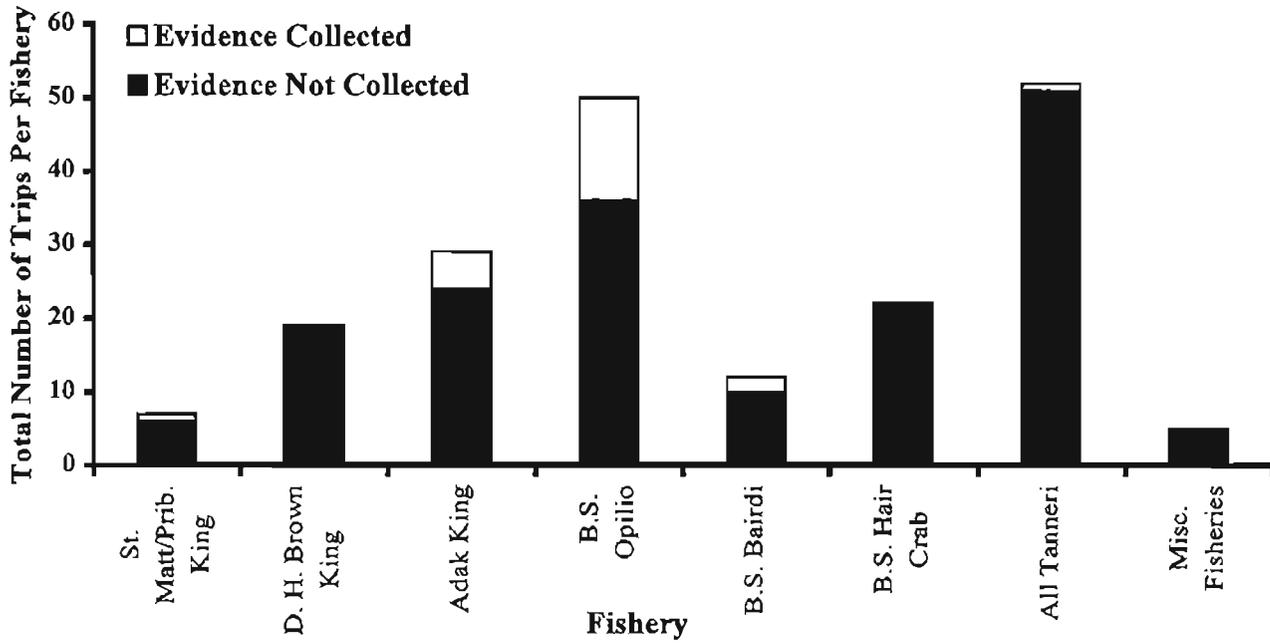


**Total Number of Observer Trips, 1994**

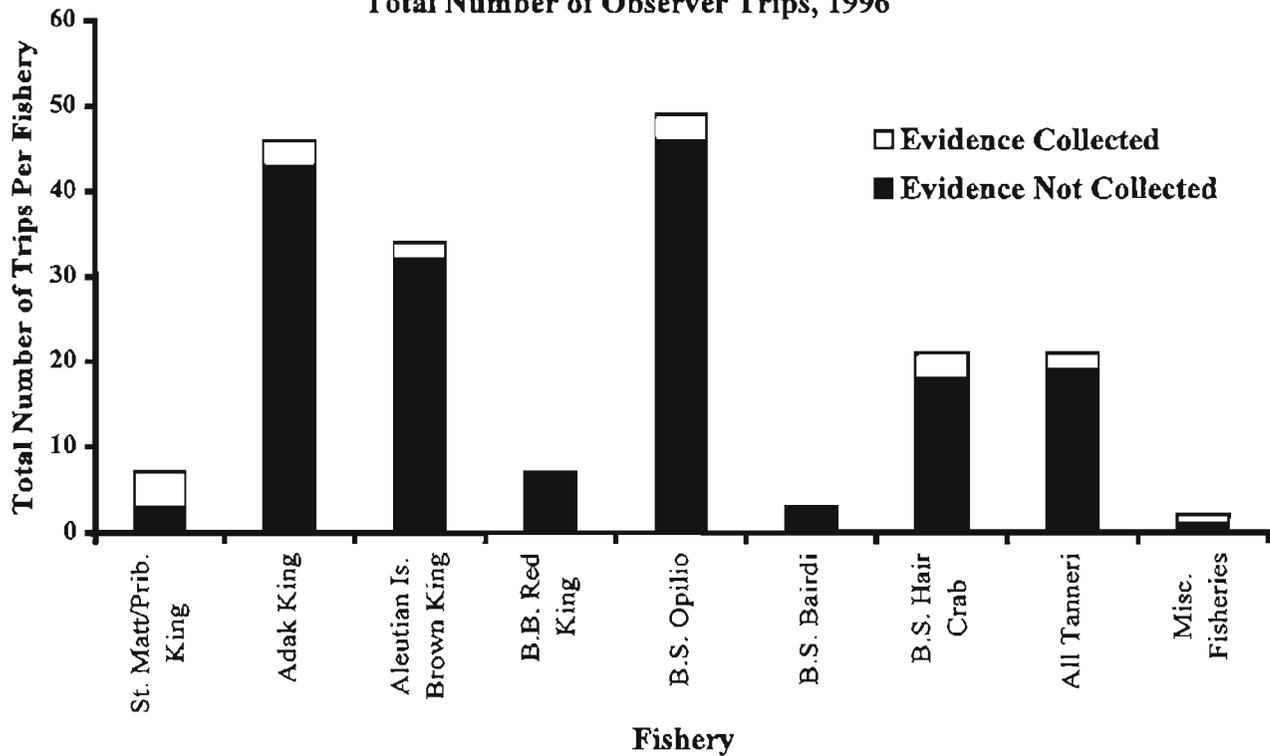


**Figure 4.** Total number of observer trips where evidence was collected for the years 1993 and 1994.

### Total Number of Observer Trips, 1995

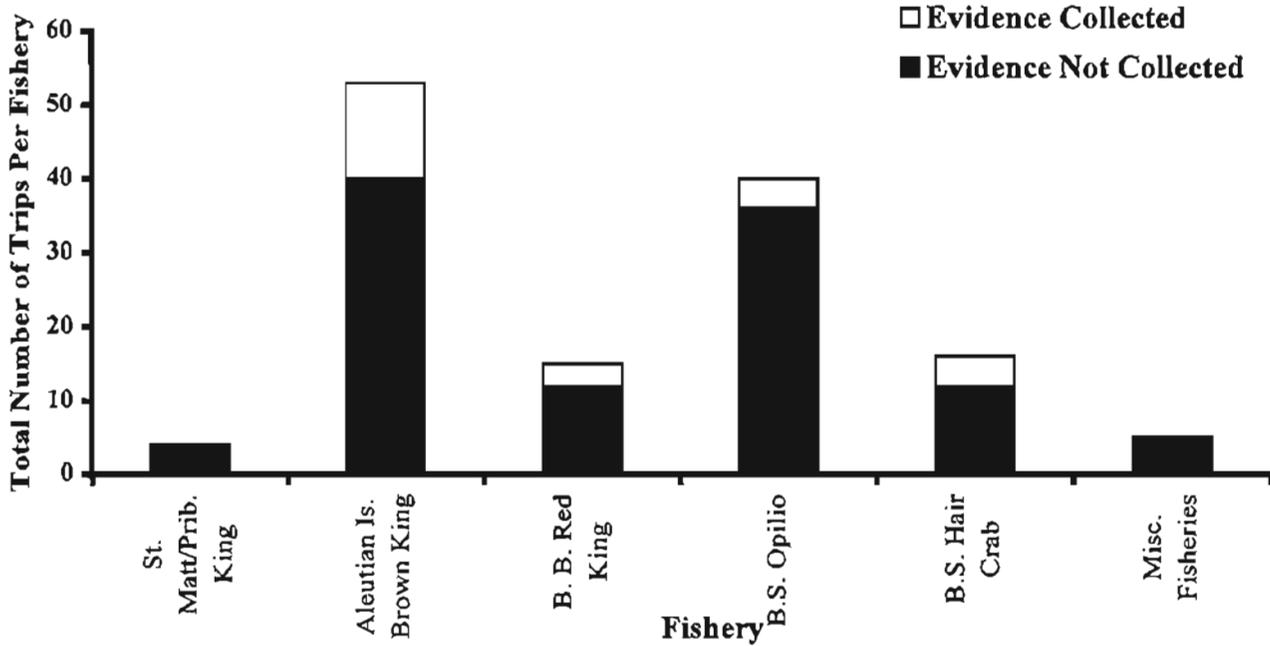


### Total Number of Observer Trips, 1996

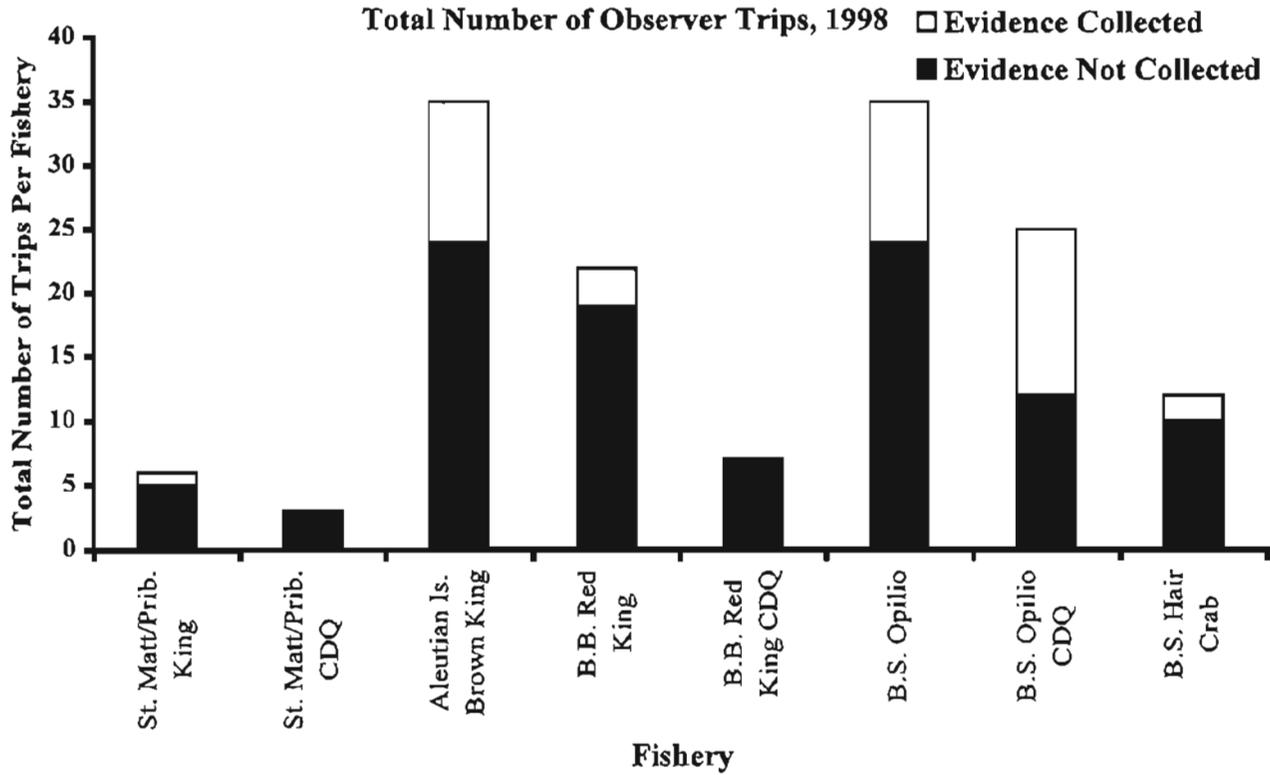


**Figure 5** Total number of observer trips and trips where evidence was collected for the years 1995 and 1996.

**Total Number of Observer Trips, 1997**



**Total Number of Observer Trips, 1998**



**Figure 6** Total number of observer trips and trips where evidence was collected for the years 1997 and 1998.

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