

REPORT TO THE BOARD OF FISHERIES,
SOUTHEAST ALASKA SHRIMP POT FISHERY



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TABLE OF CONTENTS

| | <u>Page</u> |
|---|-------------|
| INTRODUCTION..... | 5.3 |
| FISHERY DEVELOPMENT AND HISTORY | 5.4 |
| REGULATION DEVELOPMENT | 5.4 |
| FISHING SEASONS..... | 5.5 |
| SIZE RESTRICTIONS..... | 5.6 |
| QUOTAS AND GUIDELINE HARVEST LEVELS | 5.6 |
| GEAR RESTRICTIONS..... | 5.6 |
| FLOATING PROCESSORS | 5.7 |
| LIMITED ENTRY..... | 5.7 |
| RESEARCH..... | 5.8 |
| 1998/99 SEASON SYNOPSIS..... | 5.8 |
| 1999/00 SEASON NOTES..... | 5.9 |

LIST OF TABLES

| | <u>Page</u> |
|--|-------------|
| Table 5.1. Registration Area A (Southeast Alaska) shrimp pot fishery harvest, number of landings, and CPUE, 1968/69 season to present. | 5.11 |
| Table 5.2. Registration Area A (Southeast Alaska) shrimp pot fishery harvest in thousands of pounds by month, 1968/69 season to present. | 5.12 |
| Table 5.3. Registration Area A (Southeast Alaska) shrimp pot fishery harvest in thousands of pounds by district, 1968/69 season to present. ^a | 5.13 |
| Table 5.4. Registration Area A (Southeast Alaska) shrimp pot harvests in thousands of pounds, number of permits, and number of landings by district by month, 1998/99 season. | 5.14 |

INTRODUCTION

This chapter describes the commercial pot fishery for spot prawns in Southeast Alaska (Registration Area A) with emphasis on the 1998/99 fishing season. The events characteristic of this fishery are driven by the recent, large increase in effort and subsequent limited entry, significant regulatory changes and the developing program for shrimp management and research in the region.

Management is based upon a closed season to prevent fishing on major stocks during the egg-hatch or growth and recruitment periods, minimum mesh size restrictions intended to only capture and retain the larger size segment of the stock, a standardization of two sizes of pots with a maximum number of pots per vessel, restricted daily deployment and hauling times, and a guideline harvest level (GHL) for each fishing district. Regulations have also been adopted for permitting of shrimp floating processors, and reporting requirements for shrimp catcher processor vessels. Harvest is recorded and summarized through the ADF&G fish ticket system. Limited pre-season surveys, on-board and dockside sampling is conducted.

The spot prawn *Pandalus platycerous* is the target species for the shrimp pot fishery, with smaller quantities of coonstripe shrimp *P. hypsinotus* also harvested. Life history information concerning these species is limited. Canadian reports suggest the maximum age of the spot prawn is three to five years, while Alaskan tagging data suggests eight to ten years. All pandalid shrimp are protandric hermaphrodites, which means they first mature and spawn as males, transition to females, and spawn as females for the remainder of their lives. Spot prawns are functional males for one to three seasons (in their fourth year), then change sex and spawn as females for four or more years. The fecundity of a large female spot prawn has been estimated at 4,600 eggs per year. Literature reports that eggs hatch in late winter and early spring, followed by a growth molt for females. The transition from male to female occurs during the summer months. Females undergo another molt into "breeding dress" in the fall, after which they extrude their mature eggs from the internal ovaries. Eggs are fertilized externally when they are extruded. Developing embryos are carried on the external pleopods until they are fully developed. Hatching occurs during late spring through early summer.

Both species, *Pandalus platycerous* and *P. hypsinotus*, are harvested from rocky habitats, with the greatest portion of the harvest taken in Districts 1, 3, and 7. Smaller but significant historical harvests have also occurred in Districts 2, 6, and 8. More recently, harvests from Districts 9, 10, 11, 12, and 13 have become important.

Vessels used in the shrimp pot fishery generally range from smaller style gillnet or troll vessels to limit purse-seiners. At least two "catcher-processors" in the 60' keel length range also participate. Fishers use baited pot gear, which is either longlined or fished as single pots. In a longline system each pot is attached to the groundline with a snap or "c-links," similar to the longline system used in various groundfish fisheries. Pot construction is varied in size, shape, weight, and configuration. The most common pot used during the initial stages of the fishery was a rectangular pot approximately 30" x 18" x 18" with a tunnel at either end. Gear designs have rapidly changed to increase fishing efficiency. Pots that have been legal included those with a large bottom surface area, heavy pots, and pots with three to eight entrance tunnels. Small rectangular "king crab" style pots were also used by a number of fishers.

One of the most commonly used pots today is a "cone style" pot. This pot is constructed using two or three stainless steel rings, the top ring smaller than the bottom, with vertical bars welded between the rings forming six sides, at least three of which contain tunnels. These cone pots are also constructed of either rubber wrapped or "dipped" mild steel. This pot type has webbing tightly drawn in on the top with a

permanent closure. The bottom web is drawn in with a "pucker string" which is opened during baiting operations and to empty the pot of its harvest.

FISHERY DEVELOPMENT AND HISTORY

Harvest records dating from 1962 indicate that the pot shrimp fishery began with sporadic effort and low harvests through the mid- 1970s when the pot shrimp fishery served as a supplemental source of income to other fisheries, primarily salmon and halibut. Harvests and effort increased through the 1980s, and culminated in the 1990s with harvests averaging about 784,000 pounds caught by an average of 202 permit holders (Tables 5.1, 5.3, and 5.7).

Through the mid-1980s most of the product was sold over the dock to private individuals, restaurants, or other markets without passing through the traditional system of processors established for other fish and shellfish species. Vessels conducting business in this manner are termed "catcher-sellers." Primarily, picked "tails" were sold, and exvessel prices were dependent upon the size of the tails or count of tails per pound with the larger prawns commanding the highest price. Because the fishery was supported by relatively low volumes with moderate prices the fishery remained relatively slow paced.

From 1990/91 through the 1994/95 fishing seasons the character of the fishery underwent radical changes with permits fished as high as 248 and harvests exceeding 1 million pounds. In October 1994, the first floating processor entered the fishery, and the market product began to change towards unsorted, whole shrimp with a moderate increase in value. This change in market product meant that fishers no longer had to spend time sorting shrimp by size and picking tails on the ground, running to and from markets, or selling their own shrimp, effectively allowing them to spend more time fishing. Many fishers utilized this fishery as a significant source of their fishing income. Pot efficiency during this period and the pace of the fishery increased and the first emergency order was issued to close Districts 6 and 8 when the guideline harvest level was reached. The rapid escalation of effort and harvest evoked petitions for limited entry, which was put in place 1995. The maximum number of permits fished was 353 during the 1995/96 season.

REGULATION DEVELOPMENT

Throughout most of the development of the shrimp pot fishery, management has generally been passive with only fish ticket data available to assist managers. Seasons have been set to prevent harvesting during the egg hatch period in major districts and mesh restrictions were set to allow the escapement of all shrimp below approximately 30 mm in carapace length. Mesh restrictions are not totally effective due to current regulations and fishing practices. Guideline harvest levels were established to limit the harvest in each fishing district. Guideline harvest levels are based on harvest history data, and not on information describing stock abundance or stock condition.

Nearby jurisdictions use more active management approaches than does Alaska. The management goal in British Columbia is to limit fishing mortality of the female spawner portion of the stock. British Columbia managers use a pre-season stock assessment program to determine the catch per unit of effort (CPUE) expressed as the average number of spawners per pot lift. An acceptable level of fishing mortality is applied to the average number of spawners per pot lift to determine a threshold. During the fishing season, enforcement officers and biologists collect CPUE data through mandatory logbook programs with frequent review on the grounds. Once the average CPUE dips below the threshold, the fishery is closed. The state of Washington uses a very short season, bases management on pre-season stock assessment, and specifies rigid mesh with a minimum mesh measurement as the only legal gear.

Fishing Seasons

Prior to 1970, pot shrimp fishing was allowed only during periods when the trawl shrimp fishery was open, (roughly May 1 through February 14). In 1970, pot fishing was allowed throughout the year; this liberal season existed through the 1981/82 fishing season. During the 1982/83 season, fishing was not allowed during May and June in Districts 1 through 8. This closure was intended to provide fecund, female shrimp protection from exploitation during the egg-hatch period in an attempt to maximize stock reproduction potential. The actual range of egg-hatch probably varies by location throughout the region but can safely be defined as from late February through the middle of May.

Prior to the 1983/84 season the District 1 fishery was restricted by BOF actions to a September 1 through April 30 season. This was an allocation for fishers who traditionally used District 1 as a supplemental income source during the fall and winter months. The closure during the summer provided the important biological benefits of allowing stock recruitment to occur through molting and growth processes.

By the 1986/87 season, major areas (Districts 1, 2, 3, and 7) were open only from October 1 through February 28 which was established for a combination of egg-hatch closure, growth and allocation for a fall/winter fishing season. The minor areas (Districts 6 and 8) were open from May 1 through February 28 with only an egg-hatch closure in place. All other areas (Districts 4, 5, and 9 through 16) remained open throughout the year without an egg-hatch closure.

In 1997, the BOF adopted a regulatory opening of October 1 and closure of February 28 for all districts. Recently, GHRs were not achieved in some districts by season's end. Managers reopened these districts after the egg-hatch period, and closed them by emergency order when GHRs were achieved. Districts where GHRs were not achieved were closed at least one month ahead of the October opening to allow for a fair start.

Size Restrictions

The Alaska Board of Fisheries policy on small shrimp, primarily developed for the trawl fisheries, also applies to the pot shrimp fishery. Specific regulations concerning a minimum legal shrimp size have not been developed. A mesh restriction specifying 1.75" stretch mesh was established in 1986 to assist in the escapement of shrimp less than 30 mm in carapace length and to reduce the potential for recruitment over-fishing. This regulation provides for some protection for approximately two year-classes of small shrimp. Shrimp pots must be entirely covered with net webbing or rigid mesh. There is no mesh restriction for waters of Lituya Bay in District 16. The fleet testimony at the 1997 BOF meeting indicated that significant amounts of small shrimp were being discarded at the floating processors. The requirement for mandatory observer coverage was partially to verify fish ticket information and document possible discard.

Quotas and Guideline Harvest Levels

Prior to the 1983/84 season, a GHL of 125,000 pounds was established for each district in Districts 1, 2, 3, and 7, and 55,000 pounds for Districts 6 and 8. By the 1986/87 season the GHL for Districts 6 and 7 was altered to a range of 75,000 to 100,000 pounds and dropped entirely for all other districts. This situation existed until October 1, 1995 when the department implemented GHLs for each district by news release. This action was taken to maintain the fishery at a stable level and provide for some protection against over-harvesting. For districts with a fairly consistent harvest history, guideline harvest levels are based on the average harvest for the five fishing seasons, 1990/91 through 1994/95. For districts with low and intermittent harvests, guideline harvest levels were arbitrarily set at 20,000 pounds. In January of 1997, the BOF adopted regulatory GHLs for each. Those GHLs were the same as those imposed by emergency order beginning with the 1995/96 season.

Gear Restrictions

With the exception of the minimum mesh size, no gear restrictions were implemented until the 1976/77 season when a pot limit of 150 pots per vessel was established for Districts 1 through 15. Until October of 1997, the 150 pot limit applied to all portions of Registration Area A. Minor regulations concerning a maximum tunnel perimeter (15"), pot marking requirements, prohibitions against simultaneously fishing shrimp pots and any other type of commercial, sport or personal use pot, escape mechanisms, and some clarification of mesh requirements had also been developed.

Not only did enforcement problems repeatedly demonstrate the need for clearer definitions of shrimp pot gear, but reduction in pot sizes would slow the fishery and could provide some CPUE data to the department if gear was standardized, and if a tiered pot system under consideration by CFEC was implemented. Coupled with the implementation of limited entry, the BOF in January of 1997, adopted gear regulations allowing for standardization during a number of years. Through September 30, 1998, the number of shrimp pots that could be operated from a registered shrimp fishing vessel was 140 small pots or 100 pots larger

than a small pot. If any pot operated from a vessel was larger than a small pot, the total number of pots that could be operated from that vessel was 100 pots.

In October 1998, a "small pot" was defined as having a bottom perimeter of no more than 124 inches and a "large pot" was defined as having a bottom perimeter of more than 124 inches, but not more than 153 inches. Perimeter measurements were selected over diameter measurements to reduce interpretation distortions. Further, all pots on board a vessel or operated from a vessel had to be of the same type and of the same size. Limits of 140 small pots or 100 large pots being operated from a registered shrimp fishing vessel continued.

Pots may not have more than one bottom, a vertical height of more than 24 inches, and more than four tunnel eye openings which individually do not exceed 15 inches in perimeter. The sides of the pot may only be at a right angle to the plane of the bottom of the pot or slanted inward toward the center of the pot in a straight line from the bottom to the top.

Other pot shrimp regulations adopted in 1997 include time limitations for deployment and retrieval of gear from 8:00 a.m. until 4:00 p.m. each day, restrictions on carrying pot gear owned only by the vessel operator, and unique identification tags for each pot.

Floating Processors

Since 1994 floating processors were increasingly available on the fishing grounds not only for transporting gear for a "mosquito fleet" that moves from one district as it closes to another, but also to purchase live shrimp. As a result, GHRs are achieved more quickly. In order to remain competitive, those fishers that wished to explore other grounds within a district were forced to remain in localized areas and sell to the floating processors. In an effort to slow the pace of the fishery, the 1997 BOF eliminated the ability of floating processors to transport pots for fishing vessels and implemented requirements that includes reporting processor location and any changes in location, reporting projected dates of operation, and daily reporting. The only practical way for the department to have verification of daily reporting was to implement mandatory observer coverage, the cost of which is borne by the processor.

Limited Entry

In April of 1995 the Commercial Fisheries Entry Commission received petitions from more than 70 people from Wrangell, Ketchikan, Craig, and the Tenakee Springs Fish and Game Advisory Committee requesting limitations to the number of participants in the southeast pot shrimp fishery. After the commission obtained and analyzed data concerning the fishery, their proposed regulations were consistent with what the petitioner's had suggested in that 1995 should not be included in the eligibility time frame. This would have capped the number of limited entry permit holders at 186 which was the highest participation level in any of the four years prior to the original qualification date. The commission held numerous public hearings throughout Southeast Alaska and announced in early November 1995, while fishing was in progress, that they had adopted a limited entry program that would include participation during 1995 towards

qualification. At the time, the effort level had increased to 234 fishers. And finally, by law, the commission was required to revise upward to the maximum number of permits to 332 that legally participated in calendar year 1995. In October, 1996 the commissioners adopted a point system for the fishery and by February of 1998 the commission began the process of issuing and denying permits for this fishery. To date, 301 permits have been issued with 73 additional applicants either undergoing hearings or administrative review for additional points or vying for the remaining 31 permits that will be available.

RESEARCH

Little research had been conducted concerning the distribution and abundance of spot prawns in Southeast Alaska prior to 1996. Information concerning pot efficiency and limited stock distribution data was collected by various agencies during the 1960s and early 1970s. Pot efficiency studies concerned various pot tunnel configurations in rectangular pots, and a comparison of covered versus uncovered pots.

In recent years, the department reviewed available CPUE data recorded on fish tickets and found it to be insufficient to provide a basis for management. During September, 1996 the department conducted a pilot study to obtain data on CPUE, size and weight, and size and sex of spot prawns and coonstripe shrimp in District 7. The major purpose of the study was to collect and evaluate data required for rational management, to understand the variability of various parameters associated with stock assessment, to investigate factors essential to establishing an appropriate stock assessment program, and to provide information necessary to develop a well founded management plan in the near future.

In 1997 the department began a pre-season survey in District 3. We also conducted dockside sampling of the landed catch. These programs have continued to expand. In 1998/99 the department conducted pre- and post-season surveys in District 3. Pre-season surveys were conducted in Districts 3 and 7 and Section 13-C prior to the 1999/00 fishing season. The dockside sampling program has been expanded to include most districts. In addition, managers now monitor the fishery on the fishing grounds, and collect samples of the landed catch. Results of this expanding research and management effort are beginning to yield benefits to the proper management of the pot shrimp resource.

1998/99 SEASON SYNOPSIS

In September 1998, the department provided a news release to the fleet announcing fishing seasons, fishing periods, lawful gear, GHRs, floating and catcher processor regulations, pot tendering, catch reporting requirements, and other restrictions. The fishery opened on October 1, 1998. Fishing effort was reduced due in part to the adoption of a limited entry program for this fishery. A total of 183 permits were fished, about half of the peak season of 1995/96, and 1,806 landings were made (Table 5.4). There was one floating processors and three registered tenders. A total of 788,644 pounds of shrimp were harvested by season's end. The majority of this harvest was composed of spot prawns. Approximately 93,000 pounds of

coonstripe shrimp were included in the total harvest. Average price of spot prawns is estimated at \$3.25 per whole pounds. The estimated exvessel value for the 1998/99 season was about \$ 2.6 million.

Effort was particularly high in District 3 with a closure on October 30, 1998 and in Districts 13-C and 12 where upper GHRs were reached and areas closed October 7 and 15 respectively. Districts 1, 2, 6, and 7, had significant effort during the month of October with diminishing catches in following months. By the end of the first week into calendar year 1999, Districts 1, 2, 3, 7, 8, 9, 10, 12, 13-C, and 16 were closed by emergency order with 94 percent of the total seasonal harvest taken. On average, published district GHLs were exceeded by 4 percent. Districts 4, 5, 11, 13-A and B, 14, and 15 closed by regulation on February 28, 1999. On May 1, 1999, with the exception of 13-A and 13-B, these areas were reopened to allow for continued harvest towards their respective GHRs. District 15 reached the upper GHR and was closed May 21, 1999. All other districts were closed by emergency order on August 1, 1999.

It is difficult to assess stock abundance, and the effects that intense fishing may have on current stock abundance, growth, size composition, reproduction, and future abundance. Information now available identifies a number of concerns to the department. Some serial depletion of stock segments may be occurring as evidenced by fleet movement between statistical sub-areas and survey information. It is possible that fishers are maintaining good harvests through improved gear and fishing techniques and by exploiting different grounds, or other means. The targeted harvest of the larger, older, and most fecund prawns may be reducing stock reproductive potential through removal. An inappropriately high harvest rate and the removal of the large females may be forcing females to produce their first clutch of eggs at a smaller size.

1999/00 SEASON NOTES

The 1999/00 fishing season opened on October 1, 1999. Market conditions were strong and available effort was initially high. The number of registered fishers is 219, but the actual number of permits fished through November 30, 1999 is 128. All fish tickets entered through December 2, 1999 totaled 492,468 pounds. The actual harvest will increase as fish tickets are received and entered. By season's end, the department expects the harvest will exceed 800,000 pounds.

This season there were no floating-processors buying and processing shrimp on the grounds. A number of tender operations registered to get product from the grounds to shore-based processing facilities. An increasing number of catcher-processors participated. The major product is whole, sorted, dipped and frozen prawns. Some catcher-processors are producing an undipped, frozen tail product. Prices remain high, and are estimated at \$3.50 per pound, whole weight. By the end of the fishing season, the exvessel value of will be approximately \$2.8 million.

The fishery began at a fast pace, with good prices, and fairly poor weather conditions. The department initiated on-the-grounds management teams for the first time this season. Managers boarded vessels, obtained direct information about the fishery and collected size-distribution samples. The information they collected increases the department's understanding of the fishery and allowed us to make timely decisions and closures. Section 13-C was closed by emergency order on October 5 when the GHR was caught. District 12 followed on October 9, and District 3 on October 12. By the end of October, Districts 8 and 10 were also closed. Guideline harvest levels were achieved in Districts 2, 7, and 9 and by November 26 these

districts were closed. Approximately 26 percent of the District 7 catch was comprised of coonstripe shrimp. As of December 2, Districts 1, 6, 11, 14, 15, and 16, and Sections 13A and 13B, all were fished but remained open with portions of the GHRs remaining to be caught. A portion of District 1 will be closed early by emergency order for conservation reasons. The other open districts will remain open until February 28 unless the GHL is caught or conservation concerns surface. Districts 4 and 5 have received no fishing effort and will remain open through February 28.

The management and research program will continue to develop. The department is in the process of hiring a shrimp biologist to direct and improve the research program, assist in the development of management tools based on historic harvest data, and coordinate the research program with management requirements. Additional grounds will be surveyed this coming fall and analysis of available data will continue in an attempt to better ascertain stock conditions. During the 2000/01 fishing season the department is planning to increase the on the grounds monitoring program to further improve management of this important fishery.

Table 5.1. Registration Area A (Southeast Alaska) shrimp pot fishery harvest, number of landings, and CPUE, 1968/69 season to present.

| Season ^a | Harvest in Pounds | Number of Permits Fished | Number of Landings | Pounds Per Landing | Pounds Per Permit |
|----------------------|-------------------|--------------------------|--------------------|--------------------|-------------------|
| 1968/69 | 38,744 | 5 | 50 | 774 | 7,749 |
| 1969/70 | 19,928 | 3 | 25 | 797 | 6,643 |
| 1970/71 | 12,684 | 5 | 27 | 469 | 3,171 |
| 1971/72 | 28,053 | 7 | 50 | 561 | 4,008 |
| 1972/73 | * | * | * | * | * |
| 1973/74 | * | * | * | * | * |
| 1974/75 | 4,607 | 7 | 16 | 287 | 921 |
| 1975/76 | 12,573 | 5 | 29 | 433 | 2,515 |
| 1976/77 | 20,916 | 6 | 17 | 1,230 | 3,486 |
| 1977/78 | 23,559 | 10 | 76 | 309 | 2,356 |
| 1978/79 | 21,318 | 9 | 35 | 609 | 2,369 |
| 1979/80 | 51,621 | 19 | 124 | 416 | 2,717 |
| 1980/81 | 78,864 | 32 | 192 | 410 | 2,465 |
| 1981/82 | 138,630 | 49 | 377 | 367 | 2,829 |
| 1982/83 | 216,301 | 58 | 374 | 578 | 3,729 |
| 1983/84 | 233,312 | 93 | 653 | 357 | 2,509 |
| 1984/85 | 278,455 | 115 | 777 | 358 | 2,430 |
| 1985/86 | 183,590 | 82 | 495 | 370 | 2,239 |
| 1986/87 | 294,021 | 83 | 607 | 484 | 3,542 |
| 1987/88 | 313,556 | 96 | 688 | 455 | 3,266 |
| 1988/89 | 376,894 | 130 | 812 | 464 | 2,899 |
| 1989/90 | 365,898 | 110 | 815 | 448 | 3,326 |
| 1990/91 | 475,741 | 139 | 1,103 | 431 | 3,423 |
| 1991/92 | 657,727 | 175 | 1,480 | 444 | 3,758 |
| 1992/93 | 562,153 | 146 | 1,192 | 471 | 3,850 |
| 1993/94 | 790,018 | 181 | 1,602 | 493 | 4,365 |
| 1994/95 | 1,070,691 | 248 | 2,723 | 393 | 4,317 |
| 1995/96 | 917,802 | 353 | 2,854 | 321 | 2,600 |
| 1996/97 | 957,905 | 203 | 1,996 | 479 | 4,719 |
| 1997/98 | 838,256 | 197 | 1,753 | 478 | 4,255 |
| 1998/99 ^b | 788,644 | 183 | 1,806 | 442 | 4,310 |

^a Pot shrimp seasons are October through September.

^b Most recent year's data should be considered preliminary.

* Where number of vessels participating is less than three, information is confidential.

Table 5.2. Registration Area A (Southeast Alaska) shrimp pot fishery harvest in thousands of pounds by month, 1968/69 season to present.

| Year | Month | | | | | | | | | | | | Total | Landings | Permits | |
|----------------------|---------|----------|----------|---------|----------|--------|--------|---------|--------|--------|--------|-----------|-----------|----------|---------|----|
| | October | November | December | January | February | March | April | May | June | July | August | September | | | | |
| 1968/69 | | | | 4,246 | 5,669 | 13,475 | 5,471 | * | * | | | | | 38,744 | 50 | 5 |
| 1969/70 | | | * | * | 4,638 | 5,094 | * | * | | | | | | 19,928 | 25 | 3 |
| 1970/71 | * | * | 3,213 | * | 3,520 | * | | | | | | * | | 12,684 | 27 | 5 |
| 1971/72 | * | * | * | * | * | 4,301 | 10,923 | 3,788 | 1,750 | | * | | | 28,053 | 50 | 7 |
| 1972/73 | * | | | | | * | * | | * | | | | | * | * | * |
| 1973/74 | | | * | | * | * | * | | * | | | | | * | * | * |
| 1974/75 | * | * | * | * | * | * | * | | | * | | | | 4,607 | 16 | 7 |
| 1975/76 | | * | * | * | * | * | * | 1,463 | * | * | * | | | 12,573 | 29 | 5 |
| 1976/77 | | * | 1,646 | * | * | * | * | * | * | * | * | | | 20,916 | 17 | 6 |
| 1977/78 | * | * | * | * | * | * | 5,250 | * | * | 690 | * | * | * | 23,559 | 76 | 10 |
| 1978/79 | * | * | * | | | * | * | 5,109 | 3,168 | * | * | * | * | 21,318 | 35 | 9 |
| 1979/80 | * | * | | 799 | 1,544 | 2,996 | 2,479 | 12,388 | 8,334 | 7,840 | * | 11,112 | 51,621 | 124 | 19 | |
| 1980/81 | 9,410 | 3,149 | 706 | * | 1,373 | 4,041 | 7,178 | 6,463 | 7,238 | 21,946 | 9,964 | 5,717 | 78,864 | 192 | 32 | |
| 1981/82 | 11,413 | 3,506 | 4,911 | 2,625 | 5,081 | 9,910 | 9,966 | 3,288 | 4,982 | 34,289 | 33,620 | 15,039 | 138,630 | 377 | 49 | |
| 1982/83 | 20,566 | 7,042 | 16,187 | 9,214 | 25,817 | 7,468 | * | 4,354 | 3,142 | 44,570 | 41,698 | 35,574 | 216,301 | 374 | 58 | |
| 1983/84 | 38,181 | 28,005 | 14,329 | 12,224 | 19,990 | 22,311 | 23,037 | 29,326 | 28,637 | 7,560 | 5,407 | 4,305 | 233,312 | 653 | 93 | |
| 1984/85 | 32,313 | 36,059 | 26,421 | 29,615 | 35,238 | 8,312 | 8,459 | 29,614 | 20,274 | 15,909 | 17,290 | 18,951 | 278,455 | 777 | 115 | |
| 1985/86 | 15,291 | 26,546 | 28,189 | 28,749 | 29,788 | 26,967 | 9,352 | 1,931 | 2,960 | 6,168 | 5,256 | 2,393 | 183,590 | 495 | 82 | |
| 1986/87 | 45,647 | 44,510 | 39,352 | 45,460 | 60,328 | 24,912 | 9,884 | 5,294 | 2,709 | 6,682 | 4,172 | 5,071 | 294,021 | 607 | 83 | |
| 1987/88 | 64,285 | 48,353 | 41,265 | 45,431 | 53,982 | 15,142 | 17,408 | 8,671 | 6,087 | 4,827 | 4,951 | 3,154 | 313,556 | 688 | 96 | |
| 1988/89 | 72,296 | 82,230 | 63,238 | 47,771 | 52,524 | 19,997 | 10,641 | 2,057 | 5,041 | 6,755 | 8,372 | 5,972 | 376,894 | 812 | 130 | |
| 1989/90 | 76,290 | 61,599 | 49,909 | 48,194 | 41,870 | 37,814 | 10,385 | 9,410 | 6,453 | 8,960 | 7,554 | 7,460 | 365,898 | 815 | 110 | |
| 1990/91 | 110,159 | 64,453 | 56,460 | 68,781 | 86,453 | 24,032 | 18,073 | 3,330 | 10,522 | 14,371 | 10,196 | 8,911 | 475,741 | 1,103 | 139 | |
| 1991/92 | 194,186 | 140,989 | 92,739 | 82,896 | 64,459 | 12,884 | 14,672 | 12,144 | 10,750 | 9,560 | 15,049 | 7,399 | 657,727 | 1,480 | 175 | |
| 1992/93 | 109,844 | 77,768 | 55,533 | 101,117 | 114,294 | 37,279 | 13,489 | 19,613 | 7,129 | 9,497 | 9,116 | 7,474 | 562,153 | 1,192 | 146 | |
| 1993/94 | 145,648 | 165,321 | 83,143 | 112,548 | 113,958 | 39,204 | 20,400 | 20,944 | 20,651 | 18,512 | 26,212 | 23,477 | 790,018 | 1,602 | 181 | |
| 1994/95 | 167,378 | 124,113 | 90,660 | 182,144 | 177,685 | 56,001 | 31,150 | 112,617 | 59,025 | 22,061 | 22,397 | 25,460 | 1,070,691 | 2,723 | 248 | |
| 1995/96 | 442,853 | 191,218 | 106,389 | 68,743 | 40,310 | 23,983 | 7,843 | 11,448 | 9,021 | 6,593 | 8,206 | 1,195 | 917,802 | 2,854 | 353 | |
| 1996/97 | 747,527 | 119,195 | 20,867 | 18,087 | 20,403 | 7,229 | 4,503 | 5,530 | 3,001 | 3,227 | 3,844 | 4,492 | 957,905 | 1,996 | 203 | |
| 1997/98 | 713,794 | 55,287 | 29,776 | 3,606 | 5,318 | 5,197 | 7,086 | 8,730 | 8,357 | * | * | 0.0 | 838,256 | 1,753 | 197 | |
| 1998/99 ^a | 573,888 | 120,708 | 43,732 | 17,553 | 14,075 | * | 15,465 | 2,844 | | | | | 788,644 | 1,806 | 183 | |

^a Most recent year's data should be considered preliminary; season in progress.

* Where number of vessels participating is less than three, information is confidential.

Table 5.3. Registration Area A (Southeast Alaska) shrimp pot fishery harvest in thousands of pounds by district, 1968/69 season to present.^a

| | District | | | | | | | | | | | | | | | |
|----------------------|----------|-------|-------|------|------|-------|-------|------|------|------|------|------|-------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1968/69 | 31.4 | * | | | | | * | | | | | | | | | |
| 1969/70 | 11.9 | * | | | | | | | | | | | | | | |
| 1970/71 | 3.7 | * | | | | | | * | | * | | | | | | |
| 1971/72 | 10.1 | 14.8 | | | | | * | | * | * | | | | | | |
| 1972/73 | | * | | | | | * | | | | | | | | | |
| 1973/74 | * | * | | | | | | | | | | | | | | |
| 1974/75 | 2.4 | * | * | | | | | | | | | | | | | |
| 1975/76 | 4.3 | 7.7 | * | | | | | | | | | | | | | |
| 1976/77 | * | 11.7 | * | | | | 4.8 | | | | | | | | | |
| 1977/78 | 5.6 | 13.1 | | | * | | * | | | | | | * | | | |
| 1978/79 | 4.2 | 6.7 | * | * | | | 3.6 | | | | | * | * | | | |
| 1979/80 | 14.9 | 12.4 | * | | | | 16.8 | * | | | | | * | * | | |
| 1980/81 | 14.9 | 14.6 | 25.0 | * | | * | 15.5 | * | * | * | | * | * | | | |
| 1981/82 | 21.3 | 15.2 | 51.7 | | | 8.5 | 14.5 | 2.0 | 3.6 | * | * | * | 12.3 | * | | 4.5 |
| 1982/83 | 24.9 | 30.9 | 63.2 | * | | 8.5 | 61.9 | 2.3 | 6.5 | 3.1 | | * | 11.7 | * | | * |
| 1983/84 | 39.1 | 20.8 | 34.1 | * | * | 6.7 | 77.5 | 14.5 | * | 12.0 | * | 2.9 | 19.1 | | | * |
| 1984/85 | 63.8 | 44.9 | 17.6 | * | * | 6.1 | 83.5 | 8.6 | * | 30.6 | * | * | 14.1 | 0.5 | | * |
| 1985/86 | 37.9 | 31.5 | 61.7 | * | * | 5.1 | 19.1 | 2.6 | * | 10.8 | * | 0.3 | 8.9 | * | * | * |
| 1986/87 | 47.1 | 117.6 | 41.1 | | * | 1.8 | 33.9 | 1.5 | 4.3 | 27.2 | 1.8 | 3.6 | 8.6 | * | * | * |
| 1987/88 | 98.9 | 71.4 | 22.0 | * | * | 0.5 | 43.0 | 2.4 | 15.8 | 24.4 | 2.0 | 11.9 | 17.9 | 1.7 | * | * |
| 1988/89 | 175.4 | 52.5 | 16.7 | * | * | 6.7 | 52.0 | 0.7 | 5.5 | 30.8 | 0.5 | 8.8 | 22.6 | * | | * |
| 1989/90 | 142.1 | 58.0 | 23.6 | 2.2 | | 7.0 | 37.8 | 15.6 | * | 43.1 | * | 5.5 | 25.9 | | | * |
| 1990/91 | 154.5 | 66.1 | 51.6 | 9.5 | | 8.6 | 82.4 | 11.6 | 4.4 | 36.9 | 1.3 | 14.1 | 33.3 | | * | 0.7 |
| 1991/92 | 145.6 | 70.0 | 213.8 | * | * | 18.5 | 99.8 | 13.0 | 1.9 | 41.8 | * | 5.4 | 40.2 | | 0.9 | 4.1 |
| 1992/93 | 130.1 | 56.5 | 197.5 | 3.8 | * | 20.3 | 49.1 | 14.5 | 7.9 | 26.6 | * | 18.9 | 33.7 | | 1.0 | * |
| 1993/94 | 127.7 | 102.6 | 246.6 | 4.5 | * | 35.2 | 102.7 | 19.9 | 32.8 | 31.0 | 1.9 | 27.9 | 52.6 | * | 1.5 | * |
| 1994/95 | 144.0 | 68.4 | 216.7 | 0.9 | 21.6 | 130.4 | 195.7 | 28.4 | 10.9 | 81.8 | 2.6 | 51.9 | 101.5 | 1.9 | 8.7 | 5.4 |
| 1995/96 | 165.0 | 77.0 | 238.0 | 22.7 | 21.9 | 75.6 | 117.4 | 9.1 | 22.6 | 41.2 | 21.2 | 26.1 | 45.4 | 17.0 | 8.7 | 9.0 |
| 1996/97 | 149.9 | 71.8 | 275.7 | 19.0 | 20.4 | 76.5 | 121.8 | 29.2 | 16.3 | 46.5 | 19.8 | 26.3 | 41.8 | 4.0 | 19.0 | * |
| 1997/98 | 130.8 | 77.0 | 223.3 | 8.8 | 5.9 | 70.4 | 118.0 | 19.5 | 19.7 | 33.0 | 16.6 | 24.2 | 39.7 | 11.5 | 19.0 | 20.8 |
| 1998/99 ^b | 145.9 | 66.5 | 192.9 | 3.2 | 4.8 | 66.2 | 101.7 | 20.5 | 18.1 | 31.8 | 5.1 | 28.5 | 58.7 | 6.2 | 21.8 | 17.6 |

^a Pot shrimp seasons are October through September.

^b Most recent year's data should be considered preliminary.

* Where number of vessels participating is less than three, information is confidential.

Table 5.4. Registration Area A (Southeast Alaska) shrimp pot harvests in thousands of pounds, number of permits, and number of landings by district by month, 1998/99 season.

| District | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Harvest | Permits | Landings |
|----------|---------|-------------------------|--------------------------|--------------------------|------------------------|--------------------------|-----|--------|---------------------|--------|---------|---------|---------|---------|----------|
| 1 | 78,641 | 42,933 | 23,524 | 826 | Closed January 5, 1999 | | | | | | | 145,924 | 40 | 306 | |
| 2 | 48,687 | 9,962 | 6,143 | 1,730 | Closed January 5, 1999 | | | | | | | 66,522 | 26 | 177 | |
| 3 | 192,891 | Closed October 30, 1998 | | | | | | | 192,579 | 49 | 212 | | | | |
| 4 | 0.0 | * | | | * | Closed by Regulation | | * | * | * | 3,220 | 5 | 19 | | |
| 5 | * | * | * | 0.0 | 3,097 | Closed by Regulation | | * | | | 4,841 | 5 | 11 | | |
| 6 | 36,619 | 7,953 | * | 11,906 | 5,827 | Closed February 14, 1999 | | | | | 66,177 | 15 | 137 | | |
| 7 | 84,031 | 11,916 | 5,705 | Closed December 31, 1998 | | | | | | | 101,652 | 23 | 328 | | |
| 8 | 17,137 | 3,359 | Closed November 13, 1998 | | | | | | | 20,496 | 13 | 94 | | | |
| 9 | 9,717 | 8,339 | 0.0 | Closed December 2, 1999 | | | | | | | 18,056 | 13 | 36 | | |
| 10 | 23,491 | 8,253 | Closed November 20, 1998 | | | | | | | 31,744 | 17 | 81 | | | |
| 11 | 0.0 | 1,187 | 0.0 | * | * | Closed by Regulation | | 1,078 | * | * | 5,120 | 7 | 26 | | |
| 12 | 28,462 | Closed October 15, 1998 | | | | | | | 28,462 | 13 | 32 | | | | |
| 13-C | 45,507 | Closed by Regulation | | | | | | | 45,507 | 27 | 733 | | | | |
| 13-A, B | 6,200 | 4,265 | * | 0.0 | * | Closed by Regulation | | | | | 13,189 | 10 | 39 | | |
| 14 | 0.0 | 825 | * | * | * | Closed by Regulation | | * | * | | 6,201 | 6 | 64 | | |
| 15 | 1,766 | 3,802 | 2,358 | 1,404 | 1,537 | Closed by Regulation | | 10,969 | Closed May 21, 1999 | | 21,969 | 10 | 158 | | |
| 16 | 991 | 16,593 | Closed December 1, 1998 | | | | | | | 17,584 | 344 | 43 | | | |
| Harvest | 573,888 | 120,708 | 43,732 | 1,753 | 14,075 | Closed by Regulation | | 15,640 | 3,320 | * | 788,644 | | | | |
| Permits | 165 | 85 | 39 | 20 | 18 | Closed by Regulation | | 14 | 5 | * | 183 | | | | |
| Landings | 1,97 | 341 | 134 | 52 | 49 | Closed by Regulation | | 101 | 31 | * | 1,806 | | | | |

* Where number of vessels participating is less than three, information is confidential.