

SOUTHEAST ALASKA POT SHRIMP FISHERY
MANAGEMENT PLAN, 2003



by
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INTRODUCTION

The spot prawn *Pandalus platyceros* is the target species for most Southeast Alaska shrimp pot fisheries, with smaller quantities of coonstripe shrimp *Pandalus hypsinotus* also harvested. Both species are harvested from rocky habitats, with the greatest portion of the harvest taken in Districts 1, 3, and 7. Smaller but significant harvests also occur in Districts 2 and 6. More recently, harvests from Districts 8, 9, 10, 11, 12, 13, 14, and 15 are becoming more important.

Harvest records dating from 1962 indicate the pot shrimp fishery began with sporadic effort and low harvest through the mid-1970s when the pot shrimp fishery served as a supplemental source of income. Total Southeast harvest levels in the 1970s averaged 22,000 pounds per year. 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 fisheries. Total Southeast harvest levels in the 1980s averaged 250,000 pounds per year. From 1990/1991 through 1994/1995 the character of the fishery underwent radical changes with the number of permits fished as high as 248 and average annual harvest increased to 711,000 pounds. In October 1994, the first floating processor entered the fishery. Pot fishing efficiency and the pace of the fishery greatly increased during this time. From 1995/1996 through the 2002/2003 seasons, with new GHRs implemented, the average annual harvest has been 890,800 whole pounds of shrimp with a peak harvest of 1,091,500 pounds during the 2000-2001 season.

In 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. The commission obtained and analyzed data concerning the fishery and held numerous public hearings throughout Southeast Alaska and announced in early November 1995 that they had adopted a limited entry program. In October 1996 the commission adopted a point system for the fishery and by February of 1998 the commission began the process of issuing permits for the fishery.

A total of 329 permits were issued in the Southeast Alaska pot shrimp fishery in 2002. During the 2001/2002 season 168 permits were registered and of those 158 were fished.

The commercial pot shrimp fishery opens by regulation on October 1 each year. Management, since the 1995/1996 season, has been, and continues to be, focused on harvesting within guideline harvest ranges (GHR) that are established for each separate fishing area. There are nineteen distinct pot shrimp fishing areas in Southeast Alaska: Districts 1 and 2, Section 3-A, Section 3-B/C, Districts 4–11, Tenakee Inlet, the remainder of District 12, Sections 13-C and 13-A/B, and Districts 14–16. Each of these pot shrimp area fisheries are discussed separately in this management plan.

2003 BOARD OF FISHERY POT SHRIMP ACTIONS

During the January 2003 Alaska Board of Fisheries (BOF) meeting in Sitka, the board adopted a number of new regulations for the Southeast pot shrimp fishery. Following are the new regulations that will change the way the fishery will be managed.

5 AAC.31.126 SHRIMP POT MARKING REQUIREMENTS FOR REGISTRATION AREA A. This regulation removes the requirement that each shrimp pot **must** have a tag it now allows the Department to require this regulation by emergency order. During the 2003-2004 season pot tags will not be required. *(This was proposal 235)*

5 AAC 31.143 REPORTING REQUIREMENTS FOR SHRIMP CATCHER-PROCESSORS AND CATCHER-SELLERS IN REGISTRATION AREA A. This regulation now applies to catcher-sellers and requires them to fill out a fish ticket before any shrimp are removed from the vessel. *(This was proposal 242)*

The new regulations also include a number of housekeeping proposals that will not alter the way the fishery is managed from previous years. These include

5 AAC 31.110. SHRIMP POT FISHING SEASONS AND PERIODS FOR REGISTRATION AREA A. This regulation clarifies that a summer season could occur by emergency order from May 15 through July 31 in districts where the GHR is not taken during the regular season. *(This was proposal 230)*

5 AAC 31.115. SHRIMP POT GUIDELINE HARVEST RANGES FOR REGISTRATION AREA A. This regulation puts the pot shrimp GHRs implemented in the Pot Shrimp management Plan (5 AAC 31.145) which became effective in 2000 into 5 AAC 31.115. This regulation also splits District 12 and District 13 into two sections each with their own GHRs. District 13 has been managed as two distinct areas since the 1998/99 season. District 12 has been managed as two distinct areas since the 2001/02 season. *(This was proposal 240)*

5 AAC 31.124. LAWFUL SHRIMP POT GEAR FOR REGISTRATION AREA A. This regulation deletes references to obsolete sections in the existing regulations and it clarifies the number of pots that can be used when fishing a combination of large and small pots. *(This was proposal 237)*

5 AAC 31.126 SHRIMP POT MARKING REQUIREMENTS FOR REGISTRATION AREA A. This regulation deletes the date in the regulation, which will eliminate confusion about whether or not the regulation is in effect. *(This was proposal 236)*

5 AAC 31.128 OPERATION OF OTHER POT GEAR IN REGISTRATION AREA A. This regulation clarifies and corrects existing regulations so it clearly allows the use of king and tanner crab pots during the shrimp pot season. *(This was proposal 238)*

5 AAC 31.145. SOUTHEASTERN ALASKA AREA POT SHRIMP FISHERY MANAGEMENT PLAN. This deletes obsolete sections in the existing regulations. *(This was proposal 241)*

Another action taken by the Board at the Sitka meeting was to formalize a Southeast Alaska Pot Shrimp Task Force. The Board adopted a formal charge for the Task Force, established the Task Force structure, and other organizational details. The structure of the Task Force is one seat each from each of Petersburg, Craig, Outside Southeast Alaska, and Southern Southeast Alaska at large and two seats each for Sitka, Wrangell, Ketchikan, and Northern Southeast Alaska for a total of twelve seats.

Southeast Alaska shrimpers are expected to familiarize themselves with all of the pot shrimp regulations prior to fishing.

MANAGEMENT APPROACH

Management is based upon closed seasons 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 (8:00 a.m. to 4:00 p.m.), and a guideline harvest range (GHR) for each fishing district. Regulations have also been adopted for permitting of shrimp floating processors and reporting requirements for shrimp catcher-processor and catcher-seller vessels.

The major problem the department has faced in the last several years is the ability to accurately track catches from catcher-processors. The introduction of the catcher-processor vessel into the fishery is relatively new. During the early to mid-1990s catcher-processors made up less than 20% of the fishing fleet. In more recent years 50 to 70% of the fishing vessels in some districts are catcher-processors. The department, with the approval of the board, has established reporting requirements for the catcher-processor. Those requirements can be found in **5 AAC 31.143. REPORTING REQUIREMENTS FOR SHRIMP CATCHER-PROCESSOR VESSELS IN REGISTRATION AREA A.**

A catcher processor vessel is a vessel that catches and processes product on board [5 AAC 31.143.(d)]. Observers are not required on catcher processors. A catcher processor cannot buy or process shrimp from another fishing vessel or tender. The catcher processor owner or operator shall complete separate fish tickets every day that shrimp are caught and processed on board the vessel. The requirement that fish tickets be turned in seven days after completion will be waived for this fishery for this season. However, fish tickets must be submitted to a Fish and Game office within seven days of the closure of a District or Section with a unique GHR if a shrimp catcher-processor fished in the area.

Catcher-processors must call and report the information specified below between 8:00 a.m. and 4:30 p.m. to any Fish and Game area office once per week by 12:00 noon each Wednesday of every week fishing operations are conducted. For the 2003/2004 season, reporting requirements will start the week of October 6 in each District or Section with a unique GHR. Fishers are advised that they should contact the office responsible for each area: Ketchikan for Districts 1–4, Petersburg or Wrangell for Districts 5, 6, 7, 8 and 10, Sitka for District 9 and 13, Juneau for District 11, 12, 14, and 16, and Haines for District 15.

The once per week reporting requirements allows fishers 2 ½ days at the start of each week to contact the local area office. For example, operators of catcher-processors fishing in District 10 will initially have to phone in information below sometime between Monday, October 6 and noon, Wednesday, October 8 and each subsequent week thereafter.

Fishers are advised that these reporting requirements are in effect until further notice and may change during the fishing season. Notice of any changes will be announced in subsequent news releases. Reporting requirements for districts not specifically addressed above will be in accordance with 5 AAC 31.143 (a) and (c) until further notice.

The information required will be:

- 1) callers name/permit holder name,
- 2) vessel name,
- 3) vessel ADF&G number,
- 4) fish ticket number of each fish ticket made since last call in,
- 5) date of landing on each fish ticket,
- 6) district and subdistrict on each fish ticket,
- 7) numbers of pot lifts on each fish ticket,
- 8) weight of spot shrimp and coon shrimp on each ticket – specify whole or tail weight,
- 9) cumulative pounds of whole shrimp on board by species, by subdistrict, since the last delivery, and
- 10) date of last delivery.

The department will furnish catcher-processors with pre-printed reporting forms to help facilitate the reporting requirements. Forms may be picked up at any Fish and Game office in Southeast Alaska.

Once catcher-processors have stopped fishing in a District or a Section with a specific GHR they are required to call and report the above information prior to fishing in a new District or a Section with a specific GHR. The department will make available reporting forms that should be used to help facilitate inseason reporting requirements.

The department will issue weekly news releases, usually on Thursday afternoons, which will update fishers on the progression of the fishery, district by district. A news release will list the GHR for districts and the harvest to date for the individual district. In addition to the weekly summary news releases the department will issue other news releases as required to announce fishery closures or other information.

POT SHRIMP TASK FORCE

There was no meeting of the Pot Shrimp Task Force in 2003 because of the Board of Fisheries meeting. The Board approved formalizing the shrimp task force with designated seats similar to the king and tanner crab and Dungeness crab task forces. Previous task force meetings have been held in communities where significant numbers of pot shrimpers live and where jet service occurs. This is designed to obtain the most input from the industry and reduce the cost and time commitment of the industry and the department. The department will work with industry to schedule a meeting tentatively for Sitka in January 2004. No meetings have been scheduled at the time this management plan was finalized.

MISCELLANEOUS ISSUES

Octopus Bycatch

Marine invertebrates, including octopus, may be taken only under the authority of a permit issued by the commissioner or the commissioner's designee [5 AAC 38.062]. Fishers are advised that this applies to octopus they wish to retain for their own use [5 AAC 02.021].

The department will issue permits under authority of 5 AAC 38.062 to allow retention of octopus captured as bycatch in commercial pot shrimp fisheries. Permits are available at Southeast Alaska area offices. Permit stipulations include a maximum octopus bycatch limit of 5% whole weight of total shrimp onboard a vessel, dates for which the permits are valid, and other stipulations.

Fishers are advised that by issuing these permits the Alaska Department of Fish and Game is not committing to doing so in the future. Should the level of interest and subsequent harvests exceed levels considered potentially detrimental to the resource, the department may consider invoking the High Impact Emerging Fisheries regulation [5 AAC 39.210] and close the fishery until such time as an interim management plan can be developed and presented to the Alaska Board of Fisheries.

The department is interested in obtaining as much biological information as possible from octopus retained in the commercial pot shrimp fishery. In addition to weight and numbers of individual octopus harvested in the fishery the department would like to obtain species composition, sex, and harvest distribution data. There are two species of octopus in Southeast Alaska, the giant Pacific octopus (*Octopus dofleini*) and the red octopus (*Octopus rubescens*). Male octopus have a modified third arm which is called the hectocotylus. The hectocotylus has a deep groove between the two rows of suckers. Fishers are advised that department staff may ask to sample octopus on an opportunistic basis during on-the-grounds sampling trips.

Pot Shrimp Fishing Offshore

The department has received several requests to initiate pot shrimp fisheries offshore (outside State waters, three miles or greater from shore). In various public meetings and individual telephone calls department staff agreed to consider these requests. After further investigation it has become apparent that offshore commercial pot shrimp fisheries can be accommodated under existing regulations and guideline harvest levels. Given the absence of a Federal Fishery Management Plan for commercial pot shrimp fisheries in Federal waters the State has management jurisdiction for this fishery [Magnusen Stevens Act SEC 306.104-297 (3)]. As these offshore waters are part of Registration Area A, Southeast Alaska, they are subject to limited entry. Fishers who wish to fish in these areas must have a Southeast Alaska commercial pot shrimp fishery card.

Offshore waters are included in Districts 4, 13, and 16 the boundary lines of which are described in 5 AAC 31.105 (d), (m), and (p). The offshore area includes the Exclusive Economic Zone (EEZ) of the United States. The EEZ extends to a distance of 200 nautical miles offshore of the defined fish districts (President Proclamation 5030). Fishers who wish to fish in outside waters may do so only if those districts are open. Shrimp harvested in these areas will be part of existing guideline harvest levels for those districts.

KETCHIKAN AREA FISHERIES

Introduction

The Ketchikan fishery management area encompasses Districts 1, 2, 3, and 4. The shrimp fishery is managed for spot prawns since there is a very limited harvest of coonstripe shrimp. Only District 3 is divided into smaller management areas with a separate GHR for Section 3-A and a combined GHR for Sections 3-B and 3-C. Section 3-A is the largest producer of spot prawns in the region followed by District 1. District 2 is the fourth largest district in Southeast Alaska. Shrimp harvests in District 4 are very limited.

District 1

District 1 includes all waters east and north of a line from the southernmost tip of Caamano Point to 54°40' N. latitude, 131°45' W. longitude, and north of a line from 54°40' N. latitude, 131°45' W. longitude to 54°42.48' W. longitude, 130°36.92' W. longitude. The major shrimp fishing areas include Behm Canal, George and Carroll inlets, Boca de Quadra, and Portland Canal.

Prior to the 1983/1984 season the District 1 fishery was restricted by Board of Fisheries action 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 an important biological benefit of allowing stock recruitment to occur through molting and growth process.

From the 1986/1987 season through the 1994/1995 season District 1 was 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 fishery.

Beginning in the late 1980s and early 1990s the character of the fishery underwent radical changes with much larger effort levels and harvests going from less than 50,000 pounds of whole shrimp per season to over 150,000 pounds. Also the introduction of floating processors and catcher-processors in this and other districts greatly accelerated the growth of the fishery.

A GHR was imposed on the district starting with the 1995/1996 season. The GHR was set using the baseline harvest from the 1990/1991 through the 1994/1995 seasons. The District 1 GHR was set at

145,00 pounds. That was raised to 164,000 whole pounds of shrimp when the department revised the tail weight to whole weight ratio from 1.67 to 2.0.

Since the start of the GHR the length of the District 1 season has been reduced from approximately 150 days prior to the GHR to as few as 37 days in 1996/1997. The average seasonal harvest and effort levels have been 160,000 pounds of whole shrimp and 47 boats since the 1995/1996 season.

For the 2003/2004 season the district will be managed for a GHR of 164,000 whole pounds of shrimp. The department anticipates the pace of the fishery will be similar to the past three seasons when the fishery averaged approximately 48 days. The district was opened for 52 days during the 2002/2003 season.

The department continues to be concerned about local depletion especially in areas close to larger towns where there can be more gear than in more remote areas. During the 1999/2000 season portions of Behm Canal and George and Carroll Inlets were closed due to declining catch-per-unit-of-effort and size of the shrimp. The department will pay close attention to these areas in the future and may take management actions if concerns for these local stocks persist.

The Alaska Board of Fisheries during the 2000 meeting closed the following waters to commercial shrimp fishing in District 1 (Figure 2):

The waters east of a line from Indian Point at 55°36.85' N. latitude, 131°42.02' W. longitude, to the northeasternmost tip of Betton Island at 55°31.95' N. latitude, 131°46.37' W. longitude, to the southeastern most tip of Betton Island at 55°29.90' N. latitude, 131°48.18' W. longitude, to Survey Point at 55°28.07' N. latitude, 131°49.87' W. longitude.

District 2

District 2 includes all waters south of a line running from the easternmost tip of Narrow Point to the northernmost tip of Lemesurier Point, waters west of a line running from Caamano Point to 54°40' N. latitude, 131°45' W. longitude, and waters east of a line running from Point Marsh Light to 54°40' N. latitude, 132°17.50' W. longitude. The major shrimp fishing areas include Moira Sound, Cholmondeley Sound, and Kasaan Bay.

Prior to the 1983/1984 season the District 2 fishery was restricted by Board of Fisheries action 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 an important biological benefit of allowing stock recruitment to occur through the molting and growth process.

From the 1986/1987 season through the 1994/1995 season District 2 was 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 fishery.

Beginning in the late 1980s and early 1990s the character of the fishery underwent radical changes with much larger effort levels, and harvests going from less than 30,000 pounds of whole shrimp per season to over 80,000 pounds. Also the introduction of floating processors and catcher-processors in this and other districts greatly accelerated the growth of the fishery.

A GHR was imposed on the district starting with the 1995/1996 season. The GHR was set using the baseline harvest from the 1990/1991 through the 1994/1995 seasons. The District 2 GHR was set at 65,000 pounds. That was raised to 86,000 whole pounds of shrimp when the department revised the tail weight to whole weight ratio from 1.67 to 2.0.

Since the start of the GHR the length of the District 2 season has been reduced from approximately 150 days prior to the GHR to as few as 22 days in 1997/1998. The average seasonal harvest and effort levels have been 88,500 pounds of whole shrimp and 26 boats since the 1995/1996 season.

For the 2002/2003 season the district will be managed for a GHR of 86,000 whole pounds of shrimp. The department anticipates the pace of the fishery will be similar to the past three seasons when the fishery averaged 29 days. The district was opened for 30 days during the 2002/2003 season.

During the 2000 meeting the BOF closed the following waters to commercial shrimp fishing in District 2:

The waters of Twelvemile Arm west of a line from Prince of Wales Island at 55°29.07' N. latitude, 132°37.60' W. longitude, to the northeasternmost tip of Loy Island at 55°29.07' N. latitude, 132°36.70' W. longitude, to the easternmost tip of Cat Island at 55°27.80' N. latitude, 132°39.08' W. longitude, to Prince of Wales Island at 55°27.80' N. latitude, 132°40.93' W. longitude, including the waters nearest Hollis Anchorage.

District 3

District 3 is divided into three sections. Section 3-A is managed for a separate GHR of 264,000 whole pounds, and Sections 3-B and 3-C are managed for a combined GHR of 50,000 whole pounds.

Prior to the 1983/1984 season the District 3 fishery was restricted by Board of Fisheries action 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 an important biological benefit of allowing stock recruitment to occur through the molting and growth process.

From the 1986/1987 season through the 1994/1995 season District 3 was 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 fishery.

Beginning in the late 1980s and early 1990s the character of the fishery underwent radical changes with much larger effort levels, and harvests going from approximately 40,000 pounds of whole shrimp per season to well over 200,000 pounds. Also the introduction of floating processors and catcher-processors in this and other districts greatly accelerated the growth of the fishery. Approximately 75 percent of the harvest came from the Section 3-A area (Cordova Bay).

A GHR was imposed on the district starting with the 1995/1996 season. The GHR was set using the baseline harvest from the 1990/1991 through the 1994/1995 seasons. The total District 3 GHR was set at 200,000 pounds.

During the 2000 Board of Fisheries meeting the BOF adopted for Section 3-A a separate GHR of 264,000 whole pounds and adopted a combined GHR of 50,000 whole pounds for Sections 3-B and 3-C.

Section 3-A

Section 3-A includes those waters south of 55°15' N. latitude, excluding waters of Meares Passage.

Since the start of the GHR the length of the District 3 season has been reduced from approximately 150 days prior to the GHR to as few as 9 days in 1997/1998. Average seasonal harvest and effort levels have been approximately 250,000 pounds of whole shrimp and 52 boats since the 1995/1996 season.

For the 2003/2004 season Section 3-A will be managed for a GHR of 264,000 pounds of whole shrimp. The pace of the fishery has changed over the past three years, and it is difficult to anticipate the number of days the Section will be open. During 2000/2001 season the Section 3-A fishery lasted for 14 days, in 2001/2002 28 days, and the 2002/2003 season lasted 41 days.

Sections 3-B and 3-C

Sections 3-B and 3-C include those waters north of 55°15' N. latitude and south of Aneskett Point located at 56°08.83' N. latitude and east of a line from Point Arboleda to the northernmost tip of Point San Roque to the southernmost tip of Cape Ulitka to the northeasternmost tip of Cape Lynch to the southwest entrance point of Halibut Harbor located on Kosciusko Island.

Prior to the 2000/2001 season Sections 3-B and 3-C were managed in conjunction with 3-A. During the 2000 Board of Fisheries meeting a separate GHR of 50,000 whole pounds of shrimp was established for 3-B and 3-C. The GHR is for both sections. The department will manage the sections as one area and not attempt to split the GHR evenly between the two areas.

For the 2003/2004 season Sections 3-B and 3-C will be managed to harvest a total of 50,000 whole pounds of shrimp. These Sections were open for 15 days during the 2000/2001 season, 46 days during the 2001/2002 season, and 21 days during the 2002/2003 season. While it is not possible to judge the amount of time the Sections will be open, it is possible that the GHR level will be taken in a relatively short amount of time and fishers should keep in contact with department personnel in order to know when the sections will close.

District 4

District 4 includes those waters north of Cape Muzon, west of District 3, and south of a line from Helm Point on Coronation Island to Cape Lynch, including offshore waters. The offshore area of District 4 includes the waters of the EEZ.

While the District 4 fishery has only had small, sporadic effort over the years, the GHL was taken during the 2002/2003 season. The GHL for the district is 20,000 whole pounds. Since the introduction of individual district GHLs, the District 4 GHL has been reached in only three of those years. The average annual harvest in the district since the 1995/1996 has been 15,000 whole pounds. The department will continue to manage the district for a 20,000 whole pound GHL.

PETERSBURG-WRANGELL AREA FISHERIES

Introduction

The Petersburg-Wrangell fishery management area encompasses Districts 5, 6, 7, 8, 9-B, and 10. District 9 is managed with a single GHR and encompasses waters within both the Petersburg (Section 9-B) and the Sitka (Section 9-A) management areas. With significant harvests occurring in both management areas, responsibility for managing the District 9 fishery has been shared between the Petersburg and Sitka area offices. The District 9 fishery will be managed out of the Sitka office during the 2003/2004 season. District 7 is the third largest spot shrimp producer in the region, District 6 is the fifth and District 10 is the seventh largest producer. Districts 8 and 9 produce smaller amounts of spot shrimp and the harvest of spot shrimp in District 5 is usually limited. District 8 has small but at times significant landings of coonstripe shrimp. District 7 is usually the largest producer of coonstripe shrimp in the region. Usually about 20–30% of the District 7 harvest is comprised of coonstripe shrimp.

District 5

District 5 includes the waters of Sumner Strait west of Point Baker. Fishing primarily takes place in the bays along the Kuiu Island shoreline and southern Rocky Pass. Prior to statehood and through the 1981/1982 season there were no season or quota restrictions in District 5. During the 1982/1983 season the fishery had the first egg hatch closure occurring in May and June. An egg hatch closure occurred in March and April during the 1984/1985 season. Closures occurred on March 13 during the 1995/1996 season and on December 27 in the 1996/1997 season. During the 1997/1998 season the fishery was open for 12 months with no egg hatch closure. For the 1998/1999 season the fishery was opened from October 1 through February 28 with a summer season from May 1 through August 31. Starting with the 1999/2000 season the fishery has had a winter season from October 1 through February 28 and the summer season was shortened to May 15 through July 31.

The first GHR was established in the district starting with the 1995/1996 season. Districts such as District 5 where no strong fishery had developed were assigned a GHR of 20,000 pounds.

The District 5 fishery has had consistent but usually fairly low effort since the GHR was established. The GHR has only been taken during the 1995/1996, 1996/1997 and 2002/2003 seasons. The average harvest of spot shrimp since the GHR was established is 15,000 pounds and the effort level has varied between 5 and 13 boats. Catches are usually dominated by catcher-processors. In the 2002/2003 season, catcher-processors landed 94% of the catch and 60% of the catch was landed as whole shrimp. The average coonstripe harvest in the fishery since establishment of the GHR is approximately 400 pounds.

The 2002/2003 season closed by regulation on February 28 after 5 vessels harvested 4,933 pounds. The fishery reopened on May 15 and the remaining portion of the GHR was harvested and the season closed on July 31. During the summer season an additional 14,116 pounds were taken by 6 shrimpers. This is the largest harvest of shrimp since the 1996/1997 season.

For the 2003/2004 season the district will be managed for a GHR of 20,000 pounds of spot shrimp. It is anticipated the district will close on February 28, 2004.

District 6

District 6 includes the waters of Sumner Strait east of Point Baker west of Low Point and the waters of Clarence Strait north of Narrow Point to Lemesurier Point and southern Stikine Strait. Fishing primarily occurs in the northern waters of Clarence Strait. Prior to statehood season restrictions occasionally corresponded to the beam trawl fishery season with the fishery opening in mid-April or early May and closing between late January and late February. The first two decades following statehood there were no season or quota restrictions in District 6. During the 1982/1983 season the fishery had the first egg hatch closure, which occurred in May and June. During the 1984/1985 season the egg hatch closure occurred during March and April and it remained that way until it was expanded through May 14 starting in the 1999/2000 season. The first closure to reduce harvest occurred on June 13 during the 1994/1995 season. Since then closures have occurred prior to March 1 each season.

The first GHR was established for the 1984/1985 season when District 6 together with Districts 4, 5, and 8 had a combined GHR of 55,000 pounds. From the 1985/1986 season through the 1996/1997 season it was changed to a combined GHR of 75,000–100,000 pounds for District 6 and District 8. For the 1997/1998 season, two separate GHRs were established for Districts 6 and 8 using the baseline historic harvests from the 1990/1991 through 1994–1995 seasons. The District 6 GHR was set at 65,000 pounds of shrimp. This was raised to 68,000 pounds of spot shrimp when the department revised the tail weight to whole weight ratio of 1.67 to 2.0 for the 2000/2001 season. The catch of coonstripe shrimp was no longer included in the GHR starting in the 2000/2001 season. The effect of removing that catch was to raise the GHR by about another 2,000 pounds. The average harvest of spot shrimp since the start of the 1995/1996 season is 71,000. The average harvest of coonstripe shrimp during that same time period was 1,800 pounds. Effort in the district has been between 13 and 23 boats fishing since the 1995/1996 season. The season length has varied between 31 and 137 days during that time period. Harvest were dominated by catcher-processors the last four seasons. In the 2002/2003 season, catcher-processors landed 79% of the harvest and 87% of the catch was landed as whole shrimp.

During the 2002/2003 season, the fishery closed on October 26. Eleven shrimpers harvested 68,293 pounds of spot shrimp and 38 pounds of coonstripe shrimp.

District 6 will be managed for a GHR of 68,000 pounds of spot shrimp for the 2003/2004 season. It is anticipated that the fishery will close around November 1, 2003.

District 7

District 7 includes the waters of Ernest Sound, Bradfield Canal, southern Zimovia Strait, Eastern Passage, and Blake Channel. Fishing is concentrated in Ernest Sound. Prior to statehood and through the 1981/1982 season there were no season or quota restrictions in District 7. During the 1982/1983 season the fishery had the first egg hatch closure, which occurred in May and June. During the 1984/1985 season the egg hatch closure occurred during March and April and it remained that way until it was expanded through May 14 for the 1999/2000 season. The first closure to reduce harvest occurred on June 30 during the 1984/1985 season. For the next 10 seasons District 7 was closed from March through September. Since then closures have occurred prior to March 1 each season.

The first GHR was established for the 1984/1985 season when District 7 together with Districts 1, 2 and 3 had a combined GHR of 125,000 pounds. The first separate GHR for District 7 of 100,000 pounds of shrimp was set starting with the 1995/1996 season using the baseline harvest from the 1990/1991 season through the 1994/1995 season. This was raised to 104,000 pounds of spot shrimp when the department revised the tail weight to whole weight ratio of 1.67 to 2.0 for the 2000/2001 season. The catch of coonstripe shrimp was no longer included in the GHR starting in the 2000/2001 season. The effect of removing that catch was to raise the GHR by between 15,000 and 25,000 pounds. The average harvest of spot shrimp since the start of the 1995/1996 season is 93,000. The average harvest of coonstripe shrimp during that same time period was 24,000 pounds. Effort in the district has varied between 21 and 45 boats fishing during that same time period. The season length has varied between 20 and 55 days. Catches during the past four seasons were dominated by catcher-processors. In the 2002/2003 season, catcher-processors landed 88% of the catch and 75% of the catch was landed as whole shrimp. During the 2002/2003 season, the closure occurred on November 8. Twenty-two shrimpers harvested 99,250 pounds of spot shrimp and 14,262 pounds of coonstripe shrimp.

District 7 will be managed for a GHR of 104,000 pounds of spot shrimp for the 2003/2004 season. It is anticipated the fishery will close around November 10, 2003.

District 8

District 8 includes the waters of the eastern portion of Frederick Sound on the north side of the Stikine Flats and Chichagof Pass and the northern portions of Stikine and Zimovia Straits on the south side of the Stikine Flats. Fishing primarily occurs in those waters within about 10 miles of Wrangell. Prior to statehood, season restrictions occasionally corresponded to the beam trawl fishery season with the fishery opening in mid-April or early May and closing between late January and late February. The first two decades following statehood there were no season or quota restrictions in District 8. During the 1982/1983 season the fishery had the first egg hatch closure, which occurred in May and June. During the 1984/1985 season the egg hatch closure occurred during March and April and it remained that way until it was expanded through May 14 for the 1999/2000 season.

The first closure to reduce harvest occurred on November 13 during the 1995/1996 season. Since then closures have occurred prior to March 1 each season. The first GHR was established for the 1984/1985 season when District 8 together with Districts 4, 5, and 6 had a combined GHR of 55,000 pounds. From the 1985/1986 season through the 1996/1997 season it was changed to a combined GHR of 75,000–100,000 pounds for District 6 and District 8. When these two districts received separate GHRs for the 1997/1998 season the GHR was set using the baseline harvest from the 1990/1991 season through the 1994/1995 season. The District GHR was set at 20,000 pounds of shrimp. This was no change in the GHR when the department revised the tail weight to whole weight ratio of 1.67 to 2.0 for the 2000/2001 season because shrimp landed from District 8 are almost all landed in the round. The catch of coonstripe shrimp was no longer included in the GHR starting in the 2000/2001 season. The effect of removing that catch was to raise the GHR by about another 2,000–3,000 pounds. The average harvest of spot shrimp since the start of the 1995/1996 season is about 19,000 pounds. The average harvest of coonstripe shrimp during that same time period was 2,700 pounds. Effort in the district has varied between 8 and 20 boats fishing during that same time period. The season has lasted between 22 and 36 days since the 1995/1996 season. Day boats land the majority of the catches as whole shrimp. In the 2002/2003 season, catcher-processors landed 35% of the catch and 95% of the catch was landed as whole shrimp. The 2002/2003 season was opened for 31 days. The effort has been consistently low the last four seasons and the lowest number of shrimpers since 1995/1996 season registered landings in 2002/2003 (eight permits). The catch

included 22,105 pounds of spot shrimp and 2,223 pounds of coonstripe shrimp. District 8 will be managed for a GHR of 20,000 pounds of spot shrimp for the 2003/2004 season. It is anticipated the fishery will close around November 1, 2003.

District 9

District 9 includes waters of Chatham Strait north of Cape Decision to Coronation Island to Cape Ommaney, south of the latitude of Point Gardner, and in waters of Frederick Sound and Rocky Pass west of Point Macartney to Elliott Island and north and west of Point Camden to Salt Point. Fishing is concentrated in a small number of bays along the southern Admiralty shoreline and eastern Baranof shoreline. The more important fishing subdistricts include 109-10, 109-20, and 109-30. Since significant catch occurs in both Section 9-A and 9-B, management responsibility has shifted between the Sitka and Petersburg area offices on alternate years.

Prior to statehood and through the 1994/1995 season there were no season or quota restrictions in District 9. The GHR for District 9 was set at 15,000 pounds of shrimp in the 1995/1996 season using the baseline harvest from the 1990/1991 season through the 1994/1995 season. This was raised to 18,000 pounds of spot shrimp when the department revised the tail weight to whole weight ratio of 1.67 to 2.0 for the 2000/2001 season. The catch of coonstripe shrimp was no longer included in the GHR starting in the 2000/2001 season. The effect of removing that catch was minimal since the harvest of coonstripe shrimp has totaled less than 1,000 pounds since the GHR was initiated. The average harvest of spot shrimp since the start of the 1995/1996 season is 20,000 pounds. The average harvest of coonstripe shrimp during that same time period was 200 pounds. Effort in the district has varied between 5 and 16 boats. In the 2002/2003 season, catcher-processors landed 24% of the catch and 11% of the catch was landed as whole shrimp. During the 2002/2003 season, the fishery was opened for 32 days. Eight vessels landed 15,713 pounds of spot shrimp and 222 pounds of coonstripe shrimp.

Department area staff will rely primarily on fish tickets and reporting by catcher-processors, and may also survey and sample the fishery from the grounds as scheduling and budgets allow. In the latter case a field announcement of a closure is possible. District 9 will be managed for a GHR of 18,000 pounds of spot shrimp for the 2003/2004 season. It is anticipated that the 2003 season will close around the end of October.

District 10

District 10 includes the waters of the central portion of Frederick Sound and the southern portion of Stephens Passage. Fishing is concentrated along the mainland shoreline north of Cape Fanshaw and in the bays along the Admiralty shoreline. Prior to statehood, the fishing season east of Cape Fanshaw occasionally corresponded to the beam trawl fishery season with the fishery opening in mid-April or early May and closing between late January and late February. The first three and a half decades following statehood there were no season or quota restrictions in District 10. Each season since then, closures have occurred prior to March 1. The first GHR for District 10 of 30,000 pounds of shrimp was set in the 1995/1996 season using the baseline harvest from the 1990/1991 season through the 1994/1995 season. This was raised to 36,000 pounds of spot shrimp when the department revised the tail weight to whole weight ratio of 1.67 to 2.0 for the 2000/2001 season. The catch of coonstripe shrimp was no longer included in the GHR starting in the 2000/2001 season. The effect of removing that catch was minimal since the harvest of coonstripe shrimp has been less than 2,000 pounds since the GHR was initiated. The

average harvest of spot shrimp since the start of the 1995/1996 season is 42,000 pounds. The average harvest of coonstripe shrimp during that same time period was 1,600 pounds. Effort in the district has varied between 14 and 49 boats fishing during that same time period. The season length has varied considerably, between 14 and 98 days. For the 2002/2003 season, catcher-processors landed 27% of the catch and 24% of the catch was landed as whole shrimp. During the 2002/2003 season, the fishery was opened for 16 days. Seventeen shrimpers caught 54,706 pounds of spot shrimp and 4 pounds of coonstripe shrimp. This was the second largest shrimp harvest ever recorded in the district. The catch/day was better in the second half of the fishery, and the pounds/pot increased the last four days of the fishery. District 10 will be managed for a GHR of 36,000 pounds of spot shrimp for the 2003/2004 season. It is anticipated that the 2003 season will close around October 12.

SITKA AREA FISHERIES

Introduction

The Sitka fishery management area includes all waters of District 13, Section 9-A, and Statistical Areas 112-11, 112-21, and 12-22 of District 12. District 13 has been divided into two areas, each managed with separate GHLS. One area consists of all waters of Section 13-C (Hoonah Sound and Peril Strait) and the other area consists of all waters of Sections 13-A and 13-B (outer coastal area of District 13). District 13 is unique since the BOF has adopted a customary and traditional finding for shrimp. The BOF also has closed the Sitka Sound special use area (5 AAC 31.136 (3)) to the commercial harvest of shrimp. District 9 is managed with a single GHL and encompasses waters within both the Petersburg and the Sitka management areas. With significant harvests occurring in both management areas, responsibility for managing the District 9 fishery has been shared between the Petersburg and Sitka area offices. The District 9 fishery will be managed by the Sitka area office during the 2003/2004 season. The District 12 fishery is managed out of the Juneau area office since relatively little effort occurs within the Sitka management area.

District 13

Section 13-C

Section 13-C consists of waters of Hoonah Sound and Peril Strait west of Point Hayes to Point Thatcher and north of Pogibshi Point.

The waters of Section 13-C contain the most productive pot shrimping grounds in the Sitka management area. This area has been the focus of the Sitka area pot shrimp fishery throughout the fishery's development. The first commercial landings of pot shrimp from Section 13-C occurred during the 1977/1978 fishing season with minimal harvest through the 1980/1981 season. For the next thirteen years, from the 1981/1982 through the 1993/1994 fishing seasons, effort and harvest steadily increased with 6 to 19 boats participating and landing between 10,000 and 40,000 pounds whole weight. During this period the Section 13-C fishery was open year round with landings occurring year round.

The 1994/1995 season was pivotal in the history of the fishery. During that season a floating processor moved into Section 13-C in response to a strong Japanese market for frozen whole shrimp. This resulted in a substantial increase of harvest in Section 13-C. Concerned with rapidly increasing harvest and having little information on stock size and productivity the department closed all of District 13 by emergency order. This was the first ever pot shrimp fishery emergency order closure in Southeast Alaska. The total 1994/1995-season harvest in Section 13-C was 81,000 pounds whole weight, double any previous year's harvest. Other productive areas throughout Southeast Alaska had seen similar trends prompting the department to establish GHLS for all districts in the region. For districts with a relatively consistent harvest history, the GHL was based on the average harvest over the previous five seasons. The high harvest of the 1994/1995 season was not included in the calculation and the resultant GHL for District 13 was 40,000 pounds whole weight. In 1996/1997 Section 13-C was allocated a GHL of 25,000 pounds whole weight and Sections 13-A and 13-B together were allocated 15,000 pounds whole weight consistent with historical harvests from each area. The GHL for 13-C was increased to 30,000 pounds for the 2000/2001 fishing season as a result of using a more appropriate conversion factor of tail weight to whole weight. This change did not result in any real change to the amount of shrimp available for harvest in 13-C.

Since the establishment of a GHL the harvest and the number of vessels participating in the Section 13-C fishery has remained relatively stable. However, with increased value and management to limit harvest, the fishery has greatly intensified resulting in shorter and shorter seasons. For the past three seasons the 13-C fishery has been managed by conducting an over-flight shortly after the fishery opens to determine the effort and set distribution, followed by on-the-grounds monitoring and skipper interviews to determine catch rates and to collect catch samples.

During the 2002/2003 fishing season, 21 vessels harvested 38,340 pounds whole weight shrimp and the fishery lasted five days. Fishers can expect the 2003/2004 season to last four or five days. Department managers will make a field announcement of closure time over the VHF radio. The department attempts to give as much notice as possible before a closure but closure announcements may provide as little as 24-hour notice. Catcher-processors will be exempt from weekly reporting requirements for this fishery due to the short duration of the Section 13-C fishery.

Sections 13-A and 13-B

The pattern of fishery development in Sections 13-A and 13-B was similar to that of Section 13-C. The first reported commercial harvest of pot shrimp occurred during the 1978/1979 fishing season and harvests remained below 5,000 pounds whole weight through the 1989/1990 fishing season. From the 1990/1991 through the 2001/2002 fishing season, harvests have ranged from 9,500 pounds to 30,000 pounds, averaging 16,300 pounds whole weight. A GHL of 15,000 pounds whole weight has been established for the Section 13-A and Section 13-B fishery since the 1996/1997 fishing season. Since the establishment of the GHL for Section 13-A and Section 13-B, the fishery has shown a trend in season length opposite to the more productive areas in the region. During the first season the GHL was in place the season lasted 56 days, the following season lasted 69 days, and the past five seasons have remained open until the regulatory closure of February 28 or 151 days. During each of the past four seasons around 15,000 pounds whole weight have been harvested. With demand for product currently at high levels, this trend is indicative of generally low productivity of shrimp in the outer coastal areas. Almost all of the harvest comes from the bays and inlets and the department is concerned that localized depletion may be occurring in some areas.

During the 2002/2003 season, 14,868 pounds whole weight of shrimp were landed by nine vessels and the fishery remained open until January 5. For the 2003/2004 fishing season harvesters can expect a season length similar to the 2002/2003 fishing season. Fishers are advised that the department will be monitoring catch rates as an indicator of stock strength. If a pattern of reduced catch rates is evident it may be necessary to close the fishery or specific areas before the upper end of the GHR has been harvested to protect the resource from localized depletion as well as to provide for subsistence use of the resource. Catcher-processors participating in the Section 13-A and Section 13-B fishery will be required to report their catch and effort information to the department on a weekly basis beginning October 1, 2003.

The offshore areas of Sections 13-A and 13-B include the waters of the EEZ.

JUNEAU/HAINES AREA FISHERIES

Introduction

The Juneau/Haines fishery management area encompasses Districts 11, 12, 14, 15, and 16. The pot shrimp fishery is managed for spot prawns in Districts 12 and 14, where spot prawns typically comprise over 95% of the shrimp harvest. Districts 15 and 16 are managed for coonstripe shrimp, which typically comprise 75–100% of the harvests in those districts. District 11 is managed for a combined spot and coonstripe GHR since the two species have contributed similar amounts to historical harvests in the district.

District 11

District 11 includes those waters of Stephens Passage north of a line from Point League to Point Hugh, waters of Seymour Canal north of 57°37' N. latitude and waters that are south of the latitude of Little Island Light and east of a line running from Little Island Light to Point Retreat Light. Major shrimp fishing areas in the district include Seymour Canal, Endicott Arm, and Port Snettisham.

Prior to the 1995/1996 season the district was open year-around to commercial pot shrimp fishing. Between the 1990/1991 and 1994/1995 seasons, harvests averaged 2,000 pounds of shrimp. A 20,000 pound GHL was established for the district starting with the 1995/1996 fishing season. Effort levels and harvests increased substantially beginning that season. The 1995/1996 season was closed by emergency order in June 1996, and the 1996/1997 season was closed in May 1997 when the GHL was reached. The shortest fishing season in District 11 was the 2002/2003 season when the fishery closed by emergency order on December 12, 2002 with 19,460 pounds harvested. It is expected the season length will continue to shorten in future fisheries. The Southeast Alaska Pot Shrimp Management Plan passed by the BOF in January 2000 specifies a GHR of 0–20,000 pounds of combined coonstripe and spot shrimp for District 11. The department intends to manage the district for the upper end of the GHR in the 2003/2004 season. Weekly catch reporting requirements for catcher-processors will be in place for the entire season.

District 12

District 12 includes those waters of Lynn Canal and Chatham Strait south of the latitude of Little Island Light, north of the latitude of Point Gardner, west of a line running from Little Island Light to Point Retreat, east of a line running from Point Couverden to Point Augusta, and east of a line running from Point Hayes to Point Thatcher. The district crosses management areas, with those waters along the western shoreline of Chatham Strait south of Point Hayes being located in the Sitka management area. The district is managed by the Juneau area office, with assistance from the Sitka office as needed, because most of the harvest occurs in the Juneau portions of the district.

Prior to the 1995/1996 season, the district was open year-around to pot shrimping. A 20,000 pound GHL was established for the district starting with the 1995/1996 fishing season. Annual catches during the 1990/1991 to 1993/1994 seasons averaged 22,400 pounds, 93% of which was spot shrimp. The harvest increased tremendously to 58,900 pounds during the 1994/1995 season when a floating processor operated in the district. The season steadily shortened from 127 days for the 1995/1996 season to 7 days for the 2000/2001 season.

Beginning with the 2001/2002 season, the District 12 fishery has been managed for two separate fisheries: Tenakee Inlet proper as one fishery with a GHR of 20,000 pounds; and the remainder of the district as a second distinct fishery with a GHR of 15,000 pounds. This was done because in prior years effort had concentrated in Tenakee Inlet causing the pace of the fishery to become much more intense. As a result, nearly 100% of the harvest in District 12 came from Tenakee Inlet, yet the department had data showing shrimp were available in other portions of the district that were not being fished. During the 2002/2003 season, Tenakee Inlet closed by emergency order on October 6, 2002, with a harvest of 21,558 pounds, and the remainder of District 12 closed by emergency order on October 31, 2002, with a harvest of 17,048 pounds.

For the 2003/2004 season, the department will manage the District 12 fisheries for the upper end of the GHRs; a GHR for Tenakee Inlet of 0–20,000 pounds of spot shrimp and a GHR for the remaining waters of District 12 of 0–15,000 pounds of spot shrimp. Weekly catch reporting requirements for catcher-processors will be in place for the entire season.

Due to the rapidity of the Tenakee Inlet fishery, the department will have a vessel on the grounds beginning October 4 to gather catch and effort data. The closure of a portion or all of District 12 is expected to be made while the State's vessel is still on the grounds. Shrimp fishers can contact the State's vessel on VHF Channel 16 or Channel 10. Catcher-processors may contact the vessel with that week's reporting requirements if the vessel is still on the grounds. The department anticipates the pace of the fishery in Tenakee Inlet will be similar to the last three seasons when the fishery lasted between 6 and 9 days.

District 14

District 14 includes those waters of Icy Strait west of a line from the southernmost tip of Point Couverden to Point Augusta Light, east of a line running from the southernmost tip of Cape Spencer through Yakobi Rock, and ending at Yakobi Island, and waters that are north of a line running from the northernmost point of Soapstone Point to the westernmost point of Column Point. Federal regulations

prohibit all shrimp fishing in those waters of Glacier Bay proper (north of a line from Point Carolus to Point Gustavus).

The District 14 fishery has had only small, sporadic effort over the years. Spot shrimp harvests in the district between the 1995/1996 and 2000/2001 seasons averaged 10,000 pounds. For the 2002/2003 season, District 14 closed by emergency order on January 18, 2002, with a harvest of 19,903 pounds. This is the second time that the 20,000 pound GHR has been reached and the GHL was harvested five months earlier than the previous season. The department will manage the district for the upper end of a 0 - 20,000 pound GHR in the 2003/2004 season. Weekly catch reporting requirements for catcher-processors will be in place for the entire season.

District 15

District 15 includes those waters of Lynn Canal north of the latitude of Little Island Light. District 15 is managed out of the Haines area office. The vast majority of the pot shrimp harvest in Lynn Canal is composed of coonstripe shrimp. Major shrimping areas include Lutak Inlet, Chilkoot Inlet, Taiya Inlet, and Chilkat Inlet.

Prior to the 1996/1997 season the district was open year-around to commercial pot shrimp fishing. The average harvest between the 1990/1991–1994/1995 seasons was 3,200 pounds, 75% of which was coonstripe shrimp. A 20,000 pound GHL was established for the district starting with the 1995/1996 fishing season. Effort and harvests have increased rapidly since then, averaging over 20,000 pounds, 99% of which was coonstripe shrimp. The fishery has closed early by emergency order each of the last five seasons. The 2000/2001 season was the shortest season to date, closing on December 12, 2000. The 2002/2003 season closed by emergency order on February 6, 2003. Harvests of shrimp from catcher-processors have increased in recent years. During the 2002/2003 season, shrimp harvests from catcher-processors made up over 50% of the total harvest.

The Southeast Alaska Pot Shrimp Management Plan specifies a 0–20,000 pound GHR for coonstripe shrimp in Lynn Canal. The department will manage the district for the upper end of the GHR for the 2003/2004 season. Season length will likely depend on market conditions for coonstripe shrimp. Weekly catch reporting requirements for catcher-processors will be in place for the entire season.

District 16

District 16 includes those waters that are north of a line running west from the southernmost tip of Cape Spencer and south of a line running southwest from the westernmost tip of Cape Fairweather. The offshore area of District 16 includes the waters of the EEZ. The major shrimp fishing area in District 16 is Lituya Bay and coonstripe shrimp typically dominate the harvest.

Shrimp harvests in District 16 averaged 2,900 pounds between the 1990/1991–1994/1995 seasons, of which an average 56% was spot shrimp. Seasons were year-around during these years. A 20,000 pound GHL was established for the district starting with the 1995/1996 fishing season. Shrimp harvests in the district have substantially increased since then and season length has declined rapidly, closing between late November and mid-December in five of the last six years. The 2002/2003 season for District 16 closed on February 28, 2003, with a harvest of 23,267 pounds. Catches have averaged 18,117 pounds of shrimp between the 1995/1996 and 2002/2003 seasons. Coonstripe shrimp comprised approximately 75%

of the harvest in those years. The 2003/2004 fishery in District 16 will be managed consistent with the 0–20,000 GHR for coonstripe shrimp specified in the Southeast Alaska Pot Shrimp Management Plan. Catcher-processor reporting requirements will be in place for the entire season for District 16.

POT SHRIMP RESEARCH

The pot shrimp fishery for spot and coonstripe shrimp in Southeast Alaska has seen a 10-fold increase in participating vessels since 1960 and associated increases in harvest levels and fishery intensity. This has led to effort restrictions and to season length reductions, including limited entry in 1996. It became clear that in order to provide adequate information to manage for sustained harvest, a program of monitoring and sampling of commercial harvests and fishery independent surveys was needed. Thus, over the past 8 years a diverse program of stock assessment information collection has been developed. Dockside samples are collected in ports of Ketchikan, Wrangell, Sitka, Petersburg, Haines, and Juneau. Observers have sampled aboard vessels in important commercial Districts 1 and 2. Inseason management census have been conducted on the grounds in order to sample commercial catches, determine effort levels and catch rates, and monitor progress towards the GHL thus providing timely closures. Most importantly, fishery independent surveys have been developed. As this latter tool is the most representative and consistently collected information available for assessment of stock status, we will describe some of the results here.

The department initiated the survey program in 1996 with objectives of obtaining an index of abundance, size composition, sex ratios, and size at first spawning of spot and coonstripe shrimp in each district surveyed. The first survey, with the objective of testing methods and protocols, was conducted in 1996 in Ernest Sound (District 7). A variety of setting styles, pot types, and mesh sizes were tested. These included singly set pyramid pots with a 4 by 4 foot base, and two types of longlined cone pots; one 42 inches in diameter with 1 1/8- inch mesh and four tunnels, the other 42 inches in diameter with 1 3/4-inch mesh and three tunnels. The large, singly set pyramid pots were time-consuming to set and retrieve and did not fish well. The result was that fewer pots could be fished. The longlined cone pots proved easier to set and retrieve. Mesh size comparisons indicated that conical pots with 1 3/4-inch mesh also provided the greatest power to detect differences in the relative abundance of commercially recruited shrimp. In order to facilitate comparison with commercial gear, a spacing of 10 fathoms between longlined pots was established. Based on comparisons of catch rates, this pot spacing seemed to be adequate to minimize effects of adjacent pots attracting shrimp from one another, thus providing discrete samples of shrimp within the fished habitat for any given pot within a string.

The preseason survey program was subsequently expanded, first to the Cordova Bay area (Section 3-A) in 1997, followed by Hoonah Sound (Section 13-C) beginning in 1999 and Tenakee Inlet (District 12) in 2000. Survey effort distribution is described in Table 4.

In order to minimize variability in catch rates and provide more accuracy when conducting analyses, index set locations and standardized methods were established; these began in 1998 for District 3, in 1999 for District 7 and 13, and in 2000 in District 12. Locations of statistical areas of Districts 3, (Section 3-A), 7 (Ernest Sound), 12 (Tenakee Inlet) and 13 (Hoonah Sound) in which standardized pot shrimp surveys have been conducted in Southeast Alaska are shown in Figure 3.

Post-season surveys were initiated following the 1998 fishery for District 3, and in 2001 for District 7. The primary objective of the post-season surveys is to obtain a harvest rate estimate by comparing the ratio of pre to post-season size-specific abundance. While removals by the fishery are quite evident between pre and post-season surveys (Figure 4), interpretation of results collected using this method has been somewhat complicated by shrimp behavior and gear fishing characteristics. Specifically, it appears that size-specific gear selectivity curves for shrimp may be a function of the size composition of shrimp available and appear to be influenced by pot soak times. In other words, abundant smaller shrimp appear to saturate a pot, reducing the catch of larger shrimp captured in pots soaked for short periods, but also may leave pots soaked for longer periods. Thus, before pre and post-season survey information can be used to obtain an accurate harvest rate estimate for shrimp, soak time experiments must be conducted and their results analyzed. This work was conducted during the 2001 and 2002 post-season surveys of District 3 and will be continued during 2003 surveys of District 3.

Pre-season surveys of Districts 3, 7, 12, and 13 are planned for September 2003, however post-season surveys have been discontinued because of budget constraints. A summary of the catch data collected to date for pre and post-season surveys of Districts 3, 7, 12, and 13 is presented in Tables 5 – 9. Figures 4 - 8 show survey trends in spot and coonstripe (for District 7) shrimp size frequency. These results are summarized in the following paragraphs.

DISTRICT 3, SECTION 3-A

Although catch rate in kg and numbers has not declined, there has been a decline in the contribution of large shrimp to the catches since 1998. Abundance of small shrimp remains the highest of any surveyed district and the size at which shrimp change sex to females is the smallest of any surveyed area. While declining catch rates of larger shrimp may be a long term conservation concern, in the short term, relatively more large shrimp than small shrimp are still being caught. Since Pandalid shrimp are protandric hermaphrodites this means that a larger proportion of the large females are being captured prior to spawning (recruitment over fishing) and that the full value in terms of size of shrimp, pounds of harvest, and ex-vessel value may not be being achieved as shrimp are being harvested before they have a chance to grow to a larger size (growth over fishing) (J.A. Boutillier and J.A. Bond 1999). This is especially problematic in this high-end market fishery since larger shrimp fetch a higher price per pound.

DISTRICT 7

Catch rates in terms of weight and numbers are low but consistent in District 7 and, as in District 3; the proportion of large shrimp currently being caught is comparable but slightly lower than other surveyed areas. Removals of spot and coonstripe shrimp by the commercial fleet are evident in comparisons of pre and post-season length frequency histograms and catch by size comparisons. Growth and recruitment over fishing may be occurring here as well, but additional years of survey data are needed to better describe trends.

DISTRICT 12, TENAKEE INLET

Generally, spot shrimp were larger in Tenakee Inlet than elsewhere and catches had a higher proportion of egg-bearing females during September pre-season surveys than in other districts, indicating earlier extrusion of eggs. Catches by number were less than in District 3, but the total biomass per pot per hour

was similar, because of the larger average size as compared to other surveyed areas. Multiple size classes are evident in the length frequency histograms for both survey years indicating good recruitment strength and abundance of harvestable size classes.

Egg-bearing shrimp sampled during the 2002 survey were slightly larger in carapace length, on average, than during the 2000 survey, but proportionately less abundant. Slightly lower relative catch rates of shrimp larger than 34 mm CL in 2002 as compared to 2000 may be evidence of removals of larger shrimp from the area. Post-season surveys have not been conducted in Tenakee Inlet. While some decline in the proportion of catch by weight of larger shrimp is evident between 2000 and 2002 surveys, it is still greater than catches of small shrimp and was second only to District 13 of the surveyed areas. Shrimp populations in this district appear to be sustaining the recent harvest levels.

DISTRICT 13, HOONAH SOUND

In District 13, catch rates are increasing in small mesh pots, while remaining stable for large mesh pots. Catch rates of all size classes of shrimp combined were higher in 2002 than in 2001, with more small shrimp available to survey gear. Length frequency histograms show at least 3, and possibly 4 size classes were present in the 2002 survey, with strong catches of larger, as well as pre-recruit shrimp evident. The proportion of large shrimp has declined slightly since 2000 but is the highest of all four surveyed districts. This appears to be a healthy shrimp population.

RESEARCH SUMMARY

Stock assessment surveys are one piece of the picture to be considered in Southeast Alaska Pot Shrimp Management. Commercial harvest, and dockside and onboard shrimp sampling data are also used in setting annual GHGs. However, given the proven ability of fishers to maintain catch rates while population sizes are decreasing (J.M. Orensanz et al. 1998) fishery independent surveys provide an important additional view of stock status. As only a portion of the important commercial pot shrimp grounds are currently surveyed, continuing to improve the usefulness of sampling data must also be a focus.

Preliminary analyses suggest the possibility of recruitment and growth over fishing in Districts 3, similar size classes and catch rates in District 7 to previous years, and healthy populations in Districts 12 and 13. If catch rates of larger shrimp continue to decline in District 3, GHG decreases may be necessary. Management recommendations for unsurveyed districts will be made separately after examination of all data sources.

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Table 1. Historical harvest of spot shrimp (whole weight) in the Southeast Alaska commercial pot shrimp fishery by District/Section.

Season	101	102	3-A	3-B/C	104	105	106	107	108
Oct1971 - Sep72	1,408							212	
Oct1972 - Sep73								625	
Oct1973 - Sep74		7,274							
Oct1974 - Sep75	2,692	1,250							
Oct1975 - Sep76	6,346	11,478	490						
Oct1976 - Sep77	1,940	9,582		926				3,268	
Oct1977 - Sep78	4,897	14,141				732		3,815	
Oct1978 - Sep79	4,163	6,703	1,570		1,280			2,167	
Oct1979 - Sep80	15,079	12,014	6,289					16,622	227
Oct1980 - Sep81	15,210	13,821	24,552	435	368		493	16,637	358
Oct1981 - Sep82	25,278	17,531	53,101	3,574			7,168	14,943	1,583
Oct1982 - Sep83	28,778	34,720	83,885	565	772		7,464	71,384	2,657
Oct1983 - Sep84	40,550	22,427	30,192	6,191	480	1,050	7,589	82,364	15,062
Oct1984 - Sep85	68,871	50,421	17,985	556	34	244	6,133	80,020	8,582
Oct1985 - Sep86	35,282	37,105	70,936	212	878	104	5,373	21,212	1,702
Oct1986 - Sep87	60,044	136,456	45,624	3,243		1,132	1,379	37,996	1,266
Oct1987 - Sep88	116,204	79,769	27,432	30	100	1,686	483	49,094	2,357
Oct1988 - Sep89	196,834	62,683	15,029	4,664	714	3,876	6,742	60,009	796
Oct1989 - Sep90	151,758	68,515	19,850	6,972	2,696		7,290	42,020	17,272
Oct1990 - Sep91	178,471	78,428	49,214	11,744	11,288		9,038	93,881	12,654
Oct1991 - Sep92	161,643	81,481	269,507	4,828	438	706	19,484	112,191	13,482
Oct1992 - Sep93	157,056	70,100	218,043	3,244	4,674	846	23,830	57,822	17,884
Oct1993 - Sep94	146,094	119,300	272,916	14,716	5,398	1,884	39,044	105,566	19,141
Oct1994 - Sep95	156,742	76,498	214,955	16,515	1,002	21,628	129,327	169,926	23,211
Oct1995 - Sep96	173,137	89,724	196,607	48,493	23,135	34,614	73,577	100,675	8,074
Oct1996 - Sep97	165,991	82,303	232,547	48,100	20,513	23,174	77,642	102,594	25,294
Oct1997 - Sep98	138,759	83,000	222,132	5,878	10,217	5,931	70,182	96,932	17,233
Oct1998 - Sep99	158,348	76,207	205,818	7,960	6,071	5,471	64,010	63,870	15,797
Oct1999 - Sep00	154,980	76,091	226,900	7,076	16,612	11,719	67,005	75,868	20,816
Oct2000 - Sep01	159,316	121,953	266,837	36,508	20,343	13,791	77,318	100,768	21,708
Oct2001 - Sep02	169,312	103,774	255,370	62,721	10,337	7,857	70,919	103,328	17,464
Oct2002 - Sep03	152,022	89,581	264,653	53,553	22,153	19,049	68,293	99,250	22,105

-continued-

Table 1. Continued (page 2 of 2).

Season	109	110	111	Tenakee	112	13-A/B	13-C	114	115	116
Oct1971 - Sep72										
Oct1972 - Sep73										
Oct1973 - Sep74										
Oct1974 - Sep75										
Oct1975 - Sep76										
Oct1976 - Sep77										
Oct1977 - Sep78							347			
Oct1978 - Sep79					1,166	50	63			
Oct1979 - Sep80						8	645	270		
Oct1980 - Sep81	4,292	2,148			380	98	414			
Oct1981 - Sep82	4,309	6	1,004		2,250	1,388	12,730	1,716		2,466
Oct1982 - Sep83	9,386	3,708			440	4,817	10,011	108		450
Oct1983 - Sep84	1,643	14,188	66		3,070	674	19,389			596
Oct1984 - Sep85	2,351	33,342	1,129		1,920	120	16,816	328		3,640
Oct1985 - Sep86	1,643	13,400	255		371		10,953	97	293	
Oct1986 - Sep87	4,962	31,974	2,282	1,574	1,746		10,825	159	1,212	3,530
Oct1987 - Sep88	18,234	28,587	2,342	8,071	5,270		21,170	1,716	34	98
Oct1988 - Sep89	6,616	36,302	618	6,122	4,626	3,878	22,417	12		
Oct1989 - Sep90	310	47,875	564	1,864	4,710	3,180	26,873			1,052
Oct1990 - Sep91	5,234	42,439		7,004	8,714	11,048	28,560			504
Oct1991 - Sep92	2,866	48,427	1,901	9,804	2,450	23,614	36,417		2,501	2,918
Oct1992 - Sep93	8,893	29,456	8	21,770	4,253	9,506	30,901		834	240
Oct1993 - Sep94	23,702	35,229	1,920	23,516	6,029	20,705	38,938		92	1,432
Oct1994 - Sep95	11,557	85,149	2,403	45,939	12,437	22,173	79,924	2,267	301	3,082
Oct1995 - Sep96	25,485	42,180	11,116	25,749	2,158	9,849	38,195	17,154	491	2,664
Oct1996 - Sep97	19,500	51,889	8,919	16,028	12,366	13,156	32,607	4,309	384	3,917
Oct1997 - Sep98	20,836	37,474	7,577	20,291	5,131	12,843	27,336	12,191	125	3,390
Oct1998 - Sep99	17,781	30,182	4,138	28,583	1,390	13,924	50,391	6,651	54	2,169
Oct1999 - Sep00	18,284	36,976	3,091	21,850	1,589	14,114	30,569	240		11,706
Oct2000 - Sep01	20,765	46,099	17,051	25,613		12,914	33,001	17,639	97	3,965
Oct2001 - Sep02	18,286	38,156	14,985	19,777	14,175	13,878	25,822	25,004	24	1,464
Oct2002 - Sep03	15,713	54,706	19,126	21,558	16,904	14,066	38,318	19,903	2	6,763

Table 2. Historical harvest of coonstripe shrimp (whole weight) in the Southeast Alaska commercial pot shrimp fishery by District/Section.

Season	101	102	3-A	3-B/C	104	105	106	107	108
Oct1975 - Sep76		35							
Oct1979 - Sep80								168	257
Oct1980 - Sep81		900			54		5		
Oct1981 - Sep82	1,050						2,148	554	427
Oct1982 - Sep83	1,550		60				305	2,494	19
Oct1983 - Sep84	240	39	130	38			139	4,648	851
Oct1984 - Sep85	185	81			50		28	5,261	134
Oct1985 - Sep86	1,366	436					668	1,829	1,040
Oct1986 - Sep87	865	840					792	2,619	744
Oct1987 - Sep88	2,360	186					94	1,104	478
Oct1988 - Sep89	3,892	92			20		1,252	1,540	56
Oct1989 - Sep90	3,521	110		114			1,094	2,176	1,426
Oct1990 - Sep91	2,742	456	12	796	76		1,206	3,706	914
Oct1991 - Sep92	6,977	2,096	10	96			1,673	11,233	1,807
Oct1992 - Sep93	3,042			602			524	6,414	2,183
Oct1993 - Sep94	1,839	1,314		1,000			2,164	14,759	6,032
Oct1994 - Sep95	3,163	475	56	706			921	29,630	7,217
Oct1995 - Sep96	6,126	807		40	148	278	2,216	18,589	1,110
Oct1996 - Sep97	5,802	200		317	300	1,066	1,381	25,652	4,465
Oct1997 - Sep98	3,925	8					2,373	30,268	2,776
Oct1998 - Sep99	4,842	317	141	12		25	2,914	35,975	4,101
Oct1999 - Sep00	3,609		5	90	1	120	3,069	24,673	2,687
Oct2000 - Sep01	1,961	10				540	2,124	14,881	1,828
Oct2001 - Sep02	4,886			230			116	24,804	2,111
Oct2002 - Sep03	5,371			621		514	38	14,262	2,223

-continued-

Table 2. (page 2 of 2)

Season	109	110	111	Tenakee	112	13-A/B	13-C	114	115	116
Oct1975 - Sep76										
Oct1979 - Sep80										
Oct1980 - Sep81	533									
Oct1981 - Sep82	600	6			260		70	80		2,220
Oct1982 - Sep83	226	172								1,850
Oct1983 - Sep84	16				200		1,007			3,364
Oct1984 - Sep85		150					109	182		
Oct1985 - Sep86	34		58				80			3,336
Oct1986 - Sep87	190	440	25	410			206			770
Oct1987 - Sep88	534	434		509			320	332		
Oct1988 - Sep89		157				16	527			918
Oct1989 - Sep90	14	29	1,828			251	218			
Oct1990 - Sep91		297	1,546		1,112	70	171		664	333
Oct1991 - Sep92	26	1,184				1,068	64		759	1,480
Oct1992 - Sep93	700	1,237	1,250	568		40			378	122
Oct1993 - Sep94	3,273	854	200	3,704	164	1,934	942	378	1,660	1,748
Oct1994 - Sep95	525	3,333	669	476	40	7,952	178	96	8,609	2,795
Oct1995 - Sep96	444	6,662	12,214	150		1,188		348	9,519	5,012
Oct1996 - Sep97	10	1,130	11,580	221		2,964	968	2	21,772	16,008
Oct1997 - Sep98	185	2,125	10,307	77		804	84	55	21,833	17,334
Oct1998 - Sep99	275	1,607	4,791	116		1,107	214		22,704	15,415
Oct1999 - Sep00		945	5,057	4		891	28		24,668	7,327
Oct2000 - Sep01	66	145	2,792	14		636			24,119	17,867
Oct2001 - Sep02	196	286	8,366			450	54	16	18,918	18,490
Oct2002 - Sep03	222	4	334		144	802	22		19,559	16,504

Table 3. Historical closure dates and days fished by District/Section for the Southeast Alaska commercial pot shrimp fishery, 1995/1996 through 2002/2003.

Area	2002/03 Season Closure Date	Days Fished	2001/02 Season Closure Date ^d	Days Fished	2000/01 Season Closure Date ^a	Days Fished	1999/00 Season Closure Date ^b	Days Fished	1998/99 Season Closure Date ^e	Days Fished
1	21 Nov 02	52	19 Nov 01	50	10-Nov-00	41	7-Feb-00	130	5-Jan-99	97
2	30 Oct 02	30	28 Oct 01	28	29-Oct-00	29	3-Nov-99	34	5-Jan-99	97
3-A	9 Nov 02	41	28 Oct 01	28	10-Oct; 4-Nov-00	14	12-Oct-99	12	Oct 9, Oct 26-30	14
3-B/C	21 Oct 02	21	15 Nov 01	46	15-Oct-00	15	-	-	-	-
4	28 Feb 03	151	31 Jul 02	229	16-Jul-01	213	31-Jul-00	230	31-Aug-99	335
5	31 Jul 03	228	31 Jul 02	229	31-Jul-01	229	31-Jul-00	230	31-Aug-99	335
6	26 Oct 02	26	27 Oct 01	27	11-Nov; 17-Dec	51	14-Feb-00	137	14-Feb-99	137
7	8 Nov 03	39	8 Nov 01, 10 Dec 01 ^e	71	3-Nov-00	34	24-Nov-99	55	31-Dec-98	92
8	31 Oct 02	31	4 Nov 01	35	23-Oct-00	23	22-Oct-99	22	19-Oct; 2-Nov; 13-Nov ^f	29
9	1 Nov 02	32	25 Oct 01	25	1-Nov-00	32	26-Nov-99	57	2-Dec-98	63
10	16 Oct 02	16	14 Oct 01	14	26-Oct-00	26	30-Oct-99	30	20-Nov-98	51
11	12 Dec 02	73	24 Jan 02	116	10-Feb-01	133	31-Jul-00	230	31-Aug-99	335
Tenakee	6 Oct 02	6	6 Oct 01	6	7-Oct-00	7	9-Oct-99	9	15-Oct-98	15
Rest of 12	31 Oct 02	31	29 Dec 01	90	-	-	-	-	-	-
13-C	5 Oct 02	5	4 Oct 01	4	5-Oct-00	5	5-Oct-99	5	7-Oct-98	7
13-A/B	5 Jan 03	97	28 Feb 02	151	28-Feb-01	151	29-Feb-00	152	28-Feb-99	151
14	18 Jan 03	110	27 Jun 02	194	31-Jul-01	229	31-Jul-00	230	31-Aug-99	335
15	6 Feb 03	129	28 May 02	163	12-Dec-01	73	10-Jun-00	178	21-May-99	264
16	28 Feb 02	151	5 Dec 01	66	20-Nov-01	51	15-Dec-99	76	1-Dec-98	62

-continued-

Table 3. (page 2 of 2)

District /Section	1997/98 Season ^c		1996/97 Season		1995/96 Season	
	Closure Date	Days Fished	Closure Date	Days Fished	Closure Date ^f	Days Fished
1	7-Nov-97	38	6-Nov-96	37	2-Jan-96	94
2	22-Oct-97	22	30-Oct-96	30	10-Jan-96	102
3-A	9-Oct-97	9	14-Oct-96	14	13-Nov-95	44
3-B, C	-	-	-	-	-	-
4	31-Aug-98	335	29-Aug-97	333	8-May-96	220
5	31-Aug-98	335	27-Dec-96	88	13-Mar-96	164
6	3-Nov-97	34	1-Nov-96	32	5-Nov-95	36
7	24-Oct-97	24	20-Oct-96	20	5-Nov-95	36
8	23-Oct; 26-Oct 29-97 ^h	27	1-Nov-96	32	5-Nov-95	36
9	9-Dec-97	70	27-Dec-96	88	11-Mar-96	162
10	3-Nov-97	34	29-Nov-96	60	6-Jan-96	98
11	31-Aug-98	335	18-May-97	230	23-Jun-96	266
12	31-Oct-97	31	18-Nov-96	49	4-Feb-96	127
13-C	10-Oct-97	10	18-Oct-96	18	16-Jan-96	16 ⁱ
Remainder D13	8-Dec-97	69	25-Nov-96	56	16-Jan-96	16 ⁱ
14	31-Aug-98	335	30-Sep-97	365	30-Sep-96	365
15	26-Jun-98	269	30-Sep-97	365	30-Sep-96	365
16	8-Dec-97	69	26-Feb-97	149	30-Sep-96	365

^a During the 2000/2001 season District 6 was open from October 1 to November 14 and December 9 to 17. Section 3-A was open from October 1 to 10 and from November 1 to 4.

^b During the 1999/2000 season Districts 4, 5, 11, 14, and 15 were closed from March 1 through May 14.

^c During the 1997/1998 season District 8 was open October 1 to 20 and October 26 to 29. During the 1997/1998 shrimp pot fishery, gear operation was restricted to daylight hours only, 8 a.m. to 4 p.m. Several districts were closed August 31, 1998 for re-registration and issuing of pot tags.

^d During the 2001/2002 season, District 7 was open October 1 to November 8 and November 25 to December 10.

^e During the 1998/1999 season District 8 closed October 19, reopened October 30 through November 2, and then reopened from November 8 through 13. During the 1998/1999 season Districts 4, 5, 11, 14, and 15 were closed from March 1 through April 30.

^f During the 1995/1996 season, District 13 did not open October 1, 1995, but opened January 1, 1996.

Table 4. Guideline harvest levels for the 2003/2004 Southeast Alaska commercial pot shrimp fishery by District or Section.

District/Section	Guideline Harvest Level (whole pounds)	Actual Harvest in 2002/2003 Season
1	164,000	152,022
2	86,000	89,581
3-A	264,000	264,653
3-B/C	50,000	53,553
4	20,000	22,153
5	20,000	19,049
6	68,000	68,293
7	104,000	99,250 ^a
8	20,000	22,105
9	18,000	15,713
10	36,000	54,706
11	20,000	19,460 ^b
Tenakee Inlet	20,000	21,558
12 (other than Tenakee Inlet)	15,000	16,904
13-A/B	15,000	14,066
13-C	30,000	38,318
14	20,000	19,903
15	20,000	19,559 ^c
16	20,000	16,504 ^c
Total	1,010,000 pounds	1,027,350

^a Spot shrimp only.

^b Spot and coonstripe shrimp combined.

^c Coonstripe shrimp only.

Table 5. Number of sets fished and number of pots sampled by statistical area, year of survey and survey type.

Preseason Surveys

District & Subdistrict	1996		1997		1998		1999		2000		2001		2002	
	# sets fished	#pots sampled												
103-21			11	66										
103-23			10	58	12	72	11	62	12	71	12	67	12	74
103-25			11	49	12	71	12	71	12	72	12	71	12	76
103-30			8	47										
103-40			12	62										
107-10	5	50					18	109	18	158	12	119	15	150
107-20	9	98							3	27	3	30	3	30
107-30							3	19	3	27	6	59	6	60
107-40	3	22												
112-41									4	22			4	24
112-42									2	12			3	17
112-45									12	72			14	101
112-48									8	48			7	56
113-55							6	47	8	28	7	66	7	64
113-57							6	38	10	32	7	32	9	81
113-58							12	73	12	45	10	92	11	101

Postseason Surveys

District & Subdistrict	1996		1997		1998 ¹⁾		1999		2000		2001		2002	
	# sets fished	#pots sampled	# sets fished	#pots sampled	# sets fished	#pots sampled	# sets fished	#pots sampled	# sets fished	#pots sampled	# sets fished	#pots sampled	# sets fished	#pots sampled
103-23					12	68			12	71			12	77
103-25					12	72			12	69	12	85	12	72
107-20											12	106	15	135
107-30											3	30	3	29
107-40											6	59	6	60

¹⁾ 1998 postseason survey conducted in February of 1999

Table 6. Pre- and postseason pot shrimp surveys District 3, 1997-2002. By pot average soak times, variability of average soak times, average catches by weight and number for spot shrimp, average catches per hour by weight and number, variability of average catches by weight and number, average number of pots sampled for two mesh sizes fished.

PRESEASON SURVEY

Pre-Recruit Mesh (1.125 inch stretch), Spot shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	23.2	6.7	3.2	0.3	293	143	13	74
2001	20.9	5.6	3.6	0.3	143	175	7	70
2000	21.7	5.8	3.3	0.3	219	142	10	72
1999	21.9	6.7	3.5	0.3	240	140	11	67
1998	21.3	5.4	3.0	0.3	196	111	9	72
1997	22.3	3.7	2.3	0.2	150	88	7	105
Averages	21.9	5.7	3.2	0.3	207	133	9	77

Commercial Mesh (1.75 inch stretch), Spot shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	24.1	4.9	3.0	0.2	157	110	6	76
2001	20.9	4.4	3.0	0.2	81	94	4	68
2000	21.8	5.1	3.0	0.2	157	97	7	71
1999	21.9	4.8	2.7	0.2	146	83	7	66
1998	21.3	4.4	2.9	0.2	136	90	6	71
1997	22.2	2.9	2.7	0.1	87	72	4	197
Averages	22.0	4.4	2.9	0.2	127	91	6	92

POSTSEASON SURVEY

Pre-Recruit Mesh (1.125 inch stretch), Spot shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	21.7	4.3	2.1	0.2	210	110	10	74
2001	23.0	5.1	2.0	0.2	126	128	5	43
2000	21.4	5.9	3.3	0.3	240	149	11	72
1998	20.1	3.9	2.2	0.2	151	93	8	72
Averages	21.5	4.8	2.4	0.2	182	120	9	65

Commercial Mesh (1.75 inch stretch), Spot shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	21.7	2.7	1.3	0.1	95	55	4	75
2001	25.4	4.7	2.0	0.2	87	84	3	42
2000	21.3	4.5	2.2	0.2	148	76	7	68
1998	20.1	3.4	2.1	0.2	99	59	5	68
Averages	22.1	3.8	1.9	0.2	107	68	5	63

Table 7. Pre- and postseason pot shrimp surveys District 7, 2000-2002. By pot average soak times, variability of average soak times, average catches by weight and number for spot shrimp, average catches per hour by weight and number, variability of average catches by weight and number, average number of pots sampled for two mesh sizes fished.

PRESEASON SURVEY

Pre-Recruit Mesh (1.125 inch stretch), Spot shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	18.1	1.80	0.82	0.04	30	41	2	120
2001	17.6	2.20	1.00	0.06	33	43	2	104
2000	18.1	1.60	0.64	0.04	29	31	2	113
Averages	17.9	1.87	0.82	0.05	31	38	2	112

Commercial Mesh (1.75 inch stretch), Spot shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	18.1	1.10	0.59	0.04	22	21	1	120
2001	17.6	1.50	0.78	0.05	25	28	1	104
2000	18.1	1.40	0.74	0.04	25	27	1	99
Averages	17.9	1.33	0.70	0.04	24	25	1	108

POSTSEASON SURVEY

Pre-Recruit Mesh (1.125 inch stretch), Spot shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	18.8	0.80	0.32	0.02	16	22	1	115
2001	20.5	1.10	0.77	0.03	17	30	1	91
Averages	19.7	0.95	0.54	0.03	16	26	1	103

Large Mesh (1.75 inch stretch), Spot shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	18.8	0.60	0.33	0.02	10	11	1	109
2001	20.6	0.80	0.77	0.03	13	19	1	104
Averages	19.7	0.70	0.55	0.03	12	15	1	107

Table 8. Pre- and Postseason pot shrimp surveys District 7, 2000-2002. By pot average soak times, variability of average soak times, average catches by weight and number for coonstripe shrimp, average catches per hour by weight and number, variability of average catches by weight and number, average number of pots sampled for two mesh sizes fished.

PRESEASON SURVEY

Pre-Recruit Mesh (1.125 inch stretch), Coonstripe shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Mean No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	18.1	0.75	0.01	0.04	34	24	2	120
2001	17.6	0.17	0.01	0.01	37	31	2	104
2000	18.1	0.29	0.11	0.02	30	27	2	113
<i>Averages</i>	<i>18.5</i>	<i>0.48</i>	<i>0.06</i>	<i>0.03</i>	<i>30</i>	<i>24</i>	<i>2</i>	<i>91</i>

Commercial Mesh (1.75 inch stretch), Coonstripe shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Mean No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	18.1	0.53	0.08	0.03	12	11	1	120
2001	17.6	0.29	0.06	0.02	21	19	1	104
2000	18.1	0.30	0.02	0.02	15	15	1	99
<i>Averages</i>	<i>18.3</i>	<i>0.44</i>	<i>0.04</i>	<i>0.02</i>	<i>13</i>	<i>13</i>	<i>1</i>	<i>101</i>

POSTSEASON SURVEY

Pre-Recruit Mesh (1.125 inch stretch), Coonstripe shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	18.8	0.13	0.02	0.01	16	22	1	115
2001	20.5	0.20	0.05	0.01	11	12	1	91
<i>Averages</i>	<i>19.7</i>	<i>0.16</i>	<i>0.04</i>	<i>0.01</i>	<i>13</i>	<i>17</i>	<i>1</i>	<i>103</i>

Commercial Mesh (1.75 inch stretch), Coonstripe shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	18.9	0.22	0.02	0.01	7	9	0	109
2001	18.8	0.15	0.01	0.01	7	6	0	104
<i>Averages</i>	<i>18.8</i>	<i>0.19</i>	<i>0.01</i>	<i>0.01</i>	<i>7</i>	<i>7</i>	<i>0</i>	<i>107</i>

Table 9. Pre- and postseason pot shrimp surveys District 12 and 13, 1999-2002. By pot average soak times, variability of average soak times, average catches by weight and number for spot shrimp, average catches per hour by weight and number, variability of average catches by weight and number, average number of pots sampled for two mesh sizes fished.

PRESEASON SURVEY, DISTRICT 12

Pre-Recruit Mesh (1.125 inch stretch), Spot shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	21.9	5.7	2.7	0.3	80	33	5	109
2000	18.7	4.2	2.2	0.2	99	65	5	77
<i>Averages</i>	20.3	4.9	2.4	0.2	89	49	5	93

Commercial Mesh (1.75 inch stretch), Spot shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	21.7	4.5	2.4	0.2	27	9	2	89
2000	18.7	3.7	2.1	0.2	82	51	4	77
<i>Averages</i>	20.2	4.1	2.2	0.2	54	30	3	83

PRESEASON SURVEY, DISTRICT 13

Pre-Recruit Mesh (1.125 inch stretch), Spot shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	18.8	5.1	2.8	0.3	157	94	8	131
2001	21.5	4.0	2.1	0.2	84	71	4	99
2000	19.7	3.8	2.7	0.2	91	73	5	52
1999	24.1	3.2	1.6	0.1	84	51	3	80
<i>Averages</i>	21.0	4.0	2.3	0.2	104	72	5	91

Commercial Mesh (1.75 inch stretch), Spot shrimp								
Year	Average Soaktime (dec. hrs)	Catch(Kg)		Average Kg/hr	No. caught		Average No./hr	Average No. pots sampled
		Average	Variability (+/-)		Average	Variability (+/-)		
2002	18.8	3.4	2.2	0.2	91	59	5	115
2001	21.5	3.7	2.1	0.2	70	56	3	91
2000	19.6	3.0	2.4	0.2	75	58	4	53
1999	24.7	2.5	1.3	0.1	69	35	3	78
<i>Averages</i>	21.2	3.1	2.0	0.1	76	52	4	84

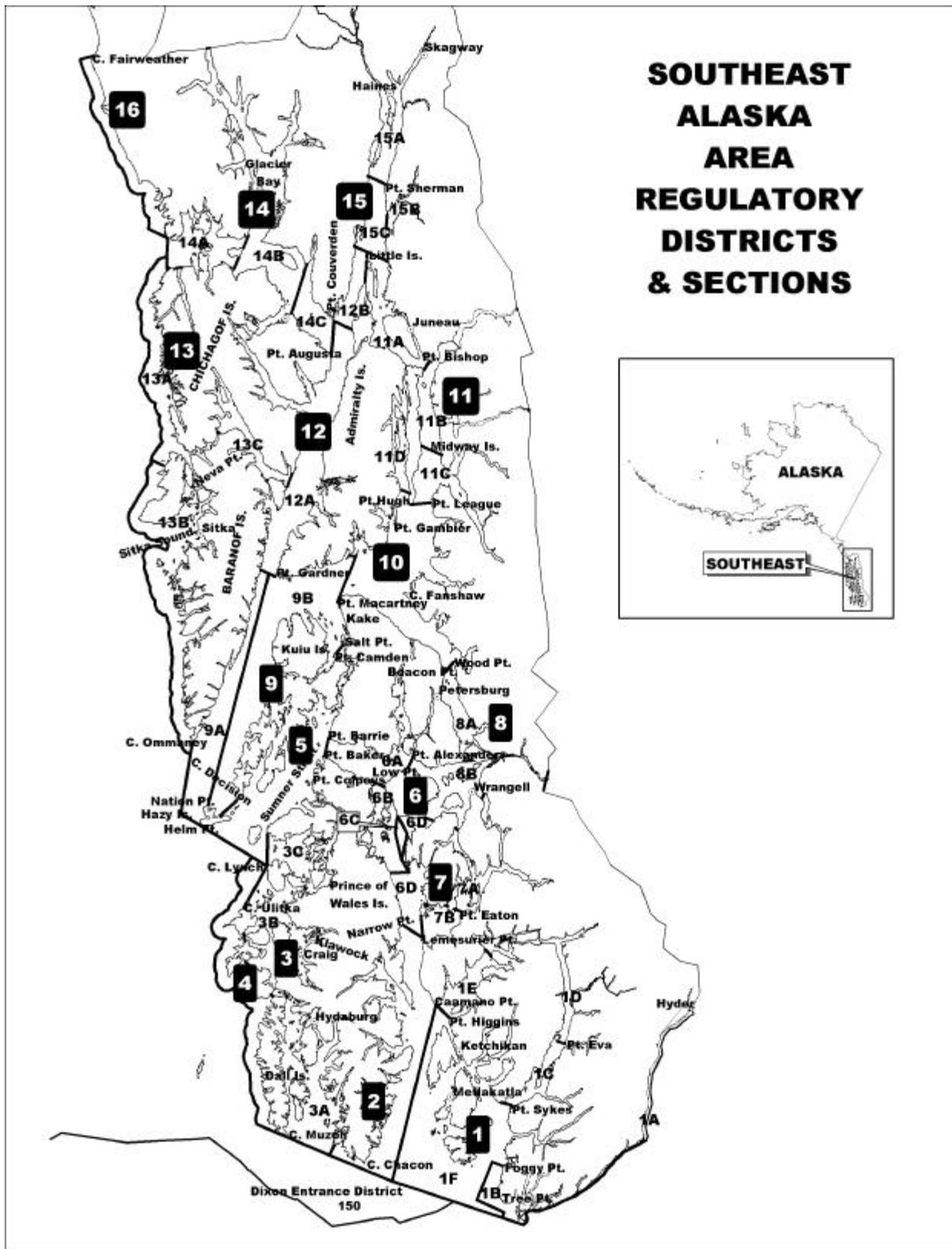


Figure 1. Southeast Alaska commercial fishing regulatory sections.

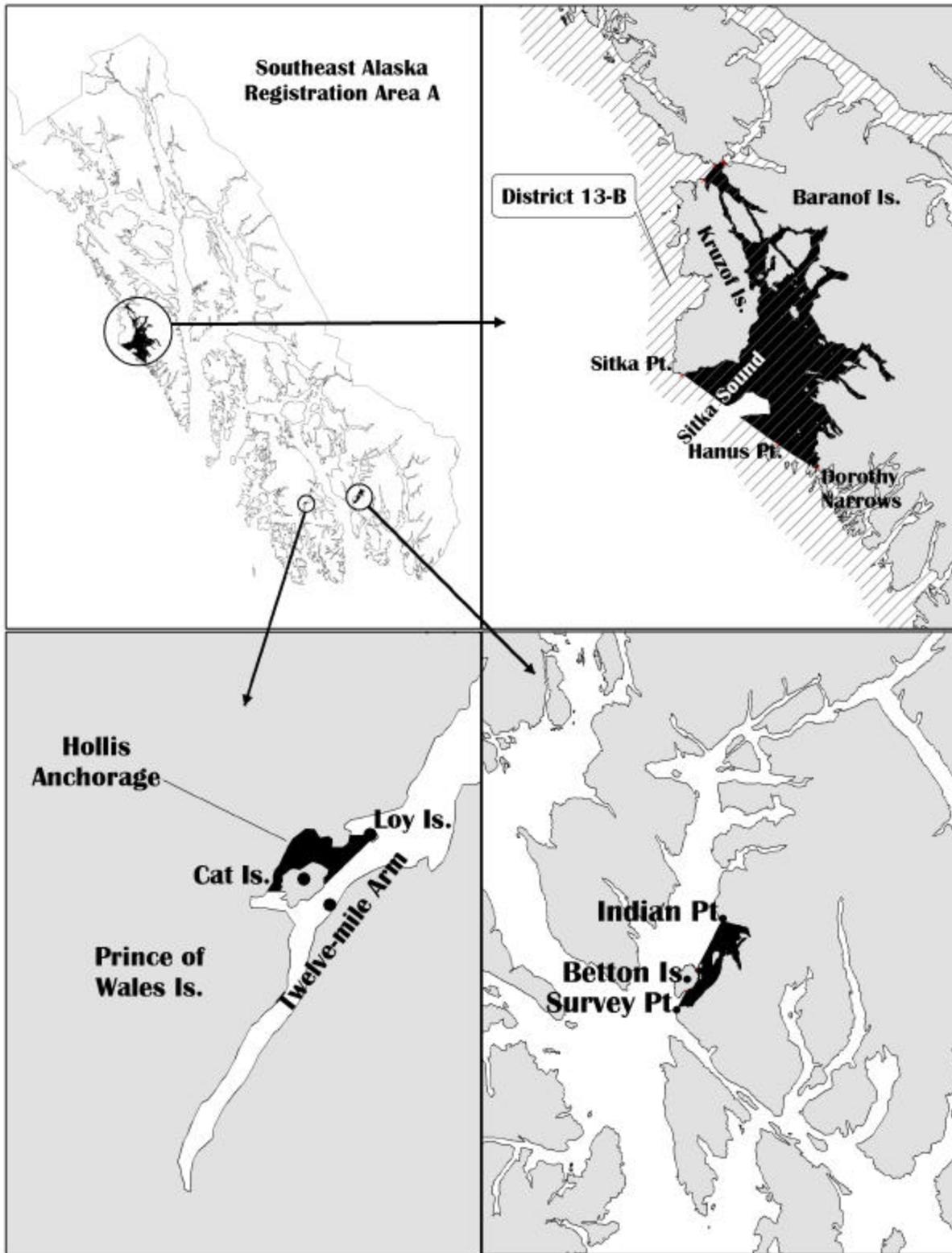


Figure 2. Closed waters for pot shrimping in Registration Area A.

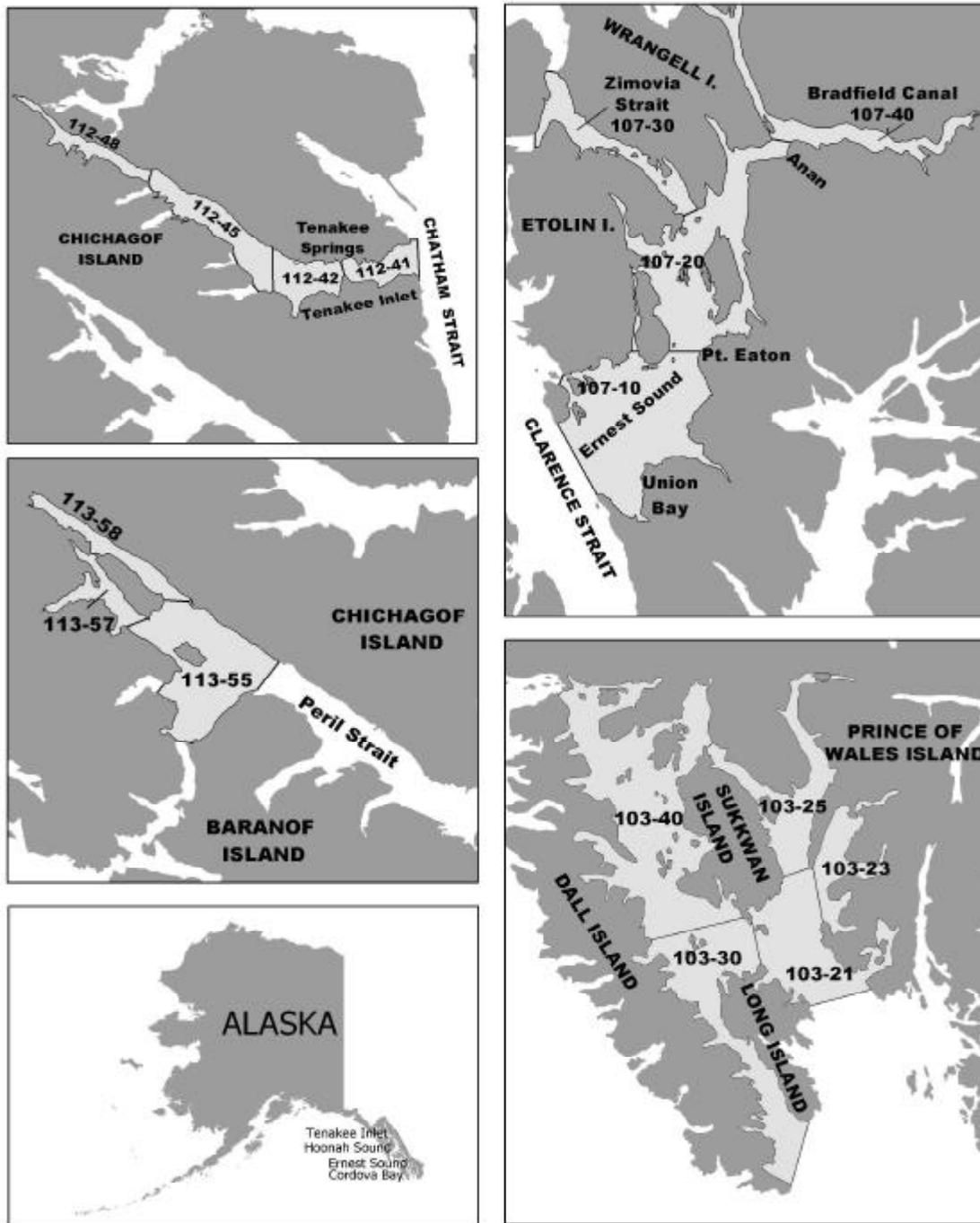
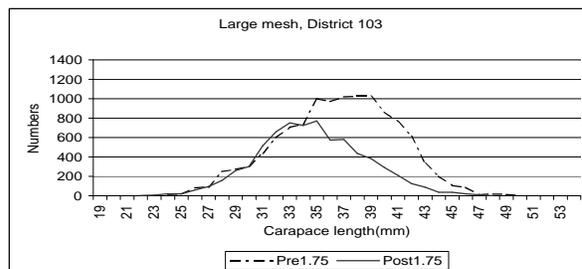
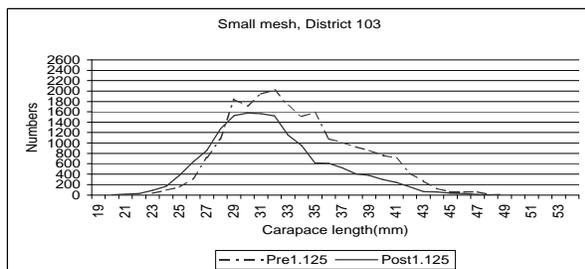
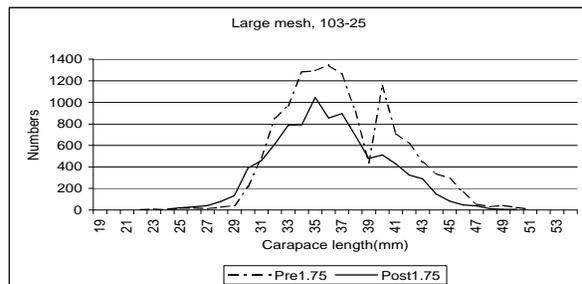
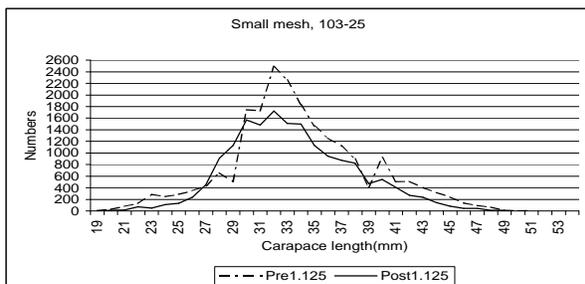


Figure 3. Locations of statistical areas of Districts 3 (Cordova Bay), 7 (Ernest Sound), 12 (Tenakee Inlet) and 13 (Hoonah Sound) in which standardized pot shrimp surveys have been conducted in Southeast Alaska.

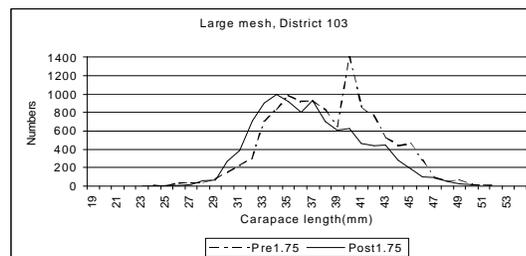
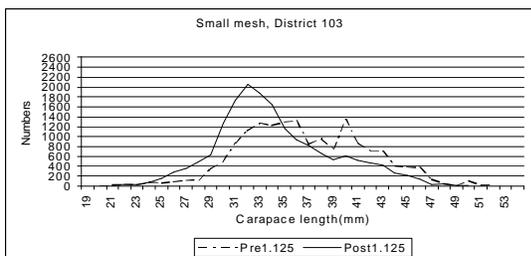
2002



2001



2000



1998

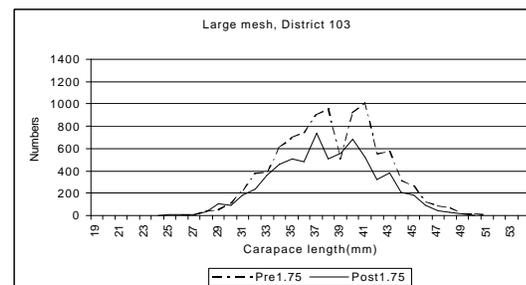
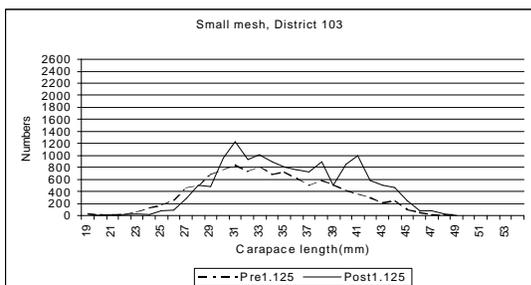


Figure 4. District 3, pre- and postseason surveys, 1998-2002. Length frequency graphs depicting catches of spot shrimp, by mesh size and comparing catches pre and post commercial fishery. 1998 postseason survey conducted in February of 1999, no postseason survey in fall of 1999.

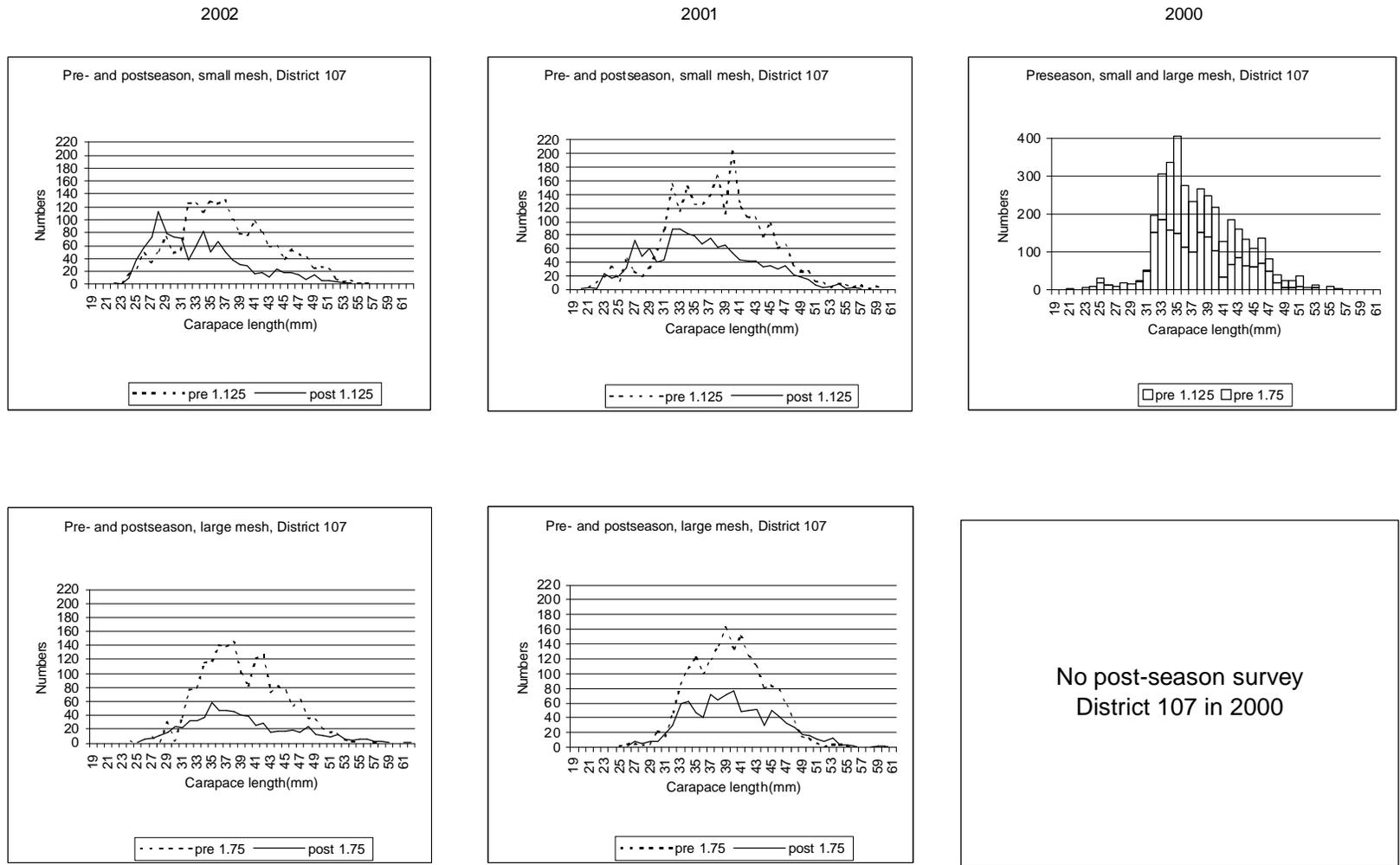
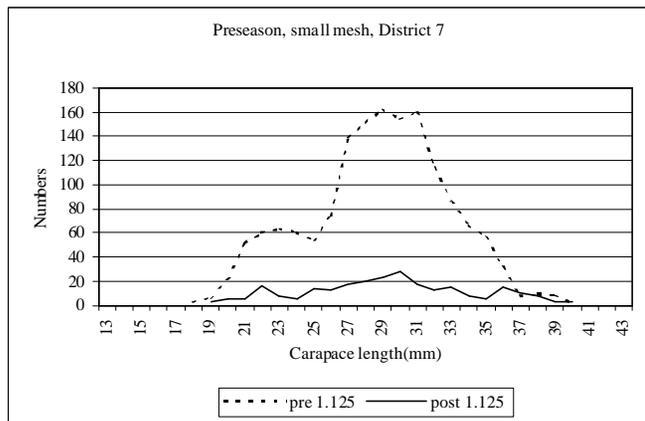
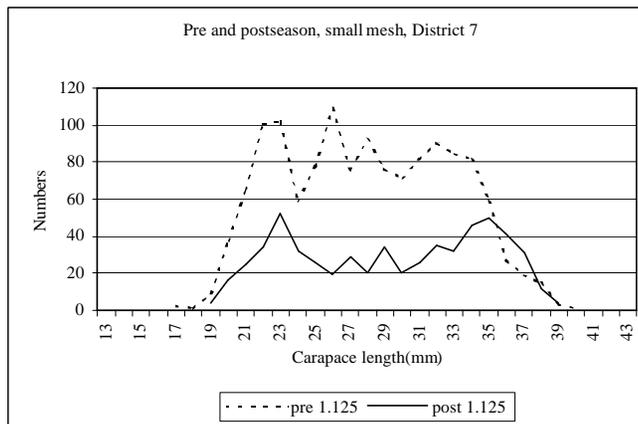


Figure 5. District 7, pre- and post-season surveys, 2000-2002 length frequency graphs depicting catches of spot shrimp, by mesh size fished. Preseason surveys, 1999-2000 stacked-bar length frequency graphs depicting catches of spot shrimp by mesh size fished.

2002



2001



46

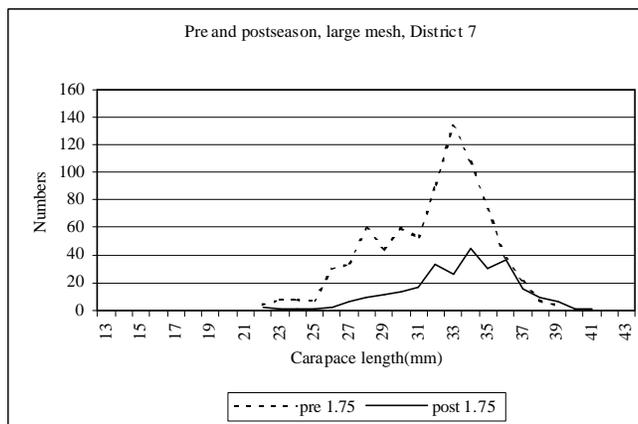
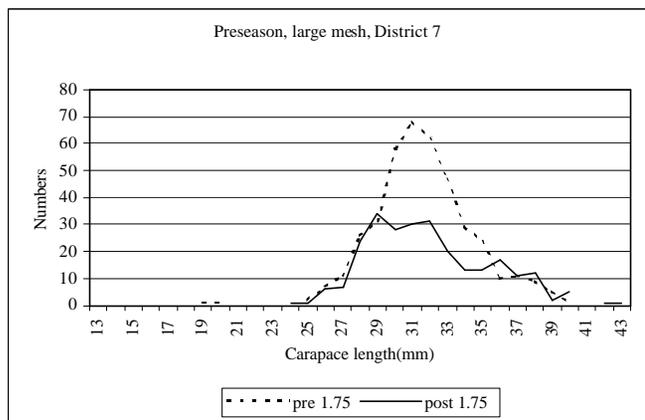
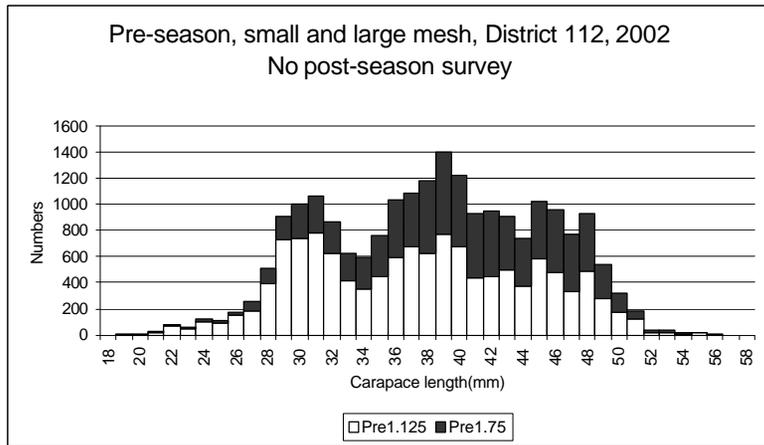


Figure 6. District 7 (statistical area 107-20), pre and postseason surveys, 2001-2002. Length frequency graphs depicting catches of coonstripe shrimp, by mesh size fished.



No pre- or post-season surveys,
District 112 in 2001

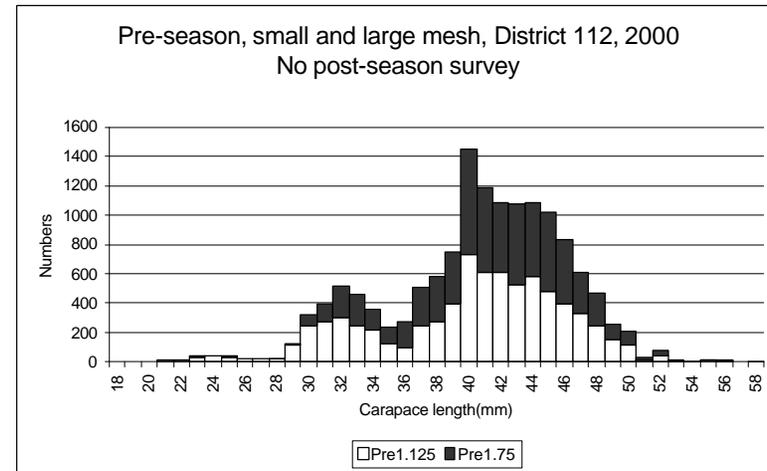


Figure 7. District 12, preseason surveys, 2000 and 2002. Stacked column length frequency graphs depicting catches of spot shrimp, by mesh size fished. No postseason surveys conducted.

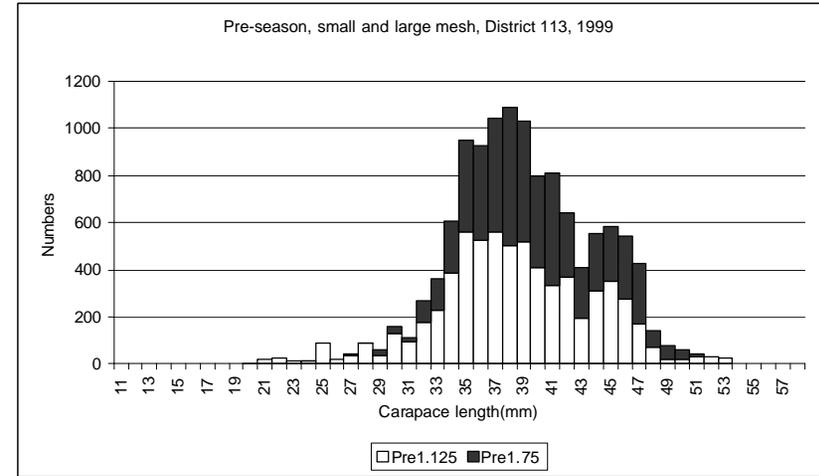
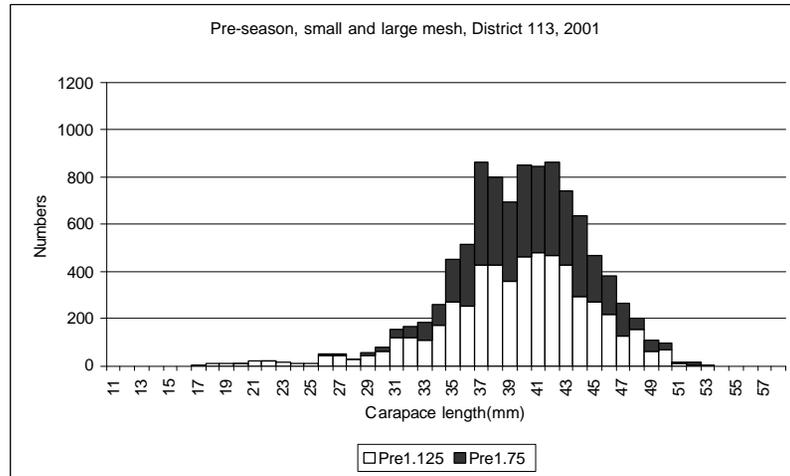
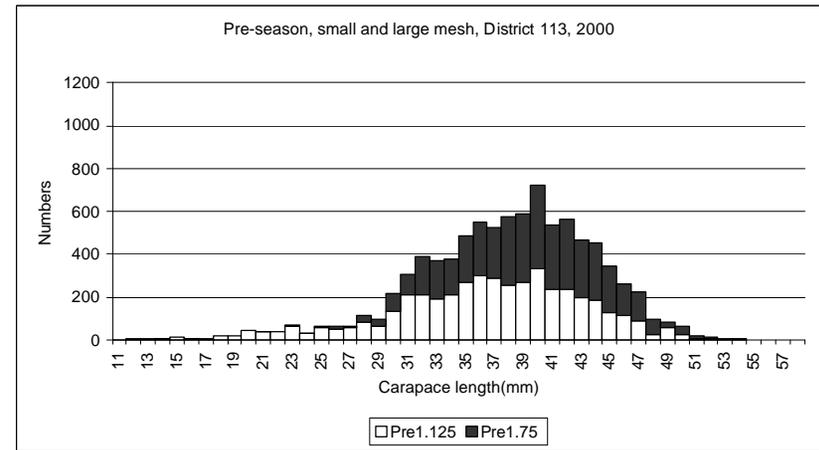
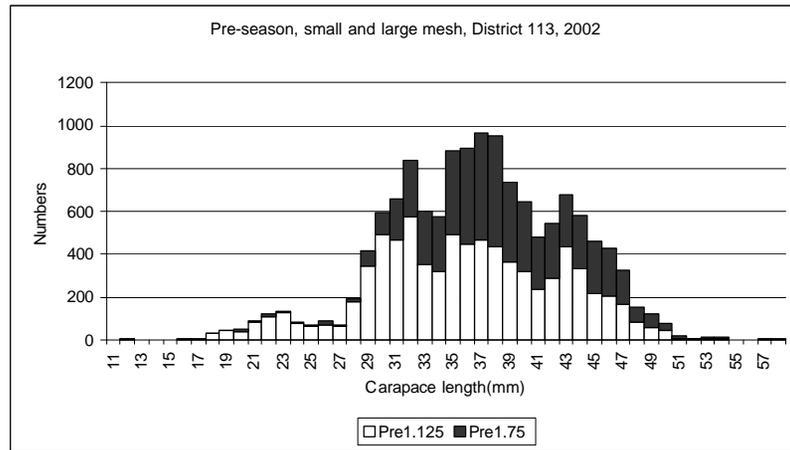


Figure 8. District 13, preseason surveys, 1999 - 2002. Stacked column length frequency graphs depicting catches of spot shrimp, by mesh size fished. No postseason surveys conducted.

APPENDICES

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