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Prince William Sound Shrimp Pot Fisheries through 2023 to inform the Alaska Board of Fisheries in 2025

by

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Alaska Department of Fish and Game **Divisions of Sport Fish and Commercial Fisheries**

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Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat or long
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$\log_2$, etc.
minute (angular)	′
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	″
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

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by

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ABSTRACT

This report summarizes the most recent fishing seasons and management actions for commercial and noncommercial (subsistence and sport fish) shrimp pot fisheries managed by the Alaska Department of Fish and Game (department) in the Prince William Sound Management Area (Area E) Inside District through the 2023 season that will be discussed at the 2025 Statewide Shellfish Alaska Board of Fisheries (BOF) meeting. Commercial and noncommercial harvest is primarily made up of spot shrimp *Pandalus platyceros*, although coonstripe shrimp *Pandalus hypsinotus* are harvested as well. The shrimp pot fishery season runs from April 15 to September 15 for all commercial and noncommercial fisheries. Average harvest between 2021 and 2023 in the commercial and noncommercial fisheries was 65,869 lb and 81,804 lb, respectively. Catch per unit effort (CPUE) in department index surveys decreased in the last 3 years, averaging 1.67 lb per pot of all-sized shrimp and 0.93 lb per pot of large shrimp (≥32 mm carapace length). CPUE in the commercial fishery over the same period fluctuated because fishing was rotated between 3 Inside District areas; average CPUE was 1.90 lb per pot in Area 1, 1.65 lb per pot in Area 2, and 1.58 lb per pot in Area 3. Noncommercial fishery CPUE averaged 2.14 lb per pot-day between 2010 and 2020 and increased to a 3.07 lb per pot-day average between 2021 and 2023, with a peak in 2021 of 3.47 lb per pot-day. Commercial and noncommercial fisheries combined remained within the total allowable harvest (TAH) in 10 of the last 14 years between 2010 and 2023. Percentage of the TAH harvested has ranged from 60% to 129%. From 2021 to 2023, the TAH was set at the lower 90% confidence interval of maximum sustained yield (MSY). The lower confidence interval was used to manage conservatively due to declining survey CPUE.

Keywords: Prince William Sound, Area E, spot shrimp, *Pandalus platyceros*, coonstripe shrimp, *Pandalus hypsinotus*, assessment, management, commercial, noncommercial, Alaska Board of Fisheries, maximum sustained yield, MSY

INTRODUCTION

This report summarizes the most recent fishing seasons and management actions that occurred in the Prince William Sound (PWS) commercial, sport, and subsistence shrimp pot fisheries. The boundaries of the PWS Management Area (Registration Area E) historically included waters within PWS and territorial waters of Alaska outside of PWS between the longitudes of Cape Fairfield (long 148°50.25′W) and Cape Suckling (long 143°53′W). In 2001, the eastern boundary was moved to Cape Fairfield (Figure 1), making the regulatory boundaries consistent among all state shellfish and groundfish fisheries.

For commercial fisheries, the PWS Management Area is divided into the Inside and Outside Districts. The Inside District is defined as waters enclosed by lines from Point Whitshed to Point Bentinck, from Cape Hinchinbrook to Zaikof Point, and from Cape Cleare to Cape Puget. The Outside District is made up of Gulf of Alaska waters 0–3 nautical miles from shore between Cape Fairfield and the eastern boundary. Commercial shrimp pot fisheries are prosecuted within the PWS Inside District in 3 areas: Area 1, Area 2, and Area 3 (Figure 1).

The Alaska Department of Fish and Game (department) manages shrimp fisheries within the PWS Management Area. The Division of Commercial Fisheries (CF) manages the commercial and subsistence shrimp fisheries and the Division of Sport Fish (SF) manages the sport shrimp fishery and also compiles permit data from the subsistence fishery. The Alaska Board of Fisheries (board) establishes management regulations and determines if customary and traditional use of a fishery exists and, if so, determines the amount reasonably necessary for subsistence (ANS) as the harvestable portion that can be harvested for subsistence uses, consistent with sustained yield. The ANS is often a range and one guideline to assess whether regulations provide a reasonable opportunity for subsistence uses. The board schedules regular meetings for shellfish on a triennial basis.

There are commercial and noncommercial shrimp pot fisheries in the Inside District that target spot shrimp *Pandalus platyceros* and, to a limited extent, coonstripe shrimp *Pandalus hypsinotus*. These pandalid shrimp are protandric hermaphrodites, first maturing as males and, as they get larger, later transitioning to females. Spot shrimp may reach sexual maturity by their third year, and eggs are typically found on females from October to March. A department tagging study in PWS between 1983 and 1986 indicated that spot shrimp lifespans may range from 7 to 10 years (Kimker et al. 1996). Although spot shrimp are typically caught in greatest concentrations around 60 fathoms, they occur at depths between 2 and 250 fathoms.

The PWS commercial shrimp pot fishery reopened in 2010 for the "modern fishery" after being closed for 18 years due to poor stock health as estimated by the PWS shrimp pot survey. The commercial fishery is allocated 40% of the total allowable harvest (TAH) in years when the TAH exceeds 110,000 lb (5 AAC 31.214; Table 1). Three commercial pot shrimp areas are defined in regulation and managed using a triennial rotation (5 AAC 31.210; Figure 1). Commercial shrimp harvest is monitored inseason through department fish tickets (5 AAC 39.130) with additional information from required inseason reporting on fishing location and effort (5 AAC 31.245). Logbooks are also required to be filled out and submitted to the department for this fishery. Reporting requirements specify that all shrimp retained, including harvest retained for personal use or used as bait, must be reported on department fish tickets. Regulations also specify that only 50% of the harvest may come from a single statistical area (5 AAC 31.214).

The noncommercial fishery is allocated 60% of the TAH. However, unlike the commercial fishery, which has a threshold to open, the noncommercial fishery opens regardless of the TAH as estimated annually preseason by a surplus production model. Noncommercial harvest is currently monitored through a permit, and data are analyzed postseason. Permits record location, effort, and harvest and are used to evaluate fishery dynamics.

Harvest from both commercial and noncommercial PWS shrimp pot fisheries is incorporated into a surplus production model to establish the TAH and guideline harvest levels (GHLs) within the fisheries. The TAH is divided into commercial and noncommercial GHLs of 40% and 60%, respectively. Data collected from the commercial and noncommercial PWS shrimp pot fisheries, as well as from department index surveys, provide the information necessary to manage PWS spot shrimp. This report gives background information on spot shrimp fisheries in PWS and summarizes available and relevant information for continued sustainable management of these fisheries.

STOCK ASSESSMENT

Pot Surveys

The PWS shrimp pot survey is the primary tool the department uses to assess shrimp in PWS, and the methods have gone through many changes over the last 25 years (Rhea-Fournier et al. *In prep*). The survey began in 1989 as part of the Exxon Valdez oil spill damage assessment process to assess the extent of oiled spot shrimp in PWS (Trowbridge 1992, 1994). Variable numbers of pots were set at each survey site during the first 3 years of the survey. Between 1989 and 1991, surveys included 6 index sites (Unakwik, Golden, Culross, Herring Bay, Green Island, and north of Chenega at a site later referred to as Junction Island; Figure 1) using 2 depth strata: 20–70 fathoms and 70–120 fathoms. The survey transitioned into an abundance index assessment tool starting in 1992. South Chenega and Prince of Wales sites were added to the survey, and fishing depths were

standardized to range from 20 to 80 fathoms because survey catch rates dropped precipitously at depths deeper than 80 fathoms in previous surveys (Trowbridge 1994).

The shrimp pots used in the survey are designed to catch all sizes of shrimp to evaluate small shrimp and potential recruitment, along with larger shrimp. These pots do not fit the regulatory guidelines of commercial pot gear and therefore survey catch per unit effort (CPUE) cannot be directly compared with that of the commercial fishery. In 1992, the annual survey was standardized to a set of 4 strings at each survey site. Each string of standardized gear was made up of 11 pots spaced approximately 10 fathoms apart on a groundline with buoys at each end. In 2009, the Green Island survey site was eliminated due to regular gear loss from heavy currents, and a new survey site was added at Long Bay. In 2012, another new survey site was added at Bald Head Chris to provide better area coverage, and in 2013, an additional survey site was added in the Valdez Arm nonsubsistence area (Figures 1 and 2) to obtain fishery-independent data in this area of high noncommercial (sport) harvest. However, the Valdez Arm site is subject to high currents and oceanic conditions unfavorable to setting and retrieving gear. Currently, resources for the survey are low, but if more funding can be allocated, the department plans to add a site near Whittier and move the Valdez site to a location more amenable to sampling to collect additional data in the areas of highest sport harvest.

In 2016 and 2017, the number of pots on each string was reduced from 11 to 5 pots. This allowed the number of strings to be increased to 8 at each survey index site, which increased the coverage area. It is likely the reduction in number of pots per string did not affect CPUE results because a high correlation was found in CPUE across strings within each survey index site. However, in 2018, the department returned to the previous 11-pot, 4-string method because of concerns over standardization, and this method has continued through the current 2024 survey.

Caveats for changing methods aside, the overall CPUE in the department's standardized index survey for spot shrimp declined from 0.71 lb/pot in 1992 to 0.29 lb/pot in 1998 (Figure 3, Table 2). After 1998, survey CPUE demonstrated a slow but steady increase in abundance and biomass. From 2017 to 2020, the average annual CPUE was well above 3.0 lb/pot, ranging from 3.32 lb/pot in 2019 to a high of 3.90 lb/pot in 2020, the highest estimate in the history of the survey. CPUE has declined annually beginning in 2020 and continuing through the 2023 survey, reaching the lowest CPUE since 2000 at 0.92 lb/pot in 2023. The average CPUE from 2021 to 2023 was 1.67 lb/pot.

Similarly, index survey results for shrimp with a carapace length of 32 mm or greater (large shrimp, or marketable size shrimp) were at low levels between 1992 and 2006, less than 1.0 lb/pot (Figure 3, Table 2). However, from 2007 to 2020, CPUE for large shrimp increased, ranging from 1.01 lb/pot in 2015 to 2.31 lb/pot in 2020. Survey CPUE for large shrimp decreased beginning in 2020, reaching the lowest CPUE since 2000 at 0.53 lb/pt in 2023.

Commercial Areas 1 and 2 generally have higher average survey CPUE than Area 3 (Table 3 and Figure 4). Since the modern fishery opened in 2010 and through 2020 the average survey CPUE for Area 1, Area 2, and Area 3 was 3.09 lb/pot, 3.29 lb/pot, and 1.48 lb/pot, respectively. Survey CPUE declined in all areas beginning in 2021 and continuing through the present. In 2023, survey CPUE in Area 1, Area 2, and Area 3 was 1.33 lb/pot, 0.87 lb/pot, and 0.53 lb/pt respectively.

The percentage of females caught in the survey has varied from 4.3 to 24.9 percent (Table 2). During surveys between 1992 and 2009, before the modern fishery opened, the average percentage of females was 7.9%. After the modern fishery opened, between 2010 and 2020, the average

percentage of females was 12.4%. More recently, from 2021 to 2023, the average percentage of females increased to 13.3%. Of the 26 years with survey information, 80–89% of sampled females were egg bearing during 6 of the years, but for other years, more than 90% of sampled females had eggs.

During the past 3 seasons (2021–2023), concerns about the PWS shrimp fishery overlapping with reproductive timing and potentially removing females with developing eggs from the population prompted department staff to conduct interviews with PWS commercial shrimp pot fishery participants after the first opening. Interviewed participants reported observing less than 5% females with eggs. Recent port sampling data collected during the first 4 weeks of the fishery confirmed that the percentage of egg-bearing females is low, averaging 7% per delivery. Since 2016, on average 1% of all shrimp captured during opportunistic sampling conducted by SF staff between April 15 and September 15 were egg-bearing females; however, data indicate this percentage can vary based on date and location of the sample, with a range of 0% to 12.5% per sample (Arthur et al. 2024).

Department shrimp survey results are currently used to assess the relative abundance of spot shrimp in PWS, and these data, along with survey CPUE and total catch weight, are used in combination with harvests from the commercial and noncommercial fisheries each year to model the harvestable surplus of spot shrimp in PWS. Model results provide the following year's TAH and guideline harvest levels (GHLs) for both commercial and noncommercial spot shrimp fisheries. The biological metrics from this survey, which are used to examine the relative abundance and composition of spot shrimp in PWS, indicate that the abundance of spot shrimp has been decreasing since the survey highs of 2020.

Population Dynamics Model

The population dynamics of spot shrimp in PWS are modeled using the Schaefer surplus production model (Haddon 2011). The equation is written as follows:

$$B_{t+1} = B_t + rB_t\left(1 - \frac{B_t}{K}\right) - C_t \tag{1}$$

where r is an intrinsic rate of population growth, K is a parameter that corresponds to the unfished equilibrium population size, B_{t+1} is the exploitable biomass at the end of year t or the beginning of year t+1, B_t is the exploitable biomass at the start of year t, and C_t is the biomass caught during year t.

Also, an index of relative abundance is generated from the equation

$$\hat{I}_t = q\frac{\hat{B}_{t+1} + \hat{B}_t}{2} \tag{2}$$

where $\hat{I}_t$ is an estimated index of relative abundance for year t and q is the catchability coefficient. Taking the average of the biomass levels at the start and end of year t allows catches to be related to biomass more realistically.

The input data to the model are catches (C_t) and CPUE (observed I_t) from 1981 to present. The CPUE data are from 2 sources: the commercial fisheries (1981 to 1988) and the index survey (1989 to present). The CPUE from commercial fisheries is adjusted to the level of the survey CPUE using the ratio of the average of CPUE from 1989 and 1990 (index survey) to the average of CPUE from

1987 and 1988 (commercial fishery). The catch data are the total catch weight, which is the summation of catches from the survey and from the commercial and noncommercial fisheries.

The parameters r, K, initial biomass B_0, and q can then be estimated by minimizing the sum of squares error $\sum (I_t - \hat{I}_t)^2$. The maximum sustainable yield (MSY) is obtained from the equation (Haddon 2011)

$$MSY = \frac{rK}{4} \tag{3}$$

To determine the uncertainty in the estimate of *MSY*, a bootstrap analysis is conducted by resampling the residuals between estimated CPUE ($\hat{I}_t$) and observed CPUE (I_t); 90% confidence intervals are constructed using at least 1,000 bootstrapping samples. The lower confidence interval (CI) bound is used instead of MSY as the harvestable surplus biomass to deal with the uncertainty of MSY and set more conservative, sustainable harvest limits.

COMMERCIAL FISHERY

MANAGEMENT AND REGULATIONS

Currently, the opening of the commercial fishery depends on the results of the surplus production model (Equations 1–3) using the index of relative abundance and total biomass caught from the previous season, which sets the total allowable harvest (TAH) for the upcoming season. The commercial fishery only opens when the TAH exceeds 110,000 lb (5 AAC 31.215). If the commercial fishery opens, 40% of the TAH is allocated to the commercial GHL and no more than 50% of the commercial GHL may be taken from any one statistical area. The commercial fishery rotates between 3 areas in the PWS Inside District on a triennial basis (5 AAC 31.210). In all other areas of PWS, a commissioner's permit is required for the commercial harvest of shrimp.

In early February, an announcement is made as to whether the commercial fishery will occur. If a commercial fishery is to be prosecuted, registrations are then made available at area offices with a registration deadline of April 1. Many vessels register that do not participate. The commercial shrimp pot season shares opening and closing dates with the noncommercial season, opening April 15 and closing September 15, or by emergency order (EO; 5 AAC 31.210).

Reporting requirements for the commercial fishery include mandatory call-ins prior to beginning a trip, call-ins prior to landing shrimp, and logbooks (5 AAC 31.245). The PWS Management Area was originally designated a superexclusive registration area for vessels fishing for shrimp with pot gear but was redesignated as an exclusive registration area at the March 2012 board meeting when it was determined that "superexclusive" was not defined for shrimp fisheries and that "exclusive" met the same definition (5 AAC 31.206).

Statewide commercial shrimp regulations describe buoy marking, maximum tunnel size, and biodegradable escape mechanism requirements (5 AAC 31.050 and 5 AAC 31.051). PWS Management Area shrimp pot regulations specify that a pot may not have more than 1 bottom, a vertical height of more than 24 in, more than 4 tunnel eye openings, or a bottom perimeter exceeding 124 in (5 AAC 31.223). No more than 100 pots may be operated by a vessel unless further restricted by EO. Additionally, a shrimp pot must be entirely covered with net webbing or rigid mesh and at least 2 adjacent sides or 50% of the vertical or near vertical sides must be covered

with net webbing or rigid mesh that allows the unaided passage of a ⅞-inch diameter dowel. Recent management of the PWS commercial shrimp fishery includes setting pot limits annually by EO, establishing fishing periods, and monitoring harvest and CPUE in individual statistical areas. On average from 2021 to 2023, 110 vessels registered, 63% of which participated in the fishery, and 145 Commercial Fisheries Entry Commission (CFEC) permits were issued, 50% of which were fished (Table 4). Multiple permits can fish on a single registered vessel, but the vessel is still limited to the maximum gear allowance.

In recent years, pot limits have been set to between 25 and 40 pots. In 2021 in Area 3, the pot limit was set for the first fishing period at 30 pots but was later increased to 40 pots. In 2022 and 2023, in Area 1 and Area 2, the pot limit was 25 pots for the duration of the season. Shrimp are caught at a faster rate Area 1 and Area 2 so lower pot limits were used to slow the catch rate in those areas. Total fishing time and fishing period lengths vary each season depending on emergency orders (Table 5) that consider the number of vessels that fish (Table 4) and the area open to fishing. Between 2021 and 2023, total available fishing time ranged from 36 days in Area 1 in 2022 to 126 days in Area 3 in 2021, the least productive area.

Hours of gear operation have been relaxed by preseason EO in most years. From 2021 to 2023, fishing hours were 8:00 AM to 8:00 PM (Table 5). Operating hours were relaxed to allow participants to take advantage of the most favorable tide conditions for operating their gear.

For the past 3 years, the Division of Commercial Fisheries has organized preseason meetings with participants to review previous seasons' harvest and effort, survey results, registration requirements, and inseason management. These meetings are a valuable tool for establishing a relationship with the fleet and have allowed the department to closely target the GHL due to increased compliance. Preseason meetings have also allowed the fleet to provide managers with feedback regarding the pot limit, fishing period lengths, and other adjustments that the department makes before and within the season. The division will continue to hold these annual meetings.

HISTORICAL FISHERY PERFORMANCE

The historical commercial pot shrimp fishery in PWS occurred within the Inside District, primarily near the northern and western shores of PWS from Port Valdez to Whittier and the southwest portion of PWS (Figure 1). Commercial shrimp landings from pot gear were first documented in 1960 when approximately 5,000 lb were landed (Table 6). From 1960 through 1977, harvest ranged from zero in 1961 and 1966, to approximately 25,000 lb in 1974. The shrimp pot fishery expanded rapidly from 1978 to 1982 as local markets were established and major harvest areas were located. Commercial fishery seasons during 1960–1982 were open year-round with no harvest restrictions.

From 1982 to 1984, seasons were shortened to April 1 through November 30, and the first guideline harvest range (GHR) of 75,000–145,000 lb was adopted. Despite the shortened season, catch increased to almost 214,000 lb in 1982, and effort increased to 79 vessels in 1984 (Table 6). Beginning in 1985, the board established a split season of March 15–June 30 and August 15–December 5, with a GHR of 75,000–100,000 lb each season. An experimental harvest area in Montague Strait with no closed season was also established. The split season was intended to reduce harvest during the egg-bearing periods. Due to incomplete and late catch reporting, coupled with harvest from the experimental fishing area, harvest substantially exceeded the GHR over the next few years. Harvest peaked at over 290,000 lb in 1986, and effort peaked at 86 vessels in 1987 (Table 6).

Harvest declines beginning in 1988 initiated conservation concerns. The *Exxon Valdez* oil spill on March 24, 1989, complicated prosecution of the 1989 fishery in which 33 vessels harvested 29,315 lb (Table 6). In 1990, the season for the experimental harvest area in Montague Strait was delayed to match the regular season, and the spring season was shortened. Also in 1990, a gear limit of 150 pots and mesh size restrictions to allow the escape of undersized shrimp were adopted. In 1991, a limited commercial fishery with a conservative GHR of 10,000–40,000 lb was closed after 46 days of fishing. The fishery yielded only 17,580 lb taken by 15 vessels in 45 landings. Fishery performance information from the 1991 fishery indicated low shrimp abundance. In 1994, the board set the GHR for PWS pot shrimp to 0–100,000 lb. The commercial fishery was closed by department EO from 1992 to 1999, and in 2000, the board closed the fishery. The fishery remained closed for a total of 18 years. In 2009, the board adopted a new management plan and in 2010, the PWS commercial fishery re-opened.

CURRENT FISHERY HARVEST AND EFFORT

Between 2010 and 2023, the GHL was met (within 500 lb) in 10 out of 14 years and was never exceeded by more than 3% (Table 7). Since 2016, the GHL has been met annually due to increased spot shrimp abundance in PWS and participants in the fishery gaining experience in the different areas. From 2010 to 2020, 88% of the GHL was harvested on average, and from 2021 to 2023, 99% of the GHL was harvested. The GHL ranged from 47,061 lb in 2016 to 70,000 lb in 2021. Since 2021, the GHL has decreased annually and was set at 63,100 pounds in 2023.

Harvest and effort is higher in Area 1 and Area 2 than in Area 3 (Table 7). This is due in part to lower CPUE in Area 3 but also because Area 3 is further from the ports of Whittier and Valdez than the other 2 areas. In Area 1 and Area 2, the GHL was 95% and 101% harvested, on average, from 2010 to 2023. In Area 3 the GHL was 71% harvested on average for those years. However, after 2016, the GHL in Area 3 was also nearly 100% harvested. Participation from 2010 to 2023 in Area 1 averaged 63 vessels annually, in Area 2 averaged 55 vessels annually, and in Area 3 averaged 45 vessels annually. Beginning in 2019, participation has been higher in all areas because shrimp abundance increased prior to 2020 and the fishery became more popular.

The highest CPUE since the modern fishery opened was observed in 2010 when the first fishery in Area 1 had a CPUE of 2.52 lb/pot (Table 7). The lowest CPUE of 1.10 lb/pot occurred the first year that Area 3 opened in 2012. Area 1 has the highest average CPUE, with values ranging from 1.77 to 2.02 lb/pot (average: 2.00 lb/pot). Area 2 had CPUE ranging from 1.49 to 2.14 lb/pot (average: 1.74 lb/pot). Area 3 had low CPUE compared with the other Areas, ranging from 1.10 to 1.63 lb/pot (average: 1.37 lb/pot). Despite indications from the PWS shrimp pot survey that shrimp abundance has decreased annually since 2020, fishery CPUE has not.

NONCOMMERCIAL FISHERY

HISTORY

The noncommercial shrimp pot fishery in PWS was historically composed of sport, personal use, and subsistence fisheries. In 1999, as PWS shrimp stocks began to recover after the commercial fishery closure in 1992, the board determined there was not enough surplus to prosecute a commercial fishery but established pot limits for the noncommercial fisheries to allow for historical levels of harvest. Shellfish have played an important role in the diets of the indigenous Chugach and Eyak peoples of Prince William Sound and the Copper River Delta (ADF&G 2008). The board made a positive customary and traditional use finding for shrimp (various species) in

the Prince William Sound Management Area and established an amount necessary for subsistence (ANS) for shrimp in PWS of 9,000–15,000 lb of usable weight (5 AAC 02.208).

The sport fishery harvest of shrimp has been documented since 1994 by department-run statewide harvest surveys (SWHS[1]) and intermittently by harvest permits since 2002 (no permits were required from 2006 to 2008; Marston and Brazil 2008). Data from the SWHS and subsistence household surveys were used from 2006 to 2008 to estimate noncommercial harvests, but estimates from the SWHS are not comparable to current harvest estimates and are not included in this report.

Management of the noncommercial fisheries has changed over time based on regulation and use patterns. In 1999, the board established a pot limit of 5 pots per vessel to maintain a modest noncommercial shrimp fishery in PWS. In 2000, the Anton Anderson Memorial Tunnel opened to vehicle traffic between the Seward Highway (Southcentral Alaska) and Whittier (PWS), providing increased access to the PWS port of Whittier. In March 2009, the board adopted the *PWS Noncommercial Shrimp Fishery Management Plan* (5 AAC 55.055) that included an allocation of 60% of the total allowable harvest (TAH) to noncommercial users. The TAH is estimated annually prior to the start of the fishing season (April 15) with a surplus production model (Equations 1–3) that requires more timely and precise estimates of noncommercial harvest than are provided by the SWHS. As such, it became necessary to reinstate the noncommercial shrimp permit prior to the start of the 2009 shrimp pot fishery season. In 2012, the board revisited the shrimp pot fishery management plan and repealed the department's EO authority under 5 AAC 75.003 to increase the pot limit. However, this did not limit the department's EO authority under AS 16.05.060 to restrict the fishery prior to the season and inseason as needed for conservation purposes.

NONCOMMERCIAL FISHERY MANAGEMENT

Between 2009 and 2015, there were no preseason or inseason restrictive actions taken. The GHL ranged from 57,900 to 100,000 lb; harvest averaged 75,140 lb (range: 55,765–92,072 lb); and effort averaged 54,378 pot-days (range: 47,631–78,083 pot-days; calculated from Table 8). The only year shrimp pot limits were ever liberalized was in 2010, and prior to 2016, there were not any pot restrictions. The department has issued preseason emergency orders reducing the number of pots per vessel every year since 2016.

In 2016, the noncommercial GHL level, which is 60% of the TAH, was at its lowest level since 2009 (70,500 lb), and based on historical effort and harvest, it was necessary for the department to reduce the number of pots allowed per permit (and vessel) from 5 to 4 pots to keep harvest from exceeding the GHL. Two emergency orders were issued in 2016 for the sport and personal use shrimp fisheries that reduced the number of pots allowed (Table 9). The 20% reduction in pots led to the lowest number of pot-days of effort recorded since 2005; however, the harvest of 102,785 lb exceeded the previous 7-year average (2009–2015) of 75,140 lb and exceeded the 2016 GHL by 32,285 lb (Table 8). This was the second time since the adoption of the management plan in 2009 that the GHL was exceeded; however, prior to 2016, the GHL had not been fully utilized in most years. In 2016, the board repealed personal use fishing regulations to simplify regulations because they were redundant with sport fishing regulations.

Starting in 2017, the noncommercial shrimp season only consisted of sport and subsistence shrimp pot fisheries in PWS. In 2017, the GHL increased to 100,000 lb, which was more comparable to

[1] Alaska Sport Fishing Survey database [Internet]. 1996–present. Anchorage, AK: Alaska Department of Fish and Game, Division of Sport Fish. Available from: http://www.adfg.alaska.gov/sf/sportfishingsurvey/.

the GHLs between 2013 and 2015 (Table 8). However, due to concern that harvest and effort would be similar to 2016, causing the GHL to be exceeded again, an EO was issued for the 2017 noncommercial shrimp season reducing the pot limit to 4 pots per permit and vessel (Table 9). In 2017, the noncommercial shrimp harvest was 8,173 lb below the GHL (Table 8).

In 2018, the GHL increased slightly from the previous year to 100,700 lb (Table 8). However, there was concern prior to the 2018 season that if harvest and effort trends in 2018 were like those observed in 2016 and 2017, the established GHL would be exceeded. To reduce harvest and effort during the 2018 noncommercial shrimp season, an EO was issued reducing the pot limit to 4 pots per person and vessel for a third season (Table 9). In 2018, even with the reduction to 4 pots, the noncommercial shrimp GHL was exceeded by 28,160 lb (Table 8). The increase in harvest in 2018 was due to higher-than-anticipated effort (51,704 pot-days), which was highest since 2012, and due to a substantial increase in noncommercial CPUE (2.49 lb per pot-day), which increased 24% from 2017 (Table 8).

In 2019, the GHL increased slightly from the 2018 level to 102,100 lb (Table 8). However, due to concerns with the previous year's harvest and effort trends, an EO was issued reducing the allowable pot limit from 5 pots to 3 pots per person and vessel (Table 9). In 2019, the GHL was exceeded by only 819 lb, and overall effort was the lowest since 2005.

In 2020, the GHL increased slightly from 2019 to 102,109 lb (Table 8). Trends in prior years indicated that pot limit reductions were needed again to keep harvest below the GHL. To maintain harvest levels at or below the GHL during the 2020 noncommercial shrimp season, an EO was issued reducing the pot limit to 3 pots per person and vessel for a second year (Table 9). Although effort was still below the historical average, effort increased slightly during the 2020 season, which could be attributed to fishery participants spending more time on the water during the first year of the COVID-19 pandemic. In 2020, the highest CPUE ever recorded in the noncommercial fishery at 3.45 lb of shrimp per pot was the primary contributing factor to exceeding the GHL by 38,379 lb in 2020 (Table 8). The reason for the high CPUE is unknown; however, it could be due to a combination of factors, including high shrimp abundance and participant efficiency.

In 2021, the GHL increased slightly from the 2020 level to 104,978 lb, the highest since the *PWS Noncommercial Management Plan* and GHL were first established (in 2009; Table 8). The increase in the noncommercial CPUE in 2020 and effort at the time indicated a need for further pot limit reductions. Therefore, to reduce harvest and effort during the 2021 noncommercial shrimp season, and to keep harvest near the GHL, a preseason EO was issued reducing the pot limit from 5 to 2 pots per person and vessel, the lowest number of pots allowed in the history of the PWS noncommercial fishery (Table 9). In 2021, the noncommercial fishery attained its highest CPUE ever recorded at 3.47 lb of shrimp per pot; however, there was a drastic decrease in effort in 2021 (25,671 pot-days), down 37% from the 2020 effort due to the reduced pot limit (Table 8). A high noncommercial CPUE but lower-than-anticipated effort in 2021 resulted in a total harvest of 88,972 lb, which was approximately 16,000 lb below the GHL (Table 8; Figure 5).

In 2022, the GHL decreased to 100,300 lb (Figure 5) as a result of declining abundance indicated by CPUE from the department index survey (Figure 3). Following the decline in harvest and effort in 2021, the noncommercial CPUE data indicated that a 2-pot limit was too restrictive, but that a 3-pot limit applied throughout the entire PWSMA could result in a harvest that would exceed the GHL. As a result, the department evaluated differing pot limits between areas and determined that reduced pot limits in the high effort and harvest areas could result in harvest near the GHL. In

2022, the department issued a preseason emergency order (Table 9), which reduced the pot limit to 3 pots, but of those pots, only 2 pots could be set in Port Valdez, near the Port of Whittier, and in portions of Port Wells and Culross Passage (Appendices A1 and A2). Effort in 2022 was 27,716 pot-days, which was only a slight increase from 2021, which had a 2-pot limit for the entire PWSMA. With lower effort than anticipated and a decline in the noncommercial CPUE, the resulting harvest of 84,949 lb was below the GHL by approximately 15,300 lb (Table 8; Figure 4).

In 2023, the GHL was set at 94,700 lb, the largest decrease in the GHL since 2016 (Figure 5). Although the 2022 harvest was estimated at 85% of the GHL, the allowed effort-per-pot and CPUE in Whittier and Valdez were too high to allow for 3 pots in these areas during the 2023 season without potentially exceeding the lower 2023 GHL. As a result, the department issued an EO mirroring 2022, which set the pot limit to 3 pots, but of those pots, only 2 pots could be set in Port Valdez, near the Port of Whittier, and in portions of Port Wells and Culross Passage (Table 9). The noncommercial CPUE and effort continued to decline in 2023, as well as shrimp abundance based on the department index survey CPUE, resulting in the lowest noncommercial harvest (71,492 lb) since 2012 (Table 8; Figure 5). The estimated harvest in 2023 was only 75% of the GHL (Table 8; Figure 5).

FISHERY REGULATIONS

Before 1999, there were no regulatory restrictions on the noncommercial shrimp fishery in PWS. In March 2000, the board adopted regulations to restrict the noncommercial fishery (effective January 2001). A management plan for the PWS noncommercial shrimp pot fishery was adopted by the board in March of 2009. The noncommercial shrimp fishery occurs annually as described in the *PWS Noncommercial Shrimp Fishery Management Plan* (5 AAC 55.055), and general provisions for the PWS noncommercial fishery are described in 5 AAC 55.022(b)(5). Specific regulations include the following:

1. The guideline harvest level for shrimp taken by pot gear in noncommercial fisheries is calculated as 60% of the TAH for PWS.
2. Shrimp may be taken from April 15 to September 15.
3. A harvest recording form (permit) is required to participate in the fishery.
    1. Shrimp fishers must be in possession of a permit at the time of harvest and must record harvest before leaving the fishing area or concealing shrimp.
    2. The permit can be issued to a household where all household members listed on the permit can fish the permit, or it can be issued to individuals.
    3. Permits must be returned to the department by October 15.
    4. A permit holder that fails to comply with reporting requirement will be ineligible to obtain a shrimp harvest recording form in the PWS noncommercial shrimp fishery in the following season, unless the permit holder can demonstrate that the failure to report was due to unavoidable circumstances within an appeal period.
4. There is no bag, possession, or size limit on shrimp.
5. No more than 5 pots per person and 5 pots per vessel may be used for the taking of shrimp; however, there is no limit to the number of pots that may be carried on a vessel.

Statewide noncommercial shrimp regulations describe buoy marking, maximum tunnel size, and a biodegradable escape mechanism (5 AAC 02.010; 5 AAC 39.145; 5 AAC 75.035; 5 AAC 77.010). In addition, a shrimp pot must be entirely covered with net webbing or rigid mesh and at

least 2 vertical adjacent sides or 50% of the vertical or near vertical sides must be covered with net webbing or rigid mesh that allows the unaided passage of a round wooden peg 12 inches long and ⅞ inches in diameter (5 AAC 55.022). In 2022, the board granted the department authority to deny eligibility to participate in the Prince William Sound noncommercial shrimp fishery if a participant fails to comply with reporting requirements but allows for a participant to appeal their ineligibility; this is referred to as the failure to report (FTR) process.

NONCOMMERCIAL SHRIMP PERMIT

The regulations required a shrimp permit (Appendix A1) for all noncommercial users (sport, personal use, and subsistence, effective during the 2002–2005 seasons), established pot limits of no more than 5 pots per person with a limit of 5 pots per vessel used to take shrimp, and an established fishing season from April 15 through September 15. From 2006 to 2008, the department used data from the SWHS and occasional household surveys to estimate noncommercial harvests during a time when no PWS commercial fisheries targeting shrimp were prosecuted. With the adoption of the *PWS Noncommercial Shrimp Fishery Management Plan* by the board in March 2009, a noncommercial shrimp fishery permit has been required annually beginning with the 2009 season. Prior to 2016, permits were only available in person at locations where sport fishing licenses were sold, and harvest reporting forms needed to be delivered in person or mailed to the department. In 2016, permits became available online and online harvest reporting has been available since 2018. As of 2023, the department requires online harvest reporting and does not accept mailed-in permits.

Noncommercial shrimp fishery participants in PWS who are Alaska residents may choose between a sport shrimp permit and a subsistence shrimp permit. However, those who select a subsistence permit are prohibited from fishing for shrimp in the Valdez nonsubsistence area (Figure 2), as defined in 5 AAC 99.015(a)(5); otherwise, regulations between the sport and subsistence fishery are identical. Nonresidents are only eligible for a sport shrimp permit. A sport fishing license is required for a sport permit but is not needed for a subsistence permit. Over the past 5 years (2019–2023), an average of 86% of noncommercial shrimp permits issued annually were sport permits, with 86% of these permits held by individuals with Alaska-based addresses and 14% held by nonresidents. On average, subsistence permits accounted for approximately 14% of noncommercial shrimp permits issued over the same period.

From 2021 to 2023, an average of 4,420 PWS noncommercial shrimp permits were issued annually, which is 26% greater than the historical average (3,492 permits) for 2010–2020 (calculated from Table 8). The average number of PWS shrimp permits reporting harvest each year for 2021–2023 (2,368 permits) was approximately 290 permits (14%) more than the historical average (2010–2020: 2,081 permits). Concurrently, there was a 7.0% decrease in permits reporting harvest between the recent average compared to the historical average (calculated from Table 8); this is likely due to the increased availability of PWS noncommercial shrimp permits online and the ease in applying for a permit. Since 2010, the percentage of individuals that turned in harvest reports has remained fairly stable, ranging from a low of 84.6% in 2022 to a high of 92.0% in both 2017 and 2021 (Table 8). In 2023, there were 4,372 PWS noncommercial shrimp permits issued with a response rate of 87.8%. The 2023 response rate was a 3.2 percentage-point increase from the record low response rate in 2022, providing some indication that the FTR process may increase response rate in the long-term.

Harvest and Effort Estimation Methods

PWS noncommercial shrimp permits are required to participate in the fishery and are available online beginning in mid-March to early April. Management actions to reduce the pot limit are taken preseason as needed to maintain harvest below the noncommercial GHL. The department uses the permits to produce estimates of harvest and effort that are used to guide management actions for the following season.

All participants in the Prince William Sound noncommercial shrimp fisheries are required to get a permit for the year of the fishery or to be named on the permit of another household member. Permits are issued online at the ADF&G online store and printed by the applicant. A copy of the relevant advisory announcement is included along with each permit (Appendices A1 and A2). This permit is required to be in the possession of the person working shrimp gear. Permit holders are required to record their effort (number of pots and soak time) and harvest on the permit prior to leaving the fishing site or concealing the shrimp from view and must submit the information online.

Permit holders are sent 1 reminder email and mailed up to 2 reminder letters via the U.S. Postal Service if harvest data are not received (Appendices B1 and B2). As of 2022, permit holders who do not report their harvest by the deadline are put on a FTR list and denied fishing privileges in the following year. Details about data management and handling of the permit data can be found in the Prince William Sound Shrimp Harvest Monitoring Operational Plan (Arthur et al. 2024).

Shrimp harvest is converted from gallons of whole shrimp to pounds of shrimp with the conversion factor of 3.89 lb/gal of whole shrimp (Maria Wessel, Division of Commercial Fisheries Biologist, Alaska Department of Fish and Game, Cordova; unpublished data). This conversion factor was determined in 2012 and is higher the than the previous conversion factor of 2.4 lb/gal used prior to 2013 for estimating pound-per-gallon of shrimp.

In addition to the estimates of total harvest and effort, the catch per unit effort (CPUE) is estimated for selected statistical areas with catch equal to pounds of whole spot shrimp and effort equal to 1 pot soaked for 24 hours.

NONCOMMERCIAL FISHERY HARVEST AND EFFORT

Since 2002, effort in the noncommercial fishery has ranged from 18,378 pot-days in 2023 to 78,083 pot-days in 2010 (Table 8). From 2012 to 2020, effort remained relatively consistent, averaging 46,802 pot-days and ranging from 39,816 (2019) to 52,620 (2012) pot-days. Average effort in recent years (2021–2023: 23,922 pot-days) was less than half of the previous decade (2010–2020: 50,531), but this is partly due to the steady reduction in the pot limit each year since 2016 (Table 8; Figure 4). Effort in 2023 was 18,378 pot-days and was the lowest recorded since permit data were first available in 2002 (Table 8).

Harvest in this fishery has ranged from 9,288 lb in 2002 to 140,488 lb in 2020. From 2021 to 2023, the average harvest was 81,804 lb, a 13% decrease from the prior 10-year average of 94,249 lb (2010–2020; calculated from Table 8). Effort in the PWS noncommercial shrimp fishery has been on a steady decline, whereas harvest has increased for most of the fishery's history until its peak in 2020. Beginning in 2021, effort declined due to lower pot restrictions in the high use areas near Whittier, Port Wells, and Port Valdez (Table 8; Figure 5).

Effort and Harvest by Area

Based on percent contribution, the spatial distribution of effort (Table 10) and harvest (Table 11) in the noncommercial fishery has remained relatively constant except for Port Valdez, which has had a consistent decrease in percent of total effort since 2010.

Port Valdez (statistical area 466100; Table 2) historically supported the highest effort, with a peak in 2010 of 32,795 pot-days or 43% of the total effort in the noncommercial fishery; this was the highest percentage that any geographical area has contributed to the total effort in PWS in any year (Table 10). The recent (2021–2023 average) effort in the Port Valdez was 6,527 pot-days, which was a 57% decrease from the historical average (2010–2020: 15,342 pot-days; Table 10). The 3 lowest annual efforts were observed in 2021 (5,747 pot-days), 2022 (6,413 pot-days), and 2023 (7,422 pot-days) with the most restrictive pot limits (2 pots) applied to Port Valdez in all 3 years, although the 2023 effort in Port Valdez was a slight increase from the previous 2 years. The decline in harvest in Port Valdez has been less dramatic than the decline in effort. Recently (2021–2023), the average annual harvest was 11,890 lb, which was only 11% less than the historical average (2010–2020: 13,382 lb; Table 11), even with the more restrictive pot limits than in the past. In 2023, the harvest in Port Valdez was 14,261 pounds or 21% of the total harvest in the noncommercial fishery (Table 11). The 2023 harvest in Port Valdez was the highest harvest since 2018 and was greater than the recent and historical averages.

The Whittier vicinity (statistical area 486033) has supported the highest noncommercial shrimp effort since 2012 (Table 10), as well as the highest harvest since 2009 among all the PWS Management Area geographical areas (Rumble et al. 2018: p. 28). Although the Whittier vicinity supports the highest effort, it has generally decreased since 2010, when it was 24,987 pot-days (Table 10). Effort in 2020 was 14,546 pot-days but declined to 9,214 pot-days in 2021, when the pot limit in the Whittier vicinity was reduced to 2 pots by EO. The pot-limit has been 2 pots since 2021 and resulted in the 2 lowest years of effort so far observed: 8,959 pot-days in 2022 and 9,195 pot-days in 2023 (Table 10). However, the percent contribution of the Whittier vicinity to total PWS Management Area effort has remained relatively stable, contributing an average of 37% of the total noncommercial shrimp effort during 2021–2023, which is similar to the historical average of 35% (2010–2020; Table 10), regardless of pot limit reduction. During 2010–2020, the Whittier vicinity supported an average harvest of 33,264 lb or 36% of the total harvest (range: 31–43%; Table 11). With a lower pot-limit in 2023 (Table 9) coinciding with an overall decrease in abundance based on the fishery-independent survey CPUE (Table 2), the estimated noncommercial harvest in 2023 for the Whitter vicinity was 23,603 lb, which was the lowest harvest observed since 2012 (Table 11).

During 2021–2023, the Whittier and Valdez statistical areas have supported on average a combined sum of 61% (range: 59–65%) of the total annual reported effort and 52% (range: 50–55%) of the total annual reported harvest (calculated from Table 10 and 11). In 2023, these areas combined contributed slightly more to the total effort (65%) and harvest (55%). Except for a small portion of statistical area 486033 (Whittier vicinity; Figures 1 and 2), these 2 areas are not open to the commercial fishery. Although the noncommercial fishery in both areas was reduced to 2 pots during 2023, these 2 areas continued to produce the highest effort and harvest, largely due to their proximity to the ports. Noncommercial shrimp participants commonly deploy gear near the ports and retrieve pots upon return from trips further into PWS, contributing to the high effort and harvest compared to other areas. Additionally, the proximity to the ports allows participants to retrieve gear in suboptimal marine weather conditions.

Other PWS statistical areas that support significant noncommercial effort and harvest (≥5% of the totals) are South Port Wells (486034), the highly productive areas of Unakwik Inlet (476036 and 476101), and Port Nellie Juan (486031 and 486003).

South Port Wells, which is adjacent to the Whittier vicinity (Figure 1), contributed 8% and 9% of the recent average (2021–2023) annual effort and harvest, respectively (Table 10 and 11). Similar to Whittier and Valdez areas, the pot-limit in South Port Wells was 2 pots from 2021 to 2023. As a result, the second lowest effort (1,803 pot-days or 7% of total effort) since 2010 was observed in 2023 (Table 10). Similarly, harvest in South Port Wells in 2023 (4,083 lb or 6% of total harvest) was the lowest since 2002 (Table 11). The historically low harvest is a result of both low effort and a strong decrease in abundance based on the department index survey CPUE at index site 2 (Golden; Figure 1).

Port Nellie Juan is located just south of the Whittier vicinity and includes the southern end of Culross Passage (near index site 3 in Figure 1). Annual effort in Port Nellie Juan has averaged 2,209 pot-days or 8.6% of the total annual effort in recent years (2021–2023; Table 10). In 2023, the noncommercial effort decreased to 1,798 pot-days (7% of total effort), the lowest since 2017 (Table 10). Because Port Nellie Juan is exposed to strong easterlies and has the largest fetch in PWS (>100 km), effort can be influenced by marine conditions. In 2023, anecdotal reports from noncommercial shrimp participants detailed challenging weather conditions in Port Nellie Juan beginning in late June, possibly explaining this relatively low effort. Recent (2021–2023) annual harvest in this area has averaged 8,373 lb or 11% of total harvest (Table 11). Due to low effort and the recent decline in the index of abundance in the area (site 3: Southern Culross; Figure 1), harvest in 2023 was 6,305 lb (9% of the total harvest), which was a 40% decrease from 2022 (10,506 lb; Table 11).

Unakwik Inlet (476036, 476101; Figure 2) is geographically the furthest area from any PWS port, but is an area that produces significant effort and harvest (≥5% of the totals; Tables 10 and 11). Noncommercial shrimp participants tend to avoid fishing in the Unakwik Inlet area on years when the commercial fishery is open in the area (Commercial Area 1) to avoid gear conflict and improve catch rates. As a result, the average noncommercial effort in Unakwik Inlet during those years (2010, 2013, 2016, 2019, and 2022) is only 2,184 pot-days compared to 3,196 pot-days during the years when the commercial fishery is closed in Area 1 (calculated from Table 10). Recently (2021–2023), average annual effort in Unakwik Inlet has been 1,628 pot-days (6% of average total effort), with a historical low in 2022 of 1,456 pot-days. In 2023, the effort in Unakwik Inlet was 1,902 pot-days, which was slightly above the recent average (Table 10). Due to its distance from ports, many factors can influence effort in the area, such as fuel prices and marine weather conditions. Unakwik Inlet receives the least effort amongst the major statistical areas, but it contributes significantly to the total harvest because of the high noncommercial CPUE in the area (Figure 6). On average, the noncommercial fishery harvested 9,714 lb in Unakwik Inlet or 13% of the average total PWSMA noncommercial shrimp harvest annually in recent years (2021–2023). The 2023 harvest was 11,983 lb, which was 18% of the total shrimp harvest that year. In 2023, the pot limit was reduced to 3 pots in the Unakwik Inlet area, which was still more than other productive areas such Whittier and Valdez areas and may have contributed to its above-average harvest.

Harvest by Date[2]

The PWS noncommercial shrimp fishery is open for 154 days annually. The average percent of a season's total harvest (based on set date) on any day of the season is approximately 0.7% and recently (2021–2023), average daily harvest has been 531 lb. However, certain dates during the season tend to contribute more to the season's total harvest, particularly weekends from May through early July, holidays, and the season opener.

The dates surrounding the season opener (April 15) typically contribute above-average harvests: April 15 (859 lb or 1.0% of season total), April 16 (931 lb or 1.1%), and April 17 (867 lb or 1.0%), based on the 2021–2023 average (Figure 7). The season opener in 2023 contributed less harvest in pounds (707 lb) than the recent 3-year average but contributed a similar percentage to the total season harvest (1.0%) as the recent average. Harvest around the dates of the season opener are also highly variable. In 2010, only 197 lb or 0.2% of the season total was harvested on April 15, whereas in 2017, 1,984 lb or 2.2% of the season total was harvested on the same date. Participation and therefore harvest on the season opener is dependent on the previous winter's snowfall and the ability of port towns, such as Whittier, to remove snow from adjacent parking lots and boat ramps by the time of the season opener.

Other dates that contribute significantly to the overall harvest include Memorial Day weekend, July 4th weekend, and weekends early in the summer (May and June). However, because dates of Memorial Day weekend and other weekends vary from year to year, it is difficult to capture the effect of those dates on harvest in averages across years and to do so, different dates must be compared. In 2023, the dates surrounding Memorial Day contributed the following harvest and percent of total season harvest: May 27 (685 lb or 1.0%), May 28 (772 lb or 1.1%), and Memorial Day, May 29 (681 lb or 1.0%). For comparison, Memorial Day weekend in 2022 contributed the following: May 28 (1,429 lb or 1.7%), May 29 (1,348 lb or 1.6%), and Memorial Day, May 30 (780.58 lb or 0.9%). The highest single day of harvest in the last 3 years was June 5th, 2021, a weekend day in June. On this day, the noncommercial fishery harvested 1,873 lb or 2.1% of season's total harvest. Annual peak dates in harvest are influenced by marine weather forecasts coinciding with weekends and/or holidays. Each year, there are dates surrounding the July 4th weekend that contribute more than the season's daily average harvest by weight (531 lb) and percent (0.7%; Figure 7). Historically (2010–2020), July 4 contributed, on average, 1.3% (range: 0.8–1.9%) and 1,283 lb (range: 452–2,705 lb) to the total harvest each year. The contribution to the total harvest by date can vary due to weather and the day of the week that particular holidays occur. In 2023, July 4 occurred on a Thursday as opposed to a weekend, which resulted in a percent contribution (0.8%) and harvest (576 lb) smaller for the date compared to other years. The recent (2021–2023) average contribution to total harvest on July 4 was 1.1% or 934 lb (Figure 7).

The date by which half (50%) of the total season harvest occurs has remained relatively constant over time. Historically (2010–2020), on average by June 17, half of the total season harvest has occurred. In recent years (2021–2023), half of the total season harvest had occurred by June 18. Considering that the midpoint of the season, based on number of days, is June 30, this indicates that the harvest is partially skewed towards early in the season. On average, 60% of the season's

[2] Data referred to in this section come from Donald Arthur, Prince William Sound fishery management biology. Prince William Sound shrimp harvest monitoring, unpublished data, 2024.

total harvest has occurred by June 30, both historically (2010–2019) and in recent years (2021–2023; Figure 7).

June has made the greatest contribution to the total season harvest in recent years (2021–2023), contributing 28% (range: 21–33%) or an average 22,689 lb annually to the harvest each season (calculated from Table 12). Marine weather in June is typically conducive for multi-day trips and all nearby school districts are released for summer break by this time, which allows for families to recreate in the PWS. In 2023, 20,561 lb or 28% of the total harvest was in June (calculated from Table 12). On average (2021–2023), the majority of the harvest (54%) occurred during the 8-week timespan between mid-May and mid-July (Table 12), which encompasses July 4 and Memorial Day weekends. Over 56% of the harvest occurred during this time frame in 2023 (Table 12). Only 28% of the total season harvest occurs in the 8-week period after mid-July (calculated from Table 12). In recent years (2021–2023), an average of 6% and 4% of the shrimp are harvested late August (16–31) and September (16–30), respectively (Table 12). Marine weather tends to destabilize in late August, and many anglers have shifted focus to other fisheries by this point.

Catch Per Unit Effort (CPUE)

The CPUE in the noncommercial shrimp fishery has been steadily increasing since 2017 and reached its highest level in 2021 (3.47 lb/pot; Table 8, Figure 5). CPUEs for the entire noncommercial fishery have been over 2 lb/pot since 2016. This increase in CPUE in recent years reflects greater success in catching shrimp even with less effort (pot-days), whether driven by abundance, participant efficiency, or both. The noncommercial CPUE averaged 3.07 lb/pot from 2021 to 2023. Although the noncommercial CPUE has steadily decreased in consecutive years since the peak in 2021, both CPUE in 2022 (3.07 lb/pot) and 2023 (2.67 lb/pot) are greater than the historical average (2010–2020: 2.14 lb/pot; Table 8).

Noncommercial CPUEs in the Whittier vicinity statistical areas have followed a similar trend to the CPUE across the entire noncommercial shrimp fishery. CPUE in the Whittier vicinity increased steadily from 2017 to its peak in 2020 (3.91 lb/pot) and has declined each year by an average of 0.45 lb/pot each year since (Figure 6). The CPUE in 2023 was 2.57 lb/pot, which is a 34% decrease from the 2020 peak. Although CPUE has dropped in the Whittier vicinity, it is still greater than any CPUE observed for the area prior to 2019 (Figure 6).

Port Valdez CPUE has increased since 2017, but unlike Whittier and the overall PWS trend, Valdez CPUE increased through 2023 to a peak of 1.92 lb/pot (Figure 6). The CPUEs in Port Valdez were 1.76 lb/pot in 2021 and 2022. CPUEs in all 3 recent years have been greater than the historical average for Port Valdez (1.06 lb/pot; Figure 6).

In Port Wells, Unakwik Inlet, and Port Nellie Juan, the CPUE has been more variable. The CPUE for South Port Wells dropped to 2.41 lb/pot in 2023, which was the lowest since 2015 and less than half of the CPUE in 2022 (4.95 lb/pot; Figure 6). The South Port Wells CPUE in 2021 (4.75 lb/pot) and 2022 were the highest observed except for 2017 (5.84lb/pot; Figure 6). Since permits were reinstated in 2009, Unakwik Inlet has continued to have the highest CPUE with the exception of 2017. The CPUE in Unakwik Inlet increased in 2023 to (6.30 lb/pot), which was the second highest observed (Figure 6). The Port Nellie Juan CPUE peaked recently in 2021 at 4.74 lb/pot, but CPUE has declined each year since to 3.72 lb/pot in 2023. Variation in the noncommercial CPUE from one area to another is likely a product of variability in shrimp participants' efficiency, fishing effort, and abundance.

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TABLES

Table 1.–Prince William Sound total allowable harvest (TAH), guideline harvest level (GHL), and annual harvest in commercial and noncommercial shrimp pot fisheries, 2010–2023.

			Commercial			Noncommercial			Total	
Year	Commercial Area	TAH (lb)	GHL (lb)	Harvest (lb)	% of GHL	GHL (lb)	Harvest (lb)	% of GHL	Harvest	% of TAH
2010	1	137,500	55,000	45,349	82%	82,200	87,699	107%	133,048	97%
2011	2	131,900	52,760	52,550	100%	79,200	59,182	75%	111,732	85%
2012	3	128,100	51,240	21,561	42%	76,860	55,765	73%	77,326	60%
2013	1	165,750	66,300	61,644	93%	99,500	85,988	86%	147,632	89%
2014	2	166,500	66,600	68,464	103%	100,000	89,155	89%	157,619	95%
2015	3	167,000	67,000	23,138	35%	100,000	92,071	92%	115,209	69%
2016	1	117,653	47,061	48,423	103%	70,500	102,785	146%	151,208	129%
2017	2	167,000	67,000	67,421	101%	100,000	91,827	92%	159,248	95%
2018	3	168,000	67,200	67,375	100%	100,800	128,860	128%	196,235	117%
2019	1	170,200	68,100	68,947	101%	102,100	102,919	101%	171,866	101%
2020	2	170,209	68,100	69,898	103%	102,109	140,488	138%	210,386	124%
2021	3	175,000	70,000	70,169	100%	104,978	88,972	85%	159,141	91%
2022	1	167,250	66,900	65,177	97%	100,300	84,949	85%	150,126	90%
2023	2	157,750	63,100	62,260	99%	94,700	71,492	75%	133,752	85%
Averages										
2010–2020		153,619	61,487	54,070	87%	92,115	94,249	102%	148,319	97%
2021–2023		166,667	66,667	65,869	99%	99,993	81,804	82%	147,673	89%

Note: From 2002 to 2012, the conversion factor for a gallon of shrimp to pounds of shrimp harvested in the noncommercial fishery was 2.4 lb. In 2013, this was reevaluated and updated to a conversion factor of 3.89 lb per gallon of shrimp.

Table 2.–Prince William Sound spot shrimp survey results, 1992–2023.

Year	Number of pots	Catch weight (lb)	Number of shrimp[a]	CPUE shrimp (lb/pot) All	CPUE shrimp (lb/pot) >32 mm	Percent male	Percent female	Percent egg-bearing females
1992	349	249	5,009	0.71	0.54	88.2	11.8	96.8
1993	325	121	2,434	0.37	0.26	80.6	19.4	97.7
1994	355	145	4,119	0.41	0.18	95.1	4.9	95.5
1995	350	206	5,053	0.59	0.33	95.7	4.3	ND
1996	350	182	4,618	0.52	ND	ND	ND	ND
1997	345	141	3,816	0.41	0.20	94.1	5.9	ND
1998	264	76	2,252	0.29	0.14	94.6	5.4	99.2
1999[b]	346	164	4,385	0.47	0.21	94.3	5.7	97.8
2000	349	245	6,545	0.70	0.38	95.1	4.9	96.9
2001	351	331	7,034	0.94	0.63	92.7	7.3	99.6
2002[c]	304	377	8,794	1.24	0.81	91.0	9.0	98.2
2003	352	398	9,333	1.13	0.78	92.0	8.0	99.6
2004	352	502	12,593	1.43	0.83	91.5	8.5	97.3
2005	349	480	14,866	1.43	0.64	95.0	5.0	95.0
2006	346	549	14,133	1.59	0.83	91.6	8.4	89.9
2007	349	838	24,152	2.40	1.05	94.2	5.8	83.7
2008	348	893	23,004	2.56	1.10	93.4	6.6	80.9
2009	351	825	17,622	2.35	1.48	86.2	13.8	88.0
2010	350	478	8,585	1.37	1.11	81.8	18.2	93.5
2011	350	683	11,590	1.95	1.67	75.1	24.9	99.1
2012	392	834	15,928	2.13	1.59	84.7	15.3	90.8
2013	392	744	14,453	1.90	1.37	85.7	14.3	87.1
2014	393	752	16,054	1.91	1.40	89.2	10.8	85.4
2015	395	629	14,118	1.59	1.01	91.7	8.3	98.3
2016	359	986	19,824	2.75	1.98	87.0	13.0	98.8
2017	359	1,409	37,675	3.92	1.91	92.9	7.1	98.6
2018	392	1,495	40,895	3.81	1.88	94.8	5.2	94.3
2019	393	1,303	38,967	3.32	1.47	93.6	6.4	96.8
2020	386	1,504	36,940	3.90	2.31	86.6	13.4	94.1
2021	385	935	24,486	2.43	1.36	89.1	10.9	94.5
2022	367	607	15,425	1.65	0.89	88.7	11.3	85.4
2023	379	347	8,840	0.92	0.53	82.3	17.7	89.4
Averages								
1992–2009	341	373	9,431	1.09	0.61	92.1	7.9	94.4
2010–2020	378	983	23,184	2.60	1.61	87.6	12.4	94.3
2021–2023	377	630	16,250	1.67	0.93	86.7	13.3	89.8

Note: ND means no data were collected.

[a] The number of shrimp was estimated by multiplying average shrimp per sampled pot by number of successful pots fished.

[b] Sex data interpolated for 452 lost data points.

[c] Sex data interpolated for 192 lost data points.

Table 3.–Catch per unit effort (CPUE) of all spot shrimp in 3 management areas in the Prince William Sound shrimp pot survey, 1992–2023.

	Survey CPUE (lb/pot)		
Year	Area 1	Area 2	Area 3
1992	0.86	0.62	0.75
1993	0.69	0.48	0.19
1994	0.4	0.41	0.41
1995	0.67	0.61	0.55
1996	0.58	0.53	0.49
1997	0.5	0.4	0.39
1998	0.22	0.38	0.19
1999	0.23	0.73	0.34
2000	0.4	0.77	0.73
2001	1.14	1.19	0.71
2002	0.77	1.99	0.65
2003	0.61	1.75	0.8
2004	3.12	1.82	0.71
2005	1.66	1.92	0.89
2006	2.85	1.84	1.08
2007	3.58	3.23	1.49
2008	3.46	3.17	1.87
2009	2.79	2.67	1.75
2010	1.87	1.63	0.77
2011	3.63	2.19	0.61
2012	2.94	2.32	1.12
2013	1.79	2.55	1.35
2014	1.98	2.73	1.03
2015	1.84	2.48	0.46
2016	3.38	3.61	1.26
2017	3.87	5.59	2.33
2018	3.72	4.50	3.20
2019	3.92	4.00	2.03
2020	5.08	4.55	2.13
2021	3.04	2.90	1.30
2022	2.61	1.39	0.98
2023	1.33	0.87	0.53
Averages			
1992–2009	1.36	1.36	0.78
2010–2020	3.09	3.29	1.48
2021–2023	2.33	1.72	0.94

Table 4.–Number of Commercial Fisheries Entry Commission (CFEC) permits issued and fished, number of registered vessels, vessels fished, and number of landings in the Prince William Sound commercial shrimp pot fishery by year, 2010–2023.

	CFEC permits			Vessels			
Year	Purchased	Fished	% Fished	Registered	Fished	% Fished	Landings
2010	197	82	42%	156	75	48%	233
2011	182	48	26%	91	45	49%	183
2012	158	40	25%	83	35	42%	105
2013	148	46	31%	89	45	51%	214
2014	129	33	26%	65	32	49%	214
2015	112	29	26%	56	30	54%	107
2016	131	52	40%	86	57	66%	215
2017	122	61	50%	85	54	64%	349
2018	112	48	43%	74	45	61%	249
2019	143	74	52%	100	72	72%	283
2020	128	74	58%	92	73	79%	216
2021	155	75	48%	115	71	62%	291
2022	142	67	47%	104	64	62%	239
2023	138	75	54%	110	73	66%	285
Averages							
2010–2020	142	53	38%	89	51	58%	215
2021–2023	145	72	50%	110	69	63%	272

Table 5.–Prince William Sound shrimp pot fishery emergency orders (EOs) issued by the Division of Commercial Fisheries, 2021–2023.

Emergency order	Effective date	Fishery	Explanation
2-SF-E-03-21	03/08/21	Noncommerical	Reduce the noncommerical PWS pot limit from 5 pots to 2 pots per person, per vessel.
2-SF-E-05-21	04/05/21	Commercial	Period 1 8:00 a.m. April 15–8:00 p.m. April 28, 30 pots per vessel Area 3 only.
2-SF-E-06-21	05/04/21	Commercial	Period 2 8:00 a.m. May 10–8:00 p.m. May 20.
2-SF-E-07-21	05/14/21	Commercial	Extend Period 2 through September 15; raise pot limit to 40 pots per vessel.
2-SF-E-09-21	08/27/21	Commercial	Closed commercial shrimp pot fishery at 8:00 p.m. August 29.
2-SF-E-03-22	02/28/22	Commercial	Period 1 8:00 a.m. April 15, Area 1 only.
2-SF-E-04-22	03/16/22	Subsistence	Subsistence pot limit set to match sport fishery, 2 pots near Whittier and Valdez, otherwise 3.
2-SF-E-05-22	04/04/22	Commercial	25 shrimp pots per vessel; 8:00 a.m. to 8:00 p.m.
2-SF-E-06-22	04/27/22	Commercial	Period 2 8:00 a.m. May 2 to 8:00 p.m. May 11.
2-SF-E-07-22	05/13/22	Commercial	Period 3 8:00 a.m. May 17 to 8:00 p.m. September 15, unless closed earlier by EO.
2-SF-E-08-22	05/29/22	Commercial	Closed PWS commercial shrimp pot fishery 12:00 noon May 31.
2-SF-E-01-23	02/22/23	Commercial	Period 1 8:00 a.m. April 15, Area 2 only.
2-SF-E-04-23	03/07/23	Subsistence	Subsistence pot limit set to match sport fishery, 2 pots near Whittier and Valdez, otherwise 3.
2-SF-E-05-23	04/04/23	Commercial	25 shrimp pots per vessel; 8:00 a.m. to 8:00 p.m.
2-SF-E-06-23	04/26/23	Commercial	Period 2 8:00 a.m. May 1 to May 10 8:00 p.m.
2-SF-E-07-23	05/05/23	Commercial	Extend Period 2 to September 15, unless closed earlier by EO.
2-SF-E-08-23	05/24/23	Commercial	Closed PWS commercial shrimp pot fishery 8:00 p.m. May 27.

Table 6.–Prince William Sound Area commercial shrimp pot fishery historical harvest and effort, 1960–2009.

			Harvest (lb)			
Year	Vessels	Landings	Spot shrimp	Coonstripe shrimp	Other shrimp	Total
1960	ND	ND	ND	ND	ND	4,988
1961	ND	ND	ND	ND	ND	0
1962	ND	ND	ND	ND	ND	3,576
1963	ND	ND	ND	ND	ND	1,101
1964	ND	ND	ND	ND	ND	4,248
1965	ND	ND	ND	ND	ND	4,356
1966	ND	ND	ND	ND	ND	0
1967	ND	ND	ND	ND	ND	749
1968	ND	ND	ND	ND	ND	6,866
1969	ND	ND	ND	ND	ND	5,146
1970	ND	ND	ND	ND	ND	19,776
1971	ND	ND	ND	ND	ND	13,073
1972	ND	ND	ND	ND	ND	6,949
1973	ND	ND	ND	ND	ND	6,370
1974	ND	ND	ND	ND	ND	24,978
1975	ND	ND	ND	ND	ND	4,150
1976	ND	ND	ND	ND	ND	2,410
1977	ND	ND	ND	ND	ND	7,516
1978	9	17	ND	ND	ND	15,466
1979	17	98	ND	ND	ND	52,208
1980	23	155	84,787	5,174	67	90,028
1981	51	509	153,017	20,055	465	173,537
1982	57	397	205,746	7,250	784	213,781
1983	71	646	198,719	14,119	583	213,420
1984	79	513	198,729	7,911	640	207,280
1985	78	528	271,928	3,919	860	276,707
1986	80	540	286,105	3,715	812	290,632
1987	86	498	265,707	3,795	151	269,653
1988	76	433	191,630	764	48	192,442
1989	33	69	28,884	431	0	29,315
1990	23	59	36,378	358	0	36,737
1991	15	45	17,302	278	0	17,580
1992–2009			Fishery Closed			

Note: ND = no data.

Table 7.–Prince William Sound commercial shrimp pot fishery guideline harvest levels (GHL), effort, gear limits, harvest, catch per unit effort (CPUE), and available fishing days, 2010–2023.

				Effort		Pot limits		Harvest (lb)					Season
Year	Area	GHL (lb)	% GHL harvested	Vessels fished	Pot lifts	Open	Close	Spot shrimp	Coonstripe shrimp	Other shrimp	Total	CPUE (lb/pot)	length (days)
2010	1	55,000	82%	75	18,025	20	20	45,076	263	10	45,349	2.52	118
2011	2	52,760	100%	45	29,580	40	40	51,302	1,204	44	52,550	1.78	96
2012	3	51,240	42%	35	19,644	50	50	18,097	3,428	36	21,561	1.10	93
2013	1	66,300	93%	45	34,804	30	50	59,376	2,266	2	61,644	1.77	145
2014	2	66,600	103%	32	41,670	40	50	64,220	4,085	158	68,464	1.64	111
2015	3	67,000	35%	30	20,004	60	60	21,193	1,934	11	23,138	1.16	146
2016	1	47,061	103%	57	27,360	30	30	47,822	580	21	48,423	1.77	28
2017	2	67,000	101%	54	45,261	40	40	66,555	783	83	67,421	1.49	41
2018	3	68,000	99%	45	41,351	50	50	65,101	2,268	5	67,375	1.63	118
2019	1	68,100	101%	72	34,094	25	25	68,700	245	2	68,947	2.02	34
2020	2	68,100	103%	73	32,679	30	30	69,777	120	1	69,898	2.14	18
2021	3	70,000	100%	71	44,281	36	40	69,488	677	4	70,169	1.58	126
2022	1	66,900	97%	64	34,222	25	25	64,661	512	3	65,176	1.90	36
2023	2	63,100	99%	73	37,726	25	25	61,950	308	2	62,260	1.65	37
Averages													
2010–2020		61,560	88%	51	31,316	38	40	52,474	1,561	34	54,070	1.73	86
2021–2023		66,667	99%	69	38,743	29	30	65,366	499	3	65,868	1.71	66
Area averages 2010–2023													
Area 1		60,672	95%	63	29,701	26	30	57,127	773	8	57,908	2.00	72
Area 2		63,512	101%	55	37,383	35	37	62,761	1,300	58	64,119	1.74	61
Area 3		64,060	71%	45	31,320	49	50	43,470	2,077	14	45,561	1.37	121

Table 8.–Number of permits issued, number of permits reporting harvest, percent of issued permits reporting harvest, guideline harvest level (GHL), pounds (lb) of whole shrimp, pot-days of effort, and catch per unit effort (CPUE) in the noncommercial Prince William Sound pot shrimp fishery, 2002–2023.

	Noncommercial PWS shrimp permit data							
Year	Permits issued	Response rate	Permits reported harvest	% Permits reported harvest	Effort (pot-days)	Catch per unit effort	Harvest (lb)	GHL[a]
2002	717	84.0%	385	53.7%	19,387	0.78	9,288	–
2003	1,061	91.0%	614	57.9%	24,094	0.94	13,965	–
2004	1,649	90.0%	902	54.7%	30,694	1.36	25,694	–
2005	2,112	90.0%	1,202	56.9%	37,271	1.39	31,950	–
2006[b]	–	–	–	–	–	–	–	–
2007[b]	–	–	–	–	–	–	–	–
2008[b]	–	–	–	–	–	–	–	–
2009	2,733	89.0%	1,719	62.9%	47,631	1.91	56,120	57,900
2010	3,181	90.0%	2,007	63.1%	78,083	1.82	87,699	82,200
2011	3,309	88.0%	1,972	59.6%	56,543	1.70	59,182	79,200
2012	3,098	87.0%	1,829	59.0%	52,620	1.72	55,765	76,860
2013	3,101	89.0%	1,895	61.1%	48,967	1.76	85,988	99,500
2014	3,134	86.0%	1,903	60.7%	48,283	1.85	89,155	100,000
2015	3,033	86.7%	1,847	60.9%	48,521	1.90	92,072	100,000
2016	3,592	90.7%	2,107	58.7%	45,012	2.28	102,785	70,500
2017	3,441	92.0%	2,149	62.5%	45,606	2.01	91,827	100,000
2018	3,810	89.9%	2,259	59.3%	51,704	2.49	128,860	100,700
2019	4,211	88.0%	2,321	55.1%	39,816	2.58	102,919	102,100
2020	4,501	88.7%	2,597	57.7%	40,685	3.45	140,488	102,109
2021	4,412	92.0%	2,526	57.3%	25,671	3.47	88,972	104,978
2022	4,475	84.6%	2,321	51.9%	27,716	3.07	84,949	100,300
2023	4,372	87.8%	2,256	51.6%	18,378	2.67	71,492	94,700
Average								
2010–2020	3,492	88.7%	2,081	59.8%	50,531	2.14	94,249	92,106
2021–2023	4,420	88.1%	2,368	53.6%	23,922	3.07	81,804	99,993

Note: Permits were first offered online in 2016. Between 2002 and 2012, the conversion factor for a gallon of shrimp was 2.4 lb. In 2013, this was reevaluated and updated to a conversion factor of 3.89 lb per gallon of shrimp.

[a] Guideline harvest levels (GHL) were not set until 2009.

[b] Permits were not required during these years, so no information is available.

Table 9.–Prince William Sound noncommercial shrimp pot fishery emergency orders (EOs), 2010–2023.

Calendar year	Emergency order	Effective date	Explanation
2010	2-SHR-6-03-10	4/15/2010	Liberalizes the number of shrimp pots allowed to harvest shrimp in the Prince William Sound sport fishery from 5 pots per person with a maximum of 5 pots per vessel, to eight pots per person with a maximum of eight pots per vessel.
2016	2-SHR-6-13-16	4/15/2016	Restricts the number of shrimp pots allowed to harvest shrimp in the Prince William Sound sport and subsistence fisheries from 5 pots per person with a maximum of 5 pots per vessel, to 4 pots per person with a maximum of 4 pots per vessel.
	2-SHR-6-14-16	4/15/2016	Restricts the number of shrimp pots allowed to harvest shrimp in the Prince William Sound personal use fisheries from 5 pots per person with a maximum of 5 pots per vessel, to 4 pots per person with a maximum of 4 pots per vessel.
2017	2-SHR-6-11-17	4/15/2017	Restricts the number of shrimp pots allowed to harvest shrimp in the Prince William Sound sport and subsistence fisheries from 5 pots per person with a maximum of 5 pots per vessel, to 4 pots per person with a maximum of 4 pots per vessel.
2018	2-SHR-6-05-18	4/15/2018	Restricts the number of shrimp pots allowed to harvest shrimp in the Prince William Sound sport fishery from 5 pots per person with a maximum of 5 pots per vessel, to 4 pots per person with a maximum of 4 pots per vessel.
2019	2-SHR-6-15-19	4/15/2019	Restricts the number of shrimp pots allowed to harvest shrimp in the Prince William Sound sport and subsistence fisheries from 5 pots per person with a maximum of 5 pots per vessel, to 3 pots per person with a maximum of 3 pots per vessel.
2020	2-SHR-6-13-20	4/15/2020	Restricts the number of shrimp pots allowed to harvest shrimp in the Prince William Sound sport and subsistence fisheries from 5 pots per person with a maximum of 5 pots per vessel, to 3 pots per person with a maximum of 3 pots per vessel.
2021	2-SHR-6-15-21	4/15/2021	Restricts the number of shrimp pots allowed to harvest shrimp in the Prince William Sound sport and subsistence fisheries from 5 pots per person with a maximum of 5 pots per vessel, to 2 pots per person with a maximum of 2 pots per vessel.
2022	2-SHR-6-18-22	4/15/2022	Restricts the number of shrimp pots allowed to harvest shrimp in the Prince William Sound sport and subsistence fisheries from 5 pots per person with a maximum of 5 pots per vessel, to 3 pots per person with a maximum of 3 pots per vessel. Of those 3 pots only 2 pots may be used near the Port of Valdez, near the Port of Whittier, and in portions of Port Wells and Culross Passage.
2023	2-SHR-6-16-23	4/15/2023	Restricts the number of shrimp pots allowed to harvest shrimp in the Prince William Sound sport and subsistence fisheries from 5 pots per person with a maximum of 5 pots per vessel, to 3 pots per person with a maximum of 3 pots per vessel. Of those 3 pots only 2 pots may be used near the Port of Valdez, near the Port of Whittier, and in portions of Port Wells and Culross Passage.

Table 10.–Contribution of major statistical areas (see Figure 2) to estimated total effort (reported) in the noncommercial shrimp fishery in Prince William Sound by year, 2010–2023.

	Whittier vicinity (486033)		Port Valdez (466100)		Unakwik Inlet (476036, 476101)		S. Port Wells (486034)		Port Nellie Juan (486031, 486003)		All other areas [a]	
Year	Pot-days	%	Pot-days	%	Pot-days	%	Pot-days	%	Pot-days	%	Pot-days	%
2010	24,987	33%	32,795	43%	3,123	4%	3,123	4%	3,123	4%	8,589	11%
2011	17,770	31%	22,475	40%	3,354	6%	3,393	6%	3,393	6%	6,220	11%
2012	20,956	40%	17,713	34%	3,467	7%	3,683	7%	2,631	5%	4,210	8%
2013	15,521	33%	11,264	24%	2,267	5%	2,448	5%	3,428	7%	12,731	27%
2014	18,246	38%	14,043	29%	3,414	7%	3,380	7%	2,414	5%	6,277	13%
2015	18,048	37%	14,853	30%	4,174	9%	4,367	9%	2,911	6%	4,367	9%
2016	15,457	36%	11,114	26%	2,505	6%	3,601	8%	3,151	7%	7,652	18%
2017	16,096	36%	11,819	27%	3,455	8%	3,192	7%	912	2%	8,665	20%
2018	15,596	33%	14,234	30%	3,615	8%	4,635	10%	728	2%	8,069	17%
2019	12,417	35%	9,921	28%	1,567	4%	1,677	5%	2,967	8%	7,007	20%
2020	14,546	39%	8,535	23%	2,562	7%	2,744	7%	2,387	6%	6,756	18%
2021	9,214	37%	5,747	23%	1,530	6%	2,140	9%	1,844	7%	4,356	18%
2022	8,959	34%	6,413	24%	1,456	6%	1,814	7%	2,985	11%	4,553	17%
2023	9,195	36%	7,422	29%	1,902	7%	1,803	7%	1,798	7%	3,458	14%
Average												
2010–2020	17,240	36%	15,342	30%	3,046	6%	3,295	7%	2,550	5%	7,322	16%
2021–2023	9,122	36%	6,527	26%	1,628	6%	1,191	8%	2,209	9%	4,122	16%

Note: The number of each statistical area follows its name in parentheses.

[a] Each of the remaining 24 statistical areas where noncommercial shrimp harvest was reported contributed on average less than 5% to the total reported shrimp harvest in any given year.

Table 11.–Contribution of major statistical areas (see Figure 2) to total harvest of whole shrimp (reported) in the noncommercial shrimp pot fishery in Prince William Sound, 2010–2023.

	Whittier vicinity (486033)		Port Valdez (466100)		Unakwik Inlet (476036, 476101)		S. Port Wells (486034)		Port Nellie Juan (486031, 486003)		All other areas [a]	
Year	Pounds	%	Pounds	%	Pounds	%	Pounds	%	Pounds	%	Pounds	%
2010	29,818	34%	19,294	22%	7,893	9%	13,155	15%	7,893	9%	9,647	11%
2011	20,122	34%	12,428	21%	8,877	15%	5,918	10%	5,918	10%	5,918	10%
2012	21,748	39%	9,480	17%	8,922	16%	6,134	11%	4,461	8%	4,461	8%
2013	29,236	34%	12,898	15%	7,739	9%	8,599	10%	7,739	9%	20,637	24%
2014	33,879	38%	14,265	16%	15,156	17%	9,807	11%	5,349	6%	10,699	12%
2015	31,304	34%	14,732	16%	21,177	23%	9,207	10%	7,366	8%	9,207	10%
2016	35,847	35%	12,762	13%	12,762	13%	10,798	11%	11,780	12%	16,688	17%
2017	32,178	37%	9,566	11%	8,697	10%	18,263	21%	2,609	3%	16,524	19%
2018	37,251	31%	16,136	13%	23,616	13%	15,529	19%	2,847	2%	26,312	22%
2019	37,601	37%	12,263	12%	7,269	7%	16,398	16%	10,398	10%	17,444	17%
2020	56,915	43%	13,333	10%	15,881	12%	14,199	11%	10,331	8%	20,403	16%
2021	31,420	38%	10,107	12%	9,375	11%	9,671	12%	8,308	10%	13,349	16%
2022	27,619	35%	11,303	14%	7,783	10%	8,223	11%	10,506	13%	12,756	16%
2023	23,603	35%	14,261	21%	11,983	18%	4,083	6%	6,305	9%	8,076	12%
Average												
2010–2020	33,264	36%	13,378	15%	12,544	13%	11,637	13%	6,972	8%	14,358	15%
2021–2023	27,547	36%	11,890	16%	9,714	13%	7,326	10%	8,373	11%	11,394	15%

Note: The number of each statistical area follows its name in parentheses. Permits were first offered online in 2016. Between 2002 and 2012, the conversion factor for a gallon of shrimp was 2.4 lb. In 2013, this was reevaluated and updated to a conversion factor of 3.89 lb per gallon of shrimp.

[a] Each of the remaining 24 statistical areas where noncommercial shrimp harvest was reported contributed on average less than 5% to the total reported shrimp harvest in any given year.

Table 12.–Percent contribution of half-month periods to the total harvest of whole shrimp in the noncommercial shrimp pot fishery in Prince William Sound by year, 2010–2023.

	Date range									
	April	May		June		July		August		September
Year	15th–30th	1st–15th	16th–31st	1st–15th	16th–30th	1st–15th	16th–31st	1st–15th	16th–31st	1st–15th
2010	8%	9%	16%	13%	11%	12%	9%	10%	7%	6%
2011	9%	11%	17%	13%	11%	12%	9%	7%	7%	4%
2012	9%	7%	15%	15%	14%	11%	8%	11%	7%	3%
2013	6%	6%	15%	19%	14%	11%	11%	7%	9%	3%
2014	8%	12%	17%	13%	11%	10%	10%	8%	9%	2%
2015	12%	12%	22%	11%	10%	10%	7%	7%	4%	4%
2016	11%	14%	17%	11%	10%	13%	9%	5%	7%	4%
2017	13%	10%	11%	14%	13%	13%	10%	9%	4%	3%
2018	7%	7%	15%	16%	12%	14%	10%	7%	6%	6%
2019	10%	8%	14%	16%	14%	13%	10%	8%	5%	3%
2020	12%	11%	12%	13%	10%	12%	9%	8%	7%	6%
2021	10%	9%	12%	15%	12%	10%	12%	8%	7%	5%
2022	9%	9%	17%	14%	13%	12%	8%	7%	5%	4%
2023	8%	10%	13%	13%	15%	14%	11%	7%	6%	4%
Average										
2010–2020	10%	10%	16%	14%	12%	12%	9%	8%	7%	4%
2021–2023	9%	9%	14%	14%	14%	11%	10%	7%	6%	4%

FIGURES

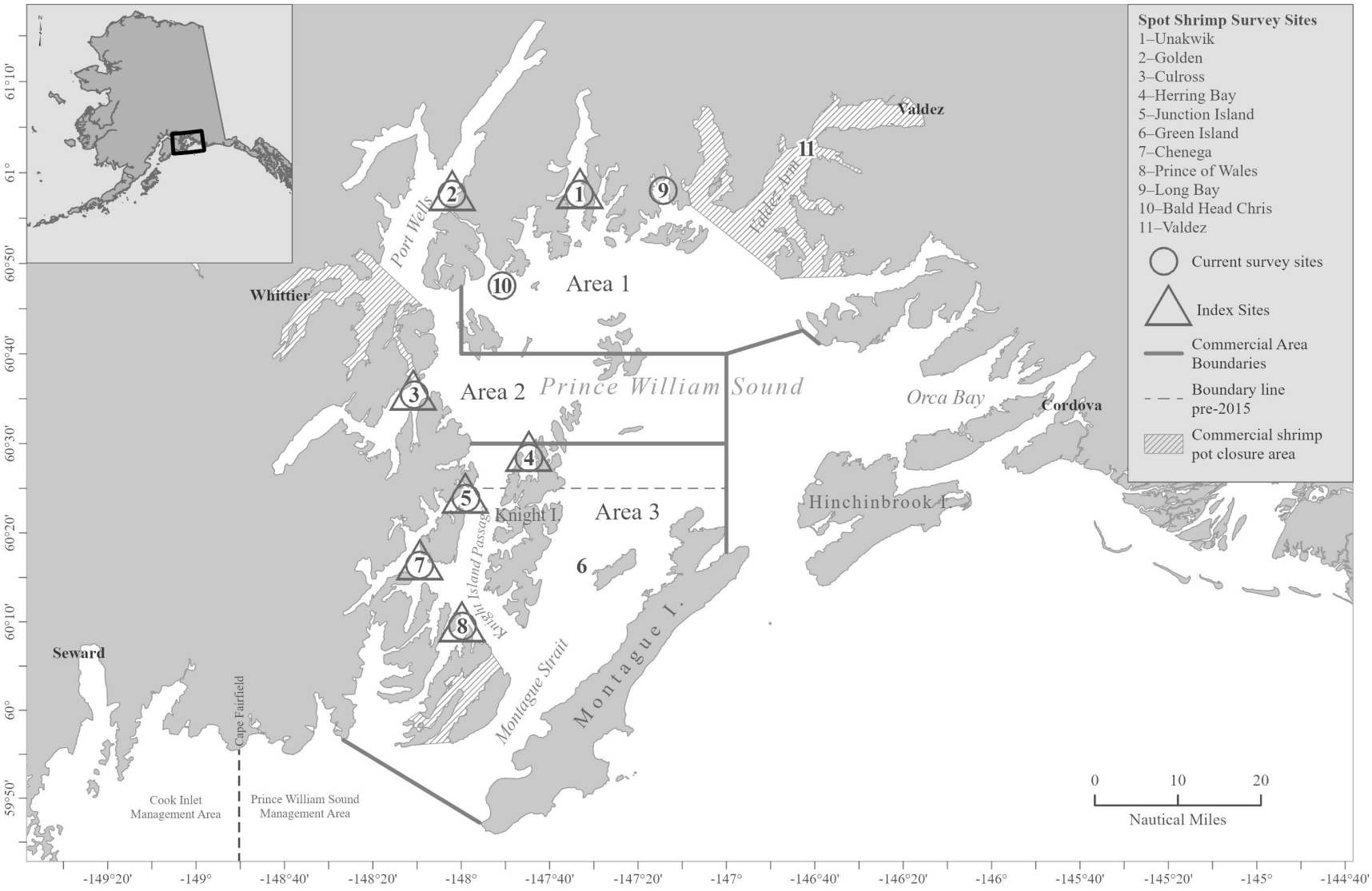

Figure 1.–Prince William Sound commercial management areas for the Inside District and index survey sites for spot shrimp.

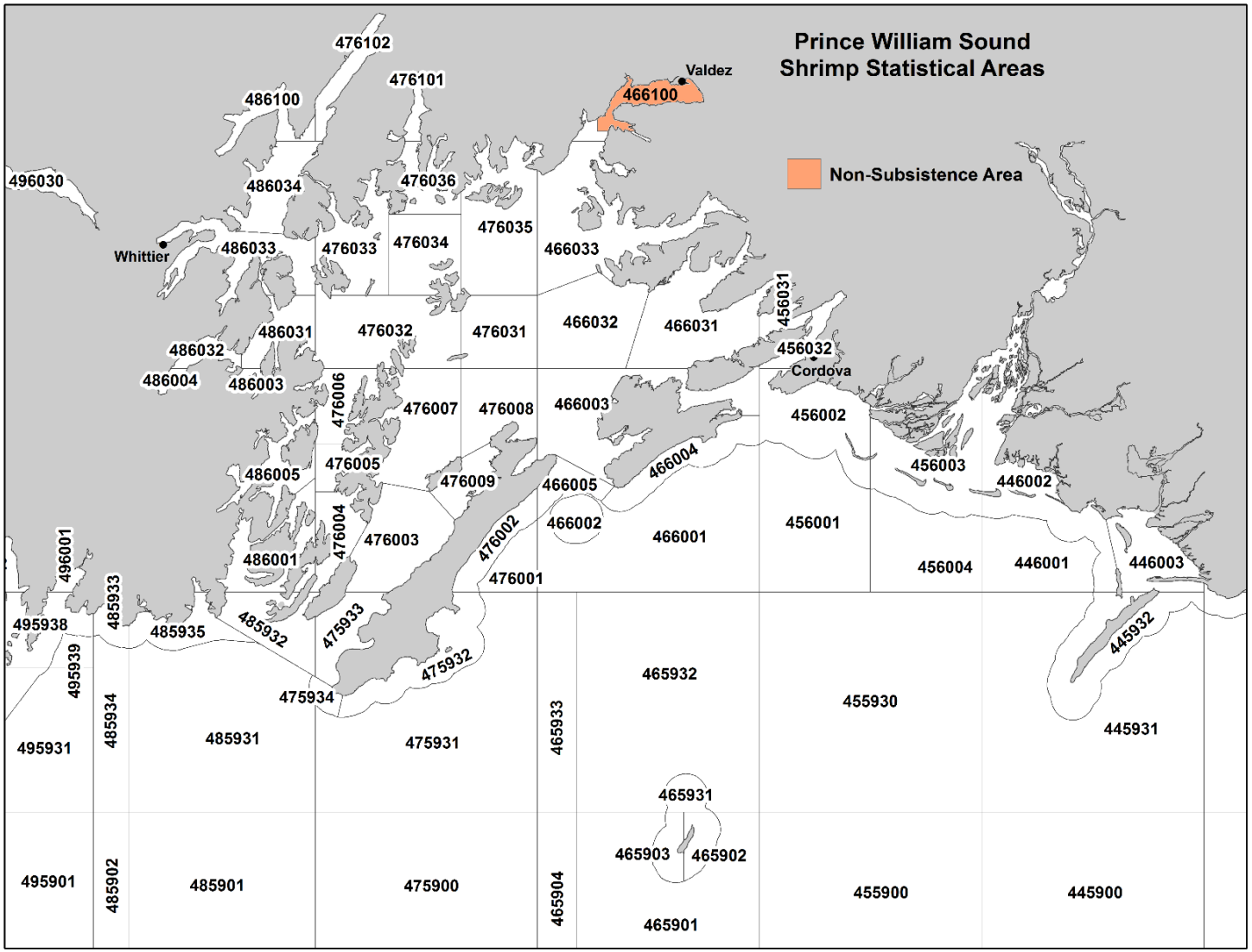

Figure 2.–Map of Prince William Sound commercial and noncommercial statistical areas for shellfish and the Valdez nonsubsistence area.

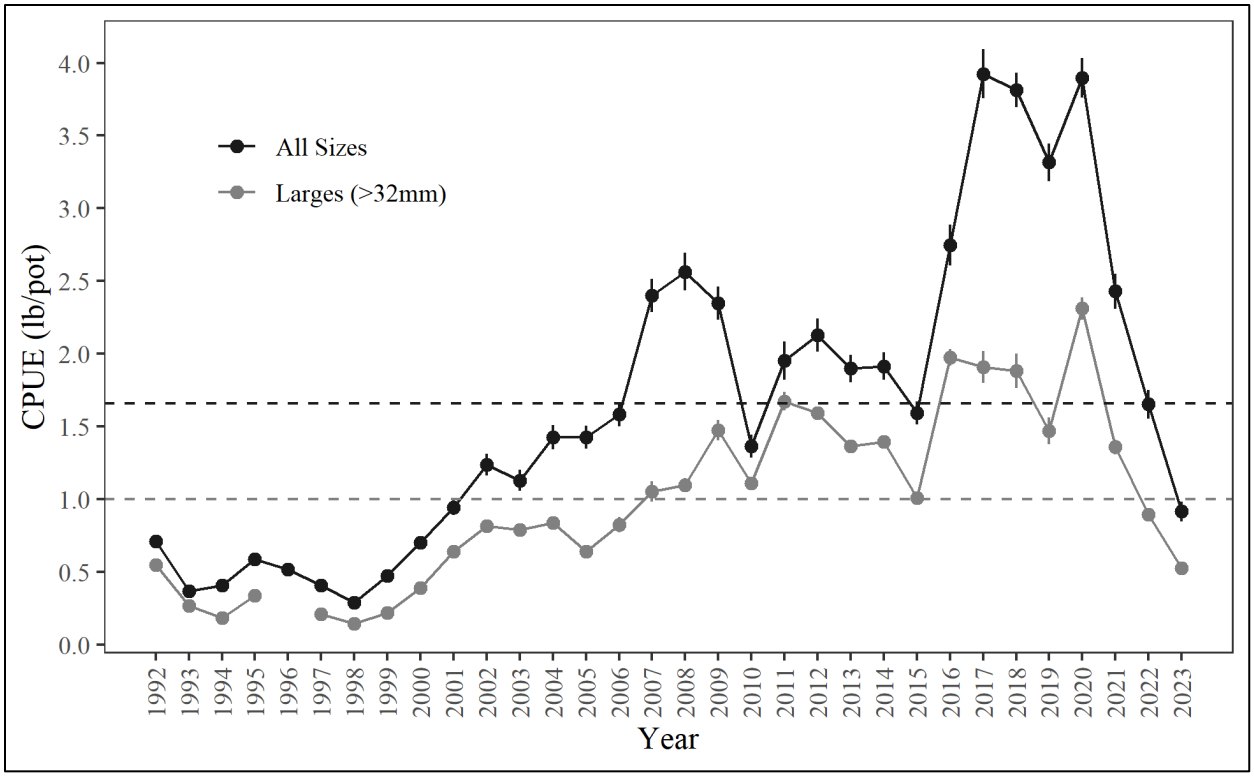

Figure 3.–Annual catch per unit effort (CPUE; total pounds/total pots) of all-sized and large (>32 mm) spot shrimp from all survey index sites in the Prince William Sound Management Area Inside District spot shrimp pot survey, 1992–2023.

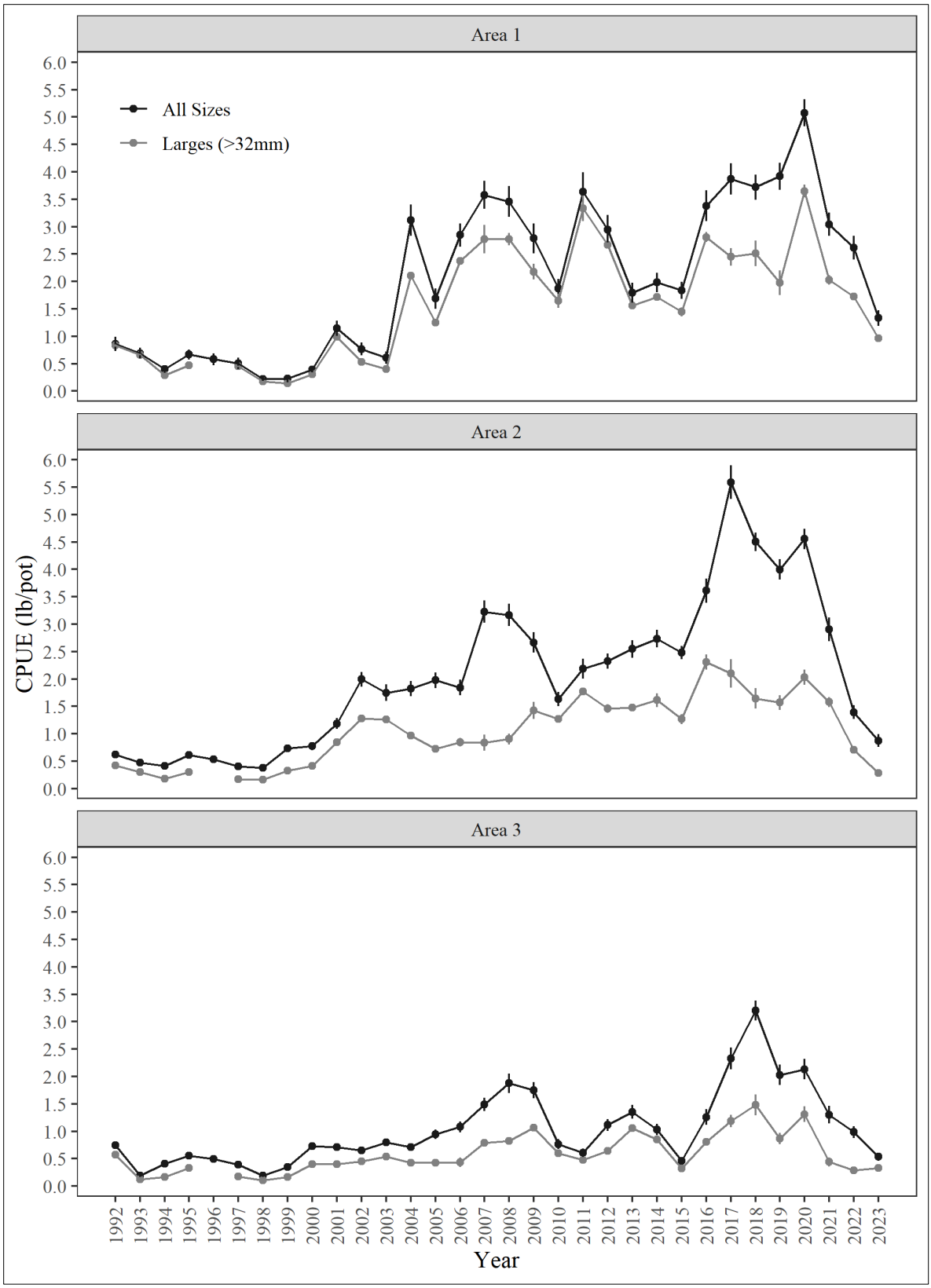

Figure 4.–Catch per unit effort (CPUE) of spot shrimp from Area 1, Area 2, and Area 3 in the Prince William Sounds Area spot shrimp pot survey, 1992–2023.

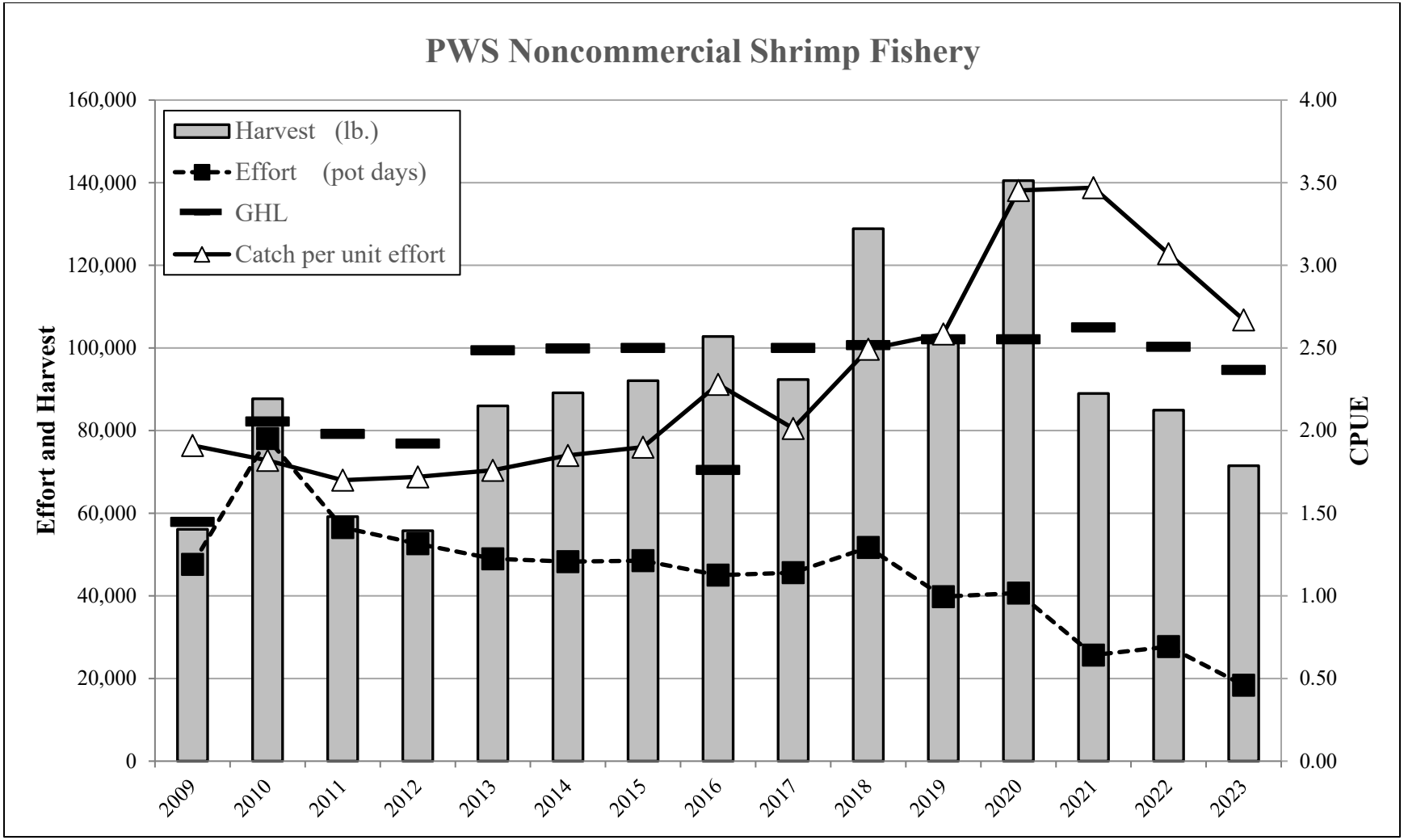

Figure 5.–Guideline harvest level (GHL), effort (pot-days), harvest (lb), and catch per unit effort (pounds of whole shrimp caught in one pot soaked for 24 hours; CPUE) in the noncommercial shrimp fishery in the Prince William Sound Management Area (PWSMA), 2009–2023.

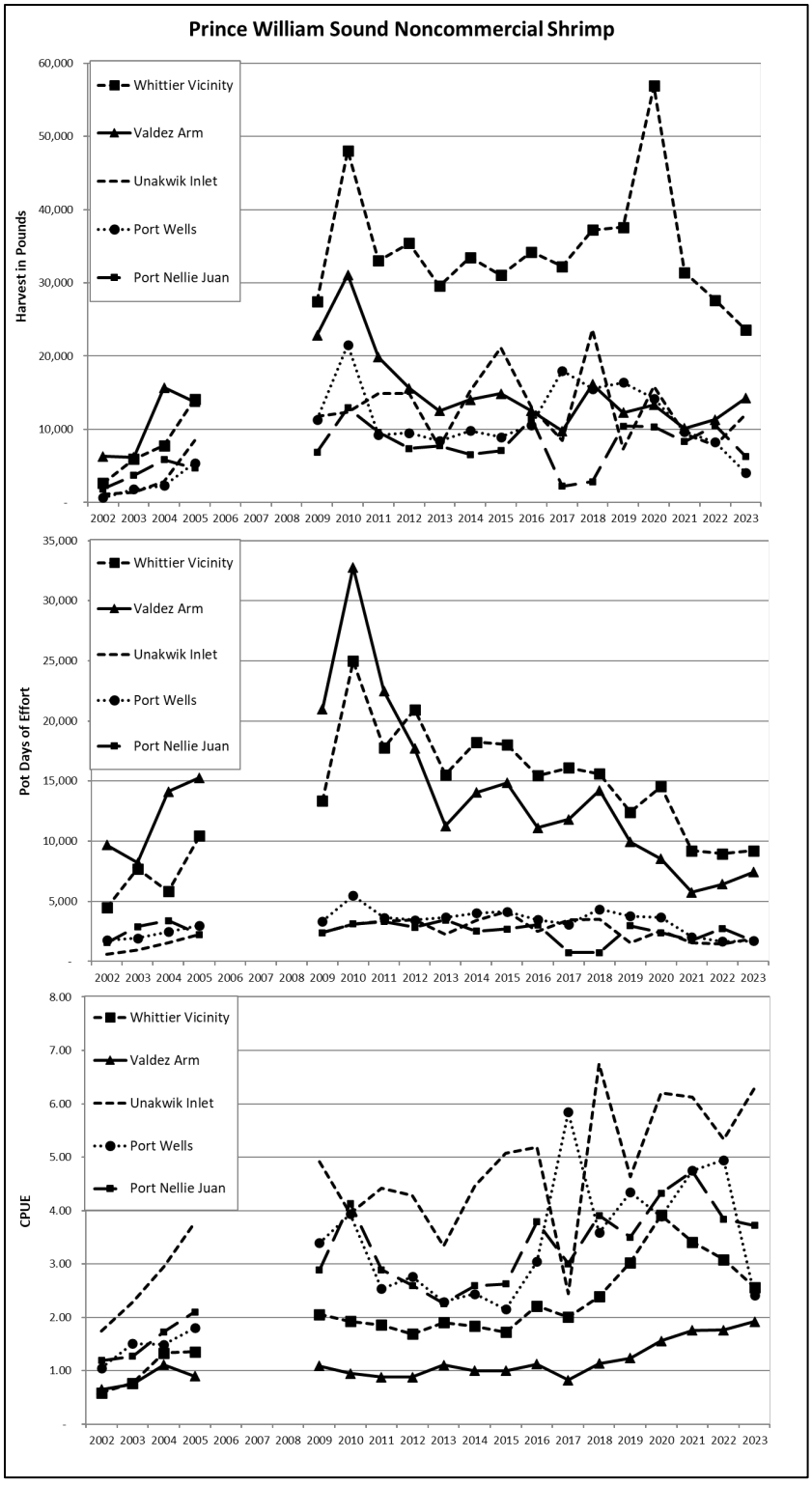

Figure 6.–Harvest, effort, and catch per unit effort (pounds of whole shrimp caught in 1 pot soaked for 24 hours; CPUE) at the 5 major statistical areas in the noncommercial pot shrimp fishery of Prince William Sound, 2002–2005, 2009–2023.

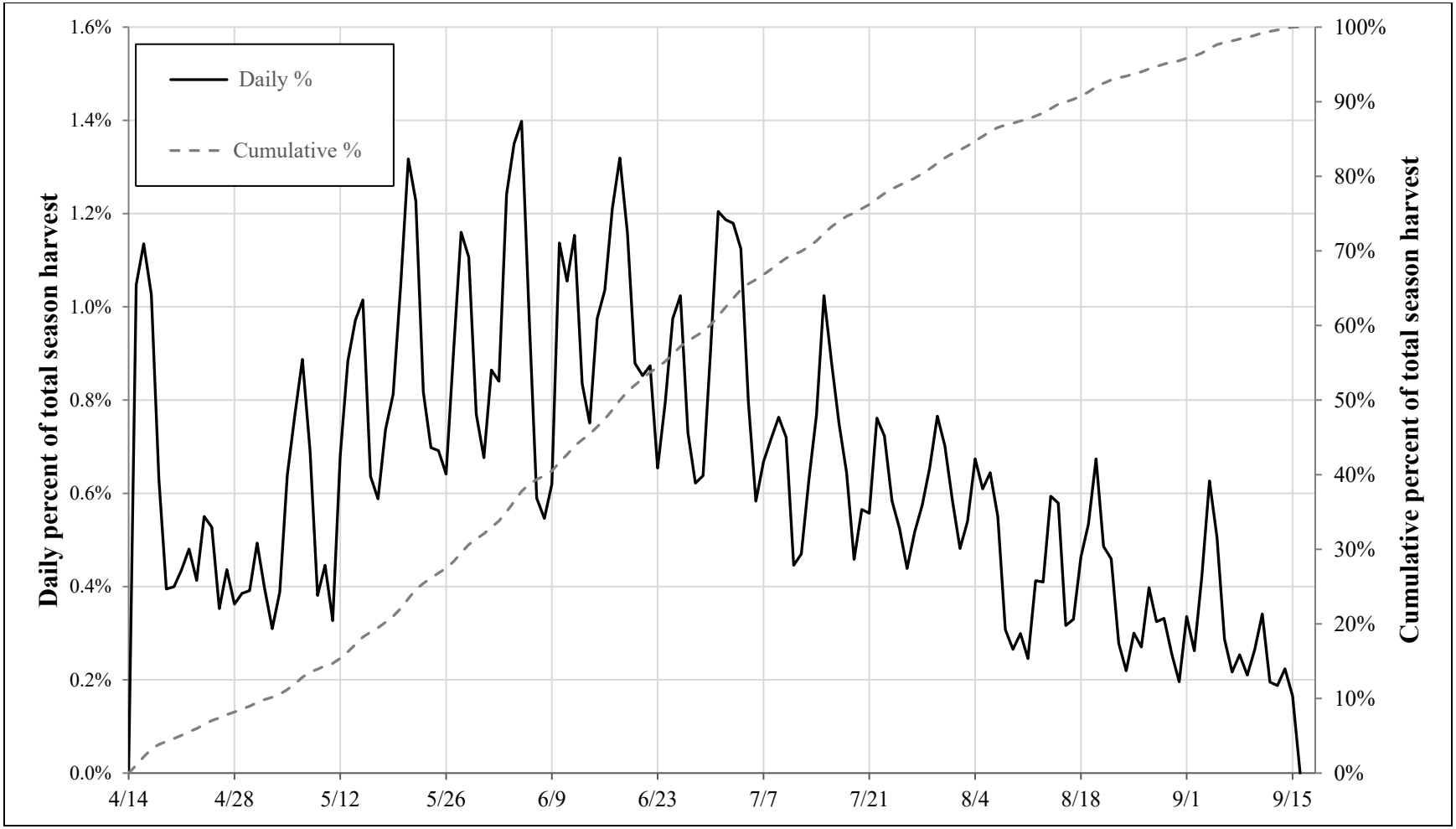

Figure 7.–Cumulative and daily harvest contribution (%) of the season total harvest by set date in the noncommercial pot shrimp fishery of Prince William Sound, 2021–2023 average.

APPENDIX A: NONCOMMERCIAL SHRIMP PERMIT AND ATTACHED ANNOUNCEMENT

Appendix A1.–Copy of noncommercial shrimp permit.

Alaska Department of Fish and Game
20XX Prince William Sound Shrimp Permit

This permit is valid through September 15th, 20XX

Last Name | First Name | M.I.

Mailing Address | Permit Type

City | State | Zip Code | Phone Number

E-Mail Address | Driver's License # | State

This permit is valid for the period April 15th – September 15th, 20XX

- **You must have this permit with you while taking shrimp** in the waters of Prince William Sound (from Cape Fairfield to Cape Suckling).
- If you share pots with a friend or relative, be careful to report harvest on ONLY one permit.
- Harvest information must be recorded prior to leaving the fishing site or concealing the shrimp from view.
- The permit holder is responsible for reporting harvest online by October 15 even if the permit holder did not fish.
- Failure to report is a violation, and the permit holder **WILL NOT** be eligible to receive a permit the following season.

Permit Holder Signature | Date

Record each set of pots you shrimped and record your harvest, even if you did not catch anything.

Report in GALLONS of whole shrimp (shrimp heads attached):
Examples: 0.5 = ½ gallon whole shrimp (shrimp heads on)
5 = 5 gal, 0.25 = 1/4 gal, 1.75 = 1 3/4 gal

	DATE (Pots Set)	LOCATION shrimp was harvested from in Prince William Sound	NUMBER OF POTS FISHED	TIME SOAKED	WHOLE SHRIMP HARVESTED
	MM / DD	Examples include: specific bay, fjord, canal, arm, etc.	Pots	Hours	Gallons
1.	/				
2.	/				
3.	/				
4.	/				
5.	/				
6.	/				
7.	/				
8.	/				
9.	/				
10.	/				
11.	/				
12.	/				

Please continue on another piece of paper if you need more lines to report your harvest.

Harvest must be recorded as you are actively shrimping on your paper permit. Final reports of each individual set made, and associated harvest, must be submitted online by October 15.

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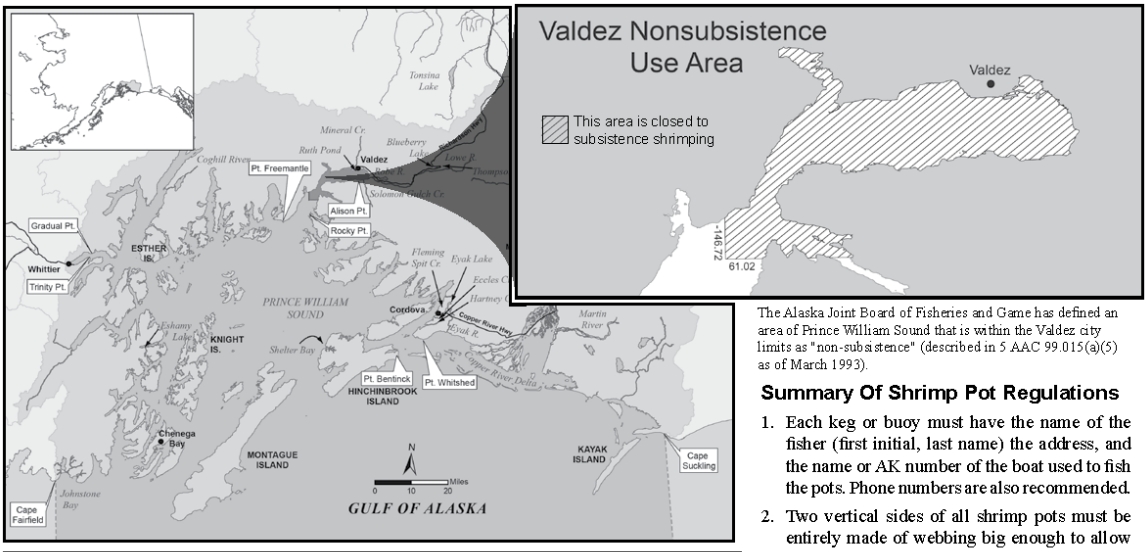
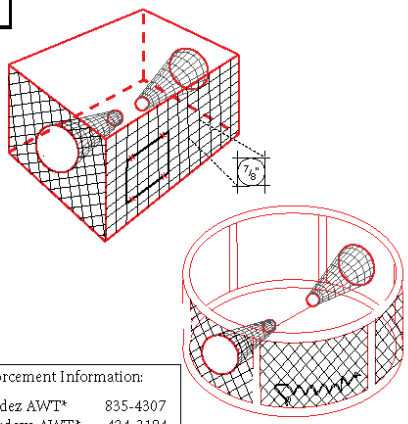


The Alaska Joint Board of Fisheries and Game has defined an area of Prince William Sound that is within the Valdez city limits as "non-subsistence" (described in 5 AAC 99.015(a)(5) as of March 1993).

Summary of regulations	Sport	Subsistence
Alaska residency required?	No	Yes
Fishing license required?	Yes	No
Open season?	April 15 - September 15	
Bag limit?	none	
Number of pots allowed?	Per Emergency Order: **Up to 3-pots per vessel may be fished in PWS of which only 2 of those 3-pots can be fished near Whittier or Valdez (Supplemental map on next page). These areas are defined on supplemental map.**	
Open areas?	All salt waters of PWS	All salt waters of PWS (except "Valdez non-subsistence area", see map above)
Can I carry extra pots	Yes	
Can I keep crab and finfish?	No	
Can keep octopus?	Yes	

Summary Of Shrimp Pot Regulations

1. Each keg or buoy must have the name of the fisher (first initial, last name) the address, and the name or AK number of the boat used to fish the pots. Phone numbers are also recommended.
2. Two vertical sides of all shrimp pots must be entirely made of webbing big enough to allow a 7/8-inch round wooden dowel to go through without stretching or otherwise deforming the opening. The two vertical sides must touch each other. The webbing on these two sides cannot be covered by anything. The other two sides, as well as the top and bottom, can be composed of any material. The 7/8-inch size allows undersized and juvenile shrimp to escape.
3. A pot with no definable sides, such as a round pot, must have 50% of its vertical surface area covered with the 7/8-inch webbing. The other 50% of the vertical sides, as well as the top and bottom, may be composed of any material.
4. The 7/8-inch requirement does not apply to the tunnels.



Escape Mechanisms

Rigid mesh pots: Each pot must have an opening at least four (4) inches square with its lower edge within six (6) inches of and parallel to the bottom of the pot. This opening may be covered with a single panel secured with no more than four (4) single loops of 100% untreated cotton twine no larger than 30-thread. Each single loop of cotton twine may contain only one knot. Cotton twine fastenings may not be looped or laced along the edges of the opening. The panel must be attached in such a manner that when the cotton twine degrades the panel will drop away leaving the opening fully exposed.

Net mesh pots and pots with no definable sides: Each pot must have an opening at least six (6) inches long on one sidewall. The opening must be within six (6) inches from the bottom of the pot. The opening must be parallel to the bottom of the pot. To lace the opening together, you must use 100% untreated cotton twine no larger than 30-thread. Knots may be used only at each end of the opening, not in the middle. The twine cannot be tied to or looped around the web bars.

If a pot is lost, the 100% cotton twine will degrade and allow shrimp to escape.

Enforcement Information:

Valdez AWT*	835-4307
Cordova AWT*	424-3184
Whittier AWT*	352-5401

*If you lose gear contact Alaska Wildlife Trooper (AWT) immediately.

Report harvest online at https://www.adfg.alaska.gov/Harvest/

Final report must be reported online by October 15, 20XX - even if you did not fish.

Questions on harvest reporting contact ADF&G Sport Fish Info Center 907-267-2218

Guide to reporting accurately:

MMDD = Month and Day shrimp gear deployed.

Location= specific name of bay, canal, arm or fjord in PWS.

Time soaked = The hours between when you dropped your gear to the time you check your gear.

*Report in **GALLONS** of whole shrimp (shrimp heads attached):*
Examples: 0.5 = ½ gallon whole shrimp (shrimp heads on)
0.25 = 1/4 gal, 1.75 = 1 3/4 gal, 5 = 5 gal

Harvest must be recorded as you are actively shrimping on your paper permit. Final reports of each individual set made, and associated harvest, must be submitted online by October 15.

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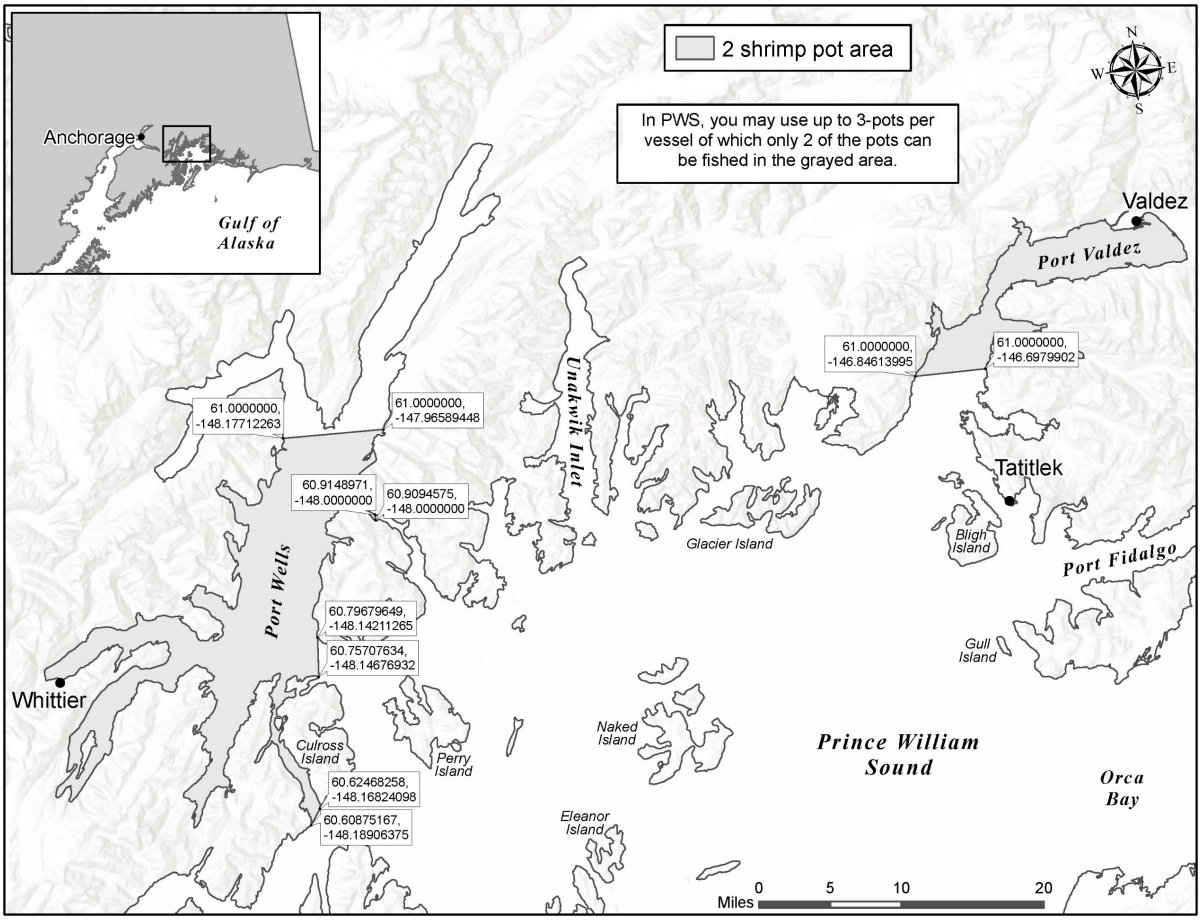
2 shrimp pot area
In PWS, you may use up to 3-pots per vessel of which only 2 of the pots can be fished in the grayed area.
N
W
E
S
Anchorage
Gulf of Alaska
Valdez
Port Valdez
61.0000000, -146.84613995
61.0000000, -146.6979902
61.0000000, -148.17712263
61.0000000, -147.96589448
Unakwik Inlet
Tatitlek
60.9148971, -148.0000000
60.9094575, -148.0000000
Glacier Island
Bligh Island
Port Fidalgo
Port Wells
60.79679649, -148.14211265
60.75707634, -148.14676932
Gull Island
Whittier
Culross Island
Perry Island
Naked Island
Prince William Sound
Orca Bay
60.62468258, -148.16824098
60.60875167, -148.18906375
Eleanor Island
0 5 10 20
Miles

Appendix A2.–Advisory announcement attached to permit.

Division of Sport Fish
Tom Taube, Acting Director

Anchorage Headquarters Office
333 Raspberry Road
Anchorage, AK 99518

Alaska Department of Fish and Game
Doug Vincent-Lang, Commissioner

P.O. Box 115526
Juneau, AK 99811-5526
www.adfg.alaska.gov

Advisory Announcement
(Released: **March 07, 2023** - Expired: **September 15, 2023**)

CONTACT: Brittany Blain-Roth
Area Management Biologist
(907) 267-2186

Pots Reduced in the Prince William Sound Noncommercial Shrimp Fishery

(Anchorage) - The Alaska Department of Fish and Game (ADF&G) is reducing the number of pots allowed to be used per person and per vessel in the 2023 Prince William Sound (PWS) noncommercial (sport and subsistence) shrimp pot fishery. This regulatory restriction is effective from 12:01 a.m. Saturday, April 15 through 11:59 p.m. Friday, September 15, 2023.

The pot limit per person and per vessel has been reduced to three pots; however, of those three pots only two pots can be set in areas of historically high effort including areas near the Port of Valdez, near the Port of Whittier, and in portions of Port Wells and Culross Passage (see map below). These areas make up the majority of the harvest in PWS and in these areas' pots will be limited to only two pots per person and per vessel. Shrimpers that want to use three pots will have to travel further from the two roadside ports in PWS (Valdez and Whittier; see map below). A map will also be provided with each permit for shrimpers to reference. Additionally, spare pots may be carried onboard a vessel participating in the noncommercial fishery. The noncommercial shrimp pot fishery is allocated 60% of the total allowable harvest limit while the commercial shrimp pot fishery receives 40%. In 2022, with a noncommercial guideline harvest level (GHL) of 100,300 pounds, the pot limit was reduced to two pots near the Port of Valdez and Whittier and three pots for the outer areas for the entire season and the estimated harvest was 84,949 pounds of shrimp. The noncommercial fishery harvest was 15,351 pounds below the GHL. In 2023, the noncommercial GHL is 94,700 pounds of shrimp.

"Pot limits for the 2023 season will remain the same as they were in the 2022 season. In both 2021 and 2022, noncommercial shrimpers that stayed close to the ports of Whittier and Valdez area were only able to shrimp with two pots and this will continue for the 2023 shrimp season. In 2022, the pot limit was increased from 2 to 3 outside of the ports to allow additional opportunity and this will be the same for 2023. This harvest management strategy is driven by shrimp harvest report data and will provide additional opportunity in areas where there is currently less harvest." stated the Sport Fish Area Manager Brittany Blain-Roth.

The PWS noncommercial shrimp permits will be available online after March 15th. All fishery participants are required to have a permit with them while shrimping. In addition, all permit harvest reports are due by Sunday, October 15, 2023, regardless of whether you went shrimping or not. Participants may report their harvest online at any time, whether you have completed shrimping for the season or not. The total season's harvest, by individual set, must be reported by the due date. Please look closely at the permit for additional details about pot limits and areas where only two pots are allowed.

In March 2022, the Alaska Board of Fisheries adopted the Failure to Report process for the Prince William Sound noncommercial shrimp fishery recognizing the importance of harvest reporting for this fishery which is being implemented for the first time in the 2023 season. If shrimpers fail to report their harvest by the October 15 reporting deadline they could be denied a permit in the following season.

The commercial shrimp fishery rotates every year between three defined locations in PWS. This season the commercial fishery will be harvesting in Area 2 which is in the western/central area of PWS and includes popular locations such as Port Wells, Northern Knight Island and Port Nellie Juan. For additional information about the commercial shrimp fishery for the PWS area, please see the commercial fisheries advisory announcements page.

For additional information about the PWS sport shrimp pot fishery, please contact Area Management Biologist Brittany Blain-Roth in Anchorage at (907) 267-2186. For additional information about the PWS subsistence and commercial shrimp pot fisheries, please contact Area Management Biologist Jan Rumble in Homer at (907) 235-8191.

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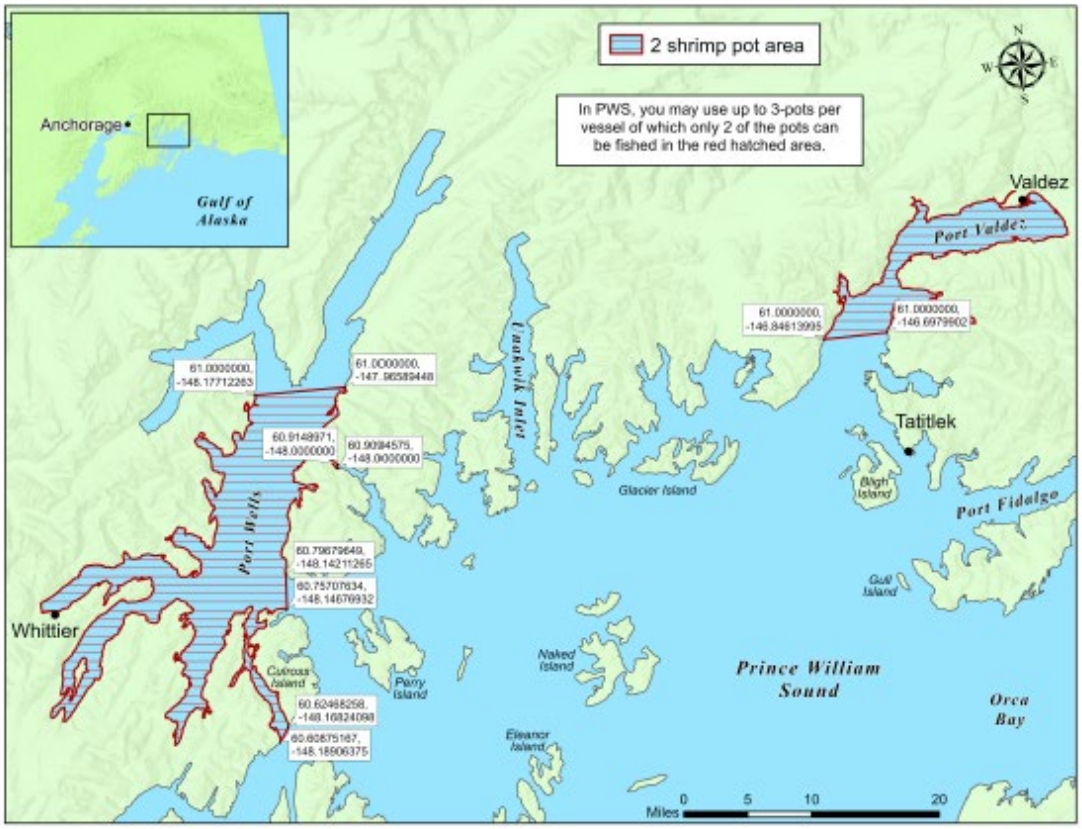
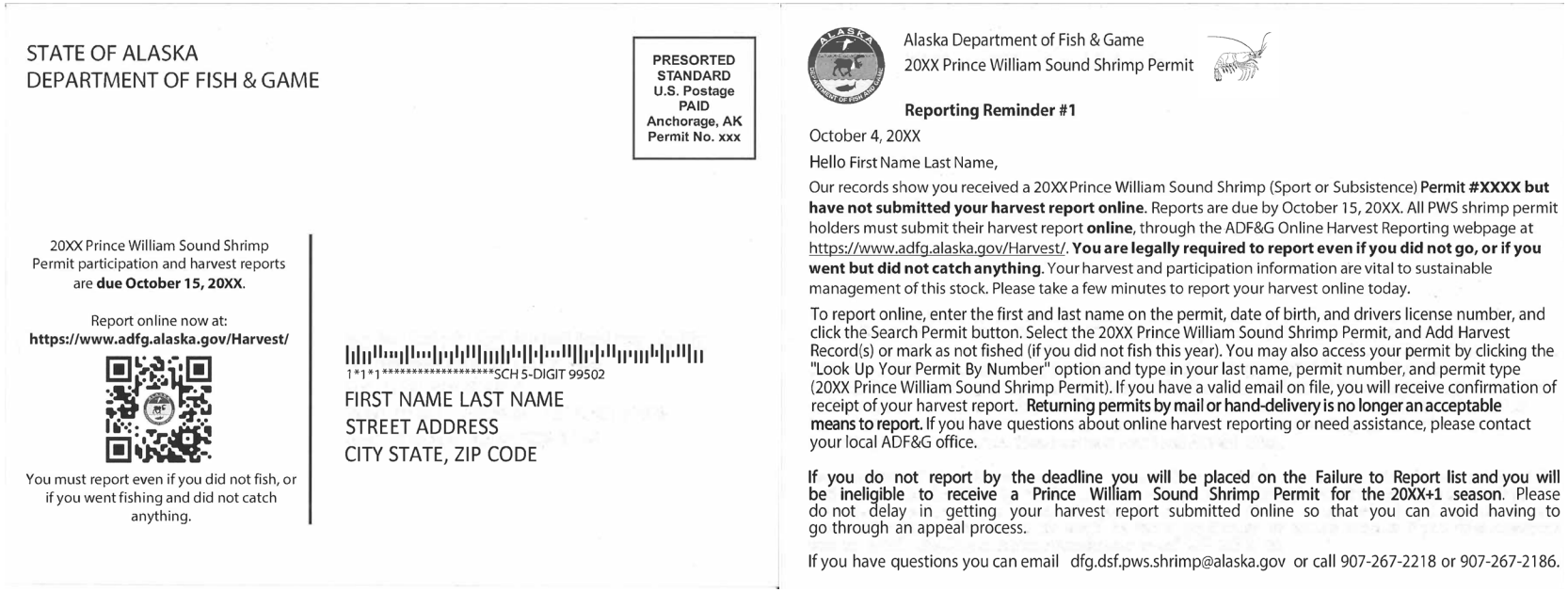

2 shrimp pot area
In PWS, you may use up to 3-pots per vessel of which only 2 of the pots can be fished in the red hatched area.
Anchorage
Gulf of Alaska
Valdez
Port Valdez
61.0000000, -146.6979902
61.0000000, -146.84613995
Tatitlek
Bligh Island
Port Fidalgo
Gulf Island
Glacier Island
Landlocked Fjord
61.0000000, -148.17712263
61.0D00000, -147.96589448
60.9148971, -148.0000000
60.9084575, -148.0000000
Port Wells
60.79679649, -148.14211265
60.75707834, -148.14676932
Whittier
Cutoff Island
Perry Island
60.62468258, -148.16824098
60.60875167, -148.18906375
Naked Island
Prince William Sound
Orca Bay
Eleanor Island
0 5 10 20
Miles
N
W
E
S

APPENDIX B: REMINDER LETTER TO NONRESPONDENTS

Appendix B1.–Prince William Sound noncommercial shrimp permit harvest reminder postcard example 1.



STATE OF ALASKA
DEPARTMENT OF FISH & GAME

PRESORTED
STANDARD
U.S. Postage
PAID
Anchorage, AK
Permit No. xxx

20XX Prince William Sound Shrimp Permit participation and harvest reports are **due October 15, 20XX**.

Report online now at:
https://www.adfg.alaska.gov/Harvest/

You must report even if you did not fish, or if you went fishing and did not catch anything.

1*1*1**********SCH 5-DIGIT 99502
FIRST NAME LAST NAME
STREET ADDRESS
CITY STATE, ZIP CODE

Alaska Department of Fish & Game
20XX Prince William Sound Shrimp Permit

Reporting Reminder #1

October 4, 20XX

Hello First Name Last Name,

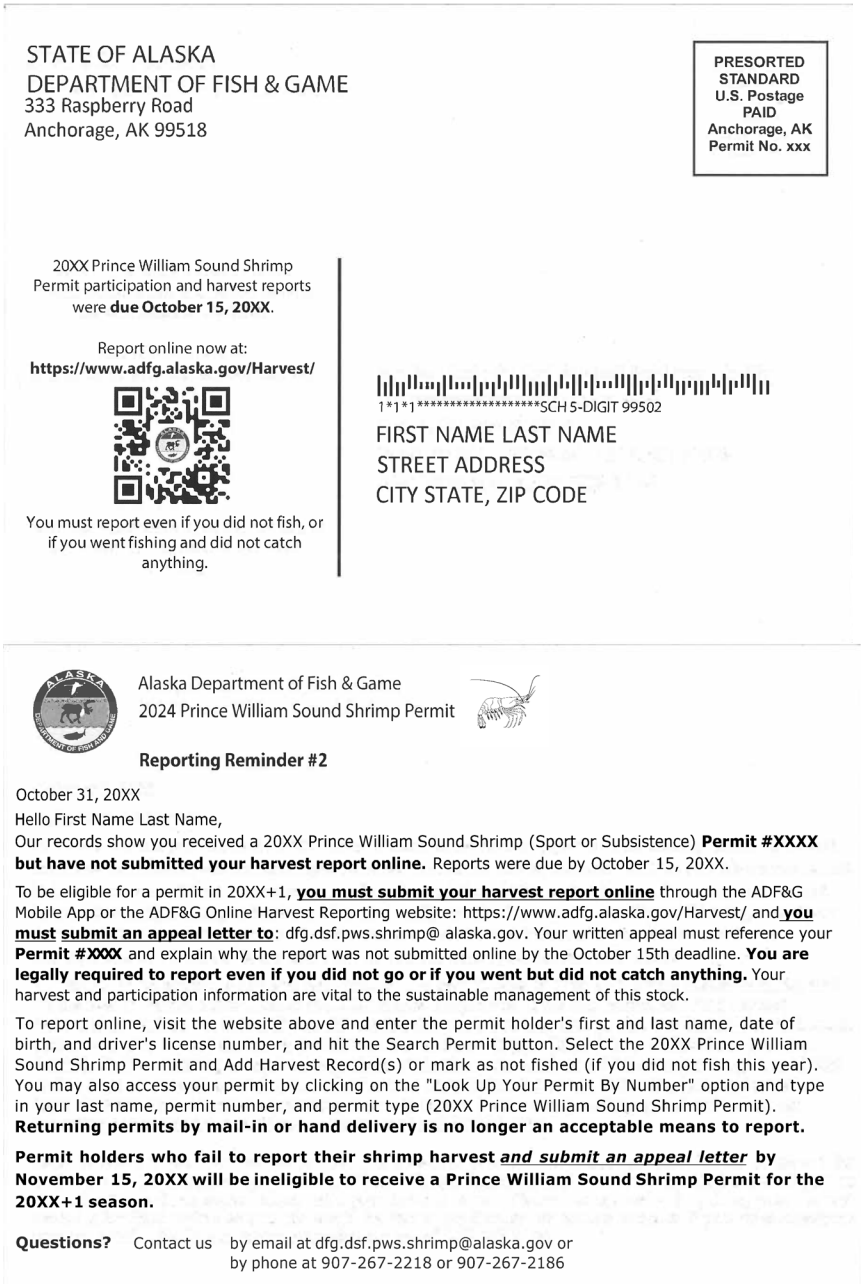
Our records show you received a 20XX Prince William Sound Shrimp (Sport or Subsistence) **Permit #XXXX but have not submitted your harvest report online**. Reports are due by October 15, 20XX. All PWS shrimp permit holders must submit their harvest report **online**, through the ADF&G Online Harvest Reporting webpage at https://www.adfg.alaska.gov/Harvest/. **You are legally required to report even if you did not go, or if you went but did not catch anything**. Your harvest and participation information are vital to sustainable management of this stock. Please take a few minutes to report your harvest online today.

To report online, enter the first and last name on the permit, date of birth, and drivers license number, and click the Search Permit button. Select the 20XX Prince William Sound Shrimp Permit, and Add Harvest Record(s) or mark as not fished (if you did not fish this year). You may also access your permit by clicking the "Look Up Your Permit By Number" option and type in your last name, permit number, and permit type (20XX Prince William Sound Shrimp Permit). If you have a valid email on file, you will receive confirmation of receipt of your harvest report. **Returning permits by mail or hand-delivery is no longer an acceptable means to report.** If you have questions about online harvest reporting or need assistance, please contact your local ADF&G office.

If you do not report by the deadline you will be placed on the Failure to Report list and you will be ineligible to receive a Prince William Sound Shrimp Permit for the 20XX+1 season. Please do not delay in getting your harvest report submitted online so that you can avoid having to go through an appeal process.

If you have questions you can email dfg.dsf.pws.shrimp@alaska.gov or call 907-267-2218 or 907-267-2186.

Appendix B2.–Prince William Sound noncommercial shrimp permit harvest reminder postcard example 2.



STATE OF ALASKA
DEPARTMENT OF FISH & GAME
333 Raspberry Road
Anchorage, AK 99518

PRESORTED
STANDARD
U.S. Postage
PAID
Anchorage, AK
Permit No. xxx

20XX Prince William Sound Shrimp Permit participation and harvest reports were **due October 15, 20XX**.

Report online now at:
https://www.adfg.alaska.gov/Harvest/

You must report even if you did not fish, or if you went fishing and did not catch anything.

1*1*1**********SCH 5-DIGIT 99502
FIRST NAME LAST NAME
STREET ADDRESS
CITY STATE, ZIP CODE

Alaska Department of Fish & Game
2024 Prince William Sound Shrimp Permit

Reporting Reminder #2

October 31, 20XX

Hello First Name Last Name,

Our records show you received a 20XX Prince William Sound Shrimp (Sport or Subsistence) **Permit #XXXX but have not submitted your harvest report online.** Reports were due by October 15, 20XX.

To be eligible for a permit in 20XX+1, **you must submit your harvest report online** through the ADF&G Mobile App or the ADF&G Online Harvest Reporting website: https://www.adfg.alaska.gov/Harvest/ and **you must submit an appeal letter to**: dfg.dsf.pws.shrimp@ alaska.gov. Your written appeal must reference your **Permit #XXXX** and explain why the report was not submitted online by the October 15th deadline. **You are legally required to report even if you did not go or if you went but did not catch anything.** Your harvest and participation information are vital to the sustainable management of this stock.

To report online, visit the website above and enter the permit holder's first and last name, date of birth, and driver's license number, and hit the Search Permit button. Select the 20XX Prince William Sound Shrimp Permit and Add Harvest Record(s) or mark as not fished (if you did not fish this year). You may also access your permit by clicking on the "Look Up Your Permit By Number" option and type in your last name, permit number, and permit type (20XX Prince William Sound Shrimp Permit). **Returning permits by mail-in or hand delivery is no longer an acceptable means to report.**

Permit holders who fail to report their shrimp harvest *and submit an appeal letter* by November 15, 20XX will be ineligible to receive a Prince William Sound Shrimp Permit for the 20XX+1 season.

Questions? Contact us by email at dfg.dsf.pws.shrimp@alaska.gov or by phone at 907-267-2218 or 907-267-2186

APPENDIX C: CROSS REFERENCED BOARD OF FISHERIES INFORMATION

Appendix C1.–Reference information specific to the 2025 Statewide All Other Shellfish Alaska Board of Fisheries proposals.

Proposal number	Proposal subject	Background and recent performance	Table	Figure
299	Develop a comprehensive PWS pot shrimp management plan and implement a PWS pot shrimp task force	Pages 1–16	1 (p. 20); 5 (p. 24); 8 (p. 27); 9 (p. 28)	5 (p. 38)
300	Divide the noncommercial shrimp fishery GHL into commercial areas	Pages 13–14	1 (p. 20); 10 (p. 29); 11 (p. 30)	1 (p. 34); 2 (p. 35)
301	Establish a minimum TAH threshold of 110,000 lb for the noncommercial shrimp pot fishery to open	Pages 4–5; Pages 7–12	1 (p. 20); 8 (p. 27)	5 (p. 38)
302	Create a static TAH of 150,000 lb	Pages 4–7	1 (p. 20)	–
303	Eliminate the minimum TAH threshold of 110,000 lb for the commercial shrimp pot fishery to open	Pages 4–7	1 (p. 20)	–
304	Delay the season opening date until May 1 for the commercial and noncommercial shrimp pot fisheries	Page 3; Pages 5–6; Pages 14–15	12 (p. 31)	7 (p. 40)
305	Prohibit a vessel from carrying additional pots while participating in the noncommercial shrimp pot fishery	Pages 10–11	9 (p. 28)	–
306	Require daily reporting in commercial shrimp pot fishery	Page 2; Pages 5–6	–	–
307	Delay the start time of the noncommercial shrimp pot fishery to April 15 at 8:00am	Pages 5–7; Pages 14–15	–	7 (p. 40)
308	Reduce the maximum pot limit in the commercial shrimp pot fishery	Page 5–7	4 (p. 23); 5 (p. 24); 7 (p. 26)	–
310	Remove the triennial area rotation in the commercial shrimp pot fishery	Page 5–7	–	–
311	Allow tenders to commercially fish in the shrimp pot fishery	Page 5–7	7 (p. 26)	–