



*Washington
Department of*
**FISH and
WILDLIFE**

**Summary Report of the
2002 Trial Purse Seine Fishery
for Pacific Sardine (*Sardinops sagax*)**

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Washington Department of Fish and Wildlife
Intergovernmental Resource Management

48 Devonshire Road
Montesano, Washington 98563
WASHINGTON DEPARTMENT OF FISH AND WILDLIFE
SUMMARY REPORT OF THE 2002 TRIAL PURSE SEINE FISHERY
FOR PACIFIC SARDINE (*Sardinops sagax*)

Background

In Washington, sardines are managed under the Emerging Commercial Fishery provisions as a trial commercial fishery. A trial commercial fishery allows the harvest of a newly classified species, or harvest of a previously classified species in a new area or by new means (WAC 220-88-010). The Washington Fish and Wildlife Commission first approved a trial ocean purse seine sardine fishery in 2000, and the fishery has occurred for the last years. The target of the trial fishery was sardines; however, incidental catches of anchovy, mackerel, and squid can also be landed.

Goals and Objectives

The goals for this trial fishery were to provide fishing opportunity consistent with the Pacific Fishery Management Council's Coastal Pelagic Species fishery management plan and Washington Department of Fish and Wildlife (WDFW) policy, collect information on sardines off Washington to improve the coastwide stock assessment, and document the extent of bycatch occurring in the fishery.

Objectives include:

- Collect length, weight, age, sex, and maturity data from the catch landed into Washington
- Document bycatch, in terms of species, amount, and condition. Recommend management measures to reduce bycatch, as necessary.
- Document harvest methods, distribution of harvest, and catch per unit of effort.

Fishery Regulations

The trial fishery began on May 15 and continued through October 31, 2002. The fishery is managed under the Pacific Council's northern allocation of the coastwide sardine harvest guideline and to a WDFW harvest guideline of 15,000 mt. Washington purse seine fishers are regulated by a set of permit conditions.

Fishery Description

The fishery opened on May 15, 2002; however, the first landing into Washington occurred on June 10. The total landings into Washington were 15,212 mt. The Department issued

approximately 35 permits and 19 permit holders made landings. A total of 440 landings were made and the majority of the landings (91%) were made into Ilwaco. A comparison of the Washington seasons and landings are contained in Table 1 and Figure 1.

Table 1. Washington fishery comparisons for 2000, 2001, and 2002.

	2000	2001	2002
Sardine Harvest	4,791.4 mt	10,837 mt	15,212 mt
# of Landings	153	299	424
# Vessels Participating	3 (88%)	13	19

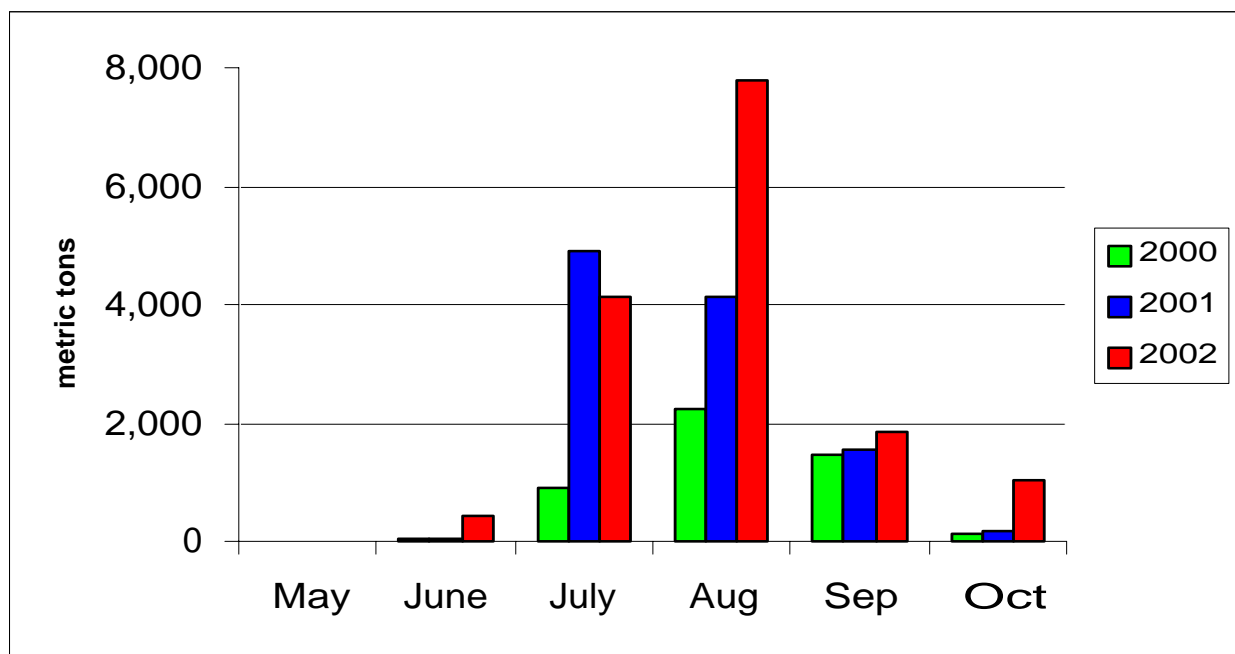


Figure 1. Monthly sardine landings in 2000, 2001, and preliminary landings for 2002.

Observer Coverage/Logbooks

The purpose of requiring observer coverage is to document total catch and bycatch in the purse seine fishery. Bycatch has been recorded in terms of species, amount, and condition; observers noted whether the fish were released or landed, and whether the fish were alive, dead, or in poor condition. The Department was aiming for 30% coverage and has averaged about 24% overall.

All of the vessels participating in the fishery chose to utilize Department observers, rather than contract with private observer companies. A “sardine hotline” was established for fishers to notify the Department of their planned fishing activities so observer coverage could be scheduled accordingly. Observers were in daily contact with the vessels to schedule onboard trips directly.

Fishers were cooperative in allowing observers on board and in scheduling departure times and locations. In general, logbooks were completed and submitted as requested.

Bycatch

Based on observer data, the bycatch of non-targeted species has been fairly low. Bycatch has included chinook and coho salmon, spiny dogfish, blue shark, and other species. The expanded total bycatch of salmon and shark other than spiny dogfish (in numbers of individuals) for the fishery, based on observer data, is contained in Table 2.

Table 2. Expanded observed bycatch data (in numbers of individuals) for the 2002 trial fishery and comparison to the 2001 and 2000 trial fisheries.

	Chinook (live)	Chinook (dead)	Coho (live)	Coho (dead)	Unident. salmon (live)	Shark (live)	Shark (dead)
2002	150	356	61	765	200	37	22
2001	449	170	571	504	80	150	50
2000	38	3	276	116	7	169	31

Biological Samples

Department staff have collected and processed 79 biological samples of 25 sardines each. Otoliths were extracted and will be sent to the California Department of Fish and Game (CDFG) laboratory in LaJolla for age-reading. Accompanying data will include catch date, vessel name, standard lengths of the sardines, individual weights, sex, and maturity. Sex and maturity were determined by using the CDFG Standard Maturity Guide for Wetfish which was based on Hjort, J. (1914) State of Sexual Organs.

Sexual maturity codes 1-4 were used for the sardine samples:

<u>Code</u>	<u>Description</u>
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- (1) Virgin individuals.
- (2) Maturing virgins or recovering spent.
- (3) Sexual organs becoming swollen.
- (4) Ovaries and testis nearly filling 2/3 of ventral cavity.

Forty-eight percent of the samples analyzed were males, with most of them having a sexual maturity of 1. The highest subcategory overall were females with a sexual maturity of 2, which is the same result of the biological samples taken in 2001. There were 23 males and 31 females with a sexual maturity of 4.

Standard lengths of sardine samples were taken and, in general, the average lengths of the samples decreased slightly over time. Average length overall was 223.5 mm, a slight increase from 2001 (211 mm). Individual weights of sardine samples (n=50) were also taken and the average weight was 181 g, also an increase from the samples taken in 2001 (152 g).

Summary of WDFW Activities

WDFW staff developed the processes to implement the trial fishery and administered the observer program, notification process, port sampling, data recording, and biological analyses. Two additional full-time observers were hired and existing staff were utilized to augment our observer program and conduct dockside sampling. The observers worked onboard commercial fishing trips to document bycatch, determine catch composition, and collect market samples.

Samplers monitored unloading at processing plants for incidental catch data, weighed sub-samples of the sardine catch, and collected logbooks to determine harvest distribution, CPUE, and unobserved bycatch information. Additional staff time was spent extracting otoliths, measuring, weighing, and determining sex and maturity of samples, and summarizing observer and logbook information.