

COASTAL PELAGIC SPECIES MANAGEMENT TEAM REPORT ON STANDARDIZED BYCATCH REPORTING METHODOLOGY

The Coastal Pelagic Species Management Team (CPSMT) was tasked with determining whether or not the Standardized Bycatch Reporting Methodology (SBRM) for CPS fisheries was consistent with the National Marine Fisheries Service (NMFS) Final Rule on SBRM ([82 FR 6317](#)), and recommending potential amendments to the Fishery Management Plan (FMP) or updates to other related documents if needed. The CPSMT has determined that the SBRM for CPS fisheries is consistent with the final rule which states an SBRM must address characteristics of bycatch, feasibility, data uncertainty, and data use. However, the CPSMT is recommending language be added to the CPS FMP and Stock Assessment and Fishery Evaluation (SAFE) document to help clarify and explicitly document its SBRM.

At the November 2020 Council Meeting, [information on CPS SBRM](#) was presented. This report further documents the CPSMT's analysis of state and Federal rules and regulations through which SBRM is implemented, and the programs and mechanisms through which SBRM is accomplished. Based on this and the previous analyses, the CPSMT proposes minor revisions to the FMP and recommends including more information in the SAFE, as outlined below.

Background

Bycatch in CPS fisheries is typically low due to the characteristics of the targeted species and the fishing gears. CPS finfish typically school with similar-sized fish and are pelagic (in the water column near the surface and not associated with substrate), because they generally occur or are harvested above the thermocline in the upper mixed layer. CPS vessels fish with roundhaul gear (purse seine or lampara nets). Roundhaul fishing tends to reduce unintentionally-caught fish, primarily because the fishermen target specific schools, and the net can be adjusted to avoid touching the seafloor. The most common catch of non-target species in a CPS fishery are other CPS, e.g., Pacific mackerel, which can be caught while targeting Pacific sardine. These non-target fish are typically sold, and therefore do not meet the definition of bycatch. Various reviews of catch in CPS fisheries have confirmed that incidental catch and bycatch in CPS fisheries is dominated by other CPS (which are incidental catch) and that bycatch catch of non-CPS is extremely low.

CPS Fishery Management Plan and SBRM

Amendment 9 to the CPS FMP, adopted in 2001, established the SBRM, but at the time detailed language was not incorporated into the CPS FMP as an amended document. Additionally, although there are sections in the FMP that relate to and reference SBRM, including 2.1.7 Management Measures to Protect Non-Coastal Pelagic Species, 2.2.1.1 Observers, 2.2.2.7 Reporting Requirements, and 2.5 Procedures for Reviewing State Regulations, the CPS FMP as amended document does not explicitly mention SBRM. Consequently, the CPSMT is recommending additional language be added to the FMP to document and clarify SBRM for CPS fisheries.

Through provisions in the CPS FMP, the Council relies on data collected by the states of Washington, Oregon, and California under existing state data collection programs (CPS FMP

2.2.2.7 Reporting Requirements). Per the CPS FMP, Federal reporting requirements are to be implemented only when a state program fails to provide sufficient data to meet management needs or in response to a special need where the information will enhance effective management. This provision ensures the Council and NMFS are able to address future potential problems or needs.

This SBRM was chosen because analyses showed that bycatch was sufficiently minimized through existing management measures and regulations and that SBRM is most feasibly accomplished through state and tribal programs to monitor catch and bycatch dockside or observer programs for newly developing fisheries, and that additional measures were not warranted. For example, it was determined that there was insufficient justification to require observers for the limited entry fishery or logbooks for all harvesters of CPS as the cost of either program would likely exceed the benefit of any additional information about the amount and variety of bycatch.

Subsequent monitoring and review of the characteristics of bycatch in CPS fisheries, including the results of a series of separate onboard observing programs conducted by NMFS of California CPS fisheries and the Washington and Oregon fish and wildlife departments of the Pacific sardine fishery, have continued to show that bycatch is extremely low in CPS fisheries and can be sufficiently monitored through existing state programs. These programs are summarized below.

- NMFS initiated a pilot observer program for California-based commercial purse seine fishing vessels targeting CPS in July 2004. A total of 107 trips by vessels targeting CPS (228 sets) were observed from July 2004 to January 2006. Additionally, from January 2006 to January 2008 a total of 199 trips (426 sets) were observed. Data from this program have been compiled in the SAFE (SAFE, Tables 6-1 through 6-4).
- In response to the expansion of the Pacific sardine fishery into the Pacific Northwest in the early 2000s, the Washington Department of Fish and Wildlife conducted a five-year observer program from 2000 through 2004 to document bycatch levels in the Pacific sardine fishery. Overall observer coverage in this program was in excess of 25 percent of trips and unpublished data results showed bycatch of non-targeted species in the Washington sardine fishery to be relatively low ([Culver 2006](#)). The program was discontinued based on the low level of bycatch, particularly of salmon. A comparison of logbook data to observer data indicated that logbook data can under-report catch by 20-80 percent. At the same time, salmon could not be legally retained or landed. Therefore, rates estimated from observer data were used to calculate bycatch of salmon after the observer program was discontinued. Bycatch of other species could be documented via fish receiving tickets because vessels were pumping from their nets directly into the hold of the vessel and Washington did not allow grates which would prevent fish from passing through to the hold.
- Oregon Department of Fish and Wildlife (ODFW) also placed observers on vessels fishing for sardine from 2000-2010, although the coverage was never more than 7 percent of trips in any of those years. Results of those observer trips showed that bycatch was low. The CPSMT examined and evaluated the [Sardine Fishery Reports](#) published by ODFW that summarized these efforts. To date ODFW has not placed observers on vessels fishing for market squid.

CPS Stock Assessment and Fishery Evaluation (SAFE) and SBRM

The CPSMT is proposing an approach that specifies SBRM in the CPS FMP and provides more detailed information in the SAFE, addressing in the two documents the elements that conform with the final rule for standardized bycatch reporting methodology.

Data collected by the previously mentioned state programs are used in the development of the CPS SAFE, a requirement of the Magnuson-Stevens Act, where bycatch for CPS fisheries is documented on an annual basis. However, based upon further review of the CPS SBRM and its documentation, the CPSMT determined that information could be added to the SAFE including:

- a) the source of bycatch data reported in the SAFE document (i.e., logbooks, fish tickets, port sampling),
- b) links to or summaries of state sampling data collection methodologies, and
- c) a description of the methods used for evaluating bycatch.

Attachment 1 presents a proposed new section to the CPS FMP specific to SBRM. Attachment 2 presents proposed language to be added into Chapter 4 (Bycatch and Discard Mortality) of the CPS SAFE. While the proposed FMP language (Attachment 1) provides clear guidance on static SBRM requirements, additional information would be more appropriately captured in the annually updated SAFE report. State methodologies and data collection methods may vary slightly from year to year based on resource availability and monitoring priorities, which may also impact sources of data uncertainty on an annual basis.

PFMC
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Attachment 1: Proposed New CPS FMP Text

2.6 Standardized Bycatch Reporting Methodology

As required under Magnuson-Stevens Act, all FMPs must “establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery” (16 U.S.C. § 1853(a)(11)). Standardized bycatch reporting methodology (SBRM) is an established, consistent procedure or procedures used to collect, record, and report bycatch data in a fishery, which may vary from one fishery to another. This section described the SBRM for CPS fisheries and how it meets the purpose of SBRMs.

Bycatch in CPS fisheries is typically low due to the characteristics of the targeted species and the fishing gears. For example, CPS finfish typically school with similarly sized fish and are harvested above the thermocline (not associated with substrate). CPS vessels fish with roundhaul gear (purse seine or lampara nets). Roundhaul fishing tends to reduce unintentional catch, primarily because the fishermen target specific schools of CPS finfish and market squid, and the net can be adjusted when fishing in shallow water to reduce bycatch of benthic species. The most common catch of non-target species in a CPS fishery are other CPS species, which are typically sold and therefore are not bycatch. Various reviews of catch in CPS fisheries have confirmed that bycatch of non-CPS is extremely low.

The SBRM for CPS fisheries, as established under Amendment 9, is a reflection of the characteristics of bycatch in the fishery and findings from analyses during the development of Amendment 9 that showed bycatch was sufficiently minimized through existing management measures and regulations, and that SBRM could be accomplished cost-effectively through required state programs. The CPS SBRM consists of a suite of reporting and monitoring programs required by the states of California, Oregon, and Washington including logbooks, fish landing receipts, shorebased/dockside sampling, and observer programs for newly developing fisheries. Of these, fish landing receipts are mandated by all three states and apply uniformly to all CPS landings whereas the other programs may vary by fishery and state depending on need.

Additionally, the CPS FMP authorizes federal observers as described in Section 2.2.1.1. This regulation was added to the FMP through Amendment 9 as part of the FMP’s SBRM. Based on the data collected through historical observing programs, bycatch in CPS fisheries is known with reasonable certainty to be low, with the majority of non-target species caught in CPS fisheries being other CPS that are incidental catch rather than bycatch. Hence, CPS fisheries are not currently subject to having mandatory observers aboard. In addition, Washington and Oregon state regulations authorize observers and states may conduct observer programs.

These reporting and monitoring programs have been operating efficiently for many years and have shown to be feasible over time, as evidenced by their continued operation and use of the resulting data. The data from these programs are used each year by the Council, usually in the annual SAFE document, to assess the type and amount of bycatch in CPS fisheries. There is relatively low uncertainty around the suite of data from these programs because they have been ground-truthed

by other more intensive data collection methods, namely observer programs in the 1990s and early 2000s, that were discontinued due to findings that bycatch in CPS fisheries was indeed low.

Attachment 2: Additions to SAFE Document

The CPSMT proposes incorporating a version of the following text into Chapter 4.0 of the CPS SAFE. The CPSMT is still determining the level of specificity for some sections, for example whether to describe state sampling programs designs within the SAFE or link to documentation, however the provided draft text generally encompasses the proposed changes.

Chapter 4.0 Bycatch and Discard Mortality

All three states have a number of regulations with measures that together comprise the SBRM for CPS fisheries (Table 4.1). These include:

- landings made by commercial fishing vessels must be recorded on fish landing receipts (“fish tickets”);
- commercial fishing vessels are subject to having their catch sampled;
- commercial fishing vessels in most CPS fisheries must accommodate observers during fishing trips if requested; and
- logbooks are required for most CPS fisheries.

These programs support management of CPS fisheries and stock assessments through the collection and processing of biological and catch data. The objectives of the monitoring programs are to: (1) collect biological data, such as size and otoliths for ageing from commercially landed fish to support research and stock assessments; and (2) collect catch, including bycatch, data via fish receiving tickets, commercial fisheries logbooks, and species composition sampling, to support fisheries monitoring and in-season management decision making.

Commercial CPS landings are required to be recorded on state fish tickets (Table 4.1). State fish ticket programs provide a continuous, consistent, and long-standing reporting mechanism for CPS SBRM. Catch weight by sorted species category, vessel identification number, and other data elements are required on fish tickets. Fish tickets are produced and issued by the individual states but have been designed and evaluated to ensure they meet record-keeping requirements and/or needs in coordination with state and Federal managers through the Pacific States Marine Fisheries Commission (PSMFC). State fish receiving tickets document landed catch including bycatch (fish landed but not sold, i.e., zero value) and following in-house processing and quality control are reported to the PSMFC Pacific Fisheries Information Network (PacFIN, <http://pacfin.psmfc.org>).

Commercial CPS landings are sampled in port by state personnel, who confirm species identification, collect species composition data, otoliths for ageing, lengths, and other biological data. Each state mandates access to landed catch by authorized state personnel for sampling (Table 4.1). The design of the fishery monitoring programs may vary between states and within each state program by fishery or region, but they serve the same purpose and are intended to meet the objectives consistent with SBRM and the CPS FMP. The various strategies reflect the specific

fishery and its characteristics of operation, the coverage needed to accomplish sampling objectives, and agency staffing resources.

Likewise, each state fishery logbook or federal program functions separately. Unlike fish receiving tickets, there is no central repository for CPS logbook data. The data collected through logbook programs are maintained by the state or federal agency. Logbook data provide supplemental bycatch information because most catch is landed in CPS fisheries. When vessels are required to maintain and submit logbooks, they must accurately record information such as: date, identification of catcher vessel, time, position, sea depth, and catch by species of each haul or set; retained and released catch amounts, gear information, if applicable; information on other parties receiving fish or fish products; and any other information deemed necessary. Washington mandates logbooks for directed sardine or mackerel fishing but has not implemented a program for anchovy given the small size of the fishery. Oregon mandates logbooks for all CPS fisheries. Logbooks are not currently required for CPS finfish fisheries in California; however, they are required for the market squid fishery.

CPS are generally not targeted by recreational harvesters and catch of CPS is minimal and a miniscule proportion of CPS total catch. Recreational fishing for CPS is typically done with hook and line gear, or small hand deployed cast nests and therefore includes very minimal amounts of bycatch. CPS are typically targeted recreationally on a very limited scale for use as bait or personal consumption.

Washington, Oregon, and California state regulations require access to recreational catches upon request by authorized personnel (Table 4.1). In Washington, recreational sampling programs focus on salmon and groundfish and typically do not collect data on CPS because catch is minimal. Oregon sampling of recreational fishing activity also focuses on salmon and groundfish for the same reasons. The California recreational fishery sampling program surveys recreational fishermen to determine which fish they are targeting and makes note of discarded fish. State monitoring programs collect, process, and report recreational fishing data to the PSMFC Recreational Fishery Information Network (RecFIN, <http://www.recfin.org>).

Areas of uncertainty in bycatch data produced by these reporting and monitoring systems depend on the data source. Fish tickets will not capture fish released at sea, fish purchasing personnel may misidentify less familiar species, state fish ticket coding systems may use more general categories and not support full reporting to species, or fish may be too degraded to identify accurately. Dockside fishery monitoring programs are typically designed to sample only a percentage of total landings, although they are designed to produce data that is representative of the fishery (i.e., random sampling). These fishery monitoring programs may prioritize the collection of biological data (e.g. length, weight, otoliths) as a primary function and not have species composition sampling or verification of species sorting and identification as a key objective since observer programs have determined that the numbers or volume of bycatch is low. Logbook programs provide valuable information but are dependent on the vessel captain to fully and accurately document observed bycatch. The quality of the data depends on the captain's or vessel crew skill and diligence in identifying and enumerating or estimating bycatch.

Table 4.1. State and federal regulations, including links, that support SBRM. (Rules and numbering may change; this analysis is based on the rules and their numbering in place at the time of this report.)

Reporting or Data Collection Procedure	Washington Administrative Code (WAC)	Oregon Administrative Regulations (OARs)	California Code of Regulations (CCR)	Federal
Fish Landing Receipts	WAC 220-305-030 Chapter 220-352	OAR 635-006-0210	14 CCR § 190	§660.505
Fishery Monitoring-Sampling	WAC 220-305-070 WAC 220-356-040 WAC 220-360-320	OAR 635-001-0035 OAR 635-006-0136 OAR 635-011-0100	14 CCR § 105.5	§660.505
Logbook	WAC 220-356-040 WAC 220-360-320	OAR 635-004-0376 OAR 635-005-0930	14 CCR § 190 14 CCR § 149	
Observers	WAC 220-356-040 WAC 220-360-320	OAR 635-006-0140	14 CCR § 105.5	§660.519
Bycatch and Fishing Gear Restrictions	WAC 220-356-040	OAR 635-004-0378 OAR 635-004-0235	14 CCR §155.05	§660.506 §660.511 §660.520