

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE REPORT ON
PACIFIC SARDINE LANDINGS 2015-2021

The California Department of Fish and Wildlife (CDFW) is providing the following details on commercial Pacific sardine (sardine) landings in support of Pacific Fishery Management Council (PFMC) discussions regarding annual specifications for the fishery.

Sardine are landed incidentally in several coastal pelagic species (CPS) fisheries, including northern anchovy, Pacific mackerel, and market squid. They are also landed in a variety of non-CPS fisheries, such as groundfish trawl fisheries including Pacific whiting and prawn. From 2015 to 2019, incidental sardine take has been limited to not more than 40 percent by weight in CPS fisheries, except the targeted live-bait fishery and since 2018, the minor directed fishery. With sardine declared overfished in June 2019, the incidental landing limit was reduced to not more than 20 percent by weight. Directed take in the live bait fishery is also allowed, within annual catch limits.

The incidental occurrence of sardine in particular fisheries is variable, depending on year, season, and fishery (Table 1). Landings for sardine were lower for the 2019-2020 season due at least in part to the COVID-19 pandemic (Table 2). The pandemic brought on closures to the recreational fishing industry from April to June 2020, which greatly reduced the demand for sardine used for live bait. There has been an increase in incidental sardine seen in market squid landings (Table 3). On average, 2,218 mt of sardine have been landed each season since the closure of the directed sardine fishery, for seasons 2015-2016 to 2019-2020 (2,050 mt – 2,479 mt). Most of these landings have come from the live bait industry, followed by sardine take under exempted fishing permits.

Table 1: Amount and value of incidental sardine take in other California fisheries.

| Fishing Season | Number of Landings with Incidental Sardine | Other CPS landings (mt) with Incidental Sardine | Non-CPS landings (mt) with Incidental Sardine | Value of Landings with Sardine (dollars) |
|------------------------------|---|--|--|---|
| 2015-2016 | 67 | 1,535 | 0.4 | \$ 527,711 |
| 2016-2017 | 178 | 3,806 | 0.9 | \$ 2,622,084 |
| 2017-2018 | 93 | 2,302 | 9.7 | \$ 1,945,469 |
| 2018-2019 | 123 | 2,562 | 5.1 | \$ 2,163,842 |
| 2019-2020 | 459 | 5,148 | 2.7 | \$ 4,747,100 |
| 2020-2021¹ | 202 | 1,642 | 0.7 | \$1,974,780 |
| Average² | 184 | 3,071 | 3.8 | \$ 2,401,241 |

¹2020-2021 data extracted from Marine Landings Data System on 2/28/21. Data are preliminary and subject to change.

²Averages are for complete fishing seasons from 2015-2016 to 2019-2020.

Table 2: California landings (mt) of sardine in different sectors of the fishery.

| Season | Incidental¹ | EFP² | Live Bait³ | Minor Directed | Total |
|------------------------------|-------------------------------|------------------------|------------------------------|-----------------------|--------------|
| 2015-2016 | 164 | - | 2,097 | - | 2,261 |
| 2016-2017 | 514 | - | 1,614 | - | 2,128 |
| 2017-2018 | 275 | - | 1,894 | 5 | 2,174 |
| 2018-2019 | 246 | 470 | 1,694 | 67 | 2,479 |
| 2019-2020 | 248 | 728 | 1,008 | 65 | 2,050 |
| 2020-2021⁴ | 105 | 819 | 1,004 | 68 | 1,995 |
| Average⁵ | 289 | 599 | 1,661 | 46 | 2,218 |

¹Directed sardine fishery closed beginning with 2015-2016 season. Sardine limited to 40% incidental in CPS fisheries and was reduced to 20% incidental starting in the 2019-2020 season.

²Research take per 2018, 2019, and 2020 California Wetfish Producers Association Exempted Fishing Permit request ([PFMC April 2018 Agenda Item C.2, Attachment 1](#) and [PFMC April 2019 Agenda Item E.2, Attachment 2, PFMC November 2019 Agenda Item D.2, Attachment 1](#))

³Based on voluntary logbook submission through 2018 and based on electronic fish tickets since 2019.

⁴2020-2021 data extracted from Marine Landings Data System on 2/28/21. Data are preliminary and subject to change.

⁵Averages are for complete fishing seasons from 2015-2016 to 2019-2020.

Table 3: Number of California incidental sardine landings by primary CPS fishery (excluding live bait) and proportion of incidental sardine for 2015-2016 to 2020-2021 (preliminary data) fishing seasons.

| Target Species & Proportion of Incidental Sardine | Number of Landings per Fishing Season | | | | | |
|--|--|------------------|------------------|------------------|------------------|------------------|
| | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | 2020-2021 |
| Northern Anchovy | | | | | | |
| 0-10% | 12 | 3 | 0 | 6 | 14 | 1 |
| 11-20% | 1 | 3 | 1 | 4 | 13 | 1 |
| 21-30% | 3 | 7 | 8 | 3 | 0 | 0 |
| 31-40% | 0 | 9 | 2 | 6 | 0 | 0 |
| Jack Mackerel | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | 2020-2021 |
| 0-10% | 1 | 0 | 1 | 0 | 0 | 0 |
| 11-20% | 0 | 0 | 1 | 0 | 0 | 0 |
| 21-30% | 0 | 0 | 0 | 0 | 0 | 0 |
| 31-40% | 0 | 0 | 0 | 0 | 0 | 0 |
| Pacific Mackerel | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | 2020-2021 |
| 0-10% | 10 | 14 | 1 | 3 | 3 | 2 |
| 11-20% | 5 | 7 | 2 | 1 | 3 | 0 |
| 21-30% | 4 | 4 | 1 | 0 | 0 | 0 |
| 31-40% | 2 | 0 | 0 | 0 | 0 | 0 |
| Market Squid | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | 2020-2021 |
| 0-10% | 26 | 101 | 61 | 88 | 320 | 147 |
| 11-20% | 0 | 15 | 7 | 9 | 24 | 29 |
| 21-30% | 1 | 8 | 0 | 5 | 0 | 2 |
| 31-40% | 0 | 1 | 0 | 2 | 0 | 0 |
| Other Fisheries | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | 2020-2021 |
| 0-10% | 0 | 4 | 5 | 10 | 10 | 10 |
| 11-20% | 0 | 1 | 2 | 3 | 0 | 0 |
| 21-30% | 0 | 1 | 1 | 0 | 0 | 0 |
| 31-40% | 2 | 0 | 0 | 0 | 0 | 0 |