Spiny Lobster Data Report

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Contents

Metadata

Table 1: Table 1. Summary of metadata

Name	Lobster Commercial Females
Common Name	Spiny Lobster
Species	Panulirus interruptus
Region	Southern California
Last Historical Year	2018
Last TAC	NA
Units	pounds
Last TAE	1
Number of areas	2

Biology

All biological parameters match the values in the California Spiny Lobster Fishery Management Plan (FMP).

A thorough literature review of Spiny Lobster biology can be found in the FMP and the Enhanced Status Report (ESR).

Spiny Lobster FMP

Spiny Lobster ESR

Figure 1. Density plots of biological parameters

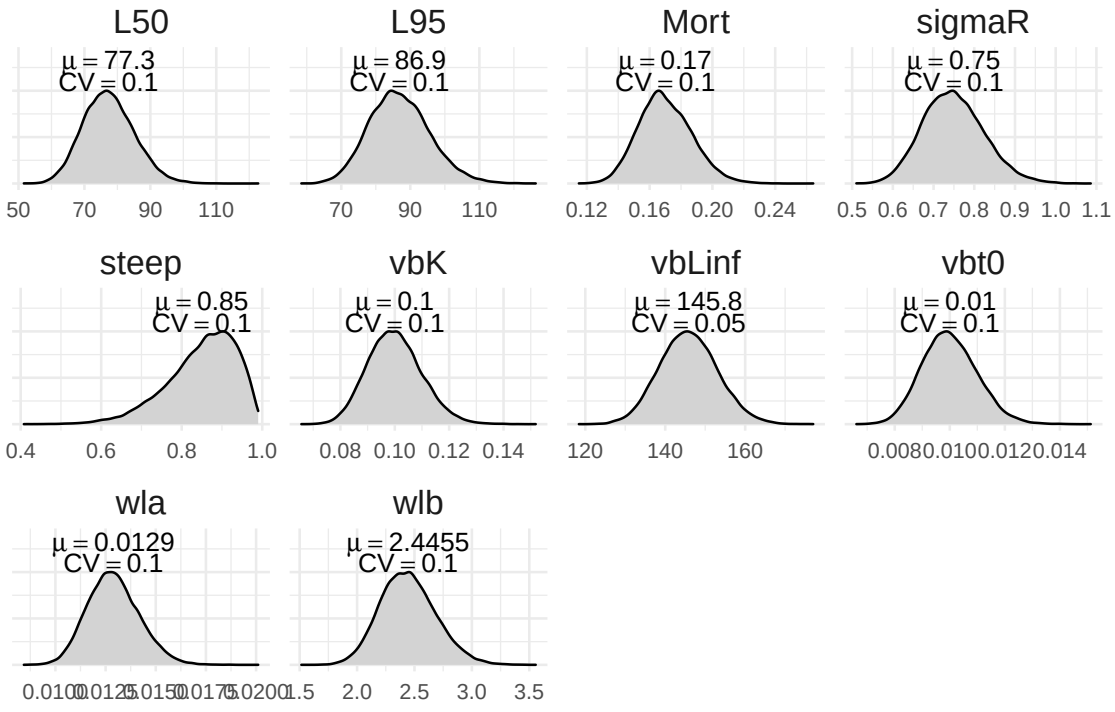
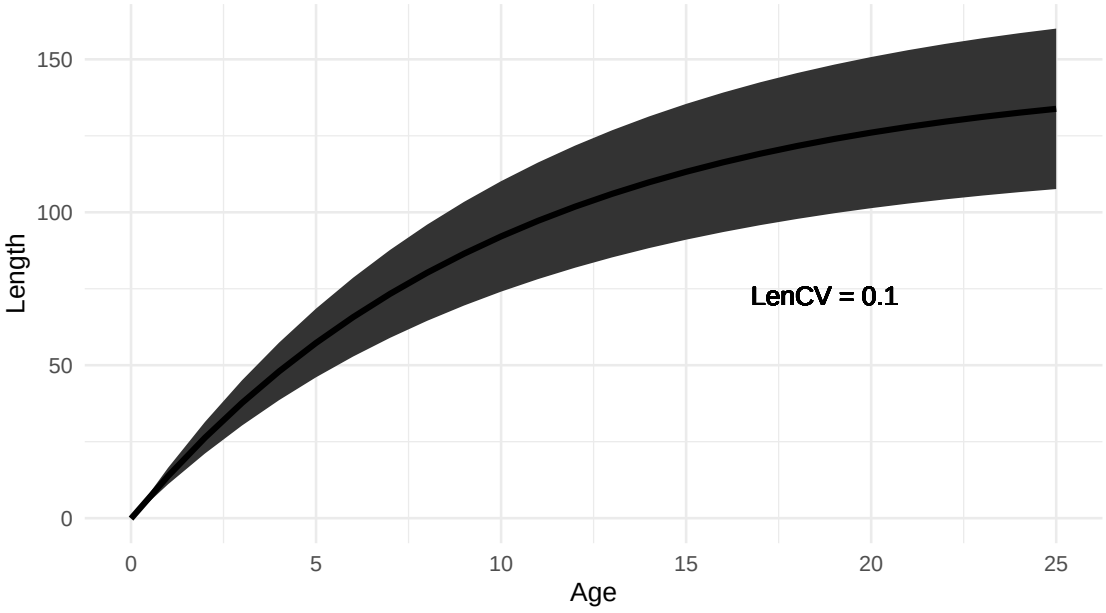


Figure 2. Distribution of length−at−age

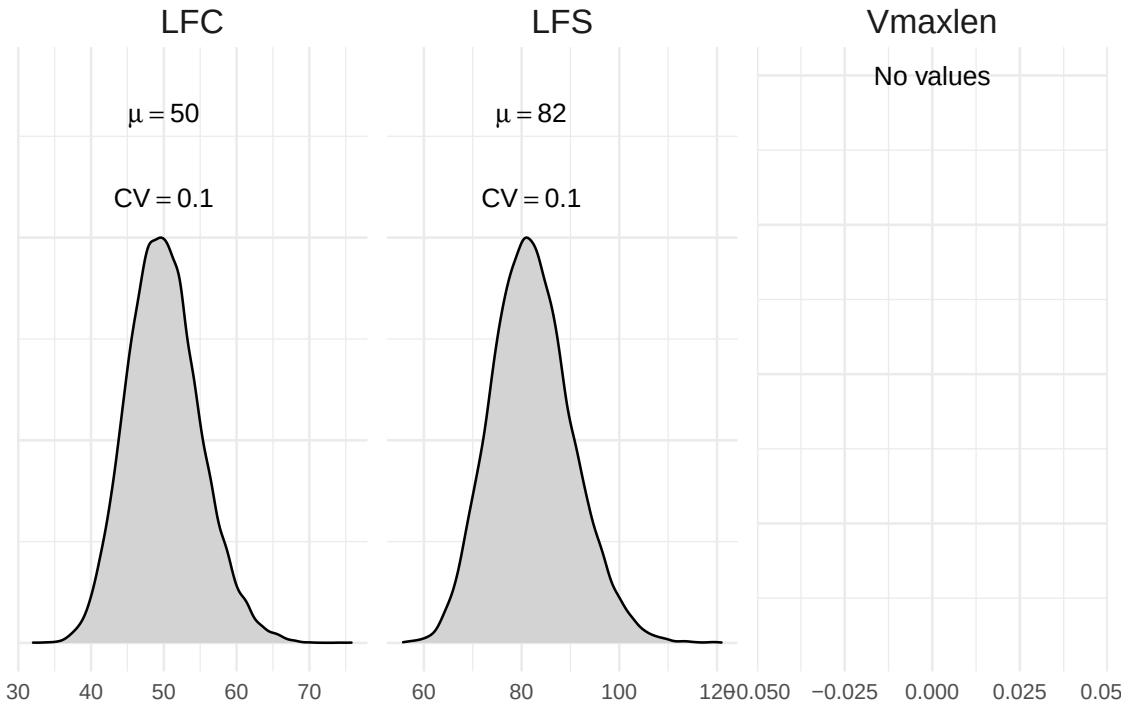
Mean length−at−age (solid line) and 2 standard deviations (shaded region)



Selectivity

The selectivity values were taken from the Spiny Lobster FMP.

Figure 3. Density plots of selectivity parameters



Time-Series

Catch Data

Catch data (pounds) from commercial landing receipts are available from 1935 to present.

Effort Data

Commercial at-sea logbooks include self-reported information on the number of traps used during a fishing event and the number of nights since the last deployment of those traps. This allows calculation of effort in trap hours. However, we were unable to reproduce catch patterns similar to historic landings using this information due to data gaps and regulatory changes that likely biased results. Instead, the upper and lower range of effort was manually and iteratively adjusted until the historical projections matched observed catch trends.

Abundance Data

Logbook data was used to calculate Catch per unit effort (CPUE) as the number of legal-size lobster per trap pull, was used as a proxy for abundance.

Recruitment Data

The recruitment index from 1951 to 2011 was generated from Koslow et al. 2012 and the index from 2012 to 2015 was generated from unpublished data generated by Department scientists.

Mean Length

Mean weight (pounds) is used as a proxy for mean length. Mean weight is calculated by matching the number of lobster reported on the logbook with the pounds landed on the corresponding landing receipt and generating a mean lobster weight for each landing receipt.

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## Warning in log(dat): NaNs produced
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Figure 4. Time−Series Data

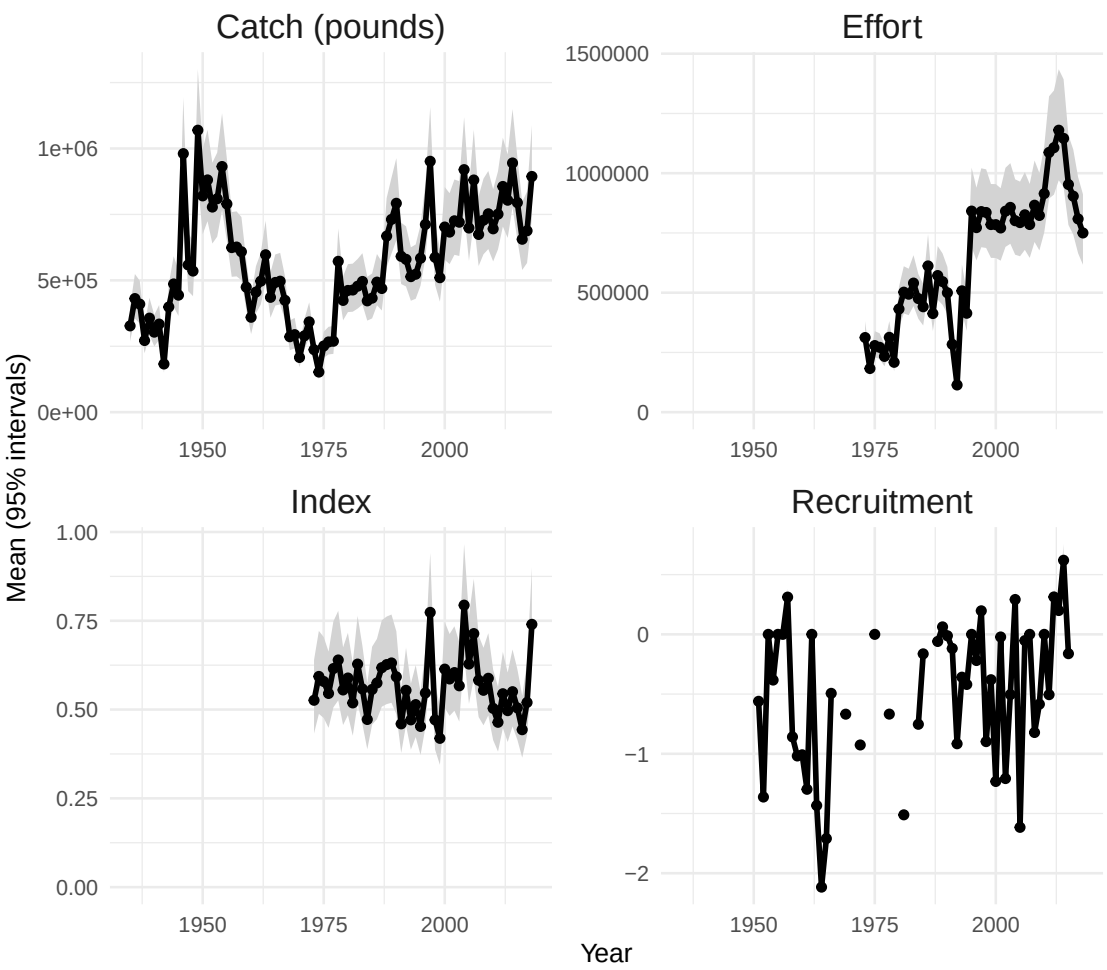
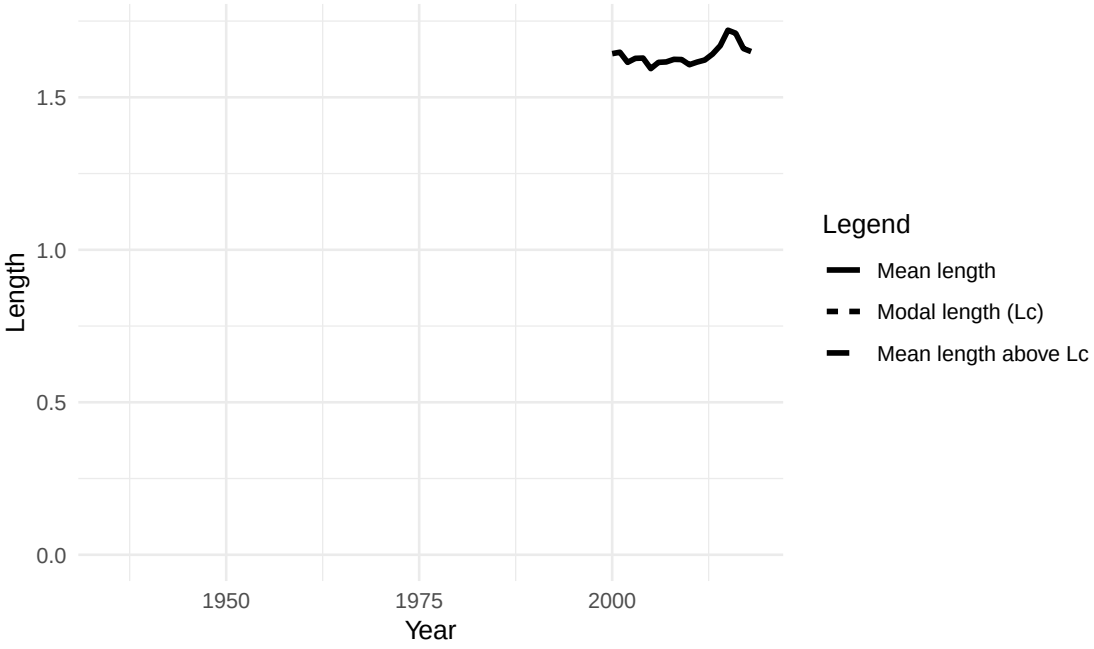


Figure 6. Mean Length Time−Series



Catch-at-Age

There are no catch-at-age data for Spiny Lobster.

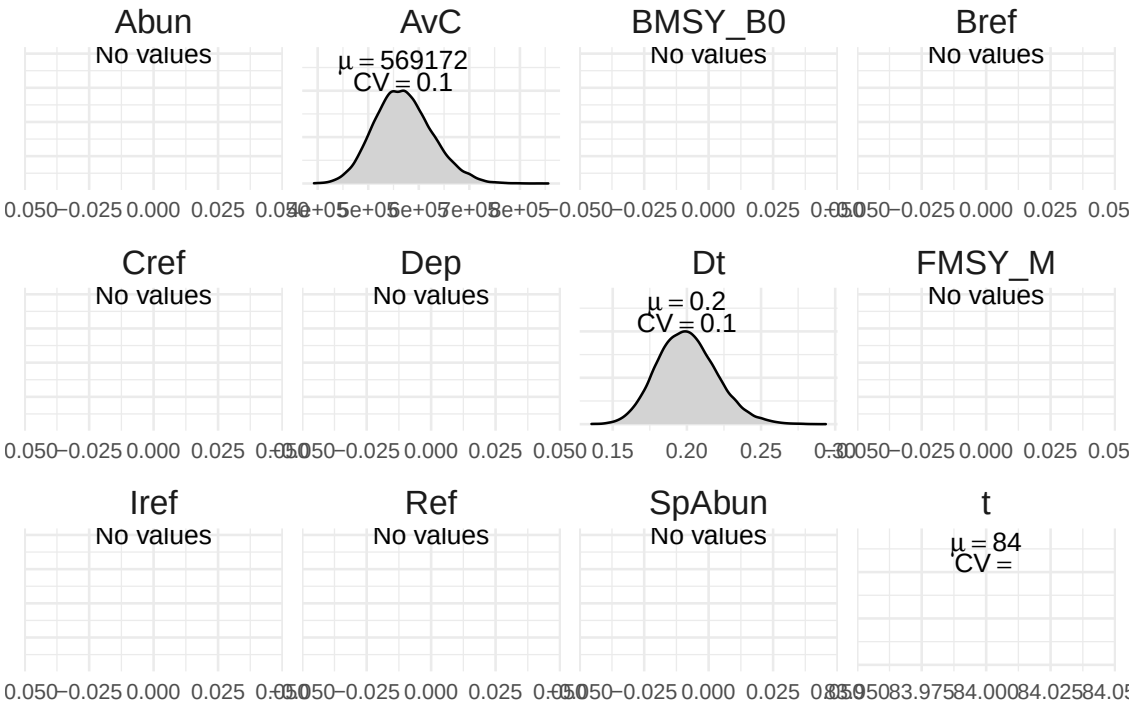
Catch-at-Length

There are no catch-at-length data for Spiny Lobster.

Reference

Very few reference points are available for Spiny Lobster. Average catch through time, calcuated by taking the mean of the total pounds landed across all seasons, is the only reference point included.

Figure 7. Density plots of Reference parameters



Reference List

California Department of Fish and Wildlife (CFDW) b. 2016. California Spiny Lobster Fishery Management Plan. 239 p.

California Department of Fish and Wildlife. 2019. California Spiny Lobster, Panulirus interruptus, Enhanced Status Report.

Koslow JA, Rogers-Bennett L, Neilson DJ. 2012. A time series of California spiny lobster (Panulirus interruptus) phyllosoma from 1951-2008 links abundance to warm water oceanographic conditions in southern California. California Cooperative Oceanic Fisheries Investigations Report 53: 132-139.