Japanese Sardine Species Summary

NPFC Japanese Sardine Small Working Group

2021-07-06

Japanese sardine (*Sardinops melanostictus*)

Common names: (Chinese); Japanese Sardine; (Japanese); (Korean); (Russian) - Need names in each language

Other common names

Figure 1: Placeholder picture of Pacific Sardine.

Management

Active NPFC Management Measures

The following NPFC conservation and mangement measure (CMM) pertains to this species:

CMM 2021-11 For Japanese Sarding, Neon Flying Squid and Japanese Flying Squid

Management Summary

The current management measure for Japanese Sardine does not specify catch or effort limits. The CMM states that Members and Cooperating non-Contracting Parties currently harvesting Japanese Sardine should refrain from expansion of the number of fishing vessels authorized to fish Japanese Sardine in the Convention Area. New harvest capacity should also be avoided until as stock assessment has been completed.

Stock assessments for Japanese Sardine are conducted by Japan for their National Waters and management is based off of these assessments.

Convention or Management Principle	Status	Comment or Consideration
Biological reference point(s)		Not established
Stock status		Status determination criteria not established
Catch limit		Recommended catch, effort limits
Harvest control rule		Not established
Other		No expansion of fishing beyond established areas

Note:
OK, Intermediate, Not accomplished, Unknown

Stock Assessment

No stock assessment has been conducted by NPFC for the convention area. Japan has conducted a stock assessment in their national waters (Hiroshi and Nishida 2005).

Data

Survey

Japan conducts three surveys that estimate recruitment for a number of pelagic species, including Japanese Sardine (Table 2). Surveys are conducted in spring (1995-2020), summer (2001-2020) and fall (2005-2020) at 30-80 stations per year. The survey protocol can be found at [website?]. Russia has conducted a summertime acoustic-trawl survey since 2010 that examines mid-water and upper epi-pelagic species including Japanese Sardine.

Fishery

THe fishery for Japanese Sardine is conducted mainly with purse seines and set nets in Japanese domestic waters. The Russian fishery uses purse seines and pelagic trawls. [insert other relevant characteristics]

Fishery catch data is available for Members from the NPFC website (https://www.npfc.int/system/files/2021-04/NPFC-2021-AR-Annual%20Summary%20Footprint%20-%20Japanese%20Sardine.xlsx) since 2001. Previous fishery catch data was downloaded from FAO data collections at https://www.npfc.int/system/files/2021-04/NPFC-2021-AR-Annual%20Summary%20Footprint%20-%20Japanese%20Sardine.xlsx using rfisheries package.

[insert text here]

Table 1. Data availability from Members regarding Japanese Sardine

Data.Type	Source	Years.Available	Comment
Catch	China	2013-present	Historical catch data from 1968 available
	Japan	1995-present	Catches primarily in national waters, not convention area
	Russia	2012-present	
CPUE			not developed
Survey			TBD
Age data			TBD
Length data			TBD
Maturity/fecundity			TBD

Special Comments

[insert text here]

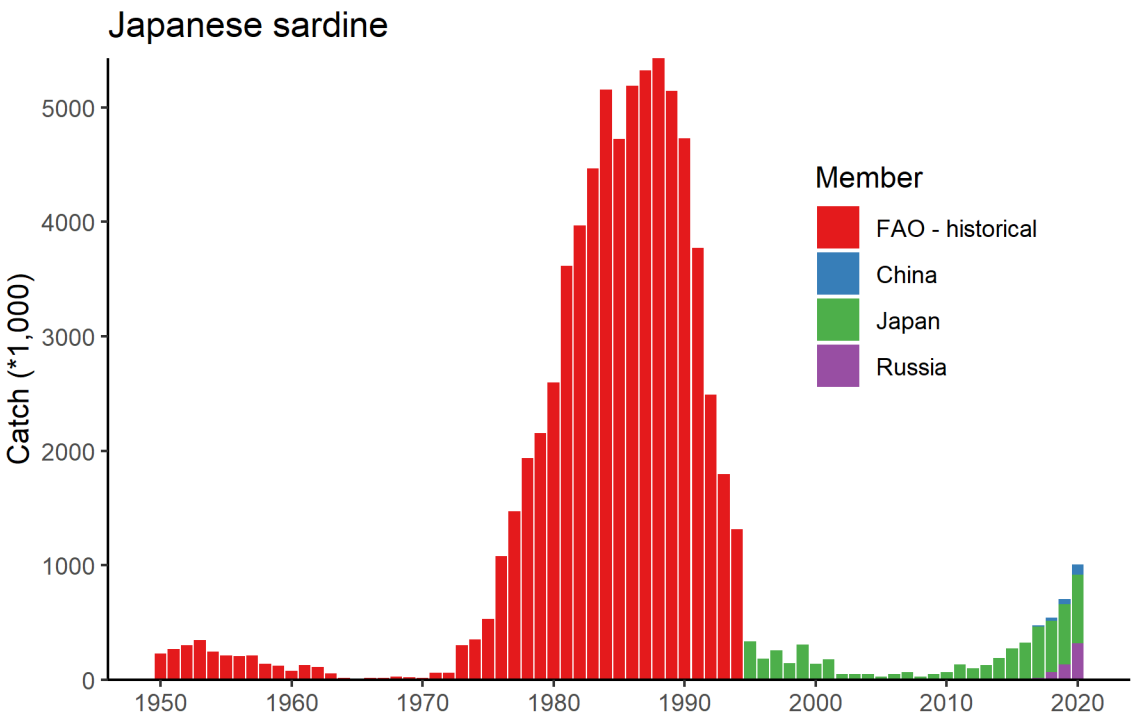

Figure 2: Historical catch of Japanese Sardine.

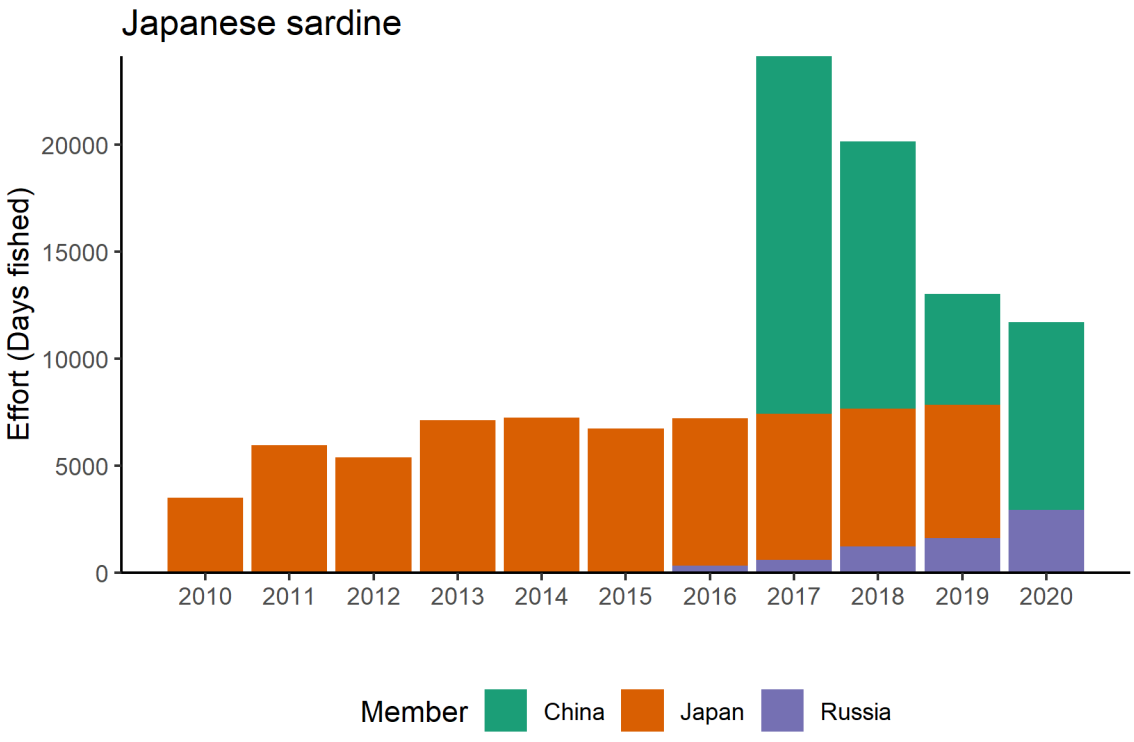

Figure 3: Historical fishing effort for Japanese Sardine.

Biological Information

Distribution

Japanese sardine (*Sardinops melanostichtus*; Figure 1) are a pelagic species that occurs in large migratory schools in the coastal waters of China, Chinese Taipei, Japan, Korea and Russia (Figure 2). They generally migrate from the south to the north during summer, returning to inshore areas in the south to spawn in the winter. Japanese sardine feed mainly on zooplankton and phytoplankton.

Life history

Japanese sardine are short-lived and fast growing, maturing early at 2-years old. Their maximum length is ~24 cm and their maximum reported age is 25 years (**???**). Their growth rates and spawning patterns are highly influenced by the environment (Niino et al. 2021)

Taxonomically, the Japanese sardine are closely related to other species around the globe inlcuding Sardinops from southern Africa, Australia, South America and California.

[Insert additional text here]

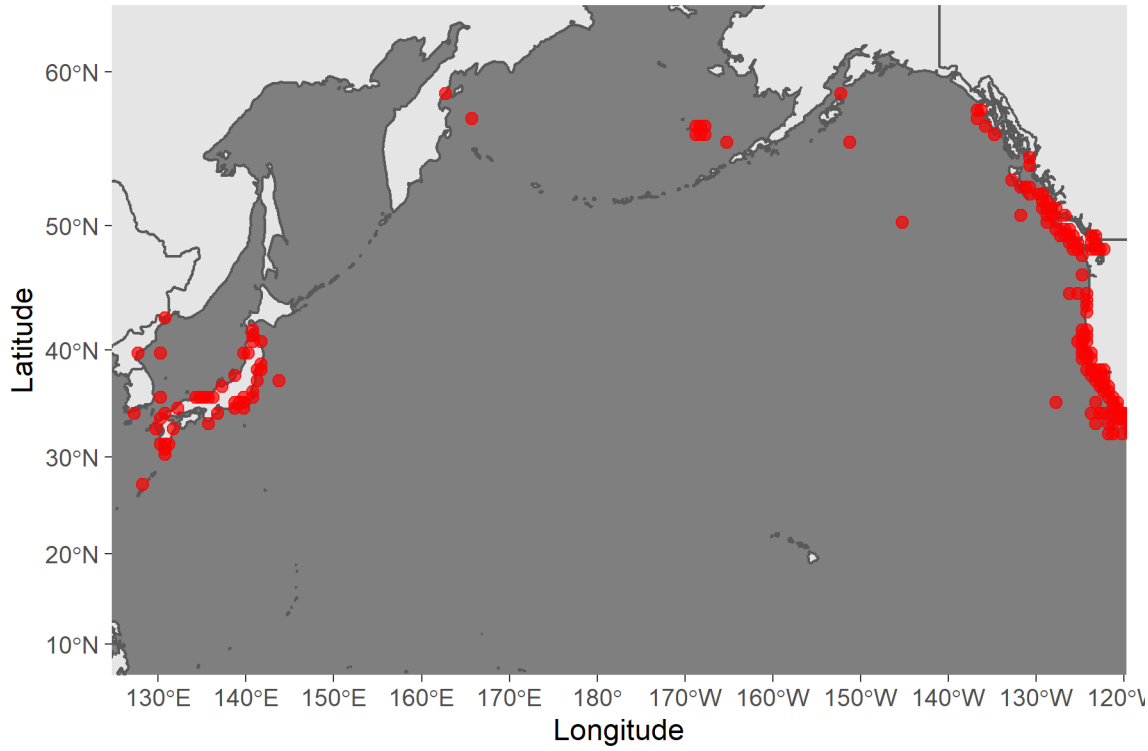

Figure 4: Map of distribution of Sardine species in the North Pacific.

Literature cited

Kaschner, K., Kesner-Reyes, K., Garilao, C., Segschneider, J., Rius-Barile, J. Rees, T., & Froese, R. 2019. AquaMaps: Predicted range maps for aquatic species. Data retrieved from https://www.aquamaps.org.

Karthik Ram, Carl Boettiger and Andrew Dyck (2013). rfisheries: R interface for fisheries data. R package version 0.1. http://CRAN.R-project.org/package=rfisheries

Hiroshi, and Nishida. 2005. “Stock Assessment and Abc Calculation for Japanese Sardine (Sardinops Melanostictus) in the Northwestern Pacific Under Japanese Tac System.” In.

Niino, Yohei, Sho Furuichi, Yasuhiro Kamimura, and Ryuji Yukami. 2021. “Spatiotemporal spawning patterns and early growth of Japanese sardine in the western North Pacific during the recent stock increase.” *Fisheries Oceanography*, no. April: 1–10. https://doi.org/10.1111/fog.12542.