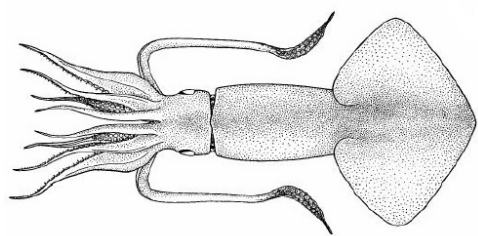


# Jumbo flying squid SE Pacific

 Fishery:  Chilean  Chile/SPRFMO  Chile  Purse seines

## IDENTIFICATION



### SCIENTIFIC NAME

*Dosidicus gigas*

### SPECIES NAME(S)

Jumbo flying squid

### COMMON NAMES

calamar gigante, calamar rojo, Humboldt squid, jibia, pota

### STOCK IDENTIFICATION

Jumbo flying squid in the Eastern Pacific extends from the waters off Chile to the North American coast. The **NE Pacific** and **SE Pacific** represent genetically different stocks with some migration among them, in a genetic structure apparently influenced by oceanic currents (*Sandoval-Castellanos et al. 2010*).

Three intraspecific groups have been identified for Giant or Jumbo flying squid (*Dosidicus gigas*) in the Southeast Pacific, based on size-at-maturity (*Nigmatullin et al. 2001*), but as no genetic difference has been found between the three proposed sub-unit populations, thus it is still considered to constitute a single stock (*Xu et al. 2017*).



### RELATED LINKS:

- [Chilean Undersecretary of Fisheries and Aquaculture \(SUBPESCA\)](#), [South Pacific Regional Fisheries Management Organization \(SPRFMO\)](#)
- [Fisheries Development Institute \(Chile\) \(IFOP\)](#)

## ASSESSMENT

### Strengths

- A Scientific and Technical Committee, composed of scientific and management experts and institutes, is in charge of the discussion about the status of the stock to advise the Minister. A jibia (jumbo squid) management committee was setup in 2015, and continues to meet monthly and [produce reports](#).
- A Fisheries Research Fund is in progress to study the life cycle and population dynamics of the species.
- Abundance levels for the full stock, including the Chilean EEZ element, are considered to be “high”, however recent IFOP reports, indicate contradictory results and high uncertainty in stock status.
- There are current efforts to incorporate the species in multispecies assessment models to take into account predation and trophic relations with commercially important fishing resources.
- The fishery is regulated by catch limits which were set in accordance with Scientific and Technical Committee recommendation and landings are below the limits.
- Jigs and purse-seines are not expected to interact with the seabed ecosystem.

### Weaknesses

- No management exists at a whole-stock level, and there is thus scope for high-seas fleets to increase their catch levels at any time, potentially jeopardizing stock health.
- Ongoing uncertainty regarding the stock structure (three functionally independent stocks or one semi-mixed stock) combined with high annual/environmental variability hampers efforts to forecast and manage the stock(s) across national boundaries and in the high seas.
- Assessment of the full stock needs improvement in fishery-independent and dependent data from Peru and Chile and the SPRFMO area.
- There is no official management objectives or management plan with a harvest control rule established; there is a lack of official target and limit reference points.
- Stock assessments with 2015 and 2016 data showed high uncertainty; different models indicate opposite results, thus the stock status in Chilean waters is undetermined.
- Acceptable biological catches estimated in retrospective by IFOP are significantly below Advised TAC by the Scientific and Technical Committee, set TAC and catches.
- Jumbo flying squid is reported to be associated with some practices of illegal, unreported and unregulated fishing but the impact on the stock is not known.
- The interaction of the fishery with protected species and seabed ecosystem is not known.
- Increase of jumbo flying squid is related with the decrease in abundance of South pacific hake and hoki.
- Non-target species in the artisanal fishery (jigging and purse-seining) are not identified or quantified (although impacts are anticipated to be minimal).

## SCORES

### Management Quality:

Management Strategy	Managers Compliance	Fishers Compliance
< 6 to ≥ 6	2.1 to 10	< 6 to ≥ 6

### Stock Health:

Current Health	Future Health
≥ 6 to 10	≥ 6 to 10

## FIPS

No related FIPs

## MSC

No related MSC fisheries

## RECOMMENDATIONS

RETAILERS &amp; SUPPLY CHAIN

- Work with the South Pacific RFMO and its members to define the population structure and agree on the approach to stock assessments, ensuring that the models incorporate appropriate fisheries, environmental, and biological data from the entire stock(s).
- Develop a common management strategy covering the entire population unit(s) and seek its adoption by all management authorities (RFMO and states). The common management strategy will include clear management objectives, specific management measures, and use of biological reference points and harvest control rules.
- Design and implement an effective fishery monitoring program that covers both national and international waters, assuring standardized and regular data collection covering all fleets required to support stock assessment. Ensure transparency and share data with all management authorities in the South Pacific RFMO.
- Design and implement a research programme aimed at determining biological parameters and the effects of environmental variability on the stock(s).
- Implement effective surveillance and enforcement mechanisms to ensure compliance with conservation and management measures (CMMs) within both national and international waters.
- Engage in and support the work of CALAMASUR in advocating for better science and management for jumbo flying squid fisheries in the Pacific.