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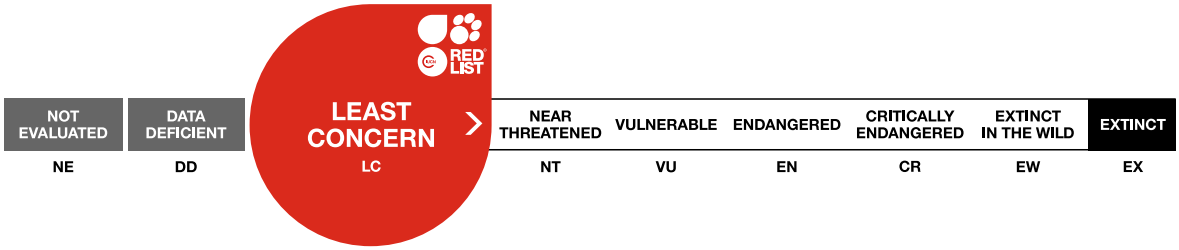
Scope(s): Global
Language: English

Engraulis anchoita, Argentine Anchovy

Assessment by: Buratti, C., Díaz de Astarloa, J., Hüne, M., Irigoyen, A., Landaeta, M., Riestra, C., Vieira, J.P. & Di Dario, F.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Actinopterygii	Clupeiformes	Engraulidae

Scientific Name: *Engraulis anchoita* Hubbs & Marini, 1935

Common Name(s):

- English: Argentine Anchovy
- Spanish; Castilian: Anchoíta

Taxonomic Source(s):

Fricke, R., Eschmeyer, W.N. and Van der Laan, R. (eds). 2020. Eschmeyer's Catalog of Fishes: genera, species, references. Updated 02 March 2020. Available at: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp.

Assessment Information

Red List Category & Criteria: Least Concern ver 3.1

Year Published: 2020

Date Assessed: December 5, 2019

Justification:

This coastal to mid-continental shelf, pelagic species is widely distributed from Brazil to Argentina. It is a short-lived species with an estimated generation length of 2-4 years. Biomass fluctuates naturally with environmental conditions. It is currently commercially exploited only in Argentina. The global population is comprised of three stocks (1. southeast Brazil north of 28°S, 2. Brazil south of 28°S, Uruguay and Argentina to 41°S and 3. Argentine Patagonia between 41°S and 48°S). Abundance of the species in Brazil is stable. According to fishery independent scientific surveys, the Buenos Aires stock has a high biomass close to historical levels and it is underexploited. The Argentine population is regularly monitored and there are stringent fishing regulations in place. Fishing activity is not expected to be driving global-level declines approaching a Near Threatened or threatened level at this time. It is listed as Least Concern with a recommendation to continue to conduct research cruises to improve stock assessments. Research is also needed to better understand the observed changes in body size structure of the southern stocks.

Previously Published Red List Assessments

2018 – Near Threatened (NT)
https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T195023A143833145.en

Geographic Range

Range Description:

This species is distributed in the southwestern Atlantic from 20°S near Vitória, Brazil to 48°S near

southern San Jorge Gulf, Argentina. The depth range is 30-200 metres (Whitehead *et al.* 1988), but it mostly occurs shallower than 60 m (Costa *et al.* 2016).

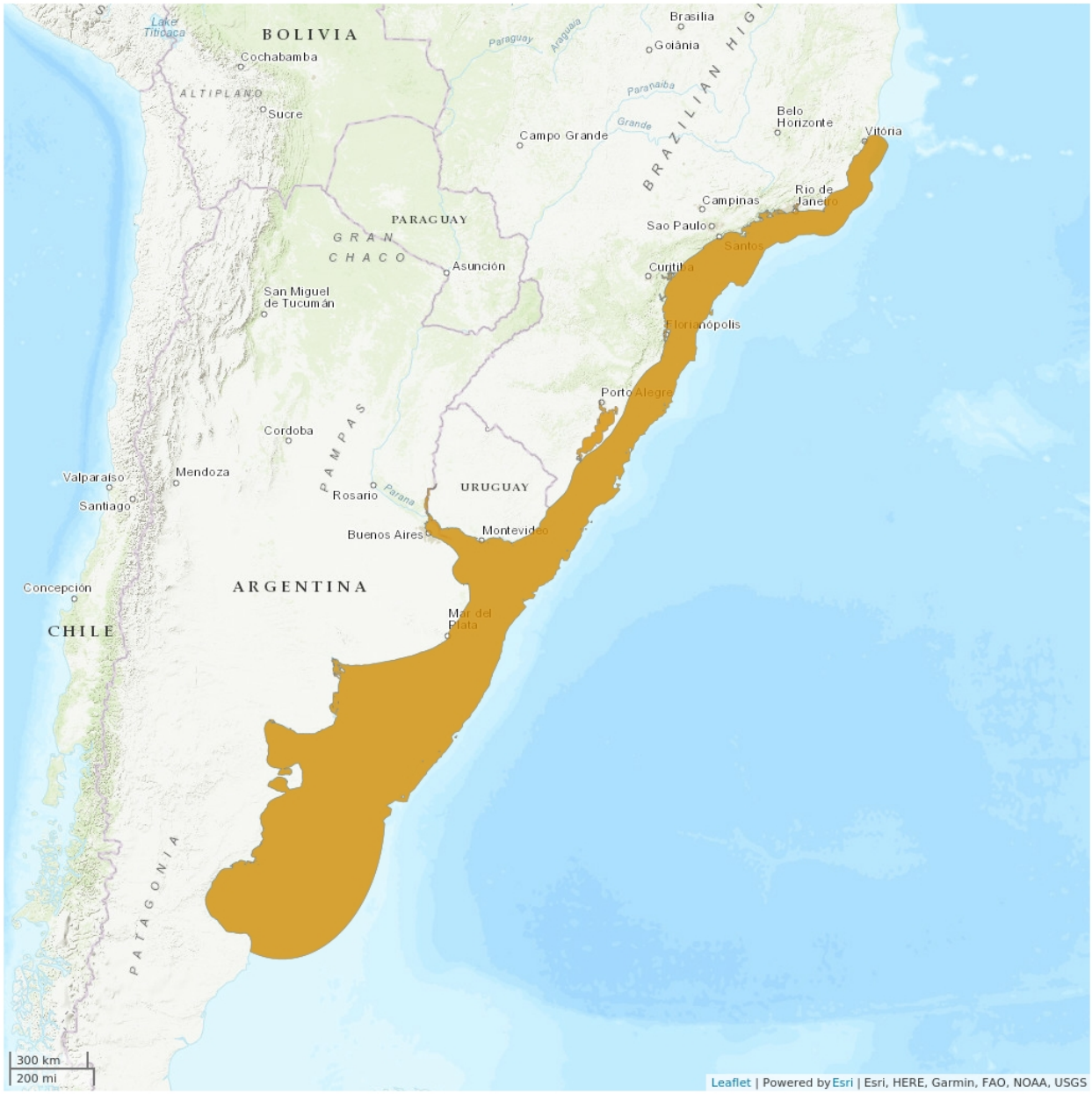
Country Occurrence:

Native, Extant (resident): Argentina; Brazil; Uruguay

FAO Marine Fishing Areas:

Native: Atlantic - southwest

Distribution Map



Legend

EXTANT (RESIDENT)

Compiled by:

IUCN Marine Biodiversity Unit/GMSA 2020

The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

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Population

Three distinct stocks comprise the global population of this species: the Brasilera stock from 20 to 28°S (Vitória Cape to Santa Maria Grande Cape), the Bonaerense stock from 28 to 41°S (southern Brazil to Uruguay and northern Argentina) and the Patagonia stock from 41 to 48°S. The Bonaerense stock is the largest of the three (Prenski *et al.* 2011, Carvalho and Castello 2013). Fisheries catch data (Pauly and Zeller 2015, Villasante *et al*. 2015, FAO 2016) are not reflective of actual population trends (C. Buratti pers. comm. 2019). Biomass can fluctuate widely due to natural cycles in environmental conditions that influence the annual recruitment success of this species, especially the geographic position of water mass fronts or areas of convergence (Costa *et al.* 2016, Do Souto *et al*. 2018). Biomass fluctuations are not considered to be caused by fishing pressure at this time.

Brazil: This species is common and abundant in southern Brazil. Despite its high abundance, it has not been commercially exploited in Brazil, and it is at a virgin biomass level there (Madureira *et al*. 2009, Carvalho and Castello 2013, Costa *et al.* 2016). In Brazil, it is only used as bait, and the quantities captured are low (J. Vieira and C. Buratti pers. comm. 2019). Biomass is estimated via acoustic surveys conducted in southern Brazil (Costa *et al.* 2016).

Uruguay and Argentina: Exploitation of this species in Argentine waters began after the first World War. It was also exploited by Uruguay prior to 2007 for a reduction fishery. It is now only exploited by Argentina for human consumption. Fishing effort increased until the 1990s. The coastal fishing fleet responsible for 85-90% of the landings experienced a 15-30% reduction in number of vessels in 1994 and 1995 (Prenski *et al.* 2011). There are two stocks: one located off Buenos Aires Province and the other occurring south of 41°S. The Buenos Aires stock is the larger of the two and is where the fishery is concentrated. Catch has remained well-below the total allowable catch limit and it is currently considered underexploited (Orlando *et al*. 2019, Ciancio *et al*. 2020). Biomass estimates have been conducted for the Buenos Aires stock since 1990; however, research cruises important to estimating stock biomass were not able to be carried out between 2008 to 2017. Two research cruises have been carried out in Argentina in recent years: in 2018 for the Patagonian stock and in 2019 for the northern stock. This work has allowed for biomass estimates to be improved. For the period from 1990 to 2018, total and spawning stock biomass fluctuated over time and exploitation level was relatively low. Over the past three generation lengths, or since 2008, estimated biomass increased from about 1 million tons to 2.5 million tons. Currently, the Buenos Aires stock has a high biomass near historical levels (Orlando *et al*. 2019). The average size of individuals in the catch has declined, but the cause of this is poorly understood (Garciarena *et al.* 2019).

Current Population Trend: Stable

Habitat and Ecology **(see Appendix for additional information)**

This pelagic species forms schools in coastal waters over the continental shelf. The maximum standard length is 17 cm (Whitehead *et al*. 1988). It fills an important ecological role as a prey item for larger marine species. This species spawns year-round and most intensely between October and November. Natural mortality is 0.9-1.01 (Madureira *et al*. 2009, Orlando *et al*. 2019). The average maximum age is approximately 6-7 years, although some individuals have been aged to 8 or 9 years (Prenski *et al.* 2011). Length at first maturity for the Argentine northern stock is 9.8 cm and 11.9 cm for the Patagonian stock (Hansen 2011). Age at first maturity is 1 year (Hansen 2000). When applying an age at first reproduction

of 1 year and longevity of 7 years, its estimated generation length is 4 years based on the following equation recommended by the IUCN Red List methods: Age at first reproduction + (Age at last reproduction – age at first reproduction)/2. When applying an alternative equation recommended by the IUCN Red List methods: 1/adult mortality + age of first reproduction, the generation length is about 2 years.

Systems: Marine

Use and Trade

Prior to 2007, this species was commercially exploited by Uruguay and Argentina, but currently, Argentina is the only country actively targeting this species for commercial purposes (Costa *et al.* 2016). It is primarily caught using semi-pelagic mid-water trawl nets and purse-seines (Prenski *et al.* 2011). In Argentina, this species is only utilized for human consumption, not for reduction fisheries. Much of the catch is exported for the international market, especially Spain (C. Buratti pers. comm. 2019).

Threats

Fishing activity is not expected to be driving global-level declines approaching a Near Threatened or threatened level at this time.

Conservation Actions **(see Appendix for additional information)**

Stock assessments are conducted regularly by the National Institute for Fisheries Research and Development (INIDEP). Fishing regulations in Argentina include total allowable catch limits, body size minimum, fishing permit requirements, gear restrictions and a closed fishing area in the Argentine-Uruguayan Common Fishing Zone. The Buenos Aires fishery was first certified as sustainable and well-managed by the Marine Stewardship Council (MSC) in 2011 and re-certified in 2016 until 2021 (Prenski *et al.* 2011, Orlando *et al.* 2019). Research is needed to better understand the observed changes in body size structure of the southern stocks (Garciarena *et al.* 2019).

Credits

Assessor(s): Buratti, C., Díaz de Astarloa, J., Hüne, M., Irigoyen, A., Landaeta, M., Riestra, C., Vieira, J.P. & Di Dario, F.

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Disclaimer

External Resources

For Supplementary Material, and for Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats
(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
9. Marine Neritic -> 9.1. Marine Neritic - Pelagic	Resident	Suitable	Yes

Use and Trade
(http://www.iucnredlist.org/technical-documents/classification-schemes)

End Use	Local	National	International
Food - human	No	Yes	Yes

Conservation Actions in Place
(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action in Place
In-place research and monitoring
Systematic monitoring scheme: Yes

Research Needed
(http://www.iucnredlist.org/technical-documents/classification-schemes)

Research Needed
1. Research -> 1.2. Population size, distribution & trends

Additional Data Fields

Distribution
Lower depth limit (m): 200
Upper depth limit (m): 30
Habitats and Ecology
Generation Length (years): 2-4

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The IUCN Red List Partners are: Arizona State University; BirdLife International; Botanic Gardens Conservation International; Conservation International; NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London.