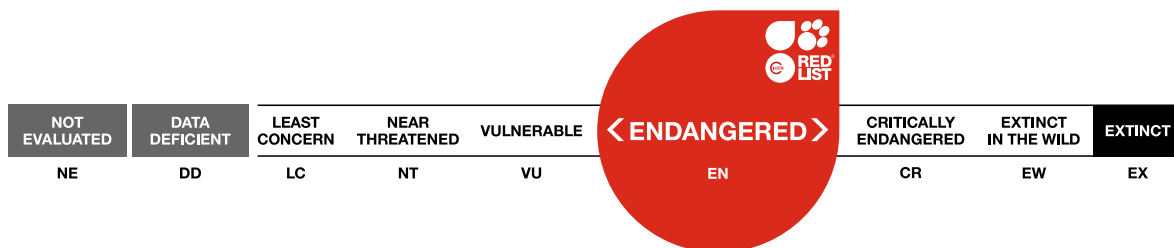


Zapteryx brevirostris, Shortnose Guitarfish

Assessment by: Pollom, R. *et al.*



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Chondrichthyes	Rhinopristiformes	Trygonorrhinidae

Scientific Name: *Zapteryx brevirostris* (Müller & Henle, 1841)

Synonym(s):

- *Rhinobatus brevirostris* Müller & Henle, 1841

Common Name(s):

- English: Shortnose Guitarfish
- Portuguese: Banjo

Taxonomic Source(s):

Eschmeyer, W.N., Fricke, R. and Van der Laan, R. (eds). 2016. Catalog of Fishes: genera, species, references. Updated 29 September 2016. Available at: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (Accessed: 29 September 2016).

Assessment Information

Red List Category & Criteria: Endangered A2bd [ver 3.1](#)

Year Published: 2020

Date Assessed: July 1, 2019

Justification:

The Shortnose Guitarfish (*Zapteryx brevirostris*) is a small (to 66 cm total length) benthic shark-like ray that occurs in the Southwest Atlantic from Espírito Santo state, Brazil to Buenos Aires, Argentina. It inhabits inshore waters over soft substrates at depths of 2–140 m. It is captured in intense and largely unmanaged artisanal and commercial demersal trawl and gillnet fisheries throughout its geographic range. There are two estimates of population reduction. First, in Santa Catarina state, Brazil, catch-per-unit-effort (CPUE) decreased 90% from 100 kg/hr in the 1980s to 10 kg/hr in 2005, the equivalent of a population reduction of >85% over three generation lengths (21 years). Second, in Uruguay, the research trawl survey CPUE declined by nearly 40%; in the 1980s and early 1990s, 2,200 kg/hr were caught, and between 2013 and 2017 there were just over 1,400 kg/hr caught, the equivalent of a population reduction of >25% over three generation lengths (21 years). Furthermore, demographic analyses have shown that this species is being overfished given the level of mortality it is exposed to. This guitarfish is subjected to intense and mostly unmanaged fishing pressure across its limited range, it has no refuge at depth, and where recorded in landings it has declined. Overall, it is suspected that the Shortnose Guitarfish has undergone a population reduction of 50–79% over the past three generation lengths (21 years), and it is assessed as Endangered A2bd.

Previously Published Red List Assessments

2006 – Vulnerable (VU)

Geographic Range

Range Description:

The Shortnose Guitarfish occurs in the Southwest Atlantic from Espírito Santo state, Brazil to San Matías Gulf, Argentina (Cuevas, J.M. unpubl. data 2018). A historical record from further north in Bahia State from 1907 cited in Bigelow and Schroeder (1953) requires confirmation.

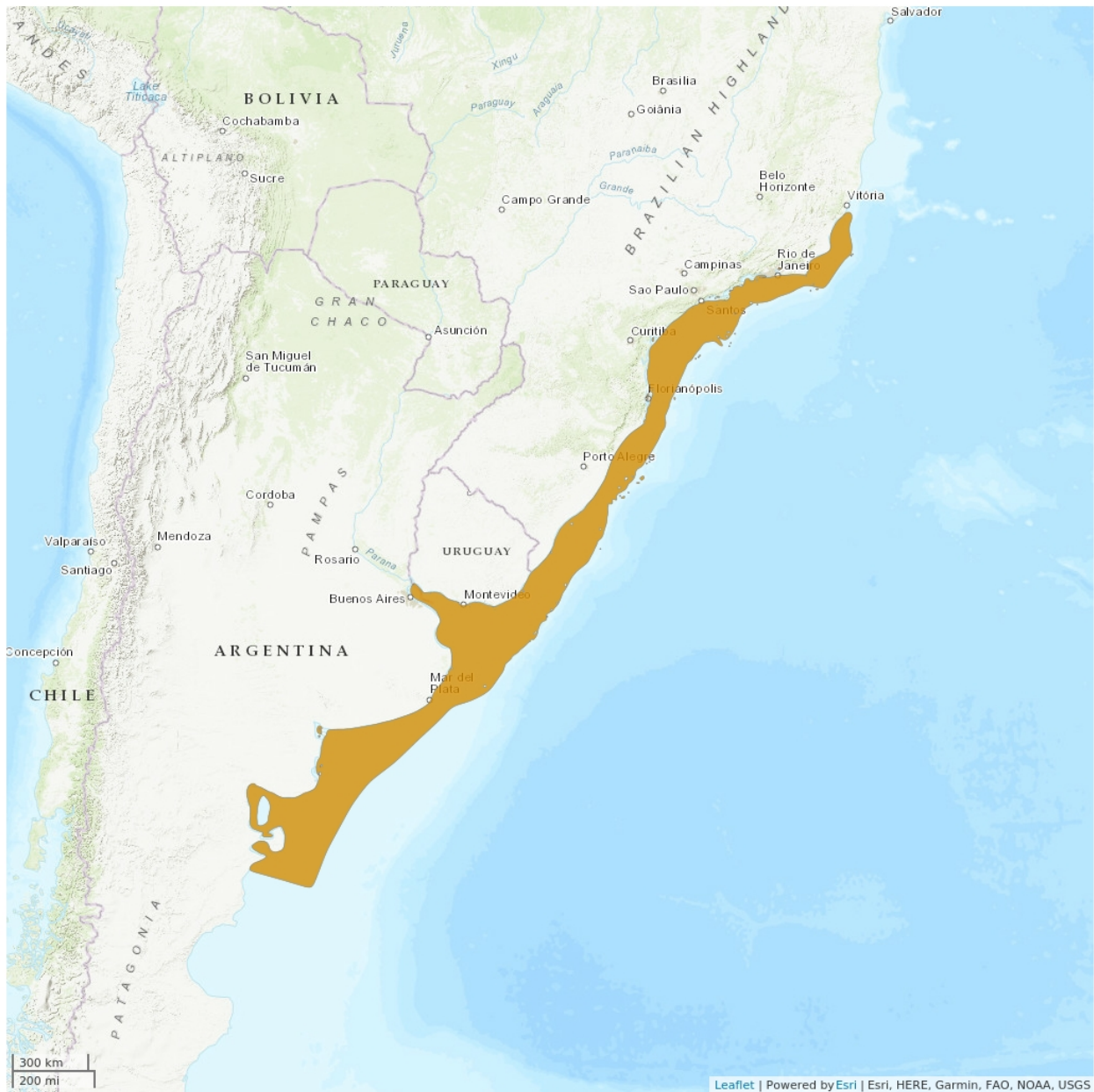
Country Occurrence:

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

FAO Marine Fishing Areas:

Native: Atlantic - southwest

Distribution Map

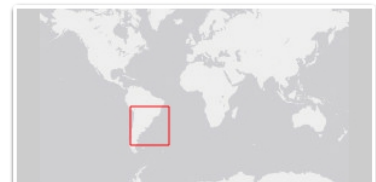


Legend

■ EXTANT (RESIDENT)

Compiled by:

IUCN SSC Shark Specialist Group 2018



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



Population

Artisanal and commercial fisheries are intense across the geographic and bathymetric range of this species, and declines in landings have been noted. Inferences have been drawn from two estimates of catch-per-unit-effort (CPUE) from research trawl surveys in (1) Santa Catarina State, Brazil; and, (2) in the Argentina-Uruguay Common Fishing Zone; as well as from, (3) a demographic analysis of sustainability. First, in Santa Catarina state, CPUE decreased by 90% from 100 kg/hr in the 1980s to 10 kg/hr in 2005 (R. Barreto unpubl. data 2018), equivalent to a >85% reduction over three generations. Second, in Uruguay, the research trawl survey CPUE of this species declined from 2,200 kg/hr in the 1980s and early 1990s to just over 1,400 kg/hr caught between 2013 and 2017 (L. Paesch unpubl. data 2018), equivalent to a >25% population reduction if scaled over three generations. Third, demographic analyses have shown that this species is being overfished given the level of mortality it is exposed to (Caltabellota 2014, Carmo *et al.* 2018). Fishing pressure is intense elsewhere within the range of this guitarfish, and similar reductions in population size are suspected in other parts of Brazil and in Argentina. Overall, due to the presence of intense and mostly unmanaged fishing pressure across its range, and appropriate indices of abundance that exhibit declines, it is suspected that the Shortnose Guitarfish has undergone a population reduction of 50–79% over the past three generation lengths (21 years).

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

The Shortnose Guitarfish is a benthic shark-like ray that inhabits inshore waters over soft substrates at depths of 2–140 m (Last *et al.* 2016, Weigmann 2016). It reaches a maximum size of 66 cm total length (TL); females mature at 42–51 cm TL or 5 years and males at 43–50 cm TL or 4.1–7.7 years (Colonello *et al.* 2011, Last *et al.* 2016, Caltabellota *et al.* 2019, F. Caltabellota pers. comm. 21 August 2019). Reproduction is viviparous, and females have a 3-year reproductive cycle, with two years of ovarian maturation and one year of gestation; they give birth to 1–8 pups that are 13–16 cm TL (Colonello *et al.* 2011, Last *et al.* 2016). Maximum age is 9 years and generation length is 7 years (Caltabellota *et al.* 2019, F. Caltabellota pers. comm. 21 August 2019).

Systems: Marine

Use and Trade

This guitarfish is heavily commercialized, highly valued, and sold locally for its meat (P. Charvet unpubl. data 2018).

Threats (see Appendix for additional information)

The Shortnose Guitarfish is captured in artisanal and commercial demersal trawl and gillnet fisheries (Tamini 2006, Estalles *et al.* 2011, Wosnick *et al.* 2019). In southern Brazil, the trawl fishery began in the 1960s and entered a period of rapid expansion in the 1990s and 2000s, resulting in over 650 vessels fishing at depths of 20–1,000 m (Port *et al.* 2016). Artisanal fisheries there are also intense and 58% of stocks targeted by artisanal fishers are over-exploited, half of those being collapsed (Vasconcellos *et al.* 2011). In São Paulo state, there are over 300 small-scale trawl vessels and this species is captured (Rodrigues *et al.* 2019). In Uruguay, the industrial trawl fleet was developed in the late 1970s, and many

stocks were over-exploited by the 1990s (Defeo *et al.* 2011, Lorenzo *et al.* 2015). This fleet increased from 46 vessels in 1975 to a peak of 121 in 2004, followed by a decline to 81 vessels in 2010 (Lorenzo *et al.* 2015). During the expansion phase of this fishery, landings increased six-fold from 1975 to 1981. Subsequent depletion of these species led to a diversification of the fisheries into non-traditional (i.e. bycatch) species, masking the decline in previous target species (Lorenzo *et al.* 2015). Artisanal vessels fishing in Uruguayan waters increased from 269 vessels in 1975 to 905 vessels in 1996, and after a restructuring in 1997, the number of vessels increased from 393 to 795 in 2010 (Lorenzo *et al.* 2015). This is thought to be an underestimate, as many artisanal vessels are not registered.

In Argentina, commercial fishing began in the late 1800s, became industrialized after World War II (Mateo 2006), and increased rapidly in the 1980s (Watson *et al.* 2006). By 1992 there were over 300 coastal trawlers there. This number increased to over 400 in 2015, and the number of fishing trips undertaken by that fleet nearly doubled from over 7,600 to nearly 14,000 over that time frame. The overall number of fishing vessels in operation in Argentina has grown from under 300 in 1990 to nearly 1,000 in 2015 (Dirección Nacional de Planificación Pesquera 2016). Gillnets are prevalent there and were known to target elasmobranchs in the 1980s and 1990s (Chiaramonte 1998, Colautti *et al.* 2010). Captured pregnant females exhibit high rates of abortion and post-capture mortality, and likely do not survive release (Wosnick *et al.* 2019). Furthermore, several demographic analyses reveal that this guitarfish has slow growth and that current levels of fishing pressure are not sustainable (Caltabellota 2014, Carmo *et al.* 2018). Overall, this species is subjected to intense and mostly unmanaged fishing pressure across its limited range, and it has no refuge at depth. Its small size and relatively fast generation time may provide it some ability to withstand fishing pressure, but not at current levels of exploitation.

Conservation Actions (see Appendix for additional information)

There are no species-specific protections or conservation measures in place for this guitarfish. To conserve the population and permit recovery, a suite of measures will be required which will need to include species protection, spatial management, bycatch mitigation, and harvest management, all of which will be dependent on effective enforcement. Further research is needed on population size and trends and use and trade, and species-specific monitoring should be undertaken in commercial and artisanal fisheries.

Credits

Assessor(s): Pollom, R., Barreto, R., Charvet, P., Chiaramonte, G.E., Cuevas, J.M., Faria, V., Herman, K., Marcante, F., Montealegre-Quijano, S., Motta, F., Paesch, L. & Rincon, G.

Reviewer(s): Dulvy, N.K. & Kyne, P.M.

Contributor(s): Vooren, C.M., Lamónaca, A.F., Massa, A. & Hozbor, N.

Facilitator(s) and Compiler(s): Kyne, P.M., Pollom, R., Charvet, P. & Dulvy, N.K.

Authority/Authorities: IUCN SSC Shark Specialist Group (sharks and rays)

Bibliography

- Bigelow, H.B. and Schroeder, W.C. 1953. Sawfish, guitarfish, skates and rays. In: Tee-Van (ed.), *Fishes of the Western North Atlantic, Part 2*. Sears Foundation for Marine Research, Yale University, New Haven, pp 508-514.
- Caltabellota, F.P., Siders, Z.A., Murie, D.J., Motta, F.S., Cailliet, G.M. and Gadig, O.B.F. 2019. Age and growth of three endemic threatened guitarfishes *Pseudobatos horkelii*, *P. percellens* and *Zapteryx brevirostris* in the western South Atlantic Ocean. *Journal of Fish Biology* 5: 1236–1248.
- Caltabellotta, F.P. 2014. Dinâmica Populacional das raias-violas, *Rhinobatos horkelli*, *Rhinobatos percellens* e *Zapteryx brevirostris* (Chondrichthyes, Rhinobatidae) da Plataforma Continental de São Paulo. Instituto de Biociências de Botucatu, Universidade Estadual Paulista.
- Carmo, W.P., Fávoro, L.F. and Coelho, R. 2018. Age and growth of *Zapteryx brevirostris* (Elasmobranchii: Rhinobatidae) in southern Brazil. *Neotropical Ichthyology* 16(1): e170005.
- Chiaramonte, G.E. 1998a. Shark fisheries in Argentina. *Marine and Freshwater Research* 49: 601-609.
- Colautti, D., Baigun, C., Cazorla, A.L., Llopart, F., Molina, J.M., Suquele, P. and Calvo, S. 2010. Population biology and fishery characteristics of the smooth-hound *Mustelus schmitti* in Anegada Bay, Argentina. *Fisheries Research* 106(3): 351–357.
- Colonello, J.H., García, M.L. and Menni, R.C. 2011. Reproductive biology of the lesser guitarfish *Zapteryx brevirostris* from the south-western Atlantic Ocean. *Journal of Fish Biology* 78(1): 287–302.
- Defeo, O., Puig, P., Horta, S. and Álava, A. de. 2011. Coastal fisheries of Uruguay. In: Salas, S., Chuenpagdee, R., Charles, A. and Seijo, J.C. (eds), *Coastal Fisheries of Latin America and the Caribbean*. FAO Fisheries and Aquaculture Technical Paper. No. 544. FAO, Rome, Italy.
- Dirección Nacional de Planificación Pesquera. 2016. Archivos de desembarques de la Pesca Marítima. Subsecretaría de Pesca y Acuicultura. Buenos Aires, Argentina Available at: https://www.agroindustria.gob.ar/sitio/areas/pesca_maritima/desembarques/.
- Estalles, M., Collier, N.M., Perier, M.R. and Di Giacomio, E.E. 2011. Skates in the demersal trawl fishery of San Matías Gulf: species composition, relative abundance and maturity stages. *Aquatic Living Resources* 24(2): 193–199.
- IUCN. 2020. The IUCN Red List of Threatened Species. Version 2020-3. Available at: www.iucnredlist.org. (Accessed: 10 December 2020).
- Last, P., White, W., de Carvalho, M., Séret, B., Stehmann, M. and Naylor, G. 2016. *Rays of the World*. CSIRO Publishing, Clayton.
- Lorenzo, M.I., Defeo, O., Moniri, N.R. and Zylich, K. 2015. Fisheries catch statistics for Uruguay. Working Paper Series. Fisheries Centre, University of British Columbia, Vancouver, Canada.
- Mateo, J. 2006. Sembrando anzuelos para tiburones. Las demandas vitamínicas de la II Guerra Mundial y el desarrollo de la pesca comercial marítima en Argentina (1943-1952). *Boletín del Instituto de Historia Argentina y Americana "Dr. Emilio Ravignani"* 29(3): 119–150.
- Port, D., Perez, J.A. and Menezes, J.T. de. 2016. The evolution of the industrial trawl fishery footprint off southeastern and southern Brazil. *Latin American Journal of Aquatic Research* 44(5): 908–925.
- Rodrigues, A.F.S., de Sousa Rangel, B., Wosnick, N., Bornatowski, H., Santos, J.L., Moreira, R.G. and de Amorim, A.F. 2019. Report of injuries in batoids caught in small-scale fisheries: implications for

management plans. *Oecologia Australis* 23(1): 78–89.

Tamini, L.L., Chiaramonte, G.E., Perez, J.E. and Cappozzo, H.L. 2006. Batoids in a coastal trawl fishery of Argentina. *Fisheries Science* 77: 326–332.

Vasconcellos, M., Diegues, A.C. and Kalikoski, D.C. 2011. Coastal Fisheries of Brazil. In: Salas, R. Chuenpagdee, A. Charles and J.C. Seijo (eds), *Coastal fisheries of Latin America and the Caribbean*, pp. 73-116. FAO, Rome.

Watson, R., Revenga, C. and Kura, Y. 2006. Fishing gear associated with global marine catches II. Trends in trawling and dredging. *Fisheries Research* 79: 103-111.

Weigmann, S. 2016. Annotated checklist of the living sharks, batoids and chimaeras (Chondrichthyes) of the world, with a focus on biogeographical diversity. *Journal of Fish Biology* 88(3): 837-1037.

Wosnick, N., Awruch, C.A., Adams, K.R., Gutierre, S.M.M., Bornatowski, H., Prado, A.C., and Freire, C.A. 2019. Impacts of fisheries on elasmobranch reproduction: high rates of abortion and subsequent maternal mortality in the shortnose guitarfish. *Animal Conservation* 22(2): 198–2016.

Citation

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External Resources

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Appendix

Habitats

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

Habitat	Season	Suitability	Major Importance?
9. Marine Neritic -> 9.4. Marine Neritic - Subtidal Sandy	Resident	Suitable	Yes
9. Marine Neritic -> 9.5. Marine Neritic - Subtidal Sandy-Mud	Resident	Suitable	Yes
9. Marine Neritic -> 9.6. Marine Neritic - Subtidal Muddy	Resident	Suitable	Yes

Use and Trade

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

End Use	Local	National	International
Food - human	Yes	Yes	Yes

Threats

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

Threat	Timing	Scope	Severity	Impact Score
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.1. Intentional use: (subsistence/small scale) [harvest]	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.2. Intentional use: (large scale) [harvest]	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.3. Unintentional effects: (subsistence/small scale) [harvest]	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.4. Unintentional effects: (large scale) [harvest]	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	2. Species Stresses -> 2.1. Species mortality		

Conservation Actions in Place

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

Conservation Action in Place
In-place research and monitoring
Action Recovery Plan: No
Systematic monitoring scheme: No
In-place land/water protection
Conservation sites identified: No
Area based regional management plan: No
Occurs in at least one protected area: Unknown
Invasive species control or prevention: Not Applicable
In-place species management
Harvest management plan: No
Successfully reintroduced or introduced benignly: No
Subject to ex-situ conservation: No
In-place education
Subject to recent education and awareness programmes: No
Included in international legislation: No
Subject to any international management / trade controls: No

Conservation Actions Needed

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

Conservation Action Needed
1. Land/water protection -> 1.1. Site/area protection
3. Species management -> 3.1. Species management -> 3.1.1. Harvest management
3. Species management -> 3.1. Species management -> 3.1.2. Trade management
3. Species management -> 3.2. Species recovery
5. Law & policy -> 5.1. Legislation -> 5.1.2. National level
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.2. National level

Research Needed

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

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

Research Needed
1. Research -> 1.3. Life history & ecology
1. Research -> 1.4. Harvest, use & livelihoods
2. Conservation Planning -> 2.1. Species Action/Recovery Plan
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.2. Harvest level trends
3. Monitoring -> 3.3. Trade trends

Additional Data Fields

Distribution
Lower depth limit (m): 140
Upper depth limit (m): 2
Habitats and Ecology
Generation Length (years): 7

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