



EAZA Biobank: Aquatic species priorities list for sampling

NOTE: This list is subject to change based on EAZA Biobank sample holdings, TAG/ EEP priorities and/or other factors as they arise. This list is intended to be used as a guide to initiate sample collection and not as an exhaustive resource.

For any species that is extinct in the wild, or in some way threatened, there should be an effort made to opportunistically collect at least one sample for biobanking. As classifications change frequently, any species that is classified as critically endangered, endangered, vulnerable, vulnerable to climate change, and even species of concern should be considered for sampling. Multiple samples can be taken for a single individual over time at separate sampling events, and a proportion of samples from a colony can be collected rather than each individual (i.e. 10%).

For more information, see the [EAZA Biobank aquatic species sampling protocol](#).

General considerations for prioritizing species for sampling:

1. Population programme: is it in an EEP, ESB, International studbook, Mon-P, etc?
2. Does the programme have a conservation role (insurance population; source for reintroduction) or a research role (genetics research)?
3. Threatened species: Assessed by the IUCN SSC Red List of Threatened Species as Extinct in the Wild or in one of the Threatened categories (Critically Endangered, Endangered, Vulnerable)
4. Is there a recommendation for in-situ or ex-situ breeding for the conservation of the species?
5. Is there hybridisation risk/taxonomy? Are multiple subspecies held within EAZA institutions, or is there a risk of hybridisation in the population, and/or lack of taxonomic clarity which may potentially complicate eventual reintroduction?

Classes of species held in aquariums that include the most species listed as Critically Endangered, Endangered and Vulnerable are **Actinopterygii, Elasmobranchii, and Anthozoa**.

Priorities by TAG

Freshwater Teleost

Important to sample species from threatened freshwater ecosystems.

From RCP, Families with species that have an ark role and should be sampled include:

Cyprinodontidae (incl. Aphaniidae) – Pupfishes

Goodeidae – Splitfins

Poeciliidae – Poeciliids

Cyprinidae

Examples:

Potosi pupfish (*Cyprinodon alvarezii*), La Palma pupfish (*Cyprinodon longidorsalis*), Charco Palma pupfish (*Cyprinodon veronicae*), Butterfly splitfin (*Ameba splendens*), Golden skiffia (*Skiffia francesae*)
Monterrey platyfish (*Xiphophorus couchianus*), Black fin tilapia (*Sarotherodon linnellii*), *Tilapia deckerti*

Marine Teleost

Wild caught individuals, especially those associated with coral reef habitats, especially if provenance is known:

Chaetodontidae: *Chelmon rostratus*, *Chaetodon Auriga*, *Chaetodon kleinii*, *Forcipiger flavissimus*
DNO species: *Chaetodon adiergastos*, *Chaetodon benetti*, *Chaetodon collare*, *Chaetodon melannotus*,
Chaetodon semilarvatus, *Chaetodon unimaculatus*, *Chaetodon xanthurus*, *Forcipiger longirostris*

Gobiidae: *Pandaka pigmea*, DNO species: *Coryrogobius lubbocki*, *Coryphopterus alloides*, *Elacatinus cayman*, *Elacatinus centralis*, *Elacatinus jarocho*, *Elacatinus lobeli*, *Elacatinus prochilos*, *Gobius tetrophthalmus*, *Gorogobius stevcici*, *Lythrypnus insularis*, *Pomatoschistus tortonesei*, *Tigrigobius harveyi*, *Tigrigobius nesiotes*, *Valenciennea puellaris*, *Valenciennea strigata*

Labridae: *Labroides dimidiatus*, *Cheilinus undulates*, *Labrus viridis*, DNO species: *Bodianus scrofa*,
Choerodon schoenleinii, *Lachnolaimus maximus*

Microdesmidae: *Nemateleotris decora*, DNO species: *Nemateleotris decora*

Blennidae: *Ecsenius bicolor*, *Ecsenius kurti*, *Ecsenius midas*, *Ecsenius randalli*, *Ecsenius tigris*, *Ecsenius tricolor*, *Hypsoblennius proteus*, *Meiacanthus abruptus*, *Salarias fasciatus*

Elasmobranch

Any species of concern (use IUCN listing as guidance)

Examples:

Smalltooth sawfish, *Pristis pectinata*

Tiger river stingray, *Potamotrygon tigrine*

Coral

Any species of concern (use IUCN listing as guidance)

Examples:

Elkhorn coral (*Acropora palmata*), Staghorn coral (*Acropora cervicornis*), Elegance coral (*Catalaphyllia jardinei*), Stony coral (*Porites pukoensis*), *Siderastrea glynni*, *Montastraea curta*

Jellyfish

Any species of concern (use IUCN listing as guidance)

Example: *Craspedacusta sowerbii*