DOLPHINARIA-FREE EUROPE

Seaside Sanctuaries: General Criteria for Sites and Operations

Prepared by Dolphinaria-Free Europe

1. Overview

The display of captive cetaceans to the public is undergoing an evolution. The public's image of aquarium and theme park dolphins and whales has changed, from happy circus clowns in the 1950s and 1960s, to serious environmental ambassadors in the 1980s and 1990s, to miserable intelligent beings in the 2010s and 2020s. There has been some public protest since the modern display of captive cetaceans began in 1937 in Florida in the United States, but starting in 1993, with the release of the feature film *Free Willy*, public perception of dolphinaria has shifted to a majority opposing them (*e.g.* Naylor & Parsons 2018).[1] The release of the documentary films *The Cove* in 2009 and *Blackfish* in 2013 accelerated this shift, with the public increasingly viewing the practice of keeping cetaceans captive in a negative light. Orcas in particular are now seen as profoundly suffering in captivity (Marino *et al.* 2020), which is reflected in the change in policies at aquariums and theme parks displaying this species (*e.g.* Parsons & Rose 2018; Boissat *et al.* 2021).

Consequently, sanctuaries in natural coastal areas (henceforth called seaside sanctuaries) meant to house captive cetaceans retired from performance are now being considered as alternatives for these former entertainers. A sanctuary for any species—not to be confused with natural habitat that has been set aside as a protected area for free-ranging populations of wildlife—is a place of refuge where captive individuals may live in a setting as close as possible to natural habitat, while remaining protected, provided for and attended by caregivers and veterinarians. The well-being and autonomy of individual animals is the priority at an authentic sanctuary. Such sanctuaries are in essence retirement facilities for animals rescued or removed from zoo display, circuses, laboratory use, the exotic pet trade and other exploitative situations. ***Authentic sanctuaries do not breed their residents nor use them for commercial purposes.***

Sanctuaries have existed for many years for terrestrial wildlife species, including elephants, big cats, bears and primates.[2] Therefore, the general blueprint—from operational and business perspectives—for a land-based sanctuary has been available and functioning for decades. However, the marine environment has a number of elements that make setting aside, and enclosing, part of it complex, legally, economically and logistically, more so than for a parcel of land. There is no private ownership of a part of the ocean; governments must give permission to set aside a body of water for human use (*e.g.* aquaculture, marinas). Seaside sanctuaries must secure similar permission.

However, despite these challenges, seaside sanctuaries fit the general model for terrestrial wildlife sanctuaries. Seaside sanctuaries would be natural areas (such as bays or coves), enclosed by nets, where cetaceans formerly held for display or research, unable or unwilling to return to a life of full independence in the wild, can be retired and allowed to behave in more natural and socially compatible ways. This summary of criteria for seaside sanctuaries is intended to inform the public,

[1] *E.g.* https://awionline.org/sites/default/files/press-release/ML-AWI-WDC-OrcaPoll-2014.pdf
[2] http://www.sanctuaryfederation.org/gfas/

the media, government officials, academics and any other interested parties of the general criteria any authentic seaside sanctuary must meet.

2. General criteria for a seaside sanctuary

a. *Siting*

Some dolphinaria are sea pens, which are sometimes better (acoustically or in terms of size) than concrete tanks for the animals (*e.g*. Ugaz *et al*. 2009, 2013), but may have unique complications associated with them. For example, some sea pen dolphinaria are located in highly polluted areas, biodiverse habitats that may be damaged by pen construction and operation, and/or hurricane zones (see, *e.g*. Rose & Parsons 2019). These commercial sea pen locations are selected more for their tourism value—accessible to high volumes of tourist traffic—than for the well-being of the animals.

Any seaside sanctuary project will need to take site selection very seriously and evaluate potential sites for natural and anthropogenic features. A seaside sanctuary site should have the following:

- A large, natural bay or cove with sufficient seawater exchange (flushing and tidal flow) to provide a clean, healthy environment
- Variable (species-appropriate) depth and range in natural topography and ecology, *e.g.* water temperatures, substrates and salinity
- Sufficient space to encourage freedom of movement, natural behaviour and the opportunity for individuals to spatially disperse from one another according to individual preference or in the event of social conflict
- Sufficient land area adjacent to the sanctuary to allow the construction of related infrastructure, including office space, veterinary facilities, a visitor's centre, laboratory space, staff housing and other related features
- Mitigation, or absence, of natural environmental risks, including powerful weather patterns (*e.g.* hurricanes)
- Mitigation, or absence, of any impacts from presence of potentially disruptive wildlife, *e.g.* natural predators, large numbers of noisy seabirds
- Mitigation, or absence, of anthropogenic threats, *e.g.* pollution, emerging diseases, harmful algal blooms and industrial fishing activity
- Mitigation, or absence, of excessive acoustic disturbance, *e.g.* from vessel traffic
- Adequate site accessibility (*e.g.* nearby airport for transporting animals to the site, roads, 'on the grid' to ensure adequate power for maintenance)
- Potential for adequate security precautions to protect from human disturbance

Security protocols will need to be developed that are commensurate with the specific concerns of any given location. Even in relatively remote locations, away from high human traffic areas, there will always be a risk of outside intruders penetrating a sanctuary perimeter and harming the residents, whether purposefully or inadvertently. Methods for monitoring the perimeter, directly or remotely, and for intervening should an incursion be noted, must be in place and in operation 24 hours a day. Security concerns are bidirectional; a sanctuary must also be designed to minimise the potential for resident escape into the surrounding environment (see sections 2b and c).

Local support for the facility is essential. Significant opposition from local members of the public, industry or government, for example, could prove an insurmountable obstacle to establishing a seaside (or indeed, any wildlife) sanctuary at any particular site. Strong, positive relationships with local law enforcement and government bodies are vital to ensure security. A plan for responsible vessel use in proximity to the sanctuary should be developed, to the mutual satisfaction of the

sanctuary and these parties. Sanctuaries should hire local workers where possible and partner with local conservation organisations, education institutions and tourism bodies.

b. *Construction and configuration*

A seaside sanctuary must meet all necessary local and national permitting requirements and have minimal impact on the natural environment, flora and fauna where it is located. The infrastructure needs to be able to withstand potentially damaging impacts from currents, tides, waves and weather, as well as biofouling of netting. A robust maintenance schedule needs to be adopted to protect sanctuary residents and ensure they cannot escape into the wider environment (see section 2c).

The sanctuary should consist of at least one large, main enclosure (on the order of multiple hectares/acres) where the residents will spend most of their time, as well as a series of holding and medical enclosures. The configuration of the sanctuary, including size, shape and layout of enclosures, will depend on the location and the needs of sanctuary residents, including relationships among them. If the sanctuary holds male and female individuals, additional enclosures may be needed to prevent breeding, if contraception is not considered a suitable option or its use is minimised (see section 2c).

Facility design must allow sanctuary residents to be monitored at all times, with staff on site (and the necessary facilities provided) as much as possible in any 24-hour period. In a location adjacent to the sanctuary (if at all possible, and nearby if not), a secure critical care pool should be constructed to house individual whales and dolphins arriving at the sanctuary site during a quarantine period and to help them recover from transport. It is also somewhere sick or injured individuals, who cannot be treated in the sanctuary or who become infectious, can be isolated for treatment (see section 2c).

A visitor's centre near or adjacent to the site where the whales and dolphins are held is optional but highly desirable for fostering a positive relationship with the public, given that the cetacean enclosure itself should not be open to the public. Public visitation to areas typically only accessible to staff may occur through guided tours, but these should be rare and for small groups, to minimise any impact on the resident cetaceans. A visitor's centre can thus serve as a more proximate link between the animals and the public than a website—the public can observe residents through livestreams from cameras established around the sanctuary perimeter and ideally could observe the residents 'in person' through binoculars or spotting scopes from the visitor's centre or established platforms within view of the sanctuary.

As much as possible, construction materials and practices should minimise impact on the surrounding terrestrial and coastal environment, including minimising risk of entanglement of local wildlife in netting.

c. *Veterinary care and husbandry*

In the unlikely event that individuals escape from the sanctuary, contingency plans must be prepared and implemented to recover the animals. These can include microchipping the animals and/or training them to respond to a recall signal, as well as having vessels and equipment ready to deploy to retrieve the escapees.

The residents of a seaside sanctuary would arrive in various states of health. Some might need minimal intervention on a daily basis, while others might need regular intensive veterinary intervention. A sanctuary must be able to provide for these varying levels of care.

Quarantine and medical enclosures and full veterinary facilities must be on-site. Bidirectional risk of disease transmission, from the residents to local wildlife in the surrounding environment and to the residents from local wildlife, must also be mitigated and addressed by the sanctuary and its design, including quarantine protocols.

In addition, routine veterinary monitoring for ingestion of foreign objects (*e.g.* rocks or leaves) must be provided. This type of behaviour has been observed in sea pen facilities (Reidarson & de Groot 2015) and this monitoring could include, *inter alia*, periodic ultrasound readings. While careful siting of the sanctuary can mitigate the potential for ingestion of foreign objects, the risk in natural habitat is unlikely to be fully eliminated, making monitoring essential.

Breeding must be prevented in an authentic sanctuary, so as not to increase the number of cetaceans requiring refuge. Although breeding is a natural aspect of any animal's life, captivity imposes a range of compromises on cetaceans (*e.g.* reduced space, no natural foraging). Captive cetacean husbandry already has established protocols to prevent breeding (*e.g*. to avoid inbreeding, overpopulation at a facility or hybridisation) and sanctuaries should consider and adopt those as needed. Various methods of preventing pregnancies may be combined (such as chemical contraceptives with periodic physical separation of the sexes) or a sanctuary may only accept one sex. Whichever methods or combinations are used, they must be effective and humane.

d. *Sanctuary residents*

Generally speaking, potential sanctuary residents will become available when display facilities close, downsize, alter policy or otherwise seek to find alternative housing (voluntarily or for legal reasons) for animals in their care. Criteria for assessing the compatibility of potential individual residents should be established with experienced whale and dolphin veterinarians, behavioural biologists and, where possible, with the animals' display facility caregivers.

It cannot be assumed that all seaside sanctuary residents will be compatible. Infrastructure must provide for the permanent and humane separation of incompatible animals, should this become necessary. This may include the ability to sub-divide enclosures or to expand the existing footprint of the sanctuary (*e.g.* by netting off additional coves or bays adjacent to the original enclosure(s)).

If at all possible, transfers should be scheduled once animals are known to be in good physical health, with normal respiratory function, good mobility (swimming and diving), robust appetites and weight stability. In emergencies, however, animals transferred to a sanctuary without these determinations should remain in quarantine until these parameters are achieved. Medical and husbandry records from the facility of origin should be transferred with every individual.

If possible, training regimes should be adapted prior to transport to encourage physical fitness and prepare individuals for the move to the sanctuary, including stretcher familiarity. Additional enrichment may be required to maintain mental and physical health in the sanctuary, including through interactions with staff and objects familiar to residents (see section 2g). Maintaining trust with the care team will help residents remain comfortable approaching staff and care areas within the sanctuary to facilitate routine veterinary examinations, as well as in the event of needed medical intervention or emergency relocation.

If at all possible, a seaside sanctuary should become part of the local stranding network. Residents may at times include recuperating rescued animals, where the goal is release back to the wild. These free-ranging animals undergoing rehabilitation should be isolated from the permanent sanctuary residents as directed by sanctuary and stranding network veterinarians and held in the quarantine facility if found to harbour infectious pathogens.

e. *Transport*

International transport of animals (including cetaceans) is governed by the International Air Transport Association.[3] All animal transports must meet their Live Animal Regulations. Beyond these

[3] https://www.iata.org/en/publications/store/live-animals-regulations/

standards, a veterinarian or veterinarian team qualified in cetacean care should perform a full set of diagnostic tests before transport to a sanctuary. A transport plan should be designed that enables transfer to the sanctuary site as quickly as possible, while ensuring maximum safety and minimum welfare impact for animals and staff. Contingency plans must be developed for every stage of transport.

f. *Food*

Cetaceans are known to have culture (Rendell & Whitehead 2001); this means they learn much of what they know and do, including their vocalisations, their food preferences, their foraging behaviours and even maternal and mating behaviour, from each other.

Cetaceans held from a young age or born in captivity will have 'captive culture';[4] for example, to a captive-born cetacean, food is dead fish, often specific species (such as herring or mackerel). Therefore, any seaside sanctuary will need the infrastructure (such as a large freezer with reliable power and access to high quality frozen fish) to cater to the food preferences of its residents. Even if some residents come to see live fish swimming within the boundaries of the sanctuary as food (and this could be a source of enrichment—see section 2g), others may never do so and may need hand-feeding with dead fish for their entire tenure within the sanctuary. If feeding live prey is governed by local legislation, this must be followed. If live prey are to be provided, as primary nutrition or enrichment, a good relationship with the local fishing community would be key.

If live fish are to be the sole source of nutrition for some residents, then a method of monitoring food intake (such as periodic weighing or blubber thickness measurements) must be established. While it is tempting to assume residents can self-regulate food intake when relying on live prey, this is optimistic. Cetaceans can endure significant periods of inadequate caloric intake before exhibiting visible weight loss, making monitoring essential.

Food waste should be monitored, as an accumulation of such waste within the boundaries of the sanctuary (or flushed out of it to accumulate elsewhere down-current) can harm the local environment.

g. *Enrichment*

A seaside sanctuary will have far more stimulation, from natural elements in the environment, than any dolphinarium tank or sea pen. Nevertheless, it will still be only a microcosm of the marine environment. Therefore, enrichment should be designed and implemented to keep these intelligent mammals from becoming bored or frustrated (see section 2c regarding foreign object ingestion—when this occurs, it is likely due to lack of enrichment). Each sanctuary will have unique opportunities for enrichment (artificial and natural), far broader than what is available in conventional enclosures, and every effort should be made to develop and diversify enrichment for sanctuary residents to maximise their well-being.

h. *Staffing*

A seaside sanctuary will have various areas requiring staff, *e.g.* the sanctuary itself (animal care), the visitor's centre (if there is one), administration, fundraising (see section 3), legal and communications. The sanctuary staff will require an expert animal care team, veterinary support, maintenance personnel, divers and boat handlers. A visitor centre will require a public and education outreach team, as well as merchandise sales staff.

[4] This is not meant to imply that 'captive culture' is equivalent to natural culture. In fact, in terms of complexity, enrichment and suitability for the cetacean species involved, any captive culture is highly likely to underserve the psychological needs of the individuals who experience it.

Expertise may be found in the local community and therefore provide local employment opportunities; whenever a position can be filled locally, it should be. Animal care staff from the facility of origin may be willing to move temporarily or permanently to the sanctuary, ensuring continuity and familiarity for the cetacean residents. If such staff are not able to transfer to the sanctuary with the residents, it is still important to gain their support for the move to ensure the necessary preparations for transfer go smoothly.

3. Costs and revenue

As noted above, an authentic sanctuary does not use its residents for commercial purposes. The well-being of the individual animals is paramount. However, running a wildlife sanctuary is expensive and a seaside sanctuary for cetaceans may prove more so than a terrestrial sanctuary. A steady, reliable revenue stream for operating costs must be secured before a sanctuary proceeds, as the responsibility of those undertaking such projects to future sanctuary residents cannot be understated.

The capital and operating costs of any particular seaside sanctuary will vary depending on location, local economic conditions and even species. In addition, residents with greater veterinary needs will lead to higher operating costs than those with fewer such needs. The number of residents, which may fluctuate, will also affect operating costs. It is therefore impossible to offer even general 'ballpark' estimates of either capital or annual operating costs, but the former will reach millions of US dollars, whereas the latter will likely be at minimum in the hundreds of thousands.

As previously noted, terrestrial wildlife sanctuaries exist globally and have established revenue-generating mechanisms that any future seaside sanctuaries can copy. Sanctuaries should be established as not-for-profit organisations, to maximise access to fundraising opportunities and secure a stringent set of operating principles in the event of staffing or board/trustee membership change. To generate revenue, a sanctuary could have a visitor's centre (see sections 2b and h), with an entrance fee, which will educate the public on, *inter alia*, the resident species, conservation issues and welfare topics. Public viewing of the animals, *e.g*. through binoculars and/or spotting scopes, can occur from this facility or other established viewing platforms (see section 2b). Public donations are a mainstay. Big donors must be identified and cultivated. Eventually corporate donors may become a revenue source, but great care will need to be taken to ensure conflicts of interest are identified and addressed.

All current and potential funders in sanctuary operations should be kept apprised of sanctuary developments and operations through regular communications updates. A robust communications plan will help manage public and donor expectations.

4. Conclusion

Authentic seaside sanctuaries for cetaceans retired from the entertainment industry have long been needed. While facilities facing financial troubles have for some time been willing to consider the possibility of sending whales and dolphins to a sanctuary, such a location simply did not exist. Two are now operational and are proof of concept.[5] One provides sanctuary for two belugas but with space for more. The belugas were caught from the wild, held for several years as performers in a concrete tank in China, and are now in a sanctuary in Iceland. The other provides refuge and ongoing rehabilitation for three locally captured bottlenose dolphins, held for swim-with encounters for

[5] https://uk.whales.org/our-4-goals/end-captivity/creating-sanctuaries-for-whales-and-dolphins/ and https://www.dolphinproject.com/campaigns/indonesia-campaign/bali-sanctuary/

several years in a small hotel swimming pool, and now housed in a non-commercial sea pen complex in Indonesia. Several other projects are progressing, for cold- and warm-water species, in North America, Europe and Australia.

Seaside sanctuaries will likely never be able to accommodate all the captive cetaceans in need of such refuge. Many individuals will unfortunately remain where they are and discussions on methods for assessing welfare in traditional dolphinaria are developing (see *e.g*. Clegg *et al.* 2017).[6] But eventually it is hoped that a series of seaside sanctuaries will exist globally, accommodating tens to hundreds of animals. This document is meant to offer an outline of the stringent criteria and initial standards any project must meet to be considered a suitable, adequate and authentic seaside sanctuary.

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[6] Although there are various ways to improve cetacean welfare in commercial dolphinaria, these cannot justify continuing to display cetaceans in captivity, given the inherent welfare concerns.