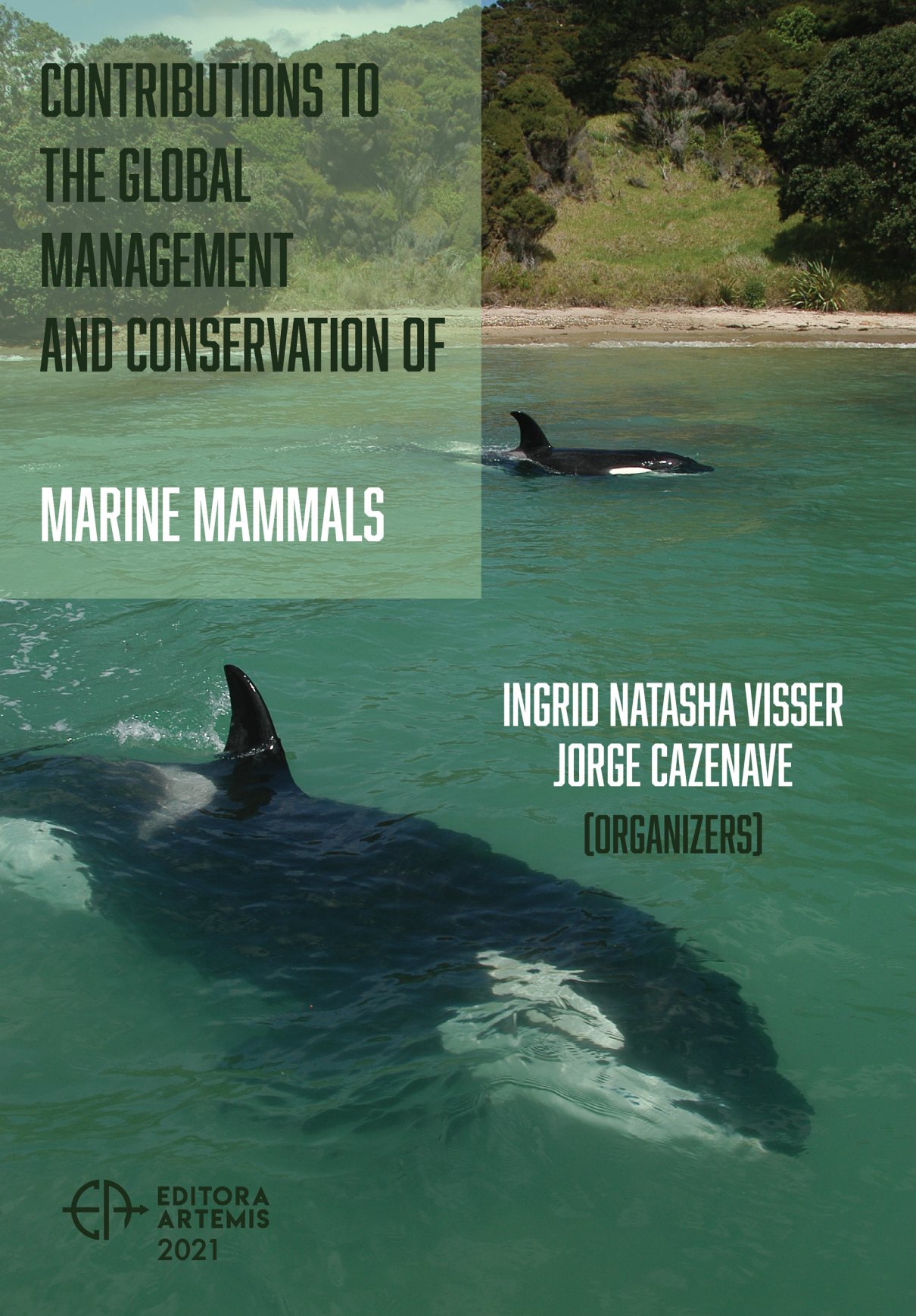
CONTRIBUTIONS TO THE GLOBAL MANAGEMENT AND CONSERVATION OF MARINE MAMMALS



INGRID NATASHA VISSER
JORGE CAZENAVE
(ORGANIZERS)

EDITORA ARTEMIS
2021

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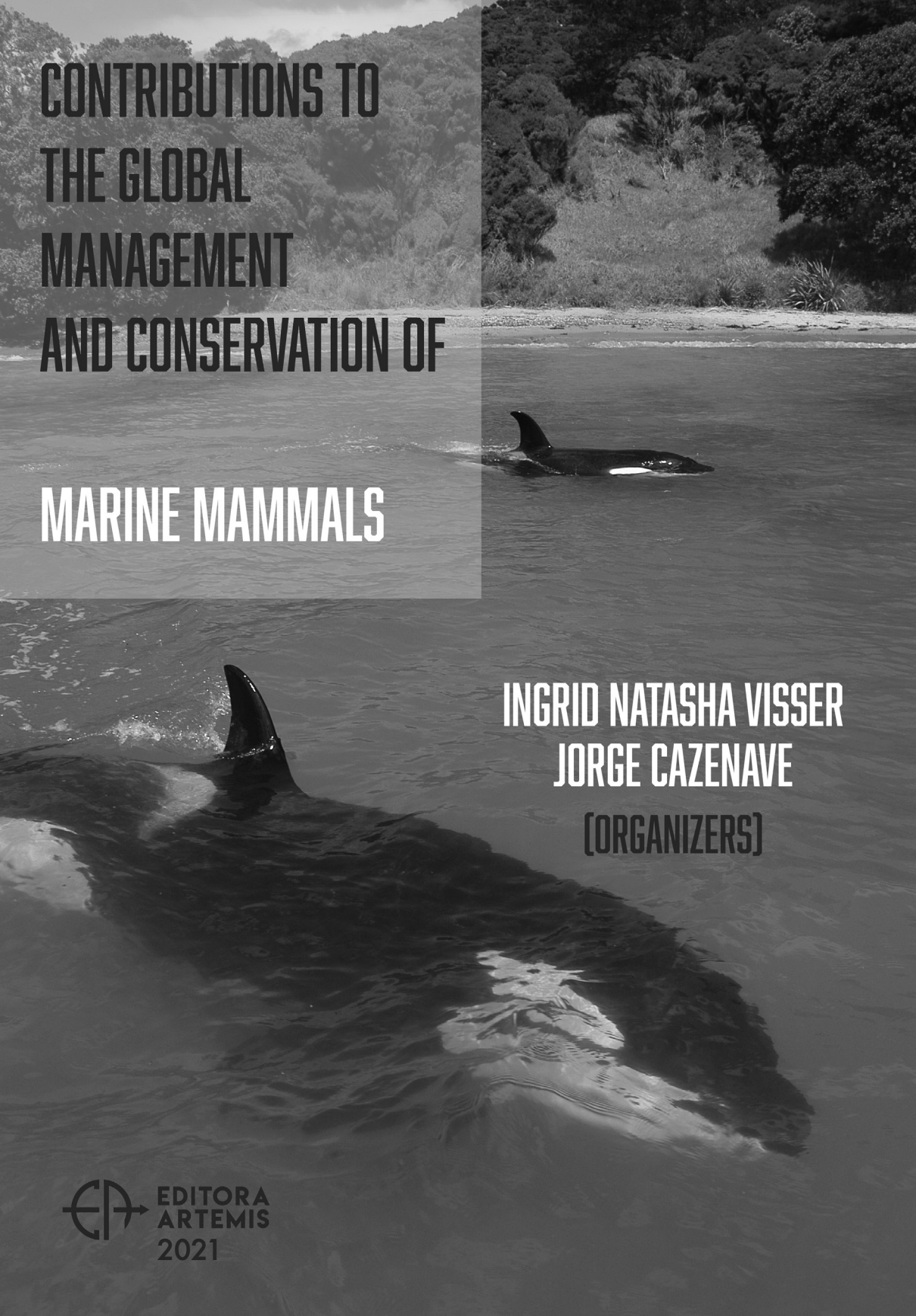

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Imagem da Capa New Zealand orca, foraging for rays in close to the coastline.
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PREFACE

Contributions to the Global to Management and Conservation of Marine Mammals.

I write the introduction to this book after just having returned from a day out researching wild orca along the New Zealand coastline. During that encounter I had the opportunity to not only see the orca hunting for rays in the shallow waters, but an adult male orca, known to me since he was born, became stranded as he followed his family over a sand bank. His calm demeanour was indicative to me that he had experienced such an event before. Whilst stranded, he patiently tested the water depth, and his ability to get off the sand bank, by gently rolling from side to side every 10 mins or so. During the time that he was stranded our team poured water over him in order to prevent his skin drying out. Eventually the tide had returned enough for him to focus all his energy into getting off and into deeper water. Within minutes of freeing himself he was back with his family and within an hour he was catching rays again. It struck me as I was watching him, that he was around 30 years old, older than I was when I started studying his family. The changes he had seen in his lifetime are changes that I've documented too. Encroachment into his habitat with new marinas, wharfs, reclamation and dredging. Exclusion from prime hunting area from all of these man-made features as well as aquaculture farms expanding so fast it is hard to document them all. He has seen the numbers of vessels increase exponentially and the volume of noise pollution expand with it. He has experienced raw sewage flowing around him when he has entered into harbours and he has swum past floating garbage and viewed sunken junk discarded in his home. He has seen members of his social network drown when entangled, die when stuck on a beach and suffer from severe wounds when hit by boats. It is a wonder he has survived as long as he has with all this and more that he must contend with. But, despite all these negative aspects, there is some hope; New Zealand now has more than 30 marine reserves (protected areas to prevent fishing and habitat destruction). Although they are comprised of only a tiny part of the entire coastline, they are a start. I also see a growing number of scientists, lawyers, researchers and field biologists interested in contributing towards conservation and management issues. My hope is that this volume will provide a platform for some of those studies to reach a wide audience and to make a difference for individual cetaceans, their populations and the habitats that they not only live in but require to survive. The book is arranged by author, rather than, species, region or topic as the first two categories ranged across multiple species and around the globe and yet at times also overlapped, whilst the topics were just as diverse.

Ingrid N. Visser (PhD), New Zealand

In December 2019, the Society for Marine Mammalogy (SMM) and the European Cetacean Society (ECS) jointly hosted the World Marine Mammal Conference in Barcelona, Catalonia, Spain. That conference, the starting point for gathering the authors of this book, was the largest gathering of marine mammologists that had ever occurred, with over 2,700 registered attendees, from more than 90 countries. It was only the second World Marine Mammal Conference, with the first being in 1998 in Monte Carlo, Monaco (and where approximately 1,200 people from 50 countries attended). With the Covid-19 pandemic now rampant across the globe it may be many years before such a similar gather occurs again. Regardless, the work of all those conference attendees will continue and this volume is just one of the many published works that are resulting from ongoing research.

TABLE OF CONTENTS

CHAPTER 1 1

ARGENTINEAN ORCA (*ORCINUS ORCA*) AS AN UMBRELLA SPECIES: CONSERVATION & MANAGEMENT BENEFITS

Juan Manuel Copello
Gabriela Bellazzi
Jorge Cazenave
Ingrid Natasha Visser

DOI 10.37572/EdArt_1003212861

CHAPTER 2 28

INCREASING THE UNDERSTANDING OF MULTISPECIES FEEDING EVENTS IN MARINE HOTSPOTS BY MEDIUM TERM INSTRUMENTATION AND TRACKING

Lars Kleivane

DOI 10.37572/EdArt_1003212862

CHAPTER 3 31

PARASITAS COMO ELEMENTOS INTEGRAIS DA BIOLOGIA DOS CETÁCEOS: O DIGÊNEO PHOLETER GASTROPHILUS COMO ESTUDO DE CASO

Claudia Pons Bordas
Natalia Fraija Fernández
Mercedes Fernández Martínez
Francisco Javier Aznar Avendaño

DOI 10.37572/EdArt_1003212863

CHAPTER 4 52

STRANDING MONITORING PROGRAMMES ON BRAZILIAN COAST: ANALYSIS OF REPORTS

Adriana Vieira de Miranda
Pedro Friedrich Fruet
Juan Pablo Torres-Florez
Glaucia Pereira de Sousa
Matheus Lopes Soares
Fábia de Oliveira Luna

DOI 10.37572/EdArt_1003212864

CHAPTER 5 ..... **59**

WILDLIFE CONSERVATION AND PUBLIC RELATIONS: THE GREENWASHING OF MARINE MAMMAL CAPTIVITY

Ingrid Natasha Visser
Natalie Nicole Barefoot
Matthew Volk Spiegl

DOI 10.37572/EdArt_1003212865

CHAPTER 6 ..... **102**

TRIALS AND TRIBULATIONS: THE CONSERVATION IMPLICATIONS OF AN ORCA SURVIVING A STRANDING AND BOAT STRIKE. A CASE STUDY.

Ingrid Natasha Visser
Tracy E. Cooper
Terry M. Hardie

DOI 10.37572/EdArt_1003212866

ABOUT THE ORGANIZERS **149**

INDEX **150**

CHAPTER 5

WILDLIFE CONSERVATION AND PUBLIC RELATIONS: THE GREENWASHING OF MARINE MAMMAL CAPTIVITY

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Ingrid Natasha Visser
Orca Research Trust
Tutukaka, New Zealand
ORCID 0000-0001-8613-6598

Natalie Nicole Barefoot
Cet Law
Florida, USA
ORCID 0000-0002-8892-7788

Matthew Volk Spiegl
Free Morgan Foundation
Monterey, California, USA
ORCID 0000-0003-0750-4976

ABSTRACT: Genuine wildlife conservation and management typically requires participation by all sectors of humanity, *inter alia* the public, NGO's, commercial businesses and governments. With so many stakeholders involved, there is great potential for management success and real conservation impacts to be made at the individual animal level, as well as at the population level. Conversely, there are some who claim to be conducting wildlife conservation, yet they prioritize 'box office' proceeds/income, whilst also 'greenwashing' their image by using distorted messaging in order to solicit funds, garner public sympathy and create social license. Ironically, despite claims of 'wildlife conservation', these actions can have dire consequences for the management and conservation of both free-ranging and captive populations. We provide examples through the lens of marine mammals of how greenwashing transpires in the captivity industry, which include: rescue; rehabilitation and release programs; breeding programs; informing and educating the public; animal interactions; investments in conservation; and wildlife sourcing. Further, we discuss the effects of greenwashing activities on both *in situ* and *ex situ* conservation and furnish examples of good practices which support wildlife conservation. Inappropriate practices and interactions with captive marine mammals cause harm to the very same animals which the facilities are meant to protect and send the wrong messages to the public. The responsibility lies with the individual trainers, the facilities, and their membership associations to phase out these archaic practices. We conclude that ethical wildlife conservation can and should be achieved through realigning business models to better reflect true wildlife conservation messaging and management.

KEYWORDS: greenwashing, captivity, rescue, rehabilitation, entertainment.

PRESERVAÇÃO DA FAUNA SELVAGEM E RELAÇÕES PÚBLICAS: O BRANQUEAMENTO ECOLÓGICO DO CATIVEIRO DE MAMÍFEROS MARINHOS

RESUMO: A real preservação e gestão da fauna selvagem normalmente requerem a participação de todos os setores da humanidade, incluindo, entre outros, o público, organizações não-governamentais, empresas comerciais e governos. Devido à existência de muitas partes interessadas e envolvidas, há grande potencial de sucesso na gestão dos resultados reais de preservação a serem realizados no nível de animais individuais, bem como no nível populacional. Por outro lado, há pessoas que alegam estar preservando a vida selvagem ao mesmo tempo em que priorizam receitas e lucros de bilheteria por meio do *greenwashing* (branqueamento ecológico) de sua imagem, utilizando mensagens distorcidas para arrecadar fundos, conquistar a simpatia do público e obter a aprovação da sociedade. Ironicamente, e apesar das afirmações de "preservação da vida selvagem", tais ações podem gerar consequências graves para a gestão e a preservação das populações selvagens e daquelas mantidas em cativeiro. Fornecemos aqui alguns exemplos de *greenwashing* relacionado a mamíferos marinhos e de como ele se perpetua pela indústria de animais em cativeiro, incluindo programas de resgate; reabilitação e soltura; programas de procriação; informação e educação do público; interações com animais; investimentos em preservação; e a aquisição de animais selvagens. Além disso, discutimos os efeitos do *greenwashing* na preservação *in situ* e *ex situ* por meio de exemplos de boas práticas que favorecem a preservação da vida selvagem. Tal responsabilidade recai sobre os próprios treinadores, instalações e suas associações, visando descontinuar práticas e interações inadequadas com mamíferos marinhos em cativeiro, visto que prejudicam os mesmos animais que alegam proteger, além de passarem mensagens equivocadas para o público. Por fim, concluímos que a preservação ética da vida selvagem pode e deve ser alcançada ao se redefinir os modelos comerciais, de modo a melhor transmitir a mensagem e melhor gerir a verdadeira preservação da vida selvagem.

PALAVRAS-CHAVE: branqueamento ecológico, cativeiro, resgate, reabilitação, entretenimento.

I. INTRODUCTION

A key element of maintaining conservation programs in aquariums and zoos is the engagement of the stakeholders who fund, influence, and sometimes implement and govern them. Vital to all of this are public relations (PR) which, since the 1940's, have been recognized as an intrinsic part of moving a wildlife conservation program forward (Schoenfeld, 1957). In order to implement conservation programs, most, if not all, aquariums and zoos, as well as their membership-based associations, have dedicated PR departments who promote the work that the entity is conducting and, for example,

"*position* [themselves] *as the world's preeminent wildlife conservation association"* (Association of Zoos and Aquariums, 2020a).

PR can inspire, educate and have powerful effects. However, it can also be detrimental when it is in the form of 'greenwashing' (i.e., disinformation presented by an entity so as to present an environmentally responsible public image). Greenwashing can occur in several different manners at aquarium and zoo facilities, including but not limited to: the dissemination of misinformation or propaganda, which may also be disguised as education; normalising inappropriate or harmful interactions with animals (Figure 1); implementing breeding programs that do not support conservation; creating 'rescue' programs that in fact facilitate the acquiring of, or continued captivity of animals; and camouflaging the way in which animals are sourced. In all instances greenwashing is harmful to animals, whether *in situ* or *ex situ* populations.

Furthermore, wildlife conservation PR at aquariums and zoos may be used to solicit money from the public who believe they are contributing to the wellbeing of individuals in captive collections and helping to conserve wild populations, but which may not be the case in instances of greenwashing. Greenwashing also undermines the work of conservationists in the field and could taint those marine mammal captive facilities which do infuse legitimate conservation through their education, programs and practices.

When greenwashing occurs, it needs to be exposed by both the public and peers, and the individuals and institutions involved must be held accountable. The prevalent nature of greenwashing by the industry can have a desensitizing effect on the general public, caused by the constant PR drumbeat and an ever changing (drifting) rationale in search of the right 'message' to legitimize captive 'entertainment'. There are, however, examples of facilities which do not employ greenwashing and use PR to genuinely educate the public, demonstrating that authentic wildlife conservation programs are achievable.

In this chapter, we look at marine mammal captive facilities, which include sanctuaries, rescue and rehabilitation centres, research centres, aquariums and zoos, which we refer to as specific facilities or collectively as 'the industry', and the PR that they use for wildlife conservation messaging. This is not a comprehensive global analysis, but rather highlights examples of PR and practices that can support or undermine wildlife conservation programs. Our analysis focuses on the following key points of greenwashing by the industry, highlighting the detrimental ripple effect that greenwashing has on the public and the animals, and compares these with examples of best practices:

- Rescue, Rehabilitation & Release
- Breeding Programs
- Informing and Educating the Public

- Animal Interactions
- Investing in Conservation
- Wildlife Sourcing

The dichotomy between principle and income plagues every business sphere and as such it is not a new phenomenon, or one unique to the field of wildlife conservation (Watson, 2017). Wildlife (in these examples marine mammals), unlike their human counterparts, have no direct recourse of their own and should not bear the costs of putting 'box office' proceeds/income before principle. Captive facilities ask that marine mammals under their care be ambassadors for the species; accordingly, it is only fair that facilities be ambassadors of how to treat marine mammals with respect and dignity.

Figure 1. The mixed messages exhibited by some facilities are clear. Here, two higher-echelon trainers mimic 'surfing' on two orca forced into shallow water at SeaWorld Parks & Entertainment in Orlando, Florida USA. The younger orca (right) not only has its blowhole nearly submerged, but the spine, neck and skull are not fully developed at this young age (the calf was approximately 1.5 years old during this event and as such skeletal structures were potentially impacted by the weight of an adult male human standing on her). Normalising harmful interactions such as this contradicts the PR of respect, kinship and bonds as well as any conservation messages. It may also have spillover effects with interactions in the wild and draws into question the management cultures of facilities, as well as the fee-based and industry-driven associations which find practices such as this acceptable. Photo supplied to authors (*circa* 2009).

II. RESCUE, REHABILITATION & RELEASE

The Triple-R's (Rescue, Rehabilitation, Release) are positive conservation measures, if conducted appropriately. Through Triple-R programs, the industry can play a vital role in mitigating the damaging effects that humans have on marine mammals in the wild. However, some within the industry greenwash by using only part of this process, i.e., 'rescues', as a socially acceptable source for collecting cetaceans to stock their facilities. Although we recognise that particular individuals who have been rescued may not be suitable candidates for return to the wild (e.g., those who were injured in such a way as to be unable to survive), others, who may be contenders for release, are at times handled in a manner to prepare them for captivity rather than their potential release, creating self-fulfilling prophecies. The rescued animals may at that point become commodities, and exploited through trading, for breeding, in shows and also used in pay-to-experience programs for public entertainment. When rescued animals are not released, these individuals are effectively prevented from contributing to the wild populations (Lott and Williamson, 2017) and thus to wildlife conservation.

One study found at least 13 facilities around the world are using 13 different species of 'rescued' cetaceans for commercial purposes and although the data allowed for an analysis at the species level, it precluded the study from ascertaining the exact number of individual animals rescued and retained (Visser, 2015). Whilst genuine sanctuaries typically have 'open books' and online access to their animal databases, conversely many who are conducting greenwashing generally keep their records as closed as possible to public scrutiny (e.g., necropsy reports, Rally et al., 2018).

However, in some cases records can be obtained through official government document requests and from one such instance, preliminary research shows that between 1984-2013 at least 90 cetaceans were taken in by SeaWorld Parks & Entertainment USA ("SeaWorld") as part of their rescue program (Office of Protected Resources, 2015). The data also indicates that 66 died and of the remainder, only two were released (one each in 1995 and 1997). What happened to the other twenty-two animals is unclear, however four of them are likely the 'rescued' short-finned pilot whales (*Globicephala macrorhynchus*) who have been, or currently are, part of SeaWorld's collection and are performing in shows (SeaWorld Entertainment Inc, 2019).

In contrast, there are examples of altruistic marine mammal wildlife conservation efforts, such as the Sea Otter Program, conducted at the Monterey Bay Aquarium, Monterey , California USA. That program has rescued, rehabilitated and released scores of sea otters (*Enhydra lutris*) as part of its conservation efforts (Johnson and Mayer, 2015).

The rescue, rehabilitation and release of one of its most famous alumni, otter "501" was chronicled in a feature film "*Saving Otter 501*" (Shelly and Talbot, 2012; Spiegl, 2012). Since 2001, the facility has released over 100 rehabilitated sea otters back into the wild (many tagged with transmitters and flipper tags to facilitate long-term monitoring), including 37 surrogate-reared pups utilizing a stringent protocol for human interactions (Hetter, 2019), (Figure 2).

Figure 2. When young sea otters are rescued in the Monterey Bay area, appropriate protocols for interactions are utilized and maximise the potential for return to the wild. Caregivers at the Monterey Bay Aquarium, California, USA, wear what is affectionately termed the "Darth Vader" suit, so that the young sea otter does not imprint or associate a positive experience with humans. This is in stark contrast to the bottle feeding done at some facilities breeding animals (see Figure 3). Furthermore, the sea otter pups are placed with surrogate adult sea otters, before being released, in order for them to learn how to forage, groom and generally survive like a wild otter. Photo © Angela Hains / Monterey Bay Aquarium (2019).

These types of programs fulfil legitimate conservation needs whilst facilitating bona fide research by scientists and responsibly educating the general public. Instilling 'the next generation' with a genuine appreciation of the value of wildlife conservation and the role we (humans) play in our coexistence with all animals and as an inherent part of an authentic conservation program.

Keeping a focus on California, two other marine mammal facilities provide examples of conducting laudable conservation work. In Laguna Beach, the Pacific Marine Mammal Center, a non-profit organization, performs rescues and strives to release all its animals back into their natural habitat. The facility does not charge for guests to visit and provides online live cameras for the public to view the 'patients', who on average stay for three months (Pacific Marine Mammal Center, 2020). Similarly, the Marine Mammal Center

in Sausalito includes a 'patients' page on its website with updated information on each animal being cared for on-site, as well as a 'released' page with details on each individual case (more than 100 animals are listed as being released from January - September 2020 alone) (Marine Mammal Center, 2020).

We note that such legitimate marine mammal conservation work is found all around the world and includes programs of various sizes, many of which concentrate their work locally or on specific species. Just one example is the Wildtracks Manatee Rehabilitation Centre in Belize which focuses on the endangered Antillean manatee (*Trichechus manatus manatus*). They use a 'soft' release program where the animals choose when they wish to leave or to return for supplemental feeding until the point that they are fully integrated into the wild. The facility works closely with a wide variety of national and local entities to promote integrated biodiversity solutions (e.g., linking forests to the oceans) (Wildtracks, 2020). Their education program has had long-term and far reaching impact in the community and for wildlife conservation;

> *"Past students have grown to be environmental stewards, now leading conservation organizations, sustainable tourism initiatives, and inspiring new generations - demonstrating the success of sustained outreach programs."* (Wildtracks Education, 2020).

III. BREEDING PROGRAMS

Under the EU Zoos Directive, captive breeding of species is recognized as a legitimate conservation measure – but only *"where appropriate"* (Article 3, Council Directive 1999/22/EC.) With that in mind, and using the largest of the dolphins as an example species (albeit that one could frame this for almost any marine mammal species), one might ask when, if ever, is it appropriate to breed orca (*Orcinus orca*) in captivity for *"conservation purposes"*? The species is considered 'Data Deficient' (Reeves et al., 2017), notwithstanding that some populations are listed as endangered and one of those is ironically placed in this position due to extractions from wild populations for display in aquariums (Pollard, 2014).

Seventy orca have been born in captivity (33 living and 37 deceased as of September 2020, Inherently Wild, 2020), yet not one could be released into the wild, due to a range of issues such as imprinting on humans and/or erosion of an individual's ability to function in the wild through lack of survival skills. Therefore, each had little, if any, ability to contribute to genuine conservation of the species.

Different jurisdictions, including the State of California (California Legislature, 2016) and Canada (Parliament of Canada, 2019), have recently recognized that breeding

orca in captivity provides no conservation benefit and have therefore prohibited it. In the USA, SeaWorld voluntarily agreed to stop its practice of breeding orca (including artificial insemination), after accepting society's growing distaste for this practice (Hampton and Teh-White, 2019). SeaWorld, which held the largest collection of orca in the world, announced this historic action on the 17th of March 2016, stating;

> *"Now we need to respond to the attitudinal change that we helped to create — which is why SeaWorld is announcing several historic changes. This year we will end all orca breeding programs — and because SeaWorld hasn't collected an orca from the wild in almost four decades, this will be the last generation of orcas in SeaWorld's care. We are also phasing out our theatrical orca whale shows."* (Manby, 2016).

But marine parks holding orca in other locations continue this practice in the name of so-called 'conservation'. For example, the Chimelong Group in Zhukai, China, holds nine wild-caught orca from the Sea of Okhotsk, Russia; five males and four females. The facility apparently aims to "*raise public awareness about killer whales and their conservation status*" whilst breeding them (Actman, 2017). Another facility, Loro Parque, in Tenerife, Spain, displays bottlenose dolphins (*Tursiops truncatus*), California sealions (*Zalophus californianus*) and orca in daily circus-like shows, yet label themselves as a 'conservation center' (Loro Parque, 2020a). In 2016, when the SeaWorld company orca breeding ban was announced, all six of the orca housed at Loro Parque were listed as belonging to SeaWorld, including a rescued, wild-born female orca from Norway, named Morgan. Despite assurances by SeaWorld, that the breeding ban extended to cover those orca held at Loro Parque (McManus, 2017; Free Morgan Foundation, 2019), Loro Parque was clearly on the radar as not accepting the breeding ban;

> *"For the last year, we* [Humane Society of the United States] *have been advocating that SeaWorld challenge attempts by Loro Parque to breed Morgan with any of the orcas it transferred there ...Loro Parque, which, like SeaWorld, had a chance to embrace the high ground by making a commitment not to breed orcas... we're also outraged by Loro Parque's rejection of the understanding we reached with SeaWorld. What the team at Loro Parque is doing cuts against the swell of feeling that keeping orcas in captivity is an enterprise that should be phased out with all deliberate speed."* (Pacelle 2017).

Disregarding public sentiment and SeaWorld's company policy, in 2017, Loro Parque bred Morgan with a captive-born orca from SeaWorld's breeding stock, named Keto (Loro Parque, 2020b). This resulted in the birth of an anthropogenic genetic hybrid female orca named Ula (Black Cove, 2018; Free Morgan Foundation 2019, Figure 3). Not only was Keto not an ethically suitable individual for breeding as he had killed trainer Alexis Martinez at Loro Parque in 2009 (Zimmerman, 2010; Zimmermann, 2011), but the scientific consensus is that Ula cannot be released into the wild in order to contribute to

conservation as she is not genetically representative of any wild orca population (IUCN/SSC, 2013; Rose and Parsons, 2019) and rather is from stocks that are widely-divergent ecotypes/hybrids, which would naturally be geographically isolated (Spiegl and Visser, 2015).

A baby orca, however, is a powerful PR tool to draw in visitors and boost ticket sales in the name of wildlife conservation, even though its birth is clearly not contributing to *"conservation purposes"*. Although it could be argued that in the past the captive breeding of orca slowed the pace of wild-takes for a period, the PR-driven orca shows concurrently doomed generations of orca – both wild and captive – to an association with a corporate logo and their plush merchandizing blitzes that raked in hundreds of millions of dollars for the captive facilities (Ventre and Jett, 2015; Lott and Williamson, 2017).

Figure 3. This orca calf called Ula, was born in captivity. Shortly after her birth, she was separated (by the staff at Loro Parque) from her wild-born mother (Morgan). Ula was hand fed and thereby allowed to imprint on the trainers. The calf exhibits a malformed melon and some type of pathology (skin problems are visible in the variable pigmentation in the pale eye patch and in the (not shown) left pectoral fin) (Voice of the Orcas, 2019). In nature, orca are one of the most socially complex species of animals documented (Rendell and Whitehead, 2001), however all three orca calves born at this facility have been rejected by their mothers and have required hand raising in isolation from the other orca, calling into question management decisions and conservation implications of this breeding program at multiple levels. Photo © Georg Volk (2019).

It is instructive to compare the current controversy surrounding justifications for breeding orca in captivity with the decision by the Association of Zoos and Aquariums (AZA) in 2011, to speak out against the breeding of white tigers (of which Loro Parque has two). AZA formally took a position prohibiting the practice by its members;

> *"Interestingly, the very instinct that appears to draw humans towards novel patterns and diversity in general also seems to underlie our fascination with unusual and abnormal patterns and phenotypes expressed only rarely, or occasionally, in nature. The spectacle provided by displays of calves with two heads, five toed cats, and traits such as albinism, melanism, or dwarfism, continues, even today, to provide an attraction to many, unaware of the biology underlying such odd occurrences. Even among today's frequently well informed and educated zoo visitors, the interest in seeing white tigers, white lions, white alligators, or king cheetahs continues often in preference over the 'normal' looking individuals of the same species. ...Of greater concern, in some cases, there exists the misconception that these unusual color morphs, or other phenotypic aberrations, may represent a separate endangered species in need of conservation."* (AZA, 2011).

AZA clearly recognized that the practice of breeding white tigers created conditions that could seriously compromise the welfare of individual animals. In addition, such breeding practices could also be problematic from a population management and conservation perspective, impairing AZA members ability to develop and maintain sustainable captive populations for the future and to deliver appropriate animal welfare and conservation education messages.

In contrast, the European Association of Zoos and Aquaria (EAZA) and World Association of Zoos and Aquariums (WAZA) apparently support the breeding of orca, despite the threat to the orca's welfare, the absence of a true conservation purpose and, an indefinable education message;

> *"It is not true that EAZA and WAZA do not recognize the possibility of breeding orcas, in fact both organizations made clear statements against the unilateral decision of SeaWorld of not breeding them...within the Marine Mammal Taxon Advisory Group of EAZA there is a Monitoring Breeding Program for Killer whales (Orcinus orca), hence it is clear that the European Association of Zoos and Aquaria does not have any problem or limitation on the breeding of the species."* (Almunia, 2018).

The ethics and efficacy of captive breeding and unnatural hybridization as a conservation measure is subject to increasing scrutiny. Rose and Parsons (2019) note that;

> *"...the birth of an orca of mixed Atlantic and Pacific genetic background is an event that has virtually no connection to the conservation of orcas or their habitat, because, among other things, the animal is genetically mixed and cannot be released into either population, due to concerns about introducing maladaptive genes to a population."*

While much attention has been focused on the breeding of orca in captivity under the guise of conservation, the issue of unnatural hybridization through captive breeding extends beyond marine mammals. For example, in the primate world, captive breeding programs for gibbons, which are listed on the IUCN Red List of Threatened Species, has

been soundly criticized as detrimental to true conservation measures benefitting wild populations;

> *"it should be ensured in captive breeding programmes, both within zoos and rescue centres, that unnatural hybridization does not occur, as this will preclude the gibbon being released in the future (Mootnick, 2006)."* (Campbell et al., 2015).

> *"It is extremely important not to hybridize species or subspecies through captive breeding programs if the progeny of those gibbons will possibly be released into an area where gibbons coexist." ..."If our intentions are to save species from becoming extinct, it is of the utmost importance to make sure hybridization at the subspecific level does not occur in conservation programs."* (Mootnick, 2006).

Similarly, the United Kingdom's Department for Environment Food and Rural Affairs (DEFRA, 2012) recognized such a conundrum in its 2012 Zoos Expert Committee Handbook where it cautioned that;

> *"breeding animals in the collection may not in itself be a conservation contribution, indeed there are examples of zoos using 'baby' animals as "Conservation PR" and care must be taken that conservation contribution through breeding is by being part of managed programmes and working within them."*

The handbook also noted;

> *"Some zoos have successfully utilised hybrid and non-breeding animals for public awareness and conservation fund-raising. In so doing zoos should take great care not to suggest that breeding hybrid animals is contributing to conservation in itself."* (DEFRA, 2012).

IV. INFORMING AND EDUCATING THE PUBLIC

Greenwashing in the form of (mis)informing the public is achieved through advertising, signage in the facility (Figure 4), narration of shows by trainers and dialogues with facility guests by docents, as well as other methods. A visit to a local captive marine mammal facility can be an opportunity to educate. The communication of information that is accurate and pertinent, including *"the many types of marine mammals, their habitat, diet, behavior, population trends, and conservation status"* (Marine Mammal Center, 2020), stands in opposition to a focus on an animal's entertainment value, how amusing they are or how much fun it is to interact with the animals. For example, the 'Gold Dome Sea Lion Show' at Miami Seaquarium, Miami, USA, touts the show as a chance to;

> *"Enjoy the hilarious adventures of Salty the Sea Lion and his Reef Rangers. This comedic playlet allows the sea lion and seal stars to show off their athletic and comedic abilities as they explore the reef searching for a littering diver."* (Miami Seaquarium, 2020).

Whilst the 'Dolphin Odyssey' interactive experience as a way to;

"Explore the ocean's most loved creatures during this deep-water experience. You'll have approximately 30 minutes to share all sorts of behaviors, including kisses, handshakes, rubs, training techniques and feeding your new friend. The experience is highlighted by an awesome dorsal pull." (Miami Seaquarium, 2020).

Figure 4. A sign displayed in 2016 (and subsequently removed), at Planète Sauvage in Port-Saint-Père, France, prominently listed bottlenose dolphins (*Tursiops truncatus,* "Grand dauphin") as part of the facilities breeding program for the European Endangered Species Program (EEP), run by the European Association of Zoos and Aquaria. The other species featured on this sign were on the spectrum of 'endangered'; Addax (critically endangered, IUCN 2016), oryx (extinct in the wild, IUCN 2016), tiger (endangered, IUCN 2014) Giraffe (vulnerable, IUCN 2016), white rhino (near threatened, IUCN 2020). However, bottlenose dolphins, although classified as Appendix II under CITES, were not endangered and, rather, were listed as 'Least Concern' by the IUCN in their 'Red List'. The species last assessment was in 2018 and their status remains unchanged. Such portrayal of a species by a facility misleads the public into believing that the species is endangered. By default, it implies that it is therefore appropriate to breed them in captivity (for example the sign above states that this facility *"contributes to the safeguarding of 7 species").* It also subtly suggests by association with these genuinely Red Listed species that offspring are released into the wild as part of a conservation program. Yet, globally, no bottlenose dolphins born in captivity have been released (although a small number of individuals who were born in the wild and taken into captivity have since been rehabilitated and released back into the wild). Photo © Ingrid N. Visser (2016).

But such marketing of marine mammals as if they were domesticated companions or props for our entertainment is not limited to only those facilities with a commercial face. The Dolphin Research Center, Grassy Key, USA, a non-profit organization who state they are *"Providing Sanctuary and a Forever Home"* for rescued dolphins, also state they provide education and perform research (Dolphin Research Center, 2020). Yet at the same time they offer no less than eight experiences where you can, for example, 'Play with

the dolphin' (*"who will have the most fun – you or the dolphin?"* US$60 for 20-25 mins), 'Paint with a dolphin' (*"Hold your Dolphin Art shirt while a dolphin paints it for you"* US$65 for 10 mins), 'Ultimate Trainer for the Day' (*"Accompany trainers all day during this intensive interactive adventure!"* US$695 for 7.5 hrs) or even a 'Zoom With A Dolphin' (*"Enjoy a private play date with your favorite dolphin from the comfort of your home"* US$225 for 20-25 mins) (Dolphin Research Center, 2020).

Endeavours are being made to respond to the misinformation being provided at some facilities. *SeaWorld Fact Check* (2018) is one example of efforts to counter one facility's greenwashing campaigns by providing fact-based scientific information. The consciousness-raising of these greenwashing issues was galvanized by the documentary *"Blackfish"* (Cowperthwaite, 2013), which called into question many of the messages SeaWorld was trying to disseminate, including welfare, rescues and conservation of orca. Members of the industry have also attempted to clarify their own messaging through the courts. In one instance Loro Parque brought a case against People for the Ethical Treatment of Animals (PETA) for alleged defamation related to the publication of photographs of orca at Loro Parque. The photos were accompanied by a veterinarian's assessment of medical issues, including scars, wounds and dental trauma, caused in her expert medical opinion from captivity. In ruling for PETA, the Spanish judge found that PETA's opinion that orca were suffering, which was based on research and expert analysis, was protected under the constitutional right to freedom of expression (Benito Bethencourt, 2019).

V. ANIMAL INTERACTIONS

A. Photos and Selfies

The draw of adorable baby animals to cuddle and kiss, as well as captive wildlife doing unnatural but 'cute' activities is often an easy sell to the general public. But there are real-world consequences and negative impacts of such behaviour (e.g., see Figure 5).

Is it just 'human nature', 'curiosity,' or is this desire to touch animals a 'learned behaviour', deemed acceptable because the public sees trainers in marine theme park shows handling dolphins and other cetaceans like they are pets or domesticated animals? What about the role that facilities play in promoting photo-opportunities with marine mammals, such as posing with dolphins which by default create unrealistic expectations for free-ranging wildlife experiences, as discussed in one marine wildlife swim-with study?;

> *" "Wildlife-selfies", as one of the latest trends in social media, may form unrealistic expectations of wildlife encounters and simultaneously put humans and animals at risk, for example through defensive behaviour expressed by wildlife and inappropriate behaviour shown by tourists."* (Pagel et al., 2020).

The ethics of such programs must be called into question, not only for the individual animal, but for the suite of genuine wildlife conservation messages that these types of activities contradict. The spillover of these actions into marine mammal conservation has yet to be investigated, however, the research by Ross et al., (2011) for endangered chimpanzees, revealed that;

> *"those viewing a photograph of a chimpanzee with a human standing nearby were 35.5% more likely to consider wild populations to be stable/healthy compared to those seeing the exact same picture without a human. Likewise, the presence of a human in the photograph increases the likelihood that they consider chimpanzees as appealing as a pet"*

Additionally, the authors noted;

> *"... the public is less likely to consider chimpanzees as endangered compared to other great ape species. This phenomenon was linked to the prevalent use of chimpanzees in movies, television shows and advertisements, where chimpanzees are often inaccurately displayed. These results were the first to link the manner in which chimpanzees are portrayed in popular media to public attitudes that may influence support for critical in-situ conservation efforts."*

Figure 5. In February 2016, two La Plata dolphins were found near a popular beach, Argentina. Lifted out of the water and passed around for photographs, at least one of the two died during this incident. The next year, not far from this location, another dolphin was killed in a similar manner (Bale, 2017) and in the same year another young dolphin died in Mojácar in southern Spain when tourists caught it in shallow water and took photos as they lifted it out of the water (Carr and Broom, 2018). The promoting of 'selfies' and 'posing' with wildlife that many aquariums and zoos sell is likely contributing to such obsessions and as such more responsible messaging should be implemented. Photo Hernan Coria (sourced via Facebook, circa 2016).

B. Normalising Human Interaction

Modelling appropriate behaviour is an important tool for education and messaging, as people, in particular children, who observe the behaviour of peers, adults, teachers,

experts and the like, will often imitate the modeller. This results in cultural transmission or social learning. Through entertainment shows and interaction 'experiences' with marine mammals, the industry normalises behaviours that are often harmful to the marine mammals and undermines conservation messaging. Therefore, rather than being educated about conservation, customers are taught that it is acceptable to ride on, stand on, pat, approach close to (Figure 6) and even feed marine mammals. Such behaviour is damaging in its first instance for the individual animal involved in the captive pay-to-participate activity, but it also has secondary effects as it encourages inappropriate behaviour in the wild, especially if the viewer then attempts to emulate what they have seen during one of these captivity events. It is a fair question to ask then, why most of these same activities, that are deemed 'acceptable' in captive facilities, are illegal if conducted in the wild?

Figure 6. Posing with wildlife has been condemned around the world (e.g., Cerullo, 2017), yet many aquariums and zoos continue to sell this experience and promote it as a way to create a 'bond' to the animal for the public. The message this type of interaction gives, however, is not one of conservation and likely helps to promote inappropriate behaviour with wild dolphins (see Figure 5). This dolphin, held in a pen at Miami Seaquarium is required to come out of the water regularly (at least daily) and maintain its position (including holding its mouth open) in the tropical heat of Miami, USA. It shows signs of compromised welfare: its skin is drying out (paler grey area on melon); its teeth are worn to the gums; and it has an open wound on the end of its mandibles (see overlay image which is close-up section of main photo). Photo © Ingrid N. Visser (2015).

Again, referencing the chimpanzee study, by Ross et al., (2011) the authors suggested that;

> *"... images of chimpanzees in close proximity to humans may convey the inaccurate perception that these animals are easily handleable and manageable in ways similar to traditional domesticated species and thereby promote the perception that chimpanzees may make suitable pets. These effects may serve to counteract the efforts of scientific and conservation organizations that have formed strong policy statements condemning the use of primates as pets, citing risks to public health and safety, concerns about animal welfare, and adverse effects on wild populations"*

1. CAPTIVE SWIM-WITH PROGRAMS

Swim-with programs, with dolphins or sea lions in captivity, are becoming more the norm that the exception (of the 336 facilities worldwide that keep dolphins, 66% of them offered swim-with programs) (World Animal Protection, 2019). For-profit enterprises beholden to shareholders and not-for-profit facilities (and even some 'research' facilities), provide these add-on 'experiences' that significantly increase income (see Section IV and Figure 7 for examples). Twenty years ago, when swim-with permits had only been issued to four USA facilities on *"an experimental and provisional basis"* (NOAA and NMFS, 1990), it was estimated that those four facilities received more than US $2.2 million in gross revenues annually from these interactive programs alone (Frohoff and Packard, 2015, and references therein). But, as the number of facilities conducting these types of programs increases, genuine conservation messaging decreases.

Interactive experiences with dolphins at captive facilities can range from an 'in-water' experience (where swimming is not permitted, but the clients stand in the water) (Figure 7), to a 'true' swim-with program (which typically involves the dolphin(s) dragging or pushing a human through the water) (Figure 7), to snorkelling or scuba-diving with captive dolphins, to Dolphin-Assisted Therapy (DAT). The latter touts dolphin interactions as therapy for people with illnesses and/or psychological or physical disorders or disabilities, despite there being major methodological concerns with studies claiming the effectiveness of DAT (Brakes and Williamson, 2007; Fiksdal et al., 2012). In addition, risk to vulnerable participants is often overlooked and injuries occur (Frohoff and Packard, 2015).

Collectively, these various interactive programs typically require dolphins or sea lions to pull or push humans through the water, to jump through hoops, toss balls, tow boats and otherwise interact with the human participant. In the wild, such interactions are illegal in most countries and presenting them in captivity only blurs the lines between what is acceptable and respectable treatment. Certainly, keeping marine mammals in captivity has a cost, but with these programs that cost is born by the captive marine mammals and at the loss of conservation messaging.

Figure 7. **Top.** Nineteen tourists line up for an in-water encounter with cetaceans at Sea Life Park Hawaii, USA. Such experiences, depending on the extent of the interaction, range from approximately US$150 to $200 per person (as of September 2020) and last for 30 minutes. The online schedule indicated they were offered three to four times a day at this facility. **Bottom**. A tourist during a swim-with program at the same facility is dragged through the water by a bottlenose dolphin (near camera) and a 'wholphin' (a captive bred hybrid between a false killer whale (*Pseudorca crassidens*) and a bottlenose dolphin). Photos © Ingrid N. Visser (2012).

2. DISRESPECTFUL AND HARMFUL TREATMENT

Unnatural behaviours, and in fact behaviours injurious to marine mammals under captive care, are typically demonstrated during shows at facilities or swim-with experiences and photo opportunities, even whilst that same facility purports to provide education and conservation messaging. Yet, in contrast, the 'mission values' of the International Marine Animal Trainers' Association (IMATA) includes the statement;

> *"The public's experience with these animals fosters emotional and personal connections that promote conservation of our marine environments and respect for marine species."* (IMATA, 2020a).

Globally, trainers are typically presented in shows as having 'special bonds' and to be 'best friends' with the animals. They position themselves as *"the experts in the field of marine mammal care and research"* and also state that they should be *"permitted to make decisions that are aligned with what's best for the welfare of animals"* (IMATA, 2019). IMATA also has a Code of Professional Ethics, for which the first point is that

members exercise *"the highest levels of respect and humaneness for all animals"* (IMATA, 2020b). Nevertheless, despite their narrative, some trainers are seen to publicly mistreat these same animals, thereby teaching children that, for example, using a dolphin as an advertising 'billboard' by writing on it (Figure 8), or riding on the backs of wildlife (for instance, IMATA's home page (Sep 2020c) features a trainer standing on and 'surfing' on two fast-swimming dolphins), is acceptable behaviour.

Figure 8. During a 'swim-with' encounter, a dolphin was used as a 'living billboard' when it was painted with the text '2018 IMATA'. We concede that the paint may be non-toxic (although we have no information either way), but the messaging is not. The messaging that it is ok to use an animal in this way was evident at the time and when video of this event was used as part of the promotion of the IMATA Annual conference. IMATA notes that *"Each year, a remarkable, fun and entertaining musical compilation is created from video footage submitted from organizations around the world and then debuted at the Annual IMATA Conference."* (photo; IMATA, 2020).

These actions translate into real consequences for wildlife. For example, a woman in Florida was arrested in 2012 for riding on a manatee (Peralta, 2012; Tenney, 2012). The woman claimed to not know that riding a manatee was against the law, however regardless of whether it was illegal, she must have thought, in contrast to biologist and law enforcement's opinions, that riding a manatee was acceptable behaviour (Peralta, 2012; Tenney, 2012). She is not the first, nor was she the last (Anon., 2013).

But riding marine mammals is not the only 'over the line' behaviour; sadly other examples abound. One study documented interactions of up to 70 times per hour with "Beggar", the wild dolphin, including petting him and feeding him unnatural foods such as hotdogs and beer (Howard, 2012, Christensen et al 2016), despite such activities

being illegal under the U.S. Marine Mammal Protection Act, which provides for fines up to $100,000 and/or jail time of up to one year, per violation (NOAA, 2018). In September 2020 a video from Uruguay showed a man who had lassoed an adult male sealion and was whipping it (COENDU, 2020), wielding the whip in a similar fashion to what is seen with 'lion tamers' (Johnson, 2012).

The next level of objectionable messaging is reached when trainers ridicule the animals by commanding them to perform demeaning tricks (e.g., 'sit-ups', 'break-dancing' etc., Figure 9), often accompanied by loud popular music.

Figure 9. At a number of facilities, such as Dolphinarium Harderwijk in Harderwijk, Netherlands, animals are portrayed as comical characters or ridiculed in some way. In this case a walrus is mocked for its size and blubber (despite these being natural attributes of an adult walrus), all the while being required to do unnatural 'sit-ups' (**left**) and another is required to lift people by having them sit on his face (**right**). Photos © Ingrid N. Visser (2015).

For the casual observer, the wrong messaging is also prolific, e.g., when children are placed in a boat which is towed around the show-tank by dolphins or seals (Cachia, 2020) and when one can pay to 'paint art' with a seal (Woznikowski, 2015), do yoga with dolphins (Suppa, 2017) or get married with a beluga in attendance (Figure 10).

Figure 10. The 'normalisation' of interacting with marine wildlife is big business. The Mystic Aquarium, Connecticut, USA and the associated 'Ocean Blue Catering' offer *"A lovely setting next to our Beluga Whales for wedding ceremonies, cocktails and hors d' oeuvres"* and state that *"Dining amongst the world's most interesting sea creatures is priceless. There is a real romance that is associated with the sea, and being on the same level with these creatures adds to its allure."* They also sell beluga themed birthday parties for children aged 7-13 (with or without pizza). Photo © Studio A Images (2011).

More than 100 psychologists have noted concern over the consequences for children who attend circuses and other shows in which animals are improperly kept and used. They note that such exposure;

> *"may promote a lack of respect for living beings, lead to the denial of pain messages and hinder the development of empathy which is critical during the development and growth process as they may solicit an incongruous response – that is, amusement and joy – to punishment, discomfort and injustice."* (Psychologists' Statement).

When marine mammal facilities, claiming to put conservation, rescue and welfare above all, allow not only the trainers (Figure 11), but also the public to ride on, stand on, kiss and hug the animals in their facilities, any logical points of reference for the public are distorted and compromised. It becomes almost impossible for a visitor to separate the propaganda from the facts as, at times, the two are so comingled as to be indiscernible to all but an expert. How then, can a passionate visitor reasonably distinguish what is ethically and morally right for the conservation and management of a species, when they receive such mixed messages?

Figure 11. Riding on, being dragged by, or propelled through the air by marine mammals is typical in most industry shows around the world. These actions place undue stress on the animals' and there is no appropriate conservation message that can be given during such displays, yet they persevere. **Clockwise** from top left, trainer stands on two bottlenose dolphins, SeaWorld, Orlando, USA (2015); trainer stands on a beluga, Beijing Zoo, Beijing, China (2018); trainer is propelled through the air by two dolphins, Marineland Antibes, Antibes, France (2016); trainer dragged through the water by two bottlenose dolphins, Sea World Gold Coast, Southport, Australia (2016). Photos © Ingrid N. Visser.

Figure 12. At Sea World Gold Coast, Australia, a small boat powered by an outboard engine is run at high-speed during a show. This activity provides the wrong messaging as it actively encourages bad boating behaviour when interacting with wild dolphins. Typically, regulations for marine mammals require travelling at slow speeds when in close proximity to dolphins, to avoid propeller cuts and boat strike. In Queensland, the rules include (but are not limited to) not approaching within 50m, travelling with no wake and at no more than 6 knots (11km/hr) and to not approach from directly behind the animal (diagram, **insert**, Queensland Government). All of these rules are broken during this show. Additionally, at the point the photo was taken the trainer was focused on the audience, not the dolphins. Photo © Ingrid N. Visser (2016).

At least one facility (Sea World Gold Coast, Australia) uses a fast-moving boat to 'entice' dolphins to bow-ride at speed during its dolphin show, effectively telling the public *'if you want dolphins to play with you, drive your boat fast'* (Figure 12). Once again, there is no conservation messaging and certainly nothing in the narration or actions that draw attention to respect and consideration for dolphin mothers and calves, resting individuals

or their physical safety. In fact, not only does this this particular boating spectacle put the show dolphins at risk (e.g., the trainer is not watching the dolphins as he drives the boat at high speed), it is in violation of the local marine mammal rules (Australian Government, 2019, & see insert Figure 12).

At times it seems as if the bounds of decency know no end. In Figure 13, seals perform demeaning and irreverent pantomimes in military 'costumes', complete with replica guns, all while in an incredibly small tank indoors at the Nerpa Aquarium in Irkutsk, Russia.

Figure 13. Baikal seals (*Pusa sibirica*), at the Nerpa Aquarium in Irkutsk, Russia perform in an indoor tank no more than 2 x 10m (**top**). There, in front of paying visitors they are forced to paint pictures, play fake musical instruments and clasp replica guns while wearing berets with the hammer-and-sickle insignia (**bottom**). Images from video, courtesy of and © to Ruptly (2017).

3. FEEDING MARINE MAMMALS

A number of facilities conduct feeding sessions for the marine mammals on display, where the public can pay to participate (Figure 14). These sessions may include 'patting' and/or 'kissing' and typically include a photo session where the photos are subsequently available for purchase with an additional fee. Customers are led to believe that the dolphins are friendly and docile, which creates surprise when instead they are aggressive, bite, and even throw objects at customers (Caulfield, 2014; Couwels, 2012; Libbert, 2019; Leo, 2019). However, the facilities know that there are very real risks, as outlined in their liability release forms, for example;

> *"Examples of such INHERENT RISKS include but are not limited to swimming; being in deep water; being near, interacting with and/or touching land or marine animals; scrapes; cuts; bruises; physical trauma; sunburn; broken or fractured bones; sprains, strains or muscle tears; and/or more serious injuries or illnesses, including death"* [their emphasis] (SeaWorld (Discovery Cove), 2017-2020).

These types of interactions likely encourage inappropriate human behaviour with wild cetaceans. In a 2016 study, researchers found that over a 20-year period there was a more than seven-fold increase in the number of dolphins in the wild who were conditioned to human interactions, including through food provisioning (Christiansen et al., 2016). The study also found that conditioned dolphins had a higher likelihood of being injured and also cause human injuries, including one death (Christiansen et al., 2016). Although no direct link to aquariums and zoos was made within the study, the types of messages a facility conveys to the public, i.e., promoting the feeding of, and interaction with, marine mammals are increasing and it would only be logical to assume that messaging spillover occurs.

VI. WALKING THE TALK: INVESTING IN CONSERVATION

1. Financial Altruism by the Numbers

AZA Zoos and Aquariums reportedly contributed US$24 billion to the USA economy in direct spending in 2018 (AZA 2019) with similar numbers (US$20 billion) in 2012 (Fuller 2012). A recent report by World Animal Protection (2019), provided a startling value to the dolphin captivity industry;

> *"A single dolphin can generate between 400,000 and 2 million USD per year for a venue, depending on the frequency of use. This means that all captive dolphins in the tourism industry annually generate between 1.1 and 5.5 billion USD. Add to that additional income channels through merchandise, food and accommodation, and the revenue is even greater. It is literally a multi-billion dollar industry".* (WAP, 2019).

This type of spending generates tremendous influence, and political capital, which can facilitate a 'business as usual' attitude when it comes to conservation reform. But how much goes to actual conservation of the animals? Rose and Parsons (2019), in their chapter *"The Conservation/Research Fallacy"* state;

> *"The claim that conservation is a primary purpose of the public display industry as a whole is highly misleading at best. Fewer than 5 to 10 percent of zoos, dolphinaria, and aquaria are involved in substantial conservation programs either in natural habitat or in captive settings, and the amount spent on these programs is a mere fraction (often less than 1 percent) of the income generated by the facilities."*

As of September 2020, AZA states that their *"more than 230 accredited members, ... spend on average $160 million on conservation initiatives annually"* (AZA, 2020b), a considerable amount, but only 0.8% of their direct spending. Contrast that combined 0.8% figure for all AZA member facilities in the USA, with the non-profit Monterey Bay Aquarium (AZA accredited through March 2023) which had nearly 2 million visitors in 2019. They reported $104 million in expenses, of which nearly 12 percent ($12.5 million) went to conservation and science (Monterey Bay Aquarium, 2019).

It would be obtuse not to recognize that aquariums are *"subject to economic pressures and that making money is key to continuing their conservation and research endeavors (even if the Aquarium is a non-profit institution)"* (Knauer, 2015). However, best practices show that it can be done without marine mammals at the facility, and in the wild, bearing the burden. Aquariums are beginning to progress in this direction and the recent movement and establishment of sanctuaries supports that the business of marine mammal captivity need not be at the cost of true conservation.

2. Peter Parker Principle

With such financial leverage, the industry of aquariums and zoos wields incredible power. As owners or custodians of sentient wildlife, one could reasonably expect marine mammal facilities to apply the Peter Parker Principle (*"with great power comes great responsibility"*, Lee, 1962) and that naturally the best interests of the marine mammals would come first. To help protect the animals, there are a range of local and national regulations and legislation, as well as international conventions to which facilities may be subject (e.g., Bowman et al., 2011 and references therein).

Figure 14. **Top**, At MarineLand, Niagara Falls, Canada, during one beluga feeding session more than a dozen people were participating (the three trainers were wearing white hats and sunglasses) and more than 20 were lined up buying tickets (background); **Bottom**, At SeaWorld Orlando, USA, during one bottlenose dolphin session seven people were participating, with two other similar sized groups interacting with other dolphins in the background. Note the trainer (centre wearing hat with hand raised), is directing the clients to look at the photographer. Photos © Ingrid N. Visser (2018, 2016).

However, at times these regulations lag behind the current science, they do not give enough direction, and/or there is a wide variation of standards between countries (Hassan, 2016; Rose et al., 2017). Additionally, a number of countries' violations of wildlife protections are met with lax enforcement (e.g., see the International Consortium on Combating Wildlife Crime, 2009 and Sina et al., 2016) and as such, even countries flout the rules (e.g., European Commission 2011), setting poor examples for the facilities

themselves. In such instances it falls on the trainers and the management of each facility to ensure that their internal standards are best practice and based on current science.

Some step up to this challenge but others do not; exploiting regulatory loopholes (for a case study see Spiegl and Visser, 2015; Spiegl et al., 2019) and may use greenwashing as a way to present their actions to the public. Disconcertingly, there are instances of active lobbying by the industry against legislative reform, that would benefit the animals under their care. For example, in 2017 in France;

> *"After learning that captive dolphins and whales are being drugged, Environment Minister Segolene Royal amended the legislation she signed last Wednesday — which already banned direct contact between animals and the public (like petting the animals and swimming with dolphins) and required holding tanks to be enlarged — to phase out captive breeding"* Schweig (2017).

However, that decree was overruled as *"... several marine parks opposed the measure, saying that putting the ban into practice could be cruel."* (Anon., 2018). The chief executive of Marineland Antibes, France, the largest marine park in Europe, stated; *"This is great news for our animals and zoos. This decree could have been a threat to our institutions."* (Anon., 2018). In 2020, the French government renewed its efforts and proposed legislation to ban the possession of orca and dolphins for commercial performances. This will be phased in, however the legislation immediately bans the breeding of cetaceans in captivity (French National Assembly, 2020; Boring 2020). Despite this effort, supported by science and welfare, WAZA indicated that it did not support the legislation (WAZA, 2020).

The Animal Legal Defense Fund (ALDF) lobbied the Florida legislature for two years to codify SeaWorld's promises to end captive breeding by passing the Florida Orca Protection Act (Wolf, 2018), which would make it illegal to hold orcas in captivity (Wells, 2019) . Yet despite being its corporate policy and thereby creating no change to its business model, SeaWorld resisted these efforts;

> *"SeaWorld responded by sending a team of seasoned corporate lobbyists to kill the proposed legislation both years, arguing that the law was unnecessary due to their corporate policy to end orca shows by 2019... Why would SeaWorld oppose a law that simply codifies its own promises? Because you can break promises, but you can't break laws."* Wells (2019).

ALDF had reason to be concerned that SeaWorld would renege on their promise to the public, as just one year after the announcement to stop breeding, SeaWorld, in conjunction with Loro Parque, bred their orca held at the 'offshore breeding facility', in Spain (McManus, 2017, Free Morgan Foundation, 2019).

3. Genuine Sanctuaries

A paradigm shift recognizing the cost of human interaction with marine mammals to wildlife conservation is taking place. Genuine sanctuaries (e.g., see GFAS, 2020), which

provide space for natural behaviours, do not hold performance shows or interactive experiences and do not breed the animals, are becoming more prevalent. Two sanctuaries at opposite sides of the world are already operational and hosting cetaceans. One, the Umah Lumba Rehabilitation, Release and Retirement in Bali, Indonesia has been hosting rescued dolphins since August 2019. As of September 2020, it hosted three bottlenose dolphins confiscated from a heavily chlorinated hotel swimming pool at the Melka Excelsior Hotel, where the dolphins were used for a swim-with program (Ric O'Barry's Dolphin Project, 2020). In June 2019, the Sea Life Trust Beluga Whale Sanctuary (SLTBWS) transported two belugas from Changfeng Ocean World, Shanghai, China, to Heimaey Island, Iceland, where they underwent quarantine and health checks until August 2020. They have since been moved into a seapen sanctuary in the ocean, although they have been moved temporarily into a critical care pool for their first winter on-site (SLTBWS, 2020). In addition, at least two facilities currently holding dolphins have proposed, and made efforts towards, moving their animals into sanctuaries; Baltimore National Aquarium, Baltimore, USA (Grimm, 2014; Reed, 2019) and Dolphin Marine Conservation Park, Coffs Harbour, Australia (Anon., 2020). A number of cetacean sanctuaries are currently being constructed, although they do not, as yet, have occupants (e.g., The Whale Sanctuary Project (TWSP), which announced on 25 February 2020, that it had selected Port Hilford, Nova Scotia, Canada, for its first sanctuary site, TWSP, 2020).

VII. WILDLIFE SOURCING (THE WHALE IN THE ROOM)

Sourcing cetaceans from the wild, particularly from 'drive hunts', has been shown to be inhumane and yet it has been associated with the acquisition of live dolphins for international facilities (Butterworth et al., 2013; Vail et al., 2019). As Vail (2015) described;

> *"A significant body of peer-reviewed scientific literature exists detailing the physiological, behavioral, psychological, and socio-ecological impacts that chase, encirclement and capture have on dolphins. The majority of the literature reveals that acute and chronic stress-related impacts, as well as direct mortality, may result from prolonged and sustained capture techniques, such as those associated with the drive hunts, but also with other capture operations."*

Japan has one of the most infamous drive hunts that takes place annually in Taiji and with, until recently, the participation of many aquariums around the world through membership organizations such as the Japanese Association of Zoos and Aquariums (JAZA) (Sugisaka and Henmi, 2013). The inescapable reality – the whale in the room – is that cetaceans sourced in these drive hunts, find their way into institutions accredited by the major aquarium and zoological associations such as AZA, WAZA, EAZA and JAZA (Vail and Risch, 2006). However, these same institutions can be the catalyst for positive change and positively effect wildlife conservation. Recognizing that 68% of the facilities

holding cetaceans in Japan were JAZA members (Sugisaka and Henmi, 2013) and the strong public condemnation of the capture operations, WAZA in April 2015, suspended membership of JAZA. This in turn, combined with the scientific the evidence and public pressure, led JAZA to withdraw from participating in the brutal hunts (Vail, 2015; Anon., 2015a).

> *"The AZA strongly believes that the killing of dolphins and whales in drive fisheries is inhumane and should be terminated immediately. We applaud the decision by the members of JAZA to stop acquiring dolphins for their aquariums from Taiji."* (AZA 2015).

Comparably, the plea for principle over income was expressed in response to the so called 'Whale Jail', when the public, which included international celebrities (DiCaprio, 2019), voiced their distaste on social media. The orca and belugas were held at the notorious Center for the Maintenance and Adaptation of Marine Mammals at Srednyaya Bay, Primorsky Region, Russia. The facility was originally reported, in 2018, to hold over 100 cetaceans (11 orca and 90 beluga) (Free Russia Whales, 2019). By April 2019, 97 remained; 87 belugas were held in 10 tiny outdoor pens, alongside 10 orca who were separated into three slightly larger pens housed inside flimsy floating sheds (Figures 15 & 16). The facility, which is co-owned by four Russian firms that supply marine animals to aquariums, also trained cetaceans and pinnipeds for a life in captivity. Groups of children were permitted to visit the facility while the cetaceans were held there (Anon., 2019a).

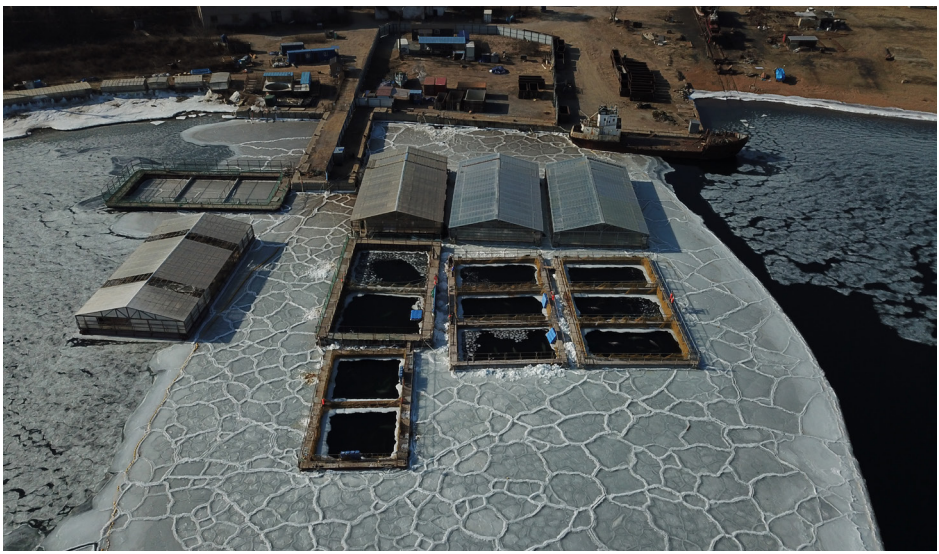

Figure 15. The 'Whale Jail', also known as the Center for the Maintenance and Adaptation of Marine Mammals at Srednyaya Bay, Primorsky Region, Russia. The 10 orca were contained in the three floating 'sheds' adjacent to each other (approx. 27 X 15m with the nets 4.5m deep, TWSP, unpublished data) (background). The 87 belugas were held in the 10 open-air pens (foreground and Figure 16). The pens to the left were uninhabited. Note the tightly packed ice is contained within the 'barrier net' (an outer net to contain any animals that might escape the netted pens). Photo © Ilia Ryzhkov (2019).

Figure 16. At least ten belugas are held in these two pens. The ice around the outside of the pens is packed tightly whilst the water inside the pens is kept 'open' due to the surfacing of the belugas. These pens were approximately 9x9m and only 4.5m deep (TWSP, unpublished data). The air temperature during the period this photo was taken (Jan 2019) was -17 to -7°C. Photo © Ilia Ryzhkov (2019).

Due to global outcry over the situation, the Russian Government invited an international team of marine mammal experts, convened by the Whale Sanctuary Project, including ocean explorer Jean-Michel Cousteau, to evaluate the health and welfare of the animals (Anon., 2019b; Anon., 2019c) and make recommendations for their rehabilitation and release. Upon their arrival, the expert team observed that the animals showed signs of compromised welfare including physical (injuries, pathogens) (e.g., Figures 17 & 18), and behavioural (stereotypies etc) issues (TWSP, unpublished data). The experts negotiated an agreement, that was co-signed by the Russian Government, recommending that the animals be released back into their native habitat (Daly & Antonova, 2019). This was eventually completed in November 2019 (Katz, 2019; Daly, 2019). Despite the agreement, the operation did not incorporate the most critical recommendations from the experts (TWSP, 2019) and 50 belugas were not released back into the area where they were captured (Cousteau & Vinick, 2019).

Figure 17. Two of the 10 orca held in the 'Whale Jail', Russia. **Top.** The epidermis was missing over much of the gular region of this orca from an undisclosed event(s) whilst held at the Whale Jail and skin pathologies are also visible (discoloured and raised areas on mandible). Insert shows wounds beside the teeth created by the orca repeatedly grasping the pen nets (TWSP, unpublished data). **Bottom.** This orca had various skin pathologies as well as a broken tooth with exposed pulp which was left untreated (insert). In most captive facilities such a tooth would undergo a modified pulpotomy procedure, where the primary objectives would be pus drainage, removal of diseased pulp tissue and clearing of impacted food and debris (Jett et al., 2017), or the tooth would be removed. Photos © Ingrid N. Visser (2019).

Figure 18. Two of the 87 beluga held in the 'Whale Jail', Russia. **Top**. A very young beluga exhibits multiple issues, including deep cuts to the upper 'lip' area of unknown etiology and wrinkled skin (indicative of dehydration). **Bottom.** This beluga shows signs of fungal or other skin pathogens (circle patches) as well as peeling epidermis (pale area on middle of back) from potential 'frost bite' due to the extreme low temperatures it was exposed to while held in tiny pens without appropriate protection (see Figure 16). Photos © Ingrid N. Visser (2019).

VIII. CONCLUSION

Advocating for principle over income is a lofty goal in these uncertain times. In this chapter, we have purposely not factored in the effects of COVID-19 on the animals, the institutions, or the general public as patrons. However, the broader discussion of wildlife conservation cannot wait until the 'dust settles' and must not be swept aside as 'inconvenient' at this time. This is not the first time that an outside catastrophe has impacted animals in captivity. An orca and other animals died due to extreme weather and floods at Marineland Antibes France, (Anon., 2015b), and during hurricane Irma a number of animals died at Miami Seaquarium, including two dolphins (Kendall, 2017). Such events can be used as an opportunity to evaluate and modernize business models and practices to be more consistent with appropriate wildlife conservation messaging.

Reform of greenwashing begins with *bona fide* conservation principles, practices and projects which need to be presented to the public in an honest and forthright manner (e.g., see Johnson and Mayer, 2015). Financial transparency and 'sunshine' policies concerning stakeholder interests are essential. 'Firewalls' to protect the animals must be maintained when institutions serve dual roles as Triple R centres and commercial public display entertainment facilities (Spiegl and Visser, 2017).

It is necessary for facilities holding marine mammals to adapt to emerging science, as well as society's evolving understanding of wildlife and science – from captivity to conservation. As many facilities have demonstrated, it can be achieved. As the public becomes more informed, they are increasingly using their wallet to say "no" to facilities that source their wildlife – 'laundered' or not – from inhumane practices and illegal captures. Humans *will* visit and support facilities that do not allow kissing, touching, selfies, or riding on the backs of the animals under their care, as evidenced by those who visit marine mammal rehabilitation centres.

We acknowledge that we have only presented a fragment of the examples available for both sides of this story. Despite this, it is the authors' hope that the dichotomy between principle and income will not sit on the end of the spectrum of 'irreconcilable difference', but rather, as facilities have shown possible, that the separation will eventually be extinguished. Furthermore, we hope that those facilities who currently greenwash their practices to guard income instead of the animals, see the sense in ethical reasoning and realign their business models to better reflect true wildlife conservation and management. As part of that process, we anticipate that, although this chapter will be viewed by some as a contentious topic, by others it will be the basis for, and start of, a lively discussion about the role for each facility in today's society. We believe in striving for a world where the public increasingly values authentic wildlife experiences in natural settings and where

there is a growing emphasis on investing money for *in situ* conservation programs. This sits alongside an acknowledgement of the important role of genuine rescue, rehabilitation and release services, which some facilities provide, for marine mammals who are under increasing anthropogenic stress in the wild. We can see only value, for humans and animals alike, in developing wildlife conservation and education experiences which are not reliant on some of the current models of concrete tanks and metal cages.

Dressing chimpanzee's for tea parties, having tigers jump through flaming hoops, bears dancing or riding bicycles, and forcing elephants to balance on their trunks, are all tricks that are no longer acceptable to reputable aquariums and zoos (Johnson, 2012). We would hope, and certainly expect, a similar paradigm shift to be led by the industry, which will result in major changes of management policies for marine mammals. By 'choice editing' for their guests (i.e., choosing to display animals respectfully, rather than disrespectfully), facilities can take on the mantle of responsibility that comes with housing these sentient beings and thereby create appropriate wildlife conservation messaging.

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ABOUT THE ORGANIZERS

Ingrid N. Visser

Ingrid has had a passion for cetaceans since she was a child. She gained her first University degree, in Zoology, after having spent her teenage years sailing around the world. This was soon followed by a Masters degree also in Zoology. When she started her PhD in Environmental and Marine Science, with the topic of the New Zealand coastal orca, she founded the Orca Research Trust. That non-profit continues to this day and is the foundation for the data collected in Chapter 6. Her research has featured in a number of documentaries, for companies such as BBC, National Geographic, Discovery Channel. Ingrid has observed more than half of the worlds marine mammals and visited all seven continents in her quest to learn more about these fascinating animals. She has published more than 30 scientific articles, along with numerous popular-style articles for wildlife magazines and children's books and an autobiography. Since 2010 she has divided her time between working with wild cetaceans and advocating for those in captivity (see Chapter 5). As part of that work, Ingrid has observed 15 different species of cetaceans (plus other marine mammals; i.e., pinnipeds, sirenians, marine otters and polar bears), in 50 facilities around the world. She has appeared as an expert witness in Environmental and High Courts, as well as before Governments who are investigating the issues of keeping marine mammals in captivity. As part of her conservation work, she has founded (or co-founded) seven non-profit organisations, all with a focus on marine mammals, such as Punta Norte Orca Research (Chapter 1) and Whale Rescue (Chapter 6).

Jorge Cazenave

Jorge started his professional career as a lawyer in Argentina, however after 10 years in this field he switched to tourism. He co-founded (and was President of) Agricultural Tour Operators International and was on the board of the National Tour Association, both whilst photographing wildlife. As an experienced naturalist, he currently guides guests to view and photograph wildlife around the world, specialising in apex predators such as puma, jaguar and orca. His expertise is sought after by documentary making companies such as the BBC, ZED and National Geographic. Since 2001, Jorge has been photographing the unique orca of Punta Norte on the remote Península Valdés, Argentina (see Chapter 1), who exhibit a range of unique behaviours including intentionally stranding to capture sea lion pups. His work with conservation extends to include collaboration with several projects in different regions of Argentina, including Punta Norte Orca Research, of which he is a board member.

INDEX

A

Ações para conservação 54

B

Boat strike 12, 27, 79, 102, 103, 104, 106, 108, 111, 112, 113, 114, 115, 116, 118, 119, 126, 129, 130, 131, 133, 134, 135, 136, 137, 138, 142, 147
Branqueamento ecológico 60

C

Captivity 17, 18, 27, 59, 61, 63, 65, 66, 67, 68, 70, 71, 73, 74, 81, 82, 84, 86, 90, 95, 97, 98, 99, 128, 133, 140, 145
Cativeiro 60
Cetaceans 12, 16, 17, 18, 24, 27, 32, 33, 34, 35, 36, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 53, 57, 63, 71, 75, 81, 84, 85, 86, 97, 98, 99, 100, 102, 103, 104, 106, 115, 127, 132, 135, 138, 140, 141, 142, 144, 147, 148
Cetáceos 31, 53, 54, 58, 102
Colisión con barco 103
Conservación 1, 2, 102
Conservation 1, 3, 5, 8, 10, 11, 15, 18, 20, 21, 22, 23, 24, 25, 27, 33, 47, 51, 53, 54, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 78, 79, 81, 82, 84, 85, 90, 91, 92, 93, 96, 97, 99, 100, 102, 104, 131, 137, 138, 143, 144, 145, 146, 147
Conservation actions 53, 54, 57

E

Entertainment 59, 61, 62, 63, 69, 70, 73, 90, 96, 99, 101
Entretenimento 60
Especies paraguas 1, 2

F

Filogeografia 31, 32

G

Greenwashing 27, 59, 60, 61, 63, 69, 71, 84, 90, 100

H

História de vida 31, 32

I

Impact 1, 2, 5, 6, 12, 13, 14, 24, 25, 27, 32, 33, 34, 53, 55, 57, 58, 59, 65, 71, 85, 95, 97, 100, 106, 129, 135, 138, 140, 143
Impacto 2, 32, 53, 54
Impacto del turismo 2
Indústria 54, 60
Industry 18, 53, 59, 61, 62, 63, 71, 73, 79, 81, 82, 84, 91, 100, 139
Intervención 102, 103
Intervention 102, 106, 127, 128, 129, 131, 133, 134, 136, 137, 138, 140, 141, 145, 147

K

Killer whale 1, 11, 23, 24, 25, 26, 27, 37, 38, 47, 51, 66, 68, 75, 91, 92, 98, 100, 102, 103, 104, 132, 143, 144, 145, 146, 147, 148
Killer whale (*Orcinus orca*) 1, 23, 26, 27, 144, 145, 147

L

Life history 20, 25, 32, 33, 40, 46, 48, 146

M

Microhabitat selection 32, 33, 42

O

Orcinus orca 1, 22, 23, 24, 25, 26, 27, 65, 68, 96, 98, 102, 103, 143, 144, 145, 146, 147, 148

P

Pathogenic potential 32, 44
Pholeter gastrophilus 31, 32, 33, 36, 37, 38, 39, 42, 44, 45, 46, 47, 48, 50
Photo-identification 1, 8, 11, 21, 143, 147
Phylogeography 32, 48
Potencial patogênico 32
Pré-sal 53, 54
Pre-salt 52, 53

R

Reabilitação 60
Rehabilitation 59, 61, 63, 64, 65, 85, 87, 90, 91, 93, 98, 101, 127, 128, 132, 133, 136, 140, 146, 148
Rescue 18, 59, 61, 63, 64, 69, 71, 78, 91, 97, 102, 103, 106, 108, 111, 114, 116, 127, 131, 132, 133, 136, 137, 138, 140, 141, 142, 146
Resgate 60

S

Seleção de microhabitat 31, 32
Stranding 5, 6, 8, 9, 11, 17, 20, 24, 26, 27, 46, 52, 53, 55, 56, 57, 58, 102, 103, 104, 106, 108, 114, 119, 122, 127, 128, 129, 131, 132, 133, 134, 136, 137, 140, 142, 144, 146, 147, 148
Supervivencia 103
Survival 11, 42, 65, 93, 96, 102, 104, 127, 131, 133, 135, 136, 137, 147

T

Tourism impact 1

U

Umbrella species 1, 6, 16, 143

V

Varamiento 103

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