

## CHAPTER 11

### HOW SHALL WE WATCH WHALES?

*Peter J. Corkeron*

*He maketh a path to shine after him;  
one would think the deep to be hoary.  
Upon earth there is not his like,  
who is made without fear.*  
Job 41: 32-33<sup>1</sup>

*Lay thine hand upon him,  
remember the battle, do no more.  
Behold, the hope of him is in vain: shall not  
one be cast down even at the sight of him?  
None is so fierce that dare stir him up: who  
then is able to stand before me?*  
Job 41: 6-10

#### WHALES AS ICONS

Whales – large cetaceans<sup>2</sup> – have held iconic value for some of humanity for centuries. In most parts of the world, maritime technology sufficient to make hunting whales viable did not exist until the early Middle Ages, at the earliest. The incapacity of most early civilizations to manage killing large whales is demonstrated by rhetorical questions in the biblical Book of Job:

*Canst thou draw out leviathan with an  
hook? or his tongue with a cord  
which thou lettest down?*

*Canst thou put an hook into his nose?  
or bore his jaw through with a thorn?*  
Job 41: 1-2

and

*Shall thy companions make a banquet of  
him? shall they part him  
among the merchants?  
Canst thou fill his skin with barbed iron?  
or his head with fish spears?*

In this final line, we are brought to the point of this iconic rhetoric: if people could not subdue Leviathan, how could they confront the power of the omnipotent being that created Leviathan? The iconic value of human impotence in the face of whales' power is used to drive home a religious message.

Centuries passed, technology improved and we could indeed “fill his skin with barbed iron”, and “part him among the merchants”. So we did. At first, this was the work of iron men in wooden ships – whales were lethal quarry pursued beyond the boundaries of the known world. Even so, some whale populations were wiped out,<sup>3</sup> others reduced dramatically in number. Then, through much of the 20<sup>th</sup> century, industrialized whaling led to rapid near-extinction of most remaining whale populations.<sup>4</sup>

It has been argued that, in general, attitudes to marine mammals through the early days of modern whaling were utilitarian.<sup>5</sup> Although undoubtedly true, there were notable exceptions. In 1922, Sir Sidney Harmer of the British Museum described Norwegian whaling in British

subantarctic waters as “insensate slaughter arousing feelings of horror and disgust”.<sup>6</sup> D.H. Lawrence’s poem “Whales Weep Not”, written in 1929, includes allusions to whales’ oceanic migrations, to maternal care, equates whales with angels (“great fierce Seraphim”), and depicts male whales protecting females and calves. Not a utilitarian perspective, and prescient (if not always accurate) in its conceptualization of whales.

Decades passed, more whales died in the tens of thousands. After visiting a whaling station, Peter Matthiessen observed, “nothing is wasted but the whale itself”. This, in his 1971 book, “Blue Meridian”, encapsulated the growing view that whales were not just resources to be utilized. Near obliteration of many whale populations provided the initial spur to the “save the whales” movement. But the majestic aspects of whales – their size; the apparent intelligence of some whales; the songs of others – led to rediscovery of the old iconography – whales as magnificent in their own right. The idea grew that viewing such animals as no more than resources cheapened humanity. And from saving whales came the idea of whales as standard bearers of marine environmental issues, so “save the whales” morphed into including “save the whales’ environment”.

Years passed. The “save the whales” movement had what seemed a great victory. The International Whaling Commission (IWC), the international forum established to manage the whaling industry, adopted a moratorium on commercial whaling. The moratorium ostensibly came into effect by the mid-1980s, but the aim of a complete pause on commercial whaling was thwarted. One tactic used by all three of the major whaling nations – Japan, Norway and Iceland<sup>7</sup> – was to use a loophole in the Convention that established the IWC allowing for whales to be killed for scientific purposes. All three nations have, at some time, continued whaling by using the excuse that research is needed into what whales’ “impact” is on other components of marine ecosystems, notably commercially important fish species.

At around the time that the whaling moratorium was being discussed, it became clear that there was good money to be made taking people out on boats to see whales. Whale watching as a commercial use of whales started taking off in the 1960s,<sup>8</sup> but – coincidentally or not – started coming into prominence at around the time of the whaling moratorium.

## HOW WE PERCEIVE ANIMALS

*Will he make a covenant with thee?  
wilt thou take him for a servant for ever?*  
Job 41:4

Before discussing whale watching, I briefly sketch out some ideas on how the way that we perceive animals

affects the way in which we manage our interactions with them.<sup>9</sup> Put simply, animals can be divided into four categories:

- *Nasties* – “we fear or loathe and which we would like to thin out”,<sup>10</sup>
- *Lovelies* – “we like, revere or honour and which we wish therefore to conserve”;
- *Commodities* – “we use as domesticants or harvest as wild animals”; and
- *Irrelevancies* – “that seldom impinge on us and towards which we direct no strong feelings”.

Again, very generally, there are three ways in which we manage our dealings with animal populations: we can control them, use them or cherish them. We tend to control Nasties, cherish Lovelies, and use Commodities.

In many Western countries, whales have gone from being Commodities to Lovelies – the great success of the “save the whales” movement. However, whaling nations now portray whales as competitors for fish,<sup>11</sup> so for many people in these countries, whales have gone from Commodities to Nasties. This is as dramatic a change as that to Lovelies in the non-whaling nations, but does not seem to have been identified as such by the conservation movement. And whale watching uses whales’ value as Lovelies to commercialise cherishing.

## WHALE WATCHING

*Wilt thou play with him as with a bird?  
or wilt thou bind him for thy maidens?*  
Job 41: 5

When talking about “whale watching”, I’m referring to commercial boat tours taking people to see free-ranging cetaceans, whether watching from a boat or swimming with animals. I’m focussing on commercial whale watching because that’s what conservation NGOs concentrate on when discussing this industry. Personally, I believe that a finer distinction – between viewing large, migratory whales, and inshore dolphins with small home ranges – is needed.<sup>12</sup> This is not yet generally accepted by those engaged in researching or managing nature-based tourism on cetaceans, so I’ll conform to generally accepted terminology. I’m not discussing recreational whale watching, when people make their own way to see whales, either by boat, or watching from land. Recreational whale watching raises a set of management issues that can overlap with commercial whale watching, but these are not the focus of this essay.

Whale watching is one of the most rapidly growing forms of nature-based commercial tourism in the world today. Internationally, whale watching has been increas-

ing exponentially over the past two decades, as detailed in a series of reports commissioned by conservation organizations over the past few years.<sup>13</sup> The triumphal tone of these reports seems to suggest that there can be no doubt that this is a “Good Thing”. Why is this? There is a lot of good that can be said about whale watching. As a commercial use of whales, it is far less lethal than whaling, although cetaceans have – very occasionally – been killed and injured from being accidentally hit by whale-watching boats. It is not often that conservation groups go out of their way to support the development of an industry, so what are the other arguments used to support whale watching?

There are four main arguments put forward by conservation groups supporting the development of the whale-watching industry.<sup>14</sup> These are: whale-watching boats provide opportunities for research; seeing free-ranging whales is better than seeing captive animals; whale watching is incompatible with whaling, so whale watching provides an economically viable alternative to whaling; and seeing whales while whale watching raises peoples’ conservation consciousness. These arguments, or variations of one or more of them, can be seen on the websites of international organizations interested in whale conservation.<sup>15</sup> I concentrate of the latter two of these, as they seem to me to be the most important.

## WHALING AND WHALE WATCHING

### Whaling nations and whale watching

Is whale watching incompatible with whaling? There are three ways in which incompatibilities could arise: from the behaviour of whales, from the behaviour of whalers, or from the behaviour of tourists. Regarding whale behaviour, there is evidence from the early days of commercial whaling off northern Norway that whales became harder to approach.<sup>16</sup> There are also hints that some Antarctic blue whales are now less likely to avoid ships than in days past.<sup>17</sup> Hunting and watching the same whales in one place – which happened in Iceland in 2003 – seems risky for successful whale watching (not to mention for the whales!).

This overlaps with the issues of the behaviour of whalers. If whalers hunt the inquisitive individuals in a population of whales, animals who can be the mainstay of a whale-watching fleet, the whale-watching experience for tourists could be diminished, as only skittish animals will be left. If whalers deliberately hunt whales in front of whale watchers, the tourism experience might not quite meet tourists’ expectations either.<sup>18</sup>

What about the behaviour of tourists? There are whale-watching businesses in Japan, Norway and Iceland, the major whaling nations. In Japan and Norway, the species

being watched are different from the species being hunted. At present. In Norway, whale watching is a well-established industry, and tours have been running for nearly two decades. Over this period, commercial whaling re-started in Norway and, in recent years, hunt quotas have increased, with plans to raise quotas substantially in the near future.<sup>19</sup> In Iceland, whaling recently restarted after a hiatus of over a decade. During this decade, whale watching started.

There are no strong data on whether the existence of whaling in some nations puts tourists off going to these places. If it has put some tourists off, more than enough other tourists are ready to take their place to ensure whale watching continues. The risk of lost whale-watch tourism did not stop Icelandic authorities from restarting whaling in 2003. In Japan, “scientific whaling” programmes have expanded, in number of whales killed, and in the number of species killed, over the period since whale watching began.

So whaling not only *occurs* in countries with whale watching, whaling has *increased* in these three countries since whale watching started. Why can whaling and whale watching occur in the same countries? Businesses taking people to watch killer whales or sperm whales in localized areas along the Norwegian coast have no real effect on minke whaling, mostly happening further offshore. These days, whalers and whale watchers rarely even see each other. Most Japanese whaling happens far offshore, well beyond the range of coastal whale watchers, although the recent expansion of Japanese coastal whaling for minke whales may change this. It is only around Iceland where, so far, whaling and whale watching come into close proximity. Will this make minke whales harder for Icelandic whale watchers to approach?

Whaling (in theory, at least) provides food for people to eat – a primary industry. Whale watching provides spectacle, a service (or tertiary) industry. At one level, comparing them is to compare any two industries that use the same natural resource in different ways. But is whaling really a primary industry? Two of the major whaling nations – Japan and Iceland – conduct whaling under the guise of scientific research on marine ecosystems, in theory to provide information useful for managing fisheries. Meat sales are ostensibly just a by-product of the research. Scientific research is not a primary industry, although it could possibly be construed as infrastructure support for primary industry.

More telling, Norway, Japan and Iceland are three of the five Organisation for Economic Co-operation and Development (OECD) countries with the highest subsidies for their agricultural production<sup>20</sup> (Switzerland and Korea are the other two). Norway sets the pace here: about 70% of Norwegian farmers’ income is from subsidies, and Norwegian farmers are paid roughly three times

the world market prices their produce.<sup>19</sup> Agricultural production in these three nations has less to do with providing food than providing a social (or perhaps political?) service. These days, whale meat is almost entirely for internal consumption in whaling nations. So the internal market for whale meat in whaling nations is distorted, because the food markets in these nations are grossly distorted by their agricultural policies. This being so, the argument that whaling is primarily about providing food seems deeply flawed – even if “scientific whaling” is a ruse to get whale meat to consumers.

Like agricultural production in these countries, whaling is about providing a community service. What is this service? It appears to be pandering to national pride, or at least the national pride of a sector of the community that governments feel obliged to placate. This being so, whale watching can never fulfil the role that whaling does in these countries. Whaling is an expression of national identity that whale watching simply cannot replace.

### Other nations and whale watching

Whales are also found in the waters of nations that do not engage in whaling. It may be that in the future, other nations will be “encouraged” to rediscover their whaling heritage, just as nations have been “encouraged” to join the International Whaling Commission.<sup>21</sup> An example might be the Kingdom of Tonga, an island nation in the South Pacific with a per capita gross domestic product (GDP) about 8% of Japan’s, and a total GDP of 0.0066% that of Japan’s.<sup>22</sup> Tongans engaged in subsistence whaling after learning their whaling skills from open-boat European whalers in the 18<sup>th</sup> and 19<sup>th</sup> centuries, and only stopped in 1978. Through the 1990s, there was evidence of foreign nationals encouraging Tongans to recommence whaling.<sup>23</sup>

Tourism is the most important internal source of income in the Tongan economy (remittances from expatriate Tongans are the most important source overall). A study of tourists to Tonga<sup>24</sup> indicated that most of the tourists who visit Tonga now are unlikely to continue to do so if whaling recommences, even if whale meat is used only for local consumption. In this instance, the choice between whaling and whale watching is stark. The whales to be hunted (humpbacks, *Megaptera novaeangliae*) are the same as those watched. Tourists from Western nations – an economic mainstay – are less likely to visit Tonga if whaling recommences. This seems a clear case of both people and whales doing better if whales are seen and not hurt, to paraphrase Fred O’Regan from the International Fund for Animal Welfare (IFAW).<sup>25</sup>

### Whaling and whale watching – one size does not fit all

So, there are instances where whaling and whale watching co-exist (Norway, Japan), a case where recommencing whaling may affect the viability of whale watching, although this seems not to matter very much to people of that nation (Iceland) and a case where the resumption of whaling could possibly ruin an existing whale-watching industry (Tonga). What can be drawn from this?

If there is one clear message, it is that the relationship between whaling and whale watching is not simply the case of one replacing the other. This feeds back to whales as Lovelies, Nasties or Commodities. Whaling nations ostensibly view whales as both things to eat (Commodities) and fisheries competitors (Nasties), but more importantly, see the act of killing whales as an expression of national identity. Whale watching thrives by cashing in on cherishing Lovelies. So why should whaling nations care if people view whales along their coastline, as long as it does not stop their own nationals from hunting whales?

What do Japan (the world’s third largest economy) and Norway (a non-OPEC oil economy) have to fear if they lose their whale-watching tourism sector? Precious little. For example, the 2004 white paper on Norway’s new policy on marine mammals<sup>26</sup> includes discussion of whether an international backlash to the policy will have any negative effect. The paper concludes that it will not.

Iceland, a much smaller economy primarily based on fisheries exports (but with growing importance of nature-based tourism), is far more at risk. However, in this instance, boycotting Icelandic fisheries products *until* whaling stops is surely likely to produce a swifter reaction than pledging to go on holiday in Iceland *if* whaling stops (the current approach adopted by Greenpeace, one NGO with a clear policy relating Icelandic whaling and tourism).

It may be that the risk of losing tourism revenue associated with whale watching will prevent some other nations (e.g. Tonga) from recommencing whaling. How this cost-benefit analysis plays out – and importantly, which individuals will pay the costs and who, individually, will reap the benefits – remains to be seen.

### WHALE WATCHING AND ENVIRONMENTAL ENLIGHTENMENT

Does whale watching leave people more enlightened environmentally? And if so, does this make a difference to their environmental impact? Just because people understand that their behaviour affects the environment detrimentally doesn’t necessarily mean that they will alter their behaviour.

Both the whale watching and captive display industries claim that they contribute to raising peoples' environmental awareness. There is a case to be made that captive displays helped change peoples' views of cetaceans – particularly killer whales – in years past.<sup>27</sup> However, the same NGOs that dispute the value of captive display in changing peoples' perceptions also firmly assert that whale watching is currently of great benefit, changing peoples' perspectives on whales and hence the marine environment. So how has the marine environment fared in the past two decades,<sup>28</sup> the time when whale watching has been increasing exponentially worldwide?

### Marine environmental issues of the late 20<sup>th</sup> century

Humanity's impacts on marine ecosystems have progressively increased in recent years. Some of this is simply because there are more people on the earth, and they are moving to coastal cities. Some is due to technological developments, particularly in fishing, in military technologies of all sorts and in mass tourism, but also to changes in our technological capacity that have increased the areas from where we can seek, and extract, hydrocarbons. Some impacts (e.g. increases in shipping traffic and hence noise) are exacerbated thanks to increased globalisation of world markets.

Industrial wild-capture fisheries peaked in the 1980s and now appear in decline.<sup>29</sup> Some populations of large predatory fish were dramatically reduced in size in the relatively recent past.<sup>30</sup> As more fisheries are fully exploited or overexploited, industrial fisheries expand their range to new areas and depths. Improved technology of all sorts (vessels, engines, radar, weather forecasting, position fixing, net construction, maritime rescue services) also helps fishermen extract more of the available fish than was possible in the past. Aquaculture businesses, particularly sea cages for fish feedlots and coastal prawn ponds, have boomed to feed markets in the richer countries of the world.

Our carbon dioxide output from using fossil carbon stores remains a problem that refuses to go away. We see increased traffic on our ever-expanding road networks, and greater use of fuel-hungry vehicles over the past two decades. The advent of low-cost airlines, and the growth of peoples' use of air flights for inessential travel (holidays, weekends away) demonstrates that the need for individual self-limitation of our consumption of natural resources remains lost on most people in richer nations. There are indications that global warming caused by excessive consumption of fossil fuels is affecting marine ecosystems in ways that are only now starting to be understood.<sup>31</sup>

Perhaps most importantly, our consumption of resources now outstrips our planet's capacity to regenerate. This change happened some time over the past two

decades. And our ecological footprint is not getting any smaller – if anything, the size of our ecological boot just keeps growing.<sup>32</sup> Despite the optimism of the Bjørn Lomborgs of the world,<sup>33</sup> the capacity of our planet's environment to support human life seems in decline. And one nation with around the highest *per capita* consumption of resources (the USA) is also – coincidentally – a place with one of the most valuable whale-watching industries.

But all is not doom and gloom. Some whale populations are increasing in size, as decades of protection from whaling show results.<sup>34</sup> The desire to see whaling – commercial and “scientific” – ended once and for all is a clearly enunciated policy held by the governments of several nations, even if international negotiations to realise this desire seem mired in failure. Enlightened management processes aimed at ensuring the maintenance of populations of marine mammals as viable components of marine ecosystems (such as the application of the Potential Biological Removal [PBR] methods in the USA) are enshrined in law in some countries. Things could always be worse.

### What about whale watching?

The rise of whale watching has coincided with a rise in general, and in particular of marine, environmental degradation. There is no simple cause-effect relationship here, but lacking replicate planets, we're not really in a position to assess whether things would be better or worse if we had no whale watching. People in many Western countries may cherish whales, and it may be that whale watching reinforces this emotion. But there seems to be a disconnect between people loving whales and individually making the personal choices, and seeking the societal changes, that are needed to ensure healthy marine environments.

### The value of whale watching?

So the important arguments raised by conservation NGOs for supporting whale watching are now looking rather weak. Should NGO support for the whale-watching industry be discarded completely? I suggest not, but support could be refocussed and arguments refined.

### WHERE TO WITH WHALE WATCHING?

*I will not conceal his parts, nor his power,  
nor his comely proportion.*  
Job 41: 12-13

The whale-watching industry is with us now, and seems unlikely to disappear in the near future. This being so, and given conservation NGOs' continuing support of

whale watching, what can be done to minimize the industry's deleterious effects and maximize its positive attributes? Here I sketch out some ideas, by assessing whether blanket support for continued expansion of whale watching is necessarily the best approach for conservation NGOs; and how NGOs can do more to encourage "responsible" whale watching.

### The growth of whale watching

Consistently, reports produced by some conservation NGOs glory in the continued exponential increase of the whale-watching industry. But when does enough whale watching become too much? Should every population of whales be watched at every point in their yearly travels? If not, when should they be avoided? Should some populations or individuals be left alone? At present, these questions are speculative as we lack the technical capacity (and the markets) to be with all whales all the time. But these questions can focus attention on the need for appropriate management of whale watching. How do we decide the best way to answer this series of questions?

Managing whale watching needs to account for the detrimental influences that whale watching can have on whales being watched. From the first studies of the effects of whale watching on target animals, research has shown consistently that the behaviour of animals is affected by the presence of whale watch vessels.<sup>35</sup> The question then morphed into demonstrating "long term" behavioural effects and finally "biologically significant" effects.<sup>36</sup> The problem with this is that if the whale-watching industry is increasing exponentially over the period that studies are in progress, by the time an effect can be demonstrated, the industry will be much larger than it was at the start, and so inherently more difficult to control. Research is now beginning to demonstrate effects that are clearly "biologically significant", but this work is based on data collected over many years.<sup>37</sup> In some places now, whale watching can be an important source of human-induced disturbance to whales or dolphins.<sup>38</sup>

Perhaps now is a good time for conservation NGOs to stop actively encouraging further increases in whale watching, except for specific, targeted cases (e.g. the example of Tonga, discussed above). Perhaps seeking a pause in the further growth of whale watching should be considered. An example of such an enlightened approach is that taken by management authorities in Queensland, Australia, where whale watching on humpback whales is allowed only in a few designated whale management areas, all in marine parks. Within the whale management areas, the number of commercial vessels that can operate is limited by permit. In this way, Queensland authorities prevented exponential growth of commercial whale watching.<sup>39</sup>

By ceasing active encouragement of all whale watching, NGOs could acknowledge the intractable relationship between managing to mitigate the effects of a growing whale-watching industry, when we know that effects can take years to demonstrate, and encouraging industry growth world-wide. Supporting the continued exponential increases in whale-watching industries while calling for research demonstrating "biologically significant" effects of whale watching is, in essence, contradictory.

### Defining "responsible whale watching"

Conservation NGOs that support whale watching (e.g., IFAW; the Whale and Dolphin Conservation Society [WDCS]; Greenpeace; World Wide Fund for Nature [WWF]) also stress the need for *responsible* whale watching. Adding "responsible" in front of "whale watching" is a start, but without knowing what "responsible" whale watching is, we don't get very far. And having defined *responsible* whale watching, how can it be differentiated from *irresponsible* whale watching? Having established the difference, then, how to support responsible whale watching while discouraging irresponsible whale watching?

It is possible to manoeuvre a boat around cetaceans in a way that does not substantially affect animals' behaviour,<sup>40</sup> a technique used for years by some animal behaviourists studying dolphins.<sup>41</sup> This is obviously the first step for responsible whale watching, but one that is clearly not achieved by most of the commercial whale-watching operations that have been studied. The many guidelines or regulations governing the way people should manoeuvre their vessel in the vicinity of whales are an attempt to help – or coerce – vessel operators to limit their impact on whales.

Commercial whale watching also comes in many guises. An important distinction is between huge industrial enterprises of many vessels working in one area (e.g. whale watching in the waters off the Azores) with small operations where perhaps only one vessel runs whale watches in an area. The extreme is the places where the number of whale-watching vessels approaches the number of individual whales known to exist in the population being watched.<sup>42</sup> Paul Forestell has refined our understanding of this issue by pointing out the important distinction between what he refers to as "subsistence" (a small industry with few boats), "commercial" and "industrial" (huge industry, very many boats) whale watching.<sup>43</sup> "Responsible industrial whale watching" is likely to be an oxymoron.

How much whale watching is too much? Recent research is starting to answer this question quite specifically. David Lusseau<sup>44</sup> has recently shown that if dolphins had commercial tour boats around them for more than 35% of the daylight hours, their overall time spent in rest was reduced. This gives us a way to limit vessel numbers. Until David's study is replicated on populations else-

where, this proportion of time should be taken as the absolute maximum daily limit that whale-watching vessels can be around cetaceans. Some will argue that as David's study deals with one species at one site with one particular industry, his results cannot be used to infer anything about populations elsewhere. Wearing my geeky scientist hat, I agree that they are absolutely right. However, it is situations like this for which the precautionary principle was devised. Until replicate studies are carried out, David's data are the best available. Perhaps for some species at some sites, a longer period might be possible, but the onus is on those who wish to have vessels around cetaceans for longer to demonstrate how what they are offering can be construed as "responsible".

### Supporting responsible whale watching

Some NGOs (WDCS is perhaps the clearest on this) oppose tours that include swimming with cetaceans. A major reason for this distinction is that, in general, swim-with operations are likely to be more intrusive than standard, vessel-based whale watches. This is a very valid point, but what about swim-with operations that are no more intrusive than most vessel-based industries (and may be substantially better than some)? The industry based on swimming with dwarf minke whales within the Great Barrier Reef Marine Park provides an example of what could be considered a "responsible" swim-with operation.<sup>45</sup>

By distinguishing the manner in which they support swim-with and "normal" whale watching, WDCS has started the process of differentiating between "responsible" and "irresponsible" whale watching. Instead of using boat-based = good; swim-with = bad, why not assess what goes into "responsible" whale watching, and see whether operations conform to responsibility?

My list (others may differ) of what is needed to ensure responsible whale watching includes:

- A licensing system for whale-watching tour operations. Without licences, limiting the number of vessels engaged in whale watching in an area is virtually impossible;
- Legally enforceable regulations dealing with the manner in which vessels operate in the vicinity of whales;
- Enforcement of regulations, including a management agency presence on the water. Management staff must have the capacity to fine operators for breaches of regulations and, as a last resort, managers need the capacity to revoke the licence of an operator that consistently flouts regulations;
- For sites where cetaceans have areas where they are most likely to engage in some important

behaviour (e.g. resting, feeding), spatially explicit zoning to limit the influence of industry in sensitive areas;<sup>46</sup>

- A scientific monitoring programme to assess the degree of compliance with regulations and the status of the cetaceans being watched. The capacity of the monitoring programme to achieve its stated aims must be demonstrated;
- Formally agreed limits of acceptable change to the aspects of cetaceans' biology that are being monitored. Should these limits be breached, management measures (agreed to in advance) should be implemented. Examples of possible limits include:
  - An annual, biennial or triennial limit to the number of animals that can be killed or seriously injured by whale-watching vessel strikes,
  - Limits to the extent to which the population of animals being watched can decline (for whatever reason, not necessarily attributable to whale watching),
  - Limits to the change in the amount of time that animals spend in particular behavioural states (e.g. if the proportion of time that animals rest is reduced by an agreed amount, management changes are implemented);
- As implementing most of the points above requires spatially explicit regulations, establishing a multiple use marine protected area (MPA), if one does not already exist, will probably be necessary;
- Educating by example with regard to environmental impacts. A couple of possibilities are:
  - Carbon neutrality for all aspects of the industry (including tourists' air travel), and
  - On whale watch vessels, serving only seafood caught in a manner that is ecological sustainable;<sup>47</sup>
- An industry-pays policy for the costs of management and monitoring.

Responsible whale-watching enterprises would include all of these points (or whatever list is decided by those willing to take this on). Irresponsible whale watching would include none of them. But definitions are just a start.

Whichever organization (if any) takes on responsibility for developing this idea could consider a star system – five stars for operations that meet the highest standards, no stars for operations that fail to meet any standards. Consumers could then show by their behaviour whether

they really care for responsible whale watching or not. Clearly, operations that are directly supported by conservation NGOs (e.g. through WDCCS' "out of the blue" holidays) must meet the highest environmental standards.

## ICONS REVISITED

*whatsoever is under the whole heaven  
is mine.  
Job 41:11*

Once, icons were sacred images. The meaning of icons changed, and came to include people, places or things that stood to represent some set of beliefs or way of life. Now, an icon is an image on our computer screen that we click on to instruct the computer to run some task. Just as the meanings of icons changed, so too has the iconic meaning of whales.

Once, whales were unapproachable, unimaginably powerful giants. They became dangerous animals, sources of wealth to be conquered by brave souls. As technology improved they metamorphosed into big, living tubs of oil. Whales' near disappearance recreated them as symbols of humanity's inappropriate desire for wealth from nature. Now, they are both large nuisances, peceived to be eating too many commercial fish, and big, charismatic animals that are wonderful to see.

The apparent public apathy to current increases in whaling, and to the marine mammal culling currently under way in some countries (e.g. Canada and Norway), suggests that the value of whales (and marine mammals, generally) as environmental icons may be fading. And even within some nations that oppose commercial whaling, there are those who support the idea that whales consume too many fish. The International Coalition of Fisheries Associations (ICFA), whose members include fisheries associations of Australia, New Zealand and the USA, have resolved that whales' consumption of commercial fish is a problem that needs addressing.<sup>48</sup>

The science behind the "whales eat too many fish" idea is poor, but this chapter is not the place for detailed technical analyses of that scientific research. The general question – should whales be able to eat fish (and squid and shellfish) is worth contemplating. One of the several unspoken assumptions regarding whales' "impact" on marine ecosystems is that if the whales weren't there, more fisheries product would be available for people. This further presupposes that we have the technology to wipe out the whales (which we do), the technology to catch the "now unused" fish (which may or may not turn out to be true), that markets exist for these fish (unlikely, as whales eat mostly non-commercial fish<sup>49</sup>), and that our understanding of marine ecosystem processes is so advanced that we know what effects will flow from

removing whales. This last presupposition is demonstrably false, as scientists are still wondering over what drives some of the most dramatic and obvious changes we have seen in marine ecosystems in recent years.<sup>50</sup>

A mix of technological development, economics and historical accident has brought us to the point where we humans now exert substantial influence over the biological processes driving marine ecosystems. One of our accidents has been dramatic overfishing of many species, resulting in a general decline in world fisheries production. Scapegoating whales for our mistakes is easy. But scapegoating begs the question of whether whales have any right to exist at all. And if whales are gone, and fisheries still declining, what then? Seals? Seabirds? Sharks? All fish? Shall we leave behind us empty oceans, for our starving grandchildren to squabble over the last jellyfish?

*and sorrow is turned into joy before him.  
Job 41:22*

There is no ocean wilderness any more. Our control over the oceans would seem godlike to our ancestors, but we lack omnipotence. The vessel technologies that allow people to view whales in safety and comfort also bring destruction to their environment. Our desire for new experiences costs fossil fuel, and contributes to the warming planet.

These are the messages that need to come across on whale-watching trips. Conservation groups need to seize the opportunity presented by the current calls to cull marine mammals, and reshape the iconography of whales for this new century.

## ACKNOWLEDGEMENTS

My thanks to Dave Lavigne for inviting me to the meeting at Limerick, and for inviting me to write this essay. My previous employer, the Norwegian Institute of Marine Research, funded my trip to Limerick. The manuscript was improved by comments from Sidney Holt, Dave Lavigne, Russell Leaper, Vassili Papastavrou and Sofie Van Parijs. I wrote this while visiting the Bioacoustics Research Program at the Cornell Laboratory of Ornithology, and thank everyone at BRP for their kindness.

## NOTES AND SOURCES

<sup>1</sup> Biblical quotations are from the King James Version of the Bible. I'm following St. Thomas Aquinas' view that Leviathan referred to whales. Thoughts for this essay are rooted in Judeo-Christian, Western traditions. A similar review based on Eastern thought would be timely, but beyond me.

<sup>2</sup> Through this essay, when I refer to whales, I'm talking about

- cetaceans other than dolphins (Delphinids), porpoises (Phocoenids) and river dolphins.
- <sup>3</sup> For example, gray whales in the western North Atlantic, see Mead, J.G. and E.D. Mitchell. 1984. pp. 33-53. In *The Gray whale. Eschrichtius robustus*. Academic Press, New York.
- <sup>4</sup> For more on the history of whales and whaling, see Papastavrou and Cooke, Chapter 7.
- <sup>5</sup> For example, P. Forestell, 2002. Popular culture and literature. pp. 957-974. In W.F. Perrin, B. Würsig, and H.G.M. Thewissen (eds.). *Encyclopedia of Marine Mammals*. Academic Press, San Diego.
- <sup>6</sup> Quoted from page 342 of Tønnessen, J.N. and A.O. Johnsen. 1982. *The History of Modern Whaling*. Translated by R.I. Christophersen. University of California Press, Berkeley, CA.
- <sup>7</sup> Nationals of other nations engage in whaling, for example: Canada, Denmark (Greenland, the Faeroe Islands), Indonesia, the Russian Federation, St Vincent and the Grenadines, and the USA. Whaling by these people falls under the "Aboriginal Subsistence" category at the International Whaling Commission – or would, if all were IWC members (Canada and Indonesia are not members). Whale watching occurs in all of these countries, too.
- <sup>8</sup> Hoyt, E. 2002. Whale watching. pp. 1305-1310. In W.F. Perrin, B. Würsig, and H.G.M. Thewissen (eds.). *Encyclopedia of Marine Mammals*. Academic Press, San Diego.
- <sup>9</sup> Caughley, G. 1985. Problems in wildlife management. pp. 129-135 In H. Messel (ed.). *The Study of Populations*. Pergamon Press, Sydney.
- <sup>10</sup> Quotations are from page 129 of Caughley's chapter in *The Study of Populations*.
- <sup>11</sup> Reviewed in Kaschner, K. and D. Pauly. 2004. Competition between marine mammals and fisheries: Food for thought. Report from the Fisheries Centre, University of British Columbia, Canada. Available at <http://www.hsus.org/ace/21314>.
- <sup>12</sup> Corkeron, P.J. 2004. Whalewatching, iconography and marine conservation. *Conservation Biology* 18: 847-849.
- <sup>13</sup> See, for example: Hoyt, E. 2001. Whale watching 2001: worldwide tourism numbers, expenditures, and expanding socioeconomic benefits. International Fund for Animal Welfare, Yarmouth Port, Massachusetts, or Economists@Large & Associates 2004. From whalers to whale watchers. The growth of whale watching tourism in Australia. International Fund for Animal Welfare, Yarmouth Port, Massachusetts.
- <sup>14</sup> See also Corkeron, P.J. 2004.
- <sup>15</sup> See, for example, <http://www.wdcs.org>; <http://www.ifaw.org>; <http://www.greenpeace.org>; <http://www.panda.org>.
- <sup>16</sup> Tønnessen, J.N. and A.O. Johnsen. 1982.
- <sup>17</sup> Corkeron, P.J., P. Ensor, and K. Matsuoka. 1999. Observations of blue whales feeding in Antarctic waters. *Polar Biology* 22:213-215.
- <sup>18</sup> Although I've heard an anecdote of tourists disappointed that a "Whale Safari" in Norwegian waters did not include any whale deaths!
- <sup>19</sup> Anonymous 2004. *Norsk sjøpattedyrpolitikk*. Stortingsmelding 27 (2003-2004). Available at <http://odin.dep.no/filarkiv/207622/STM0304027-TS.pdf>. An English translation of the white paper's summary chapter is available at [http://odin.dep.no/filarkiv/202967/marine\\_mammal\\_summary\\_final.pdf](http://odin.dep.no/filarkiv/202967/marine_mammal_summary_final.pdf).
- <sup>20</sup> From OECD 2004. OCED Agricultural Policies 2004. At a glance. Available at: <http://www.oecd.org/dataoecd/63/54/32034202.pdf>.
- <sup>21</sup> Despite dispute regarding allegations that whaling nations have engaged in "vote buying" at the IWC, in 2002 a senior Japanese official admitted that this was the case. See, for example <http://www.abc.net.au/pm/s331666.htm>.
- <sup>22</sup> Country's details are taken from the online version of the CIA World Factbook, <http://www.cia.gov/cia/publications/factbook/index.html>.
- <sup>23</sup> For example, see Orams, M. 2000. Whale watching in Vava'u, Tonga, an important economic resource. *Whales Alive* 9(2). Available at <http://www.csiwhalesalive.org/csi00208.html>.
- <sup>24</sup> Orams, M.B. 1999. The Economic Benefits of Whale Watching in Vava'u, The Kingdom of Tonga. Centre for Tourism Research, Massey University at Albany, North Shore, New Zealand. 64 pp. + appendices.
- <sup>25</sup> O'Regan, F. 2001. Preface. p.1. In E. Hoyt. Whale watching 2001: worldwide tourism numbers, expenditures, and expanding socioeconomic benefits. International Fund for Animal Welfare, Yarmouth Port, Massachusetts.
- <sup>26</sup> Anonymous 2004. *Norsk sjøpattedyrpolitikk*. Stortingsmelding 27 (2003-2004). Available at <http://odin.dep.no/filarkiv/207622/STM0304027-TS.pdf>. An English translation of the white paper's summary chapter is available at [http://odin.dep.no/filarkiv/202967/marine\\_mammal\\_summary\\_final.pdf](http://odin.dep.no/filarkiv/202967/marine_mammal_summary_final.pdf).
- <sup>27</sup> Corkeron P.J. 2002. Captivity. pp. 192-197. In W.F. Perrin, B. Würsig B. and J.G.M. Thewissen (eds.). *The Encyclopedia of Marine Mammals*. Academic Press, San Diego.
- <sup>28</sup> The time when whale watching has gone from cottage industry to mass tourism, see Hoyt, E. 2001.
- <sup>29</sup> Pauly, D., V. Christensen, S. Guenette, T. J. Pitcher, U. R. Sumaila, C. J. Walters, R. Watson and D. Zeller. 2002. Towards sustainability in world fisheries. *Nature* 418: 689-695.
- <sup>30</sup> Myers, R.A. and B. Worm. 2003. Rapid worldwide depletion of predatory fish communities. *Nature*. 423: 280-283.
- <sup>31</sup> For example: Edwards, M. and A.J. Richardson. 2004. Impact of climate change on marine pelagic phenology and trophic mismatch. *Nature* 430: 881-884.
- <sup>32</sup> For examples, see Wackernagel, M., N.B. Schulz, D. Deumling, A. Callejas Linares, M. Jenkins, V. Kapos, C. Monfreda, J. Loh, N. Myers, R. Norgaard, and J. Randers. 2002. Tracking the ecological overshoot of the human economy. *Proceedings of the National Academy of Sciences* 99: 9266-9271; Myers, N. and J. Kent. 2003. New consumers: The influence of affluence on the environment. *Proceedings of the National Academy of Sciences* 100: 4963-4968.
- <sup>33</sup> Lomborg, B. 2001. *The Skeptical Environmentalist*. Cambridge University Press. Cambridge, UK.
- <sup>34</sup> For an example, see Paterson, R.A., P. Paterson and D. H. Cato. 2001. Status of humpback whales, *Megaptera novaeae-*

- gliae*, in East Australia at the end of the 20<sup>th</sup> century. *Memoirs of the Queensland Museum*. 47: 579-586.
- <sup>35</sup> See, for example, Baker, C. S. and L. M. Herman. 1989. Behavioral responses of summering humpback whales to vessel traffic: experimental and opportunistic observations. Technical report NPS-NR-TRS-89-01. Final report to the National Park Service, Alaska Regional Office. Anchorage, Alaska.
- <sup>36</sup> International Whaling Commission. 2001. Report of the workshop on assessing the long-term effects of whale watching on cetaceans. Annex N. *Journal of Cetacean Research and Management* 3 (Supplement): 308-315.
- <sup>37</sup> For example: Constantine, R., D.H. Brunton, and T. Dennis. 2004. Dolphin-watching tour boats change bottlenose dolphin (*Tursiops truncatus*) behaviour. *Biological Conservation* 117: 299-307.
- <sup>38</sup> Foote, A.D., R.W. Osborne, and A.R. Hoelzel. 2004. Whale call response to masking boat noise. *Nature* 428: 910.
- <sup>39</sup> See Vang, L. 2002. Distribution, abundance and biology of Group V humpback whales, *Megaptera novaeangliae*: A review. The State of Queensland, Environmental Protection Agency. Brisbane.
- <sup>40</sup> For example: Corkeron P.J. 1995. Humpback whales (*Megaptera novaeangliae*) in Hervey Bay. Behaviour and interactions with whalewatching vessels. *Canadian Journal of Zoology* 73: 1290-1299; Lusseau, D. 2003. Male and female bottlenose dolphins (*Tursiops* spp.) have different strategies to avoid interactions with tour boats in Doubtful Sound, New Zealand. *Marine Ecology Progress Series* 257: 267-274.
- <sup>41</sup> Mann, J. 2000. Unraveling the dynamics of social life. Long-term studies and methods. pp. 45-64. In J. Mann, R.C. Connor, P. Tyack, and H. Whitehead (eds.). *Cetacean Societies. Field studies of dolphins and whales*. The University of Chicago Press, Chicago.
- <sup>42</sup> See, for example, Figure 2a in Foote, A.D., R.W. Osborne, and A.R. Hoelzel. 2004. Whale call response to masking boat noise. *Nature* 428: 910.
- <sup>43</sup> P. Forestell, 2002. Popular culture and literature. pp. 957-974. In W.F. Perrin, B. Würsig, and H.G.M. Thewissen (eds.). *Encyclopedia of Marine Mammals*. Academic Press, San Diego.
- <sup>44</sup> Lusseau D. 2004. The hidden cost of tourism: Effects of interactions with tour boats on the behavioural budget of two populations of bottlenose dolphins in Fiordland, New Zealand. *Ecology and Society* 9(1): 2. Available at <http://www.ecologyandsociety.org/vol9/iss1/art2>.
- <sup>45</sup> Birtles, A., P. Arnold, and A. Dunstan. 2002. Commercial swim programs with dwarf minke whales on the northern Great Barrier Reef, Australia: some characteristics of the encounters with management implications. *Australian Mammalogy* 24: 23-28.
- <sup>46</sup> See an example of how this could work in: Lusseau, D. and J.E.S. Higham, 2003. Managing the impacts of dolphin-based tourism through the definition of critical habitats: the case of bottlenose dolphins (*Tursiops* spp.) in Doubtful Sound, New Zealand. *Tourism Management* 25: 657-667.
- <sup>47</sup> Pointers to sustainable seafood can be found through a few organizations now, for example the Marine Stewardship Council, Monterey Bay Aquarium's "Seafood Watch" or the Seafood Choices Alliance.
- <sup>48</sup> For example, the ICFA press release of August 14, 2001 "ICFA calls for a scientific approach to whaling", available at the "News" page of the ICFA website: <http://www.icfa.net>.
- <sup>49</sup> Reviewed in Kaschner, K. and D. Pauly 2004.
- <sup>50</sup> See, for example: Springer, A.M., J.A. Estes, G.B. van Vliet, T.M. Williams, D.F. Doak, E.M. Danner, K.A. Forney, and B. Pfister. 2003. Sequential megafaunal collapse in the North Pacific Ocean: an ongoing legacy of industrial whaling? *Proceedings of the National Academy of Sciences* 100: 12223-12228; Yodzis, P. 2001. Must top predators be culled for the sake of fisheries? *Trends in Ecology and Evolution* 16: 78-83.

# PART III:

## FACTORS AT PLAY



How much does a whale watching trip cost? Adult: R900. Students and Seniors: R 750. A typical whale watching trip may encounter Cape Fur Seals, pods of Common & Bottlenose Dolphins and the endangered African penguins. Depending on the season you may also see migrating Humpback Whales and resident Bryde's Whales. Cape Coastal waters also attract the largest concentration and variety of seabirds. If you are susceptible to motion-sickness you should take the necessary precaution prior to arrival according to the prescribed medication. Hermanus Whale Watchers also sells natural active motion-sickness tablets but we are not permitted to sell medicated options which can be purchased at the local pharmacy located in the town centre. Best Boston Area Whale Watching Company. 7 Seas Whale Watch, Gloucester, Ma 01930. Despite what ANY whale watch company may claim, you can never really guarantee how many whales will be seen, or even if any whales will be seen, when you go whale watching. You can guarantee a free return ticket (aka "rain check") if you don't see a whale, but you can't guarantee the whales themselves. That being said, the extremely high productivity of the Stellwagen Bank National Marine Sanctuary area means that whales are usually here, often in good numbers, and that's why we have seen whales (at least 1) on over 99% of our trips since 1983. Whale Watching FAQ's. What is the best time of the year to see Orca whales? San Juan Island (90 miles north of Seattle) is the best place for orca whale watching as we are located in the heart of Salish Sea. Orca whales range through the San Juan Islands the most between March and October and you can expect to see them on the vast majority of our tours during that time, although we do have sightings throughout the year. We also regularly encounter beautiful Humpback Whales (through November) and Minke whales in the area. What should we bring? While the San Juan Islands have some of the best weather around in the Summer, we are still in the Pacific Northwest and you can always plan on it being about 10-15 degrees cooler out on the water.