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The science is in: save the whales, save the planet

Reese Halter

December 17, 2010

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A sperm whale calf only hours old, swims next to its mother and a pod of sperm whales. These whales are helping scientists determine the size of the hole in the ozone layer. Photo: AP

Last year, Iceland and Norway killed 688 whales while Japan, under the guise of "scientific research", slaughtered 1000 whales. In the 20th century humans killed 1.5 million whales around the globe.

But reports from the past couple of months indicate that in order to save the Earth whales must be protected.

Whales are helping researchers determine atmospheric science, Arctic

oceanography, the extent of global warming, marine food web nutrition and record-breaking migration patterns. Incidentally, all of these fascinating discoveries are taking place on frugal scientific budgets.

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Workers from the Zoological Society of London and Queen Mary University recently examined 156 blue, fin and sperm whales swimming in the Gulf of California — a United Nations World Heritage site. The whales are showing the scientists that while the hole in the ozone layer has slightly diminished, it's still allowing lethal UV radiation to [penetrate](#) the Earth's protective ozone shield and causing skin cancers and cataracts.

From high-resolution photographs and studying whale skin samples, they have concluded that the whales are becoming sunburnt during the time they are spending at the surface.

In fact, UV radiation is expected to increase by 4 per cent in the tropics and 20 per cent in the poles over the next few decades and ozone levels are not expected to recover until about 2050. At this point, scientists are not clear whether various life-threatening cancers will develop on whales exposed to high levels of UV radiation.

One thing is for certain: people spending time outdoors must wear sunscreen and protective eye-wear.

Researchers from Harvard University and the University of Vermont have found that humpback whales in the Gulf of Maine carry massive quantities of nitrogen from the deep sea where they feed to the surface and release it in their liquid-like faeces.

Essentially, humpbacks function as an ["upward biological pump"](#).

It turns out that humpbacks contribute more nitrogen to the Gulf of Maine than all the local rivers

combined, an estimated 23,000 tonnes, annually.

In turn, these nutrients allow more phytoplankton to grow, which increases the food supply at the base of the marine food web, promoting bigger fisheries and higher abundance where whales occur in greater densities.

Clearly, it is erroneous to claim, as the three whaling countries tout, that whales compete with their commercial fisheries; rather, they enhance them.

Whales can also help us track climate change. Oceanographers from the University of Washington and Greenland's Institute of Natural Resources tagged 14 adult narwhals in their high Arctic habitat with sensors and determined that the temperature of the Arctic Ocean was almost 2 degrees Fahrenheit [warmer](#) than previously thought.

The Arctic is warming at an unprecedented rate. In the 1980s, the Arctic contained about 999,740 square kilometres of ice that was at least five years old. At the end of September 2010 only 56,980 square kilometres of such older, thicker ice remains. The Arctic has lost 97 per cent of the thicker year-round ice that existed just three decades ago.

The value of whales is immeasurable when it comes to monitoring our planet. They are helping us determine how quickly global warming is occurring and determining the extent of the hole in the ozone layer. In addition, since 40 per cent of the ocean's phytoplankton is missing from warming ocean temperatures and ocean acidification (from absorbing rising levels of carbon dioxide), the whales are crucial in their role to fertilise the oceans and replenish phytoplankton — the base of the entire marine food web.

In 2008, 13 million people from 119 countries paid \$2.1 billion to see the whales. Around the globe, whale watching tourism is growing at 10 per cent per annum.

It's time now to end the whale hunt and grant amnesty to these magnificent creatures that are helping us survive on our blue planet.

[Dr Reese Halter](#) did his PhD at Melbourne University. He is an author and conservation biologist at California Lutheran University.



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Comments

10 comments so far

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»*Well put Reece!!*«

»«

lesm | Balmain - December 20, 2010, 7:19AM

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»*It is unfortunate that a relative small number of people cannot see through the short term \$\$\$\$ signs and continue their rape of our seas. Once the whales and blue fin tuna are gone, I have grave concerns that the dolphin population will then be targetted like the sharks. Politicians have shown they lack the moral courage to tackle this problem. \$\$\$\$ comes first.*«

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Alan | Gold Coast - December 20, 2010, 7:33AM

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»*(edited by moderator)*«

»*Whales are food, just like cows, pigs, sheep and chickens. The only difference is that they are free range and do not experience the intense cruelty of factory farming methods. Provided the harvest is sustainable*

(which in the case of Japan, Norway and Iceland is certainly is), it is entirely ethical.«

»Furthermore, whale meat does not require the vast amounts of land, water and carbon dioxide to produce as do other meat sources, such as beef. It is the "green" meat.«

»Look at the science. Lift the moratorium. Stop the eco-terror.«

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Hideyoshi Toyotomi | Japan - December 20, 2010, 8:24AM

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»If you do not accept the AGW hypothesis, can you still be opposed to whaling friendly to the actual people who do it, and still not want it done!? I can, at least this is an attempt. I notice your mention of nitrogen and cancer. Well! Nitrogen is used to get rid of some human cancers. Thus. The word cancer applied to Whales must also mean, apart from an unusual presence of a growth a similarity between whales and human cancers. I wouldn't put the fact of ozone depletion as the only reason that is comparative between humans and whales. In fact, I would avoid it like the plague. Maybe in the observations of whaling fleet staff themselves rather than the scientists who may not have sea legs, will be found the reasons for these cancers. They go in some what appear often as Pristine waters, perhaps having the whaling fleets blowing the whistle on dirty oceans may close a gap between whaling nations and those who don't want whaling, if a more commoner disturbance is happening. On the farm, Nitrogen is used to store bull sperm. There has been a research to show that the sperms motility has been reduced in some way over a long time. In fact, there are concerted efforts to breed the sperm motility back. Australian and other countries cattle farmers would be quite prepared to feed their cattle stuff that made their meat comparative to whale meat, without cruelty, and as a celebration of the rights of whales, I would hazard a guess. Ozone has also been used to reduce cancers.«

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p.a.travers | Tyringham.2453 - December 20, 2010, 8:39AM

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»A couple of quick points in relation to this - firstly, I don't disagree with the thrust of the arguments presented. However, it fails to recognise what I think is the key point in the 'whaling' debate - that is, our approach to try and convince (mainly Japan) to reduce whaling is completely flawed. «

»The essence of this article is to try and build on the argument that whaling is not 'moral'. This is the way it is presented to the Japanese, and is a big part of the reason why they are so resistant to it. Let me give you two examples against whaling:«

»- Killing whales is unusually cruel because of the methods used. I would say, arguably no less cruel than live export of sheep to the middle east, with the cramped conditions and death rate en route.«

»- Killing whales damages the planet (expressed in this article - again, no more damaging I would argue than the mass consumption of beef (with attendant methane emissions) that is a cornerstone of many Western cultures.«

»Try to present whaling as an activity that should be stopped due to its 'inherent' immorality is always going to lead to the West looking like a bunch of hypocrites, and isn't going to have much traction in Japan.«

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Nick | Melbs - December 20, 2010, 8:43AM

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»I am totally opposed to whaling, so it should be stopped. I also understand most of the meat isn't eaten by humans, so whats the point?«

»As for Co2 emissions, well Co2 cannot do what the scaremongers say it can do, not with the minisule concentrations on Earth as it stands. But look around the world, record cold. Norway, 200 year cold record broken. Thousands stranded at airports. Is this climate disruption? LOL«

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Pat | Sydney - December 20, 2010, 10:02AM

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»Many of us are passionate about saving whales so please consider the following point of view which is different from the popular point of view from a scientist who has worked on saving whales from extinction in the past 40 years.«

»We should focus our attention on the extremely endangered Blue whales rather than the overpopulated Minke whales in the Antarctica. The Blue whales is the largest whale and it was decimated from over 200,000 to its present population of about 3000 from 1870. A total of about 300,000 were killed. When that

happened the Minke whales increased and at present IWC data say that there are more than 500,000 Minke whales in Antarctica. «

»Independent and accurate index that Minke whales did better at the expense of Blue whales came from the fact that its age of sexual maturity decreased significantly since 1870. Bad luck for the Blue and Minke whales the krill population in Antarctica has decreased by more than 50% due to global warming and this has been documented by a team of British scientists and published in Nature 2004. The only way we humans can do to save the Blue whales is to cull substantially the Minke whales in the Antarctica.«

»Anyone interested in whales should go to the International Whaling Commission and look at the data on whale populations.«

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Dr B S Goh | Australian in Asia - December 20, 2010, 10:06AM

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»Back in 1986 the ol' crew from Star Trek were telling us to Save The Whales (film #4 The Voyage Home) - looks like they knew what they were talking about....«

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Lin | Newton - December 20, 2010, 11:14AM

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»In response to Hideyoshi Toyotomi - I have lived in Japan for many years and to the Japanese, everything is food. I see families taking their kids out onto the mud flats in Tokyo Bay near Tokyo Disney, collecting shellfish, taking them home and feeding them to their kids. That's got to be good for you, hey? However, on a more relevant note, the Japanese are so passionate about their whale 'research' expeditions to the Antarctic, yet according to a recent report, there are 4,000 tons of whale meat that has been sitting in storage for years and the J-Gov intends to sell it to schools at a third of the market price just to get rid of it. Unfortunately, I am sure Japan's continued whale 'research' is more a case of "don't tell us what to do" than an actual need to hunt whales FOR FOOD under the guise of so-called 'research'. The Minkie whales may very well be over-populated, but why does Japan insist on hunting them FOR FOOD when nobody eats the stuff. I should also note that, the Japanese make no distinction between toothed whale meat and baleen whale meat. It has been documented by Japanese researchers that toothed whale meat contains extremely high levels of mercury and should not be eaten, which makes one wonder, how much of this 4,000 ton surplus is mercury tainted dolphin meat that they intend to feed to their kids at school? No wonder 'ethics' is not a subject in Japanese schools.«

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nine years in Japan | Japan - December 20, 2010, 2:15PM

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»Nine Years, thank you for your concern but last I checked Japanese people have the highest life expectancy in the world, while Australians have the highest level of obesity in the world. So let's each worry about our own dietary issues, shall we?«

»As for Japan's research programme allegedly being about "don't tell us what to do", I ask: why are you telling us what to do? Because you watched Free Willy and decided you think whales are cute and cuddly?«

»«

Hideyoshi Toyotomi | Japan - December 20, 2010, 2:31PM

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After almost a decade, the fix is in and the news is bad. Just as Afghanistan's Hamid Karzai has Barack Obama precisely where he wants him, so too Pakistan has the US leader where it would like to keep him - up against a wall, writing big fat cheques.