

CALIFORNIA GRAY WHALE COALITION

PROTECTING THE MOST ANCIENT BALEEN WHALE ALIVE TODAY

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GRAY WHALE FACES MANY THREATS AND CHALLENGES. **THE COALITION NEEDS YOUR HELP**

In December, our CEO spent a week at the Society for Marine Mammal Conference in San Francisco where she focused on presentations relating to two key issues likely to impact the Gray Whales.

UNDERWATER NOISE



AND TOXIC CONTAMINANTS!

Two full day workshops on the impacts of underwater noise were held over the weekend before the conference started. During the next five days, many presentations were made by scientists and the Navy which raised major issues of concern.

It's really important to understand what noise does to cetaceans. They can die from haemorrhages to their ears and lungs, ugly painful deaths. Those that escape death are likely to suffer from a smorgasbord of impacts including temporary and/or permanent deafness. Communication between mother and calf can be obliterated, ability to find prey compromised, stress can create disease and inhibit reproduction.

The long term impacts on the marine ecosystems are unknown but we do know that fish and invertebrates are affected as well.

The impacts on primary prey of cetaceans are generally ignored. Experiments are becoming increasingly unacceptable with scientists now glueing devices to whales so that they can



Examples of measuring devices

estimate what level of noise the whale is receiving. These are nasty, heavy devices which must cause immense irritation to the skin and also inhibit ability to scratch barnacles. These devices are not removed.

Real time modelling can be achieved by placing sound buoys on the ocean floor, there is no need for whales to be burdened by glued on sound recorders.

There's no focus on cumulative impacts. So whales may be exposed to noise from shipping noise, navy exercises which include sonar, explosives, as well as seismic exploration and potentially drones.

The combination of all this noise in the ocean is profound.

Christopher Clark, Director of Bioacoustic Research Program, Cornell University says the cumulative impact of noise in the urbanised ocean environment seriously compromises whales. He uses this example.

"Imagine a space ship is over your village and it's sending explosions down to every 10 seconds, driving everybody crazy. The choice is you either leave or die. The acoustic world is 10% of what it should be. The whales' social network is destroyed, their world seriously compromised, their immune and reproductive systems impacted by stress created by noise."

A recent paper published in BioScience by leading experts in underwater noise is useful in assessing the impacts on marine mammals.¹

Key Issues in the BioScience paper assessing impacts of underwater noise on marine mammals.

Every particle of factual evidence supports the contention that the higher mammalian vertebrates experience pain sensations at least as acute as our own.²

Cetaceans are sentient beings with the capacity to suffer. They cannot lose consciousness.³

Of some 80 species of extant cetaceans, audiograms are available for fewer than 10 species.

Any reduction in hearing ability – whether by physical damage or masking of sounds – is likely to seriously compromise the viability of individuals and, potentially, populations..

According to the experts, there is a very limited understanding of the use of sound by marine mammals and similarly limited understanding of the complexity of ecosystems on which whales depend; their migratory routes; breeding grounds; population dynamics; population numbers; status of prey; status of habitat.

No attempts have been made to model the effects of noise on the habitat and ecosystem of marine mammals. Fish and other marine organisms respond to noise in both experimental systems and marine environment.⁴

No studies have been undertaken to ascertain whether noise effects prey species in a way that will increase or decrease their availability to predators

Current mitigation measures do not take into account physiological and psychological stress.

No Provision for comparing the birth or breeding successes or even the intermediate term health of whales subjected to noise. These are basic issues.

Being cognizant of a smorgasbord of sonar experiments targeting millions of cetaceans over the next five years, the lack of any global data base which indicates current status, numbers and frequency of sonar experiments, deployment of military sonar; seismic activities etc, there can be no accurate assessment of the amount of noise being visited on the ocean environment.

A global data base on the number of super tankers and other noise creating ships etc. and their routes should be developed.

1. A New Framework for Assessing the Effects of Anthropogenic Sound on Marine Mammals in a Rapidly Changing Arctic – Sue E. Moore, Randall R. Reeves, Brandon L. Southall, Timothy J. Ragen, Robert S. Suydam, Christopher Clark March 2012 Vol 62, No. 3 Bioscience.

2. The Spectrum of Pain (London: Hart Davis, 1969) p. 72 Richard Sarjeant from an affidavit prepared by Professor Peter Singer, Princeton University to support Australians for Animals January 2004 lawsuit.

3. Richardson et al Marine Mammals and Noise, 1995. Academic Press.

4. Ocean Noise & Marine Mammals. The National Academies, published by National Academy, 2002. Chapter

UNDERWATER NOISE WORKSHOP IN SAN FRANCISCO - APRIL 2016

**HELD BY CALIFORNIA GRAY WHALE COALITION AND
OCEAN CONSERVATION RESEARCH**

As a result of the information presented at the Society conference, the lack of any focus on cumulative impacts, lack of adequate mitigation, long term impacts on populations, impacts on prey, reproduction, communication with calves and the critical impacts on marine ecosystems, our two organisations are holding a workshop on underwater noise in San Francisco on April 4.

The workshop will be small as its important to exchange views and dialogue. It will be held at the Center for Biological Diversity with lawyers from NRDC, Earth Justice and the Center attending.

A number of expert scientists are included as well as representatives from commercial fishing organisations as the question of impacts on fish, invertebrates and whale/dolphin prey must be discussed.

The Coalition needs to include a representative from west coast whale watching organisations. The tsunami of underwater noise which will descend on the west coast over the next few years will impact whale watching operations.

As its important that we bring together the stakeholders who will be affected by underwater noise issues, please let the Coalition's office in Palo Alto know if one of your organisations would like to be included in the one day workshop at Oakland.

Please call the office on: 1 650 322 4729

We intend to produce a white paper summarizing the gaps in research and in the regulatory framework as ensuring that legislation includes the impacts outlined is the only way proper management can be undertaken.

The Coalition has never asked for funds from its membership. We have no membership fee and no cost involved in belonging to the Coalition. Over the years since inception, the Coalition has made huge strides in protection of the Gray Whale. Our representatives have lobbied politicians in the California Assembly and Senate, we have lobbied Congress in Washington DC, met with Californian Senators and held important scientific workshops.

As well, we have consistently lobbied National Marine & Fisheries over the failure to produce population estimates at appropriate intervals, made extensive submissions to have the Gray whales restored to the Endangered Species Act.

The Coalition is now the largest whale coalition on the west coast of North America.

Sometime this year, the Makah tribe's efforts to seek a waiver under the Marine Mammal Protection Act will be given a preliminary approval or not by NMFS. The Coalition anticipates that NMFS will give preliminary approval and a legal challenge will have to be made.

NMFS scientists and some International Whaling Commission scientists are currently attempting to



<https://www.flickr.com/photos/47000103@N05/>

Charlie Stinchcomb

classify the California Gray whale (Eastern Pacific) with the highly endangered Western Pacific as a result of an increasing number of Western Pacific whales coming over to the west coast migratory route.

If this move is successful, and the Makah are given the go ahead to kill whales, it is highly likely that the Western Pacific whales will be killed as its almost impossible to tell the difference from a boat unless you're an expert.

Add the tsunami of underwater noise which will be part and parcel of five year Navy exercises, and an increasing number of seismic exploration and surveys to the pot. But we can do something to address the underwater noise issues.

So we need your help and a contribution from our members. Funds can be donated on the California Gray Whale website at:

www.californiagraywhalecoalition.org

TOXIC CONTAMINANTS

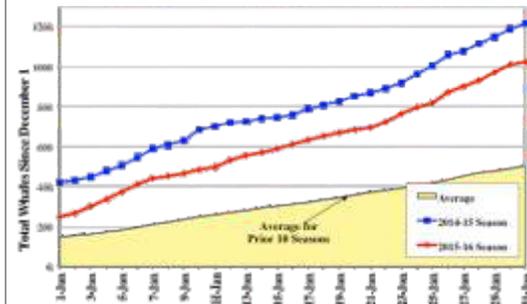
Mercury has tripled in upper ocean. Contaminants are found in blood, hair, muscle and blubber.

More concentrations are found offshore. Contaminants include DDT, flame retardants, POPS, Mercury, PCBs.

As in indication of the concentrations in marine animals, here's data from Santa Cruz Laboratory.

- 10.8 parts per million ppm in elephant seals
- orcas 13 +/- 14 ppm
- 320 ppm +/- marine mammals
- 44% of contaminants are un-monitored.

BUMPER MIGRATION



The January Chart shows that this season is WAY above average for the last ten years.'

This year's migration has been wonderful and it will take some time before we know whether the rapidly melting Arctic is going to benefit the Gray whales.

One thing we do know is that the predation by transient Orcas is likely to rise as the Orcas are able to move further afield into previously icebound habitat. Meantime, enjoy this great season!

For the Whales - Sue Arnold CEO

WE NEED FUNDS TO FOR THE WORKSHOP



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