

# **WORKBOAT 2008**

## **SHIPPING NOISE: DOMESTIC AND INTERNATIONAL MANAGEMENT AND APPLYING THE PRECAUTIONARY PRINCIPLE**



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# HUMAN-CAUSED MARINE NOISE: IS IT POLLUTION?

According to the United Nations Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP):

Marine pollution is the introduction by man, directly or indirectly, of substances **or energy** to the marine environment resulting in deleterious effects such as:

*hazards to human health;*

*hindrance of marine activities, including fishing;*

*impairment of the quality for the use of seawater, and reduction of amenities*

**So technically – yes, it is**

# **DOMESTIC REGULATION**

## **The Marine Mammal Protection Act**

**The heart of the Marine Mammal Protection Act (MMPA) – the landmark 1972 legislation protecting whales, dolphins, seals, sea lions, polar bears, manatees and other marine mammals – is its general moratorium on the “taking” of these species**

**Under the MMPA, “taking” includes harassment (such as disturbance of feeding or mating)**

**Activities that have the potential to harass marine mammals, purposefully or incidentally, are prohibited without authorization by the Department of Commerce or Interior**

# **WHY HASN'T SHIPPING NOISE BEEN REGULATED UNDER US ENVIRONMENTAL STATUTES?**

**To date, applying the law to shipping noise has been difficult**

**The sheer number of vessels could overwhelm an agency's resources to issue authorizations and collective or individual vessel authorizations might not satisfy certain statutory requirements**

**But sooner or later someone is going to get creative and figure out how to deal with this growing problem, through regulation, legislation...or litigation**

# **INTERNATIONAL MANAGEMENT**

**Vessel noise *could* be regulated under several international agreements: the United Nations Convention on the Law of the Sea (UNCLOS); the International Convention for the Prevention of Pollution from Ships; the International Maritime Organization (IMO); and various European regional seas agreements**

**However, there are currently no explicit or binding international regulations regarding the impacts of human-caused marine noise, including from shipping, on marine mammals**

**Final Report of the National Oceanic and Atmospheric Administration  
(NOAA) International Symposium:**

**“Shipping Noise and Marine Mammals:  
A Forum for Science, Management, and Technology”**

**18-19 May 2004  
Arlington, Virginia, U.S.A.**

*Primary symposium sponsor:*

NOAA Fisheries Acoustics Program,  
Office of Protected Resources (OPR),  
National Marine Fisheries Service (NMFS),  
National Oceanic and Atmospheric Administration (NOAA)

*Symposium report written by:*

Dr. Brandon L. Southall (NOAA Fisheries Acoustics Program)  
[Released: 27 April 2005]

An International Symposium:

*“Potential Application of Vessel-Quieting Technology on  
Large Commercial Vessels”*



**1-2 May, 2007**

**NOAA Main Campus, Science Center  
1305 East-West Highway  
Silver Spring, MD 20910**

Convened by:  
NOAA Ocean Acoustics Program, Brandon L. Southall (Director)  
National Marine Fisheries Service  
Office of Science and Technology  
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## International Workshop on Shipping Noise and Marine Mammals

Held By Okeanos - Foundation for the Sea  
Hamburg, Germany, 21<sup>st</sup>-24<sup>th</sup> April 2008

### Statement of Participants

A diverse group of stakeholders from around the world was convened with expertise in the areas of underwater acoustics, naval architecture, marine engineering, ship building, marine mammal bioacoustics, marine operations, and noise control, as well as in international maritime and environmental law and policy.

Marine mammals are acoustic specialists and depend on sound for survival (e.g., communicating, navigating, finding food and mates, detecting predators). For example, blue and fin whales produce intense infrasonic songs that can be heard over an entire ocean, while humpback songs can be heard over many hundreds of miles. With the advent of modern shipping, ocean noise in the low-frequency range (10-300 Hz) has been doubling approximately every decade,<sup>1</sup> drastically reducing these ranges. Although the long-term impacts on marine mammals from this increased noise are not yet known with certainty, increased noise obscures an animal's ability to hear, and therefore has serious implications for reproduction and survival. This is a global problem.

There is a relationship between commercial shipping and the amount of underwater noise. Given that shipping is increasing and expected to expand into new areas, e.g., the Arctic, incidental noise from shipping will continue to rise.

Unlike chemical pollution, noise does not persist in the environment. Thus, if a source of noise is reduced, the amount of noise energy in the water is immediately lowered. Under these favorable circumstances, the goal is to reduce the amount of incidental underwater noise from shipping to mitigate or eliminate the impacts of noise on marine mammals.


To achieve this goal we call for initial global action that will reduce the contributions of shipping to ambient noise energy in the 10-300 Hz band by 3dB in 10 years and by 10dB in 30 years relative to current levels. This goal would be accomplished by reducing noise contributions from individual ships.

The engineering tools and methodologies currently available are sufficient to reduce radiated noise from ships, or can be developed with limited effort. Some operational measures can be implemented immediately.


The widespread application of technical and operational noise reduction measures applied on an individual ship basis would lead to the 3 dB reduction in ambient noise within a decade and would result in an overall increase in potential communication/hearing ranges for marine mammals. It was clearly recognized that shipping noise is a trans-boundary, international issue. All participants called for the coordination of action at the international level, i.e. by the International Maritime Organization and its members.

<sup>1</sup> In sound level terms, a doubling in the power of sound is measured as 3 dB, while a ten-fold increase is measured as 10 dB.






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# DEVELOPMENTS

## INTERNATIONAL MARITIME ORGANIZATION – 2008

- *Added noise and its impacts on marine life to the 2009 Marine Environment Protection Committee meeting agenda*

INTERNATIONAL MARITIME ORGANIZATION



IMO

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MARINE ENVIRONMENT PROTECTION  
COMMITTEE  
59th session  
Agenda item 1

MEPC 59/1  
28 October 2008  
Original: ENGLISH

### PROVISIONAL AGENDA

**for the fifty-ninth session of the Marine Environment Protection Committee to be held at  
IMO Headquarters, 4 Albert Embankment, London SE1 7SR  
from Monday, 13 July to Friday, 17 July 2009**

**Session commences at 9.30 a.m. on Monday, 13 July 2009**

- 18 Development of a guidance document for minimizing the risk of ship strikes with cetaceans
- 19 Noise from commercial shipping and its adverse impacts on marine life
- 20 Work programme of the Committee and subsidiary bodies

# DEVELOPMENTS

## EUROPEAN UNION Resolution – 2004

- The European Parliament "*[c]alls on the Commission and the Member States to set up a Multinational Task Force to develop international agreements regulating noise levels in the world's oceans, with a view to regulating and limiting the adverse impact of anthropogenic noises on marine mammals and fish*"

# DEVELOPMENTS

**ACCOBAMS (Agreement on the Conservation of Cetaceans of the Black and Mediterranean Seas) – 2004**

- Charges the Scientific Committee to develop ***“a common set of guidelines on conducting activities known to produce underwater sound with the potential to cause adverse effects on cetaceans”***

# DEVELOPMENTS

## International Union for Conservation of Nature (IUCN) Congress – 2004

### Resolution 3.068: Undersea Noise Pollution

- *Monitor for and investigate the impacts on marine species*
- *Consider how to limit the use of powerful noise sources until their short-term and long-term effects are better understood*
- *The United States declined to engage in deliberations on this resolution*

# **GREEN SEAS**

## **The Precautionary Principle**

**Where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat**

# **GREEN SEAS**

**Commercial shipping is the most efficient way of transporting goods in terms of carbon produced per ton moved per mile. Provided that these large vessels can be made quieter without increasing carbon production, which appears to be possible, this would further increase the environmental credentials of the industry.**

*Andrew Wright*



# **GREEN SEAS**

**The shipping industry has the opportunity to stand out in transportation as pro-active in reducing its impacts on the environment**

**It has the opportunity to stand out among marine noise producers as precautionary and protective of marine wildlife rather than reactionary and defensive**

**DON'T WAIT TO FOLLOW – LEAD!**

# **PRESENTER'S CONTACT INFORMATION:**

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