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MARINE MAMMAL/VESSEL STRIKE
(MMVS) WORKING GROUP
SBNMS/Scituate – 9:30AM to 4:30 PM
February 9, 2004

MEETING SUMMARY

ACTION ITEM 1: A. Knowlton? will look into what additional/more accurate data can be added to the Jensen/Silber (J/S) database, e.g. activity of vessels, activity of whales, injury types/classes, who reported to the investigators, and input of law enforcement, et.al. of more recent information.

ACTION ITEM 2: A. Knowlton? Will graph Jensen/Silber data (vessel speed vs vessel size) to help fill in gaps for various vessel types.

ACTION ITEM 3: M. Weinrich will put together a presentation of images of whale injury types.

ACTION ITEM 4: D. Gouveia will prepare a presentation of the *Northeast Region Whalewatching Guidelines*.

ACTION ITEM 5: Currently the working group has data for commercial whalewatching and commercial shipping, but have little data for the charter industry. Dave Gouveia will prepare a presentation of the VTR data as it relates to the charter industry in order to fill in this gap (number of vessels, vessel types, size, and speeds, trip origin/destination, etc).

ACTION ITEM 6: D. Wiley will check with Greg Silber about why there are only three (3) "Y" recorded on the "Reported" column of the J/S database. This column is not described in the booklet "*Large Whale Ship Strike Database*."

AGREEMENT 1: No agreements were reached during this meeting.

RECOMMENDATION:
No recommendation to the SAC were recorded during the meeting

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MARINE MAMMAL/VESSEL STRIKE WORKING GROUP

Working Group Attendees

NAME	WG SEAT and AFFILIATION
Mason Weinrich	Chair, Whale Center of New England
David Wiley	Team Lead, SBNMS
Brad Wellock	MassPort, Shipping
Karen Steuer	National Environmental Trust, Conservation
Erin Heskett	IFAW, Conservation
Regina Asmutis	IWC, Conservation
Colleen Coogan	Independent, Conservation
Jack Kent	MA Marine Trades Assoc., Recreational Boating
David Gouveia	NMFS Protective Resources, NMFS
Tim Cole	NMFS NEFSC, NMFS
Amy Knowlton	NEAq Right Whale Research Program, Science
Tom King	Charter Boats
Moria Brown	NEAq Right Whale Researcher, Science
Andy Glynn	General Category Tuna Association, Tuna Fishing

Technical Advisor(s)

Peter Tyack	WHOI, Not Present
Pat Gerrior	NMFS, Not Present

Working Group Members Not Present

Mike Prew	Captain John Boats, Charter Boats
Haucke Kite Powell	WHOI, Science
Mike Bartlett	B-Fast Charters, Charter Boats, alternate in attendance
Rick Nolan	Boston Harbor Cruises, Shipping
Bill Eldridge	Peabody Lane Shipping, Shipping

Others Present

Just C. Moller	SBNMS, GIS Research Analyst (Rapporteur)
Scott Jackson, Ph.D	Dept. of Forestry & Wildlife Management, UMass/Amherst

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WELCOME AND INTRODUCTIONS

Mason Weinrich (Chair) opened the meeting at 9:45 AM that began with a review of the action items from the previous meeting.

ACTION ITEM 1: In Progress: Amy Knowlton (NEAq) will provide copies of the papers discussed as part of her presentation "*An Overview of Information Related to Collisions Between Ships and Whales*."

ACTION ITEM 2: Completed. D. Wiley provided the WG with a table of the Silber data for the Massachusetts area, including Stellwagen Bank, and a copy of the entire database *"Large Whale Ship Strike Database"*(NOAA Technical Memorandum NMFS-OPR-25).

ACTION ITEM 3: Not discussed: SBNMS will prepare a map showing whale strike locations within and near the Sanctuary, and labeled with season and date

ACTION ITEM 4: In Progress: Brad Wellock's (MassPort) summary data regarding vessel turn-around time, port of call, and the number of tankers arriving and departing MassPort facilities per day is being compiled and will be distributed at a future meeting.

ACTION ITEM 5: In Progress: David Wiley (SBNMS) will look into getting Jim Lynch, marine acoustics expert at WHOI, to give the group a demonstration of the vessel noise propagation model he has been working on, which may help the group better understand the amount of noise affecting whales in various contexts.

ACTION ITEM 6: Peter Tyack (WHOI) and David Wiley (SBNMS) still need to forward summaries of their presentations for inclusion in the minutes of the January 13 meeting.

A vote to accept the January 13, 2004 minutes was postponed until the minutes are finalized. All members agreed.

GOAL STATEMENT WORKING DRAFT

A preliminary goal statement was presented to the group for discussion

Working Draft: ***Our goal is to determine where and when the potential of collision to marine mammals exists within the sanctuary, to determine what mitigation measures might be necessary and appropriate to minimize that potential, and, if necessary, determine what steps might be taken to assess the potential of collision where insufficient information currently exists.*** *Additional goals are to foster cooperation with cross-jurisdictional partner addressing the issue, and educate Sanctuary users regarding the issues."*

- It was decided that the group would wait with discussion and revision of the goal statement until additional data is presented in order to gain a better understanding of the issues affecting collisions of vessels and marine mammals.

A REVIEW OF STRATEGIES FOR REDUCING WILDLIFE – VEHICLE COLLISIONS.
Scott Jackson PhD, Dept. of Forestry and Wildlife Management, UMass/Amherst

Scott Jackson presented a summary of current research and efforts related to mitigating wildlife and transportation conflicts. While the terrestrial and marine environments are quite different, his objective was to present an overview of the current state of the research and the mitigation strategies being attempted, and to extend some of these concepts to similar problems in the marine environment, i.e. vessel strikes of marine mammals.

(Add Presenter's Summary)

Summary from notes

- There are three general mitigation categories; separating animals and people, changing behavior of people and changing behavior of animals
- Separating people and animals via fencing, underpasses or overpasses most effective
- Changing behavior of people (i.e. education) or animals, is difficult and not usually effective without strong negative reinforcement
- Volume and speed are primary factors relating to wildlife collisions with vehicles
- Speed limit signs are of limited value because they are easily ignored. Engineering for slower speeds (e.g., roads with curves, speed bumps) is more effective
- Few technological fixes (e.g., deer whistles or mirrors) have been proven effective
- Animals tend to habituate to novel sounds rendering acoustic deterrents less effective over time
- Avoiding high use wildlife habitats when creating roads is important

Q. Are there any concerns or studies that address the issue of wildlife acclimation to vehicle traffic?
A. Yes – There is an underlying concern, but there has been little research to date that studies the degree and effect. Some animals are not affected by traffic, while others become acclimated with time. Mitigation strategies must consider this in their design. For the three general mitigation categories, separation of animals and people, changing people behavior, and changing animal behavior, the issue of habituation must be addressed.

Q. Why have the sound emitting devices tried so far not been very successful?
A. They have not been designed by scientists but by companies trying to fill a market niche. These devices, and other instruments for warning animals, must be designed with knowledge of an animal's behavior in mind.

Q. Have you seen any data that animals resist warning signals during specific activities, e.g. foraging, mating, etc?
A. Yes – Strategies need to vary with species and specific species activities since signals affect each differently.

Q. How effective are signs along a road that warn motorists that they are approaching a zone of potential wildlife contact?
B. The issue relates to behavior modification, i.e. managing behavior of people. This can be divided into two categories: 1) risk to one self, vs 2) risk to wildlife. Signs can be abstract and theoretical to people who don't connect the warning sign along the road with the increased risk on collision with animals. Usualy motorists ignore such signs, unless they see an animal along the roadway. Studies have shown that motorists significantly reduce their speed when a real dead animal is placed next to the warning sign. They react viscerally to the dead animal, rather that intellectually to the symbol on the sign. The signal of the dead animal tends to penetrate the background noise of all other warnings or activity. Mitigation design focused on human behavior modification will always have to decide if a strategy will rely on a risk to oneself versus a desire to conserve wildlife.

Q. Are there physiological costs to animals of being exposed to repeater or prolonged alarm signals?
A. No papers to date have dealt specifically with this kind of stress, but many deal with effect of stress generally. Whatever the solution is for mitigating wildlife-traffic conflicts, it should prevent or keep to a minimum stress that will adversely affect an animal's natural behavior.

INDUSTRY PRESENTATIONS

Peabody Shipping (Postponed)

Boston Harbor Cruises (Postponed)

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STRUCTURE AND CONTENTS OF RISK AND AVOIDANCE STRATEGY MATRICIES.
Presented by Mason Weinrich

A significant portion of the day was devoted to discussing the best approach to dealing with a broad issue with many components. Two draft matrices (see appendix) were prepared to facilitate discussion about risk allocation and vessel strike mitigation strategies. A good deal of time was also spent discussing how the Jensen/Silber database (can we get a PDF?) can be used by the working group, what data is needed to fill in information gaps, and ways that the information can be refined and clarified in order to facilitate a more informed discussion of vessel strike mitigation methods and strategies.

Significant discussion took place about how best to categorize the vessel use of Stellwagen in relation to marine mammal collisions – by use type (e.g. whale watch boat, commercial fishing vessel) or by size and speed, regardless of use. While no clear agreement was reached, the group did note that existing data and management through the MMPA was classified by use type, and if we proceeded along those lines we would be in agreement with what has been done so far. There was also discussion of what was more important to consider: the risk of collision per cruise, or the cumulative effect on the animals; based on the primary goal of resource protection within the sanctuary, the latter seemed more relevant

It was decided that the working group has some data for some categories of vessels (whale watching and commercial shipping), but lack data for others user groups (recreational fishing, charter fishing, and tuna fishing). The group agreed that this was likely due to observer bias, both because of the number of witnesses and the nature of the business, and did not necessarily reflect a lack of similar collisions in other vessel types. The idea behind the matrices was to use the expertise and knowledge of the working group members, plus information from other sources, to prioritize risks, and for evaluating strategies for mitigating vessels strikes. However, there was great concern about making policy decisions based on "best guesses."

A number of suggestions were offered for refining the J/S database. Members hoped to clarify the "Mortality/Injury" column by classifying "injury" and minimize the "unknown" information. Of the 26 records of vessel strikes within the Stellwagen bank/Massachusetts Bay region, 42.31% (11) are recorded as 'mortality', 19.23% (5) as 'injury', and 38.46% (10) as 'unknown'. It was suggested that this column should be divided into categories that better defines the types of injury incurred by marine mammals, such as, *mortality*, *serious injury*, and *minor injury*. 'Serious" is a legal term defined in the Code of Federal Regulations (CFR) as an injury "leading to mortality." Minor injury could be defined as injuries that are not life threatening. It was also suggested that propeller scars should be added as an injury type where it is confirmed.

The meeting adjourned with the group agreeing that it is premature to fill out the matrices without more detailed information about strike risk as it relates to various vessel types and industries. The group agreed that useful information is available for whale watching boats and commercial shipping, but is still lacking for recreational fishing, tuna fishing, and charter boats. The agenda for the next meeting will focus on whale watching vessel data while additional information is gathered for the other user groups.

NEXT STEPS

Data Needs

1. A presentation on current whale watching guidelines as they apply to the sanctuary and any information with regard to compliance with the guidelines. For example, information on complaints received about whale watching boats by NOAA Office of Law Enforcment.
2. An analysis of the Jensen/Silber database to update it with recent data, and to fill in gaps with data from other sources, including:
    - Activity of vessel
    - Activity of whale
    - Input more recent information
    - Add information on injury types
    - Add information about who reported the information to Jensen/Silber.
3. .

4. A summary of charter industry data: number of vessels, vessel types, size, and speeds, trip origin/destination, etc.

Tentative Meeting Schedule

Mtg #3: Tuesday, March 9 Location: NMFS, Gloucester.
Mtg #4: Tuesday, April 5 Location: TBD.
Mtg #5: Tuesday, May 4. Location: TBD.

An additional meeting may be scheduled if deemed necessary as discussions progress.

Tentative Agenda Outline for Future Meetings

1. The March 9 meeting will focus on the commercial whale watching industry as it relates to the risk of marine mammal and vessel strikes.
2. Review and approve previous meeting minutes, action items, and SAC recommendations.
3. Finalize goal statement.
4. Additional industry reports, e.g. high speed passenger ferries, commercial shipping, etc.

5. Present the outline of an action plan.

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Gerry E. Studds **Stellwagen Bank National Marine Sanctuary**
Management Plan Review

Vessel Strike Working Group – Draft Agenda

Date: 9 February 2004
Location: Stellwagen Bank National Marine Sanctuary HQ, Scituate MA

TIME	TOPICS AND OBJECTIVES
9:30-10:30	**Old Business** - Approve Meeting Summary - Updates on Requested Information **Discussion Leader**: Mason Weinrich /Dave Wiley
10:30-11:00	**Goal Statement** Working Draft: Our goal is to determine where and when significant potential of collision to marine mammals exists within the sanctuary, to determine what mitigation measures may be necessary and appropriate to minimize that potential, and, if necessary, determine what steps might be taken to assess the potential of collision where insufficient information currently exists. **Discussion Leader**: Mason Weinrich
11:00-12:30	Presentation: A review of wildlife collisions with transportation and mitigation strategies. **Presenter:** Scott Jackson, Ph.D., Dept of Forestry and Wildlife Mgmt, U Mass/Amherst
12:30-1:00	**Lunch**
1:00 – 1:30	**Industry Presentations** (15 minutes each) - Bill Eldridge, Peabody Shipping - Rick Nolan, Boston Harbor Cruises
1:30-2:00	**Discussion**: Structure and Contents of Risk and Avoidance Strategy Matrices (Pre-Circulated)
2:00 – 4:00	**Discuss and Complete Matrix 1**: Determining risk of vessel strike and likely severity of injury to marine mammals by vessel type and activity
4 – 4:30	**Conclusion and looking forward** - Next Steps - Review Agreements and Data Requests