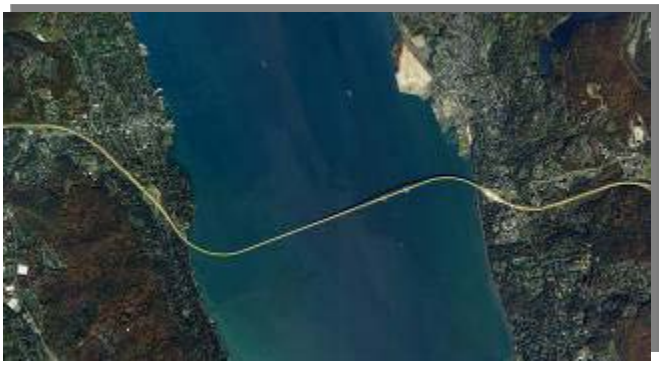
New York State Department of Transportation
Metropolitan Transportation Authority Metro-North Railroad
New York State Thruway Authority

Meeting Minutes

Stakeholders' Advisory Working Groups (SAWGs) Joint Bridge (#19) and Environmental (#15) SAWG Meeting

Tappan Zee Bridge/I-287 Corridor Project



June 16, 2010

Meeting Title:	Stakeholders' Advisory Working Groups (SAWGs) Joint Bridge (#19) and Environmental (#15) SAWG Meeting
Meeting Purpose:	Exchange of information
Location Date:	Valley Cottage Library Valley Cottage, NY June 16, 2010 6:00 – 8:00 PM

Agenda:

Attendees:

SAWG Members

Edward Bohan
Michelle Bulla
Gilbert Hawkins - Hudson River Fisherman's Association, NJ Chapter
William Helmer - Helmer-Cronin Construction
Robert Hintersteiner
Milton Hoffman
Barton Lee - New Jersey Association of Railroad Passengers
Marilan Lund - New York Botanical Gardens
Catherine Nowicki - TZB Task Force
Joan Schroeder - Airmont Citizens Liaison Committee for TZB
Connie Coker – Rockland County Legislator

Project Team Members

Yvette Hinds	NYSDOT
Kristine Edwards	NYSDOT
Robert Laravie	NYSDOT
Peter Casper	NYSTA
Angel Medina	NYSTA
Joe Pasanello	MTA/MNR
John Rollino	AECOM
Robert Forstner	AECOM
John Szeligowski	AECOM
Mark Roche	Arup
Rita Campon	Parsons
George Paschalis	Howard Stein-Hudson

Agenda Item 1

Introduction

Robert Laravie (NYSDOT) welcomed members of the Bridge and Environmental Stakeholders' Advisory Working Groups (SAWGs) and introduced the evening's agenda. The goal of this meeting was to present and discuss the project team's plans to evaluate the effects of underwater noise on fish.

Agenda Item 2
Presentation

Agenda Item 3
Discussion

Questions (Q), Comments (C), and Answers (A) included:

Q: How deep are the piles expected to be driven?
A: In the deep soil areas found towards the west side of the Hudson River, it is expected that the piles would have to be driven about 350 feet into the river substrate. Towards the east side of the river, including the area of the main span, piles would be driven to rock, which typically is found about 250 to 300 feet below the mudline.

Q: How long will it take to drive all of the piles?
A: It will take about 2-½ years to drive the piles for the bridge piers, and about 1-½ years to install the sheeting for cofferdams.
Q: Aren't there alternative pile-driving methods that could minimize the noise?
A: There are several ways of installing piles. However, given the size and depth of piles likely to be driven for the Tappan Zee Bridge, impact hammering is the expected method.

Q: Wasn't the Navy forced to give up installing a sonar system because of underwater noise concerns?
A: The Navy is conducting more studies to move forward with what is known as a shallow water sonar training range in California. A key aspect of the Navy project, however, is that marine mammals, which are more susceptible to injury from underwater noise than fish, are in the study area. Marine mammals are not found in the Tappan Zee reach.

Q: Wouldn't the constant construction noise drive fish away from the work zone?
A: Perhaps, but nevertheless we must establish criteria and develop mitigation strategies to protect fish that may be in the construction zone.

Q: Will fish migration periods be considered in the analysis?
A: Potential impacts will be considered on a year-round basis.

Q: Is there a difference in the range over which pile driving will be heard when occurring on the river, as opposed to on land?
A: The range over which pile driving noise will be audible will be estimated with a mathematical modeling program; the project team expects to have results of the modeling in approximately four months.

Q: Do water temperature differences affect noise transmission?
A: Both water temperature and salinity can impact sound transmission, and, in fact, hiding behind significant temperature gradients in the open ocean is a defensive tactic used by submarines to avoid detection by sonar. Given the temperature profile of the Hudson River, however, it is not expected that there would be temperature gradients significant enough to affect sound transmission.

Q: What about the impacts of driving multiple piles at once? Will this affect the distance over which the sound is heard? Will the sound reach as far as the Piermont or Croton marshes?
A: The modeling program will consider those concerns and estimate the potential impacts at various distances.

Q: During spawning season, striped bass are sometimes so laden with eggs that they are radically damaged if handled. Might a single pile-hammer blow cause fish to discharge their eggs in the Tappan Zee Bridge instead of continuing on to their normal spawning grounds?
C: The Army Corps of Engineers limits some types of in-river work, such as dredging, to certain seasons so as to avoid spawning season.
A: The Corps often restricts in-river work during ecologically-sensitive time periods. These "windows" are determined by the Corps based on the issues specific to each project's potential impacts. The Corps has not yet indicated if such restrictions will be necessary for the construction of the replacement bridge.

Q: What is the protective status of the Piermont Marsh?
A: The Piermont Marsh has been designated a Significant Coastal Fish and Wildlife Habitat. This designation is made by the New York State Department of State following a recommendation by the New York State Department of Environmental Conservation.

Q: Will sampling be done year-round, or on one day?
A: The ambient noise monitoring program will have two components: an intensive program lasting one week, and then a continuous program lasting nearly 3 months. As a result, the project team expects to capture both the diurnal (daily) and seasonal variations in noise. Based on a literature search, the expectation is that the diurnal variation will be more significant than the seasonal variation.

Q: The sheeting for cofferdams consists of steel sheets that interlock. Are these driven like the pier support piles?
A: While it is possible to install sheeting using a traditional hammer-type setup, sheeting is more typically installed using a "vibratory" hammer. The vibratory hammer effects will be modeled.

Q: Is it possible that pile noise might attract fish?
A: Some sounds do attract fish; however, these types of sounds are uncommon, and pile-driving noise is not expected to emulate attractive sounds.

Q: Is there any data on noise levels from construction of the existing bridge?
A: No. Even many recent projects don't have this data, as concerns about potential impacts of noise on fish, and the ability to evaluate the noise, have developed over only the last five to ten years.

Q: How long would pile driving occur each day?

A: There might be as many as three rigs working, but they would all work during a single daytime shift.

Q: Fish use different areas of the river for different things. If piling is happening in an area they normally feed in but they are forced away before they are done, what is the potential for impact?
A: Behavioral impacts will be evaluated in the EIS, but before such impacts can be quantified it will be necessary to establish the project's "acoustic footprint." This will be an output of the mathematical modeling that will be conducted for the project.

Q: Will there be a study of impacts during the bridge's operational phase?
A: We will use data from the monitoring program to estimate impacts during the operational phase of the bridge.

Q: What will the impact levels be, and how will they be implemented?
A: We are working with the National Marine Fisheries Service and the New York State Department of Environmental Conservation to establish noise level criteria above which physiological effects may occur. Using mathematical model results, the EIS will present an analysis of potential effects of construction noise based on the extent of the area within which the established criteria are exceeded. Best management practices will be employed, as necessary, to reduce the impact area. During construction, monitoring would be conducted to ensure compliance with the criteria.

Adjournment

The meeting adjourned at 7:30 pm.