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## MEMORANDUM FOR RECORD

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**TO:** ALL PARTICIPANTS  
**FROM:** MICHAEL TUTTLE  
**SUBJECT:** MALDEN RIVER ECOSYSTEM RESTORATION  
**MEETING DATE:** 20 MARCH 2007  
**PREPARATION DATE:** 6 APRIL 2007

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On Tuesday, 20 March 2007, a meeting was held at the office of Massachusetts Department of Environmental Protection, Northeast Region to discuss the ecosystem restoration approach for the Malden River. This document is considered a record of the discussion.

The participants present were:

- ◆ Joanne Fagan – MADEP, Section Chief
- ◆ Heidi Davis – MADEP, Environmental Analyst
- ◆ Beth Debski, MVDC Coordinator
- ◆ Jeff Nangle, Nangle Consulting Assoc.
- ◆ Chuck Altobello, Nangle Consulting Assoc.
- ◆ Harry Bovee, Preotle, Lane & Assoc.
- ◆ Mark Fobert, Tetra Tech Rizzo
- ◆ Todd Randall – USACE, Biologist
- ◆ Mike Tuttle – USACE, Project Manager

### **Presentation Overview**

Mike and Todd presented the recommended plan for the Malden River Ecosystem Restoration Project. The primary elements of the recommended plan consist of the following:

- Removal of 36,000 cubic yards of wetland soils and 14.9 acres of invasive species along the riverbank corridor and replanting with native wetland plant species;
- Creation of 5.4 acres of emergent wetland within an existing open water area;
- Placement of 4,400 cubic yards of cobble/gravel/sand substrate to create 2.8 acres of fish spawning habitat;
- Miscellaneous debris removal and disposal; and
- Operational changes at the Amelia Earhart Dam to improve fish passage for anadromous species.

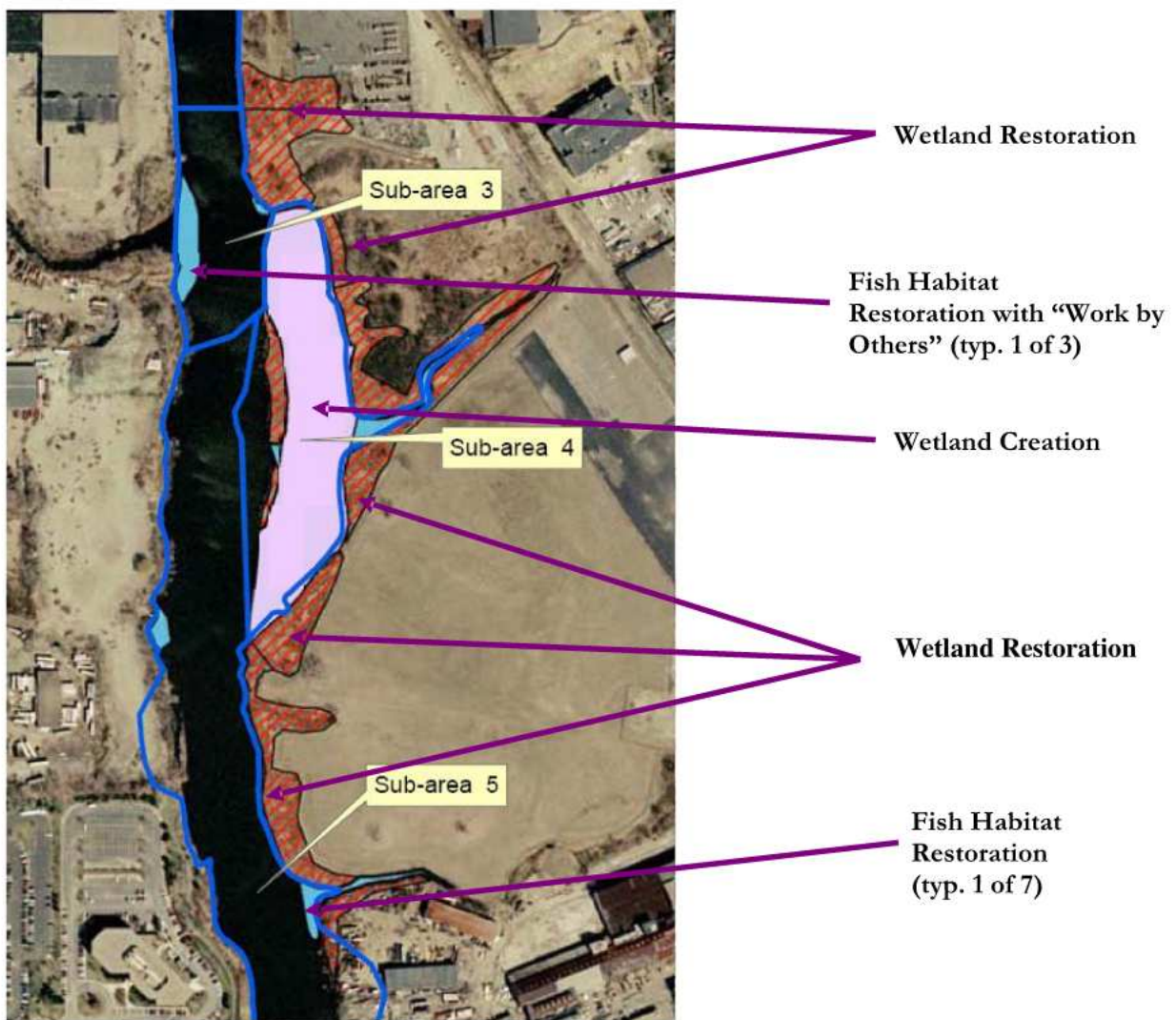
The wetland restoration component of this project involves the removal of 14.9 acres of invasive species and replanting of native wetland species to create a freshwater emergent/shrub wetland. This recommendation consists of cutting, clearing and grubbing existing Phragmites stands, excavation of the Phragmites plants and root matter, placing a layer of clean soil and the planting of native wetland plants. Phragmites stems and root matter will be removed by excavating a minimum depth of 18 inches. The generated volume is estimated at 36,000 cubic yards. This excavated material will be used as a sub-base for the wetland creation component of the recommended plan.

The wetland creation component of this project involves the establishment of a vegetated wetland within the river's oxbow to create 5.4 acres of emergent wetlands. It is anticipated that the majority of the excavated material from the wetland restoration component would be used as a substrate. A one foot layer of new soil would be placed prior to the planting of native wetland seedlings. The required volume of clean fill is estimated at 9,000 cubic yards. A flow control device such as a weir or flashboard riser would be installed within the existing tributary to control flow. The flow control device would diversify the flow and provide improved stormwater treatment.

The fish habitat restoration component of this project involves the placement of 4,400 cubic yards of clean cobble/gravel/sand substrate to create 2.8 acres of fish spawning habitat. Three of the ten proposed areas require work by "others" before placement of the gravel substrate. Another party must remove/dispose a minimum of 3-foot depth of existing river bottom in order to provide a suitable and stable base prior to the placement of the proposed gravel substrate. Negotiations with the responsible parties are ongoing. Ten individual areas comprise the fish habitat restoration measure.

Miscellaneous debris removal and disposal is proposed within the construction work limits. This recommendation involves the removal of existing debris (e.g. shopping carts, tires, appliances, etc.) and transporting to an upland disposal site. The generated volume is estimated at 450 tons. Cost for this proposed action will be non-Federal responsibility.

Fish Passage improvement involves operational changes to the Amelia Earhart Dam locking system. This recommendation consists of expanding the periods of operation of one or more of the locks to provide a more effective passage of fish into the Malden/Mystic River system. This would require operating the locks not only during the daytime periods (which has proved reasonably effective for various herring species), but also during evening and early morning hours during migration periods for other fish species (e.g., rainbow smelt).



### **Meeting Discussion Topics**

Jeff, Harry, and Mark provided an update on the restoration efforts along the Medford side. It was expressed that restoration activities mirrored the goals and objectives of the Federal plan. The native planting specifications were provided by USACE.

Though the proposed wetland restoration component requires Phragmites stem and root matter to be removed by excavating a minimum depth of 18 inches, the objective is to excavate to the first stable substrate layer.

Compensatory flood storage was discussed. The Medford-side restoration efforts have exceeded the minimum requirement for the compensatory flood storage. Credits may be used for the Federal plan. An area adjacent to North Creek has also been identified for additional flood storage, if needed.

The excavated material for the wetland restoration component can be managed under existing State programs. One option involves using the excavated volume of 30,000 cy as a substrate layer to the wetland creation component. Excess material may be reused within the study area as a part of the redevelopment plan for the Rivers Edge project.

The water levels fluctuate approximately 2 feet within the Malden River (elev. 4.5 – 6.5 NGVD). In order to identify the proposed elevation of the wetland creation component, further discussions with MA Department of Conservation and Recreation is warranted.

### **Closing Comments**

If an omission exists or an incorrect statement, please reply to Mike Tuttle, Study Manager at 978-318-8677 or via e-mail [michael.r.tuttle@usace.army.mil](mailto:michael.r.tuttle@usace.army.mil) .