

## DRAFT FINDING OF NO SIGNIFICANT IMPACT

### **Operations and Maintenance Action to Address Poor Water Quality and Sedimentation Accumulation Northfield Brook Lake, Thomaston, Connecticut**

The U.S. Army Corps of Engineers (USACE) conducted an Environmental Assessment (EA) of potential effects associated with implementing a maintenance action at Northfield Brook Dam in Thomaston, Connecticut. The federal flood control project has consistent problems with water quality and sediment accumulation within the lake. The lake is on the Connecticut Impaired Waters List because it exceeds the water quality standards for recreational uses from elevated levels of *Escherichia coli* (E. coli) from non-point and unknown source pollution. The sediment trapped behind the dam starves downstream aquatic habitats of needed naturally occurring sediment deposition and increases downstream erosion of the river channel. USACE has historically needed to drain the lake to remove accumulated sediment. The EA and this Finding of No Significant Impact is conducted pursuant to USACE implementing regulations (33 Code of Federal Regulations 230).

**Proposed Action.** USACE is proposing to alleviate the continual negative water quality conditions and address the ongoing sediment management conditions within the reservoir area of the Northfield Brook Dam.

**Alternatives.** The preferred alternative to accomplish the Proposed Action is *Alternative 1, River Restoration*, which would eliminate the permanent eight-acre lake behind the dam, restore the Northfield Brook to its original channel, establish a riparian bufferzone, and create additional recreational opportunities in the area that was the location of the permanent pool behind the dam. The project would thereafter be operated in a run-of-the-river mode during non-flood operations. Alternatives considered but not selected include: *Alternative 2, Mechanical/ Dredging Alternative* which would involve the temporary dewatering of the lake and mechanically removing (dredging) accumulated sediment before returning the pool to its current level. This alternative is not a long-term solution. *The No Action Alternative* is a requirement of the Council on Environmental Quality regulations that serves as the baseline against which the impacts of the alternatives are evaluated and is included in the EA.

**Methods to Drawdown the Reservoir.** There are two reasonable methods to drawdown the reservoir. The High Rain Event (Inflow) Drawdown and the Low Outflow Option. The USACE preferred option is the High Rain Event (Inflow) Drawdown. One other drawdown method was considered but rejected because of its impractical implementation: the Multi-season Drawdown Option.

**Affected Resources.** Impacts to aquatic resources and the limited in-stream vegetation would be confined to the reservoir pool area and within the limits of the river banks immediately downstream of the dam. Minimal and short-term impacts to benthic and macroinvertebrates and fish will occur during reservoir dewatering and for short distance downstream of the dam. Benthic organisms within the existing reservoir area will be lost except for those that remain in the riverine habitat after drawdown. Organisms in the river channel that may be displaced with the dewatering of the pool will be replaced by recolonization of species from upstream areas. The primary impacts to biological resources would be during the final stages of the reservoir pool drawdown when increases in stream velocities would increase concentrations of suspended sediment and induce invertebrate drift and potentially reduce fish feeding for a short period until turbidity settles out of the water column. Loose sediment would be deposited on downstream fisheries habitats. Impacts to fish during dewatering of the reservoir could include mortality of some species; however the selected method to dewater the reservoir is expected to minimize the loss of fish species. Associated with the elimination of the reservoir would include the permanent loss of warm water fisheries habitat associated with the artificial impoundment. This loss would be in the current reservoir basin and does not represent a significant adverse impact to fisheries populations or habitats. The action

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would result in a benefit to the aquatic health of Northfield Brook with restoration of bufferzones, restoration of warmwater and coldwater fisheries habitat, and elimination of an impaired waterbody.

Under the Council on Environmental Quality (“CEQ”) NEPA regulations, “NEPA significance” is a concept dependent on context and intensity (40 C.F.R. § 1508.27). When considering a site-specific action like the conversion of the Northfield Brook Dam to a dry-bed reservoir, significance is measured by the impacts felt at a local scale, as opposed to a regional or nationwide context. The CEQ regulations identify a number of factors to measure the intensity of impact. Review of the NEPA “intensity” factors reveals that the proposed action would not result in a significant impact to the human environment.

Impacts on public health or safety: The project is expected to result in a net benefit to public health by eliminating a non-natural lake which is listed as an impaired waterbody. It will eliminate an underwater drop off hazard near the beach.

Unique characteristics: There are no unique characteristics in this waterbody that would be affected by eliminating the reservoir pool and restoring the Northfield Brook in the reservoir area.

Controversy: The proposed project is not controversial. Federal, State, and local resource agencies are in support of the USACE Proposed Action.

Uncertain impacts: The impacts of the proposed project are not uncertain; they are readily understood based on past maintenance experiences at this project and other USACE flood control projects.

Precedent for future actions: The proposed project is a maintenance action that changes the non-flood storage function at the flood control dam in response to site-specific water quality and sediment management issues. It will not establish a precedent for future actions.

Cumulative significance: The Proposed Action is expected to have a positive impact within the watershed when implemented. It has support from Federal, State, and local resource agencies.

Historic resources: The project will have no known negative impacts on any pre-contact archaeological sites recorded by the State of Connecticut.

Endangered species: The project will have no significant impacts to Federal or affected state-listed species of concern, rare or endangered species.

Potential violation of state or federal law: This action will not violate federal or state laws.

Measures to minimize adverse environmental effects of the action are discussed in Section 4.0, Mitigation, of the EA.

Based on my review and evaluation of the environmental effects as presented in the Environmental Assessment, I have determined that the conversion of the eight-acre Northfield Brook Lake Flood Control Project to a run-of-the-river project, and restoration of the Northfield Brook within the reservoir area to address the water quality and sediment accumulation conditions facing the management of the Federal Flood Control Project is not a major Federal action significantly affecting the quality of the human environment. This Federal action, therefore, is exempt from requirements to prepare an Environmental Impact Statement.

Date: \_\_\_\_\_

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Christopher J. Barron  
Colonel, Corps of Engineers  
District Engineer