



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

CENWS-PM-PL-ER

**LWSC DIFFUSER WELL PROJECT, KING COUNTY, WASHINGTON
FINDING OF NO SIGNIFICANT IMPACT**

1. Background. The Seattle District, U.S. Army Corps of Engineers (Corps) is proposing to install a fish exclusion device adjacent to the existing upstream intake of the saltwater drain system at the Hiram M. Chittenden Locks (Locks) on the Lake Washington Ship Canal (LWSC) in the City of Seattle, King County Washington. The Corps is proposing this project to improve adult fish passage conditions at the LWSC. This exclusion device will prevent salmon from being entrained in the system. The saltwater drain system is designed to manage saltwater intrusion above the Locks in the LWSC and also provides water for fish ladder operations. Currently, the system intake is not screened, which allows fish to enter the saltwater drain system. Once they enter, they become trapped at the diffuser well. The diffuser well disperses the waterflow throughout the fish ladder but precludes fish from exiting. In recent years, the Corps has attempted to rescue these trapped fish, but these rescue efforts are minimally effective and a large proportion of fish trapped in the diffuser well have died prior to or during rescue attempts.

Fish can also enter the saltwater drain system from the downstream outlet of the saltwater drain if the drain is operated at high tidal elevations. Currently, the Corps operates this drain manually based on coordination with the Corps Water Management Section.

2. Purpose and Need. The purpose of the proposed project is to prevent salmon from being entrained in the Locks saltwater drain system. This project is needed to prevent adult salmon from injury and mortality, including ESA listed species, resulting from entrainment in the saltwater drain system.

3. Action. The Corps proposes to install an intake structure to prevent adult salmon from entering the saltwater drain system at the Locks. The existing intake is approximately 4 feet tall and 48 feet wide and draws water in on the vertical face. This intake is located at 50 feet of depth in mid-channel of the LWSC. The barrier will be free standing and self supporting and placed immediately upstream of the existing intake. The structure will be constructed of a steel frame supporting smaller screening material. The screened portion of the structure will be constructed of round bars with $\frac{7}{8}$ -inch spacing per National Marine Fisheries Service screening criteria. This spacing will prevent adult salmon from entering the intake and also discourage smaller juvenile salmon from entering water intakes. Although smaller fish (including most salmon smolts) will still be able to pass through the structure and the saltwater drain system as they currently do, the saltwater drain intake is at 50 feet of depth, which limits use by surface-oriented juvenile salmon. The preferred passage route for juvenile salmon at the Locks is through the four surface collection flumes which pass the majority of the fish through the project.

The structure will be in place to exclude adult salmon from entering the saltwater drain from 1 June through 30 September annually.

In addition, the preferred alternative will include automating the operation of the saltwater drain outlet. To reduce the potential for adult salmon entrainment, the drain outlet will no longer be able to be opened at tidal elevations above +6.5 feet.

Both the screen and automation of the outlet are being proposed because we are confident listed species are entering the saltwater drain system from both entrances; however, we do not know which is the predominate point of entry. Therefore, to address the concern with "take" and U.S. Fish and Wildlife Service BiOp Reasonable and Prudent Measure (RPM) #2 "to minimize take associated with the saltwater drain system," both actions are being proposed.

This project is intended to be a temporary measure to exclude adult salmon from entering the saltwater drain for the next 3 years while a long-term solution is developed and implemented

4. Summary of Impacts. The primary impacts of this action will be the temporary and localized impact to navigation in the construction area. Effects to navigation will be minor and temporary. The screen installation is scheduled to occur during the annual fish ladder closure period in the last week of May or the first week of June. During installation, small lock passage will likely be closed for 2 to 3 days to allow the structure to be installed. The intake screen will be installed in an area of sufficient depth to provide well over the 30 feet of depth required for navigation. The intake screen will require weekly inspection and periodic cleaning by means of divers which will result in temporary closures of both the small lock and the large lock. These closures will be necessary to provide safe working conditions for diving operations. It is anticipated that both the small lock and large lock will be closed for up to 4 hours per week from the period of 1 June through 30 September for the next 3 years. To the maximum extent possible, the Corps will schedule the closures to avoid periods of high boat usage of the locks. The Corps will notify the public prior to closures of the lock chambers.

The attached final environmental assessment provides an evaluation of the proposed adult fish passage project and its effects on the existing environment.

No significant adverse impacts to fish and wildlife habitat, air quality, noise, esthetics, or the social or economic environment are anticipated as a result of the project.

5. Finding. For the reasons described above, I have determined that the adult fish passage project will not result in significant adverse environmental impacts. The project will not constitute a major Federal action with significant impacts on the human environment and, therefore, does not require an environmental impact statement.

26 March 08
Date


MICHAEL MCCORMICK
Colonel, Corps of Engineers
Commanding