



### ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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#### Response Summary:

The Detroit District (LRE) St Marys River Project Dam Gates trapped and killed lake sturgeon during the summer of 2023, which garnered negative attention from local tribes, state and federal fisheries agencies, and area scientists. LRE staff requested assistance investigating possible mitigation methods to prevent similar incidents in the future. We reviewed the incident to examine the circumstances that led to the sturgeon becoming stranded and conducted a literature review to address mitigation of similar incidents. We summarized possible deterrents, structural alterations, and operational gate settings in a white paper, which we presented during a webinar on 26 January 2024.

#### Period of Performance:

Request received December 13, 2023. White paper presented and webinar hosted January 26, 2024.

#### Benefits of the Response to the USACE Dredging/Navigation Program:

The compensatory works are an integral part of the facilities that allow navigation to pass the St. Marys River Rapids via the Soo Locks. This effort helped to mitigate potential future human-wildlife conflicts associated with the compensatory dam gates and continue to develop relationships with local tribes, university and agency biologists, and the general public. The webinar included open discussion between Soo Locks staff and federal, state, and tribal biologists about possible options for the compensatory gates. During the meeting, it was determined that high water conditions during spring and summer 2024 led to higher than usual gate openings, which may have led to the stranding of the sturgeon. Changes to gate operation, specifically to reduce the opening of the gate closest to the bank, were discussed in addition to increased monitoring during changes in gate operation and as part of standard operations. Potential structural modifications to the compensatory gates such as screens or bars between the girders of the gates were also discussed, but tabled pending further need. After the meeting, conversation with the Canadian counterparts who operate the northern eight gates of the compensatory works, revealed that several of their gates have screens similar to those we discussed installed presumably to prevent fish from jumping onto the girders. These screens have been in place about 30 years and haven't led to issues in operation or maintenance, showing them to be an effective alternative should the changes in gate operations prove ineffective.

#### Deliverable:

The deliverables for this work included a white paper that summarized mitigation alternatives and a webinar between LRE staff and concerned parties to review alternatives. Success of the operational changes decided upon during the webinar will be reviewed in a meeting tentatively scheduled for January 2025.



Figure 1. Two dead lake sturgeon trapped on the lower girder of the compensatory gate closest to the bank at the St. Marys River Project.

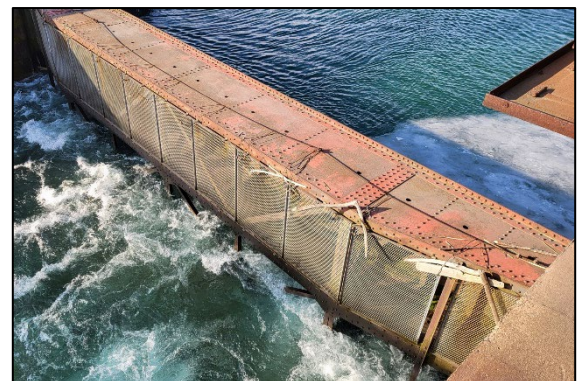


Figure 2. Canadian Compensatory gate modified with screens to prevent fish jumping between the girders.

Providing environmental and engineering technical support to the U.S. Army Corps of Engineers Operations and Maintenance navigation and dredging missions

