

Appendix F
Monitoring
And
Adaptive Management
Plan

PROJECT PERFORMANCE MONITORING

For purposes of monitoring the performance of the Manistique River sea lamprey barrier, the non-Federal sponsor plans to conduct the following field work:

1. Larval sea lamprey assessment: Electro fishing surveys will be conducted using ABP-2 backpack electro fishing units upstream of the sea lamprey barrier once each field season in 35 locations to ensure that the barrier is operating as a blocking structure to sea lamprey migration. Young-of-year larval sea lampreys will be targeted during this effort. Negative results indicate project performance expectations are being met. The estimated annual cost for this effort is \$16,000.
2. Spawning-phase sea lamprey trapping: Trapping will occur each spring (May-June) to estimate the population of spawning-phase sea lampreys in the Manistique River. Abundance of spawning-phase sea lampreys is estimated from mark-recapture studies using an approach similar to the technique developed by Schaefer (1951). Trapping efficiency will then be estimated to ensure that the traps are operating at an efficiency of at least 50%, indicating that project performance expectations are being met. Trapping efficiency is defined as the percentage of the estimated population we are successful at capturing in the traps $((\text{number captured}/\text{population estimate}) * 100)$. The estimated annual cost for this effort is \$86,000.
3. Water level monitoring: Level loggers will be installed to ensure that there is a minimum of 18" difference between the crest height and tailwater elevation being maintained up to the 25-year flood event. The level loggers will be downloaded annually and the data analyzed by technical staff. The estimated annual cost for this effort is \$5,000.
4. Barrier inspection: Visual inspections of the structure will be scheduled annually to identify any areas of concern for escapement or structure stability. The estimated annual cost for this effort is \$2,000.

Sea lamprey control program work plans are written annually and will include the efforts mentioned above. Summary reports are also prepared annually and will include details for both the larval assessment surveys and spawning-phase sea lamprey trapping. All work plans and summary reports will be made available to the Federal sponsor.