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Dual Beneficial Outcomes from Hydraulic Dredging

Superfund remediation and industrial land/harbor reclamation occurred at the St. Louis River/Interlake/Duluth Tar (SLRIDT) site in Duluth, MN within the St. Louis River estuary (EPA ID# MND039045430). During this project Marine Tech, LLC (MT) hydraulic dredging effort brought forth dual simultaneous benefits; 1) upstream dredging established shallow water fish habitat, and 2) downstream (~2 mi, 3.2 km) nutrient rich environmental media (EM) spread over barren, remediated embayments of the SLRIDT. EM material dredged from fluvial sediment deposits instituted shallow (< 6 ft, 183 cm) bathymetry conducive to fish spawning/grazing habitat. Clean up efforts at SLRIDT stripped vegetation and needed replenishing from EM for additional fish/wildlife sanctuary.

EPA Record of Decision requirements included disposal of all dredged contaminated sediments within the contained aquatic disposal (CAD) followed by 4.5 ft (137 cm) of sand/dolomite and activated carbon mat (ACM). EM spreading finished the cap with a 6 in (15.2 cm) layer over the entire SLRIDT site, which included 40 ac (16 ha) Stryker Bay, 11 ac (4.4 ha) CAD, and 19 ac (7.7 ha) Slip 7. Suitable EM sources were proposed by the Minnesota DNR, one of which included a shoal between Tallas Island and the mainland 2 mi (3.2 km) upstream from SLRIDT. EM from this source is rich in organic material promoting germination of aquatic vegetation. Hydraulic dredging at the EM source established shallow contour fish habitat while concurrently creating shallow (2-4 ft, 61-122 cm) fish habitat/shelter in SLRIDT embayments. Challenges included wood debris and long distance pumping with two booster pumps. Barr Engineering performed QC for depth contours at Tallas Island as well as turbidity sampling and noise level monitoring for area residents.