

Video Transcript: Spirit Lake Estuary Remediation and Restoration

Total Duration: 1:53

[00:00 - MUSIC PLAYING]

[00:00:04:23 - 00:00:12:22 – SPEAKER]

The Spirit Lake Estuary Remediation and Restoration Project represents a landmark achievement in environmental engineering and stewardship.

[DESCRIPTION: Oblique aerial of dredging equipment located in marsh area of Spirit Lake followed by an aerial view of a large earthwork construction area next to the lake and surrounded by forest featuring an excavator moving soil.]

[00:00:13:00 - 00:00:22:09 – SPEAKER]

For decades, Spirit Lake and the surrounding Saint Louis River suffered from impacts caused by industrial activities in and around nearby Duluth, Minnesota.

[DESCRIPTION: Pan across an aging historic photo of the shoreline of Duluth, Minnesota featuring building fronts and a railroad line with houses and roads in the distance. Transitions to a black and white historic photo of an industrial area with smokestacks, factories, and materials silos visible.]

[00:00:22:10 - 00:00:30:13 – SPEAKER]

Federal, state, and local agencies, tribal partners, and community members all played a role in planning and carrying out the work.

[DESCRIPTION: EPA project representative pointing to a board depicting an aerial photo of the Spirit Lake area for a woman visiting a public meeting on the project followed by a pan of a presentation at a well-attended public meeting.]

[00:00:30:15 - 00:00:42:13 – SPEAKER]

The project delivers significant environmental benefits by combining large scale sediment remediation with advanced technology and extensive habitat restoration, including the creation of new open water areas.

[DESCRIPTION: An overhead video looking straight down on a full dump truck and an excavator spreading soil in a construction zone. An aerial video panning across a large-scale earthwork construction area along Spirit Lake and surrounded by forest. An aerial video of two large pieces of sediment dredging equipment in the water of Spirit Lake.]

[00:00:42:15 - 00:00:53:06 – SPEAKER]

Remediation, design and construction overcame the unique and complex challenge of addressing competing needs for deeper waters, thick underwater caps, and limited on site disposal.

[DESCRIPTION: An overhead video looking straight down on multiple pieces of construction equipment that together are mixing sand and granular activated carbon being mixed before being pumped through pipes to a barge for placement. The video transitions to an aerial flown low over the lake and showing a dredging barge in the water.]

[00:00:53:08 - 00:00:58:10 – SPEAKER]

EA's engineers and scientists had to balance sediment removal volume to meet cleanup goals.

[DESCRIPTION: An oblique aerial panning along an excavator in the water building a stabilized shoreline next to a railroad track.]

[00:00:58:11 - 00:01:06:11 – SPEAKER]

Dredging to create desired water depth and suitability of the restored substrate for meeting post-construction habitat expectations.

[DESCRIPTION - Rising aerial of seeded land following placement of dredging material.]

[00:01:06:11 – 00:01:16:21 – SPEAKER]

The project team innovated multi-layer reactive caps to conserve water depth.

[Description - Aerial pan around dredging equipment working in the lake.]

[00:01:16:21 – 00:01:21:13 – SPEAKER]

Adapted use of multiple dredging technologies and carefully planned water depth regimes to create a robust remedy with a mosaic of wetlands.

[DESCRIPTION – Image of a wetland and floodplain.]

[00:01:21:13 – 00:01:35:09 – SPEAKER]

Sustainability was prioritized using innovative engineering techniques that worked with nature, such as resilient shoreline design and creation of diverse aquatic habitats with adaptive planting elevations to accommodate fluctuating lake levels.

[DESCRIPTION – Image of a field with tall grass and black-eyed Susans followed by an image of a shoreline and floodplain with a forest on shore. Switches for closeup video of cattails waving in the wind with Spirit Lake in the background.]

[00:01:39:09 – 00:01:47:23 – SPEAKER]

Spirit Lake now stands as a model for future restoration projects. Its success shows how science, engineering, and community engagement can come together to solve tough environmental challenges.

[DESCRIPTION – Pan up a photograph of a winding stream channel surrounded by floodplain transitions to zooming out of a photo of a shoreline with a railroad line next

to the shoreline and a paved trail further inland followed by an oblique aerial of a thin peninsula surrounded by water.]

[00:01:47:23 – 00:01:53:05 – MUSIC FADES]

(DESCRIPTION: EA Logo and web address – eaest.com)