

Minnesota Point Dune Restoration

Lake Superior is a water wilderness, and Duluth's Minnesota Point is on the edge of it. With this amazing location comes beautiful beach front and water access, but it also comes with challenges. Starting in 2017 and as recently as 2024, storm surges off the lake producing huge waves caused large amounts of erosion, taking vast swaths of beach and sand dunes with them.

During this time, the lake-side stretch of the 700 to 1400 blocks on Minnesota Point had nearly the entire sand dune system lost to powerful erosive wave action. While the public beach in this zone was greatly degraded, the critical threat remains to adjacent infrastructure, such as neighboring homes, along with Lake Avenue, the sole road extending along the entire sand spit.

Without a natural barrier, loose sand is pushed by wave action onto the beach and blown over the gentle shore slope onto private property and Lake Avenue -- burying decks, porches, and patios, and pushing beach sand onto driving surfaces. A healthy dune with beach grass acts as a natural barrier to grab the blowing sand, allowing it to settle, accumulate and grow into new dunes. The higher the dunes get, the more robust the grasses grow and the better they perform as a sand capture system and coastal barrier.

These dune systems perform a vital ecological service from a unique habitat perspective, but also from a coastal resilience standpoint. They are nature's way of holding back the lake during its most angry moments. Sand dunes by nature are very dynamic environments, constantly being shifted and molded by the wind and water, and when healthy they serve as an irreplaceable function in stabilizing the shore.

In Duluth, we are implementing strategies to mimic and sustain the natural systems that protect the built environment across our entire city park system that provide embedded ecological safeguards to public infrastructure. Over time we hope this idea will enable a more passive land management approach focused on growing healthy, regenerative natural systems embedded within public assets, rather than designing heavily engineered systems out of rock and steel that are resource-intensive and costly to maintain.

At this vulnerable area on Minnesota Point, we are implementing a strategy to passively capture the wind-blown sand on the beach with a linear series of slated sand fencing parallel to the water where the vertical dunes are best situated for establishment. The goal is to rebuild an expansive living dune system that is host to a thriving population of American beachgrass -- *Ammophila breviligulata*, being the local Minnesota genotype.

Restoring a dune system will not completely solve the issues the community faces with sand escaping the beach during damaging storms, but it will vastly reduce it. While these consequences will not be remedied immediately, we believe with patience and continuous stewardship these valuable resources can ensure the natural fortification of Minnesota Point for future generations to come.

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Have an interest in helping the dune restoration next spring? Reach out/send us an email and let us know you may be able to help! parks@duluthmn.gov