

## Coastal Habitat Restoration a Sustainable Business Opportunity

Members of the Confederacy of Mainland Mi'kmaq have been manufacturing and placing reef balls on the seafloor in the Northumberland Strait between Nova Scotia and Prince Edward Island to create artificial reefs that provide habitat for shellfish, fish, seaweeds and other marine life.

Reef balls are about the size of a big beach ball, made of concrete, and honeycombed with holes to provide shelter and protection for lobster, crabs and other species says Anthony King, Coastal Restoration Project Manager at the Mi'kmaw Conservation Group.

“There’s a long-term, sustainable business opportunity for our communities in working to enhance underwater habitat and restoring living coastlines,” King says.

Building a wharf, enlarging a harbour or just about any kind of shoreline alteration often requires restoring some habitat elsewhere he explains. “Deploying reef balls is a great way to create habitat and it’s something we’re now capable of doing after putting 200 balls on the sea floor this summer just off shore of Pictou, Nova Scotia,” he says.

*“There’s been lots to learn since we started but we’re in this for the long haul.”*

The Confederacy of Mainland Mi'kmaq comprises eight member communities. In 2019, the Mi'kmaw Conservation Group (MCG) received \$1.2 million in funding through Fisheries and Oceans Canada’s Coastal Restoration Fund to build capacity to restore coastal areas and to create up to 13 new jobs over the course of four years. The funds are part of the \$1.5-billion national Oceans Protection Plan.

In addition to creating artificial reefs in the Northumberland Strait, MCG is working with partners to plan and monitor tidal barrier restoration work along the Bay of Fundy shoreline to re-establish salt marshes in the region.

“All of this work will be completed by using both the traditional lens and the western science lens so both knowledge sets combine into one collaborative effort to restore our lands and resources,” says Angeline Gillis, Senior Director for the Department of Environment and Natural Resources, the Confederacy of Mainland Mi'kmaq.

Doing any alteration along coastlines—even restoration work—requires a significant amount of paperwork and permits from various government departments. “It’s important to get an early start and know that it’s going to take longer than you expect,” advises King. Restoration is different from most shoreline projects so it’s important to provide as much information as possible he adds.

Reef balls are used around the world to create artificial reefs. King went to the Reef Ball Foundation, a non-profit organization in Tampa Bay, Florida, to obtain



Reef Ball. Photo Credit: The Confederacy of Mainland Mi'kmaq

moulds and be trained in reef ball construction and deployment. The MCG manufactured smaller-sized balls in the community so they could be deployed from their fishing boats.

“There’s a lot of moving parts in project like this. You need the right attitude to find solutions when you run into trouble,” says King.

The Bay of Fundy watershed project involves working with several partners to remove dykes in order to restore the natural tidal exchange and fish passage—and to increase salt marshes and other important habitats for species such as Atlantic salmon and American eel. Some 70 per cent of the region’s salt marshes have been previously lost. “Natural or living shorelines provide a range of benefits,” says King. “In addition to habitat, they reduce erosion and impacts of storm surges.”

MCG is involved in monitoring species diversity, water quality, and sedimentation rates and providing an overview of impacts as the restoration work progresses. King says they’ve had a big focus on capacity development and that one of their technicians has become an expert at identifying various species of grasses. “We’re still new at this, so asking questions of more experienced partners has been extremely important.”

For communities considering similar restoration work King emphasizes the important of creating good partnerships. “It can be expensive to get started and there’s lots to learn. It helps to have someone who is good with logistics,” he says.

At the end of the four-year project, MCG will do a final report which will serve as a how-to manual they’ll be happy to share with anyone King concludes.

**Best Practise:**

*Using Two-Eyed Seeing (both Indigenous and Western Knowledge and Science) to Restore Resources*



*Photo credit: Mi’kmaw Conservation Group, The Confederacy of Mainland Mi’kmaq*

