# **Showcasing the DNR: Beach-cleaning boost – roving robot behind cleaner beaches throughout the state**

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Cigarette butts, discarded food wrappers, shards of plastic – all items we wish to avoid when we’re at the beach and have our toes in the sand.

Thanks to new technology – a beach-cleaning robot known as “BeBot,” developed by Niteko Robotics – we’ll be seeing less trash at our beloved inland lake beaches and Great Lakes shorelines. Several state park beaches are now using BeBot, an advanced method of managing litter that’s electric-powered and remote-operated.

This is good news for fun-filled summer days along the water, and even better news for the environment.

With the capability to cover 32,000 square feet per hour, the robot efficiently clears away various sizes of plastic debris from the landscape including bottles, food wrappers, cigarette butts and fragmented plastic particles.

“The Michigan state parks and recreation system strives to seek out innovations that help us operate efficiently, saving time and resources while delivering quality outdoor recreation experiences to our visitors,” said Ron Olson, chief of the Michigan Department of Natural Resources Parks and Recreation Division. “This innovative tool is an opportunity to improve our methods to maintain clean beaches.”

## **BeBot beach cleaning**

The DNR’s Parks and Recreation Division purchased a BeBot in 2023 for use in southeast Michigan’s Rose Lake District, which includes Brighton Recreation Area in Livingston County.

“The BeBot is a great addition to the Rose Lake District,” said Rowdy Perry, unit supervisor at Brighton Recreation Area. “A lot of emphasis is placed on Great Lakes health, but inland lakes health also plays a major part in the state’s overall ecosystem protections. The BeBot not only helps clean the beaches around the district, but it also serves as a conversation starter to educate the public about the importance of clean beaches and water across the state.”

Farther north, the DNR’s Gaylord District is partnering with the Tip of the Mitt Watershed Council to use a BeBot for trash collection on local beaches. These include shorelines at Petoskey and Cheboygan state parks.

Also this summer, the BeBot was deployed for the first time on Belle Isle, which the DNR has managed as a state park since 2014. This is part of the Belle Isle Conservancy’s environmental campaign, Keep Belle Isle Beautiful, and the Great Lakes Plastic Cleanup, a collaborative effort between the Council of the Great Lakes Region Foundation in the U.S. and Pollution Probe in Canada, targeting enhanced plastic litter removal and reduction on Belle Isle Beach, along the Detroit River.

A partnership among the Belle Isle Conservancy, the DNR and the CGLR Foundation, the BeBot deployment represents a significant step forward in utilizing technology to preserve and protect our natural environment, including the international Detroit River.

"This partnership exemplifies our commitment to leveraging technology and collaboration to address environmental challenges," said Tim Slusser, chief of the Office of Mobility Innovation at the City of Detroit. "By harnessing the power of BeBot, we are taking proactive steps to combat litter pollution and preserve the beauty of Belle Isle for generations to come."

The BeBot’s arrival on Belle Isle is the result of a collaborative effort between the City of Detroit's Office of Mobility Innovation and the CGLR Foundation, thanks to funding from The Clorox Company and ongoing support from Midwest retailer Meijer. With the DNR’s support, the BeBot operates at Belle Isle Beach, where it works alongside existing cleanup initiatives led by the Belle Isle Conservancy to ensure a cleaner, healthier environment for all visitors. Funding for this project was generously provided by The Clorox Company to the CGLR foundation.

“Since 2017, the Belle Isle Conservancy has educated thousands on the dangers of single-use plastic, removed upwards of 40,000 pounds of littered plastic pollution from Belle Isle and its waterways, and collaborated with local artists and designers to reuse waste collected at our cleanups to create and exhibit visual narratives around sustainability,” said Genevieve Rattray, director of sustainability and advocacy for the Belle Isle Conservancy.

“We are excited to work in partnership with the City of Detroit, the Michigan Department of Natural Resources and the CGLR Foundation to foster innovation and innovative technologies as we continue to protect and preserve our natural resources and make critical movement toward adopting the principles, practices and policies of a circular economy.”

Mark Fisher, the president and CEO of the CGLR network, also talked about the value of this partnership and its contribution to a [circular economy](https://www.epa.gov/circulareconomy/what-circular-economy) – one that keeps materials and products in circulation for as long possible by reducing material use, redesigning materials and products to be less resource-intensive and recapturing waste as a resource to manufacture new materials and products.

"The Detroit River serves a vital economic and ecological corridor between the United States and Canada," Fisher said. "By partnering with the City of Detroit and the Belle Isle Conservancy, as well as The Clorox Company and Meijer that share our commitment to sustainability in the Great Lakes region, we are able to keep our beaches and waterways clean and free of plastic litter as we work to end plastic waste by moving to a circular economy."

## **Far-reaching robot**

The BeBot has already proven its effectiveness in removing and studying the sources and pathways of plastic litter on Great Lakes beaches in Michigan, Ohio and Wisconsin with funding from Meijer. With cleanup efforts gaining momentum in the region, the introduction of the BeBot on Belle Isle this summer offers a unique and impactful solution to learn about and tackle the plastic litter pollution challenge facing not only the island and Detroit River, but the entire Great Lakes basin.

“Meijer is proud to support the BeBot pilot program on Belle Isle Beach, which demonstrates our commitment to environmental stewardship and innovation in the Great Lakes region,” said Erik Petrovskis, director of environmental compliance and sustainability at Meijer. “As a family company with a long history of serving Michigan communities, we care deeply about the health and beauty of our natural resources and the well-being of our customers and team members. We applaud the City of Detroit for their leadership and collaboration in this groundbreaking initiative to reduce plastic waste and protect our waterways.”

## **Continuing cleanup efforts**

The City of Detroit, the DNR and other partners will seek to secure funding in the future to expand the initiative on Belle Isle with an additional BeBot as well as a PixieDrone, a remotely operated floating waste collector that would be deployed in local waterways.

In addition to the BeBot pilot program, the City of Detroit remains committed to ongoing cleanup initiatives, in addition to the Keep Belle Isle Beautiful campaign launched in 2017. The Belle Isle Conservancy will operate the BeBot during public cleanup events, conduct waste characterizations – determining how much paper, glass, food waste and other materials are discarded in the waste stream to help plan how to reduce waste and conserve money and resources – and collect and report metrics from findings.

Learn more about the ways the DNR is helping protect Michigan’s natural resources and the environment, and some opportunities for you to join us in these efforts, on the department’s [Green Initiatives webpage](https://www.michigan.gov/dnr/managing-resources/green-initiatives).