



Are You a Citizen Scientist?

by **MAKAYLA CARNEVALE** /// EAC Volunteer

Citizen scientists taking part in a workshop to replant eelgrass.
PHOTO: Nicolas Winkler Photography

There is an expression on the Internet “go touch grass,” used to tell people to step away from their screens and spend more time outside. While often used as a playful jab, there is a truth to the sentiment: nature can be healing. From forest bathing to long walks on the beach, being outdoors has a way of refreshing the mind and the body. But what if this time could benefit both ourselves and nature itself? In an ever-increasingly digital age, we can spend more time outdoors, while at the same time contributing to plant and species-saving research through the practice of citizen science.

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What is citizen science?

Citizen science is a form of participatory research. Members of the public contribute to conservation and environmental initiatives through data collection, analysis and other forms of scientific inquiry. Citizen science may seem like a new concept borne of environmental crisis, but ordinary people have long played a significant role in understanding the natural world. Some scientists were never professionals as we might think of the term. Gregor Mendel – known for his work on pea plants and genetics – was an Augustinian friar. Charles Darwin never obtained a formal degree in science. On Turtle Island, citizen scientists were instrumental in the documentation of Canadian flora and fauna in the 18th and 19th century: John Macoun, a schoolteacher in the 19th century, documented and preserved over 100,000 plant specimens for museums.

Today, numerous biological datasets are used to track changes in landscape, habitat and species diversity in Canada. These datasets are as robust as they are because of citizen scientists; there are not enough

professional scientists and funding to create and maintain the large-scale datasets required for provincial, national and global conservation efforts. Without citizen scientists, our understanding of the climate crisis, its impacts and ways to counteract it would be diminished.

Becoming a citizen scientist

For many, science seems reserved for those with the right academic credentials. Citizen science challenges this mindset: you don't need a degree – just curiosity and a willingness to learn. Opportunities for citizen science are everywhere, and getting involved can be as simple as opening your phone and snapping a photo of a cool plant or animal. Apps like iNaturalist allow users to upload species photos to a central database with no prior experience in species identification required. If your observation meets iNaturalist's research-grade qualifications, your observations could be used to help monitor and track biodiversity around the world.

In Canada, iNaturalist is used by scientists at both Kejimikujik and Cape Breton Highlands National Parks to monitor populations of large predators, inform recommendations for installing road crossings for amphibians and reptiles and restore forests.

At Kejimikujik National Park Seaside, the Gone Crabbin' program allowed park visitors to help restore eelgrass by trapping, measuring, sexing and then removing invasive crabs from the park. As a result, nearly two million green crabs have been removed, and nearly 40 per cent of the original eelgrass beds have returned.

In Mi'kma'ki/Nova Scotia, citizen science has also led to new discoveries. In response to logging threats, a group of citizen scientists began documenting lichen species near Goldsmith Lake. With the help of a lichenologist, they found a species of lichen previously undocumented in the Maritimes, as well as several species-at-risk, proving that areas recognized as old growth were larger than previously realized by the provincial government. Their efforts led to a pause in provincial harvest plans in the region.

Fostering community and ecological citizenship

By engaging in citizen science, we can cultivate a deeper connection with the natural world. Practicing science is, in its own way, an act of mindfulness. Going out and offering your attention to the natural world, be it the smallest spray of moss to vast ocean shores, is not just an act of observation, but an act of reverence and wonder. At a time of ever-increasing ecological challenges, our connection to nature becomes more than just one of healing – it becomes essential for emotional resilience.

Giving back to nature strengthens us, gives us resilience in the face of an increasing number of ecological crises and opens our eyes to our place within the broader tapestry of existence. Citizen science

TAKE ACTION

Check out the Facebook group "[Citizen Science Mi'kma'ki \(Nova Scotia\)](#)" for ways to get involved in citizen science initiatives.

reminds us that we are not separate from nature but a part of it. By embracing curiosity, collaboration and care, we not only contribute to scientific discovery but also deepen our sense of belonging in the world, ensuring that future generations inherit a planet rich in resources, biodiversity and wonder.

Tips and tricks for taking research-grade photos

Observations that are accurate, complete and verifiable are key to giving researchers the confidence to make informed decisions about current phenomena and to craft conservation strategies that will have an impact. Here are some quick tips and tricks to help:

- Make sure your photos have a date.
- Make sure your photos are georeferenced: have latitude and longitude coordinates to mark the location of your observation.
- Take multiple photos.
- Take high-quality photos.
- Use objects for scale. Place a coin, a pencil or even your hand beside the specimen you are photographing.



Looking closely at species near
Kjipuktuk/Halifax.
PHOTO: Jillian Ramsay