

Nature in the Neighborhood – April 2026

Biodiversity in Our Neighborhood

The first image that may come to mind when someone mentions biodiversity is a tropical rainforest filled with exotic plants and animals, and not your local neighborhood. But biodiversity – or biological diversity – refers to the variety of flora and fauna found in all types of environments. Not just distant, wild places – it is all around us, even right in our own backyards.

Yes, tropical rainforests, with their cacophony of birds calls, monkey chatter, and insect buzzing, contain an extremely rich diversity of flora and fauna, more than found in our part of the world. Nevertheless, there is also a surprising amount of biodiversity right here in our own neighborhood. On the **iNaturalist** “Swampscott Biodiversity Project” page, out of the 13,250 sightings made over the past decade, 1,947 different species of plants and animals have been recorded (www.inaturalist.org/projects/swampscott-biodiversity). More observations are continually added to the project including, within the last couple of months, the sightings of a Peregrine Falcon, Red-tailed Hawk, Greater Scaup, and Pale Bellied Brant (the latter two are winter-visiting shorebirds who will soon be commuting back north).

A nonprofit social network for naturalists, citizen scientists, and biologists, **iNaturalist** maps and shares biodiversity observations worldwide. You can upload photos or audio recordings of organisms you observe using the easily-downloaded app, and **iNaturalist** will suggest possible identification. Every observation you make contributes to biodiversity science, whether it is the rarest butterfly or the most common backyard weed. Your findings are shared with scientific data repositories, thereby enabling scientists to find and use your data. So, the **iNaturalist** platform serves as a field guide, citizen science tool, and resource for biodiversity research and conservation.

Biodiversity is more than just a catalog of individual organisms in a specific ecosystem; it is all the species taken together, their genetic makeup, and their complex relationships and interactions. Each species, and each animal and plant, contributes to the overall health and resilience of that ecosystem. This complex network of interconnections among all living organisms and their environments is aptly termed the *web of life*.

If one part of the web is disrupted, the entire ecosystem can suffer. As the ecological thinker and environmental advocate John Muir noted: “Whenever we try to pick out anything by itself, we find it hitched to everything else in the universe.”

Maintaining biodiversity is necessary for ecological stability and also for human well-being because, whether we like it or not, our species is also caught in the web of life. A decline in biodiversity can have profound effects on us. Biodiversity provides countless benefits, often ones we don’t see: Forests purify the air we breathe and sequester

carbon; wetlands filter water and protect against flooding; and bees pollinate crops. Many medicines, from antibiotics to cancer treatments, are derived from plants and animals. Some estimates show that these ecosystem services contribute trillions of dollars to the global economy.

Unfortunately, species are vanishing at rates a thousand times more than ever in Earth's history. The extinction of species is due to a perfect storm of factors: habitat destruction (e.g., the clearing of forests and draining of wetlands for agriculture and development); air, water, soil, light and noise pollution; invasive species that outcompete native species; and climate change that alters habitats faster than a species can adapt.

The good news for Massachusetts is that biodiversity conservation is a priority for the Healey-Driscoll Administration. In 2023 Governor Healey made history when she signed Executive Order No.618 into law directing the Department of Fish and Game (DFG) to recommend biodiversity conservation goals for 2030, 2040 and 2050 along with strategies to meet those goals.

In August of last year, the DFG submitted a 25-year plan "to place biodiversity at the center of our climate and environmental agenda and invest in nature to sustain our health and well-being, food security, economy, and way of life."

www.mass.gov/doc/massachusetts-biodiversity-goals-report-2025/download

Recognizing that biodiversity is declining at an unprecedented rate – citing the loss of over three billion birds in North America, the decline of Atlantic cod, and the fact that one rarely sees fireflies in summer backyards – the DFG concluded that the time has come to "halt and reverse the decline of species and restore nature for the benefit of all."

To achieve that goal, the DFG report proposes four goals:

- PROTECT - Doubling the pace of land protection to conserve 40% of the state by 2050, strategically protecting 425,000+ acres of the most important habitats, and also seeking designation of Cashes Ledge, a vital habitat for marine life, as a National Marine Sanctuary.
- RESTORE - Restoring 75% of the most important species habitats, such as degraded salt marshes and marine ecosystems.
- SUSTAIN - Valuing the ecosystem services biodiversity provides by, among other efforts, supporting biodiversity-friendly farms and enhancing the resilience of fisheries.
- CONNECT - Launching a Local Biodiversity Grant Program to fund community-led efforts to conserve nature in every neighborhood, develop biodiversity-focused curriculum in schools, and launch public education campaigns that invest in access to nature for all.

Citizens will be able to actively support Massachusetts' biodiversity goals through these local conservation projects, habitat restoration, education programs, and participation in community grants and partnerships. But there are steps you can take right in your own backyard. This includes planting native species that are adapted to our local environment and provide food and shelter for insects, birds, and wildlife. Many local garden centers are stocking native plants and the Conservancy will be selling them at the Swampscott Farmer's Market on June 7th this year. Another step you can take is to minimize pesticide use in your garden. This protects pollinators and other beneficial fauna that are part of the web of life and that keep the local ecosystem functioning smoothly.

E.O. Wilson, the noted biologist, naturalist, ecologist, and entomologist, who is quoted on the opening page of the DFG report, believed that "there can be no purpose more inspiring than to begin the age of restoration, reweaving the wondrous diversity of life that still surrounds us."

The time for tackling the biodiversity crisis and beginning the age of restoration is *now* - and it starts in our own neighborhoods.

Learn More

Professor Colleen Hitchcock, a professor of Ecology at Brandeis University in the Biology Department and chair of the Environmental Studies Program, will be delivering the keynote address at the Swampscott Conservancy's Annual Members Meeting. Her presentation, "**Nature's Changing Clock: The Signature of Climate Change on Biodiversity**," will focus on the changing seasonal timing of natural events - have you noticed earlier blooms and later fall foliage in recent years? - and the effects on biodiversity.

The meeting will be held virtually on **Monday, April 27, 2026, at 6:30pm**. Information on how to join the meeting will be posted on the Conservancy's website: swampscottconservancy.org. You don't have to be a member to listen to the Keynote Address, only possess an interest in learning about the scientific study of phenology - the timing of biological events such as flowering and leafing of plant life - and how this timing can be shifting as a result of changing temperature and rainfall patterns related to climate change. And importantly, you will learn about the significance of crowd-sourced data, community science, and how you can participate in the study.

Opportunity to Participate

The City Nature Challenge (CNC) is in its 10th year of celebrating Boston-area biodiversity and welcomes you to be a part of this global effort to document biodiversity through participatory science. In the Town of Swampscott, the Conservancy will host a CNC event to explore biodiversity at Muskrat Pond Conservation Area (off

Forest Avenue.). More information will be posted on the Conservancy's website. *Hope you can join us!*