

# 2022 Site Environmental Report

VOLUME 1





The cover for this year's Site Environmental Report features a monarch butterfly (*Danaus plexippus*), seen at Brookhaven National Laboratory (BNL) and one of the few migratory insects found on Long Island, New York, and across North America. Monarch numbers have markedly declined over the last two decades and the US Fish & Wildlife Service is currently considering federal protections for this species. Monarch caterpillars only feed on milkweed (*Asclepius spp.*) and cannot survive without an adequate supply of this plant. Monarchs are one of many species of native pollinators that actively use the Lab site due to an abundance of native flora like milkweed.

Native pollinator populations are declining globally due to the loss, degradation, and fragmentation of habitat; diminished quantity and quality of food sources; reduced availability of sites for mating, nesting, and migration; exposure to pesticides; and increased adverse effects from pests, pathogens, and parasites. Sadly, these factors have resulted in the decline of many species. Surveys have indicated that in New York State alone, 40-60 percent of pollinator species are rare or declining with more than ten percent potentially extirpated.

Native pollinators include many varieties of bees, flies, wasps, moths, butterflies, beetles, and birds. The decline of honeybee populations has been broadly publicized, and though they are an essential

pollinator of agricultural crops, they are not native to the United States. Studies have shown that honeybees can negatively impact native pollinators through increased competition for nectar and through transmission of pests and pathogens to native bee species.

In 2019, in an effort to promote native pollinator species, the BNL Environmental Protection Division and Facilities & Operations Directorate purchased wildflower seeds and converted approximately 13 acres of regularly mowed lawn to wildflower meadows around the BNL site, which is based in Upton, New York, on eastern Long Island. In addition to providing sources of pollen and nectar, the foliage of species like purple coneflower (*Echinacea purpurea*), pictured here, provides food for caterpillars, the seeds provide food for birds and other wildlife, and the dead stems provide nesting habitat for the many species of native bees that nest above ground.

These no-mow areas have become a haven for native pollinators and have reduced some of the pressure on Facilities & Operations staff to maintain these areas. During the summer and early fall, the colorful blooms are visually pleasing and provide an opportunity for staff and visitors to observe the variety of wildlife utilizing these areas. The Lab hopes to establish additional no-mow areas around the site as resources become available.

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The Brookhaven National Laboratory Site Environmental Report is a public document that is distributed to various U.S. Department of Energy sites, local libraries, and local regulators and stakeholders. The report is available to the general public on the internet at <http://www.bnl.gov/ewms/ser/>. To obtain a copy of the report, please write or call:

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