

DAVID H. SMITH PRESERVE AND FIRE TRAIL

On Martha's Vineyard and Nantucket, there is an ecosystem that is extraordinarily rare with only a few other small examples in existence worldwide. The coastal sandplain ecosystem in the David H. Smith Preserve on Martha's Vineyard is the most substantial of its kind on the island. Located in Edgartown, this 830-acre preserve features coastal grasslands and heathlands as well as the rare plants and animals that call this beautiful ecosystem home. The preserve is also known for its fire trail that educates visitors about the importance of prescribed burnings to restore and protect this threatened natural area. It is estimated that 80 percent to 90 percent of the world's coastal sandplain ecosystem is located on Massachusetts islands.

The coastal sandplain ecosystem includes sandplain grassland natural communities. A sandplain grassland is a flat area comprised of native grasses and shrubs and is maintained by periodic burning. These grasslands were formed from melting glaciers many thousands of years ago when the glaciers dropped their sand, and the streams from the melting water formed sandy plains. The deep sand deposits beneath the grassland allow water to percolate down quickly. Due to this high sand content of the soil, water and nutrients drain away easily, creating a climate that is perhaps prone to drought but also creating this very rare natural community. Wildflowers such as bluets, false indigo, asters, and field pussytoes often grow in this area. Coastal heathlands have grasses and some of these flowers as well, but they also contain shrubs such as blueberry, bayberry, huckleberry, and pasture rose. Rare animals such as the short-eared owl, northern harrier hawk, endangered moth species, hairy woodpeckers, and the grasshopper sparrow have recently made a comeback to Martha's Vineyard due to fire management.

Very little of this remarkable ecosystem exists in the world due to residential and commercial development. What does remain has been overwhelmed by nonnative species because of the lack of periodic burning to keep the prairielike coastal landscape open.

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Until recently, wildfires and burning have been discouraged, because the fire would get too close to homes and businesses. The pitch pine/scrub oak forests have dominated the vegetation in the ecosystem, threatening to eradicate the plants that are characteristic of this ecosystem. The Nature Conservancy has worked with other partners to conduct safe and effective burnings to restore the coastal sandplains at David H. Smith Preserve. There are plans in place for the future to build a research facility at the preserve where further study of this rare ecosystem will take place in order to develop further strategies to restore and protect the coastal sandplains.

Restoring the native grassland and woodland habitats at David H. Smith Preserve continue as other progress is made to protect sandplain locations on Martha's Vineyard. Katama Plains Preserve is the largest parcel of sandplain grasslands on the island and is also located in Edgartown. It is closed to the public because of its highly sensitive habitat. The area is small—only 192 acres—but every acre of this natural community that can be protected is critical. The Marine Biology Laboratory and the Nature Conservancy are in the midst of a five-year plan to restore the sandplain ecosystem at Bamford Preserve on Herring Creek Farm. Once used for agricultural activities, Bamford Preserve is being restored to its native state as a sandplain grassland and heathland. Because rich agricultural soils differ substantially from the dry soils of a sandplain, adjusting the soil composition is necessary to support the vegetation that prefers the infertile soils and to discourage the growth of plants that thrive in fertile soils. Because Bamford Preserve connects to the Katama Plains Preserve, restoration of Bamford will safeguard a large tract of coastal sandplain grassland and heathland on Martha's Vineyard.

Further Reading

- Dunwiddie, Peter. *Martha's Vineyard Landscapes: The Nature of Change*. Vineyard Haven, MA: Vineyard Conservation Society, 1994.
- Mader, Sylvia S. *Martha's Vineyard Nature Guide*. Green Bay, WI: Mader Enterprises, 1985.
- Nantucket Conservation Foundation. <http://www.nantucketconservation.com/>.
- Nature Conservancy. "David H. Smith Preserve." <http://www.nature.org/wheretowork/northamerica/states/massachusetts/preserves/art5334.html>.