



Sandplain Grassland

Community Code: CT2B2A0000

State Rank: S1



Concept: An open, near-coastal community visually dominated by native grasses, although forbs and shrubs are important components of the community.

Environmental Setting: Sandplain Grasslands are essentially treeless coastal communities, dominated by native grasses and herbaceous species with sparse shrubs, on sand or other dry, low-nutrient soils. Occurrences receive onshore winds and salt spray from storms, which delay succession to shrubland, woodland, and forest. Prior to European settlement, they likely occurred as openings close to the coast where salt spray suppressed the growth of woody plants, and in openings created by windstorms, fires, and localized agricultural activities. The community also occurs in openings within Pitch Pine - Scrub Oak Communities, often in depressions (frost pockets) where frost can occur throughout the growing season inhibiting woody growth. Most current occurrences are on land that was previously farmed or disturbed.

Vegetation Description: Sandplain Grasslands are dominated by graminoids, usually little bluestem grass (*Schizachyrium scoparium*), Pennsylvania sedge (*Carex pensylvanica*), and poverty grass (*Danthonia spicata*), with bearberry (*Arctostaphylos uva-ursi*), scrub oak (*Quercus ilicifolia*), stiff aster (*Ionactis linariifolia*), bayberry (*Morella pensylvanica*), lowbush blueberry (*Vaccinium angustifolium*), black huckleberry (*Gaylussacia baccata*), and a variety of goldenrods (*Solidago* and *Euthamia* spp.). The shrubs often form clonal patches. Goat's-rue (*Tephrosia virginiana*), yellow wild indigo (*Baptisia tinctoria*), butterflyweed (*Asclepias tuberosa*), colic-root (*Aletris farinosa*), and bird's-foot violet (*Viola pedata*) are good indicators of the community, although they occur in other dry habitats as well. Uncommon plants include sandplain gerardia (*Agalinis acuta*), purple needlegrass (*Aristida purpurascens*), commons'



and harsh panic-grass (*Dicanthelium ovale* ssp. *pseudopubescens* and *D. scabriusculum*), sandplain and stiff yellow (or rigid) flax (*Linum intercursum* and *L. medium* var. *texanum*), and Bayard's adder's mouth (*Malaxis bayardii*).

Differentiating Occurrences: Sandplain Grasslands are part of a structural and successional continuum with other coastal communities. When communities are not distinct, the best fit should be named. Sandplain Heathlands and Sandplain Grasslands share about 70% of their dominant species; the proportions of the species and the community structure separate the types. Sandplain Heathlands look shrubbier with a taller shrub layer comprised of scrub oak, black huckleberry, and/or lowbush blueberry. Overall, they have fewer plant species. Both Sandplain Grasslands and Maritime Dune Communities have grasses, forbs, and low shrubs, with patches of bare soil. Dune communities are on dunes and are often dominated by beach grass and beach heather that occur less abundantly in grasslands, where if they occur they are with other plants. Sandplain Grasslands - Inland Variant often have a greater abundance of non-native and weedy species. Sandplain Grasslands - Inland Variant are located inland, away from maritime influences. They have fewer coastal species such as sandplain flax (*Linum intercursum*), golden heather (*Hudsonia ericoides*), and sandplain blue-eyed grass (*Sisyrinchium fuscatum*). Cultural Grasslands are by dominated by non-native grasses maintained for pasture or hayfields.

Associated Fauna: Animals of Sandplain Grasslands are adapted to open areas. Seven species of birds of conservation interest in Massachusetts are highly dependent on grassland habitat for nesting, overwintering, or resting during migration, including Grasshopper Sparrow (*Ammodramus savannarum*) which is particularly adapted to areas with open ground between grass tussocks. Five other birds that are uncommon and declining in the state are also associated with grassland habitats, including the Eastern Meadowlark (*Sturnella magna*) which uses habitat with continuous short grass. Grasslands provide hunting territory for hawks, such as Northern Harrier (*Circus cyaneus*) and Short-eared Owls (*Asio flammeus*). In Massachusetts, the American burying beetle (*Nicrophorus americanus*) is restricted to Nantucket, where a reintroduced population currently exists at apparently healthy population levels. The purple tiger beetle (*Cicindela purpurea*) is also faring best on the offshore islands, with a few remaining mainland populations. Both of these species are strongly associated with grassland and savanna habitats. There are multiple species of moths and butterflies with habitat primarily restricted to sandplain grasslands, nine of which are of conservation concern.

Public Access: Katama Plains Nature Preserve, Edgartown; Chilmark Cemetery, Chilmark; Head of the Plains and Middle Moors (Nantucket Conservation Foundation), Nantucket; Francis Crane WMA, Falmouth.

Threats: Exotics, such as Scotch Broom (*Cytisus scoparius*), Japanese knotweed (*Fallopia japonica*), cypress spurge (*Euphorbia cyparissias*), and especially cool-season grasses that form mats. Common non-native species include sheep fescue (*Festuca ovina*), sweet vernalgrass (*Anthoxanthum odoratum*), velvet-grass (*Holcus lanatus*), bluegrass (*Poa pratensis*), timothy (*Phleum pratense*), spotted cat's ear



(*Hypochaeris radicata*), narrow-leaved plantain (*Plantago lanceolata*), sheep-sorrel (*Rumex acetosella*), and others.

Management Needs:

Fire management plans should be produced and implemented to introduce prescribed fire to the best examples. Reduce exotics where possible.

USNVC/NatureServe:

NatureServe, NVC System: Northern Atlantic Coastal Plain Heathland and Grassland (CES203.895) *Morella pensylvanica/Schizachyrium littorale- Danthonia spicata* Shrub Herbaceous Vegetation (CEGL006067, G2). Association also as small patches in System: Northern Atlantic Coastal Plain Pitch Pine Barrens (CES203.269). Also: A3934 *Poa compressa - Solidago nemoralis - Centaurea biebersteinii* Ruderal Dry Meadow and Shrubland Alliance - CEGL006616 *Panicum virgatum - (Andropogon virginicus)* Ruderal Herbaceous Vegetation.