### Brackish Tidal Marsh in George Washington Memorial Parkway

### Overview Page

Code: CEGL004188

Scientific Name: *Schoenoplectus pungens* Tidal Herbaceous Vegetation

Translated Name: Common Threesquare Brackish Tidal Marsh

Common Name: Atlantic Coast Brackish Tidal Marsh

At A Glance

The Brackish Tidal March community exists adjacent to the main channel of the Potomac in tidal areas with some component of gravel. These areas receive flooding for longer periods, are closer to the main channel of the river, and are more subject to disturbance such as ice scour when the weather is colder.

The Brackish Tidal March community is much more common in the lower reaches of the Potomac downstream of Indian Head, Maryland where the water is saltier. North of that line where GWMP lies, the water is less salty, so the few examples of this community at GWMP are uncharacteristic. However, we can experience a very small patch of this community in the Dyke Marsh area at GWMP, where it hugs the shoreline at the end of the Dyke Marsh Trail peninsula. To visit it, head out the Dyke Marsh Trail to the final wooden viewing platform. The small patches of common threesquare and spotted smartweed indicate where this community exists.

This community is relatively common in the mid Atlantic and has been assigned a GNR rank (not ranked). It occurs in brackish rivershores from coastal Virginia up to coastal New Hampshire. It is a part of the Atlantic Coastal plain Embayed Region Tidal Salt and Brackish Marsh system.

Images of this Natural Community

Community image:

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What to Look For

Can you find this combination of features?

* Narrow band between shoreline and open water dominated by bulrush/threesquare (plants with long, thin, hollow leaves that are usually bolt upright) and dotted smartweed.
* Adjacent to a part of the river that has the potential to be very “high energy” – meaning that the current may be faster than the adjacent areas.
* Gravelly substrate that may have been deposited through ice scouring or dredging activities at Dyke Marsh.
* Generally underlying soil exposed only at lowest tides, but inundated full-time during spring tides.

If so, welcome to GWMP’s Brackish Tidal March Community.

Tips to Distinguish this community from other similar communities:

1. Brackish Tidal Marsh vs. Mixed Freshwater Subtidal Community (6048)

Similarities: Both are tidally influenced (meaning water levels are mostly controlled by tidal ebbs and flows twice a day).

Tips to Distinguish: All plant species in the Mixed Freshwater Subtidal Community are submerged for most of the time (do not stick out above the water line except in extreme low tides) whereas Brackish Tidal Marsh plants are “emergent” or stick out of the water most of the time.

1. Brackish Tidal Marsh vs. Reed-grass Tidal Marsh (4187)

Similarities: Both are tidally influenced (meaning water levels are mostly controlled by tidal ebbs and flows twice a day).

Tips to Distinguish: Reed-grass Tidal Marsh is exclusively dominated or mostly dominated by the invasive exotic Reed-grass.

1. Brackish Tidal Marsh vs. Pond-lily Tidal Marsh (4706)

Similarities: Both are tidally influenced (meaning water levels are mostly controlled by tidal ebbs and flows twice a day).

Tips to Distinguish: Pond-lily Tidal Marsh is generally comprised mainly of pond lilies that float on the surface of the water (or lay flat on mud-flats at low tide) instead of emergent threesquare and smartweed in the case of the Brackish Tidal Marsh.

1. Brackish Tidal Marsh vs. Pickerelweed Tidal Marsh (4706)

Similarities: Both are tidally influenced (meaning water levels are mostly controlled by tidal ebbs and flows twice a day).

Tips to Distinguish: Pickerelweed Tidal Marsh is generally in deeper water than Brackish Tidal Marsh. It is also composed of mostly broad-leaved plant species rather than the small and narrow-leaved species of the Brackish Tidal Marsh.

1. Brackish Tidal Marsh vs. Freshwater Tidal Mixed High Marsh (6325)

Similarities: Both are tidally influenced (meaning water levels are mostly controlled by tidal ebbs and flows twice a day).

Tips to Distinguish: Freshwater Tidal Mixed High Marsh is found in freshwater areas rather than brackish (salty) water where Brackish Tidal Marsh is found. As a consequence, the Freshwater Tidal Mixed High Marsh is composed of a higher proportion of salt intolerant species such as Cattails, pickerelweed, and pond-lilies instead of the Brackish Tidal Marsh’s threesedge and smartweed.

Notable Variations at George Washington Memorial Parkway

The Brackish Tidal Marsh occurs frequently in brackish and some freshwaters of wide-mouthed Coastal Plain rivers from Virginia to New Hampshire. On the Potomac, brackish and salt water generally do not infiltrate upstream as far as George Washington Memorial Parkway, instead usually dissipating around Indian Head, Maryland. So why would we find a small set of occurrences of this type in the less salty environs of the upper Potomac? We speculate that the creation of gravelly areas around the terminus of the Dyke Marsh trail has favored the development of this community, despite the lack of brackish water. The GWMP version of this community consists mostly of common threesquare and dotted smartweed. It only exists in very narrow (1-5 m) bands, much more limited in extent that most occurrences within its native range.

Conservation Status

To be autopopulated.

Classfication

To be autopopulated

### Where to See It Page

The only opportunity to see this type is currently at the end of the Dyke Marsh Trail and viewing platform. This community exists along the banks of the shore of the Potomac in this location.

### Seasonal Plant Highlights Page

#### Spring Highlights

**?**

#### Summer Highlights

Threesquare and smartweed flowers?

#### Autumn Highlights

**Foliage of smartweed?**

#### Winter Highlights

**The high energy environment of this community can lead to some very “bracing” visits in winter. This area is likely to have some of the windiest weather in winter due to its exposed location.** The threesquare is one of the few evergreen herbaceous plants in these environs, so enjoy the patch of green this time of year!

### Seasonal Animal Highlights Page

#### Spring Highlights

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#### Summer Highlights

Insects that specialize on bulrushes include various semi-aquatic leaf beetles, Dion skipper and Lost Owlet buttefly larvae, and various other weevils, plant bugs, and aphids.

#### Autumn Highlights

**Foliage of smartweed?**

#### Winter Highlights

**The high energy environment of this community can lead to some very “bracing” visits. This area is likely to have some of the windiest weather in winter due to its exposed location**. Look for ducks, geese, herons, and smaller birds such as sparrows seeking out oases from the open water in or near the vegetation of this community. Canada geese, muskrats, and voles sometimes feed on the foliage and tubers this time of year, so approach the area slowly in case you can get an up close look at one of these critters.

### Characteristic Species Page

Characteristic Species (Tag by season, common/occasional/invasive&non-native, and canopy/understory/shrubs,saplings&vines/herbs&ground layer)

|  |  |
| --- | --- |
| Layer | Common Species |
| Trees – Canopy  | NA |
| Trees – Understory  | NA |
| Shrubs, Saplings & Vines | NA |
| Low Plants (Field Layer) | Common threesquareDotted smartweed |

|  |  |
| --- | --- |
| Layer | Occasional Species |
| Trees – Canopy  | NA |
| Trees – Understory  | NA |
| Shrubs, Saplings & Vines | NA |
| Low Plants (Field Layer) | Softstem bulrushAmerican water-willow Cyperus sp.Bidens sp.Sagittaria sp.Zizania aquatica |

|  |  |
| --- | --- |
| Layer | Invasive & Non-native Species |
| Trees – Canopy  |  |
| Trees – Understory  |  |
| Shrubs, Saplings & Vines |  |
| Herbs/Ground layer | Phalaris arundinacea |

Non-native invasive plants:

This community may sometimes be invaded by reed canarygrass (Phalaris arundinacea). This grass is circumboreal in distribution, occurring in North America as well as Europe and Asia. Although it is technically a native species, there is much evidence to suggest that new strains introduced from Eurasia are more aggressive and invasive, creating large stands of this plant that exclude all other species (This community may sometimes be invaded by reed canarygrass.). So even though this plant species is native, biological control is often necessary to keep this species from displacing other key native plant species in this community. (see <http://www.fs.fed.us/database/feis/plants/graminoid/phaaru/all.html> for more info).

In brief:

Plant Life

Due to the high level of disturbance from daily tidal variation, periodic icing along the river’s edge creating ice scour action, and fast river movement during flooding events, this community only contains highly disturbance-resilient perennial herbs. At Dyke Marsh, the two most visible herbs in this community are common threesquare and dotted smartweed, though other species with similar requirements may also occur. Although it’s a small community that may seem insignificant, it is an example of a community type that is more common further downstream, though always occurring in thin bands where the conditions are just right

The first thing an observer notices about this community is common threesquare, a type of bulrush in the sedge family. Bulrushes in this community generally grow only 1-3 feet tall. The stem is hollow and triangular, similar to a true sedge. The common name of threesquare most likely refers to the geometry of the stem. Common threesquare can be found from Nova Scotia to South America, but it is most abundant in certain communities in the mid- and South Atlantic of the U.S.

Animal Life

Bulrushes have large underwater rhizomes and long stems that provide habitat both in and out of water, thereby providing a large amount of the structure needed to allow micro and macro invertebrate populations to thrive. These invertebrates supply a rich food source to amphibians, birds, and other residents of the marsh. In addition, bulrushes provide food sources for resident and migrant animals including snow geese, muskrats, and other birds and mammals (http://aquaplant.tamu.edu/plant-identification/alphabetical-index/bulrush/).

Indicator Plants

Common threesquare, dotted smartweed

Stand Size

Very small, narrow linear patches along Potomac River

Landscape Position

High energy coastal river and sound brackish shorelines.

Soils

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Geology

?

Physical Setting Full Description

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Natural Processes

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Large-Scale Natural Processes and Ecological Systems

Leave this section for Mary or someone else.

Explore this Ecological System

Leave this section for Mary or someone else.

List of Threats

Generated list?

List of Non-native invasive plant species

Generated list?

Stewardship

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