Tyngsboro Street: Dune Walkway Profile

Site Assessments: February 14, 2024 and July 25, 2024

Structure Conditions and Observations:	
Road to beach	580 ft
Boardwalk Length	500 ft
End of boardwalk to beach	80 ft
Walkway Width	4 ft
Walkway Material	• Asphalt apron • Pressure treated wood connected by cable
Attached pathways*	2
Benches	3
Additional Features	NA
**Human-made pathways connected to the municipal walkway*	

Ecological Conditions and Observations			
Community Types Present	**Rare Species**	**Other Native Species of interest**	**Species of Concern**
• Beachgrass grassland • Hudsonia maritime shrubland	• Wooly beach heather (*Hudsonia tomentosa*)[S2]	• Beachgrass (*Ammophila breviligulata*) • Common Milkweed (*Asclepias syriaca*)	• Asiatic bittersweet (*Celastrus orbiculatus*)[P]
S2 = threatened in NH, P = prohibited species in NH			

Walkway Entrance

Landward side

Seaward Side

Walkway Observations

Landward Side of Dune

Figure 1: Apparent tilting approaching dune crest; moderate incline; footsteps observed in unvegetated areas.

- The initial portion of the walkway is flat and stable.
- There are two benches on the north side of the walkway positioned at an approximate 45 and 90-degree angle.
- The walkway becomes noticeably steep as it approaches the crest of the dune with several bowed and tilting planks (Figure 1).
- Unvegetated areas on landward side of dune crest (*Hudsonia maritime* shrubland) with footsteps in sand suggests this sensitive area is used by people (Figure 2).
- Unvegetated areas present adjacent to the walkway.
- Walking paths to homes have contributed to large unvegetated areas.
- Earthstar mushrooms found at this site (likely *Astraeus hygrometricus*) (figure 4).
- Nonnative and/or invasive species are present on site, including nonnative pine trees.

Figure 2: Unvegetated areas adjacent to walkway

Dune Crest

- The walkway at the dune crest appears to be shifting and tilting, with multiple planks showing signs of bowing (Figure 3).
- There is one bench on the north side of walkway positioned parallel to it.

Seaward Side of Dune

- The lower portion of the walkway near the beach is partially buried by sand.
- This portion of the walkway also contains several bowed planks.
- The seaward end of the walkway is narrow and well vegetated.

Figure 3: Observed tilting and bowing of some planks; apparent pedestrian use adjacent to the boardwalk.

Potential Action Items

- Install non-slip surfacing on the steeper portion of the walkway to improve traction.
- Evaluate the potential for installing handrails on the steeper portions of the walkway to improve accessibility.
- Inspect and secure any loose or warped planks to restore an even walking surface.
- Install a Mobi Mat or similar ADA-compliant beach access mat at the end of the walkway to improve accessibility.
- Delineate walking paths from homes, consider routing the paths perpendicular to the walk along the edge of the dune close to the houses to limit dune impacts. Limit walking through dunes to designated walkways.
- Revegetate areas of bare sand and sparse vegetation with native species.
- Remove invasive species and revegetate with native species.

Notes

The mushroom observed at this site is likely in the genus Astraeus – the false earthstars. They are often called the **"Barometer Earthster"** as the rays of the star open and close based on the humidity.

Figure 4: Earthstar Mushroom

Resources

- GoBotany – Native Plant Trust: https://gobotany.nativeplanttrust.org
- NH Comprehensive Invasive Plant list: https://www.agriculture.nh.gov/publications-forms/documents/nh-invasive-plant-list.pdf
- NH Guide to Upland Invasive Species: https://www.agriculture.nh.gov/publications-forms/documents/upland-invasive-species.pdf
- Planting Guide for Tidal Shoreline Erosion Management in New Hampshire (beach and dune sections): https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/tidal-erosion-planting-guide.pdf
- UNH Extension resources on invasive species: https://extension.unh.edu/natural-resources/forests-trees/invasive-species