

Lowell Street: Dune Walkway Profile

Sie Assessments: March 5, 2024 and July 25, 2024

Structure Conditions and Observations:	
Road to Beach	500 ft
Boardwalk Length	430 ft
End of boardwalk to the beach	70 ft
Walkway Width	4.0 ft
Walkway Material	<ul style="list-style-type: none"> Asphalt apron Pressure treated wood connected by cable
Connected pathways**	2
Benches	3
Additional Features	viewing platform at crest of dune with benches
*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
<ul style="list-style-type: none"> Beachgrass grassland Hudsonia maritime shrubland 	<ul style="list-style-type: none"> Wooly beach heather (<i>Hudsonia tomentosa</i>)^{S2} 	<ul style="list-style-type: none"> Beachgrass (<i>Ammophila breviligulata</i>) Northern Bayberry (<i>Myrica pennsylvanica</i>) 	<ul style="list-style-type: none"> Asiatic bittersweet (<i>Celastrus orbiculatus</i>)^P Beach rose (<i>Rosa rugosa</i>)^W Shrub honeysuckle (<i>Lonicera species</i>)^P Black locust (<i>Robinia pseudoacacia</i>)^W Privet (<i>Ligustrum vulgare</i>)^P Beach rose (<i>Rosa rugosa</i>)^W Scotch pine (<i>Pinus sylvestris</i>)^W Yucca species (likely <i>Yucca filamentosa</i>) Hoary alyssum (<i>Berteroa incana</i>) Scotch pine (<i>Pinus sylvestris</i>)^W
S2 = threatened in NH, P = prohibited species in NH, W = NH invasive watch list			



Walkway Entrance



Landward Side



Seaward Side

Observations

Landward Side of Dune

- The initial portion of the walkway appears flat and stable.
- High density and diversity of invasive plant species found at the entrance to the walkway.
- *Hudsonia maritime* shrubland is dense and intact, particularly to the north of the walkway.
- Both Scotch pine (*Pinus sylvestris*, NH invasive species watch list) and Austrian/black pine (*Pinus nigra*; nonnative) are suspected on site (Figure 1).
- There is one bench along the north side of the walkway, positioned parallel to it.
- As the slope increases to the dune crest some boards are bowing which could cause a tripping hazard.
- Walking paths to homes have created unvegetated areas in the *Hudsonia maritime* shrubland to the south (Figure 2).



Figure 1: Nonnative pine species observed at the entrance to the walkway

Dune Crest

- There is one bench along the south side of the walkway that is positioned perpendicular to it.
- There is some evidence of the boardwalk shifting slightly at the dune crest (Figure 3).



Figure 2: Unvegetated areas of *Hudsonia maritime* shrubland

Seaward Side of Dune

- There is a bench positioned further into the dune and away from the walkway.
- The lower portion of the walkway is buried in sand near the beach access point.
- The seaward end of walkway is narrow and there is evidence of new beachgrass growth.
- Earthstar mushrooms found at this site (likely *Astraeus hygrometricus*).



Figure 3: Some shifting of the boardwalk observed at the crest of the dune.

Potential Action Items

- Inspect and replace any damaged or loose planks to improve safety and durability.
- Install a Mobi Mat or similar ADA-compliant beach access mat at the end of the walkway to improve accessibility.
- Given the high condition of the dune and density of invasive species, remove invasive species and revegetate the areas adjacent to the walkway near the road with native dune species.

- Consider routing walking paths from homes perpendicular to the walkway along the edge of the dune close to the houses to limit dune impacts.
- Seek positive confirmation of pine tree species and remove if confirmed to be non-native.
- Remove excess sand from the lower portion of the walkway to restore accessibility and reduce the risk of structural strain.

Notes

The mushroom observed at this site is likely in the genus *Astraeus* – the false earthstars (Figure 3). They are often called the “**Barometer Earthster**” as the rays of the star open and close based on the humidity.



Figure 3: Earthstar mushroom found at this site

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>