

Merrimack Street: Dune Walkway Profile

Site Assessments: March 5, 2024, July 29, 2024, and May 23, 2025

Structure Conditions and Observations	
Road to Beach	474 ft
Boardwalk Length	380 ft
End of boardwalk to beach	94 ft
Walkway Width	4.0 ft
Boardwalk Material	<ul style="list-style-type: none"> Asphalt apron Pressure treated wood connected by galvanized cable
Attached pathways	3 with others seen adjacent
Benches	1
Additional Features	<ul style="list-style-type: none"> Fire hydrant at entrance Seasonal Mobi Mat installed to extend wooden walkway over sand to beach
*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} Gray's sedge (<i>Cyperus grayi</i>)^{S1} Tall wormwood (<i>Artemisia campestris</i>)^{S1} 	<ul style="list-style-type: none"> Beachgrass (<i>Ammophila breviligulata</i>) Seaside goldenrod (<i>Solidago sempervirens</i>) Beach pea (<i>Lathyrus japonicus</i>) Northern Bayberry (<i>Myrica pennsylvanica</i>) Seabeach pinweed (<i>Lechea maritima</i>) 	<ul style="list-style-type: none"> Shrub honeysuckle (<i>Lonicera</i> species)^P Asiatic bittersweet (<i>Celastrus orbiculatus</i>)^P Beach rose (<i>Rosa rugosa</i>)^W
S1 = endangered in NH, S2 = threatened in NH, P = prohibited species in NH, W = NH invasive watch list			



Walkway Entrance



Landward Side



Seaward Side

Walkway Observations

Landward Side of Dune

- At the entrance the southern side of the walkway is unvegetated (Figure 1).
- Nonnative and/or invasive species are present at the entrance to the walkway near the road.
- The woolly beach heather is sparse throughout the back side of the dune with a large unvegetated area observed to the south of the walkway (Figure 2).
- Private walking paths from homes through the dunes and use of the dunes have contributed to many large unvegetated areas (Figure 3).



Figure 1. Unvegetated area near



Figure 2. Sparsely vegetated backside of dune



Figure 3. Large unvegetated areas in dune

Dune Crest

- The walkway remains relatively flat until it reaches a moderate incline leading up to the dune crest. At the crest, the walkway features a sharp S-curve (Figure 4).
- A bench on the southerly side of the dune crest is set back into the dune and oriented perpendicular to the walkway. There is side path that connects to it, a large unvegetated area around it, and sparse growth of rare species (Figure 5).



Figure 4. S-curve in walkway approaching dune crest

Seaward Side of Dune

- The beachgrass grassland is well established, though two invasive honeysuckle shrubs were observed on the seaward side of the dunes.
- Long path to bench set far into dune (Figure 6)
- Walking paths and use of the dunes have created many large unvegetated areas.
- The seasonal Mobi Mat extends the walkway closer to the beach but it does not make it all the way to the beach.
- Many small beach rose plants are growing to the south of walkway,
- The lower portion of the boardwalk is buried in sand near the beach access point.



Figure 5. Dune crest bench set into



Figure 6. Path to bench set far into dune

Potential Action Items

- Repair uneven or loose planks to ensure a safe walking surface.
- Assess feasibility of installing handrails along the curved section of the walkway to provide additional stability.
- Add non-slip surfacing to the inclined and curved sections to improve traction and reduce the risk of slipping.
- Limit individual paths through dunes and connect homes to the municipal path. Consider routing the paths perpendicular to the walkway, along the edge of the dune close to the houses to limit dune impacts.
- The locations of the bench on the dune crest and the bench in the dune to the north are resulting in impacts to dune vegetation, including rare species. Benches placed at an angle (~45°) generally appear to have less impact on the surrounding dune than benches placed perpendicular to the walkway. Consider positioning benches at a 45° angle to the walkway when practicable and revegetating the areas around them, other than directly in front.
- Remove excess sand from the lower portion of the boardwalk to restore accessibility and reduce the risk of structural strain.
- Remove the invasive shrubs in the beachgrass grassland and replant with native species.
- Revegetate areas of bare sand and sparse vegetation with native sand dune species with a focus on the large, disturbed areas.

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>