

Habitat Issue Statements and Goals
Beaches, Dunes, and Cliffs

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Issue Statements

Focal habitat or specific asset	Impact	Source of Impact	Non-climate Cause of Impact	Climate-driven Cause of Impact
Beaches and dunes	Habitat loss	Erosion, flooding	Disrupted sediment supply, armoring, and development blocking dune and beach migration	SLR, waves/storms, reduced precipitation leading to reduced sediment inputs
<p>Issue Statement: Beaches and dunes will decrease in extent because of 1) sea level rise, 2) increased wave action, 3) sediment supply changes (loss in some places), and 4) development blocking habitat migration. Keystone species adversely affected include snowy plover, dunegrass, rare dune plants, marine mammals (reduced haul-outs), and shorebirds (wintering and migratory).</p>				
<p>Implications for management: Management could focus on limiting development and encouraging managed retreat through regulatory and other means restoring and augmenting sediment supply, dune restoration (e.g. removing invasives, planting dunegrass as other dune species usually passively recolonize), and reducing impacts of human recreation (see below). Also, large, landscape-scale monitoring should focus on erosion and shoreline location, and population abundance of sensitive species.</p>				
Beaches and dunes	Habitat degradation	Increased human disturbance	Increased human population	Increased inland temperatures, fewer and smaller beaches, climate refugees
<p>Issue Statement: Beaches and dunes will be degraded by direct human disturbance and indirectly by raccoons/rats/crows attracted and supported by human activity that impact birds and other sensitive species. Focal species include marine mammals, shorebirds, snowy plover, and natural dune vegetation.</p>				

Implications for management: Management will need to focus on education, enforcement, and managing access through seasonal restrictions and increasing alternative recreation opportunities inland. Visitation will need to be monitored.				
Cliffs	Habitat degradation	Erosion	Armoring, changes to sediment supply	SLR, waves/storms, reduced precipitation
Issue Statement: Cliffs will become more dynamic, allowing less time for cliff communities to develop and cliffs will be closer to development and human disturbance. Focal species affected include marine mammals (haulouts disappear), vegetative community, sea birds (as nesting habitat is lost and disturbed).				
Implications for management: management will need to focus on decreasing development and encouraging managed retreat and restoration/augmentation of sediment supply for beach-fronted cliffs.				

Management Goals

- 1) Maintain functional stability of safe and functioning beach and dune habitat.
 - Prioritize locations with critical habitats and species; highly erodible areas
 - Identify locations for managed retreat
 - Restore or enhance sediment supply to critical/vulnerable areas
 - Maintain access to resilient habitats with minimal impact **also a management goal**

- 2) Protect existing cliff habitat from accelerated degradation
 - Mitigate non-climate stressors to vulnerable systems