

Case Study 16: Relocating Visitor Facilities Threatened by Erosion, Assateague Island National Seashore, Maryland and Virginia

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The Virginia visitor parking lot is constructed with native materials including clay and clamshell that can be reused in post-storm repairs. Image credit: Ish Ennis, NPS.

Goals

Assateague Island National Seashore is responsible for maintaining and managing access to a recreational beach that is impacted by storms multiple times each year. Maintaining the recreational beach in its present location is unsustainable in the face of continued storms, shoreline erosion, and sea level rise. The park must develop cost-effective, sustainable ways to provide a recreational beach and beach access that are acceptable to local interests and visitors.

Challenges and Needs

The park manages a recreational beach within the US Fish and Wildlife Service's (USFWS) Chincoteague National Wildlife Refuge in Virginia. This beach is the primary economic driver for the local community of Chincoteague, Virginia, which caters to visitors with hotels, restaurants, and other amenities. The park committed to maintaining and managing the recreational beach through a 1967 agreement with the USFWS, which had an existing agreement with the citizen group Assateague Bridge and Beach Authority to have a recreational beach in exchange for construction of a bridge connecting the town with the refuge.

The recreational beach is in one of the island's most dynamic locations, and has experienced accelerated shoreline erosion, increased storm impacts, and frequent overwash since the 1980s. Annual repair and relocation of roads and visitor parking lots in this area continue to be high-maintenance, expensive, time-consuming, and stressful for staff who must rush to complete months-long repairs before each summer tourist season.

The park has implemented several solutions to improve sustainability. Infrastructure in this area has been replaced with portable substitutes that can be relocated off-island in advance of National Oceanic and Atmospheric Administration (NOAA)-forecasted storms and in response to erosion. The park now constructs roads and parking lots in this area from island-compatible materials, a clay base with clam shell for a road surface, which are dug up and reused when the lot is moved, and which also avoid introduction of foreign debris such as asphalt on post-storm beaches. The surface

requires twice-weekly maintenance and additional clam shells need to be added every year or two. Parking lot repairs have been supported by Emergency Relief for Federally Owned Roads (ERFO) funding and existing park staff.

Although these efforts have improved the sustainability and lifespan of the recreational beach facilities, new solutions will need to be developed. Due to continued island narrowing in this location, the current parking lot is now at its inland limit because it is backed by a wetland, leaving no room for another move westward, based on US Army Corps of Engineers (USACE) wetland delineations.

The two solutions that have been discussed as part of the updates to the USFWS comprehensive conservation plan are alternative transportation (shuttle or bus) and relocation of recreational access to a more stable location. However, the Town of Chincoteague dislikes both strategies, believing they would discourage tourism. The town insists that the 1960s agreements require the government to maintain not only the beach but also visitor parking areas. Furthermore, shuttles are not financially self-supporting, and the town, the USFWS, and the park do not have the operational funds to support this expensive option.

Responsive Actions

In consideration of cost constraints and town interests, relocating the recreational beach is not only the most reasonable solution but also may be considered essential at this point. To determine suitable parking lot locations and configurations, the park has used shoreline monitoring data to forecast future shoreline erosion rates, and has worked with the USFWS to identify appropriate areas for relocation. The park and USFWS will also use forthcoming results of a US Geological Survey model indicating the impacts of sea level rise and storm intensity along the island.

Due to its ongoing success, the existing portable infrastructure would likely be used in the new location, along with the visitor center, which has been moved twice already. The clay base and clamshell surface might also be used in the new location. The biggest challenge in moving forward with relocation of the recreational beach will likely be opposition by the Town of Chincoteague. Education and outreach programs may help to strengthen the park's efforts.

The project is ongoing. This case study is an example of the following adaptation strategies

- Incorporating climate change into policies, plans, and regulations
- Coordinating planning and management across institutional boundaries
- Increasing/improving public awareness, education, and outreach efforts
- Conducting/gathering additional research, data, or products
- Conducting adaptation training and planning meetings or workshops
- Making infrastructure resistant or resilient to climate change
- Managed retreat of built infrastructure

For more information:

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