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THE RAFT

RESILIENCE ADAPTATION FEASIBILITY TOOL

Beach Relocation Economics

Accomack County, VA

2019

Authored by The RAFT Partners

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Introduction

The Comprehensive Conservation Plan (CCP) for the Chincoteague National Wildlife Refuge (NWR) is the strategic planning document that guides the management and protection of resources at the Chincoteague NWR for the 15-year period the plan encompasses (Fish and Wildlife Service, 2015). The most recent CCP includes an assessment of the location of the recreational beach due to concerns over closings and increasing repair costs from sea level rise and storm damage at the current location.

Following the release of the CCP, a recommendation to move the recreational beach to a more northern location was chosen as the most viable option for maintaining a public recreational beach over maintaining the current recreational beach and amenities. Concerns were raised by citizens during the public comment period of the environmental assessment (EA) on this project about the necessity to relocate the beach instead of continuing to maintain the beach in its current location (Federal Highway Administration, 2019). The economics of the relocation of the recreational beach compared to the maintenance of the beach at the current location were thoroughly researched as part of the CCP and EA and are available in the form of several technical reports and appendices to these documents. For clarity, this report seeks to provide the detailed data behind the answers to the concerns raised in the public comments and references to where in the reports these data can be more thoroughly examined.

Project Background

The planning effort for the CCP includes Virginia state agencies, Federal partners including the National Park Service, local partners including the Town of Chincoteague and the Chincoteague Chamber of Commerce, and the local community (Fish and Wildlife Service, 2015). A full list of the preparer's and partners of the CCP are available in Chapter 5 of the plan (Fish and Wildlife Service, 2015). As part of the CCP for Chincoteague and Wallops Island National Wildlife Refuge a thorough assessment of alternatives was conducted, including the No Action Alternative. This report summarizes the basic cost and economic findings of the no

action alternative and the chosen alternative (Alternative B) for a quick reference. Further detail of the methodology and assessment findings are available in the CCP report.

No Action Alternative

The No Action Alternative would incur costs associated with nourishment of the existing beach to keep a recreational beach at the refuge due to environmental changes associated with sea level rise and storm damage. Assuming that funding is available, the cost associated with the recommended nourishment schedule, based on previous nearby projects, is shown in Figure 1. (Fish and Wildlife Service, 2015, Appendix J)

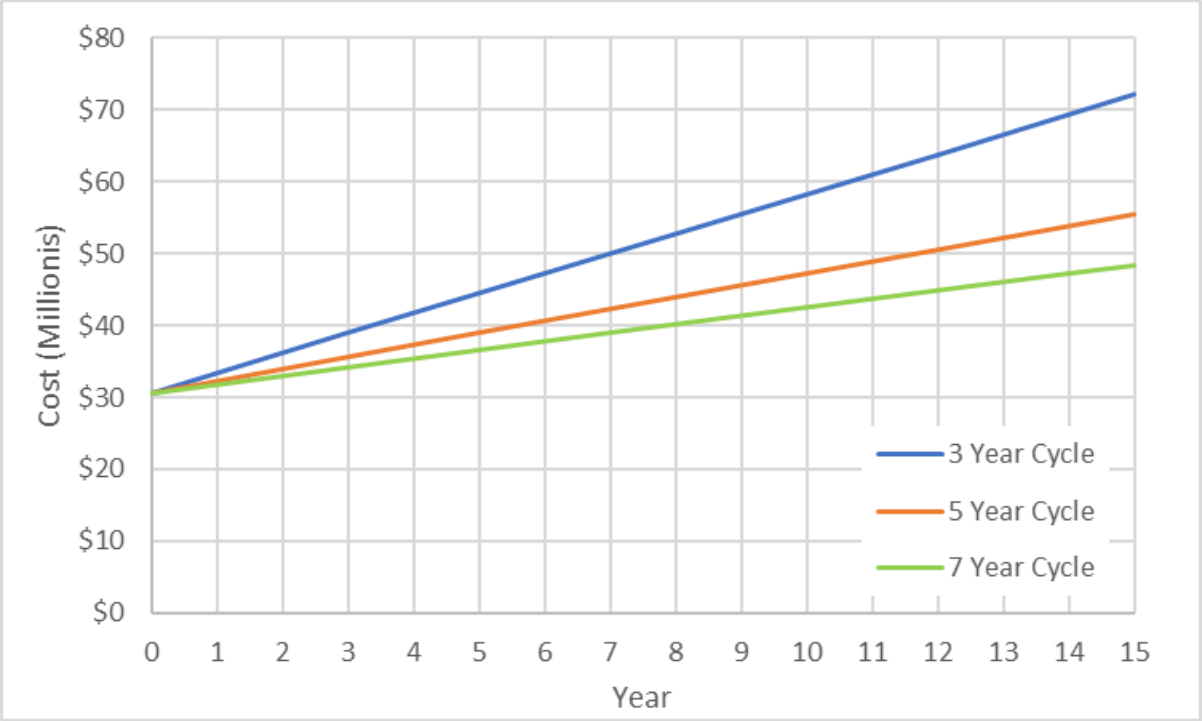

Figure 1: Cost of beach nourishment over 15 years (source: Fish and Wildlife Service, 2015, Appendix I)

In addition to nourishment costs, there are costs associated with the potential decrease of parking spaces and revenue received from parking. Currently, there are 961 parking spaces for the recreational beach available in four lots (named Lots 1, 2, 3, and 4). Due to their vulnerability to storm damage and inability to relocate or potentially repair at some point, 561

of the available parking spaces (specifically Lot 3 and Lot 4) may not be available for visitor parking. The summer months comprise 57% of the total vehicle visits per year to the refuge (Fish and Wildlife Service, 2015, Appendix M; National Park Service, 2011) and is when full capacity can occur during the busiest times of day. If the available parking spaces are decreased, the number of visitors would be expected to decrease and their regional expenditures would no longer contribute to the regional economy (Fish and Wildlife Service, 2015, Appendix M). Considering the most conservative scenario of a total loss of these parking spaces, which may occur from one storm event or over a period of years, revenue losses are shown in Table 1.

Table 1: Economic Impact Due to Decrease in Available Parking (Fish and Wildlife Service, 2015, Appendix M)

Month/Holiday Weekend	**Avg Daily Visits (2009-2012)**	**Daily Vehicles Denied Access with Parking Reduction**	**Economic Impact per Month/Holiday Weekend**
Memorial Day Weekend	2,186	1,349	$1,083,219
June	1,505	804	$6,455,560
July	2,881	1,904	$15,801,328
August	2,542	1,633	$13,551,794
Labor Day Weekend	2,843	1,875	$1,505,243
	Annual Economic Impact		**$38,397,143**

The total non-resident refuge visitor direct regional expenditures were estimated at $113.8 million (Fish and Wildlife Service, 2015, Appendix M). A loss of $38.4 million in direct regional expenditures, as shown in Table 1, is more than a third of the of the annual revenue from non-resident refuge visitors for the year and, over the course of the 15-year management

plan, can have significant economic impacts for the region. Due to the costs associated with ongoing beach nourishment, coupled with the potential loss of significant parking revenue, an alternative location for the recreational beach was explored and deemed a viable option (Fish and Wildlife Service, 2015, Chapter 5).

Alternative B

Based on the assessment of the threat of increased sea level rise and storm impacts at the existing recreational beach, multiple alternatives for maintaining a recreational beach at the refuge were considered in the CCP, including shuttle transportation and beach nourishment at the existing beach (as described above), and the preferred alternative was chosen to relocate the beach with on-site parking (Fish and Wildlife Service, 2015). The preliminary cost of the preferred alternative was estimated at $22.2 million (Fish and Wildlife Service, 2015, Appendix I). The new location of the recreational beach was chosen as the most responsible and sustainable option for a design life of 20-50 years with the least impact to wildlife and habitat (Fish and Wildlife Service, 2015, Appendix N). The recreational beach is proposed to be located along an area of shoreline that has lower rates of erosion and is anticipated to be more resilient considering sea level rise and increased storm effects (Fish and Wildlife Service, 2015).

The preferred alternative for the recreational beach relocation recommended by the CCP was modified between the draft CCP and the final CCP based on submitted public comments (Fish and Wildlife Service, 2015, Chapter 5 and Appendix R). This alternative for the beach relocation is currently in the construction plan design stage as of the date of submission of this report.

Conclusion

Concerns were raised in the public comment period of the CCP and EA regarding the preferred alternative to relocate the recreational beach at the refuge. A thorough economic assessment of the alternatives was conducted as part of the CCP and the data to support the relocation of the recreational beach are provided in the CCP and a variety of appendices. The decision of the CCP to recommend a relocation of the recreational beach was based on the

purpose of the plan to provide the most ecologically sound and sustainable approaches considering potential future environmental changes.

References

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