Executive Summary

On September 21, 1965, Congress passed Public Law 89-195 (appendix A) establishing Assateague Island National Seashore as a unit of the national park system "for the purpose of protecting and developing Assateague Island in the states of Maryland and Virginia and certain adjacent waters and small marsh islands for public outdoor recreation use and enjoyment." With this, Assateague Island became a national resource serving the recreational needs of local regional, national, and international visitors and preserving in perpetuity 37 miles of Mid-Atlantic coastal environment.

Seashore Boundary, Ownership, and Management Responsibilities

Assateague Island National Seashore encompasses Assateague Island and the adjoining waters of the Atlantic Ocean on the east and the estuarine waters of Sinepuxent and Chincoteague Bays on the east, extending up to one-half mile from the island. The seashore also includes approximately ten acres on the Maryland mainland, where seashore headquarters and the primary visitor center are located. All land on the island and mainland is in public ownership. The states of Maryland and Virginia own the submerged lands within the seashore boundary, with ownership extending to mean high water in Maryland and mean low water in Virginia.

National Park Service

The National Park Service owns 8,983 acres within the seashore boundary, including land on Assateague Island in Maryland (exclusive of Assateague State Park), the Assateague Beach U.S. Coast Guard Station on the island in Virginia, and its mainland Maryland headquarters complex and visitor center. NPS manages approximately 22,393 acres of ocean and bay waters within the seashore boundary. The National Park Service (NPS) has prepared this *Draft General Management Plan/Environmental Impact Statement for Assateague Island National Seashore* (Draft GMP/EIS) to consider future management alternatives for the seashore lands and waters under its management.

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (FWS) manages approximately 10,077 acres within the boundaries of Chincoteague National Wildlife Refuge (CNWR) on Assateague Island. FWS recently completed the *Chincoteague and Wallops Island National Wildlife Refuges Final Comprehensive Conservation Plan and Environmental Impact Statement (CCP/EIS)* (US FWS 20015) which provides the framework for future refuge management.

Assateague Island National Seashore

Use of the Term "Seashore"

The term "seashore" refers to the following:

- land owned and managed by the NPS within the authorized limits of Assateague Island National Seashore
- waters managed by the NPS within the authorized limits (including waters extending up to one-half mile from the island)

The term "seashore" does not refer to the following:

- land owned by the U.S. Fish and Wildlife Service (FWS) within Chincoteague National Wildlife Refuge
- land owned by the state of Maryland within Assateague State Park
- submerged lands within one-half mile from the island owned by the states of Maryland and Virginia

The term "Toms Cove Area" refers to the Virginia Assigned Area within Chincoteague National Wildlife Refuge where the NPS currently provides recreation facilities and interpretive programming through a memorandum of understanding (MOU) with the FWS (see section 1.3.2).

Maryland Department of Natural Resources

The state of Maryland owns and manages lands within the boundaries of Assateague State Park, including 630 acres on the island and 220 acres on the mainland (MD DNR 2005). The Maryland Department of Natural Resources (MD DNR) manages the park in accordance with the *Assateague State Park Land Unit Plan* (MD DNR 2005).

National Park Service Management at Assateague Island National Seashore

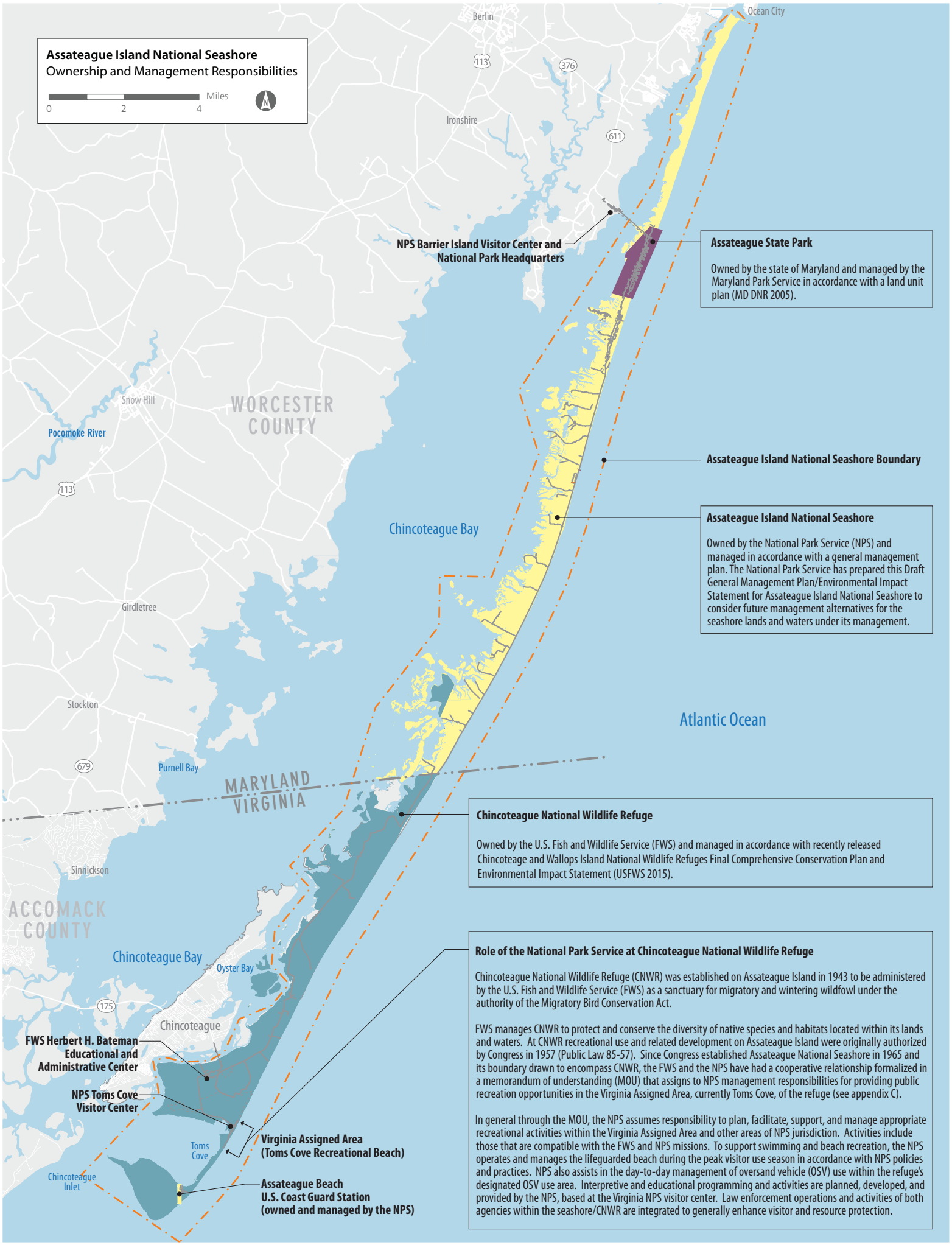
The NPS manages all units of the national park system in accordance with the mandate in its 1916 Organic Act and other legislation to conserve resources unimpaired for the enjoyment of future generations. To help implement this mandate, the National Parks and Recreation Act of 1978 (PL 95-265) and *NPS Management Policies* (NPS 2006c) require each park unit to have a broad-scale general management plan (GMP). The GMP defines the park's basic approaches to natural and cultural resource management, interpretation, the visitor experience, and partnerships over the long-term.

The NPS completed the first general management plan for Assateague Island National Seashore in 1982. Today – over thirty years later – the seashore needs a new GMP because issues and ideas have emerged in recent years that the 1982 GMP did not anticipate and so did not address. NPS has implemented many recommendations of the 1982 GMP, some recommendations are no longer appropriate because of changing conditions and circumstances, and funding limitations have prevented implementation of others. None of the recent NPS policies related to management and planning for all national park units are reflected in the 1982 GMP, notably those implementing NPS's climate change response strategy, which are critical to management of a national seashore.

The new GMP/EIS will provide a decision-making framework that ensures that management decisions effectively and efficiently carry out the NPS mission at Assateague Island National Seashore.

Planning Challenges Facing the National Park Service at the Seashore

General management planning offers a structured decision-making process that encourages and considers ideas and comments from many different people and groups. Throughout development of the GMP/EIS, the NPS planning team used a variety of scoping techniques to identify the issues related to management of the seashore, the range of management alternatives that should be considered in the GMP/EIS to address those issues, and the range and nature of impacts that should be used to evaluate and compare alternative management actions. Scoping occurred internally with NPS staff and externally with other public agencies, partner organizations, and interested citizens. Five categories of planning issues emerged from this process.


Assateague Island National Seashore
Ownership and Management Responsibilities
Miles
0
2
4
Berlin
Ocean City
113
376
611
Ironshire
NPS Barrier Island Visitor Center and
National Park Headquarters
Assateague State Park
Owned by the state of Maryland and managed by the Maryland Park Service in accordance with a land unit plan (MD DNR 2005).
Snow Hill
WORCESTER
COUNTY
Pocomoke River
Assateague Island National Seashore Boundary
Chincoteague Bay
Assateague Island National Seashore
Owned by the National Park Service (NPS) and managed in accordance with a general management plan. The National Park Service has prepared this Draft General Management Plan/Environmental Impact Statement for Assateague Island National Seashore to consider future management alternatives for the seashore lands and waters under its management.
Girdletree
Stockton
Atlantic Ocean
679
Purnell Bay
MARYLAND
VIRGINIA
Chincoteague National Wildlife Refuge
Owned by the U.S. Fish and Wildlife Service (FWS) and managed in accordance with recently released Chincoteage and Wallops Island National Wildlife Refuges Final Comprehensive Conservation Plan and Environmental Impact Statement (USFWS 2015).
Sinnickson
ACCOMACK
COUNTY
Chincoteague Bay
Oyster Bay
175
Chincoteague
FWS Herbert H. Bateman
Educational and
Administrative Center
NPS Toms Cove
Visitor Center
Toms
Cove
Virginia Assigned Area
(Toms Cove Recreational Beach)
Chincoteague
Inlet
Assateague Beach
U.S. Coast Guard Station
(owned and managed by the NPS)
Role of the National Park Service at Chincoteague National Wildlife Refuge
Chincoteague National Wildlife Refuge (CNWR) was established on Assateague Island in 1943 to be administered by the U.S. Fish and Wildlife Service (FWS) as a sanctuary for migratory and wintering wildfowl under the authority of the Migratory Bird Conservation Act.
FWS manages CNWR to protect and conserve the diversity of native species and habitats located within its lands and waters. At CNWR recreational use and related development on Assateague Island were originally authorized by Congress in 1957 (Public Law 85-57). Since Congress established Assateague National Seashore in 1965 and its boundary drawn to encompass CNWR, the FWS and the NPS have had a cooperative relationship formalized in a memorandum of understanding (MOU) that assigns to NPS management responsibilities for providing public recreation opportunities in the Virginia Assigned Area, currently Toms Cove, of the refuge (see appendix C).
In general through the MOU, the NPS assumes responsibility to plan, facilitate, support, and manage appropriate recreational activities within the Virginia Assigned Area and other areas of NPS jurisdiction. Activities include those that are compatible with the FWS and NPS missions. To support swimming and beach recreation, the NPS operates and manages the lifeguarded beach during the peak visitor use season in accordance with NPS policies and practices. NPS also assists in the day-to-day management of oversand vehicle (OSV) use within the refuge's designated OSV use area. Interpretive and educational programming and activities are planned, developed, and provided by the NPS, based at the Virginia NPS visitor center. Law enforcement operations and activities of both agencies within the seashore/CNWR are integrated to generally enhance visitor and resource protection.

Natural Coastal Processes and Effects of Climate Change/Sea Level Rise

Natural coastal processes including the action of tides, wind, waves, currents, and sea level rise continually influence and shape Assateague Island. In response to sea level rise, the island is slowly moving westward through storm overwash and inlet formation processes. Most island changes occur during intense storm events which – while lasting only a few days – can dramatically alter the physical characteristics of the island and bay. As global climate change intensifies, the rate of sea level rise and the intensity of coastal storms will likely increase and accelerate the rate and magnitude of island changes. The GMP/EIS addresses the following questions related to natural coastal processes and the effects of climate change/sea level rise.

- *How will the NPS respond to global climate change/sea level rise impacts on the seashore?*

The natural environment of the seashore is expected to become less stable under most global climate change/sea level rise projections. Driven by higher rates of sea level rise, more intense and possibly more frequent storms, rising temperatures, changes in precipitation patterns and drought, the island will likely experience significant changes in its physical form, the type and condition of habitats, and the diversity of species. While the pace and magnitude of climate change remains uncertain, it is clear that the

consequences of even low-end projections will compound existing threats to seashore resources and challenge the NPS's ability to fulfill the seashore's mission.

- *To what extent will the NPS continue to provide permanent visitor facilities on the island given the dynamic nature of the island and the continuous need for public investment to maintain those facilities?*

Because Assateague Island is an exceptionally dynamic landform, all infrastructure and developed visitor facilities are ultimately at risk of damage or loss. At present, the management response to this challenge varies, ranging from rebuilding facilities after storm damage – as is the general policy in the seashore's Maryland District – to minimization of permanent structures combined with use of temporary/seasonal structures that are removed from the island before major storms – as is the policy in the seashore's Virginia District. In light of the high potential for accelerating rates of sea level rise due to global climate change, maintaining these facilities over time will require repeated and likely more frequent public investment for repairs and reconstruction, and might not be sustainable.

- *What should the NPS do if major storms create breaches in the island that limit access?*

Most global climate change scenarios indicate that barrier islands such as Assateague Island will become much more dynamic as a result of accelerating rates of sea level rise, and more intense and possibly more frequent storms. The formation of breaches and new inlets during storm events has occurred repeatedly on Assateague, and is very likely to occur again. Depending upon the location, future breaches or new inlets might render portions of the island's backcountry largely inaccessible by traditional means and might also have an effect on nonfederal lands and coastal communities.

Visitor Use and Visitor Experience

The seashore is one of the few publicly accessible coastal environments in the densely populated northeast United States where visitors can experience unspoiled beaches, tranquil bays and marshlands, natural sounds, quiet, dark night skies, and solitude. Most visitors to the island seek an easily accessible beach experience where they can be near the ocean, sit in the sun, swim, fish, beachcomb, and play. Most visitors want to see the wild horses. A majority of visitors typically do not seek out the many other opportunities for natural resource appreciation offered at the seashore, although some hunt and shellfish or paddle the back bays. The GMP/EIS addresses the following questions related to visitor use and visitor experience.

- *What safe and sustainable alternative strategies should be used to enhance visitor access to the island?*

Alternative Transportation Strategies for Access from MD 611. Existing roads and parking facilities do not meet current visitor demand and cannot be expanded without significant resource damage and loss. During the busy summer season, visitors who arrive by automobile sometimes experience delays entering the seashore and reaching their desired destination. The NPS has completed an alternative transportation study to explore options for addressing the transportation problems. Potential options are likely to include improved traffic information systems to alert visitors of congestion before they enter the seashore, the use of mass transit from satellite parking facilities on the mainland, and relocation of the entrance stations for the seashore and Assateague State Park to a joint facility on the mainland. A joint entrance station could not be operated without changes to the state legislation which authorized the bridge and which prohibits tolls. In the absence of a legislative change, the NPS would have to assume ownership of the bridge and its associated maintenance in order to collect entrance fees on the mainland. In all cases, the development of alternative solutions to transportation problems in the Maryland District will require collaborative planning with Maryland DNR for Assateague State Park.

- *What outdoor recreation opportunities should be available to visitors as natural coastal processes and/or the effects of climate change/sea level rise reshape Assateague Island and alter access to seashore facilities?*

Location and Types of Visitor Facilities. As natural coastal processes and/or the effects of climate change/sea level rise reshape Assateague Island, the maintenance of the current circulation system and the location of protected beaches, campgrounds, and other facilities on the island are likely to change. In concert with questions of visitor facilities and visitor access described above, consideration must be given to how to support the desired range of outdoor recreational opportunities.

Oversand Vehicle Use (OSV). Access to a more remote beach experience via four-wheel drive vehicle in the OSV use area is one of the seashore's popular visitor activities. During summer, the demand for access to the seashore's designated OSV use area frequently exceeds the 145 vehicle capacity, forcing visitors to wait in line for long periods before space becomes available. Once getting into the OSV use area, most visitors stay within the first few miles of beach, leaving much of the remaining route available for the enjoyment of a relatively small number of visitors. Changes to the island as a result of sea level rise could change the location and extent of this experience.

Partnerships

Three government agencies manage Assateague Island: the Maryland Department of Natural Resources (MD DNR), the US Fish and Wildlife Service (FWS), and the NPS. The seashore relies on the actions of surrounding communities to address regional traffic and congestion, protect water quality, and augment emergency services. Additional opportunities exist for partnerships that would help the NPS better protect resources, enhance the visitor experience, increase operational efficiencies, expand youth outreach programs, and reach additional underserved audiences. The GMP addresses the following question related to partnerships.

- *How should the NPS work cooperatively with its neighbors and public agencies at all levels of government to protect Assateague Island's resources from the adverse effects of land uses and activities both outside and within the seashore's boundaries?*

The park's neighbors and public agencies at all level of governments routinely engage in activities that directly and indirectly impact Assateague Island's resources and the experiences that visitors have in the park. Likewise, the actions that NPS undertakes at the seashore can have an impact on other agencies and nearby communities.

Wilderness

The *Assateague Island Wilderness Study* (NPS and FWS 1974) and subsequent study revisions determined that 5,200 acres qualified for federal wilderness designation pursuant to the Wilderness Act. Based upon findings from these studies, President Gerald Ford recommended to Congress that 440 acres be immediately designated as wilderness and that the remaining 4,760 acres be classified as "potential wilderness" to become eligible when non-conforming backcountry development and uses were

eliminated. A bill recommending creation of the Assateague wilderness was introduced in Congress but no action was taken.

The seashore's 1982 GMP recommended that wilderness designation be reconsidered when the physical remnants of former development were removed. As part of the seashore's current planning process, the NPS is required to make a determination concerning how these areas will be managed to protect and enhance wilderness character. The GMP/EIS addresses the following question related to wilderness.

- *How should the Assateague backcountry be managed to protect wilderness character while allowing for compatible recreation and NPS operational needs?*

Cultural Resources

The seashore contains a variety of locally, regionally, and nationally significant cultural resources. These resources, as well as their associated documents and objects, are all that remain from the relatively brief periods when humans have occupied Assateague Island. They provide important links to both the history and purpose of the seashore. Two resources – the former Assateague Beach U.S. Coast Guard Station and the former Green Run Lodge – are eligible for listing the *National Register of Historic Places*. There are significant gaps in the seashore's understanding of and ability to protect and interpret these resources. The Assateague Beach U.S. Coast Guard Station sits vacant and underutilized due to problems with access. Other issues include a backlog of archival materials needing assessment, cataloging, and conservation, and the absence of archeological survey data for most of the island. The GMP/EIS addresses the following question related to cultural resource management.

- *How should the seashore's cultural resources be managed?*

Management Alternatives

In crafting the management alternatives for the seashore, the GMP/EIS planning team chose to consider climate change and sea level rise as key factors influencing the future of the seashore. While there is uncertainty about the future pace of climate change and sea level rise, there is near consensus among the scientific community that change is underway. Any plan for the future of the seashore must consider the management challenges associated with an increasingly dynamic island landform. This approach is consistent with recent Department of the Interior and NPS policy which calls for incorporation of climate change considerations and response in all levels of planning.

The GMP/EIS alternatives explore options to provide and protect visitor use and recreational opportunities on Assateague Island and seek new approaches to providing sustainable access and infrastructure. Barrier islands such as Assateague will be especially vulnerable to the effects of climate change and sea level rise, and NPS must be able to respond effectively. Although major impacts are not expected in the near term, now is the time to set the stage so that future managers have the options available when conditions and circumstances do change. In the GMP/EIS alternatives seashore managers have explored options, such as constructing roads and parking lots out of native materials, mobile facilities, relocation of infrastructure onto the adjacent mainland, and shuttle and ferry services to the seashore.

Note that any proposed new visitor facilities development, rehabilitation, or post-storm reconstruction described below would be undertaken only after appropriate climate change and sea level rise risk assessments have been completed. A more detailed examination of these factors would influence the type, design, location, and ultimate feasibility of any proposed project.

Alternative 1: Continuation of Current Management

Concept

The NPS would continue to manage seashore resources and visitor use as it does today, with no major change in scope or direction. The seashore's enabling legislation, the existing *General Management Plan* (NPS 1982b), and other implementation plans would continue to guide management decision-making. Decisions would be based on existing conditions and available information, but would continue to lack a comprehensive planning framework that addresses the full range of contemporary and potential future issues. Natural coastal processes would continue with minimal interference. Response to breaches and/or new inlet formation would be uncertain, determined on a case-by-case basis taking into consideration laws governing the seashore and a variety of factors such as human safety and protection of property. Dune maintenance in the island developed area in Maryland and other limited actions would protect facilities from storm damage. Visitor use facilities and infrastructure at risk of loss would be moved back from the shoreline. Improvements to visitor facilities and seashore operational facilities would include only projects that are already approved and fully-funded, or compatible with the current direction of seashore management. Altered sand transport processes at Ocean City Inlet would continue to be mitigated through the North End

Restoration Program. There would continue to be no systematic response to climate change.

In Virginia, the NPS would continue to support beach-oriented recreational uses in the Island developed area within the Chincoteague National Wildlife Refuge.

Visitor Use and Visitor Experience

Existing interpretive, educational, and management programs providing a range of services to visitors would continue. The two visitor centers would continue to provide orientation, information, interpretive programs, and exhibits and serve as both destination and points of departure for day visitors, bus tours, school groups, and campers. Traditional ranger-led activities and curriculum-based educational programs would continue to be available. Programs would continue to emphasize the interpretive themes, with climate change issues presented on a limited basis.

Visitors would continue to enjoy a variety of traditional beach-oriented recreational activities concentrated within the Maryland developed visitor area. The NPS would continue to support beach oriented recreational activities in the Island developed area through its memorandum of understanding with the FWS. The availability of recreation opportunities could change as natural coastal processes and the effects of climate change/sea level rise continue to re-shape the island and damage facilities; limited actions would be taken to reclaim lost land area, to replace facilities, or to further protect recreational resources.

Opportunities for driving on the beach in Maryland would continue within the seashore's existing designated OSV use area with minimal or no management changes. As long as access exists, there would be no change in the use limit of 145 vehicles. If a breach occurs, the response would be uncertain, determined on a case-by-case basis.

The seashore's public hunting program would continue to be managed for its recreational values and as a resource management tool to control non-native species. Most hunting, fishing, and recreational shellfishing would continue in accordance with state and federal laws.

Seashore Facilities and Operations in Maryland

Existing visitor facilities and infrastructure would continue to have varying degrees of sustainability. Decisions regarding the repair and/or replacement of damaged facilities and infrastructure would generally be based on available funding. To the extent possible they would be repaired or replaced at or near their current locations. Existing facility management, law enforcement, visitor service, administrative, and resource protection operations would continue largely unchanged.

Natural Resource Management

Existing natural resource management programs would continue, many in partnership with federal, state, and local agencies, academic institutions, and non-governmental organizations. Programs would focus on protecting sensitive species, monitoring resource conditions, mitigating external threats, controlling non-native species, and restoring habitats impacted by man-made structures or activities. The feral horse population would continue to be actively managed with contraceptives to achieve and maintain a stable population of 80 to 100 horses. Hunting would continue to help control white-tailed deer and sika deer. Certain types of unauthorized commercial fishing activities – such as the harvest of finfish and horseshoe crabs – would continue to occur within the seashore without intervention by the NPS. Continued cooperative research directed toward management issues would provide improved understanding of seashore resources and ecological processes. There would be no action related to privately owned structures (oyster watch houses and hunting blinds) associated with submerged land leases in Chincoteague Bay within the seashore boundary. The NPS would continue to partner with the USACE to implement the North End Restoration Project that mitigates the continuing effects of the Ocean City Inlet and jetties.

Wilderness

The NPS would continue to protect and enhance the wilderness character of the potential and recommended Assateague wilderness through actions to eliminate incompatible features and activities. There would be no change in the size or location of the potential and recommended wilderness.

Cultural Resource Management

Existing programs providing basic protection to the seashore's cultural resources would continue consistent with applicable federal and state laws and regulations, NPS policies, adopted NPS plans for the seashore, and NPS guidelines for the treatment of historic structures likely to be affected by climate change. Maintenance of *National Register* eligible properties (the former Assateague Beach U.S. Coast Guard Station and the former Green Run Lodge) would continue, subject to the availability of funding. Limited dune stabilization would protect the Assateague Beach U.S. Coast Guard Station from natural coastal processes and/or the effects of climate change/sea level rise.

Partnerships

Existing partnerships and cooperative relationships that support ongoing management would continue. Key partners would be the MD DNR at Assateague State Park and the FWS at Chincoteague National Wildlife Refuge.

Land Acquisition

No land acquisition would occur.

Actions Common to the Alternatives 2, 3 and 4

The following section identifies management actions common to the three action alternatives, including management zoning, desired conditions, and specific management actions. These common actions are in addition to the actions described for each alternative below. Note that all planned and programmed projects included in alternative 1 are also included in and are common to the action alternatives.

Community Resilience

The NPS would work in cooperation with other federal agencies, the states, counties and communities to explore how best to model the impacts of sea level rise and storm surge. These efforts would evaluate potential effects of breach management, modifications to infrastructure and other related actions on local communities and infrastructure. Together, stakeholders would explore ways to mitigate hazards and increase the resiliency of surrounding communities and infrastructure.

The NPS would develop a breach management plan to guide its response to future breaches on the island. The plan would specify the conditions under which the NPS would allow breaches to remain open or would allow breach closures. It would be based on the best science available and conform to the mission of the NPS and laws governing the seashore. It would also consider other important elements such as

human safety and protection of property. While completion of a breach management plan would be common to alternatives 2, 3, and 4, the protocols for responding to breaches would differ, reflecting the specific climate change adaptation philosophy inherent in each alternative

Natural Resource Management

As in alternative 1, existing natural resource related practices and programs would initially continue. The primary emphasis of resource management actions would remain directed towards protecting sensitive species, monitoring resource conditions, mitigating external threats, controlling invasive plant and animal species, and restoring habitats impacted by historic land use. Over time natural resource protection programs would diminish or expand in alternatives 2, 3, or 4. The NPS would continue to partner with the USACE to implement the North End Restoration Project that mitigates the continuing effects of the Ocean City Inlet and jetties by restoring/maintaining sand supply to northern Assateague Island at the historic, pre-Ocean City inlet rate.

Marine Resource Management

NPS would collaborate with the states of Maryland and Virginia and local communities to protect a unique working marine landscape and way of life and to protect seashore resources. The following recommendations are consistent with current NPS policy, expand opportunities to research and understand natural resource conditions and the cultural heritage associated with the seashore's marine environment, and open up avenues for constructive conversation about these management activities going forward. These include:

- Working collaboratively to undertake studies to better understand the natural and cultural resources within the marine areas of the seashore.
- The states of Virginia and Maryland would continue to manage shellfishing within the seashore.
- NPS would issue a special use permit under 36 CFR 2.60(3)b to the Virginia Marine Resource Commission (VMRC) within the Commonwealth of Virginia to allow for the continued practice of commercial aquaculture and maintenance of the historic setting.
- NPS would prohibit the harvest of horseshoe crabs as currently proposed by the USFWS' final Comprehensive Conservation Plan.
- NPS would collaborate with local and regional cultural and academic institutions to develop interpretive programming and other visitor information that would illuminate the cultural heritage of the eastern shore and Assateague Island.

Wilderness

The NPS would undertake an assessment of eligibility and prepare a new wilderness study. Potential and recommended wilderness would be generally managed to preserve, restore, and enhance natural ecological conditions and wilderness qualities while providing limited opportunities for low density, low impact primitive recreational experiences. NPS would implement a long-term monitoring program to assess the conditions and trend of wilderness character over time based on the "keeping it wild" framework, adapted for the individual characteristics of the Assateague Island Wilderness.

Visitor Use and Visitor Experience in Maryland

Recreational uses and activities in the island developed area would be maintained in all the alternatives. However, over time the facilities and infrastructure supporting those uses would change as natural coastal processes and the impacts of climate change/sea level rise continue to re-shape the island and damage facilities. How facilities and infrastructure that support recreational uses and activities evolve would vary depending upon the coastal response management framework in alternatives 2, 3, and 4.

Until such time as facilities are lost or damaged, in alternatives 2, 3, and 4 NPS would expand the types and number of commercial services supporting visitor use within the island developed area in Maryland.

The NPS would also periodically review regulations pertaining to OSV use at the seashore (36 CFR§7.65(b)) and make amendments if conditions render changes necessary.

Visitor Use and Visitor Experience in Virginia

The NPS would continue to support beach-oriented recreational uses in the island developed area within Chincoteague National Wildlife Refuge in Virginia. NPS would continue to manage the recreational beach in accordance with the memorandum of understanding between the NPS and the FWS (see appendix B). The Final CCP/EIS's preferred alternative supports continuation of the recreational beach with 961 automobile parking spaces to be managed by the NPS (US FWS 2015, page 2-51). The Final CCP/EISs preferred alternative finds that, "In recognition of the vulnerability of the current parking, the refuge would develop and implement a site design plan for parking and access to a new beach location, approximately 1.5 miles north of the existing beach... The new recreational beach would offer accessible parking in close proximity to the beach". (US FWS 2015, page 2-51)

The Final CCP/EIS's preferred alternative proposes that the transition to the new recreational beach location would occur within eight years or sooner if funding were available (US FWS 2015, page 2-69). In the meantime, NPS would maintain beach

recreation and parking at the current location, so long as the land base is available to support this use. Facilities and infrastructure supporting recreation include access roads and parking lots, shade shelters, rest rooms, changing rooms, rinse off showers, and interpretive programs. Until the beach moves, NPS would maintain the Toms Cove Visitor Center. When the beach location is moved northward, a new joint NPS and FWS visitor contact station would be developed. (US FWS 2015, page 2-51). After the new joint visitor contact station is opened, NPS and FWS may continue to operate environmental education programs from the Toms Cove Visitor Center, as long as that center remains serviceable and can be maintained economically. Eventually the current Toms Cove Visitor Center will be removed when it is no longer possible to maintain it in the face of sea level rise.

NPS would work with the FWS, the town of Chincoteague, Accomack County and others to design the new recreational beach sensitively, to respond to both the natural environment and the needs of the area's visitors. The beach experience, while different from that at the current location, would be designed to engage visitors and provide the kind of recreational opportunity for which the region has justifiably become famous. Careful attention to the design of parking for cars, RVs and buses, boardwalks, accessibility, changing stalls, rinse-off facilities, vault toilets, shelter areas, and other related needs would ensure a quality experience at the new beach location. The Final CCP/EIS's preferred alternative also proposes management of biting insects to help ensure a positive visitor experience (US FWS 2015, page 2-70). Critical to the success of the new design will be finding an appropriate balance between visitor experience and resiliency from future storms.

The relocation of the recreational beach might change the availability and mix of interpretive opportunities provided by NPS. NPS would work with FWS in the new joint visitor facility to provide appropriate and meaningful interpretive activities for visitors that take full advantage of the new location and the new preferred alternatives for Beach Road Terminus and Toms Cove Bay.

OSV use in Virginia would be as determined by the FWS. FWS proposes to develop a new ½ mile OSV zone to facilitate priority wildlife-dependent uses south of the new recreational beach from March 15 through September 15. FWS would continue current management of the Overwash and Hook area for shorebirds until the new recreational beach is established, at which time the March 15 through September 15 closure would go into effect. OSV access from September 16 to March 14 annually would continue via Beach Road. NPS would cooperate with FWS to provide OSV access.

Seashore Facilities and Operations in Maryland

The NPS and MD DNR would explore the potential for a consolidated, jointly operated entrance station to Assateague Island located on the mainland. This would provide efficiencies, better manage the number of vehicles accessing the island, achieve shared

resource and visitor use management objectives, and facilitate operation of a shuttle system.

Existing automobile-based access to the seashore would continue as long as it remains sustainable in the context of natural coastal processes and/or the effects of climate change/sea level rise. On peak days – once parking capacity is reached – the seashore would close to additional vehicles. For visitors still wanting to get to the seashore in Maryland, a mainland-based commercial shuttle would be available. Visitors would park near the visitor center on the mainland and ride the shuttle to the beach and other attractions on the island. Over time as parking capacity on the island is reduced as a result of natural coastal processes and/or climate change/sea level rise, shuttle facilities on the mainland would expand to support a larger shuttle operation providing additional parking to meet growing demand and offering more frequent service with more shuttle vehicles.

Alternative 2: Concentrated Traditional Beach Recreation

Concept

Most visitors to the seashore would enjoy traditional beach recreation concentrated within a high density island developed area in Maryland accessible by private vehicle. Artificial dune fortification, habitat manipulations, and possibly beach nourishment would protect the island developed area from the natural coastal processes and/or the effects of climate change/sea level rise as long as a suitable land base exists and funding is available. Over time, the island developed area would likely be consolidated in response to the increasing challenge of protecting facilities from sea level rise and greater storm intensity. Increased crowding could lead to visitor use limits. Increased fees could be needed to offset the higher cost of providing visitor facilities. Breach management protocols would generally seek to repair storm overwash and breaches in the island developed area in Maryland, and to let the island's backcountry areas evolve naturally – without interference – subject to the full effects of natural coastal processes and/or climate change/sea level rise.

In Virginia, the NPS would continue to support beach-oriented recreational uses in the island developed area within Chincoteague National Wildlife Refuge (see actions common to alternatives 2, 3 and 4 – Visitor Use and Visitor Experience in Virginia).

Visitor Use and Visitor Experience

The seashore's two visitor centers would continue to provide orientation, information, interpretive programs, and exhibits and would serve as both destination and departure points for day visitors, bus tours, school groups, and campers. Interpretive and environmental education programming would be based on the seashore's interpretive themes but would increasingly focus on recreation, orientation, information, and safety.

Traditional recreational uses and activities in the island developed visitor area in Maryland would be maintained on the island as long as suitable land base exists and funding is available. Expanded commercial services, additional lifeguards, and campground facilities with more amenities would enhance the visitor experience. Current recreational uses in the backcountry and in adjacent waters would continue but with minimal additional investment in facilities to support those uses. High density visitor use at the north end of the island would not be allowed. Most hunting, fishing, and recreational shellfishing would continue in accordance with state and federal laws.

As long as access exists, opportunities for driving on the beach in Maryland would continue but within a smaller designated OSV use area limited to the area outside of the potential and recommended wilderness (south of developed visitor area to approximately KM 23.4). If vehicular access to the OSV use area is lost due to natural coastal processes or the effects of climate change/sea level rise (e.g., a persistent breach occurs in the OSV use area and the breach management plan calls for it to stay open), no action would be taken to restore it and access could be further reduced or eliminated.

The risk to continued visitor use and enjoyment of the seashore under this alternative would be high. Should fortification of the island developed area in Maryland ultimately prove impracticable and/or should funding not be available to repair damaged or lost facilities, the seashore could become inaccessible to visitors for months to years following major storm events.

Seashore Facilities and Operations in Maryland

Over time visitor facilities and infrastructure such as developed campgrounds, beach parking, restrooms, and changing areas would be concentrated within a smaller developed area and fortified to withstand the impacts of natural coastal processes and climate change/sea level rise. New facilities could be developed to enhance recreational opportunities, such as a campground store or restaurant. Beach parking, RV camping, and other improvements would continue to be accessible via private vehicle. A mainland based commercial shuttle would provide access once island parking capacity is reached.

Most administrative and maintenance functions would be based in rehabilitated facilities in their current location at the seashore's Maryland headquarters complex. The NPS would seek to acquire property in the general vicinity of the headquarters

complex for use for alternative transportation parking. A combined ranger station/campground office and small maintenance yard would remain on the island.

Natural Resource Management

Programs and actions to protect and manage the seashore's most significant natural resources would continue. The emphasis of resource management actions would remain directed towards protecting sensitive species, monitoring resource conditions, mitigating external threats, controlling invasive plant and animal species, and restoring habitats impacted by historic land use. Over time, some resource management programs and activities would likely diminish as funding and staffing are re-directed towards the protection of recreational opportunities and visitor use management.

Wilderness

The NPS would continue to protect and enhance the wilderness character of the potential and recommended Assateague wilderness through actions to eliminate incompatible features and activities. There would be no change in the size or location of the potential and recommended wilderness.

Cultural Resource Management

NPS would not maintain the former Assateague Beach U.S. Coast Guard Station and the former Green Run Lodge. No actions would be taken to protect the structures and cultural landscape from natural coastal processes and/or the effects of climate change/sea level rise. If it is determined that the historic structures and cultural landscape have become so damaged by coastal storms, sea level rise, or other climate change related issues that they create a hazard, NPS would document the resources in accordance with the *Secretary of the Interior's Standards* (NPS 1995c) and other NPS policies, guidelines, and standards. Then NPS would likely demolish the structures and rehabilitate the sites to foster a return to natural conditions.

Partnerships

Existing partnerships and cooperative relationships that support seashore management would continue. As actions to fortify and protect the island developed area in Maryland become more complex, the NPS would expand its existing partnership with the U.S. Army Corps of Engineers (USACE) related to island erosion control. Partnerships with tourism and recreation interests would likely expand, particularly those with new commercial service providers active in the island developed area in Maryland.

Land Acquisition

The NPS would seek to acquire land (approximately 10 acres) in the vicinity of the Maryland headquarters complex for development of an ATS system.

Alternative 3: Sustainable Recreation and Climate Change Adaptation (NPS Preferred Alternative)

Concept

Climate change adaptation would play an increasingly important role in seashore management. Over time, natural coastal processes and/or the effects of climate change/sea level rise are expected to become the dominant force shaping the character of the island developed area in Maryland. To minimize or avoid the damaging effects of natural coastal processes and/or climate change/sea level rise, visitor use infrastructure would evolve to more sustainable designs and likely shift to new, more stable locations. Some manipulations of the natural environment would be necessary to sustain recreation opportunities but would be kept to the minimum needed. This would include limited maintenance of the existing artificial dune system as facilities and infrastructure transition to more sustainable designs. Breach management protocols would seek a reasonable balance that would generally let the island evolve naturally subject to the effects of natural coastal processes and/or climate change/sea level rise while taking into consideration needs for human safety and protection of property. Impacts to natural sand transport processes from the jetty-stabilized Ocean City Inlet would continue to be mitigated. Planning and development of alternative transportation systems including shuttles, ferries, and new bayside access along Chincoteague Bay would prepare the seashore for possible loss of traditional land access. Overall, visitors

would enjoy expanded opportunities for sustainable recreation throughout the seashore due to additional access points throughout the seashore.

In Virginia, the NPS would continue to support beach-oriented recreational uses in the island developed area within Chincoteague National Wildlife Refuge (see actions common to alternatives 2, 3 and 4 – Visitor Use and Visitor Experience in Virginia).

Visitor Use and Visitor Experience

The seashore's two visitor centers would continue to provide orientation and information but would increasingly become centers of learning emphasizing resource stewardship, sustainability, climate change threats and adaptation, and seashore resource management issues. Traditional ranger led programs and environmental education would be guided by the interpretive themes as well as the special emphasis issues, and would continue to stress activities and experiences that promote resource stewardship and opportunities for in-depth learning. As new points of departure are developed (ferry terminal, shuttle staging areas, Chincoteague Bay public access sites) these areas would provide new opportunities for visitor contact, orientation, safety messaging, and seashore information.

Most recreational uses and activities in the Maryland portion of the seashore would be maintained on the island although, over time, the facilities and infrastructure supporting those uses would evolve towards greater sustainability. Some recreational activities, such as RV camping, could eventually be relocated to the mainland.

New bayside access points would provide expanded opportunities for sustainable recreation in the backcountry. Public hunting, visitor shellfishing, and recreational finfishing would continue as currently managed although if land-based access to the backcountry is altered due to natural coastal processes or the effects of climate change/sea level rise, hunting access to some portions of the seashore could become more difficult. Most hunting, fishing, and recreational shellfishing would continue in accordance with state and federal laws.

Opportunities for driving on the beach in Maryland would continue within the seashore's existing OSV use area until conditions change. OSV use would be managed for maximum flexibility to respond to changing conditions, protect sensitive resources, and minimize conflicts with other seashore uses. If vehicular access to the OSV use area is lost due to natural coastal processes or the effects of climate change/sea level rise (e.g., a persistent breach occurs in the OSV use area and the breach management plan calls for it to stay open), consideration would be given to modifying the route or relocating it to another more suitable location; however the OSV use area would always be located east of the winter high tide mark.

The risk to continued visitor use at the seashore would be low under this alternative. Adaptive management and contingency planning – including development of alternative means of accessing the island – would reduce the potential for the seashore to become inaccessible to visitors following major storm events.

Seashore Facilities and Operations in Maryland

Over time visitor use facilities and infrastructure would evolve in design and could shift to new, more sustainable locations on the island. For example, some or all the Oceanside RV campground could be moved to the more stable bayside causeway area. Initially beach parking, RV camping, and other improvements would continue to be accessible by private vehicle.

When no longer sustainable on the island, some facilities and infrastructure would move to the mainland. A mainland-based commercial shuttle would provide access once parking capacity is reached. More visitors would access the island by water, using a network of new public access sites on the mainland and along the length of the seashore's bay side. Should the bridge to the Maryland portion of the island be damaged or fail or if there was a breach that prevented use of private vehicles, access to the island would shift to a fully water-based system composed of a new passenger ferry and the network of new public access sites.

Most administrative and maintenance functions would be relocated to another mainland location to allow development of a shuttle/ferry parking facility at the current headquarters site. A combined ranger station/campground office would remain on the island, although it would be replaced with a moveable facility once the existing permanent structure is no longer sustainable.

Natural Resource Management

Natural resource protection programs would expand and the scope of some existing programs would change to address the increasingly complex resource management issues created by global climate change/sea level rise. Programs would focus on enhancing the resiliency of resources vulnerable to climate change effects, monitoring key climate drivers and resource conditions, and improving the sustainability of visitor use and seashore operations. Cooperative research would expand, accelerating growth in the understanding of seashore resources and ecological processes.

Wilderness

An assessment of eligibility would be undertaken and a new wilderness study would address three proposals related to the OSV corridor and administrative access to the backcountry:

- Consider moving the eastern boundary of the proposed wilderness area westward from the mean high water line of the Atlantic Ocean to a line approximately 50 meters west of the ocean beach winter storm berm, to allow OSV use on the beach below the winter storm berm and on the two cross island sand roads (from KM 16 to the state line).
- Consider excluding the two existing public cross-island bay access sand roads at Fox Hills and Big Levels and the access road to Green Run from the wilderness area. Some operational access would be needed to maintain backcountry campground restrooms but seashore staff would look to find ways to minimize the access need.
- Consider establishing an administrative area within the vicinity of Green Run Bay, to include the Green Run backcountry campsite, the former Green Run Hunting Lodge property, and the associated access road.

Cultural Resource Management

NPS would protect and maintain the former Assateague Beach U.S. Coast Guard Station and Green Run Lodge in situ as long as possible with improvements, subject to availability of funding. Adaptive reuse of both properties would provide additional protection. At the station, non-structural storm protection features, such as bayside stabilization, would protect the property from natural coastal processes and/or the effects of climate change/sea level rise. If it is determined that the historic structures and cultural landscape have become so damaged by coastal storms, sea level rise, or other climate change related issues that they create a hazard, NPS would document the resources in accordance with the *Secretary of the Interior's Standards* (NPS 1995c) and other NPS policies, guidelines, and standards. Then NPS would likely demolish the structures and rehabilitate the sites to foster a return to natural conditions.

Partnerships

Existing partnerships and cooperative relationships that support ongoing management would continue. Partnerships would likely expand with Assateague State Park and Chincoteague National Wildlife Refuge as cooperative solutions are developed to address natural coastal processes and/or the effects of climate change/sea level rise. Partnership activity with the scientific and educational communities would expand with efforts to enhance resource resiliency and climate change adaptation. If recreational amenities move from the island to the Maryland mainland, new partnerships with Worcester County and adjacent landowners would be required. Relationships with commercial service providers would also expand with new alternative transportation systems and efforts to improve accessibility to the backcountry.

Land Acquisition

The NPS would seek to acquire land in the general vicinity of the Maryland headquarters complex sufficient to support the relocation of the administrative and maintenance facilities, some island facilities, and transportation infrastructure (20 to 200 acres). Relocation of the headquarters complex would make available the existing site as a base of operations for a future alternative transportation system. New land that could be acquired could also be used to support the relocation of some island facilities and infrastructure away from vulnerable areas if and when the need arises, and to protect the scenic character of visitor routes to the new sites. The NPS would collaborate with MD DNR to explore options for using state-owned property and/or acquiring new lands for two new points of departure on the mainland near the state park and current NPS developed area for a future ferry system and new shared fee booths. NPS would also support partner and/or direct NPS development of one to three points of departure on the mainland for mid-island access (150 to 200 acres). To the extent possible, NPS would collaborate with federal, state, and county partners to develop these mainland access points, with direct NPS development occurring if partnership development is not feasible.

Additionally, NPS would support partner groups who seek to acquire various types of legal interests in lands within the Chincoteague Bay watershed for conservation and climate change adaptation purposes (3,000 to 5,000 acres). NPS would collaborate with other federal, state, and county agencies and non-governmental organizations, including the FWS, to protect these lands.

Alternative 4: Natural Island Evolution and a Primitive Island Experience

Concept

Natural evolution of the island would occur without interference and subject to the full effects of natural coastal processes and climate change/sea level rise. Breach management protocols would generally seek to let the island evolve naturally. Impacts to natural sand transport processes from the jetty-stabilized Ocean City Inlet would continue to be mitigated. Existing visitor use facilities and infrastructure would remain in the island developed area in Maryland until such time as they are lost and/or damaged by natural coastal processes or become obsolete. In response to the threat from climate change/sea level rise, minimal future investments would be made on the Maryland portion of the island, limited to development and maintenance of sustainable, low impact day-use facilities and primitive camping infrastructure. Planning and development of an alternative transportation system including a passenger ferry from the mainland would prepare the seashore for possible loss of traditional land access. Over time visitor use would shift to primarily day-use activities in a more primitive island setting. More emphasis would be placed on the role of the seashore as a protected natural environment and living laboratory for scientific research and study.

In Virginia, the NPS would continue to support beach-oriented recreational uses in the Island developed area within Chincoteague National Wildlife Refuge (see actions common to alternatives 2, 3 and 4 – Visitor Use and Visitor Experience in Virginia).

Visitor Use and Visitor Experience

The seashore's two visitor centers would continue to provide orientation, information, interpretive programs, and exhibits. Traditional ranger-led activities and curriculum-based environmental education programs would also continue, but the location of activities in Maryland would gradually shift away from the island as access becomes less automobile based. While the seashore's interpretive themes would continue to provide a basic foundation for programming, increasing emphasis would be on issues related to climate change and the role of the seashore as a protected natural environment and living laboratory.

Over time visitor use in the Maryland portion of the seashore would transition to almost exclusive day-use, with the experience becomingly increasingly primitive. Some existing recreational opportunities, such as developed area RV camping, would eventually be phased out. Public hunting would continue as currently managed, although if land-based access to the backcountry is altered due to natural coastal processes or the effects of climate change/sea level rise, hunting access to some portions of the seashore could become more difficult. Most hunting, fishing, and recreational shellfishing would continue in accordance with state and federal laws.

Opportunities for driving on the Maryland beach would continue within the seashore's existing OSV use area. If vehicular access to the OSV use area is lost due to natural coastal processes or the effects of climate change/sea level rise (e.g., a persistent breach occurs in the OSV use area and the breach management plan calls for it to stay open), then the OSV use area would be reduced or eliminated. Contingency planning – including development of alternative means of accessing the island – would reduce the potential for the seashore to become inaccessible to visitors following major storm events.

Seashore Facilities and Operations in Maryland

Over time visitor use facilities and infrastructure would remain until they are lost or damaged by natural coastal processes and/or the effects of climate change and sea level rise. Ultimately visitor use facilities would support only day-use recreation. If existing roadways and parking facilities are lost or damaged, they would not be repaired, replaced, or relocated. Instead a mainland-based commercial shuttle would provide access. Should the bridge to the island be damaged or fail, access to the island would shift to a fully water-based system composed of a new passenger ferry and water-based access offered by commercial service providers operating from existing public access sites on the mainland.

Most administrative and maintenance functions would relocate to another mainland location to allow development of a shuttle/ferry parking facility at the current headquarters site. A combined ranger station/campground office would remain on the island, although it would be replaced with a smaller moveable facility once the existing permanent structure is no longer sustainable.

Natural Resource Management

Natural resource protection programs would expand as the seashore emphasizes resource preservation and its role as a natural laboratory for scientific research and study. New programs would focus on mitigating human impacts and climate change adaptation, including actions to enhance the resiliency of vulnerable resources, monitoring key climate drivers and resource conditions, and enhancing the sustainability of seashore operations. Cooperative research would expand to include a broader agenda of basic science and research into barrier island ecology and the effects of climate change/sea level rise on coastal ecosystems.

Wilderness

An assessment of eligibility would be undertaken and a new wilderness study would address two proposals related to the OSV corridor and administrative access to the backcountry:

- Consider moving the eastern boundary of the proposed wilderness area westward from the mean high water line of the Atlantic Ocean to a line approximately 50 meters west of the ocean beach winter storm berm, to allow OSV use on the beach below the winter storm berm and on the two cross island sand roads (from KM 16 to the state line.)
- Consider excluding the two existing public cross-island bay access sand roads at Fox Hills and Big Levels and the access road to Green Run from the wilderness area. Some operational access would be needed to maintain backcountry campground restrooms but seashore staff would look to find ways to minimize the access need.

Cultural Resource Management

NPS would protect and maintain the Assateague Beach U.S. Coast Guard Station and Green Run Lodge in situ as long as possible, subject to availability of funding. At the station, limited dune stabilization and/or bayside stabilization would protect the property from natural coastal processes and/or the effects of climate change/sea level rise. Adaptive reuse of Green Run Lodge would provide additional protection. If it is determined that the historic structures and cultural landscape have become so damaged by coastal storms, sea level rise, or other climate change related issues that they create a hazard, NPS would document the resources in accordance with the *Secretary of the Interior's Standards* (NPS 1995c) and other NPS policies, guidelines, and

standards. The NPS would likely demolish the structures and rehabilitate the sites to foster a return to natural conditions.

Partnerships

Existing partnerships and cooperative relationships that support ongoing management would continue. Partnership activity with the academic and educational communities would expand with efforts to stimulate scientific research and utilize the seashore as a natural laboratory. As traditional means of access are lost and alternative transportation systems are introduced, partnerships with commercial service providers would expand.

Land Acquisition

The NPS would seek to acquire land (up to 25 acres) in the general vicinity of the Maryland headquarters complex sufficient to support the relocation of administrative and maintenance facilities. Relocation of the headquarters complex would make available the existing site as a base of operations for a future alternative transportation system.

Additionally, NPS would support partner groups who seek to acquire various types of legal interests in lands within the Chincoteague Bay watershed for conservation and climate change adaptation purposes (3,000 to 5,000 acres). NPS would collaborate with other federal, state, and county agencies and non-governmental organizations, including the FWS, to protect these lands.

Seashore Boundary

The NPS will continue to work with the Department of the Interior's Office of the Solicitor to assess options to resolve boundary issues associated with the changing location of the island's shoreline.

As included in the NPS preferred alternative (alternative 3), NPS would seek an increase in the in the seashore's authorized ceiling for acquiring interests in land (fee simple and easements) on the mainland in Worcester County, Maryland, for purposes of the following:

- addressing operational and management issues (enabling acquisition of from 20 to 200 acres for relocation of the seashore's headquarters complex, some relocated island facilities and infrastructure, and new public access sites for island transportation)
- enhancing public enjoyment related to the purposes of the seashore (enabling acquisition of from 150 to 200 acres to establish one to three mainland points of departure that would provide alternative access sites for the mid-island area if needed as a result of sea level rise – this could consist of direct acquisition of sites, or partnership acquisition of buffer areas to protect these access points from the effects of climate change)

Affected Environment and Environmental Consequences of the Alternatives

Chapter 3 of the Draft GMP/EIS describes the affected natural, cultural, and socio-economic environment within and near the seashore. Chapter 4 describes the predicted impacts on the environment associated with the four GMP/EIS alternatives. Impact topics include water resources, vegetation, wildlife, federally listed threatened and endangered species, historic structures, cultural landscapes, seashore operations, access and circulation, visitor use and experience, and the socio-economic environment. The impact analysis describes direct, indirect, and cumulative impacts, and discusses the importance of impacts in the context of the affected resource. Analyses involved comparing conditions that would occur with changes in management (alternatives 2, 3, and 4) to conditions that would occur if current management practices continued (alternative 1). The results are presented in table 2.14 of the GMP/EIS and are summarized for selected impact topics below.

Impacts of Alternative 1: Continuation of Current Management

Water Resources

Natural resource management actions and rehabilitation of habitats altered by historic land uses and mosquito ditches would continue to restore natural surface and groundwater flows, improve wetland values, slightly enhance floodplain functions, and minimally reduce flood potentials. Nutrient discharges to nearby waters would be reduced due to improved wastewater treatment. Potential for contamination of nearby waters would continue due to motorboat use, OSV use, other visitor activities, and routine seashore operations. Replacement of damaged facilities and construction of new facilities could result in minimal sediment discharges to nearby waters.

Vegetation

Natural resource management actions would continue to rehabilitate habitats altered by historic land uses, mosquito ditches, and invasive *Phragmites australis.* Management of feral horse and deer populations would continue to reduce trampling and overgrazing of vegetation. The North End Restoration Project and continuation of programs to restore natural overwash fans would restore habitats in beach and intertidal areas. Trampling and loss of vegetation by visitors would continue where recreational uses are concentrated, particularly within the island developed area in Maryland. Replacement of damaged facilities and construction of new facilities could result in minimal loss of vegetation.

Wildlife

Natural resource management actions would continue to benefit wildlife by rehabilitating habitats altered by historic land uses, mosquito ditches, and invasive *Phragmites australis.* Management of feral horse and deer populations would continue to benefit wildlife by reducing trampling and overgrazing of vegetation. The North End Restoration Project and continuation of programs to restore natural overwash fans would restore habitats in beach and intertidal areas. Trampling and loss of habitat by visitors would continue where recreational uses are concentrated, particularly within the island developed area in Maryland. Replacement of damaged facilities and construction of new facilities could result in minimal loss wildlife habitat. Horseshoe crab harvest would continue to directly contribute to a decline of spawning horseshoe crabs in the Toms Cove area (US FWS 2015).

Federally Listed Threatened or Endangered Species

Management actions would generally have beneficial impacts on the federally listed (threatened) piping plover (*Charadrius melodus*) and seabeach amaranth (*Amaranthus pumilus*). Management of feral horse and deer populations would continue to benefit the two listed species by reducing trampling and overgrazing of vegetation in beach and intertidal areas where the species are known to occur. The North End Restoration

Project and continuation of programs to restore natural overwash fans would also maintain and/or restore beach and intertidal areas. Potential trampling and other types of disturbances by visitors would continue where recreational uses occur within portions of the OSV use area and in the north end; management actions would continue to seek to minimize these impacts through area closures and other measures, especially during times of the year when plover nesting occurs and young are present. If there is a breach, an adverse impact to listed species could occur because management of horse and deer herds and other measures to protect listed species could become more difficult to implement due to loss of vehicular access; conversely, if there is a breach, a beneficial impact to listed species could occur because the potential for visitor use disturbances could be reduced due to loss of vehicular access to beach and intertidal areas where the species occur.

Historic Structures

Continued maintenance would have beneficial impacts on the seashore's historic structures that are eligible for the *National Register* at the former Assateague Beach U.S. Coast Guard Station and the former Green Run Lodge. Limited actions to protect eligible historic structures from natural coastal processes and/or the effects of climate change/sea level rise would also have beneficial impacts. Eventually historic structures would likely be significantly damaged or lost. Before then, historic structures would be documented in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS 1995c).

Cultural Landscapes

Continued maintenance would have beneficial impacts on the *National Register* eligible cultural landscape at the former Assateague Beach U.S. Coast Guard Station. Limited actions to protect the eligible cultural landscape from natural coastal processes and/or the effects of climate change/sea level rise would also have beneficial impacts. Eventually the cultural landscape would likely be significantly damaged or lost. Before then, the cultural landscape would be documented in accordance with the *Secretary of the Interior's Standards* (NPS 1995c).

Seashore Operations

Minimal operational efficiencies would be gained as a result of initial actions to rehabilitate the seashore headquarters complex. Existing partnerships and volunteer programs would continue to facilitate some functions to protect seashore resources and provide recreational opportunities.

Seashore facilities would continue to be exposed to very high risk and uncertainty of becoming abruptly inaccessible in the event of a catastrophic storm, with the result that the seashore would be unable to operate without vehicular access.

Access and Circulation

Serious congestion would remain within the island developed area in Maryland on summer weekends because access management actions would not address chronic access issues.

Due to a lack of a contingency plan for responding to catastrophic storms and the effects of climate change/sea level rise, transportation infrastructure would remain in non-sustainable locations subject to recurring damage and eventual loss as the island's land area continues to shrink. There would be very high risk and uncertainty of the seashore becoming abruptly inaccessible in the event of a catastrophic storm. The seashore could become inaccessible to visitors for months to years.

Visitor use and Visitor Experience

Visitor use and visitor experience at the seashore would continue as it is today, as long as there is vehicular access to the seashore. Serious congestion within the Island developed area in Maryland on summer weekends would continue to adversely impact the visitor experience; actions would not be taken to reduce congestion. OSV use would continue within the existing OSV use area; if access to the OSV use area is lost due to a breach, it is possible that opportunities for driving on the beach and associated recreation activities would be lost, as relocation of the OSV use area would not be considered.

Due to lack of a contingency plan for responding to catastrophic storms and the effects of climate change/sea level rise, opportunities for visitors to experience the seashore would be at very high risk of being lost; opportunities for visitors could be lost for months to years.

Socio-economic Environment

Continued seashore visitation with associated visitor spending, job creation, labor income and value added would continue to benefit the local economy. When vehicular access is lost, lack of contingency planning would make the island inaccessible to visitors for months to years; visitor spending would drop to approximately five percent of its previous levels with similar drops in job creation, labor income, and value added to the local economy; there would be uncertainty as to when visitor access and associated economic benefits could be restored.

NPS would continue to not enforce existing federal laws prohibiting horseshoe crab harvest, resulting in a beneficial impact to some commercial watermen.

Impacts of Alternative 2: Concentrated Traditional Beach Recreation

Water Resources

As in alternative 1, natural resource management actions and rehabilitation of habitats altered by historic land uses and mosquito ditches would continue to restore natural surface and groundwater flows, improve wetland values, slightly enhance floodplain functions, and minimally reduce flood potentials; however, in alternative 2, the scope of beneficial management actions would diminish over time. Other impacts on water resources would be the same as alternative 1. Additional adverse impacts to water quality in alternative 2 would include minimal sediment discharges to nearby waters during construction of new facilities on the mainland, minimal effects on floodplain functions due to development of new facilities in the floodplain, and potential for wetland impacts at new development sites. Additional benefits to water quality in alternative 2 would result from actions to reduce pollutant discharges from oyster houses and hunting blinds in Virginia waters.

Vegetation

As in alternative 1, natural resource management actions would continue to rehabilitate habitats altered by historic land uses, mosquito ditches, and invasive *Phragmites australis*; however, in alternative 2, the scope of beneficial management actions would diminish over time. Other impacts on vegetation would be the same as alternative 1. Additional adverse impacts on vegetation in alternative 2 would include vegetation losses within the island developed area in Maryland as visitor facilities and visitor activities are concentrated within a smaller area, and at new development sites on the mainland.

Wildlife

As in alternative 1, natural resource management actions would continue to benefit wildlife habitat by rehabilitating habitats altered by historic land uses, mosquito ditches, and invasive *Phragmites australis*; however, in alternative 2, the scope of beneficial management actions would diminish over time. Other impacts on wildlife would be the same as alternative 1. Additional adverse impacts on wildlife in alternative 2 would include habitat losses within the island developed area in Maryland as visitor facilities and visitor activities are concentrated within a smaller area, and at new development sites on the mainland. As in alternatives 3 and 4, enforcement of existing federal laws prohibiting harvest of horseshoe crabs (as proposed by FWS in the Final CCP/EIS) would effectively eliminate illegal horseshoe crab harvesting in the Toms Cove area, resulting in a beneficial~~ly~~ impact on the horseshoe crab population by directly reducing the decline of spawning horseshoe crabs in the Toms Cove area (US FWS 2015).

Federally Listed Threatened or Endangered Species

As in alternative 1, management actions would generally have beneficial impacts on the federally listed (threatened) piping plover (*Charadrius melodus*) and seabeach amaranth (*Amaranthus pumilus*). Impacts on listed species would be the same as alternative 1. Additional beneficial impacts would occur as a result of reducing the OSV use area to 38 percent of its current size, thereby also reducing the extent of beach and intertidal habitats where the listed species occur that is exposed to potential impacts from vehicles and visitor use.

Historic Structures

Adverse impacts would result from not maintaining or stabilizing *National Register* eligible historic structures at the former Assateague Beach U.S. Coast Guard Station and the former Green Run Lodge. Lack of actions to protect eligible historic structures from natural coastal processes and/or the effects of climate change/sea level rise would further expose the resources to damage or loss. Eventually historic structures would likely be lost. Before then, historic structures would be documented in accordance with the *Secretary of the Interior's Standards* (NPS 1995c).

Cultural Landscapes

Adverse impacts would result from not maintaining or stabilizing the *National Register* eligible cultural landscape at the former Assateague Beach U.S. Coast Guard Station. Lack of actions to protect the eligible cultural landscape from natural coastal processes and/or the effects of climate change/sea level rise would further expose the resource to damage or loss. Eventually the cultural landscape would likely be lost. Before then, the cultural landscape would be documented in accordance with the Secretary's Standards (NPS 1995c).

Seashore Operations

In alternative 2, major operational efficiencies would be gained as a result of reconstruction of the seashore headquarters complex at its current site, relocation of the seashore entrance to the mainland, and implementation of a mainland-based alternative transportation system (ATS). As in alternative 1, existing partnerships and volunteer programs would continue to facilitate some functions to protect seashore resources and provide recreational opportunities. In alternative 2, an expanded partnership with USACE to protect the island developed area in Maryland would provide some protection against interruptions to seashore operations due to storm damage. Staffing would not be adequate to support natural resource management actions and visitor use and visitor experience actions included in alternative 2, unless increased funding becomes available from the Operations of National Park System (ONPS) budget.

As in alternative 1, seashore facilities would continue to be exposed to very high risk and uncertainty of becoming abruptly inaccessible in the event of a catastrophic storm, with the result that the seashore would be unable to operate without vehicular access.

Access and Circulation

Some congestion would remain within the Island developed area in Maryland on summer weekends following implementation of access management actions. Over the long-term concentration of visitor facilities within a shrinking fortified land area would increase congestion and reduce access. Reduction of the OSV use area to 38 percent of its current size would reduce the extent of the beach area accessible by vehicles.

As in alternative 1, due to a lack of a contingency plan for responding to catastrophic storms and the effects of climate change/sea level rise, transportation infrastructure would remain in non-sustainable locations subject to recurring damage and eventual loss as the island's land area continues to shrink. There would be very high risk and uncertainty of the seashore becoming abruptly inaccessible in the event of a catastrophic storm. The seashore could become inaccessible to visitors for months to years.

Visitor use and Visitor Experience

Visitor use and visitor experience at the seashore would continue as it is today, as long as there is vehicular access to the seashore. As in alternative 1, serious congestion within the Island developed area in Maryland on summer weekends would continue to adversely impact the visitor experience. In alternative 2, over time the concentration of visitor facilities within a shrinking island developed area in Maryland would increase congestion and diminish the visitor experience. Conversely, the visitor experience would be somewhat enhanced as a result of less stressful seashore entry via a relocated entrance station and opportunities for accessing the beach via a mainland-based ATS when island parking lots are full. Opportunities for driving on the beach and associated recreation activities in the OSV use area would become more congested as a result of reducing the OSV use area to 38 percent of its existing size, while retaining the current vehicle limits. If access to the OSV use area is lost due to a breach, opportunities for driving on the beach and associated recreation activities could be lost, as relocation of the OSV use area would not be considered.

As in alternative 1, due to lack of a contingency plan for responding to catastrophic storms and the effects of climate change/sea level rise, opportunities for visitors to experience the seashore would be at very high risk of being lost; opportunities for visitors could be lost for months to years.

Socio-economic Environment

As in alternative 1, continued seashore visitation with associated visitor spending, job creation, labor income, and value added would benefit the local economy. As in alternative 1, when vehicular access is lost, lack of contingency planning would make the island inaccessible to visitors for months to years; visitor spending would drop to approximately five percent of its previous levels with similar drops in job creation, labor income, and value added to the local economy; there would be uncertainty as to when visitor access and associated economic benefits could be restored.

As in alternatives 3 and 4, enforcement of existing federal laws prohibiting harvest of horseshoe crabs (as proposed by FWS in the Final CCP/EIS) would likely result in a negative impact to some commercial watermen (US FWS 2015). The annual value of horseshoe crab harvesting in the Toms Cove area is estimated at approximately $55,261 (US FWS 2015).

Impacts of Alternative 3: Sustainable Recreation and Climate Change Adaptation

Water Resources

As in alternative 1, natural resource management actions and rehabilitation of habitats altered by historic land uses and mosquito ditches would continue to restore natural surface and groundwater flows, improve wetland values, slightly enhance floodplain functions, and minimally reduce flood potentials; however, in alternative 3, the scope of beneficial management actions, particularly to wetland values, would expand over time. Other impacts on water resources would be the same as alternative 1. Additional adverse impacts to water quality in alternative 3 would include minimal sediment discharges to nearby waters during construction of new facilities on the mainland, minimal effects on floodplain functions due to development of new facilities in the floodplain, and potential for wetland impacts at new development sites (related to more new mainland facilities than alternative 2). Additional benefits to water quality in alternative 3 would result from actions to reduce pollutant discharges from oyster houses and hunting blinds in Virginia waters, reduce pollutants associated with visitor use in the north end, enhance water quality management in the coastal bays watershed through partnerships (with emphasis on cooperative acquisition of conservation

easements on the mainland), and restoration of buffer lands adjoining new mainland points of departure.

Vegetation

As in alternative 1, natural resource management actions would continue to rehabilitate habitats altered by historic land uses, mosquito ditches, and invasive *Phragmites australis*; however, in alternative 3, the scope of beneficial management actions, particularly those benefiting wetland habitat, would expand over time. Other impacts on vegetation would be the same as alternative 1. Additional adverse impacts on vegetation in alternative 3 would include vegetation losses at new development sites (related to more new mainland facilities than alternative 2). Additional benefits to vegetation in alternative 3 would result from a general return to more natural conditions on the island as visitor facilities are lost due to natural coastal processes and/or the effects of climate change/sea level rise and relocated to the mainland. Beneficial impacts would also result from reduced visitor use impacts in the north end.

Wildlife

As in alternative 1, natural resource management actions would continue to benefit wildlife by rehabilitating habitats altered by historic land uses, mosquito ditches, and invasive *Phragmites australis*; however, in alternative 3, the scope of beneficial management actions, particularly those benefiting wildlife found in wetland habitat, would expand over time. Other impacts on wildlife would be the same as alternative 1. Additional adverse impacts on wildlife in alternative 3 would include habitat losses at new development sites (related to more new mainland facilities than alternative 2). Additional benefits to wildlife in alternative 3 would result from a general return to more natural conditions on the island as visitor facilities are lost due to natural coastal processes and/or the effects of climate change/sea level rise and relocated to the mainland. Beneficial impacts would also result from reduced visitor use impacts in the north end. As in alternatives 2 and 4, enforcement of existing federal laws prohibiting harvest of horseshoe crabs (as proposed by FWS in the Final CCP/EIS) would effectively eliminate illegal horseshoe crab harvesting in the Toms Cove area, resulting in a beneficial~~ly~~ impact on the horseshoe crab population by directly reducing the decline of spawning horseshoe crabs in the Toms Cove area (US FWS 2015).

Federally Listed Threatened or Endangered Species

As in alternative 1, management actions would generally have beneficial impacts on the federally listed (threatened) piping plover (*Charadrius melodus*) and seabeach amaranth (*Amaranthus pumilus*). Impacts on listed species would be the same as alternative 1. Additional benefits to listed species in alternative 3 would result from a general return to more natural conditions on the island as visitor facilities are lost due to natural coastal processes and/or the effects of climate change/sea level rise and relocated to

the mainland. Beneficial impacts would also occur as a result of reducing visitor access to the north end where these species are known to occur.

Historic Structures

Continued maintenance would have beneficial impacts on the seashore's historic structures that are eligible for the *National Register* at the former Assateague Beach U.S. Coast Guard Station and the former Green Run Lodge. Adaptive reuse of the station and the lodge would help to further stabilize and better maintain historic structures, particularly at the station where NPS would seek to collaborate with a partner who would assist with rehabilitation and maintenance and would occupy the building. Beneficial impacts would also result from actions to protect the sites and structures as long as feasible from natural coastal processes and/or the effects of climate change/sea level rise. Eventually historic structures would likely be significantly damaged or lost due. Before then, historic structures would be documented in accordance with the *Secretary of the Interior's Standards* (NPS 1995c).

Cultural Landscapes

Continued maintenance would have beneficial impacts on the *National Register* eligible cultural landscape at the former Assateague Beach U.S. Coast Guard Station. Adaptive reuse of the station would help to further stabilize and better maintain the cultural landscape, particularly with support from a partner. Beneficial impacts would also result from actions to protect the site as long as feasible from natural coastal processes and/or the effects of climate change/sea level rise. Eventually the cultural landscape would likely be significantly damaged or lost. Before then, the cultural landscape would be documented in accordance with the *Secretary of the Interior's Standards* (NPS 1995c).

Seashore Operations

In alternative 3, major operational efficiencies would be gained as a result of reconstruction of the seashore headquarters complex at a new location (likely to be co-located with new state park facilities) and as a result of relocation of the seashore entrance to the mainland and implementation of a mainland-based ATS (as in alternative 2). Many existing partnerships and volunteer programs would expand, and many new partnerships would be created to facilitate a much broader range of functions to protect seashore resources and provide recreational opportunities. Staffing would not be adequate to support natural resource management actions and visitor use and visitor experience actions included in alternative 3, unless increased funding becomes available from the ONPS budget.

In alternative 3, completion of a plan for water-based visitor access and seashore operations would position the seashore to restore access and operations relatively quickly in the event of potential sudden loss of access via a catastrophic storm. An expanded partnership with MD DNR would begin to immediately relocate some visitor

facilities to the mainland and to develop joint administrative and maintenance facilities on the mainland to ensure against interruptions to most seashore operations due to storm damage.

Access and Circulation

As in alternative 2, some congestion would remain within the Island developed area in Maryland on summer weekends following implementation of access management actions. In alternative 3, implementation of a mooring permit system would reduce accessibility to the north end via motorized vessels.

In alternative 3, completion of a plan for water-based visitor access and seashore operations would position the seashore to restore access and operations relatively quickly in the event of potential sudden loss of access via a catastrophic storm.

Visitor use and Visitor Experience

Visitor use and visitor experience at the seashore would continue as it is today, as long as there is vehicular access to the seashore. As in alternative 1, serious congestion within the Island developed area in Maryland on summer weekends would continue to adversely impact the visitor experience. In alternative 3, relocation of visitor facilities damaged by coastal processes to more sustainable locations on the island or ultimately to the mainland would reduce congestion and enhance the visitor experience. As in alternative 2, the visitor experience would be somewhat enhanced as a result of less stressful seashore entry via a relocated entrance station and opportunities for accessing the beach via a mainland-based ATS when island parking lots are full. As long as three is vehicular access to the island, opportunities for developed camping at the seashore would be maintained by replacing lost or damaged developed campsites in more sustainable locations on the island. Opportunities for visitor experiences in the backcountry would be enhanced by addition of two mainland points of departure, three bayside access points, and camping opportunities on Egging Island. Opportunities for visitors in the north end would be diminished due to implementation of a mooring permit for motorized vessels that would make it harder for visitors to access the area. OSV use would continue within the existing OSV use area; if access to the OSV use area is lost due to a breach, opportunities for driving on the beach and associated recreation activities could be maintained by relocation of the OSV use area to an area north Assateague State Park.

Contingency planning would include completion of a plan for water-based access and seashore operations; this would position the seashore to restore visitor access to seashore experiences relatively quickly in the event of potential sudden loss of access via a catastrophic storm. An expanded partnership with MD DNR would begin planning to relocate developed campsites to the mainland to ensure opportunities for developed camping in the event vehicular access is lost.

Socio-economic Environment

As in alternatives 1 and 2, continued seashore visitation with associated visitor spending, job creation, labor income, and value added would benefit the local economy. In alternative 3, when vehicular access is lost, contingency planning would relatively quickly restore access to the island; until access is restored visitor spending would drop to approximately five percent of its previous levels with similar drops in job creation, labor income, and value added to the local economy. In alternative 3, within a few years visitation would return to or near that when vehicular access was possible.

As in alternatives 2 and 4, enforcement of existing federal laws prohibiting harvest of horseshoe crabs (as proposed by FWS in the Final CCP/EIS) would likely result in a negative impact to some commercial watermen (US FWS 2015). The annual value of horseshoe crab harvesting in the Toms Cove area is estimated at approximately $55,261 (US FWS 2015).

Impacts of Alternative 4: Natural Island Evolution and a Primitive Island Experience

Water Resources

As in alternative 1, natural resource management actions and rehabilitation of habitats altered by historic land uses and mosquito ditches would continue to restore natural surface and groundwater flows, improve wetland values, slightly enhance floodplain functions, and minimally reduce flood potentials; however, in alternative 4 (as in alternative 3), the scope of beneficial management actions, particularly to wetland values, would expand over time. Other impacts on water resources would be the same as alternative 1. Additional adverse impacts to water quality in alternative 4 would include minimal sediment discharges to nearby waters during construction of new facilities on the mainland, minimal effects on floodplain functions due to development of new facilities in the floodplain, and potential for wetland impacts at new development sites (related to more facilities than alternative 2, but fewer than alternative 3). Additional benefits to water quality in alternative 3 would result from actions to reduce pollutant discharges from oyster houses and hunting blinds in Virginia waters, reduce pollutants associated with visitor use in the north end, enhance water quality management in the coastal bays watershed through partnerships, and restoration of buffer lands adjoining new mainland points of departure.

Vegetation

As in alternative 1, natural resource management actions would continue to rehabilitate habitats altered by historic land uses, mosquito ditches, and invasive *Phragmites australis*; however, in alternative 4 (as in alternative 3), the scope of beneficial management actions, particularly those benefiting wetland habitat, would expand over time. Other impacts on vegetation would be the same as alternative 1. Additional adverse impacts on vegetation in alternative 4 would include vegetation losses at new development sites (related to more new mainland facilities than alternative 2, but fewer than alternative 3). Additional benefits to vegetation in alternative 4 would result from a general return to more natural conditions on the island as visitor facilities are lost due to natural coastal processes and/or the effects of climate change/sea level rise and relocated to the mainland; this would be the same as alternative 3, but would occur sooner. Beneficial impacts would also result from elimination of most visitor use impacts on vegetation in the north end.

Wildlife

As in alternative 1, natural resource management actions would continue to benefit wildlife by rehabilitating habitats altered by historic land uses, mosquito ditches, and invasive *Phragmites australis*; however, in alternative 4 (as in alternative 3), the scope of beneficial management actions, particularly those benefiting wildlife found in wetland habitat, would expand over time. Other impacts on wildlife would be the same as alternative 1. Additional adverse impacts on wildlife in alternative 4 would include habitat losses at new development sites (related to more new mainland facilities than alternative 2, but fewer than alternative 3). Additional benefits to wildlife in alternative 4 would result from a general return to more natural conditions on the island as visitor facilities are lost due to natural coastal processes and/or the effects of climate change/sea level rise and relocated to the mainland; this would be the same as alternative 3, but would occur sooner. Beneficial impacts would also result from elimination of most visitor use impacts on habitat in the north end. As in alternatives 2 and 3, enforcement of existing federal laws prohibiting harvest of horseshoe crabs (as proposed by FWS in the Final CCP/EIS) would effectively eliminate illegal horseshoe crab harvesting in the Toms Cove area, resulting in a beneficial~~ly~~ impact on the horseshoe crab population by directly reducing the decline of spawning horseshoe crabs in the Toms Cove area (US FWS 2015).

Federally Listed Threatened or Endangered Species

As in alternative 1, management actions would generally have beneficial impacts on the federally listed (threatened) piping plover (*Charadrius melodus*) and seabeach amaranth (*Amaranthus pumilus*). Impacts on listed species would be the same as alternative 1. Additional benefits to listed species in alternative 4 would result from a general return to more natural conditions on the island as visitor facilities are lost due to natural coastal processes and/or the effects of climate change/sea level rise and relocated to

the mainland; this would be the same as alternative 3, but would occur sooner. Beneficial impacts would also occur as a result of elimination of most visitor use impacts on habitat in the north end.

Historic Structures

Continued maintenance would have beneficial impacts on the seashore's historic structures that are eligible for the *National Register* at the former Assateague Beach U.S. Coast Guard Station and the former Green Run Lodge. Adaptive reuse of the lodge would help to further stabilize and better maintain the historic structure. Limited actions to protect eligible historic structures from natural coastal processes and/or the effects of climate change/sea level rise would also have beneficial impacts. Eventually historic structures would likely be significantly damaged or lost. Before then, historic structures would be documented in accordance with the *Secretary of the Interior's Standards* (NPS 1995c).

Cultural Landscapes

Continued maintenance would have beneficial impacts on the *National Register* eligible cultural landscape at the former Assateague Beach U.S. Coast Guard Station. Limited actions to protect the eligible cultural landscape from natural coastal processes and/or the effects of climate change/sea level rise would also have some short-term beneficial impacts. Eventually the cultural landscape would likely be significantly damaged or lost. Before then, the cultural landscape would be documented in accordance with the *Secretary of the Interior's Standards* (NPS 1995c).

Seashore Operations

In alternative 4, major operational efficiencies would result from reconstruction of the seashore headquarters complex at a new location (likely to be co-located with new state park facilities) (as in alternative 3) and as a result of relocation of the seashore entrance to the mainland and implementation of a mainland-based ATS (as in alternatives 2 and 3). A few existing partnerships and volunteer programs would expand and a few new partnerships would be created to facilitate more functions to protect seashore resources and provide recreational opportunities. Staffing would not be adequate to support natural resource management actions and visitor use and visitor experience actions included in alternative 4, unless increased funding becomes available from the ONPS budget.

In alternative 4, as in alternative 3, completion of a plan for water-based visitor access and seashore operations would position the seashore to restore access and operations relatively quickly in the event of potential sudden loss of access via a catastrophic storm. An expanded partnership with MD DNR would begin to immediately develop joint administrative and maintenance facilities on the mainland to ensure against interruptions to most seashore operations due to storm damage (as in alternative 3).

Access and Circulation

As in alternative 3, some congestion would remain within the Island developed area in Maryland on summer weekends following implementation of access management actions. In alternative 4, access to the north end would be reduced as a result of closing the area to motorized vessels.

As in alternative 3, completion of a plan for water-based visitor access and seashore operations would position the seashore to restore access and operations relatively quickly in the event of potential sudden loss of access via a catastrophic storm.

Visitor use and Visitor Experience

Visitor use and visitor experience at the seashore would continue as it is today, as long as there is vehicular access to the seashore. As in alternative 1, serious congestion within the Island developed area in Maryland on summer weekends would continue to adversely impact the visitor experience. As in alternatives 2 and 3, the visitor experience would be somewhat enhanced as a result of less stressful seashore entry via a relocated entrance station and opportunities for accessing the beach via a mainland-based ATS when island parking lots are full. In alternative 4, visitor facilities damaged by coastal processes would generally not be replaced, which would result in a loss of opportunities for some existing recreation activities, thereby diminishing the visitor experience for many but enhancing if for others seeking a more primitive visitor experience. This adverse impact would be offset somewhat by replacement of lost or damaged developed campsites with up to 150 primitive campsites in more sustainable locations on the island. Opportunities for visitors in the north end would be diminished due to prohibition of access to the area via motorized vessels, making it much harder for visitors to access the area. OSV use would continue within the existing OSV use area. As in alternatives 1 and 2, if access to the OSV use area is lost due to a breach, opportunities for driving on the beach and associated recreation activities could be lost, as relocation of the OSV use area would not be considered.

Contingency planning would include completion of a plan for water-based access and seashore operations; this would position the seashore to restore visitor access to seashore experiences relatively quickly in the event of potential sudden loss of access via a catastrophic storm. An expanded partnership with MD DNR would begin planning to relocate developed campsites to the mainland to ensure opportunities for developed camping in the event vehicular access is lost.

Socio-economic Environment

As in alternatives 1, 2, and 3, continued seashore visitation with associated visitor spending, job creation, labor income, and value added would benefit the local economy. As in alternative 3, when vehicular access is lost, contingency planning would relatively quickly restore access to the island; until access is restored visitor spending would drop

to approximately five percent of its previous levels with similar drops in job creation, labor income, and value added to the local economy; there would be certainty as to when visitor access via water-based transportation would be restored. In alternative 4, within a few years visitation would return to approximately 50 percent of that when vehicular access was possible.

As in alternatives 2 and 3, enforcement of existing federal laws prohibiting harvest of horseshoe crabs (as proposed by FWS in the Final CCP/EIS) would likely result in a negative impact to some commercial watermen (US FWS 2015). The annual value of horseshoe crab harvesting in the Toms Cove area is estimated at approximately $55,261 (US FWS 2015).

Next Steps

The Draft GMP/EIS for the seashore will be on public and agency review for 60 days following publication of the Environmental Protection Agency's Notice of Availability in the *Federal Register*. During the review period, the public will have opportunities to provide comments on the management alternatives, including the NPS preferred alternative. The NPS will hold public meetings where comments can be made. The public will also be able to comment on-line and by letter, which must be post marked by the due date posted on the NPS Planning, Environment, and Public Comment (PEPC)

website. Information on how the public can provide comments and any public meetings that could be held during the review period will be available on the NPS PEPC web site and in news releases.

The NPS will review and evaluate all comments received on the Draft GMP/EIS. The results of the public and agency comments will be incorporated into a Final GMP/EIS that will be made available to the public for a 30-day no-action period, after which a Record of Decision may be prepared to document the selection of an alternative as the approved GMP/EIS for the seashore.

The Draft GMP/EIS presents an overview of potential actions and impacts related to the management concepts for the seashore. Once a GMP/EIS is approved, implementation of actions in the approved GMP/EIS will be subject to site-specific planning and compliance in accordance with all applicable requirements.

Implementation of the Plan

Implementation of the approved general management plan will depend on future NPS funding and servicewide priorities. Some actions will also depend upon partnership funds, time, and effort. The approval of a Final GMP/EIS does not guarantee that funding and staffing needed to implement the plan will be forthcoming. Full implementation of the plan could be many years in the future.

Once the NPS Regional Director has approved the plan, additional feasibility studies and more detailed planning, environmental documentation, and consultations would be completed, as appropriate, before the NPS can implement certain actions in the selected alternative. Future program and implementation plans, describing specific actions that managers intend to undertake and accomplish, will tier from the desired conditions and long-term goals set forth in this GMP/EIS.