

Everglades National Park
Flamingo Commercial Services Plan/Environmental Assessment
Preferred Alternative – Floodplain Statement of Findings
April 2007

Introduction

The largest developed area within Everglades National Park is the Flamingo area, located at the southernmost mainland point of the park, at the end of a 38-mile paved road that extends southwest from the main visitor center near Homestead, Florida. In 2005, the Flamingo area sustained heavy infrastructural damage as a result of two consecutive hurricanes. These storms caused overwhelming impacts to already aged facilities, and many of the visitor uses and services in Flamingo had to be shut down or reduced. The Flamingo Lodge, cottages, restaurant, gift shop, and cafe were closed due to the damage caused by strong winds and six to eight foot storm surges from Hurricanes Katrina and Wilma. Historically, Flamingo was the only area providing overnight accommodations, beyond tent and recreational vehicle (RV) camping, to park visitors. Due to the loss of available services and accommodations at Flamingo, the National Park Service (NPS) was asked by the public to expedite the process for determining the site's future. As a result, the park embarked on a planning process, through the development of a Commercial Services Plan and Environmental Assessment (CSP/EA), to identify options and make decisions about Flamingo. The park is considering repairing and/or replacing the damaged facilities.

The Draft EA was released for public review on November 17, 2007 and did not identify a preferred alternative, but did include a statement of findings that covered all of the alternatives considered. Following receipt of public comment on the Draft EA, a preferred alternative was developed that integrated components of both action alternatives from the draft (alternatives B and C). The preferred alternative, referred to as alternative D, includes the reconstruction of the lodge, pool, restaurant, and cottages. Certain facilities damaged by past hurricanes would also be rebuilt or replaced (amphitheater, NPS employee housing, maintenance facilities, concessioner housing, two backcountry campsites). The site design and the redevelopment of the Flamingo area would allow the area to function more efficiently than it did in the past, and would facilitate pedestrian and bicycle access and circulation. The lodge and cottages would be located in proximity to the marina and visitor center, while the RV campsite would remain at T Loop. A Flamingo circulator shuttle would transport visitors to key destinations within the Flamingo area and a "Yellow Bike" system would provide overnight guests with enhanced access to the lodging, marina, restaurant, and other visitor services, while reducing the frequency of private vehicle use. Eco Pond would remain a visitor use area while it continues to restore naturally in the coming years. As a result of this reconfiguration, approximately 50 acres within the Flamingo developed area would be restored to its prior natural conditions as part of the park's coastal prairie and mangrove ecosystems, including 28 acres at the former B and C Loops and 22 acres in the old lodge and cottage areas. Figure 1 depicts the site development and services proposed under the preferred alternative.

Justification for the Use of Floodplain

The Flamingo developed area totals about 600 acres and is located within a designated high hazard zone floodplain (see Figure 2). There is a history of flooding in the area, most recently with the storms related to hurricanes Katrina and Wilma in 2005 that inundated all of Flamingo. At that time, the lodge, cottages, restaurant, gift shop, marina store, some housing facilities, and the café were closed due to the damage caused by strong winds and storm surges, which reached levels of four to eight feet in various Flamingo locations. Only the marina store has reopened. Although the NPS is under executive order and policy to reduce or eliminate development in floodplain, in the Flamingo area this is not possible because the entire

area falls within the 100 year floodplain. As identified in Figure 2, the “VE” zone (100 year floodplain with storm wave hazard) extends about 1,000 feet in from the shoreline, and the “AE” zone (the rest of the 100 year floodplain without wave hazard) continues indefinitely landward. Most all of the Everglades National Park is in the 100 year floodplain. Therefore, the redevelopment of Flamingo must occur within the floodplain, but the extent of development, placement of structures, and types of structures and associated facilities can be selected to minimize impacts.

Rather than repeat information described in the Draft Plan/EA and the Preferred Alternative documents, this paragraph provides references to those documents as they relate to project floodplain conditions and impacts. The documents can be viewed at the NPS Planning, Environment, and Public Comment website: <http://parkplanning.nps.gov>, selecting “Everglades NP” from the drop down box, then “Flamingo CSP/EA”, and then going to “Document List” to view either the Draft Plan/EA or the Preferred Alternative. A description of floodplain resources is provided in the Draft CSP/EA, Chapter 3, page 27. Floodplain impacts for alternatives A, Band C are described in the Draft Plan/EA, Chapter 3, pages 38 – 39, and on page 22 of the Preferred Alternative (impacts are the same as alternative C). The basis for determining that a Statement of Finding for Wetlands is not required for this project is fully described in the Draft CSP/EA, Chapter 3, page 29. In short, the rebuilding of Flamingo as described in this project would occur within the developed area and affect only previously disturbed or filled areas. Areas proposed to be restored would not include any new disturbance of wetlands.

If adverse impacts to wetlands would occur from a proposed project, a Statement of Findings is prepared, unless the actions are accepted for various reasons provided in Procedural Manual 77-1, section 4.2(A). These include actions designed for restoring wetlands and water dependent actions that have minor impacts. As described more fully below in the analysis, the rebuilding or redesigning of Flamingo’s commercial services under any alternative would stay within the developed area and affect only previously disturbed or filled areas, thereby avoiding impacts to wetlands. Indirect impacts may include minor effects from use of boats in shallow areas and at launch sites; however, these are related to water dependent use and would generally result in negligible to minor and very localized effects. The chickees would be located below low low tide, out of the intertidal area, and no construction would occur on nearby islands. The restoration proposed for wetlands that had been previously filled for development would not include any new disturbance of wetlands, and it is expected that any area that would be restored to original grade would likely revert to wetland and develop an initial vegetation cover within about one year (Zimmerman, pers. comm., 2007). For these reasons, a Statement of Findings for wetlands was not required for this project.

Investigation of Alternative Sites/Site-Specific Flood Risk Impacts of the Preferred Alternative

Alternative A (No Action)

Under this alternative, concessions at Flamingo would function according to current uses, which primarily focus on day users. Only the campground and limited marina slips would be available for overnight use. Certain facilities damaged by past hurricanes would be rebuilt (amphitheater, NPS employee housing, maintenance facilities, concessioner housing, backcountry chickees) (see EA, figure 2-1). The reconstruction would occur primarily in the high hazard/storm surge hazard zone, with the exception of the maintenance facility that lies further inland. Lands where the lodge and cottages used to be sited would be restored; this area is also in the high hazard storm surge zone. Flood and storm surge risk would continue to include loss of structures, creation of debris, and damage from flooding. Overall, proposed construction and replacement of facilities would cover less than one acre of floodplain, with elevation of structures comprising most of the facilities to be rebuilt, thereby reducing the actual surface footprint considerably. An additional 28 acres of floodplain (the former B and C campground loops and a majority of the former lodge and cottage site) would be restored in the high hazard zone.

Alternative B – Flamingo Rebuilt

This alternative would involve reconstruction of the lodge and cottage in the same general location, within the high hazard/storm surge zone. Additional areas (the former B and C campground loops) would be restored in the high hazard zone (see EA, figure 2-2). Risks of replacing structures in the floodplain would be the same as alternative A: flood damage and loss of structures, creation of debris, plus possible releases of materials from the lodge and restaurant facilities (e.g. swimming pool chlorine, oils and greases). Overall, proposed construction and replacement of facilities would cover about five acres of floodplain, with elevation of structures comprising most of the facilities to be rebuilt, thereby reducing the actual surface footprint considerably. An additional 50 areas of floodplain (the former B and C campground loops and a majority of the former lodge and cottage site) would be restored in the high hazard zone.

Alternative C – Flamingo Redesigned

This alternative would include the lodge and cottage reconstruction in the same general area, but would relocate the RVs to the area next to the visitor center and add 40 ecotents in a portion of the area currently used for group and walk-in camping, set back from the Florida Bay shoreline. Additional areas of floodplain would be restored (the former B, C and T campground loops and a sizeable area around Eco Pond) (see EA, figure 2-4). Risks of replacing structures in the floodplain would be the same as alternatives A and B: flood damage and loss of structures, creation of debris, plus possible releases of materials from the lodge and restaurant facilities (e.g. oils and greases). Overall, proposed construction and replacement of facilities would cover about five acres of floodplain, with elevation of structures comprising most of the facilities to be rebuilt, thereby reducing the actual surface footprint considerably. An additional 87 acres of floodplain (the former B and C campground loops and a majority of the former lodge and cottage site) would be restored in the high hazard zone.

Alternative D – Preferred Alternative

The preferred alternative is largely a combination of elements from alternatives B and C, and would involve reconstruction of the lodge (with a restaurant and swimming pool) and cottages near the visitor center, in the location formerly occupied by the old lodge, within the VE high hazard/storm surge zone. The RV campground would remain in the T loop, in the AE zone. About 40 ecotents and the replacement amphitheater would be added in a portion of the area currently used for group and walk-in camping, set back from the Florida Bay shoreline, but in the VE zone. Replacement housing would fall within the VE zone, and the maintenance shop would fall within the AE zone. Overall, proposed construction and replacement of facilities would cover about five acres of floodplain, with elevation of structures comprising most of the facilities to be rebuilt, thereby reducing the actual surface footprint considerably. An additional 50 acres of floodplain (the former B and C campground loops and a majority of the former lodge and cottage site) would be restored in the high hazard zone.

Impacts on floodplains would result from the continued presence of structures, replacement of structures, and continued day use of the Flamingo area, which is all within the 100-year floodplain. Existing structures would be susceptible to flooding and damage during hurricanes or large tropical storm events, and any new facilities in the study area would be constructed within the floodplain, adding to the risk associated with hurricanes and storms. However, all new facilities except the maintenance shop would be raised to protect them against the forces of hurricanes and be built to “hurricane-proof” standards, which would also help reduce the surface area of the floodplain that is permanently covered with buildings and reduce losses from hurricanes. The maintenance shop would be built on an elevated fill pad and meet all required building codes. The continuation of the uses and replacement of structures in the Flamingo area that are not elevated within a floodplain would result in long-term localized minor to moderate adverse impacts. However, all new structures would be elevated one way or another. The ecotents and possibly

some of the concessioner housing would be designed to be seasonal, and would be removed during the off season and in the case of impending hurricanes. Removal of the former lodge buildings and cottages would eliminate the potential risk associated with their presence, and the restoration of the majority of the area where they stood, along with the restoration of the B and C loops in the campground, would restore 50 acres of the natural floodplain of the Flamingo area and remove hazards from human use in these areas, a long-term, localized, moderate beneficial effect.

Conclusion

The continuation and rebuilding of the uses and structures in the Flamingo area would result in long-term localized moderate adverse impacts on floodplains, but there would be moderate beneficial effects from the removal of the old lodge and cottage structures, consolidation and elevation of structures, use of flood resistant design, and restoration of approximately 50 acres within the Flamingo developed area to its prior natural conditions as part of the park's coastal prairie and mangrove ecosystems, including 28 acres at the former B and C Loops and 22 acres in the old lodge and cottage areas (see Figure 1 for location of floodplain areas to be restored). Alternative D would not produce major adverse impacts on floodplains.

The conservation and protection of floodplain resources of floodplain is (1) necessary to fulfill specific purposes identified in the establishing legislation of the park, (2) key to the natural and cultural resource integrity of the park or opportunities for enjoyment of the park, or (3) identified as a goal in park management and policy documents or other National Park Service planning documents. Consequently, there would be no impairment of floodplains as a result of the implementation of alternative D.

Flood Mitigation Plans

- The overall developed footprint in the 100-year floodplain would be reduced as much as possible, given the limits and development concepts for each alternative.
- All new structures would be constructed on previously disturbed areas that have already been filled. No new fill is anticipated unless necessary for foundation purposes. No areas that are not already filled would be subject to filling or grading.
- In accordance with EO 11988, flood protection would be provided by elevating permanent accommodations, which would be built to the 2004 Florida Building Code standards for a High Hazard Hurricane Zone. The NPS would operate the area using the Everglades National Park Hurricane Plan, which is coordinated with the Monroe County Emergency Management Department. The replacement employee housing and concessioner housing would be elevated structures; the maintenance facility would meet all hurricane building codes.
- The alternatives also include the restoration of large tracts of previously developed land (see next page for details). Any sites no longer needed for replacement of facilities would be restored. This would include portions of the areas where the lodge buildings and duplex cottages stood (under all alternatives), as well as areas that would no longer be used due to consolidation and reconfiguring of the overall Flamingo area. The exact type of restoration would depend on the size and location of the area, but would generally include removal of building materials and fill or other impervious surface materials (paving), followed by grading to historic contours. Then, either the area would be allowed to revegetate naturally (coastal prairie habitat in most cases), or native species would be planted consistent with desired vegetative conditions and the surrounding landscape. NPS would monitor the area to assess the progress of revegetation and/or any plantings and the presence of any non-native species.
- Site restoration would result in the reestablishment of about 50 acres coastal prairie and mangrove habitat in the floodplain (see Figure 1 Areas to be Restored). If restored to coastal prairie or mangrove communities, vegetation will return that will help to reduce the effects of storm surges and flooding in the area.

- Construction of the lodge, cottage, ecotent, and RV parking will use permeable paving material to increase infiltration and reduce runoff.
- The proposed ecotents and possibly some concessioner housing would be designed to be seasonal, so that all but the foundations could be removed during the off-season, minimizing the potential for damages.

Summary

Because all of the Flamingo area is in a 100-year floodplain, the proposed commercial services and associated facilities proposed for alternative D must be located in a floodplain; there are no other siting alternatives. The continuation of uses and rebuilding of structures and facilities in the Flamingo area would result in risks from the possibility of flooding and wind/storm surge damage, with localized adverse impacts on floodplains, but there would be moderate beneficial effects from the consolidation of facilities, elevation of structures, use of flood resistant design, and restoration of a large area of previously disturbed floodplain. Therefore, floodplain values would be protected to the maximum extent possible and potential flood hazards would be minimized.

The National Park Service concludes that there is no practical alternative for replacement of the lodge, cottages, camping facilities, and other ancillary facilities as described above for alternative D, the preferred alternative. Mitigation and compliance with regulations and policies to prevent impacts to water quality, floodplain values, and loss of property or human life would be strictly adhered to during and after the construction. Individual permits with other federal and cooperating state and local agencies would be obtained prior to construction activities. No long-term adverse impacts would occur from the Preferred Alternative. Therefore, the National Park Service finds the Preferred Alternative to be acceptable under Executive Order 11988 for the protection of floodplains.

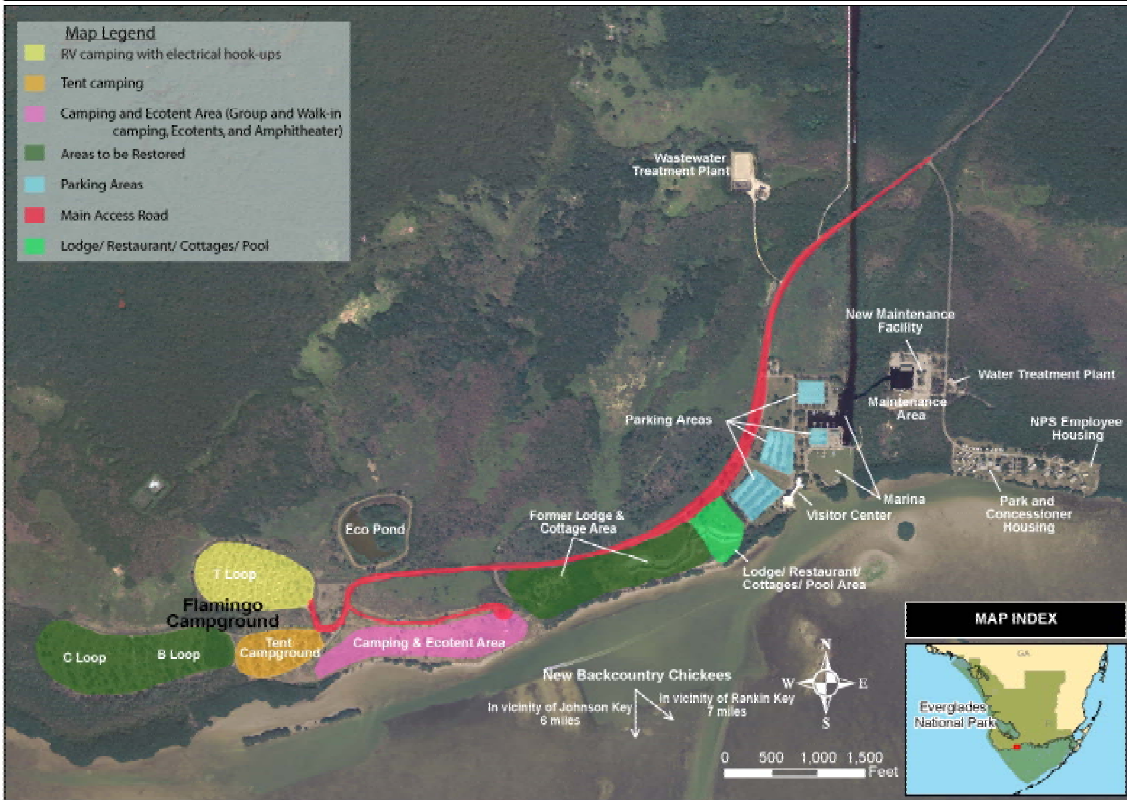


Figure 1: Alternative D (Preferred Alternative)



Figure 2 – FEMA Flood Rate Insurance Map No. 612087c0675k (FEMA 2006; Dated 2/18/05)