

**National Park Service
U.S. Department of the Interior**



**Big Bend National Park
Texas**

CONSTRUCT NEW HOUSING AND OPERATIONS FACILITIES FINDING OF NO SIGNIFICANT IMPACT

Big Bend National Park is significant because it contains the most representative example of the Chihuahuan Desert ecosystem in the United States. The Park's river, desert, and mountain environments support an extraordinary richness of biological diversity, including endemic plants and animals, and provide unparalleled recreation opportunities. The geologic features and Cretaceous and Tertiary fossils in Big Bend National Park furnish opportunities to study the sedimentary and igneous processes. Archeological and historic resources provide examples of cultural interaction in the Big Bend Region and varied ways humans adapted to the desert and river environments. The Park has national significance as the largest protected area of Chihuahuan Desert topography and ecology in the United States and has international significance as a designated biosphere reserve.

An Environmental Assessment (EA) was prepared to examine the environmental impacts associated with the proposal to construct new housing and other facilities within the Park. The new construction would occur at Panther Junction, Rio Grande Village, and Castolon

The Proposed Action is needed to replace substandard housing currently being used by Big Bend National Park staff and by the concessionaire. Additional housing and associated facilities are needed to accommodate existing and additional Park and concessionaire staff. Additionally, the U.S. Border Patrol is proposing to expand their staff located at Big Bend National Park. Additional housing and related facilities are needed to accommodate these needs as well. The preferred alternative was selected after a careful review of resource and visitor impacts and public comment. Concerns identified during scoping and evaluated in the EA included water use, floodplains and endangered species.

The proposed project is needed to provide a safe, healthy, functional, and efficient working environment for the Big Bend National Park staff, concessionaires, and U.S. Border Patrol. Specifically, the project is needed to replace substandard housing currently being used by Big Bend National Park staff and by the concessionaire. Additional housing and associated facilities are needed to accommodate existing and additional Park and concessionaire staff. Additionally, the U.S. Border Patrol is proposing to expand their staff located at Big Bend National Park. Additional housing and facilities are needed to accommodate these needs as well.

This document records 1) a Finding of No Significant Impact as required by the National Environmental Policy Act of 1969 and 2) a determination of no impairment as required by the NPS Organic Act of 1916.

PREFERRED ALTERNATIVE

The preferred alternative is the construction of new housing and other facilities at Panther Junction, Castolon and Rio Grande Village, all within Big Bend National Park. The construction at Panther Junction would include: a new duplex; new storage building; expansion of the gas station/ convenient store; new NPS, U.S. Border Patrol and concession housing units; a new NPS, U.S. Border Patrol and Concession law enforcement complex; a new NPS and Border Patrol law enforcement complex, and; new recreational facilities. The new construction at the Rio Grande Village location would include two new U.S. Border Patrol houses, a new NPS law enforcement ranger house, a concession duplex, and expansion of the NPS seasonal RV pad area with three new hookup sites. The new facilities at the Castolon location would include two new U.S. Border Patrol houses and a new NPS law enforcement ranger house.

MITIGATING MEASURES

Under the preferred alternative, the permit will be conditioned by requiring the following:

- To mitigate adverse effects to site 41BS611 in the Panther Junction area, the Park has developed a Memorandum of Agreement (MOA) in consultation with the Texas State Historic Preservation Office (SHPO) to recover data from the site through archeological excavations that will take place prior to ground disturbing activities.
- NPS will consider compatible architectural designs for structures or buildings to be constructed in the view shed of any Mission 66 properties. Such compatible architectural designs will not detract from the values of the Mission 66 properties in Panther Junction or Rio Grande Village.
- Should construction unearth previously undiscovered cultural resources, work will be stopped in the area of discovery and the Park would consult with the state historic preservation officer and the Advisory Council on Historic Preservation, as necessary, according to §36 CFR 800.13, Post Review Discoveries. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) will be followed.
- The Park's Archeologist will meet with contractors during a preconstruction meeting to educate them about reporting any cultural resource materials they might encounter. The Archeologist will also conduct periodic inspections of ditches and other ground disturbances during construction.
- To minimize the amount of ground disturbance, staging and stockpiling areas would be located in previously disturbed areas, away from visitor use areas to the extent possible. All staging and stockpiling areas would be returned to pre-construction conditions following construction.
- Revegetation efforts would strive to reconstruct the natural spacing, abundance, and diversity of native plant species in disturbed areas. No foreign materials with the potential to introduce exotic plant species would be brought into the area.
- The contractor would coordinate with the Park's biologists if vegetation clearing required the removal of more than a few small trees. To reduce the amount of vegetation trampling, the construction crew would limit work to a use corridor of within six feet of each building footprint to the extent possible.

- Park-listed sensitive plants near the proposed project area would be flagged for avoidance prior to the start of construction work. Park biologists would collect seeds from sensitive plant species in the project area for a seed bank, and some of these seeds may be used in revegetating the project areas.
- All crew members and volunteers assisting in the construction efforts would be educated about the importance of avoiding impacts to sensitive resources that have been flagged for avoidance, which may include sensitive plants and cultural resources.
- Because disturbed soils are susceptible to erosion until revegetation is successfully established, standard erosion control measures such as jute matting would be used as necessary to minimize any potential soil erosion.
- According to *Management Policies 2006*, the NPS would strive to construct the facilities with a sustainable design to minimize potential environmental impacts. Development would not compete with or dominate Park features, or interfere with natural processes, such as the seasonal migration of wildlife or hydrologic activity. To the extent possible, the design and management of the facilities would emphasize environmentally sensitive construction, use of nontoxic materials, resource conservation, recycling, and integration of visitors with natural and cultural settings.
- Mitigation for exterior facility lighting needs will be addressed with night-sky friendly fixtures, with shielding to maintain direct lighting only below the horizontal plane of the fixture.

ALTERNATIVES CONSIDERED

During August of 2007, an interdisciplinary team of NPS employees met for the purpose of developing project alternatives. This meeting resulted in the definition of project objectives as described in the Purpose and Need, and a list of alternatives that could potentially meet these objectives. One Action alternative and the No Action alternative were identified as reasonable and were carried forward for further evaluation in the Environmental Assessment.

This No Action presents the baseline, or current conditions, from which to evaluate impacts of other action alternatives. Under this alternative, no new housing and operations facilities would be constructed. NPS staff who would have moved into the new housing would continue to reside in substandard or temporary housing, as would concessionaire staff. The new U.S. Border Patrol staff that would have moved into the new housing would have to consider offsite locations, which would be detrimental to their mission, or make a decision on new housing within the Park outside of the NPS planning process. The existing U.S. Border Patrol staff would have to remain in substandard housing or new trailers would be brought in for them. Space for the storage and maintenance of operations equipment at Panther Junction would continue to be in short supply. In addition, office space would continue to be in short supply and the current crowded conditions would continue to persist. The No Action alternative was not selected.

The Action alternative is the construction of new housing and other facilities at Panther Junction, Rio Grande Village, and Castolon. Specifically, the construction would include:

Panther Junction Location

- Duplex for Big Bend Natural History Association staff (one, new)

- Storage Building for Science and Resource Management staff and equipment (new)
- Gas Station/ Convenience Store expansion (laundry facilities, showers and parking)
- U.S. Border Patrol Housing (two, as replacement for existing trailers)
- U.S. Border Patrol Housing (two, new)
- Law Enforcement Complex, including
- U.S. Border Patrol Offices
- NPS Law Enforcement
 - Ranger Staff Offices
 - Detention Center
 - Bus/Boat Bays
 - River Operations and Search/Rescue Caches
 - Driveway, parking lot and utilities
- Housing Complex, including
 - Concession Housing (up to 3 dorms)
 - NPS Staff Housing (seasonal)
- Fire Dorm
- Recreational Facility
- Tennis Court

Rio Grande Village Location

- U.S. Border Patrol Housing (two, new)
- Law Enforcement Ranger Housing (one, new)
- Concession Duplex
- Expand NPS Staff Seasonal RV Pad area by adding 3 hookup sites

Castolon Location

- U.S. Border Patrol Housing (two, new)
- Law Enforcement Ranger Housing (one, new)

The No Action alternative does not meet the project purpose because it retains facilities that are not up to standard to house NPS staff and concessionaire staff, as well as meet the needs of the U.S. Border Patrol. This alternative causes ongoing impacts to Park operations.

The Proposed Action to construct new facilities is the Environmentally Preferred Alternative, because it facilitates the best balance between Park operations and preservation of resources. No new information came forward from public scoping or consultation with other agencies to

necessitate the development of any new alternatives, other than those described and evaluated in this document. Because it meets the Purpose and Need for the project, the project objectives, and is the Environmentally Preferred Alternative, the Proposed Action to construct new facilities is also recommended as the NPS Preferred Alternative.

WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined in 40 CFR §1508.27, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse. A significant effect may exist even if the agency believes that on balance the effect will be beneficial.

The construction of three new houses and three new RV hook-up sites at the Rio Grande Village employee housing area could potentially increase the demand on groundwater and subsequently affect spring flows to wetland/riparian habitat. No construction activities would occur within or near the ponds occupied by the Big Bend gambusia. The mitigation measures mentioned in the Environmental Assessment would be employed to prevent any decreased water quality or contamination of the gambusia habitat. Following the conservation and recovery objectives set forth in the Big Bend Gambusia Recovery Plan a new drinking water system is under construction in Rio Grande Village.

Because a portion of the new construction would occur in a designated floodplain or flood hazard area, a Statement of Findings for floodplains has been prepared. The Statement of Findings concluded that there will be no adverse affect to the floodplain.

Impacts to park operations from the Preferred Alternative are generally positive. Since the intent of the project is to replace substandard housing, construct new housing, improve storage facilities and increase office space, these objectives would directly and indirectly improve operations at the Park. Replacement of existing substandard housing would improve the living conditions of current staff located in those structures. Subsequent benefits would be expected to include improved job satisfaction, better morale and longer retention of staff. All of the proposed improvements would contribute to improved day-to-day operations in the Park.

Degree of effect on public health or safety

The park's aging infrastructure, unimproved sections of road, overcrowded parking lots, and utilities are no longer sufficient to support park operations. The current housing used by Park staff and the concessionaire is substandard and unable to accommodate the planned staff expansions by the U.S. Border Patrol. The number of staff working at the headquarters facility at Panther Junction has grown significantly which in turn has increased the need for office space and storage needs beyond what the current facility is able to accommodate.

Construction of new housing and other facilities within the park will have a positive effect on the Big Bend National Park staff, concessionaries and U.S. Border Patrol; and how/where they conduct their work and how/where they live.

Degree to which effects on the quality of the human environment are likely to be highly controversial

New construction under the Preferred Alternative would have a minor to moderate benefit on Park operations because the new law enforcement complex and staff housing would provide a less crowded working and living environment. These effects are not likely to be controversial.

The Preferred Alternative would result in minor adverse effects to the Mission 66 structures and features at Panther Junction and Rio Grande Village. The new facilities in Panther Junction are not accessible to Park visitors and are sufficiently distant that they would visually merge into the existing array of structures already in place in the administrative areas of Panther Junction and the visual effect would be negligible. Although the proposed new U.S. Border Patrol housing and the proposed Big Bend Natural History Association duplex are adjacent to part of the original Mission 66 era roadbed, there will be no physical or visual effect on that road. The proposed housing complex for NPS and concession staff as well as the duplex proposed for the Big Bend Natural History Association may be within the viewshed of Mission 66 era employee housing. Because the NPS will consider compatible architectural design that will not detract from the values of the Mission 66 properties, this alternative will have no adverse effect on the Mission 66 properties.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks

As previously described, effects involved in the Preferred Alternative are not likely to be controversial and be minor in nature. Mitigating measures employed will further reduce the negative effects.. Therefore, there were no highly uncertain or unique or unknown risks identified.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration

Because the Preferred Alternative is similar to other NPS-approved activities that have occurred in the past (facilities construction), action for this project will not set any NPS precedent. The preferred alternative is consistent with those permitted elsewhere.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts

No major (significant) cumulative effects were identified in the EA.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

The Preferred Alternative would result in minor adverse effects to the Mission 66 structures and features at Panther Junction and Rio Grande Village. The new facilities in Panther Junction are not accessible to Park visitors and are sufficiently distant that they would visually merge into the existing array of structures already in place in the administrative areas of Panther Junction and the visual effect would be negligible. Although the proposed new U.S. Border Patrol housing and the proposed Big Bend Natural History Association duplex are adjacent to part of the original Mission 66 era roadbed, there will be no physical or visual

effect on that road. The proposed housing complex for NPS and concession staff as well as the duplex proposed for the Big Bend Natural History Association may be within the viewshed of Mission 66 era employee housing. Because the NPS will consider compatible architectural design that will not detract from the values of the Mission 66 properties, this alternative will have no adverse effect on the Mission 66 properties. Since no historic resources have been identified at the Castolon location, there would be no impacts to historic resources at this location. The Preferred Alternative would result in moderate adverse impacts to site 41BS611 in Panther Junction. The new construction for a law enforcement center, proposed storage building, and burial of utilities would impact this site. After applying the Advisory Council on Historic Preservation's criteria of adverse effect (36 CFR 800.5, Assessment of Adverse Effects), the NPS concludes that the implementation of the Preferred Alternative would have an adverse effect on site 41BS611. To mitigate adverse impacts upon effected areas of the site, the NPS developed and submitted a Memorandum of Agreement (MOA) for Recovery of Significant Information to the Texas State Historic Preservation Officer (SHPO). The SHPO signed concurrence with the MOA on March 23, 2009.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat

The Preferred Alternative could potentially increase the demand on groundwater and subsequently affect spring flows to wetland/riparian habitat. No construction activities would occur within or near the ponds occupied by the Big Bend gambusia. The mitigation measures mentioned in the Environmental Assessment would be employed to prevent any decreased water quality or contamination of the gambusia habitat. Following the conservation and recovery objectives set forth in the Big Bend Gambusia Recovery Plan a new drinking water system is under construction in Rio Grande Village. An April 7, 2009 letter from the NPS to the USFWS outlined issues associated with domestic water use at Rio Grande Village, outlined a process whereby the NPS will monitor to determine whether use of the new well will effect gambusia spring flow, and committed the NPS to ensuring overall domestic water use at Rio Grande Village would remain within the range of variability experienced in recent years. On April 24, 2009, the USFWS concurred that the Preferred Alternative, including the NPS commitment, is not likely to effect threatened or endangered species.

Whether the action threatens a violation of Federal, state, or local environmental protection law

This action violates no federal, state, or local environmental protection laws.

APPROPRIATE USE, UNACCEPTABLE IMPACTS, AND IMPAIRMENT

Sections 1.5 and 8.12 of NPS *Management Policies* underscore the fact that not all uses are allowable or appropriate in units of the National Park System. The proposed use was screened to determine consistency with applicable laws, executive orders, regulations, and policies; consistency with existing plans for public use and resource management; actual and potential effects to park resources; total costs to the Park Service; and whether the public interest would be served. The proposed construction of new park facilities is critical for staffing, operation and management of the park. Therefore, the Park Service finds that the preferred alternative is an appropriate use. Because the application of mitigating measures is expected to be successful in ensuring that no major adverse impacts would

occur and that satisfactory reclamation of the disturbed area is expected to be achievable, implementation of the preferred alternative would not result in any unacceptable impacts.

In analyzing impairments in the NEPA analysis for this project the NPS takes into account the fact that if an impairment were likely to occur, such impacts would be considered to be major or significant under CEQ regulations. This is because the context and intensity of the impact would be sufficient to render what would normally be a minor or moderate impact to be major or significant. Taking this into consideration, NPS guidance documents note that "Not all major or significant impacts under a NEPA analysis are impairments. However, all impairments to NPS resources and values would constitute a major or significant impact under NEPA. If an impact results in impairment, the action should be modified to lessen the impact level. If the impairment cannot be avoided by modifying the proposed action, that action cannot be selected for implementation." (Interim Technical Guidance on Assessing Impacts and Impairment to Natural Resources" National Park Service, Natural Resource Program Center, July 2003).

In addition to reviewing the definition of "significantly" under the NEPA regulations, the NPS has determined that implementation of the preferred alternative would not constitute an impairment to the integrity of Big Bend National Park's resources or values as described by NPS *Management Policies* (NPS 2006 § 1.4). This conclusion is based on the NPS's analysis of the environmental impacts of the proposed action as described in the EA, the public comments received, relevant scientific studies, and the professional judgment of the decision-maker guided by the direction in 2006 NPS *Management Policies*. The EA identified less than major adverse impacts on soils, cultural resources, lightscapes, park operations, special status species, water resources, and floodplains. This conclusion is further based on the Superintendent's professional judgment, as guided and informed by Big Bend National Park General Management Plan. Although the plan/project has some negative impacts, in all cases these adverse impacts are the result of actions taken to preserve and restore other park resources and values. Overall, the plan results in benefits to park resources and values, opportunities for their enjoyment, and it does not result in their impairment.

PUBLIC INVOLVEMENT

The environmental assessment was made available for public review and comment during a 30-day period ending September 19, 2008. A total of three responses were received. Letters were received from the International Boundary and Water Commission (IBWC), Lone Star Chapter of the Sierra Club, and the Texas Parks and Wildlife Department (TPWD). The IBWC letter was in support of the project. The other two letters provided a range of comments and questions.

Substantive comments to the EA centered on project description, purpose, alternatives, water resources, wetlands, floodplains, protected species, and archeological resources. These concerns resulted in no changes to the text of the environmental assessment but are addressed in errata sheets attached to this FONSI. The FONSI and errata sheets will be sent to all commentors.

CONCLUSION

As described above, the preferred alternative does not constitute an action meeting the criteria that normally require preparation of an environmental impact statement (EIS). The

preferred alternative will not have a significant effect on the human environment. Environmental impacts that could occur are limited in context and intensity, with generally adverse impacts that range from localized to widespread, short- to long-term, and negligible to moderate. There are no unmitigated adverse effects on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

Approved:

Michael Snyder

Regional Director, Intermountain Region

6/1/09

Date

ERRATA SHEETS
CONSTRUCT NEW HOUSING AND OPERATIONS FACILITIES
ENVIRONMENTAL ASSESSMENT
BIG BEND NATIONAL PARK

Substantive comments on this Environmental Assessment centered on project description, purpose, alternatives, water resources, wetlands, floodplains, protected species, and archeological resources. The topics, which are addressed below, resulted in minor changes to the text of the environmental assessment.

TEXT CHANGES

Page 11 – The statement regarding tree removal was revised to state, “Trees to be removed, if any, would consist of a few small mesquite trees.”

Page 19 – The statement regarding vegetation (“if vegetation clearing required the removal of more than a few small trees”) was removed.

Appendix B – Coordination letters from the Texas Historic Commission (dated March 27, 2009) and the U.S. Fish and Wildlife Service (concurrence stamp dated April 24, 2009) have been received.

Appendix C – Signed, final floodplain Statements of Finding are now complete.

SUBSTANTIVE COMMENTS

SIERRA CLUB LETTER

Project Description, Purpose and Alternatives

Comment: There are no alternatives that look at fewer U.S. Border Patrol locations in BBNP. There are no alternatives that look at U.S. Border Patrol locations both inside and outside of BBNP in a combined alternative.

Response: The range of alternatives was limited to developed areas in the Park and is consistent with the development identified in the 2004 Big Bend National Park General Management Plan (GMP). Other options were considered unreasonable due to potential environmental effects (construction in undeveloped areas) and distance (construction outside the Park). As discussed in the EA, due to the limited availability of offsite private housing combined with the distance, the utilization of offsite private housing was dismissed as a viable alternative for implementing the proposed project.

Comment: There are no descriptions, not just for U.S. Border Patrol facilities, about the total number of units, how many people will use them, and the total area in acres that will be disturbed and paved and developed by each structure.

Response: Descriptions of the facilities, including those to be used by Border Patrol is indicated at various locations in the EA. Maximum occupancy at residential units (6 new, 2 replacement) is expected to be five persons, but given an expected mix of agents that are either single, married, or married with children, the average occupancy is estimated at two

to three persons. Acreage of the construction footprints is discussed in the Soils section of the EA. In addition, the general size and location of the areas to be disturbed are indicated on Figures 2, 3 and 4 in the EA.

Comment: Where is the Housing Management Plan that is required by 9.4.3.1 of the NPS Management Policies 2006?

Response: The Big Bend National Park Housing Management Plan (2006) can be found at the Big Bend National Park headquarters office.

Comment: There is no information about the actions performed by the U.S. Border Patrol in BBNP in the past and currently. What actions do they perform? How many do they perform? What are the trends of these actions? How do they compare to other locations where the U.S. Border Patrol operates?

Response: The general activities of the U.S. Border Patrol in the Park include patrol and other activities associated with preventing illegal entry of persons and products into the U.S.. The specific operations of the U.S. Border Patrol were considered beyond the scope of actions to be analyzed and evaluated in this EA.

Comment: The Sierra Club does not understand why a tennis court and recreational facility is needed when the best recreational facility in the State of Texas, BBNP, is available for exercise and emotional and spiritual restoration.

Response: The tennis court and recreational facility are intended to provide employees, their families, and students of the school (located at Panther Junction) , access to physical fitness and extracurricular activities available to most communities and school children in communities elsewhere. Admittedly, employees, family members, and students who live in the park enjoy the *added* benefit of outdoor activities available in the Park.

Comment: "The park's aging infrastructure, unimproved sections of road, overcrowded parking lots, and utilities are no longer sufficient to support park operations." Where is the quantitative data to support this assertion? How old is each building to be torn down or expanded? How many miles or square feet of unimproved sections of road are there? How overcrowded are the parking lots? How are the utilities no longer sufficient to support park operations? Where is the comparison in specific numbers between now and the proposed future?

Response: The need to improve the Park's infrastructure is documented in the BBNP GMP. Specific information on Park use, traffic, operations and aging infrastructure is on file at the Park headquarters.

Comment: Impact Topics Dismissed From Further Analysis, what does "significant measurable change" mean?

Response: Definition of significant measurable change varies with impact topic, and these are defined within each topic discussion.

Water Resources and Wetlands

Comment: How much will drainage patterns be altered? What level of flow change will occur? Where will this water go that it did not go before?

Response: Drainage patterns will be altered due to the earthwork involved in construction of the facilities. Overland flow will be altered within the construction footprints, generally less than one acre (except for the office complex at Panther Junction – approximately two acres). Flows reaching the tributary system will remain generally unchanged.

Comment: What type of monitoring will be done? How often will it be done? How well does NPS know the hydrological connections of springs, ponds and wetlands and the impact that water use will have on them?

Response: Park staff recognizes the importance of water as a limiting resource in BBNP. As such, meter reading and other forms of monitoring are continuously performed to assess current conditions and document change over time. The Rio Grande Village domestic water supply well, and monitoring wells near endangered mosquitofish ponds and springs will be monitored continually into the foreseeable future.

Comment: What does “not expected to be adversely affected by the project” mean? What does “negligible effects to water resources” mean? What does “negligible net effect on water resources” mean? What is the risk of environmental degradation or destruction?

Response: Unless otherwise indicated, definitions of terms in the EA are consistent with definitions found in *Merriam-Webster’s Desk Dictionary* or, if applicable, as they are defined within their regulatory context. For topics dismissed in the EA, environmental degradation or destruction, if measurable at all, is not expected to be consequential.

Comment: Wetlands should be an issue in this EA with environmental impacts analyzed, assessed, and evaluated since the federally endangered Big Bend Gambusia depends on them for its existence.

Response: Because of the distance between the project and the wetlands at Rio Grande Village, direct effects to wetlands would not occur. Indirect effects to wetlands due to water use are discussed in the EA as related to water quality and quantity.

Floodplains

Comment: Floodplains, because several of the locations are in the 100 year floodplain and are endangered by flash floods or other floods floodplains should be an issue in this EA with environmental impacts analyzed, assessed, and evaluated. NPS is disingenuous when it says that floodplains are not an issue.

Response: An analysis of the options and risks involved with proposed development within the floodplain was performed according to NPS policy and Executive Order 11988. The analysis and conclusions were documented in Flood Hazard Analyses for Panther Junction and Rio Grande Village. The analysis concluded that risk to people and structures at the sites proposed for action under the proposal is minimal and that no long-term adverse effects would occur from the alternative.

Miscellaneous

Comment: Air Quality, what does “substantial enough”; “minimal dust”; and “negligible degradation of local air quality” mean?

Response: Context for the terms are included in the referenced text, and indicate these amounts will not constitute a change in general air quality conditions. ,

Comment: Vegetation, what does “negligible to minor” mean? Wildlife, what does “negligible to minor” mean? Soundscape Management, what does negligible impacts” and “not expected to significantly increase the noise levels” mean? Visitor Use and Experience, what does “would not have impacts greater than negligible “mean?

Response: Context for understanding the terms are included in the referenced narratives.

Comment: Alternatives Analyzed, the NPS does not assess, analyze, and evaluate sufficient alternatives.

Response: The alternatives analyzed are consistent with the actions identified and approved in the BBNP GMP.

Comment: Is there really a need for laundry facilities and showers at the store?

Response: Currently the only laundry and shower facilities parkwide are located at Rio Grande Village, at the extreme southeast edge of the park. Rio Grande Village is more than 30 miles from the development and campground in the Chisos Basin, and 55 miles from the Castolon development and campground. Panther Junction is a central location, much more accessible from all areas of the park

Comment: Mitigation Measures, what does “compatible architectural designs mean? What does “to the extent possible” mean? What does “Appropriate measures” mean?

Response: As stated in the referenced narrative, “compatible architectural designs” indicate designs that do not detract from the values of Mission 66 properties.

Response: As indicated in the referenced narrative, “appropriate measures” are those necessary to prevent spills.

Comment: Why does NPS simply “strive” to reconstruct the natural spacing, abundance and diversity of native plant species in disturbed areas” and “construct the facilities with a sustainable design to minimize potential environmental impacts”? Why not just say you will do it?

Response: Other factors yet to be identified may affect certain commitments and objectives stated in the EA. These factors include cost, maintenance, feasibility and consistency with future planning efforts.

Comment: Vegetation, NPS states “No trees will be moved for the project” and yet on page 19 NPS states “if vegetation clearing required the removal of more than a few small trees”. Which statement is correct?

Response: The first statement was revised and the second reference was removed. Trees to be removed, if any, would consist of small desert trees such as mesquite.

Comment: How many U.S. Border Patrol personnel are currently in BBNP and how many will be in BBNP when the construction is complete?

Response: Two U.S. Border Patrol personnel currently live in Big Bend National Park. Eight U.S. Border Patrol personnel are expected to be stationed in the park in the future.

Comment: NPS must quantify in the EA’s assessment impacts and the methodology must remove the “conclusory statements” that Judge Bates ruled against. Ultimately the EA

must ask and answer the question "Why are moderate environmental impacts acceptable in the National Park System?"

Response: NPS managers must always seek ways to avoid, or to minimize to the greatest extent practicable, adverse impacts on park resources and values. However, the laws do give the Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, so long as the impact does not constitute impairment of the affected resources and values

Comment: The following words or phrases (including the criteria themselves- negligible, minor, moderate, and major), are not defined, inadequately defined:

1. What do these phrases mean in the context cited in the text and quantitatively?
2. Is the uncertainty great or small?
3. What is the probability, risk, potential, and likelihood of these events happening?

Response: The words and phrases are defined in the Environmental Consequences section, and further given context in each analysis topic narrative. It is the opinion of the NPS that these words and phrases are adequately defined within the context of this assessment and given the scope of this action.

Comment: The Sierra Club requests that NPS clarify and detail clearly the comparative differences between each alternative and define clearly what the words or phrases used mean?

Response: The comparative differences of the alternatives are discussed in the EA, and concisely compared in Table 2 (Environmental Impact Summary by Alternative). Words with regulatory context are defined in the Environmental Consequences section, in each analysis topic narrative, and with context provided.

Comment: 23) Panther Junction, NPS calls the "Multi-Use Trail, Picnic Area and Parking" but the August 18, 2008 NPS news release calls the proposal the "Multi-Use Mountain Bike Trail. NPS should be consistent in its terminology.

Response: The press release includes reference to the picnic and parking areas.

Comment: 24) Soils, what do "runoff is medium on undisturbed soil"; "Wind and water erosion are only slight"; "Limitations for excavation for foundations are moderate"; "surface runoff is medium"; "with slow to medium surface runoff"; "moderate wind erosion hazard for undisturbed soils"; "Occasional flooding"; "Tornillo soil is highly erodible and well drained"; "surface runoff is slow to medium"; "soil is well drained; "Surface runoff is medium"; "only slight hazards" mean?

Response: Various qualitative terms used in describing soils are standard terms used by the Natural Resource Conservation Service. These references can be found in the *Soil Survey of Big Bend National Park* (U.S. Soil Conservation Service 1985)

Comment: Pages 28 and 29, Impacts of Alternative B (Preferred Alternative), what does the NPS mean when it says "less than 10 acres of new soil disturbance"; "would disturb less than one acre". NPS needs to be exact. Less than 10 acres could be 0.5 acres to 9.5 acres. What is it?

Response: The exact area of disturbance was not known at the time the EA was being prepared. A rough estimate at that time put the area of disturbance between five and ten acres.

Comment: What does “where practicable” mean?

Response: Other factors yet to be identified may affect certain commitments and objectives stated in the EA. These factors include cost, maintenance, feasibility and consistency with future planning efforts. During final design and construction, opportunities to implement these commitments and objectives will be evaluated (i.e., where practicable).

Archeological Resources

Comment: Pages 35 and 36 Archeological Resources, Impacts of Alternative B (Preferred Alternatives, it is unbelievable that the NPS states that the destruction and degradation of an archeological site, 41BS611, that is on the National Register of Historic Places (NRHP), is only a “moderate adverse effect”. How can collecting data from the site be true mitigation because archeologists admit that the best mitigation is to leave a site alone? Where are the most effective concepts, techniques, and equipment? They should be delineated specifically in the EA.

Response: Site 41BS611 is not listed on the NRHP, but has been determined “eligible” for listing. A Data Recovery Plan for the site, detailing the methods, techniques and analytical framework to be used and the portions of the site affected by the project, has been approved by the State Historic Preservation Office. Artifacts recovered during the project, the results of any analyses and the professional report will be preserved according to NPS Collections Management Policy. SHPO approval and related conditions are outlined in the concurrence letter dated March 27, 2009.

Comment: NPS if it insists on destroying and degrading this archeological site should prepare an environmental impact statement (EIS) so the public and decision-makers can review, comment on, and understand the environmental impacts of the proposal in detail.

Response: The information presented in the EA regarding Site 41BS611 and the associated Data Recovery Plan approved by the State Historic Preservation Office, supports the Finding of No Significant Impact for this action.

Comment: What does the “maximum extent possible” mean? What does “significantly minimized” mean? What does “substandard and inadequate mean? What does “would have some degree of effect on employees and Park operations” mean?

Response: Such phrases are generally accompanied by context within associated narratives. Words and phrases with regulatory context are defined in the Environmental Consequences section, in each analysis topic narrative, and with context provided.

Comment: NPS does not state how much additional run-off will occur due to construction; how much additional water use will occur; how much additional sewage will be generated; how much taking care of the additional infrastructure will take in time, personnel, and money (budget); how many additional cars will be added; how many additional people will be added; what types of positions will be added and what do these jobs entail. Where is the quantification of the actions and the environmental impacts of these actions? What

does “to a moderate degree” mean? How can such an analysis be made when quantification is almost totally missing?

Response: It is the experience of the NPS that for certain actions each resource area does not require a quantitative analysis in order for a decision to be made. Nor is an exhaustive data gathering effort necessary when the intent is to prepare a concise assessment. It is the opinion of the NPS that the conclusion of the EA is supported by the content therein.

Protected Species

Comment: It is of great concern that NPS continues to develop near the sole location where the Big Bend Gambusia exists in Nature. It further is not reassuring to hear that “Additionally, a commitment was made between the NPS and USFWS that the overall domestic water use at Rio Grande Village would remain within the range of variability experienced within recent years”. What does “recent years” mean? What does “range of variability” mean? How can NPS support more development that has a chance of making this situation worse? This proposal is unacceptable because it increases the risk of degradation and extinction for this species.

Response: The USFWS has prepared a recovery plan for the Big Bend gambusia. Following the conservation and recovery objectives set forth in the *Big Bend Gambusia Recovery Plan* a new drinking water system that no longer diverts water from a spring head has been developed at Rio Grande Village. In addition, habitat improvements continue being made, to enhance, protect and expand available habitat for the gambusia. Regarding water use at Rio Grande Village, a commitment has been made by the NPS to USFWS that the overall domestic water use at Rio Grande Village would remain within the range of variability experienced within recent years (Wellman 2007, Pine 2007). The document references and displays water use statistics from 1996 through 2008. The document is available and on file at the Park headquarters.

Floodplains

Comment: The Sierra Club believes NPS should not put additional development in the 100 year floodplain.

Response: An analysis of the options and risks involved with proposed development within the floodplain was performed according to NPS policy and Executive Order 11988. The analysis and conclusions were documented in Flood Hazard Analyses for Panther Junction and Rio Grande Village. The analysis concluded that risk to people and structures is minimal and that no long-term adverse effects would occur from the alternative.

Climate Change / Sustainability

Comment: How will the proposal be affected by climate change or affect climate change?

Comment: What can NPS do to reduce CO2 or other greenhouse gas emissions due to the proposal?

Comment: What can be done to assist plants and animals so they can adapt to climate change?

Comment: What can be done to create more resilient and resistant habitats and ecosystems?

Comment: NPS should prepare and include in this draft EA, a climate change ecological resilience and resistance plan.

Comment: In particular, the Sierra Club is surprised that NPS has given little or no consideration to the use of alternative energy technologies like solar and wind power and energy efficiency/conservation in this draft EA.

Comment: NPS should also talk about how it will address the increase in use of gasoline or diesel powered vehicles. What use of hybrid vehicles will occur? What van or car pooling will be instituted? How will NPS ensure that it does its part to reduce the climate change effects of transportation in BBNP?

Response:

- Proposed actions would be implemented in accordance with *NPS Management Policies 2006*, which states: "the NPS will strive to construct the facilities with a sustainable design to minimize potential environmental impacts." To the extent possible, the design and management of the facilities would emphasize environmentally sensitive construction, use of nontoxic materials, resource and energy conservation, and recycling.

TEXAS PARKS & WILDLIFE LETTER

Protected Species

Comment: Please bear in mind that native wildlife, including listed or sensitive species, particularly insects, reptiles, small mammals, ground-nesting birds and plants, may be well-adapted to disturbed desert habitats and could be affected by proposed ground disturbing activities. Please revise the DEA to fully evaluate and address potential adverse impacts to these resources.

Response: A review of the proposed construction sites by a park biologist did not indicate the presence of rare/sensitive species. Because of this and the fact that construction is being proposed in already-developed areas, the subject of wildlife values was dismissed as a topic of significance. It is the opinion of the NPS that evaluation of this subject in the EA is appropriate for its level of significance.

Comment: The document should clearly state how impacts to other species were ruled out. If absolutely no habitat is present for any of the other listed or sensitive species, and therefore, there would be no effect/impact on species, then the document should state this. A list of all state and federally listed rare, threatened and endangered species that were considered should be included. Please consult the Brewster County TPWD Annotated List of Rare Species to determine if potential habitat for rare/sensitive species is present. Please evaluate the proposed construction areas for rare/sensitive species and take steps to mitigate any adverse impacts if such species are found.

Response: A review of the proposed construction sites by a park biologist did not indicate the presence of rare/sensitive species. In addition, the BBNP GMP referenced and evaluated the Special Species list provided by TPWD in the development of the proposed action in the GMP, which includes the action proposed in this EA. This evaluation concluded that, other than the federally listed species previously discussed, only the

common black hawk might occur in the vicinity of the actions described in the GMP and that effects to this species would be unlikely.

Comment: TPWD recommends that any sensitive plant species for which avoidance and/or seed salvage occur as mitigative measures on page 19 be identified in the DEA and addressed in the Special Status Species section on page 42. If none are present, the EA should state that this concern was evaluated, then dismissed.

Response: A review of the proposed construction sites by a park biologist did not indicate the presence of rare/sensitive species.

Comment: Use the Brewster County TPWD Annotated List of Rare Species and the records from the TXNDD to determine if potential habitat for rare/sensitive species is present. TPWD recommends that the DEA disclose acreage amounts of disturbance and the limits of vegetation disturbance for the proposed construction. Evaluate the proposed construction areas for rare/sensitive species and take steps to mitigate any adverse impacts if such species are found. Minimize destruction of any native vegetation in order to maximize preservation of existing wildlife and habitat.

Response: The EA identified federally listed and candidate species that could be affected by project implementation and analyzed impacts on those affected species. A list of federally threatened, endangered, and candidate species for Brewster County, Texas was downloaded from the USFWS, Southwest Region's website. The TXNDD was not consulted but a scoping letter was sent to the Region 1 TPWD office. No reply was received. A review of the proposed construction sites by a park biologist did not indicate the presence of rare/sensitive species. Acreage of the construction footprints is discussed in the Soils section of the EA. In addition, the general size and location of the areas to be disturbed are indicated on Figures 2, 3 and 4 in the EA

Comment: In observance of the MBTA, all harm from construction noise, or related activities, to migratory birds should be avoided during the nesting season, including harassment that would preclude successful breeding and rearing of young. If warranted, construction should be phased to avoid impacts to migratory birds.

Response: As discussed in the EA, the subject of wildlife values was dismissed as a topic of significance since the proposed activities are not locations with rare/sensitive species, and would occur in developed areas. In addition, the proposed locations are sparsely vegetated and generally lacking of extensive habitat for migratory birds. However, construction crews will be made aware of the potential presence of nesting birds and will take precautions to minimize harm from construction noise, or related activities.