

# **General Conservation Plan for Single-family/Duplex Residential Development in Alabama Beach Mouse Habitat**

Alabama Ecological Services Field Office  
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## **EXECUTIVE SUMMARY**

The U.S. Fish and Wildlife Service (Service) has prepared, and proposes to make available for use by the public for a term of 20 years, a General Conservation Plan (GCP) that addresses incidental take of the endangered Alabama beach mouse (ABM) (*Peromyscus polionotus ammobates*) resulting from minor residential development activities on the Fort Morgan Peninsula, Baldwin County, Alabama. We anticipate that this GCP would act as an umbrella document for qualifying landowners who need an incidental take permit (ITP) pursuant to section 10(a)(1)(B) of the Endangered Species Act (Act) within an estimated 1,143 acres of ABM foraging, sheltering, and nesting habitat. The GCP portion of this document identifies the minimization and mitigation measures that would be required of individual landowners wishing to participate. This document has been prepared by the Service, in accordance with the Act, the National Environmental Policy Act (NEPA) and Council of Environmental Quality (CEQ) regulations to fully assess the environmental impacts associated with the issuance of 10(a)(1)(B) permits for residential development.

## **I. General Conservation Plan**

### **Introduction**

We are developing this GCP to address the conservation needs of the ABM, pursuant to section 10(a)(1)(B) of the Act, and would provide the basis for the issuance of ITPs to landowners for low-density (single-family or duplex) residential development. The GCP would play an important role in the overall effort to conserve the ABM and its habitat. Along with existing ITPs, and their associated Habitat Conservation Plans (HCPs), the GCP would contribute to long-term conservation of ABM and would also streamline the processing of ABM ITPs by the Service. The GCP is intended to meet the statutory requirements of Section 10 of the Act, and is designed to streamline review and permitting of Covered Activities that potentially would result in incidental take of the ABM.

The GCP would help advance a number of local environmental and economic objectives. It provides an alternative to the existing project-by-project approach to endangered species permitting of low-impact development. Furthermore, the plan offers a more comprehensive conservation program that would afford greater benefits to listed species and create a more efficient and timely process, thereby enabling private project proponents a greater opportunity to effectively satisfy the requirements of the Act. By identifying conservation needs, the GCP

would provide much needed certainty to the land use and development process and help achieve a reasonable balance between natural resources preservation and economic growth. Specifically, the overall objectives of the GCP are to:

- Provide a predictable and streamlined process which private land-owners may use, on a voluntary basis, to develop their properties, while achieving compliance with the Act;
- Provide for the long-term conservation of the ABM through the avoidance, preservation and restoration of habitat areas;
- Ensure that impacts to ABM resulting from Covered Activities are appropriately minimized and mitigated consistent with the requirements of the Act; and
- Allow for development on the Fort Morgan Peninsula, based upon current (2006) zoning, while maintaining habitat and habitat continuity for ABM conservation.

## 1.1 Overview/Background

Since 2002, the Service has been recommending individual lot owners within ABM habitat on the Fort Morgan Peninsula to obtain ITPs prior to development on their property. Development without an ITP could result in a take violation of Section 9 of the Act. The GCP would allow for incidental take of the ABM for covered activities which have been determined to result in minimal direct and indirect effects to the ABM.

This GCP would allow for permitting incidental take of the ABM by individual land owners for residential development (an otherwise legal activity) that would result in minor impacts to the coastal dune habitat. The GCP would also require implementation of conservation measures designed to avoid take of two species of nesting sea turtle. The GCP addresses the anticipated incidental take of the ABM and avoidance of impacts to nesting sea turtles, while identifying minimization, mitigation, and conservation measures to be implemented by each permit holder.

About 1,143 acres of ABM habitat within the Plan Area would be eligible for inclusion under the GCP, of which a maximum of 75 acres could be permitted to be destroyed, and all ABM within these 75 acres incidentally taken. The Service believes this amount of take would allow for the construction of about 400 new single-residences or duplexes, containing about 500 total units (lots zoned R2 or R4 could build two units per lot) with a maximum impact of 0.1 acre per unit, and up to 500 minimal additions to existing residences (e.g. additional room, deck, pool, storage shed) with a maximum new impact of 0.05 acre per lot. The GCP would cover indirect take associated with occupancy of existing residences and the rebuild of residences damaged by hurricanes, as long as the rebuild does not exceed the developed footprint<sup>1</sup> of the original structure. The GCP would also permit take associated with some temporary impacts, providing the impacted areas are restored to pre-project conditions.

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<sup>1</sup> Throughout this document “developed footprint” refers to the maximum exterior perimeter of the developed area of the residence (the roof drip-line), stairs, deck (exterior rail or support posts), parking area/driveway (outside border of concrete or other material) and other developed features (e.g. pool, outbuilding).

Minimization and mitigation efforts are designed to reduce the amount of direct and indirect take to the ABM and nesting sea turtles by reducing exposure to predators and competitors, minimizing light pollution, maintaining habitat connectivity, and restoration of degraded habitats. Compliance with the requirements of the GCP would help assure that survival and recovery of the covered species would not be appreciably reduced by implementation of the GCP and the biological goals and objectives for the covered species would be realized.

## **1.2 Permit Duration**

It is anticipated that this GCP would be available for use for a term of 20 years. The term for each ITP issued under the GCP would last for 50 years.

## **1.3 Regulatory/Legal Framework**

The GCP has been developed in accordance with Section 10(a)(1)(B) of the Act. The GCP is a mechanism whereby a private property owner, proposing to construct a single-family or duplex residence, and willing to minimize and mitigate unavoidable impacts, can be permitted to incidentally take a threatened/endangered species. The required content of the GCP is described as follows (Service, 1996):

1. Define the boundary of the GCP, setting the physical limits inside which take would be authorized.
2. Identify the biological data and resources within the GCP boundary.
3. Quantify the anticipated levels of take and appropriate mitigation.
4. Provide information on the direct, indirect, and cumulative effects to the covered species, including site specific biological information.

The GCP must also comply with the requirements of the Service's 5-point policy (65 FR 35242):

1. The biological goals and objectives of the GCP must be defined.
2. Monitoring and reporting requirements must be established.
3. An adaptive management plan must be developed to address uncertainty.
4. The duration of the permit must be defined.
5. The public will be given the opportunity to provide input on this GCP.

In order for the Service to issue 10(a)(1)(B) permits under the GCP, the following issuance criteria must be met:

1. The taking will be incidental to otherwise legal activities.
2. Each applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking.
3. Each applicant will ensure there is adequate funding to implement their portion of the GCP and include procedures to deal with unforeseen circumstances.
4. The taking will not appreciably reduce the likelihood of survival and recovery of the covered species in the wild.
5. Each applicant will ensure that other measures required by the Service as being necessary and appropriate will be adhered to.

6. Each applicant will provide assurances that conditions required in the GCP will be implemented.

## **1.4 Plan Area**

The Plan Area encompasses all developable areas on the Fort Morgan Peninsula determined to provide habitat for the ABM. The Plan Area includes the land area west of Little Lagoon Pass along both sides of Hwy 182 (West Beach Boulevard) to its western terminus at the Perdue Unit (PU) of Bon Secour National Wildlife Refuge (BSNWR). The PU is not included in the Plan Area because it is part of BSNWR and is restricted from development. The few single-family inholding lots which are located within the PU are not eligible to participate in this GCP due to the direct and indirect effects to the PU that could result from development of these lots. However, inholding property owners can submit HCPs and ITP applications for Service review on an individual basis. At the western boundary of the PU, the Plan Area begins again and expands northward to the edge of Mobile Bay and encompasses all lands westward to the eastern boundary of the Fort Morgan State Historic Site (FMSHS), at the western tip of the Peninsula.

Only lots zoned low-density single-family or duplex (R1 or R2, or their equivalents based on the 2006 Baldwin County zoning for the Fort Morgan Peninsula and the 2001 Gulf Shores zoning for West Beach) located within the Plan Area are eligible for inclusion under the GCP. Development within lots zoned moderate or high density (R4 and R6) may be permitted under the GCP, but only if developed at one of the lower (R1 or R2) densities. The Service has determined that all lots within the Plan Area may contain elements of suitable ABM habitat, including open sandy areas in the process of dune formation, interdunal areas, and associated natural dune vegetation. The habitat within these lots may be occupied by the ABM.

## **2.0 Environmental Setting/Biological Resources**

### **2.1 Environmental Setting**

Most of the Gulf of Mexico coastline of Alabama, including Baldwin County, is comprised of barrier islands and peninsulas. The Fort Morgan Peninsula is situated in southern Baldwin County and is bordered by the Gulf of Mexico to the south, Mobile Pass to the west, Bon Secour Bay to the North, and the City of Gulf Shores to the east. The southern coast consists of white sand beaches and dunes which attract a variety of residents and tourists. Unlike heavily developed cities to the east, the majority of development on the western portion of the Peninsula exists as single-family homes, although some high-rise structures are visible from the beach or Highway (Hwy) 180. The shoreline has white quartz sand beaches with shallow blue waters. Tidal range is about 1-2 feet. The coastline topography in Baldwin County is primarily flat, with gradual slopes heading inland.

The major soil series along the Peninsula are Coastal Beaches, St. Lucie sand, and St. Lucie-Leon-Muck complex (NRCS 1964). Wind driven sand or water is responsible for most of the topographic features of the Peninsula. The natural communities located on Peninsula include:

wet beach; primary and secondary dunes (frontal dunes); tertiary dunes; scrub dunes; interdunal swales; wetlands; and maritime strand forests.

The Fort Morgan Peninsula remained relatively undeveloped until after Hurricane Fredric in 1979. Development trends shifted in the mid 1980s, from small single-family homes to hotels and high-density condominiums. As beachfront property in the cities of Orange Beach and Gulf Shores has been developed, development pressures have shifted westward to the Fort Morgan Peninsula. There are currently about 450 undeveloped lots on the Fort Morgan Peninsula within the area determined to be occupied by the ABM. A majority of these lots (about 300) are currently zoned single-family residential. About 100 lots are zoned for duplex or moderate density residential, with the remaining 50 lots zoned for commercial or high density development. **Table 1** provides a breakdown of the estimated number of lots in each zoning category and the potential loss of habitat from new construction authorized by this GCP.

Table 1. Estimated potential ABM habitat loss on undeveloped lots authorized by the GCP.

Zoning	Estimated Number of Vacant Lots	Total Number of Units Allowed*	Acres of ABM Habitat Impacted**
R1	299	299	29.9
R2	47	94	9.4
R4	49	98	9.8
R6	13	0	0
B	37	0	0
<b>Total</b>	<b>445</b>	<b>511</b>	<b>51.1</b>

\* R2 and R4 were calculated as allowing a maximum of 2 units per lot.

\*\* ABM habitat loss was calculated by multiplying the maximum allowable footprint (0.1 acre) by the total number of units.

## 2.2 Species of Concern in the Plan Area

The lots in the Plan Area lie within an area considered to be habitat for the ABM. About 160 lots are also located completely, or partially, within designated Critical Habitat (CH) for the ABM. Only areas south of the CCCL are designated CH for about 40 of the lots, therefore no construction impacts would occur in CH on these lots. Of the 120 lots containing CH which could be impacted, about 58 are zoned R1 (limited to 0.1 acre impact for a total of 5.8 acres) and the remaining 62 lots are zoned R2 or R4 (limited to 0.2 acre impact per lot, totaling 12.4 acres). The total amount of CH impacts authorized by the GCP would not exceed 18.2 acres. Construction of residences and eventual occupancy may result in the incidental take of ABM, and/or modification of CH, and thus expose the land owners to a potential violation of Section 9 of the Act. Authorization, therefore, would be sought for incidental taking of ABM resulting from the construction and occupancy of the proposed residences.

The Service has determined that the habitat in this area is capable of supporting ABM, therefore occupancy by ABM is considered likely. Because an individual animal's home range is larger

than the typical lot size, it is always possible that beach mice could occur on the construction site during construction and thus be exposed to a taking. Even though ABM are nocturnal and not likely to be out of their burrows during daylight construction periods, construction activities could result in harassment, harm, or death of an ABM in a burrow. Because incidental take is difficult to detect for a nocturnal, semi-fossorial species such as the ABM, take of the ABM is based on the specific amount of habitat impacted by the action.

The ABM was listed as an endangered species on June 6, 1985 (50 FR 23872). Critical habitat was designated for the ABM at the time of listing and was revised effective March 1, 2007. A Recovery Plan for the ABM was finalized in 1987 and a revision is currently underway. The range of the ABM is confined to the coastal dune area of Baldwin County, Alabama.

Two species of federally protected sea turtles, the loggerhead (*Caretta caretta*) and Kemp's ridley (*Lepidochelys kempii*), use the beaches along Baldwin County's Gulf coast for nesting activities. An average of about 30 sea turtle nests are found along the beaches in the Plan Area each year. Human activities can result in different threats to nesting sea turtles, these include:

- Alteration of adult sea turtle nesting behavior due to artificial light pollution or interference with or obstruction of nesting actions (i.e. leaving equipment on the beach or improper installation of sand fencing);
- Direct impact to the eggs via crushing of nests;
- Attracting nest predators by improper disposal of trash; and
- Alteration of hatchling behavior due to artificial light pollution.

### **3.0 Project Description/Activities Covered by Permit**

#### **3.1 Project Description**

The GCP would cover construction and occupancy of single-family and duplex residences within the Plan Area, as described in Section 2.0.

#### **3.2 Activities Covered by Permit**

Five basic types of construction actions (Covered Activities) would be allowed under the GCP. These would include:

- New single-family/duplex dwellings constructed within ABM habitat with a maximum developed footprint limited to 0.1 acre (4,356 square feet) per unit, including residence, driveway (including access through the road right-of-way), parking, and amenity features that alter the natural topography or vegetation on the site. Special exemptions may be given for applicants needing driveways longer than 100 feet; however in this case, the residential footprint, without driveway impacts included, may not exceed 3,400 square feet. The special exemptions would be granted on a case-by-case basis, after an applicant has demonstrated the driveway impacts have been minimized to the maximum extent practicable.

- Minimal expansion of existing residences, including attached rooms, decks, driveway, parking, or other amenity features. The new impacts would be limited to a maximum of 0.05 acre (2,175 sq ft), provided the total maximum developed footprint on the lot, including the previously developed area, would not exceed 0.1 acre (4,356 sq ft).
- Minimal construction of detached features, such as outbuildings and pools. The maximum direct impact would be limited to 0.05 acre (2,175 sq ft), provided the total maximum developed footprint on the lot, including the previously developed area, would not exceed 0.1 acre (4,356 sq ft).
- Temporary habitat impacts which would result in incidental take of the ABM, with a requirement that temporarily impacted ABM habitat to be restored to pre-project conditions. This option would be used for the installation and maintenance of linear features, including installation of utilities, clearing sand from road shoulders, installation of dune walkovers, and temporary workspace immediately surrounding the construction area for permanent features. This option also includes the removal of sand from the foundation and driveway after tropical storms, provided the sand is used to rebuild dunes on the property. There is no maximum impact restriction for this option since impacts are only temporary; however, habitat impacts must be avoided or minimized to the maximum extent practicable and habitat must be restored to pre-project conditions. Actions which only result in temporary impacts but could adversely affect other environmental resources are not covered by the GCP.
- The repair or reconstruction of residences damaged or destroyed by tropical weather systems, or other natural disasters. This option is limited to two years following the impact of a tropical storm. The rebuilt residence must be identical to the pre-storm developed footprint which was destroyed, unless exceptional circumstances exist (*e.g.*, the pre-storm residence was located south of the CCCL). Reducing the size of the restored residence in order to install an amenity feature, such as a pool, may be allowed under certain circumstances; however, the new feature must be constructed at the same time as the residence is being rebuilt.
- Actions associated with occupancy of an existing residence whose owners wish to be covered for incidental take.

#### **4.0 Potential Biological Impact/Take Assessment**

Activities that are covered under this GCP would result in direct and indirect impacts, both adverse and beneficial, to the ABM and nesting sea turtles.

Data collected by the Service indicate ABM may be found in all habitat types that would be affected within the Plan Area. Occupied habitat areas affected by construction of residences and associated infrastructure may include portions of the primary and secondary dunes, tertiary dunes and the interior scrub dunes. Because of the uncertainty and impracticability of estimating take of individual ABM, we have determined that the extent of take is more appropriately expressed in terms of the amount of ABM habitat impacted by the proposed developments. Approximately 1,143 acres of ABM habitat exists within the Plan Area covered by the GCP, of which a maximum of 75 acres would be permitted to be destroyed, and all ABM within the 75 acres

would be incidentally taken. The Service believes this amount of take would allow for construction of about 400 new single-residences/duplexes, containing about 500 total units, and up to 500 minimal additions to existing residences.

Construction of new single-family or duplex residences, or additions to existing residences, may result in a taking of the ABM incidental to the clearing, excavating, grading, filling and other construction activities involved in developing individual lots. Habitat alteration associated with this GCP may reduce the availability of breeding, feeding, sheltering, and resting habitat within the Plan Area by construction and permanent occupancy of the developed area. Post-construction incidental taking, unless controlled by appropriate restrictions and management practices, could occur as a result of poor refuse management practices, improper deployment of construction materials and equipment, unauthorized lighting, introduction of house cats and house mice, improper pest control practices, and increased pedestrian traffic on dune habitats occupied by ABM.

The ABM may be indirectly affected by: (1) introduction of house mice, a species thought to compete directly with the ABM for limited natural food resources, while also being supported by humans; (2) free-ranging domestic cats that could prey upon resident ABM; (3) unmanaged foot traffic through dune structures, which destroys dune vegetation and thereby initiates additional extensive dune degradation through subsequent wind erosion; (4) storm surges through foot paths in the dunes, with subsequent backwashing and further erosion from storm water; (5) lighting of the natural habitat remaining around buildings and facilities, which might subject ABM to increased predation; and (6) fragmentation of habitat. The effect of breaking up a contiguous block of occupied ABM habitat on the larger population utilizing the area is suspected, but unknown. The effects could extend beyond the obvious direct loss of occupied habitat and affect the larger population of ABM. ABM within the Plan Area are part of a larger population that extends to adjacent habitats intermixed within, and adjacent to, the single-family developable lots.

Fragmentation of habitat can result in restricted gene flow and can isolate small populations and subject them to increased probability of extirpation due to stochastic effects on demography and the environment.

Construction of the boardwalks during the sea turtle nesting season could cause take of nesting sea turtles, their nests, or emerging hatchlings as a result of boardwalk support piling installation or equipment or material storage. Human occupancy and recreational use of the residential areas and commercial facilities can also take sea turtles as a result of: garbage or refuse management; light pollution that may attract sea turtle predators and alter nesting and/or hatching sea turtle behavioral patterns; and recreational activities that cause dune erosion and the loss of sea turtle nesting habitat. In addition, human use of beachfront lots may create a likelihood of injury or death to sea turtle hatchlings through collapse of nests by foot traffic, crushing developing embryos, or entombing emerging hatchlings.

Residential use of beaches can adversely affect nesting sea turtles, incubating egg clutches, and hatchlings (National Research Council 1990). The most serious threat caused by increased



human presence on the beach is the disturbance of nesting females. Murphy (1985) reported that beach disturbance can cause turtles to shift their nesting beaches, delay egg-laying, and select poor nesting sites. Sea turtles are most prone to human disturbance during the initial phases of nesting, from the point of emergence from the water through egg-cavity excavation. (Hirth and Samson 1986, as cited in Witherington and Martin 1996)

Artificial lighting resulting from coastal development can result in disorientation (loss of bearings) and misorientation (incorrect orientation) of nesting and hatchling sea turtles. Visual cues are the primary sea-finding mechanism for hatchlings. (Mrosovsky and Carr 1967, Mrosovsky and Shettleworth 1968, Dickerson and Nelson 1989, Witherington and Bjorndal 1991, as cited by MacPherson 1998) Therefore, lights along the beach may deter female turtles from coming ashore to nest, disorient females trying to return to the surf after nesting, and disorient and misorient emergent hatchlings on the developed and adjacent non-developed beaches. Any source of bright, direct lighting can profoundly affect the orientation of hatchlings, both during the crawl from the beach to the ocean and as they begin swimming offshore.

## **5.0 Measures to Minimize and Mitigate Incidental Take**

### **5.1 Biological Goals and Objectives**

The biological goals of developing and implementing this GCP are to provide a legal means of allowing private landowner development within ABM and sea turtle nesting habitat, while avoiding or minimizing impacts and maintaining sufficient habitat for the survival and possible recovery of the species.

The GCP establishes goals and objectives that would be achieved through implementation of the plan. The conservation measures described in the GCP, including measures to preserve and enhance ABM habitat, have been designed to ensure that these goals and objectives would be met consistent with the long-term survival and recovery of the ABM. Specifically, the goals and objectives of the GCP are:

- Preservation of an average of 75 percent of the ABM habitat located on enrolled properties (based on the average impact of previously permitted low-density ABM ITPs), with no more than a four percent loss of the existing range-wide habitat base;
- Less than two percent loss of designated CH range-wide;
- Avoid and minimize impacts to frontal dunes and high elevation habitats;
- Enhance low quality habitats through active manipulation of vegetation;
- Increasing carrying capacity of ABM habitat through habitat enhancement and restoration after impacts from tropical storms which alter existing dune structure and/or vegetation;
- Maintenance of ecological connectivity of existing ABM habitat along both a north-south and east-west axis; and
- Avoid take of sea turtles through implementation of beneficial conservation measures.

### **5.2 Measures to Minimize Impacts**

Property owners wishing to participate in the GCP must demonstrate that they will implement actions on their property which will benefit the ABM and nesting sea turtles. In addition, direct and indirect impacts to ABM and sea turtles will be avoided or minimized on each applicant's property. Each applicant must submit an ITP application and an agreement to accept the terms and conditions of the GCP in-lieu-of developing their own HCP, for the development of their lot containing a specific development proposal, site plan of the project footprint, mitigation and monitoring proposal, and statement of intent to implement the following Conservation Measures:

- Each permit applicant will meet with a Service biologist to review their application for completeness and compliance with the terms of the GCP. The Service will explain the beach mouse and sea turtle conservation measures and permit conditions required of each permit holder. This will help insure permit applicants understand their responsibilities related to protecting listed species and aid the Service in ensuring compliance with the proposed development footprint and limits on "take" of the ABM.
- County waste disposal services will be used in the plan area. No user of the property may accumulate any refuse capable of attracting rodents. All refuse will be disposed of using a refuse container that is rodent and scavenger-proof.
- No lumber, metals, nor bulk materials will be kept, stored, or accumulated on the property except building materials during construction. Building materials will be stored in neat piles and positioned on the parking pad or driveway to the maximum extent possible. Construction debris will be placed in a bulk refuse container (dumpster) located on site for this purpose. Dumpsters will not be placed in ABM habitat. Each contractor and subcontractor retained for land preparation or construction of the proposed residence will be provided with specific written requirements on all of the conditions controlling construction refuse disposal and removal and limitations on material storage. These prohibitions and reporting provisions are designed to prevent the introduction of predators/competitors.
- Outdoor cats are prohibited within the Plan area. No free-roaming cats will be allowed on any enrolled property. Residents or visitors are prohibited from providing food, shelter or other actions that support the presence of free-roaming cats. All observations of free-roaming cats will be reported to local animal control authorities and to the Service's Alabama Field Office. Pets of property owners and/or renters will be kept on a leash while outside.
- All undeveloped areas of the lot will be maintained in a natural state. Landscaping of the lot is discouraged. If landscaping is proposed, only plants native to the coastal dune system of Alabama will be used. A list of native coastal dune plants is available from the Service. The natural topography of the lot will not be altered for landscaping purposes, with the exception of the construction of new dunes. The use of hay bales is not allowed

because they can introduce exotic weed seeds and fire ants into the area. Mulch is prohibited as it removes open sand areas that are used by the ABM.

- New dune formation may be enhanced by the installation of sand fencing. Sand fencing must be installed in accordance with ADEM guidelines to avoid impacts to nesting sea turtles. These guidelines recommend wood slat fencing, with support posts no larger than two by four inches. Fencing is placed on a diagonal alignment parallel to the shoreline, with each segment not to exceed ten feet in length. Segments of sand fencing are separated by seven to ten feet. Sand fencing will not be placed seaward of the primary dune line or the most seaward vegetated area. If sand fencing is to be placed south of the CCCL, prior authorization must be obtained from ADEM.
- No exterior lighting will be allowed for decorative purposes. The applicant will not install or use any directional outdoor floodlights or any other lights that illuminate any area outside of the residential footprint. Exterior lights will be amber led and cannot exceed 9 watts. All exterior lights must be shielded or hooded. Any lights on dune walkovers must be recessed and no floodlights are permitted at the end of dune walkovers or south of the CCCL. Tinted glass is required for all exterior windows and doors. Applicants must also comply with the lighting ordinance passed by the City of Gulf Shores on November 13, 2006.
- For Gulf-fronting lots, an elevated wooden boardwalk, of a minimum length necessary to extend from the residence to the wet beach, will be constructed to protect the primary and secondary dune area from foot traffic damage. The elevation of the dune walkover must be one foot higher than the highest dune on the property, or a minimum of six feet above grade. If possible, the walkway will be constructed top-down to reduce the impacts of heavy equipment operation on ABM habitat. All boardwalks must comply with ADEM requirements.
- Driveways, including the section crossing the road right of way, shall not exceed in width into the setback area. Driveways longer than 100 feet shall be 12 feet in width. Due to the extensive contamination of coastal dune habitat by gravel/shell after recent hurricanes, driveways must be constructed of paved concrete, asphalt, or some form of environmentally friendly substrate (i.e. geoweb mesh filled with sand). Driving and/or parking in natural areas of the lot (outside of the development footprint) is not permitted.
- During the active sea turtle nesting season (May 1 – September 31), all beach/recreation equipment must be moved at least 100 feet north of the mean-high tide line each day before sundown. At all other times, recreation and beach equipment will not be placed or stored within undeveloped areas of the lot. Outdoor storage facilities will be restricted to the parking area underneath the residence or within an enclosed box attached to the dune walkover.

If at any time during land development activity or subsequent residential construction or occupancy any ABM is killed or found dead, the ITP holder will be required to immediately place the specimen in a secure freezer and shall, within 48 hours, contact the Service's Alabama Ecological Services Field Office and arrange for transfer of the specimen. If any ABM is injured, the ITP holder will likewise contact the Service's Alabama Ecological Services Field Office and follow instructions provided concerning custody, care and disposition.

### **5.3 Measures to Mitigate Unavoidable Impacts**

Each individual applicant under the GCP will be required to minimize their construction footprint to the maximum extent practicable. Impacts related to new construction will not exceed 0.1 acre per unit total per lot, unless a Special Exemption (as described above) is authorized. Impacts related to attached or detached additions to existing structures will not exceed 0.05 acres per residence, with total impacts on these lots not to exceed 0.1 acre. The remainder of natural dune habitat on the lot must be avoided, with topography and native vegetation maintained. Mitigative actions also include active dune restoration within the lots after impacts from tropical weather systems. Each individual applicant would also provide an in-lieu-fee payment, as described below, to help mitigate unavoidable impacts and cover monitoring and reporting, and other ABM conservation actions.

### **5.4 Monitoring and Reporting**

Each ITP holder will allow Service or the State of Alabama Department of Conservation and Natural Resources (ADCNR) personnel, or other persons designated by either agency, to access the property at any time for the purpose of monitoring ABM populations, conducting compliance inspections, implementing predator control measures, or trapping ABM. The Service will continually monitor compliance with the terms and conditions of the GCP and ITP during and after construction. The in-lieu-fee fund described below would provide pooled resources to ensure consistent monitoring. Any violations of permit conditions will be reported to the ITP holder and Service law enforcement, with compliance actions and timelines indicated. Failure to bring the property into compliance could result in enforcement actions by the Service under section 9 of the Act.

During the incidental take permit period, the ITP holder will submit to the Service a report immediately after construction has been completed and annually thereafter, for a period of time to be specified in the permit. The report will describe all activities carried out on the site, amount of permanent and temporary habitat impacts, and implementation of the mitigation and minimization measures set forth above.

### **5.5 Funding**

Costs associated with monitoring ABM on the site and complying with reporting requirements will be borne by the ITP holder primarily through the in-lieu-fee fund described below. The essential features of each individual HCP and ITP which minimize potential adverse effects to the ABM (e.g., position of the residence on the lot, management of construction materials

storage, and elevated wooden boardwalk) would require little costs above that normally associated with construction and maintenance, and supervision of same, and therefore would require no separate financing or financial guarantees of performance. The provision of refuse containers according to specifications herein is an expense that will be the sole responsibility of the permit applicant. Supervision of contractors to assure their compliance with the same provisions is also the sole responsibility of the permit holder. Restoration of natural areas impacted by tropical weather systems would be the financial responsibility of each ITP holder, however the cost of purchasing and installing sand fencing and planting native dune vegetation are relatively minor and may be covered by insurance. The Service and its partners may be able to provide technical assistance for dune restoration following hurricanes.

## **5.6 GCP In-Lieu-Fee**

In addition to on-site conservation of habitat and implementation of conservation measures, property owners issued ITPs under the GCP will pay an in-lieu-fee, to be used for monitoring and other mitigation actions beneficial to the ABM. The mitigative actions include, but are not limited to, habitat restoration or enhancement, purchase of parcels determined to provide hurricane refugia or corridors between habitat patches, and research. The amount each property owner pays will depend on their proposed development footprint. The in-lieu-fee of \$2.30 per square foot of project impacts will total \$7.5 million dollars if all 75 acres of habitat impacts authorized under the GCP are permitted. The in-lieu-fee will be administered by the ACHT, a non-profit organization concerned with preserving the coastal dune ecosystem for future generations. A MOA covering administration of the Fund is included as an appendix.

## **5.7 Adaptive Management and Unforeseen Circumstances**

A final rule detailing conservation plan assurances was published February 23, 1999 (50 CFR Part 17 Vol. 63, No. 35), effective on March 25, 1999. Known as the “No Surprises” rule, it indicates that private landowners are assured that if “unforeseen circumstances” arise, the Service will not require the commitment of additional land or financial compensation, nor impose additional restrictions of the use of land or other natural resources beyond the level otherwise agreed to in the HCP without the consent of the ITP holder. The government is required to honor these assurances as long as the ITP holder is implementing the terms and conditions of the HCP, ITP, and other associated documents in good faith.

Unforeseen circumstances are those that were not, or could not, be anticipated by the GCP, but which are considered to pose a substantial and adverse change in the status of the covered species. According to 50 CFR Part 17 (pp. 8859-8873), the Service has the burden of demonstrating that unforeseen circumstances exist, using the best scientific and commercial data available. These findings must be clearly documented and based upon reliable, technical information regarding the status and habitat requirements of the affected species. In assessing the biological significance of such unforeseen circumstances, the Service will consider, but not

be limited to, the following factors for each HCP issued under the GCP: (1) size of the current range of the ABM; (2) percentage of range adversely affected by the HCP; (3) percentage of range conserved by the HCP; (4) ecological significance of that portion of the range affected by the HCP; (5) level of knowledge about the affected species and the degree of specificity of the species' conservation program under the HCP; and (6) whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

We acknowledge that even with detailed provisions for monitoring, minimizing and mitigating impacts to the ABM, circumstances could arise which were not fully anticipated by the GCP which may result in unanticipated impacts to ABM. Should such an event come to the attention of the Service, we will promptly notify the permit holder. Within ten working days of such notification, representatives of the ITP holder and the Service will discuss the unexpected circumstances, and will agree to appropriate corrective measures. Implementation of any agreed upon measures will begin, if feasible, within ten working days after agreement on corrective measures. Failure to implement protective measures within 60 days of the discovery of unforeseen circumstances may constitute grounds for permit suspension or revocation. We will provide to each ITP holder a written notice of the deadline for implementation of corrective measures.

## **6.0 Alternatives**

Alternatives considered include; (1) the no-action alternative, i.e., not permitting residential development within ABM habitat on the Fort Morgan Peninsula; (2) requiring each individual landowner to develop an HCP for all ABM and sea turtle impacts within their lot and process each HCP separately; and (3) developing a GCP for single-family/duplex residential construction that requires avoidance and minimization of habitat impacts and implementation of conservation measures and mitigation efforts, as described above.

### **6.1 No Action Alternative**

Under the No Action Alternative, the Service would stop consulting on proposed development actions within ABM habitat. While the Service has no intention to do this, in part because our own regulations prevent it, we feel it is important to review this aspect of the No Action Alternative to demonstrate the Environmental Consequences which could result. If we stopped consultations within ABM habitat it would result in, either: (a) future development occurring without the regulatory burden of avoidance, minimization, or mitigation of impacts to listed species; or (b) a virtual halt to future development within the protected species range while the Service consulted on each separate action. The consequences of this alternative would depend to a large degree upon the individual property owners' subsequent actions, Gulf Shores and Baldwin County permitting requirements, or other unforeseen or unidentified factors. If the Service stopped conducting endangered species consultations in this area, property owners would not be protected from ESA Section 9 take prohibitions. Either result under the No Action Alternative would have dramatic effects on a property owners' ability to use their property for its intended purpose and on the continued survival of the ABM and nesting sea turtles.

## **6.2 Development with Permitting in Batches as we currently do**

Under Alternative 2, the Service would continue to process HCPs/ITP applications in Batches. All applications received within a certain timeframe would be processed simultaneously. Previous Batches have taken between 12 and 24 months to process completely, not including the time period from when the application is submitted until the Service begins processing the Batch. Many applicants have waited between two and four years before receiving their permit. If this Alternative is selected, a new Batch would have to be processed every year or two for the foreseeable future, delaying the applicant's ability to use their lots and placing a heavy workload on the Service.

## **6.3 Development as Proposed in this GCP (Preferred Alternative)**

This is the preferred alternative. Under this alternative the Service will complete all required NEPA and ESA documentation evaluating the environmental effects of possible future full buildout of new single-family and duplex development across the range of the ABM and its habitat, including designated CH, and effects to nesting sea turtles. Impacts to ABM and sea turtles would be avoided or minimized and conservation measures would be implemented to benefit these species, while allowing property owners to complete construction on their lots, as long as only minor amounts of take of the ABM would result. This alternative includes residential construction activities which would result in minimal direct, indirect and cumulative effects to the species. Mitigation, which include such measures as: avoidance of the remaining ABM habitat on each lot; implementation of ABM conservation measures; post-hurricane dune restoration; and/or the payment into an in-lieu-fee program (proposal attached), would also be required.