

## Key Deer Assessment Guide

July 29, 2013

The U.S. Fish and Wildlife Service's (Service) FEMA Biological Opinion (BO) dated April 30, 2010, and modified on December 14, 2010, identified 8,205 at-risk parcels intersecting 6,746 acres of habitats that may occasionally be used by the endangered Key deer (*Odocoileus virginianus clavium*) in Monroe County, Florida. The BO also identified an additional 3,510 acres of at-risk lands outside Monroe County's parcel layer not subject to the Rate of Growth Ordinance (ROGO) program.

The at-risk properties were determined by overlaying the County's property parcel layer onto the County's 2009 land cover boundary maps (Monroe County 2009). The County's land cover boundary maps included 13 land cover types. Developed land, undeveloped land, impervious surface, and exotic are considered non-native land cover types. Hammock, pineland, scrub mangrove, freshwater wetland, salt marsh, buttonwood, mangrove, and beach berm are considered native land cover types. The water classification is also considered a native cover type. The minimum mapping unit for land cover polygons was 0.35 acre for hammock and 0.5 acre for all other cover types.

The County's boundary map land cover types containing suitable habitat for the Key deer included all 13 land cover types. We also noted that potential habitat is present only in unincorporated Monroe County (Lower Keys only).

*Species Profile:* The Key deer's historical range was thought to extend from Key Vaca to Key West (Klimstra et al. 1978), although the current range is restricted to 20 to 26 islands within and adjacent to the boundaries of the National Key Deer Refuge and the Great White Heron National Wildlife Refuge. The largest concentration (about 75 percent of the overall population) is found on Big Pine Key (Lopez et al., 2004a). The principal factor influencing the distribution and movement of Key deer is the location and availability of freshwater. Key deer swim easily between keys and use all islands in their range during the wet season, but suitable water is available on only 13 of the 26 islands during the dry season (Folk 1991). Key deer use all habitat types including pine rocklands, hardwood hammocks, buttonwood salt marshes, mangrove wetlands, freshwater wetlands, and disturbed/developed areas (Lopez 2001). The deer use uplands more than wetlands (Lopez et al. 2004b). Key deer use these habitats for foraging, cover, shelter, fawning, and bedding. Pine rocklands hold freshwater year round and are especially important to Key deer survival. About 34 percent of the range is pine rocklands and hardwood hammocks (Lopez et al. 2004c), and over 85 percent of fawning occurs in these two habitats (Hardin 1974). Five of 26 islands occupied by Key deer have significant pine rocklands. Key deer also use residential and commercial areas extensively where they feed on ornamental plants and grasses and can seek refuge from biting insects.

The greatest number of at-risk parcels (4,925 parcels or 60 percent) are on Big Pine and No Name Keys. The Service issued a Section 10(a)(1)(B) Incidental Take Permit (ITP) to Monroe County, Florida Department of Transportation, and Florida Department of Community Affairs in June 2006 for adverse effects from development on Big Pine and No Name Keys. The ITP authorizes take of 4 Key deer per year and 168 acres of Key deer habitat. The take will be incidental to land clearing for development and recreational improvements. The Service issued

the ITP to the applicants based upon their development of a Habitat Conservation Plan (HCP) that sets guidelines for development activities on Big Pine and No Name Keys to occur progressively over the permit period (20 years). The HCP provides avoidance, minimization, and mitigation measures to offset impacts to covered species, including the Key deer. Mitigation includes the protection of three mitigation units for each development unit of suitable habitat within the plan area.

*Threats:* The principle threat to Key deer is native habitat loss and fragmentation due to development (Klimstra et al., 1974). Fencing associated with development may cause direct Key deer habitat loss by preventing access to areas used for breeding, feeding, and sheltering. Native habitat that is fenced is no longer available for use by the Key deer and the fencing may block access to other areas. Residential and commercial development over the past 20 years has increased the number of vehicles and vehicular traffic in the Keys. This additional traffic has increased the likelihood of Key deer/vehicle collisions

*Assessment Guide:* In order to provide assistance in assessing threats to the Key deer from a given project, the Service has developed the following guidance and recommendations that, if implemented, will minimize adverse effects to the Key deer. If the use of this guide results in a determination of “no effect” for a particular project, the Service supports this determination. If the use of this guide results in a determination of “not likely to adversely affect” (NLAA), the Service concurs with this determination and no additional correspondence is necessary. If the use of this guide results in a “may affect” determination, then additional coordination with the Service is necessary prior to permit issuance. For projects that result in a “*may affect*” determination, if, after reviewing the specific project and assessing its potential effects to federally listed species, the Service determines that the project will result in take, the Service will notify FEMA and the acreage of impacts will be subtracted from the take limits provided in the BO. This guide is subject to revision as necessary.

- A.** Parcel is not in the species focus area and/or on the Real Estate (RE) parcel list.... *no effect*  
 Parcel is in the species focus area or on the RE parcel list.....*go to B*
- B.** Parcel is on Big Pine Key or No Name Key ..... *refer to HCP for coverage*  
 Parcel is not on Big Pine Key or No Name Key.....*go to C*
- C.** Parcel includes one of referenced permanent freshwater sources.....*go to D*  
 Not as above.....*go to E*
- D.** The applicant’s proposed action does not restrict access to the referenced permanent freshwater.....*go to E*  
 Not as above ..... *may affect*
- E.** Parcel contains only non-native habitat (developed land, undeveloped land, impervious surfaces, or exotic).....*go to H*

Parcel contains native habitat (hammock, pineland, scrub mangrove, freshwater wetland, salt marsh, buttonwood, mangrove, or beach berm).....*go to F*

**F.** The proposed action will not remove or modify native habitat ..... *go to H*

The proposed action will remove or modify native habitat. A vegetation survey is required to document the native plant species and size present on the property and a general description of the surrounding properties within 500 feet is also required. Once complete ...  
.....*go to G*

**G.** The property is less than 1 acre **AND** is **not** adjacent to contiguous native habitat greater than 1 acre ..... *go to H*

The property is greater than 1 acre **OR** the property (regardless of size) is adjacent to contiguous native habitat greater than 1 acre in size..... *may affect*

**H.** The applicant has proposed either on-site or off-site habitat compensation\* commensurate with the amount of native habitat lost.....*go to I*

The applicant is not proposing habitat compensation\* or the proposed habitat compensation\* does not meet minimum compensation requirements.....*may affect*

**I.** The proposed action does not include fencing or includes fencing that complies with the attached May 2012 Key deer fencing guidelines.....*NLAA*

The proposed action includes fencing that is not compliant with the attached Key deer fencing guidelines. Habitat fragmented by non-compliant fencing will be considered a deduction from the not-to-exceed habitat acreage losses referenced in the BO...*may affect*

**\*Habitat Compensation**

The minimum recommended habitat compensation is replacement of lost vegetation through protection or restoration of habitat, and/or monetary contributions to accomplish the aforementioned activities, according to the participating community’s land development regulations. The Service has reviewed the following participating communities’ Codes of Ordinances governing habitat compensation and found them to meet minimum recommended habitat compensation: Monroe County, Part II, Chapter 18, Sections 118-2 and 118-8; City of Marathon, Article 2, Chapter 106; Village of Islamorada, Part II, Chapter 30, Article VII, Division 4, Section 30-1616; and Key West, Part II, Subpart B, Chapter 110, Article V, Section 110-223 and Section 110-225, and Article VI, Division 2, Section 110-287 and Division 3, Section 324 and 327. The cities of Key Colony Beach and Layton were determined to not have ordinances that meet the minimum recommended habitat compensation. If the participating community proposes to modify the habitat compensation requirements of their ordinance, additional review by the Service will be necessary.

If habitat compensation is being provided in excess of the minimum recommended, the Service may consider the additional compensation as a credit to the not-to-exceed habitat acreage losses referenced in the BO. To be considered for credit, the compensation must be like for like habitat compensation and credit will be granted at half value. For example, if 4 acres of additional

compensation are provided, the credit granted would be 2 acres. This partial credit is considered appropriate as existing vegetation currently provides benefit and the credit vegetation may not provide the same habitat benefit until later in time.

### Monitoring and Reporting Effects

For the Service to monitor cumulative effects and to track incidental take exempted for the Key deer, it is important for FEMA and the NFIP participants to monitor the number of permits and provide information to the Service regarding the number of permits issued. In order to meet the reporting requirements in the BO, we request that FEMA and/or the NFIP participants send to the Service an annual database summary consisting of: project date, permit number, project acreage, native impact acreage, amount of acres and/or number of trees/plants replaced as habitat compensation, and project location in latitude and longitude in decimal degrees.

### Literature Cited

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## KEY DEER FENCING GUIDELINES

May 2012

The Key deer is a federally-listed endangered species endemic to the Lower Florida Keys. Loss of habitat is the major threat to the future of the Key deer. Nearly half of the islands in the range of the deer are currently inhabited by people, and eight have large subdivisions and commercial areas. Habitat degradation and fragmentation have reduced the Key deer's distribution and affected behavior. Habitat fragmentation from fencing and development restricts deer movements, creating bottlenecks that interfere with their ability to reach permanent water and feeding areas and often forcing them to cross roads in areas of heavy traffic where they are susceptible to roadkill. Vehicular strikes are the greatest known source of deer deaths, and typically account for about 70 percent of all known deaths.

Fencing of private property throughout the range of the Key deer is currently regulated by the Monroe County Comprehensive Plan and Land Development Regulation (114-20), with more stringent rules in effect for Big Pine and No Name Keys (114-20(3)). Specific deer-friendly design standards are incorporated in the code and include fence setbacks from roadways and maximum fencing allowances under various zoning and habitat conditions. As fencing of private lands throughout the range of the Key deer proceeds, comprehensive fencing guidelines are needed that recognize the needs of the private citizens and the cumulative impacts of fencing on the Key deer herd.

To this end, we are applying the Monroe County Comprehensive Plan and Land Development Regulation below, in its entirety, to Big Pine and No Name Keys. For other islands with parcels that fall within the Key deer focus area but outside of Big Pine and No Name Keys, we are only applying items c. through f. of Sec. 114-20(3) (below). Only a minor segment of the Key deer population (about 10%) occurs outside of Big Pine and No Name Keys, and there are no prior records of negative fencing effects on Key deer on other islands where habitat occurs in large, native patches and is less likely to be fragmented by fencing.

### Monroe County Big Pine and No Name Keys Fencing Regulations 114-20(3)

#### Sec. 114-20(3). Big Pine and No Name Key.

The purpose of this section is to recognize and provide for the particular habitat needs of the Florida Key Deer (*Odocoileus virginianus clavium*) on Big Pine Key and No Name Key so that deer movement throughout Big Pine Key and No Name Key is not hindered while allowing for reasonable use of minimal fencing for the purposes of safety and protection of property. In addition to all other standards set forth in this section, all fences located on Big Pine Key and No Name Key shall meet the standards of this subsection as listed below:

- a. In the improved subdivision (IS) land use district, fences shall be set back as follows:
  1. On canal lots, fences shall be set back at least 15 feet from the edge of abutting street rights-of-way; and built to the edge of all other property lines or as approved through a U.S. Fish and Wildlife Service coordination letter; and

2. On all other lots, fences shall be set back at least 15 feet from the edge of abutting street rights-of-way, at least five feet from side property lines and at least ten feet from the rear property line, or as approved through a U.S. Fish and Wildlife Service coordination letter.
  - b. In all other land use districts, fences may enclose up to a maximum of and not to exceed the net buildable area of the parcel only.
  - c. Enclosure of the freshwater wetlands by fences is prohibited.
  - d. All fences shall be designed and located such that Key Deer access to native habitat, including pinelands, hammocks, beach berms, salt marshes, buttonwoods and mangroves is maintained wherever possible.
  - e. All fences shall be designed and located such that Key Deer corridors, as identified by the U.S. Fish and Wildlife Service, shall be maintained.
  - f. Fences shall not be permitted without a principal use except where the enclosed area consists of disturbed lands or disturbed land with exotics.