

Critical Species

“May Effect” Determinations

Report

Project Location:

450 Key Deer Boulevard

Big Pine Key, Florida

Monroe County, RE Parcel # 00111650-000000

Plan prepared for:

College of the Florida Keys

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Field Work Completed: 6 May 2025

Report Completed: 13 May 2025

Report created by:

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Effect Determinations

Plant references for this report include *The Trees of Florida* by Gil Nelson; *The Shrubs and Woody Vines of Florida* by Gil Nelson; *Wildflowers of the Florida Keys* by Roger L. Hammer; *Native Trees and Shrubs of the Florida Keys* by J. Paul Scurlock; and *Trees of Everglades National Park and the Florida Keys* by George B. Stevenson. Guidance for habitat identification and preferences for the targeted species within this report are in accordance with US Fish and Wildlife Species Status Assessments located on US Fish and Wildlife’s website. Direct links will be provided at the end of this report. Potential affected species were also supplied by US Fish and Wildlife’s Florida Ecological Services Field Office via electronic correspondence and will also be attached at the end of this report for reference.

The purpose of this assessment was to determine if suitable habitats for the Florida Keys Mole Skink (*Plestiodon egregius egregious*), the Key Ring-necked Snake (*Diadophis punctatus acricus*), and the Rim Rock Crowned Snake (*Tantilla oolitica*) are present on the subject Lot. A previous assessment was conducted to determine if suitable habitats were present for the other two listed species: the Bartram’s Hairstreak Butterfly and the Florida Leafwing Butterfly. Weather conditions were partly cloudy, approximately 85 degrees and dry, with the area experiencing a “Severe Drought” as designated by www.drought.gov. The assessment was conducted on 6 May 2025.

Current Site Conditions

450 Key Deer Boulevard is an expansive, irregularly shaped lot located on Big Pine Key, Florida. It measures approximately 760 feet at its widest, and 680 feet at its longest. The entire lot is approximately 456,600 square feet and is bordered by a chain link or wooden fence. There are over 2 dozen scattered existing structures on the lot, most of which are decrepit, and a radio tower. A paved road also runs through the lot which connects most of these structures.

Vegetation on the lot would transition regularly from open grassland to dense, shrubby hammock. Some of these grasses were maintained, but most of the lot appeared left to nature. Brazilian Pepper grows in dense along the Western and Southern margins of the lot and there are some exotic species around the existing structures that are commonly used for landscaping, however native species dominate the lot, usually in dense clusters. Jamaica Dogwood, Mahogany, and Seagrape trees combine with understory species such as Blackbead, Bushy Fleabane, Key Thatch Palm, and Sweet Acacia to create nearly impenetrable thickets.

Species Focus

The three species focused on in this report are the Florida Keys Mole Skink (*Plestiodon egregius egregious*), the Key Ring-necked Snake (*Diadophis punctatus acricus*), and the Rim Rock Crowned Snake (*Tantilla oolitica*). Each species' habitat preferences, as outlined in the US Fish and Wildlife's Species Status Assessment reports, will be summarized for easy reference, followed by observations from field work related to each species, then concluded with the initial determination if a proposed project may affect the species or not. Pictures are also added for reference. "May Affect" determinations are made using information provided by US Fish and Wildlife, which will be attached to this report for reference. A summary of the conclusions will also be added at the end of this section.

Florida Keys Mole Skink

The following are excerpts from the US Fish and Wildlife's Species Status Assessment for the Florida Keys Mole Skink in reference to their preferred habitat:

"Loose soils that allow for "swimming" mobility through substrate are conducive to burrowing and nesting, and so the species requires, or highly prefers, loose soils (Christman 1992, p. 179). Mount (1963, p. 359) identified the two key ecological factors affecting mole skink distribution as soil and moisture conditions and seldom encountered mole skinks where the soil was not well drained and friable. The Florida Keys mole skink has been found in wave-washed wrack, debris, and piles of rocks. They have also been found among rocks a few feet above the water on railroad embankments in the Upper Keys (Carr 1940, p. 75). Individual skinks have also been observed in shaded areas beneath stones in sandy areas of Key West and Stock Island (Duellman and Schwartz 1958, p. 289). The Florida Keys mole skink is documented in the beach berm zones and coastal hammocks in the Upper and Middle Keys (Monroe County 2016a, n.p.; Service 2021, n.p.). However, evidence suggests that the species can live in small areas of habitat or microhabitats within other mapped habitat types, including developed areas; individuals have been detected in developed areas of Key West (a backyard garden), Big Pine Key (along a road), and Key Vaca (in a landscaped area) and within pine rockland habitat on Big Pine Key (Emerick 2017a, pp. 4–5; iNaturalist 2020, entire). However, the vast majority of detections are within the beach berm habitat type and adjacent dunes (Emerick 2017a, p. 5)."

"Beach berm and coastal hammock are identified as potential Florida Keys mole skink habitat in, although these habitat classifications do not represent all of the potential habitat, as skinks have been located in other areas, as described above."

During the assessment, dry loose soil and large amounts of leaf litter were observed in several scattered areas throughout the lot. While no beach berm was observed on the lot, the paved road and the landscaped areas match some of the specific mentions for the species in the Lower Keys, and Big Pine Key specifically. Pine Rockland habitat is not present on the subject Lot itself, but there is large, contiguous Pine Rockland Forest neighboring some of this lot. The areas of dense native vegetation, while somewhat fragmented, also match the possibility of this species inhabiting microhabitats.

Due to these considerations this assessment concludes that the Florida Keys Mole Skink **May Affect – Likely to Adversely Affected** by a proposed project.



Photo 1: View of dense leaf litter present throughout much of the lot.



Photo 2: View of pavement surrounded by shade and leaf litter.



Photo 3: View of an abandoned landscaped area around structures.



Photo 4: Dense exotic and native vegetation along the western margin.

Key Ring-necked Snake

The following is an excerpt from the US Fish and Wildlife’s Species Status Assessment for the Key Ring-necked Snake in reference to their preferred habitat.

“Based on limited information, suitable habitat appears to consist of pinelands, pine rocklands, tropical hammock, rockland hammock, limestone outcroppings and rocky pine scrub areas (McDiarmid 1978, p. 41; Lazell 1989, p. 134; Auth and Scott 1996, p. 33; Enge et al. 2003, pp. 26–28). Most of the observations in the Florida Keys were from pine rocklands or nearby rockland hammocks. This subspecies appears to be restricted to areas near permanent freshwater that often occur as small holes in the limestone (Lazell 1989, pp. 134, 136). All *Diadophis* apparently require moist microhabitats to balance evaporative water loss from the body (Myers 1965, p. 4; Clark 1967, pp. 492–494). In addition, this subspecies has been found crossing roads at night and under flat rocks and boards (Paulson 1968, p. 300; Lazell 1989, p. 134; FWC 2013,

p. 2).”

While no preferred habitats from the Species Status Assessment report were found on the lot, a large contiguous area of Pine Rockland habitat is nearby, separated from the subject lot by a dirt road to the north and paved road to the east.

The description of this species being restricted to freshwater sources was also a guiding factor for this species. During the assessment exposed capstone and large amounts of decaying vegetation were observed and may provide pooling opportunities or the decrepit structures may be holding moisture, however no permanent sources of freshwater were directly observed. Utilizing ArcGIS habitat overlays the nearest permanent sources of freshwater appear to be approximately 215 meters away from the lot.

With the above in consideration as well as the additional presence of old buildings falling apart and the clustered, dense native vegetation on the lot, this assessment concludes that the Key Ring-necked Snake **“May Affect – Likely to Adversely Affect”** by proposed development on the lot.



Photo 5: Decrepit building and discarded building materials pictured.



Photo 6: Large limestone rocks covered in vegetation pictured.



Photo 7: Exposed caprock and open grassland with shrubby growth pictured.



Photo 8: Additional discard materials pictured, as well as the sudden surrounding vegetative density.

Rim Rock Crowned Snake

The following are excerpts from the US Fish and Wildlife's Species Status Assessment for the Rim Rock Crowned Snake in reference to their preferred habitat.

“Based on limited information, suitable habitat for RRCS consists of pine rocklands and rockland hammock (also called tropical hardwood hammocks). Pine rocklands is currently listed as critically imperiled globally (FNAI 2010, p. 3). Pine rocklands habitat is fire-maintained and dominated by pine trees and a diverse understory of grasses and forbs/herbs. In contrast, rockland hammock contains more hardwood shrubs and trees due to less fire influence. Considering both land types occur in conjunction with limestone substrate in south Florida and the Keys and RRCSs have been observed in both, we may refer to these two habitats as rockland habitat throughout the report. There are also occurrence records from human-altered habitats such as roadsides, vacant lots, and pastures with shrubby growth and slash pines (*Pinus elliottii*) (Duellman and Schwarz 1958, p. 306; Hines 2011, pp. 352–356).”

“The RRCS is a mostly fossorial (underground) species that inhabits shallow soil over limestone formations, and it can sometimes be found in rotten stumps and under anthropogenic surface detritus, fallen logs, and rocks (Duellman and Schwarz 1958, p. 306; Rochford et al. 2010, p. 99; Yirka et al. 2010, p. 386; FWC 2011, p. 3; Hines 2011, p. 353). These snakes are vulnerable to desiccation, so they usually occupy moist microhabitats (Powell et al. 2016, pp. 395–400). Refugia in pine rocklands and rockland hammock are provided by holes and crevices in the limestone, piles of rock rubble, pockets of organic matter accumulating in solution holes and shallow depressions in the limestone (Enge et al. 2003, pp. 27–28). RRCSs likely come to the surface after rains (Porrás and Wilson 1979, pp. 218–220), possibly because of flooding of its underground refugia.”

During the assessment, it was noted that in the absence of various types of development on the lot, the typical vegetation consisted of shrubby, grassy areas with isolated understory species transitioning into dense, low-lying hammock. Vegetative debris and piles of rock were also observed in various areas, although no solution holes were observed on the property. Furthermore, as previously stated, the proximity of a large Pine Rockland forest to the lot enhances the likelihood of this species utilizing the area.

This assessment concludes that the Rim Rock Crowned Snake **May Affect – Likely to Adversely Affect** by proposed development.



Photo 9: Grassy area with shrubby growth and dense understory growth pictured.



Photo 10: Grassy area with shrubby growth transitioning into hammock pictured.



Photo 11: Paved road that connects most buildings pictured.



Photo 12: Large amounts of plant debris surrounding decaying buildings pictured.

Determinations

This assessment concludes that with the above in consideration a proposed project “**May Affect, Likely to Adversely Affect**” all three of the listed critical species and as such additional consultation will likely be required by US Fish and Wildlife.

Florida Keys Mole Skink – May Affect - LAA
Key Ring-necked Snake – May Affect - LAA
Rim Rock Crowned Snake – May Affect - LAA

450 Key Deer Boulevard
Big Pine Key, Florida RE# 00111650-000000

Links

Species Status Assessment Reports were located at:

Florida Keys Mole Skink: <https://ecos.fws.gov/ecp/species/4480#crithab> &
<https://iris.fws.gov/APPS/ServCat/DownloadFile/222744>

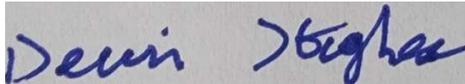
Key Ring-necked Snake: <https://ecos.fws.gov/ecp/species/6768#crithab> &
<https://iris.fws.gov/APPS/ServCat/DownloadFile/223071>

Rim Rock Crowned Snake: <https://ecos.fws.gov/ecp/species/1497#crithab> &
<https://iris.fws.gov/APPS/ServCat/DownloadFile/222490>

Contact

Please contact Devin Hughes for any further analysis, recommendations or questions concerning this report. Please contact the Fish and Wildlife Service for information regarding the species outlined in this report or additional steps required.

“May Affect” determinations conducted by:

A handwritten signature in blue ink that reads "Devin Hughes". The signature is written in a cursive style and is placed on a light gray rectangular background.

Devin Hughes

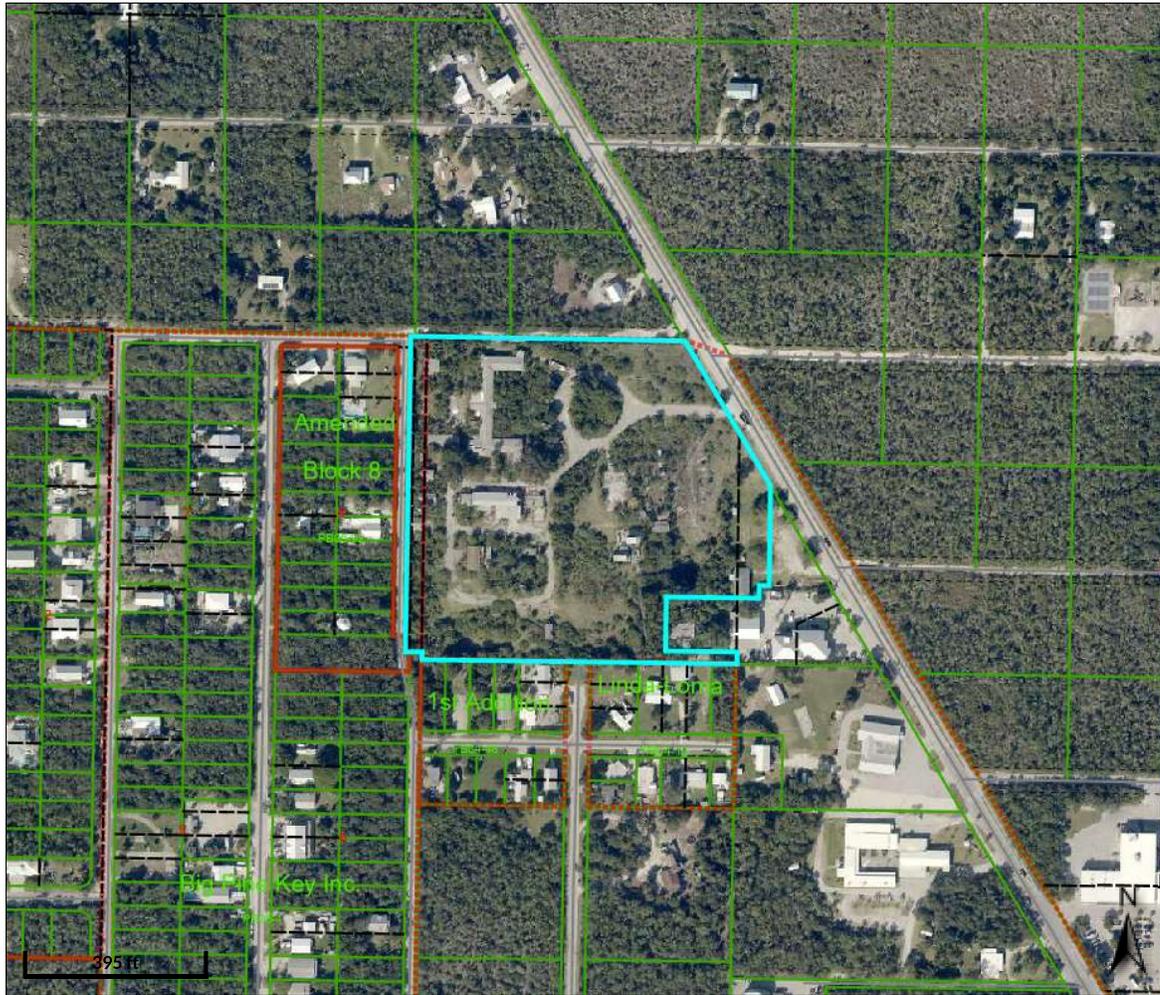
Hughes Eco Assessments LLC

May 13, 2025

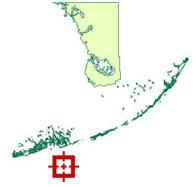
Attached: Qpublic Land Data Sheet , “May Affect” guide



Monroe County, FL



Overview



Legend

- Centerline
- - - Easements
- Hooks
- - - Lot Lines
- Road Center
- - - Rights of Way
- Shoreline
- [] Condo Building
- Key Names
- [] Subdivisions
- [] Parcels

Parcel ID 00111650-000000 **Alternate ID** 1140180 **Owner Address** BOT TIIF
Sec/Twp/Rng 26/66/29 **Class** STATE C/O DEP DIVISION OF STATE LANDS
Property Address 450 KEY DEER Blvd 3900 Commonwealth Blvd Mail Station 108
 BIG PINE KEY Tallahassee, FL 32399
District 100H
Brief Tax 26 66 29 BIG PINE KEY NE1/4 OF NW1/4 OF NW1/4 & PART OF SANDY CIRCLE (10.52AC) (AKA PROPOSED CROSS BIG PINE KEY
Description ARTERIAL ACCESS ROAD PB7-44) OR227-303 OR424-617/619 OR916-2266/68 OR3207-436
 (Note: Not to be used on legal documents)

Date created: 5/13/2025
 Last Data Uploaded: 5/13/2025 1:55:27 AM

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SECTION 7 TOPIC SHEET – Project Effects Determinations

This topic sheet attempts to clarify misunderstandings regarding making correct project effects determinations, and how that determination drives the final consultation documents.

- ❖ The Act requires that actions authorized, funded or carried out by a federal agency that “may affect” a listed species or designated critical habitat requires consultation with the Service. Once a federal agency determines some element of their action May Affect a listed species or designated critical habitat, their next step is to determine which effects category the project’s effects fit into.
- ❖ The measure of a project’s effect for a project’s effect determination is at the individual level **not** the species population level. If one individual of a listed species is affected – the degree of that effect is the driver of the project effects determination¹.
- ❖ There are 3 potential categories of effects for a project, **No Effect, May Affect, but Not Likely to Adversely Affect**, and **May Affect, Likely to Adversely Affect**. The two categories that include the words May Affect – indicate the need to complete consultation with the Service, while a No Effect determination precludes the need to consult under the Act.
- ❖ All three categories have specific criteria (with specific definitions) that must be met before effects can be claimed to fit in that category. Narratives that describe effects of an action need to use those criteria. They can be found in the glossary of the Consultation handbook on page xv. and in the chart on the next page.
- ❖ A project’s final effects determination is driven by the most impactful effect of any portion of the project, **not** what the overall goal or intent of the project is. As an exaggerated example, even if most of a project has no effect to a listed species or designated critical habitat, if one activity of the project fits the criteria for **May Affect, but Not Likely to Adversely Affect**, or **May Affect, Likely to Adversely Affect** – one of those categories will be the final “overall” effect determination for the project for consultation process purposes².
- ❖ **May affect, not likely to adversely affect** is a catch all category for three different, but possible, situations; 1) the effect is entirely beneficial, 2) the effect is so unlikely to occur that the likelihood is discountable or, 3) the effect is so small as to be insignificant. If a project’s effects fit the criteria for inclusion in that category, consultation can be concluded by a concurrence letter rather than a Biological Opinion. (No take of a listed individual can occur under a not likely to adversely affect determination).
- ❖ **May affect, likely to adversely affect** is any action whose most impactful effects can’t fit the other categories. If a project’s effects fit the criteria for inclusion in this category, consultation must be concluded by a Biological Opinion.
- ❖ Many projects that are of substantial long term benefit to a species may end up in a **May Affect Likely to Adversely Affect** determination category because of short term negative effects, and may even result in Take of some individuals. That does not mean the project can’t proceed or that it is a “bad” project. It just means that a consultation concluding with a biological opinion must be completed.

¹ The Service measures impacts at the population level when determining Jeopardy and Destruction or Adverse Modification in biological opinions.

² Some may consider this to be “unreasonable” at first glance, but it makes sense in the fuller context of the Act’s requirement to consult if the proposed action “may affect” an individual that is listed, and the prohibition against Take of any individual.

Specific terms, definitions, criteria and wording for use in section 7 consultation documents

Effects Category	Effects Sub - category	Criteria necessary for inclusion in category or sub-category	Effects Determination wording/phrase	Action Needed by Action Agency	Response from FWS
<p>No Effect</p> <p><u>Definition</u> -</p> <p>“Proposed action will not affect listed species”</p> <p>---- Or ----</p> <p style="text-align: center;">↓</p> <p>May Affect</p> <p><u>Definition</u> -</p> <p>“ A proposed action that may pose any effects to listed species or designated critical habitat”</p>	<p style="text-align: center;">None</p>	<p>“Action won’t pose <u>any</u> effects to listed species or designated critical habitat.”</p> <p><i>(Remember that effects are measured at the individual scale not population scale. And don’t forget to consider whether any effects could occur through an indirect mechanism e.g. changes to its habitat, etc.)</i></p>	<p style="text-align: center;">No Effect</p> <p style="text-align: center;">(NE)</p>	<p style="text-align: center;">Document rationale for findings in project file</p>	<p style="text-align: center;">None</p>
		<p>“Effects on listed species are expected to be discountable, insignificant or beneficial.”</p> <p><u>Discountable</u> = those effects that are extremely unlikely to occur. Based on best judgment a person would not expect discountable effects to occur.</p> <p><u>Insignificant</u> = based on best judgment, a person would not be able to meaningfully measure, detect, or evaluate insignificant effects. Insignificant effects should never reach the level where take* occurs.</p> <p><u>Beneficial</u> = are contemporaneous positive effects without any adverse effects (<i>even short term</i>) to the species.</p>			
	<p style="text-align: center;">----- Or -----</p> <p style="text-align: center;">May Affect - Likely to Adversely Affect (LAA)</p>	<p>“...the effect is <u>not</u> insignificant, discountable or beneficial...”</p> <p style="text-align: center;"><i>[see definitions above]</i></p>	<p style="text-align: center;">May Affect - Likely to Adversely Affect</p> <p style="text-align: center;">(LAA)</p>	<p style="text-align: center;">Submit biological assessment and request formal consultation from the FWS</p>	<p style="text-align: center;">Issue a biological opinion, and if adverse effects are likely to result in Take* - issue an Incidental Take Statement with Terms and Conditions</p>

*

Take (Section 9 of the Act) is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct”.

Harm is further defined by the Service (50 CFR, §17.3) as an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Harass is defined by the Service (50 CFR, §17.3) as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering.