



United States Department of the Interior

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FISH AND WILDLIFE SERVICE

1875 Century Boulevard

Atlanta, Georgia 30345

DEC - 4 2017

Memorandum

To: Deputy Regional Director, Southeast Region

From: Assistant Regional Director - Ecological Services, Southeast Region

Subject: Set of Findings: Endangered Species Act permit application and National Environmental Policy Act findings for Coral Reef Retail LLC, Coral Reef Resi Ph I LLC, Ramdev LLC, and University of Miami's Coral Reef Commons Mixed-Use Development for the Incidental Take of Eight Pine Rockland Species, TE15009C-0

I. DESCRIPTION OF PROPOSAL

Coral Reef Retail LLC, Coral Reef Resi PH I LLC, and Ramdev LLC; (collectively "Ram Coral Reef,") and the University of Miami (UM)(collectively "Applicants") seek an Incidental Take Permit (ITP or Permit) from the U.S. Fish and Wildlife Service (Service) pursuant to section 10(a)(1)(B) of Endangered Species Act of 1973, as amended (ESA). The ITP would authorize the incidental take of the Federally endangered Bartram's scrub-hairstreak butterfly (*Strymon acis bartrami*), Florida leafwing butterfly (*Anaea troglodyta floridalis*), Florida bonneted bat (*Eumops floridanus*), and Miami tiger beetle (*Cicindelidia floridana*); threatened eastern indigo snake (*Drymarchon corais couperi*), candidate gopher tortoise (*Gopherus polyphemus*), petitioned rim rock crowned snake (*Tantilla oolitica*), and the State threatened white-crowned pigeon (*Patagioenas leucocephala*). The take would be incidental to the development of the Coral Reef Commons Project (Project) and the implementation of the associated October 2017, Habitat Conservation Plan (HCP) in unincorporated Miami-Dade County (County), Florida.

The Applicants also propose to implement conservation measures to benefit Federally-listed plant species in the Project area: the endangered tiny polygala (*Polygala smallii*), deltoid spurge (*Chamaesyce deltoidea*), crenulate lead-plant (*Amorpha crenulata*), Florida brickell bush (*Brickellia mosieri*), Small's milkpea (*Galactia smallii*), sand flax (*Linum arenicola*), Carter's small-flowered flax (*Linum carteri* var. *carteri*), Florida prairie clover (*Dalea carthagenensis* var. *floridana*), and Florida bristle fern (*Trichomanes punctatum* ssp. *floridanum*); the threatened Garber's spurge (*Chamaesyce garberi*), Blodgett's silver bush (*Argythamnia blodgettii*), Florida pineland crabgrass (*Digitaria pauciflora*), and Everglades bully (*Sideroxylon reclinatum* ssp. *austrofloridense*); and the state-listed clamshell orchid (*Encyclia cochleata* var. *triandra*).

The Applicants submitted an HCP that includes the management of both on-site and off-site mitigation areas as part of their ITP application. The Applicants request an ITP with a term of 30 years.

II. SECTION 10(a)(2)(A) HCP CRITERIA – ANALYSIS AND FINDING

1. The Impact Likely to Result from Such Taking

The HCP Plan Area includes the Project (approximately 83 acres of development) and its associated on-site preserve areas (approximately 55 acres) as well as the management of off-site mitigation lands (approximately 51 acres). The total HCP Plan Area is 188.86 acres located in Sections 25 and 26, Township 55, Range 39, in unincorporated Miami-Dade County, Florida. The Project occurs in a region known as the “Richmond Pine Rocklands,” comprising the largest remaining, contiguous block of pine rocklands outside of Everglades National Park (ENP). Moreover, the Richmond Pine Rocklands lie at the highest elevations of any remaining pine rocklands. Almost the entire Project site consists of pine rockland habitat suitable, or potentially restorable, for use by the Covered Species.

The Applicants are proposing to construct a mixed-use development within the Plan Area. The development would occur on approximately 86.25 acres of the Area and consist of “garden-style” apartments as well as on-site shopping and recreation. Approximately 55 acres of the Area would be set aside as on-site preserve areas (HCP, Table 1-0 and Figure 4-5). As part of their mitigation plan, the Applicants will manage approximately 51 acres off-site. The Project is anticipated to result in the restoration and perpetual preservation of approximately 106.25 acres of upland wildlife habitat in on- and off-site mitigation areas.

The 83 acres to be developed are pine rocklands subjected to a variety of historic impacts, such as scraping, lack of vegetation management, or fire suppression. In their current state, they provide relatively low quality habitat for the pine rockland dependent Covered Species, but this could be improved with restoration. As noted in the HCP, chapter 8.7, only the Bartram’s scrub-hairstreak butterfly, Florida leafwing butterfly, Miami tiger beetle, and the rim rock crowned snake are considered dependent on pine rockland habitat. The remaining covered wildlife species range throughout more widespread habitats, and will use pine rockland habitat. The eastern indigo snake, rim rock crowned snake, and gopher tortoise have not been reported from the Project area. No effect is anticipated for white-crowned pigeon.

2. The steps taken to minimize and mitigate such impacts, and the funding that will be available to implement them.

The HCP describes the measures the Applicants will take to reduce the Project footprint and provide preserve areas on-site and off-site. The Applicants propose four categories of conservation measures to reduce the Project’s impacts to the Covered Species and other resources: pre-construction surveys for the Florida bonneted bat and covered plant species; construction worker education about the requirements of the HCP and ITP; general and resource-specific best management practices; and building and landscaping design elements.

Occupation, operation, and maintenance of the Project will be governed by the “Declaration of Covenants, Conditions and Restrictions for Coral Reef Commons Master Property Owners’ Association, Inc.” (Declaration of Covenants), which addresses implementation of the HCP and ITP provisions. The operational plan includes, but is not limited to, measures to address minimization of pesticide application, education of the tenant community about the HCP requirements, to promote acceptance of prescribed fire in preserve areas, and maintain conservation preserve areas (HCP section 6.2.3).

After initial construction, the protection and perpetual management of the Mitigation Areas would be funded through revenues generated by the development and is intended to offset the effects of construction, operation of the Coral Reef Commons development, and all restoration activities. The Applicants establish their conservation objectives in HCP, chapter 6, and analyze implementation costs in HCP, chapter 11. Table 11-1 in the HCP states the restoration budget over 5 years. This funding will be guaranteed by an escrow account in the first year, and a letter of credit for years 2 through 5.

Once the Mitigation Areas attain success criteria, the Project will enter the maintenance phase. In this phase, on-site conservation area maintenance will be provided by the Association out of their operating budgets. The Off-site Mitigation Area will be maintained out of University of Miami’s operating budget. As described at chapter 11.3 in the HCP, the Association will be empowered to enforce collection of fees from Project tenants and will assume management responsibility. If the Association fails to meet the funding obligations, provision is made in the Association covenants, and provided for under Miami-Dade County law, to create a special taxing district to provide Project funding.

3. Alternative actions to the take were considered by the Applicant and reasons why such alternatives are not being utilized.

The Applicants considered six alternatives for the Coral Reef Commons development: a no-action alternative, a minimal redevelopment of previously disturbed lands, maximum property-line build-out, development in accordance with the 2013, County-approved zoning, development in accordance with the 2013, County-approved zoning with the addition of on-site habitat reserves, and a reduced development and increased reserve alternative (preferred alternative). See section 4 of the HCP.

The preferred alternative optimizes a reduced economic return to the Applicants, balanced by a conservation plan that attempts to fully compensate for Project impacts.

Several public commenters identified the fact that the no-action alternative should consider the minimal land management requirements imposed by Miami-Dade County, rather than extrapolate a future without management. We agree that this would be a more accurate description of a no-action alternative, but we did not ask the Applicants to revise the HCP. The Service did, however, incorporate a revised no-action alternative into the Environmental Assessment (EA), Alternative 1B.

4. Other measures the Secretary may require as being necessary or appropriate for purposes of the plan.

Pine rockland habitat contains many ESA-listed and at-risk plant species. In order for the Service to meet its section 7 obligations to avoid and minimize adverse effects to the listed plants and to ensure the Applicants comply with local Natural Forest Community (NFC) requirements, the Service encouraged the Applicants to include conservation measures in the HCP that benefit the covered plant species. The Service has, at the Applicants' request, included these plant species on the ITP to acknowledge that they would benefit from implementation of the HCP.

III. SECTION 10(A)(2)(b) PERMIT ISSUANCE CRITERIA - ANALYSIS AND FINDINGS

1. The taking will be incidental.

The Service finds that the take of the Covered Species would be incidental to activities associated with the construction, occupation, operation, and maintenance of Coral Reef Commons as described in the HCP and that these activities are otherwise lawful. For further comment, please see section IV, below.

2. The Applicant will, to the maximum extent practicable, minimize and mitigate the impacts of the taking.

The "maximum extent practicable" standard consists of: (1) the Service considering the Project with the Applicant (reflected by the scope of the Project and its design); (2) measuring the impact the Project will have on the Covered Species; and, (3) determining to what degree the extent of mitigation and minimization measures offered in the HCP offset the measured impacts of taking on the Covered Species. Minimization efforts do not take precedence over mitigation efforts or vice-versa. Minimization and mitigation can take many forms and combinations, to address direct, indirect, and cumulative adverse effects on the species.

The Applicants developed a habitat value functional assessment to inform their HCP development. While it is of narrow applicability, it provided a reasonable basis for evaluating the extent of the impacts from development and planning conservation on the Project site.

Given their limited population, distribution, and dependence on pine rockland habitat, the Applicants focused their assessment on the Bartram's scrub-hairstreak butterfly, Florida leafwing butterfly, Miami tiger beetle, rim rock crowned snake, and the pine rockland-dependent plants. Using their habitat functional assessment, the Applicants assert that there would be a net conservation benefit for these species due to Project implementation. The Service does not evaluate this claim for the purposes of our decision on the ITP application, but we agree that establishment and maintenance of the proposed on-site preserves would improve habitat in those managed areas. We also believe that their

design layout on Coral Reef Commons would provide for movement and interaction of the Covered Species on-site with those on adjacent properties. These benefits of the on-site preserves might maintain the Covered Species on Coral Reef Commons developed area, but the Service was not confident that on-site measures alone would offset impacts to the Covered Species. Based on the preliminary results of the Applicants' model, the Service recommended additional off-site compensatory conservation to improve the conservation lift of the HCP. In response, the Applicants added the Off-site Mitigation Area at the UM Richmond Campus.

While the Applicant's HCP addresses mitigation in terms of replacing lost habitat functions, the Richmond Pine Rocklands have special constraints or considerations compared to other habitats. Richmond Rocklands are the "high ground" among remaining pine rockland habitat, so they will be the last vestige of this habitat as projected sea level rise inundates other pine rocklands in the Florida Keys and Everglades National Park. The Service has considered the available information on sea-level rise projections. Based on our analyses of publicly available data, we do not believe that sea-level rise will directly affect the Project area over the requested 30-year ITP term. Nevertheless, sea-level rise will need to be monitored periodically throughout any permit term, and will be a special consideration if permit renewal is contemplated.

Besides sea-level rise, the other special constraint in the Richmond Pine Rocklands, is the limited available habitat remaining in the area and across the range. Although the Service has received no formal applications to date, future development proposals on neighboring properties are likely. Based on these concerns, the Service identified additional measures, explained in section III.5, below, and inserted as Condition H into the ITP.

The Applicants' proposed conservation program, and these additional measures will minimize and mitigate the Project's impacts to the Covered Species to the maximum extent practicable.

3. The Applicant will ensure that adequate funding for the conservation plan and procedures to deal with unforeseen circumstances will be provided.

The Applicants have calculated the costs of the Project in Table 11-1 of the HCP and described the funding mechanisms in Chapter 11 of the HCP. They will establish an escrow account to fund first-year construction and provide a letter of credit for years 2 through 5. Implementation and maintenance of the HCP will be funded through Association dues as specified in the draft Declaration of Covenants (HCP, Appendix M). The Declaration of Covenants will be recorded upon final approval by the Service.

The Applicants provide an adaptive management program, HCP, Chapter 12, with trigger thresholds to implement a response (HCP, Table 12-1). The Applicants' adaptive management also includes strategies for responding to several types of changed circumstances (HCP, section 12.2). The Applicants express their willingness to discuss changed circumstances at section 12.3 of the HCP. In addition, the Service recommended a regular schedule of assessments to keep track of the need to identify and

act upon unforeseen circumstances within the limits of the No Surprises assurances. See section III.5, below.

4. The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

This criterion incorporates the ESA section 7 jeopardy standard, which is defined at 50 CFR 402.02: “Jeopardize the continued existence of means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.”

In accordance with section 7 of the ESA, the Service prepared an intra-agency biological opinion to evaluate whether the taking associated with the HCP would jeopardize the continued existence of any Covered Species. In the biological opinion, which is attached hereto and incorporated herein by reference, the Service concluded that the proposed incidental take of the Covered Species is not likely to jeopardize the continued existence of any one of these species.

5. Additional measures as required by the Director of the Service will be implemented.

The Service has conditioned the ITP to require status review meetings at five-year intervals after attainment of Mitigation Area success criteria (Condition H.1). As we discussed in section III.2, above, the Richmond Pine Rocklands and the Covered Species endemic to that habitat have special concerns that will require vigilance as Project operations continue into the future. Condition H addresses the unknown, but probable, need to adapt the Project management to accommodate development proposals from neighboring landowners, periodically review regional environmental conditions and their implications on Project management, consider near the end of the Permit term whether it is advisable to renew the ITP so as to allow for the continued implementation of the Project, and determine whether Project amendment would be needed in order to renew the Permit.

As neighboring landowners propose activities, the Service anticipates that we will engage in section 7 consultations or review section 10 applications pursuant to the ESA. Such consultations may identify the need for reasonable and prudent alternatives to avoid jeopardy of one or more Covered Species. At that point, the Service would likely recommend the new project proponent coordinate and negotiate with the Applicants/Permittees to identify possible amendments to the Project, including changes to Project structures, so as to allow both projects to continue in compliance with the ESA. Changes to Project structures would occur only after and pursuant to a negotiated agreement between the Applicants/Permittees and the future project proponent. While Condition H could result in changes to the Project management plan, changes to built structures would occur only if the Applicants/Permittees agree to do so. None of this, however, prejudices the Service’s authority under 50 CFR 17.22(b)(8), or 17.32(b)(8).

6. The Director of the Service has received the necessary assurances that the plan will be implemented.

Through the HCP and information provided by the Applicants, the Service has received the necessary assurances the the plan will be implemented.

IV. GENERAL CRITERIA AND DISQUALIFYING FACTORS

The Service has no evidence that the ITP application should be denied on the basis of criteria and conditions set forth in 50 CFR § 13.21(b)-(c).

We received several public comments asserting that the Applicants' permit application should be denied due to their past failures to implement land management actions on property within the Plan Area as required by Miami-Dade County permits and environmental requirements. We shared these comments with Miami-Dade County's Division of Environmental Resource Management and met with them on August 25, 2017, to discuss our concerns. While the County confirmed that there had been historical lapses in the Applicants' compliance with County-issued permits, the County asserted that the lapses had been addressed and remediated through the incorporation of corrective measures in subsequent County-issued permits. Moreover, the Applicants and the County entered into an agreement on March 19, 2015, tolling the expiration dates of County-issued permits and prohibiting the Applicants' implementation of activities under the permits during the pendency of the processing of their ITP application and until such time as the Service issues a decision on Permit issuance. The County's Division of Environmental Resource Management has informed the Service that the conservation program presented in the HCP complies with County requirements and could receive County authorization.

Based on the foregoing, we find that the Applicants have not failed to demonstrate a showing of responsibility (50 CFR § 13.21(b)(3)). Moreover, the Service has not found through further inquiry, investigation or otherwise that the Applicants are not qualified to receive the requested Permit (50 CFR § 13.21(b)(5)). Finally, we do not believe that the HCP covered activities are "unlawful" so as to render take of the Covered Species non-incident to "otherwise lawful activities."

V. PUBLIC COMMENTS

A Notice of Availability was published in the Federal Register announcing the availability of the Applicants' ITP application, including the HCP, and the Service's Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) for public comment. The public comment period extended from March 23 through May 22, 2017. The Service received approximately 3,000 comments. We received numerous comments requesting a public hearing on the application. We declined to convene a public hearing, however, as our ESA implementing regulations do not require public hearings on ITP applications. Moreover, the NEPA grants discretion

to Federal action agencies over appropriate levels of public involvement. We determined that the comment period was sufficient and a hearing was not necessary.

On April 27, 2017, the Service scheduled and presented a public information webinar during which we explained our ITP application review process under the ESA and associated responsibilities under NEPA. The Applicants' representatives also participated and presented information about their Project proposal.

The webinar was conducted for one hour 7:00 pm – 8:00 pm and approximately 50 individual phone numbers called into the presentation. The webinar included audio and PowerPoint presentations, with hard copies of the presentation available for those without internet capabilities. Public comments were received following the presentations by the Service and Applicants. Responses to these comments are combined with electronic and paper comments received during the public comment period. Commenters were permitted multiple comments but were requested to limit themselves to two. The webinar concluded when there were no additional comments.

As the Service was concluding its review of the Applicants' ITP application, Hurricane Irma struck Florida in September 2017. Thereafter, we received a request to delay further consideration of the application until a thorough analysis of the storm's impacts on pine rockland habitat and the Covered Species could be conducted. Hurricanes are a natural part of Florida's climate and considered foreseeable events in any given year. The species and habitat in South Florida have evolved with hurricanes as part of the natural ecosystem and demonstrate a capacity to survive and rebound. The Service did, however, conduct an on-site walk through of pine rockland habitat at Navy Wells, which is located approximately 13 miles southwest of the Project area. This site was harder hit by the hurricane than the Richmond Pine Rocklands, and we made qualitative observations during our October 2017, walk through. The pine rockland habitat at Navy Wells appeared to be in good condition. The storm had thinned the canopy, thus opening up habitat for more herbaceous growth. We also observed Bartram's scrub-hairstreak butterflies. We did not observe any effects that would suggest a need to re-evaluate habitat conditions on the Project area. The Service visited the property owned by the U.S. Coast Guard, adjacent to the Project area, in October 2017. Although there was no access to the Project area, observations from a distance, and in the vicinity, were consistent with the observations made at Navy Wells.

Comment: A large number of commenters expressed opposition to the Project and recommended that the Service deny the ITP but provided little to no supporting documentation as to why such action should be taken.

Response: The Service's ITP review process and its decision on the Applicants' application does not act as a public referendum. The Service considers its potential action, but this does not substitute for the County's decision to authorize additional commercial and residential development.

Support of Incidental Take Permit Issuance

Several comments were received that supported the proposed development of Coral Reef Commons Project. Commenters supported the Project because it would provide needed jobs and crucial infrastructure for the area, and because it used a “common sense approach” to housing. Commenters also supported the HCP because they believed it would provide necessary management to conserve endangered species through application of prescribed fire in an implementable manner (small burn units). Commenters stated that the prescribed fire proposed in the HCP included the best management practices possible for pine rockland habitat, and that the plan would provide necessary management to conserve the Covered Species on the property into the future.

Otherwise Lawful

Comment: A large number of commenters claimed that the Applicants were in violation of Natural Forest Community Permit 2012-012, which the County issued to University of Miami Real Estate Development with Ram Realty Services identified as the contractor in 2013, because they had not performed all of the measures identified in the permit. The commenters assert that the Applicants’ “violation” of and “failure” to comply with the Natural Forest Community permit conditions demonstrate that they could not be trusted to implement the provisions of the HCP and ITP, including, but not limited to, managing and conserving the land.

Response: We addressed this concern in part in section IV, above, when we found that the Applicants were not disqualified from receiving the requested ITP even though there had been lapses in their implementation of land management actions in accordance with the County’s permits and environmental requirements. We shared these comments with the County’s Division of Environmental Resource Management and met with Division representatives on August 25, 2017, to discuss the comments and our concerns. County officials confirmed that there had been historic lapses in the Applicants’ compliance but informed us that the lapses had been addressed and remediated through the incorporation of corrective measures in subsequent permits issued to the Applicants.

To prevent future issues regarding permit non-performance, the County and the Applicants entered into a Tolling Agreement on March 17, 2015, that established an “Abatement Period” from agreement execution through the date on which the Applicants demonstrate, to the reasonable satisfaction of the County, that they have received all the necessary approvals and permits, including but not limited to an ITP from the Service, associated with the proposed Project. The agreement also prohibits the Applicants from engaging in activities on the property in accordance with County permits and authorizations as well as tolls the expiration dates of existing County permits and approvals until such time as the Service issues a decision on the ITP application. We do not believe that the Applicants are disqualified for ITP issuance.

Comment: The Service received numerous comments regarding the University of Miami’s trustworthiness as a co-Applicant and owner of the Off-site Mitigation

Area parcel. Commenters also raised issues regarding the deed restriction on the parcel, access, and University of Miami's refusal to sell the parcel for conservation purposes and previous receipt of Federal funding for land management activities on the UM Richmond Campus.

Response: The ITP application process does not require that the Service evaluate an applicant's past stances on granting access to or selling property that would be included in a proposed HCP Plan Area. University of Miami has advised the Service that it is aware of the deed restrictions on the UM Richmond Campus parcel and is not in violation of such restrictions. Finally, University of Miami denied that it receives Federal funding for land management activities on the UM Richmond Campus.

Comment: Several commenters questioned the lawfulness of the HCP under County ordinances. These included, incorrect delineation of the Natural Forest Community lands, management activities in violation of Natural Forest Community code (specifically mechanical treatment), inconsistencies with the County's Comprehensive Management Plan, and improper landscaping plans.

Response: The Service discussed these concerns with the County. The County accepted the delineations of the Natural Forest Communities in the permit application to the County that was approved in 2013 (Natural Forest Community Permit 2012-012). The permit will need to be modified, however, to implement the HCP, and the Applicants have applied for an additional Natural Forest Community permit to address components of the proposed action that are not included in Permit 2012-012. At a minimum, the requested modifications include authorization for additional firebreaks and roadway access. The County is prepared to approve the modification requests; however, it will not issue additional permits until the Service has made a decision on the Applicant's ITP application. As new applications are received from the Applicants/Permittees, the County will evaluate the habitat in the areas not covered by its previous permit areas to determine whether it meets Natural Forest Community Code conditions. The County's preferred method for managing and maintaining Natural Forest Community is prescribed burning followed by vegetation management via hand removal of exotics. Notwithstanding its preference for hand removal over mechanical treatment, the County has indicated that it will consider the Applicants' pending Natural Forest Community permit request to use mechanical treatment in the HCP Conservation Areas on a case by case basis.

Comment: Some commenters inquired whether University of Miami should be considered an applicant.

Response: University of Miami owns the parcel on which the proposed off-site mitigation would occur, as well as property within the Coral Reef Commons Project development footprint. Moreover, we find no basis to disqualify University of Miami as a co-applicant.

Comment: Several commenters questioned the use of the UM Richmond Campus as part of the mitigation package for the proposed action given that the property is already under a conservation easement requiring University of Miami to engage in

management actions for the deltoid spurge. One commenter suggested that the existing tree thinning permit 2014-005 already included additional requirements for management as well.

Response: The existing conservation easement (HCP, Appendix O) on the UM Richmond Campus is linked specifically to the listing status of the deltoid spurge under the ESA. The management plan associated with this easement focuses on controlling and removing exotics and monitoring survival of pine trees and deltoid spurge. Prescribed burning was considered as a management tool but it was not required. The Applicants propose to increase the current level of protection on the property via a permanent deed restriction or conservation encumbrance that would not be tied to the listing status of any species and would increase the management requirements and expectations for monitoring. Appendix J1 of the HCP provides details on the proposed management plan and objectives. The Service believes that permanently protecting the property and improving management actions would result in increased benefits for the listed species thereon.

Issuance Criteria

Comment: Commenters indicated that the ITP application should be denied because the Applicants have failed to address and satisfy each of the issuance criteria in section 10(a)(2)(B) and 50 CFR 17.22(b)(1) in the HCP.

Response: The Service disagrees with the commenters. An applicant is not required to address ITP issuance criteria in an HCP. The requirements for HCP content are provided in section 10(a)(2)(A) of the ESA as well as in our regulations at 50 CFR 17.22(b)(1)(iii) and 17.32(b)(1)(iii). We evaluated the completeness of the HCP in section II, above.

Comment: One commenter requested clarification on how appreciable is defined when the Service is evaluating whether the taking will appreciably reduce the likelihood of the survival and recovery of the species in the wild, criteria 4 (above). - Issuance criteria 4.

As discussed above, this criterion incorporates the ESA section 7 jeopardy standard, which is defined at 50 CFR 402.02: "Jeopardize the continued existence of means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." "Appreciable" is not specifically defined in the regulations; therefore, the Service uses the plain language definition, which is "capable of being perceived or measured" (Merriam-Webster; <https://www.merriam-webster.com/dictionary/appreciable> [November 12, 2017]). Its usage in the regulatory definition is as an adverb modifying "reduce." The object of this verb is "the likelihood of both the survival and recovery of a listed species in the wild." "Survival and recovery" in this definition applies to the full extent of the species' classification as endangered or threatened. A perceptible or measurable reduction in a species' reproduction, numbers, or distribution in a particular action area may or may not appreciably reduce a species' likelihood of survival and recovery. The ESA provides

authority to exempt actions from the prohibitions against taking listed species, when the impact of such taking is not likely to jeopardize the species' continued existence. In a biological opinion, the Service examines whether the impacts of a proposed action will reduce the likelihood of a species' survival and recovery in the wild to a perceptible or measurable degree.

Comment: The Service received comments indicating that the HCP did not consider the recovery of the Covered Species or explain how the conservation program would support the larger recovery goals for the species.

Response: Section 10 of the ESA and its implementing regulations do not require an HCP to include recovery objectives as part of the minimization and mitigation measures.

Comment: Numerous commenters expressed concern that the Applicants' proposed mitigation (on-site and off-site) is insufficient to overcome the adverse effects of the loss of rare and limited pine rockland habitat. They also asserted that the Project will lead to the extinction of several of the Covered Species that will not be able to withstand the loss of pine rockland habitat. Another commenter questioned, if the development was acceptable, at what point would the pine rockland habitat loss be considered too much. Other commenters insisted that additional off-site conservation is needed to offset the adverse effects of the Project particularly given the rarity of the species that would be affected.

Response: Whenever an action that has the potential to take a listed species is proposed, the Service is required to evaluate the current status of the species, the environmental baseline for the action area, and the effects the proposed action would have on the species. This initial evaluation is critical to the Service making a determination whether the proposed action reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of the species in the wild by reducing its reproduction, numbers, or distribution (50 CFR §402.02).

In processing the Applicants' ITP application, the Service prepared a biological opinion in which it analyzed the effects that the proposed action would have on the Covered Species. The Service concluded as to each species that the anticipated take associated with the Project would not appreciably reduce the likelihood of the species' survival and recovery in the wild. Although additional off-site conservation and land management could contribute to the recovery of and provide a net benefit to the Covered Species, the Service has concluded that the Applicants have minimized and mitigated to the maximum extent practicable. We provide our conclusion in III.4, above.

Proposed Action

Comment: A large number of commenters requested that the Service deny the ITP application because of the adverse effects the Project would have on the Covered Species and of the already limited amount of pine rockland habitat. They

recommended the Applicants relocate the Project site to more disturbed or less sensitive lands.

Response: As part of processing an ITP application, we are required to consider the effects of the proposed take of the covered species, which includes our evaluating impacts to the species' habitat, and we have deliberated on these matters in determining whether to issue the requested ITP. It is the project proponent/applicant, and not the Service, that designs and configures a proposed project. While we might engage in discussions and negotiations with the applicant regarding the impacts of the project prior to receipt of the ITP application and as part of the technical assistance stage, it is the applicant that makes the ultimate determination regarding the specifications of the project and the Service's responsibility to determine whether to grant the application in accordance with the ESA, our implementing regulations and NEPA. In this instance, the Applicants have requested an ITP to take Covered Species incidental to constructing and developing the proposed Project.

Comment: Why did the published draft HCP include fewer species than some of the earlier drafts? Why were listed species such as the wood stork and Audubon's crested caracara not included? Furthermore, given the requested 30 year duration of the proposed permit, shouldn't additional species like the Miami cave crayfish (*Procambarus milleri*) be included among the Covered Species?

Response: An applicant's HCP must include the federally-listed species whose take is expected to occur as a result of the proposed covered activities. An applicant also may include unlisted species among the covered species. The published draft HCP did not include species that were neither reasonably certain to occur within the HCP area or likely to be subject to take as a result of the covered activities. For example, although Audubon's crested caracara have been observed within the Richmond Pine Rockland Area, they are not considered "reasonably certain to occur" in the area. Moreover, even if individuals of the species were to move into the HCP area, we do not believe that the proposed action would be likely to adversely affect the species. Although the Miami cave crayfish may be present in the HCP area, it is not likely to be adversely affected by the proposed action.

Comment: Why was the Off-Site Mitigation Area added between early drafts of the HCP and the published draft HCP?

Response: Working with the Service, the Applicants identified a need to increase the amount of conservation in the HCP. The Applicants selected the University of Richmond Campus because it is known to support Miami tiger beetles and there was an opportunity to improve habitat management. The property is also owned by the University of Miami, making including the property in the HCP a straightforward process.

Comment: Numerous commenters expressed concerns about the extent to which the proposed Project would affect property values in the area. Others asserted that the community does not need more development, particularly of big box stores, which

are losing favor as a place where people shop, but rather the community could benefit from more open space. Commenters also expressed concerns that the development would negatively affect local businesses.

Response: Decisions regarding the locations in which additional commercial and/or residential development may occur fall within the province of the County. Moreover, the County has already completed its zoning and permitting processes for the proposed action.

Comment: A couple commenters questioned the delineation of the action area used for the HCP and EA, and suggested that it extend further into the Richmond Area because of dispersal and flight distances of species.

Response: The action area is defined as all areas to be affected directly or indirectly by the action and not merely the immediate area involved in the action [50 CFR §402.02]. The action area is defined not by the species but by the extent of the effects of the action. The Service evaluated the effects of the HCP and based on the extent of the effects of the action define the action area as the Coral Reef Commons property footprint (including Conservation Areas) and the footprint of the Off-Site Mitigation Area.

Comment: A 30-year ITP term is too long.

Response: The Service disagrees that 30 years is too long. The regulations for incidental take permits allow the Service to set the duration of permits for a period long enough to ensure that the permittees have adequate assurances to commit funding for the HCP, including conservation activities and land use restrictions. The permittees will be responsible for managing the On-site Conservation Areas and Off-site Mitigation Area to the identified success criteria for the full permit length. This ensures long term habitat management for pine rockland habitat, a habitat type that commonly declines in suitability due to the lack of funds to continue management.

Comment: Some commenters questioned whether the proposal to use a Special Taxing District as a means to provide long-term funding to implement the HCP was appropriate.

Response: The Service contacted the County for feedback on whether a Special Taxing District was in line with the County procedures and a reasonable back-up plan for funding the HCP's long-term land management activities. The County advised that, although Special Taxing Districts are used frequently to fund the general maintenance of commons areas and not typically used for the maintenance of Natural Forest Communities, they would be a reasonable funding mechanism. Moreover, the special taxing district is a contingency described in the draft Association covenants. The taxing district would be created in the event the Association fails in some way. The primary funding mechanism is for the Association to use dues collected from Coral Reef Commons tenants.

Baseline

Comment: Numerous commenters asserted that there is insufficient information to assess the ITP application and urged us to withhold issuing a decision pending receipt of additional information from on-site species' surveys of the Coral Reef Commons property and the UM Richmond Campus, yearlong assessments of the Coral Reef Commons property, the Service's decision process on whether to designate critical habitat for Florida bonneted bat, and forthcoming reports from the Florida Fish and Wildlife Conservation Commission (FWC) on the Miami tiger beetle. Some commenters argued that the conservation benefits of the proposed Project could not be measured without sufficient baseline information on the status of the Covered Species.

Response: It is our policy to use the best available scientific and commercial data when evaluating an ITP application. While the Service can recommend that an applicant collect additional information to enable us to more accurately evaluate the status of a species in the action area, the extent to which the species would be affected by the proposed action, and additional measures to avoid and minimize those effects, we cannot require an applicant to do so. We must use the information available at the time that an ITP application is submitted and cannot delay processing the application so as to wait for additional information to be collected or published.

The Applicants used a habitat based approach in their HCP. Based on the availability of suitable habitat, the Service applied the "reasonable certainty" standard and determined the Covered Species reasonably certain to be present in the HCP area and likely to sustain take incidental to the proposed action. In the absence of species' focused surveys, the Service and the Applicants agreed, for purposes of this application, each Covered Species is present in or could enter in the action area during the duration of the requested permit. This approach errs on the side of the species in our analysis of the extent to which a species would be adversely affected by the proposed action and likely overestimates the amount of occupied habitat. Using this approach, the Applicants were required to include actions to avoid and minimize effects to Covered Species. The habitat model also provided a means for the Applicants to evaluate and measure the change to the habitat from the development and land management. Furthermore, several of the Covered Species, such as the eastern indigo snake, rim rock crowned snake, and Miami tiger beetle, are cryptic and difficult to detect, and survey would likely underestimate their presence.

With respect to the Off-site Mitigation Area and applying the best available science, the Covered Species are reasonably certain to occur on or have been documented on the property via surveys (*e.g.*, Miami tiger beetle, deltoid spurge).

Fire is considered the optimum management tool to improve the health of pine rockland habitat. For this reason, fire is included as part of the Conservation Program or the East and West Preserves and the Off-site Mitigation Area to enhance its capability to support a more robust population of the extant Covered Species.

Comment: Numerous commenters asserted and presented information to support their contention that the current condition of the habitat on the Coral Reef Commons property is the result of poor management and stewardship and intentional neglect. Commenters accused the Applicants of failing to comply with the County's ordinances, previous covenants, and County Natural Forest Community permits. They cite University of Miami's development of primate cages as a specific instance where the County's Natural Forest Community ordinance was violated. Given the Applicants' alleged failure to manage and maintain the property in accordance with County ordinances, covenants and permits, commenters challenge the Service's using the current site conditions to describe the baseline condition of the property.

Response: The Service considers the condition of the property when the ITP application was received to be the baseline condition. The current Natural Forest Community-permit and Tolling Agreement, discussed above under "Otherwise Lawful" address the current condition of the Coral Reef Commons property.

Comment: Several commenters felt that the HCP's description of the Coral Reef Commons property pine rockland habitat as "highly disturbed" and "low quality" understates the value of the habitat. Commenters noted that the disturbed habitat, even the historically scraped areas, has high potential for restoration and contains a diverse assemblage of native species.

Response: The Service agrees that the Coral Reef Commons property has a high level of restoration potential and with proper management can be restored to high quality pine rockland habitat. Restoration of such habitat in the On-site Preserves is included in the Applicants' HCP. The Service further agrees scraped pine rockland also has the potential for restoration.

Insufficient HCP

Comment: The Applicants' HCP fails to meet the applicable criteria, poorly defines the biological goals, and identifies objectives that are neither measurable nor linked to conservation benefits.

Response: The Service evaluates the content of the HCP in section II, above.

Comment: The HCP does not contain species-specific performance measures or pre- and post-project measures and targets but instead relies on a surrogate habitat assessment of take that is neither explained nor justified and fails to provide sufficient information on or to quantify the amount of anticipated take for each of the Covered Species. Commenters further asserted that the use of habitat as a surrogate fails to demonstrate a correlation between species' needs and habitat.

Response: In section II, above, we determined that the HCP satisfies the required criteria. Moreover, take may be quantified in a number ways such as in the number of

affected individuals, nesting groups, or via a surrogate measure like acres of habitat. The Service evaluates the effects (adverse and beneficial) of the action and method of quantifying of take in its biological opinion. Lastly, the success criteria for habitat restoration are measurable and will be monitored to evaluate the Applicants' compliance with the Permit.

Comment: The HCP's conservation strategy lacks the necessary specificity, measurable criteria, and assurances to enable the Service to determine that the proposed minimization and mitigation are to the extent practicable or whether restoration efforts are successful. Other commenters argued that the proposed mitigation is insufficient to offset the impacts of the proposed action and that either additional off-site habitat should be considered or the project should be reduced in size.

Response: The Service evaluated these matters in section III, above, and does not agree with the commenters.

Habitat Functional Assessment

Comment: Numerous comments were received regarding the habitat functional assessment (Assessment) and shortcomings of the model and its criteria. Given the number of individual critiques, we have provided sub-responses in addition to our general response.

Response: The Applicants developed their Assessment to compare alternatives in the HCP and inform the Conservation Program. The Assessment enabled the Applicants to evaluate the baseline conditions of the property, effects the proposed development (and each of the Alternatives) would have on the pine rockland habitat, and benefits of the management actions on the On-site Preserves. It also provided a way for the Applicants to evaluate the pre- and post-condition of the property and sufficiency of proposed minimization and mitigation measures. The Service and the Applicants negotiated the Assessment's criteria and the weighting of the criteria. We recommended a simplistic model due to the lack of sufficient information to build a more specific model without numerous assumptions. The Assessment criteria focus on elements important to healthy pine rockland habitat and ecosystems. The Assessment was beneficial to this ITP application as it evaluates the effects of the action in a quantifiable manner and provides a means to evaluate the extent to which the Applicants' proposed Conservation Program will offset the impacts of the take of Covered Species. The Assessment was designed specifically for this proposed action and the associated ITP application, and should not be considered the Service's preferred method for evaluating impacts to pine rockland habitat.

Comment: The Assessment does not incorporate or address the rarity of pine rockland habitat.

Response: The Assessment evaluates the current condition of the project site, the effects of the proposed action, and the net results considering the on-site Conservation Program. It does not, however, incorporate the uniqueness and rarity of the habitat.

We agree that, for pine rockland endemic species, a routine calculation of impact and compensatory mitigation ratios would not address all of the conservation objectives for the species. We address the uncertainty of managing the pine rockland endemic species by specifying status checks and coordination measures to identify and address potential threats to the species throughout the term of the Permit term. See section III.5, above.

Comment: “Time since fire” was inappropriately weighted since this habitat can be quickly restored.

Response: Time since fire is an important element for considering the health of pine rockland habitat. The Service agrees that this condition typically can be easily remedied and habitat restored when fire is reintroduced to the ecosystem; however, this variable provides the status of the habitat at this time.

Comment: “Total cover of non-native species” and “composition pine rockland desirable herbaceous species” appear to cover essentially the same metric.

Response: The Service considers these characteristics to be distinct criteria for healthy pine rockland habitat. Pine rockland desirable herbaceous species includes nectaring plants that are important to support the covered butterfly species. This measure of habitat quality is not synonymous, however, with a reduced coverage of non-native species. Pine rockland habitat could be predominantly native plants yet still lack the desired abundance of plants necessary to support the butterflies.

Comment: The Assessment should include actual presence of the Covered Species with a view towards restoring their numbers.

Response: The functional assessment is a habitat model and, therefore, does not include numbers or densities of species. In addition, site specific information was not available for all of the Covered Species. As we advised the Applicants in the HCP and the assessment, we wanted to avoid large assumptions on the inputs.

Comment: Critical habitat should have been included as a criterion.

Response: It might have been useful to include critical habitat as a criterion in the Assessment; however, an applicant is not required to evaluate critical habitat as part of its ITP application. Moreover, we do not authorize modification of critical habitat in conjunction with ITP issuance. We more thoroughly analyze and evaluate critical habitat in our biological opinion.

Comment: The HCP does not appear to take into account the diminished value of the Mitigation Areas due to fragmentation and differential dispersal abilities of the

Covered Species.

Response: The Applicants attempted to evaluate the effects of fragmentation by including connectivity as a criterion in the Assessment. We agree that the connectivity criterion does not capture the differential dispersal abilities of species. To do so, however, would require separate species models rather than the habitat model used in the HCP. In the biological opinion we consider the effects of fragmentation on species under the effects analysis for each species. This is captured under habitat loss and fragmentation, and/or habitat connectivity depending on the species and the range of the effect.

Comment: It is unclear how particular habitat polygons in the Assessment become more isolated following development yet appear to increase their overall score.

Response: The connectivity score of each of the habitat polygons was the sum of all sides/scores of the polygon edges. For example, a lower score was given to a polygon with sides touching invasive vegetation. In some cases, a low score due to proximity to invasive species could be raised based on proximity to On-site Preserves even if other sides of the polygon touched development. Although the Applicants developed the model in consultation with the Service, we agree that in some cases the polygon scores are counter intuitive to what one might expect. We considered the output of the model in our analysis along with the best available science and project-specific effects to individual species in developing our biological opinion and this Findings document.

Comment: The scoring matrix design assumes a linear relationship between all habitat functional characteristics and habitat quality.

Response: The Service believes this mimics what is observed in the natural system.

Comment: The +3.10 habitat value units (HVUs) are an increase of approximately 7.6 percent. This delta is statistically insignificant and woefully insufficient.

Response: The ITP process and HCP development does not provide sufficient time to make a precise model. Our standard of review is based on the best available science; the results of an ITP applicant's model need only be qualitative in nature to satisfy the sufficiency requirements for an HCP. We found this model, in addition to other materials provided, to be sufficient for the HCP review.

Comment: The success criteria in the Assessment are arbitrarily low and allow for self-grading. The use of the Assessment and success criteria sets a bad precedent because it is based on little information unlike other habitat assessments used by the Service.

Response: Although we consider the functional assessment to be a useful tool in this HCP, we are not relying on it as the basis for our finding in the biological opinion and decision on whether to issue the requested ITP. The pine rockland habitat model

associated with this ITP application was developed specifically for this matter and should not be applied to other lands without thorough consideration. We believe that the presence of the qualities described in Level 3 of the success criteria would constitute healthy pine rockland habitat. If the success criteria are not attained during implementation of the HCP, we will meet with the Applicants/Permittees to discuss measures to rectify the situation.

Effects Analysis

Comment: Many commenters identified factors or potential threats that they believe were not sufficiently explored or considered. These include pollution (light, noise, water contamination), pesticide use (particularly for mosquito control), herbicide treatments (water contamination), invasive plants, dogs and cats (feral and domestic), human population growth, effects of development on soil and other abiotic functions of the ecological community, effects of the school and community on the preserves, and effects of development/fragmentation on gene flow.

Response: The Service considered most of these factors/potential threats in the EA. Factors that have the potential to adversely affect the Covered Species, such as pollution and mosquito control, are explored further in the biological opinion. In addition, minor changes have been made to the HCP to further reduce the likelihood of threats. For example, the HCP proposes to decrease the threat of feral cats by discouraging colonies in the development. The Service does not have information on the effect of development on soil and other abiotic factors. Consequently, this topic was not explored further.

Comment: One commenter suggested that the potential for saltwater intrusion should be considered because the additional development could further draw down water resources and encourage changes in the availability of water. Furthermore, the salt water intrusion could then affect the Mitigation Areas.

Response: The Applicants conducted an analysis of the water supply available in the area and the demands of the proposed community and determined there are sufficient resources. This effect was presented under Alternative 4 (4.3, County Approved Zoning) of the EA, with supporting materials in the Attachment 6. The Service acknowledges that climate change and sea level rise could ultimately result in salt water intrusion, even if it is not directly caused by the water use in the community. The sea level rise modeling results presented in the biological opinion's discussion on climate change projects that inundation of the Richmond Pine Rockland habitat could begin at very low levels by 2070 with a sea level rise of 2.3 feet (0.01 percent of available pine rockland habitat) and as much as 2.88 percent by 2100 if sea level rise reaches 6.8 feet (section 3.2 of the biological opinion). Indirect effects including salt water intrusion could accompany sea level rise; however, the Service is not aware of any models that would enable us to better forecast this effect in the region to consider during the timeframe of the permit.

Species Specific Comments

Comment: Several commenters recommended additional population viability analysis and revised habitat models to evaluate the effects of the proposed Project on the Covered Species. Commenters criticized the habitat model's failure to provide a means to capture the extent to which individual Covered Species would be affected by the condition of the habitat (e.g., thin canopy reduces roosting opportunities for Florida bonneted bats while current disturbed habitat conditions provide additional open spaces for the Miami tiger beetle). Other recommendations included developing an ecological risk conceptual model and revising the conservation plan with an ecologist to provide habitat for wildlife via corridors and other ecosystem functions.

Response: The Service provided technical assistance and recommendations to the Applicants on ways to improve their proposed action and HCP with respect to avoiding, minimizing, and evaluating effects to Covered Species. Moreover, we always strive to work collaboratively with ITP applicants to develop the best strategy to satisfy HCP content criteria and permit issuance criteria. The HCP is the applicant's document, however, and we cannot force an applicant to include measures in their plan. The Applicants chose and used a habitat model in their HCP that we determined to be sufficient. We rely on our experts to conduct independent evaluations of the effects of a proposed action for use in our biological opinion where we consider the habitat pre- and post-development with respect to individual species.

Bartram's scrub-hairstreak butterfly

Comment: The HCP reduces the species' available habitat, increases fragmentation, and fails to include sufficient measures to minimize or ameliorate those threats. The commenters suggest that these effects will likely result in a decline of Bartram's scrub-hairstreak butterfly.

Response: The Service agrees that the proposed development will reduce the species' available occupied habitat and further isolate the most northern population of the butterfly from the remainder of its extant range. The Applicants' preferred alternative reduces connectivity and increases fragmentation within the Project property as well as within the greater Richmond Pine Rocklands thus reducing dispersal opportunities. To issue an ITP, we must determine that the HCP meets the required criteria and that the application satisfies the criteria for ITP issuance. Among the criteria is a finding that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. In analyzing this criterion in our biological opinion, we considered the effects of the loss and increased fragmentation of the butterfly's habitat along with the Applicants' proposed Conservation Program. Our analysis concludes that the proposed Action will result in a small increase in the number of Bartram's scrub-hairstreak butterflies in the action area, because of the improved habitat conditions in the On-site Conservation Areas and the Off-site Mitigation Area (section 4.4 of the biological opinion).

Comment: Several commenters expressed concern that the disjunct on-site Conservation Areas, particularly the Stepping Stones, could adversely affect the butterflies by creating a sink rather than providing opportunities for species' movement between the On-site Preserves. One commenter suggested that a more continuous stretch of pineland croton would be more appropriate to support the species.

Response: The Service disagrees that the Stepping Stones could create sinks. We expect the butterflies to cross the stepping stones en route to the larger On-site Preserves. We agree that the preferred alternative eliminates the majority of pineland croton on-site and currently occupied by the species and reduces habitat connectivity across the Coral Reef Commons property and within the larger Richmond Pine Rocklands. The East and West Preserves; however, each exceed the minimum size known to support an extant Bartram's scrub-hairstreak butterfly population. Given the dispersal ability of the butterfly to recolonize areas after natural disturbances, we believe the availability of pineland croton and other flowering plants within the Stepping Stones and Southern Corridor Preserve should attract foraging adult Bartram's scrub-hairstreak butterflies that are present nearby even though they are not extensive enough to support the species' other life-history needs.

Therefore, it is our judgement that the Southern Corridor and Stepping Stones and the size of the other, larger Preserves support connectivity across the Coral Reef Commons property and support viable populations within the larger Richmond Pine Rocklands (section 4.3.3 of the biological opinion).

Comment: Based on efforts to restore pine rockland habitat on Big Pine Key, one commenter expressed concern about the ability of pineland croton to re-establish within the Mitigation Areas.

Response: The Service does not agree that efforts to restore pine rockland habitat on Big Pine Key is a good model or indicator for evaluating the restoration potential of pine rockland habitat in the County. Introduction of fire has been demonstrated to increase the abundance of pine croton. This species is present within East and West Preserves and expected to be present in the Off-site Mitigation Area. When fire is implemented as proposed in the HCP, the Service expects that the pineland croton present will increase in abundance. Possley *et al* 2016 documented that pine rockland habitat sites in the County with more frequent fire had more abundant pineland croton. (Possley, J., S. Hodges, E. Magnaghi, and J. Maschinski. 2016. Distribution of *Croton linearis* in Miami-Dade County Preserves with Potential for Supporting the Federally Endangered Butterflies *Strymon acis bartrami* and *Anaea troglodyte floridalis*. Natural Areas Journal 36: 81-87).

Eastern indigo snake

Comment: The HCP fails to address species' threats such as fragmentation, road mortality, genetic isolation, environmental pollutants from the covered activities, and intentional killing or to evaluate the viability of the corridor width to support movement of the eastern indigo snake.

Response: The Service has conducted a more thorough analysis of the effects of the proposed action on the eastern indigo snake in our biological opinion. We concluded that the proposed development may harm as many as two or three eastern indigo snakes, most likely during construction of the project. We believe that managing the On-site Preserves and Off-site Mitigation Area will likely benefit the species' population in the Richmond Pine Rocklands (section 8.4 of the biological opinion).

Comment: Neither the HCP nor the EA considers the new studies and genetic information on eastern indigo snakes regarding there being two subspecies and whether this could change the analysis of the effects of the proposed action.

Response: Recent genetic research (Krysko *et al* 2016; Krysko, K.L, L.P Nuñez, C.A. Lippi, D.J. Smith, and M.C. Granatosky. 2016. Pliocene-Pleistocene lineage diversifications in the Eastern Indigo Snake (*Drymarchon couperi*) in the Southeastern United States. *Molecular Phylogenetics and Evolution*; Vol 98; May 2016; p 111-122.) proposes that there are two species of eastern indigo snake, a Gulf Clade and an Atlantic Clade. The Service is also aware that additional research, currently in draft, refutes the conclusions in the Krysko paper. We consider the listed entity to be the eastern indigo snake (*Drymarchon corais couperi*). Until there is further resolution on the new genetic information, we will continue to conduct consultations on the species as originally-listed.

Florida bonneted bat

Comment: The survey methodology for Florida bonneted bat was flawed and did not allow for evaluation of roost switching, which is known to occur in this species.

Response: The Applicants followed the survey recommendations provided by the Service. Surveys have not yet been developed to capture the possibility of the roost switching because there is little evidence to suggest when and why roost switching occurs (*e.g.* seasonal, mating cycle). The HCP does, however, include minimization measures to further evaluate potential roosting on-site prior to tree removal (HCP section 6.2.2.1).

Comment: The HCP mischaracterizes the data collected on the Florida bonneted bat, and the conclusion is not supported by the data.

Response: The HCP, which is the Applicants' document, provides their evaluation of the Florida bonneted bat acoustic information in accordance with advice from their experts. We do not agree with the Applicants' assessment of the data and conducted independent evaluations of the acoustic results developing our own conclusions as to the species' use of the Coral Reef Commons property. Our findings and conclusions were incorporated in our analysis of the proposed action in our biological opinion.

Comment: There is insufficient evidence that the proposed conservation strategy will benefit the Florida bonneted bat, particularly that the On-site Preserves would provide a more diverse prey base and that fire management would benefit the species.

Response: There is no research supporting the Applicants' contention that the On-site Preserves will support a more diverse prey base for the species. Nonetheless, we believe it reasonable to expect that the natural forest and a healthy pine rockland ecosystem would support a robust prey base for Florida bonneted bat. The bat occurs in the fire adapted ecosystem in southern Florida where fires create roosting opportunities and support healthy pine rockland ecosystems that we believe would benefit the species. Research on the relationship of bats to fire is underway; preliminary information presented at the Big Cypress Science Symposium (2017) showed higher bat activity in burned habitats.

Gopher tortoise:

Comment: Given that the minimum reserve size for gopher tortoise is 247 acres, the proposed development would compromise the viability of the resident population.

Response: The Service has adopted the Gopher Tortoise Council (GTC) parameters of a minimum viable population (MVP) and the size of the reserve needed to support an MVP. An MVP has been described as a demographically stable population with at least 250 adult tortoises, at a density of no less than 0.4 tortoises/hectare (approximately one tortoise for every 6 ac), on at least 100 ha (250 acres) of well-managed, suitable habitat (GTC 2014; Gopher Tortoise Minimum Viable Population and Minimum Reserve Size Working Group Report II, prepared by Gopher Tortoise Council October 2014). The Richmond Area contains approximately 594 ac of pine rockland habitat (HCP Table 8-1), which is enough acreage for a minimum reserve size. The population of gopher tortoises expected to occur within the Richmond Area is likely far smaller than 250 tortoises as there have been only a few documented observations on Zoo Miami and U.S. Coast Guard property (EA, section 3.3.3.1, Status of the species within the proposed Coral Reef Commons property).

Miami tiger beetle

Comment: Several commenters expressed concern that the HCP is flawed in its evaluation of the Miami tiger beetle, and recommended species surveys. Commenters also stated that the surveys conducted by Knisley in 2013 should not be extrapolated for the project footprint.

Response: We agree that the Applicants present the results of Dr. Barry Knisley's surveys on the Coral Reef Commons property in a manner that suggests thorough surveys were conducted throughout the property. As stated in the Service's EA, Dr. Knisley surveyed only a small portion of the property (approximately 1.7 hectare [ha] [4.3 acres]) on the eastern side of the proposed development area and did not observe the Miami tiger beetle (Knisley 2013; Knisley, C.B. 2013. Biological studies of the Florida tiger beetle, 2011-2013. Final Report. April 13, 2013.). While the Applicants cite to Dr. Knisley's limited findings, they nonetheless elected to proceed as though the species is reasonably certain to occur on the property. The Service agrees that the species is reasonably certain to occur on the property and has analyzed the ITP application based on this presumption.

Comment: The proposed action will result in the loss, fragmentation and degradation of pine rockland habitat, which is needed for the survival and recovery of the Miami tiger beetle, and the Applicants have failed to propose sufficient measures to offset these impacts.

Response: As proposed, this Project will result in the loss of suitable Miami tiger beetle habitat and further fragment pine rockland habitat within the Richmond Pine Rockland Area. To offset these impacts, the Applicants propose to actively manage the two Mitigation Areas (on- and off-site) to create and maintain healthy pine rockland habitat sufficient to meet the success criteria set forth in the HCP. The success criteria were set up with the goal of establishing ideal pine rockland habitat conditions. We have analyzed the loss and increased fragmentation of pine rockland habitat in our biological opinion as it relates to the survival and recovery of the Miami tiger beetle. We concluded that the proposed Project will offset the loss of the suitable Miami-tiger beetle habitat by addressing a primary conservation need of the species, which is to better manage remaining pine rockland habitats. Furthermore, we estimate that this management will cause a net increase in numbers of Miami-tiger beetles within the action area (section 7.4 of the biological opinion).

Comment: There is no evidence to support that the Southern Corridor Preserve will provide connectivity suitable for the Miami tiger beetle.

Response: The Service analyzed the viability of the Southern Corridor Preserve for connectivity in our biological opinion. We agree that there is no available science and research to demonstrate that the corridor will be sufficient to provide connectivity between the East and West Preserves. Because of the corridor's small size (approximately 9–15 m (30–50 ft) wide and 663 m (2,176 ft) long) and

proximity to development, management will consist of mechanical treatment rather than prescribed burning. Although fire is the preferred technique to manage pine rockland habitat and create a healthy ecosystem including open sandy areas that are necessary for the beetle; the success criteria include maintaining open bare ground in the corridor, so suitable habitat should be present. The Miami tiger beetle is very small, and occupies open patches as small as 2 square meters. Consequently, in section 7.3.3 of the biological opinion we concluded, if management of the Southern Corridor Preserve achieves the success criteria, it is our judgement that it would serve to some degree as a functional pathway for Miami tiger beetle movement. We also expect that property adjacent to the Southern Corridor Preserve outside of the action area would provide opportunities for movement and support connectivity between the East and West Preserves.

Comment: The On-site Preserves are too small to support the long-term survival of the Miami tiger beetle.

Response: The size of populations or metapopulations needed for the long term viability of the Miami tiger beetle is currently unknown, and at this time, we do not have the data necessary to run a population viability analysis. We agree that habitat size and quality are two important factors of population viability for the species. Research on the federally-threatened northeastern beach tiger beetle (*Cicindela dorsalis*), a coastal species, suggests that populations of at least 500-600 adults might be necessary to maintain viability through stochastic events (Knisley and Hill 2013; Knisley, C.B. and J.M. Hill. 2013. The Highlands Tiger Beetle, *Cicindelidia highlandensis* (Choate): distribution, abundance, biology and conservation. *Cicindela* 45:17-47). It is believed, however, that sand dune and scrub species, such as the Miami tiger beetle, might require smaller population sizes to maintain viability. Our best estimate of what is necessary for the Miami tiger beetle's viability comes from estimates for the closely related Highlands tiger beetle (*Cicindelidia highlandensis*). It has been estimated that approximately 100 adults in an area of at least 1-2 ha (approximately 2.5 - 5 ac) might be sufficient for the Highlands tiger beetle's viability (Knisley and Hill 2013). While the Applicants' proposed East and West Preserves (23.9 and 21.6 acres, respectively) exceed the estimated minimum size threshold (1 ha) for the Highland beetle, the proposed southern corridor (2.2 ac) designed to connect the two preserves does not. Collectively, the East and West Preserves connected by the Southern Corridor Preserve are expected to provide sufficient habitat to support the species.

Comment: The effects of pesticides on the Miami tiger beetle have not been well evaluated and are likely to impact the species' food source.

Response: The Service agrees that pesticide use in and around pine rockland habitat is a potential threat to the Miami tiger beetle through direct exposure to adults and larvae, secondary exposure from insect prey, overall reduction in the availability of adult and larval prey, or any combination of these factors. The use

of pesticides for agriculture and mosquito control presents potential risks to non-target insects, especially imperiled insects (EPA 2002, 2006a, and 2006b¹). While not well studied, the negative effect of insecticides on several tiger beetle species has been suggested (Nagano 1982; Nagano, C.D. 1982. Population status of the tiger beetles of the genus *Cicindela* (Coleoptera: Cicindelidae) inhabiting the marine shoreline of southern California. *Atala* 8(2):33-42; and Stamatov 1972; Stamatov, J. 1972. *Cicindela dorsalis say* endangered on the northern Atlantic coast. *Cicindela* 4:78). The Miami tiger beetle actively feeds during the day, preying on small arthropods, especially ants. The diurnal behavior of the Miami tiger beetle and its prey base may limit some of the potential exposure to mosquito control treatments, which typically occur during the evening hours when mosquitoes are active and winds are calm. The Applicants have developed community best management practices to minimize the adverse effects of pesticides on the Covered Species as detailed in section 6.2.3.3 of the HCP. We have analysed the effects of these practices on the species in our biological opinion.

Comment: One individual commented that the Miami tiger beetle seems to require the same type of sandy soil as tiny polygala and that, in the absence of surveys, this could potentially provide a means to evaluate the beetle's presence in the HCP Area.

Response: The Service agrees that both the Miami tiger beetle and tiny polygala seem to occupy the same soil conditions. The Miami tiger beetle is known to occur in areas where Opalocka Sand-Rock Outcrop Complex is common. This soil type, which is most dominant in the northern part of the Miami Rock Ridge (Northern Biscayne Pinelands), is present throughout most of the Coral Reef Commons property. Tiny polygala ranges north of the Richmond pinelands in similar soil series; however, based on the limited known occurrences of the Miami tiger beetle, it is unknown if the beetle occurs in those other soil types. Miami-Dade County populations of tiny polygala occupy sand deposits within pine rockland habitat. The depth of the sand deposits range from 2 mm to greater than 90 cm (Kennedy 1998; Kennedy, S.M. 1998. The seed bank and seedling dynamics of *Polygala smallii*, the tiny polygala. M.S. Thesis. Florida International University, Miami, FL). As more information is gathered through

¹ U.S. Environmental Protection Agency (EPA). 2002. Interim reregistration eligibility decision for naled. EPA 738-R-02-008. January 2002. U.S. Environmental Protection Agency. Office of Prevention, Pesticides and Toxic Substances. Washington, D.C.
U.S. Environmental Protection Agency (EPA). 2006a. Interim reregistration eligibility decision for naled. EPA 738-R-02-008. July 2006. U.S. Environmental Protection Agency. Office of Prevention, Pesticides and Toxic Substances. Washington, D.C.
U.S. Environmental Protection Agency (EPA). 2006b. Interim reregistration eligibility decision for permethrin. EPA 738-R-02-008. July 2006. U.S. Environmental Protection Agency. Office of Prevention, Pesticides and Toxic Substances. Washington, D.C.

HCP monitoring and other research, the Service may consider using habitat as a surrogate for Miami tiger beetle survey as suggested by the commenter.

Plants

Comment: The characterization of tiny polygala population is an under estimate based on the species biology.

Response: The Service agrees tiny polygala seeds may remain dormant in the soil until fire disturbs the site; therefore, abundance and population trends for this species are difficult to assess. Woodmansee *et al.* (2007) (Woodmansee, S. W., M. J. Barry, K. A. Bradley, S. E. Green, and J. M. Mahoney. 2007. Post-hurricane Field Assessments of six federally endangered and candidate plant species. Final Report to the Service, Vero Beach, Florida. Contract #401815G156 to the Institute for Regional Conservation.) indicates that tiny polygala occurrences appear to be cyclic, suggesting that historical occurrences, if given appropriate management, may reappear. Seeds buried to a depth of one cm for over two years exhibited a high viability rate suggesting that seeds may persist for 10 years or more when slightly buried (Kennedy 2006; Kennedy, S. 2006. Peer review comments to U.S. Fish and Wildlife Service. November 21, 2010.). Accordingly, it is possible that the tiny polygala population located within the Coral Reef Commons Project area has been underestimated and that large numbers of the species might emerge under suitable conditions (*e.g.*, fire and precipitation).

Rim rock crowned snake

Comment: Threats to the rim rock crown snake, including predation by non-native species such as red ants, have not been sufficiently analyzed in the HCP or EA. The documents also fail to consider the extent to which the Project will contribute to the expansion of red ants as well as the collection and intentional killing of the snake species.

Response: We have conducted a more thorough analysis of the effects of the proposed action on the rim rock crowned snake in our biological opinion. We anticipate that the development will not increase the presence of fire ants beyond the baseline because the development area is partially urbanized and previously disturbed. If pesticides are used in the development area to curtail fire ants during operations, Coral Reef Commons will utilize the standards and practices listed in section 2.3.3, and we anticipate that controlling fire ants in the development area will be beneficial. Ultimately we conclude that, although the construction period will have negative effects on the species, the potential for take or collection of a rim rock crowned snake from operation of the Coral Reef Commons community is considered negligible. Based on the low number of anticipated number of snakes within the action area and the enforcement of the Community Practices, We believe that managing the On-site Preserves and Off-site Mitigation Area will likely benefit the species' population in the Richmond Pine Rocklands by

improving the species' primary habitat type (section 10.3 and 10.4 of the biological opinion).

Conservation Program/Mitigation

Comment: Some commenters expressed concern that the Applicants' proposed minimization measure of educating contractors and residents lacks sufficient detail to demonstrate the effectiveness of such measure. Another commenter questioned who would be responsible for monitoring and enforcing the Applicants' implementation of best management practices and minimization measures during project construction.

Response: The Applicants have developed and incorporated additional educational materials at Appendix E1 of the final HCP. We also anticipate further opportunities to improve resident education through adaptive management. We have already recommended, and the Applicants are considering, conducting an annual education program for residents. The monitoring and enforcement of best management practices and minimization measures during Project construction will be undertaken by the HCP Coordinator and /or onsite foreman. This matter has been clarified in section 6.2.2.3 of the HCP.

Comment: Some individuals commented that a restoration expert should evaluate the viability of the HCP restoration plan. Several others expressed concern that the restoration timeline is unreasonable as it will take longer to restore the On-site Preserves to reach the success criteria. Commenters also questioned the Applicants' projected cost estimates as well as the sufficiency of the Master Association's expertise to implement ongoing habitat management.

Response: The Applicants hired an experienced professional consultant to evaluate the restoration plan, and we also have experience in evaluating restoration plans for pine rockland habitat. Restoration of pine rockland habitat occurs rapidly following implementation of proper burning. The Applicants have committed to implement a prescribed burn of the East and West Preserves and Off-site Mitigation Area during the first years of HCP implementation. Regardless of the time it took to accomplish restoration (reach level 3 success criteria), the Applicants would be obligated to manage to such end pursuant to provisions of the HCP as well as in accordance with the terms and conditions of the ITP. The cost estimates allow the Applicants and the Service to evaluate the Applicants' ability to implement the plan. We will work with the Master Association during its annual and other scheduled meetings to evaluate changes to habitat management as deemed necessary.

Comment: One commenter expressed concern that the on-site preserves were too small and isolated to support viable populations.

Response: The on-site preserves are located adjacent to off-site open space and pine rockland habitat, therefore they are not limited to their on-site acreage. The west and east

preserves will be 23.92 and 21.61 acres, respectively. The Service does not have information on the minimum parcel of habitat needed to support a viable population for many of the Covered Species. The Project includes the Southern Corridor to promote connectivity between the two preserves and to connect them functionally for species. The Service agrees that the size of each preserve individually is insufficient to support a viable population of several of the Covered Species independently, *e.g.*, indigo snake, Florida bonneted bat, and gopher tortoise. The conservation and management of the On-site Conservation Areas is intended to improve habitat to support long-term survivorship of these species in the context of the larger Richmond Pine Rocklands. The Service's biological opinion considers how these areas will support the Covered Species.

Comment: Numerous commenters expressed concern about the viability of the Southern Corridor Preserves to serve as a connector between the East and West Preserves. One commenter stated that corridors generally are successful only when aligned with species' movement and then questioned how the southern corridor could function successfully when movement of the Covered Species is unknown. Another individual commented that establishing a functional corridor would be challenging given the life-history of pine rockland species to select suitable microhabitat within the pine rockland ecosystem and described the design of the proposed corridor as unrealistic. One individual commented that management practices in the corridor, specifically mastication, present potential additional barriers to, rather than opportunities for, dispersal.

Response: The Service agrees that connectivity between the East and West Preserves is important to the long term sustainability of species on the two preserves. The current design of the corridor may not be the optimum design for a conservation strategy; however, within the range of alternatives considered, the Southern Corridor Preserve provides for the greatest amount of connectivity between the On-site Preserves. Although specific movement corridors are not known for the Project site, species such as the Bartram's scrub hairstreak butterfly are not known to move along delineated pathways. With respect to micro-habitat availability and land management, because the Applicants will be managing the corridor to reach the success criteria, which includes open bare ground and pineland croton, we expect suitable habitat and movement opportunities to exist in the corridor.

Comment: The proposed Conservation Program will be compromised by the Project's fragmentation of habitat in the greater Richmond Pine Rockland Area, lack of connectivity to off-site pine rockland parcels, and land management practices of adjacent land owners. Other commenters asserted that the failure of the corridor design and Stepping Stones to support connectivity between the East and West Preserves would lower the value of the conservation strategy. Commenters also suggested that the Applicants consider a reconfiguration of the On-site Conservation Areas to improve connectivity and management opportunities within the development.

Response: As discussed above in the *Habitat Functional Assessment* section, the Applicants used a criterion for connectivity in the assessment to consider the potential effects of fragmentation on the On-site Conservation Area design that included habitat connectivity with off-site/adjacent landowners. The Service agrees that other configurations of the Stepping Stones and Southern Corridor Preserve corridor could increase connectivity between the East and West Preserves and decrease fragmentation in the Richmond Pine Rockland Area; however, our role is to evaluate the Project as presented to us by the Applicants. Still, we believe that the preferred alternative provides opportunities for connectivity and movement of the Covered Species both on-site and off-site.

Comment: The Applicants should be required to translocate or move any critter that would otherwise be potentially harmed or killed by the Project development.

Response: Although translocating species is a tool to prevent harm from a proposed action, it is not always beneficial to the translocated individual or the recipient population. For many species, research has not been conducted to determine the proper techniques for translocation or the protocols that would best minimize harm and optimize benefits and survivorship of the species. We do not have tested or approved translocation protocols for many of the Covered Species, and therefore, did not consider this a necessary minimization measure. We did propose that the Applicants use the development area as an opportunity to experiment with translocation techniques for larval Miami tiger beetle.

Fire

Comment: Numerous commenters questioned whether the fire management plan would be implementable given health concerns, smoke management, and proximity to development. Others expressed concern about the extent to which the development would impact the ability of neighboring properties to conduct controlled burns and manage their pine rockland habitat. On the other hand, one commenter, a former certified burn manager in Florida, praised the proposed burn plan as feasible, even in an urban environment, because its small burn units would allow for better burn management. We note, however, that the Applicants contracted with this certified burn manager to write the burn plan. Another commenter suggested adding additional buffers to East and West Preserves to improve opportunities for controlled burns.

Response: The Service acknowledges the challenges to implementing prescribed burns in urban environments. Such burns require ideal conditions, proper fuel load management, and cooperation and coordination with neighbors. The Applicants worked with the Florida Forest Service to develop the Coral Reef Commons Fire Reintroduction and Prescribed Burn Plan (HCP, Appendix J) and Off-site Mitigation Area Burn Plan (HCP, Appendix J1). The Applicants developed a strategy to introduce fire to the East and West preserves prior to construction of the real estate properties. This effort is

expected to reduce fuel loads and set a better baseline for continued implementation of fire on the property.

We agree that the Applicants/Permittees will need to coordinate with neighboring landowners in the Richmond Pine Rocklands in the future to maximize implementation of prescribed burns to increase the overall health of the pine rockland in the area. If the property owners do not work collaboratively, the habitat and species will likely suffer. We address this need in the changed circumstances condition in the ITP see section III.5, above.

Comment: One individual commented that a mandatory notification should be given to all prospective retail and residential tenants that controlled burns will occur adjacent to their property and that residents should be required to sign an acknowledgement of receipt of notice at the signing of their lease.

Response: The Service and Applicants agree. This is reflected in section 6.2.3.2 of the HCP.

All lessees, property owners, and/or tenants within the Coral Reef Commons Property will be required to sign documentation acknowledging fire management activities within the Coral Reef Commons Property and on adjacent properties in the Richmond Area

Comment: The Coral Reef Commons Burn Plan needs to incorporate the concepts of “litter depth” and “tree density,” which represent biologically significant predictors for an ecological “point-of-no return.”

Response: The Applicants' intention is to burn all portions of the East and West Preserves within the first five years of HCP implementation. Neither the Applicants nor the Service considers any portion of the On-site Conservation Areas or the Coral Reef Commons property to be past the ecological point-of-no return. Debris created from mechanized vegetation management will be raked as part of ongoing management to avoid deep litter piles and optimize fuel loads.

Comment: Comments were received that the mechanical and chemical removal of exotics is not a sufficient substitute for controlled burns.

Response: The On-Site Conservation Areas will be managed to meet the identified success criteria. Adaptive management and coordination will occur between the preserve managers and the Service to continue to improve management techniques as needed.

Climate

Comment: Several comments were received related to climate change and sea level rise. Many commenters complained that the analyses of these matters in the HCP and/or EA are flawed or do not sufficiently consider the extent to which future climate change will change and impact the effects of the Project on the Covered

Species. They further asserted that climate change should be carefully considered as its effects will alter much of the currently available habitat thus increasing the importance of the Richmond Pine Rockland Area and the impacts to the proposed Project area on the survival and recovery of the Covered Species.

Response: We thoroughly considered climate change and sea level rise in our biological opinion, particularly in the sections on the statuses of and current threats to the Covered Species. We used Sea Level Scenario Sketch Planning Tool GIS Data: Sea Level Rise Inundation Surfaces;” University of Florida GeoPlan Center (June 2017) and the NOAA VLM 2017 model to evaluate the expected change in available pine rockland habitat over the 30-year term of the Permit and potential 25 year extension. This discussion can be found in section 3.2 of the biological opinion. In summary, climate change will influence the status of most of the species and CHs that the proposed project will also affect, especially those primarily or exclusively associated with pine rockland habitat. Climate change is expected to alter pine rockland habitat in the foreseeable future by: 1) increasing temperatures; 2) changing precipitation patterns, including the frequency and intensity of tropical storms that make landfall in south Florida; and 3) raising sea levels. Of particular interest for species dependent on pine rockland habitat are the effects of sea level rise. The effects of sea level rise could reach the Richmond Pine Rocklands by 2050, with a 0.01 percent acreage loss under scenario C5 of the GeoPlan model. By 2100, inundation loss is 0–2.88 percent under the various scenarios. Newer models from NOAA VLM 2017, project even faster changes in sea level rise; however, within the permit duration (2050) projections remain under approximately 2.9-foot sea level rise, which equates to a 0.01 percent acreage of pine rocklands with the Richmond Area.

Compliance

Comment: Several comments were received expressing concern about enforcement of the HCP and ITP, the assessments of whether success criteria are satisfied, and the sufficiency of the long-term monitoring.

Response: Monitoring and reporting are mandatory elements of all HCPs and ITPs. Chapter 10 of the HCP outlines the administrative structure, reporting schedule, and annual review meetings between the Applicants/Permittees, Service, and FWC. Annual HCP meetings are scheduled to occur until the Mitigation Areas have reached the identified success criteria. The Service and Applicants engage in ongoing communication to review and assess the extent to which the HCP Conservation Program is attaining the identified biological goals, objectives and success criteria. Once the success criteria for the management of Mitigation Areas are satisfied, review meetings will occur every five years rather than annually. Five years before expiration of the ITP, the Applicants/Permittees, Service and FWC will convene a review meeting to evaluate renewing the ITP and identify potential amendments to the HCP and/or ITP. If extension of the Permit term is likely to jeopardize the continued existence of a Covered Species, even if the Permit is being properly implemented, the Service may revoke the Permit.

Comment: How will the HCP be enforced if ownership changes?

Response: ESA implementing regulations at 50 CFR 13.25 provide for transferring an ITP to a prospective purchaser of or successor to a property that is covered by an ITP. As to the current ITP application, the HCP and ITP specifically contemplate ultimately transferral to a Master Association.

Comment: The Applicants have failed to provide the necessary assurances of adequate funding to implement the HCP over the requested 30-year term.

Response: The Applicants' HCP funding is described in section 11 of the HCP and Appendix L of the HCP. We evaluated the Applicants' funding assurances made by the Applicants in Section III.3, above.

Comment: There should be a plan to reclaim and restore the property in the future if the Permit is revoked or the development is abandoned.

Response: The Service would assist any landowner interested in such voluntary conservation activities. The Service's policies and regulations provide contingencies to address early termination of a permit due to revocation, abandonment, or other causes.

National Environmental Policy Act

Comment: Numerous commenters believe the Service should have prepared an Environmental Impact Statement (EIS) in this matter because the Project includes significant impacts to the human environment and is highly controversial due to the rarity of the pine rockland habitat and the limited distribution and status of the species that rely on the habitat.

Our NEPA findings are in Section VI, below. We acknowledge that there is great public interest in this ITP application as well as that the proposed Project has generated controversy in the County community. In conducting our review of this application, we considered the extent of our federal action and the scope of our analyses of the federal action under NEPA.

The Federal action under consideration is the issuance of the requested ITP, which necessarily entails an analysis of the associated HCP. As we describe in our responses to certain of the public comments, it is not within our authority to regulate regional development in the County. The authority to determine whether to allow the construction of developments such as the Applicants' Project and to regulate the extent to which such projects are allowed to affect the region lies with the County pursuant to its zoning, traffic management, land use planning, and other legal authorities. Our authority in matters such as this is derived from section 10(a)(1)(B) of the ESA, which prescribes the conditions under which we may approve an application for incidental take of federally-listed species. We have no regulatory control over the effects of the Project except to the extent they are causally related to the take of species.

We are required to issue ITPs when an application satisfies the criteria for HCP content and permit issuance. We believe that the requested ITP application meets issuance criteria. We have determined that the direct and cumulative effects of the proposed Project will not appreciably reduce the likelihood of the survival and recovery of any of the Covered Species in the wild. As we demonstrated in section III.5, above, we have considered environmental uncertainties that are beyond our control such as future proposals to develop adjacent properties and sea level rise. We do not believe that the Conservation Program of the HCP is threatened by uncertainties except for the ability to conduct prescribed burns as planned. If prescribed burning becomes impractical in the future, however, the HCP provides alternative measures to achieve vegetation management objectives.

Comment: Numerous commenters requested an extension of the 60-day comment period to 90 days as well as public hearings on the application pursuant to NEPA.

Response: Based on the scope of the proposed action and the anticipated effects on the human environment, the Service chose to conduct its NEPA analysis of the application via an Environmental Assessment (EA). There is no requirement to conduct public hearings during the development and review of an EA. Our NEPA findings are found in Section VI, below. The Service's 2016 HCP Handbook recommends a 30-day public review for low-effect and EA-level HCPs. This is a change from previous Service policy that recommended a 60-day comment period. We chose to open a 60-day comment period on this application to accommodate the expected level of public interest in this Project and to avoid confusion and conflict by implementing the Service's policy change (*i.e.*, 30-day comment period) well into the processing of this application.

Comment: The alternatives presented in the EA are flawed, and the "no action" alternative is incorrectly presented given the Applicants' failure to manage and maintain the Coral Reef Commons property in accordance with the Natural Forest Communities and pursuant to County Natural Forest Community Permit 2012-012.

Response: The Service agrees that an additional alternative should have been presented to address the County's requirements to manage the Natural Forest Community portions of the Coral Reef Commons property pursuant to Natural Forest Community Permit 2012-012. We have revised the EA to address this matter in Alternative 1B ("minimal management").

Comment: The County sought to purchase and make the Coral Reef Commons property a conservation area, and this should have been included as an alternative. Moreover, the Service should not blindly adopt the Applicants' economic rationale as determinative of the reason a matter should not be considered a viable alternative. Furthermore, the Service should consider no issuance of a permit and full restoration of the property as an Alternative.

Response: While the Service may analyze alternatives that were not considered by the Applicants in their HCP, we cannot compel them to agree to an alternative that would not meet their objectives. ITP applicants have great latitude in designing a proposal based on

their objectives and economic goals. It is our role to analyze the action proposed by the applicant in its ITP application to determine whether it satisfies ESA issuance criteria, and to issue the ITP if appropriate.

Comment: The EA does not adequately analyze the impacts the Project would have on the human environment such as effects on water demand, increased traffic, population growth, and pollution (heat, light, and ground runoff). Commenters were particularly concerned about impacts to what is already a high traffic area, potential increased demands on water supplies, contamination of the Coral Reef Commons property from previous activities, and safety concerns related to the proximity of the development to the State Department installation.

Response: These important issues were considered by the County when the Applicants applied for zoning changes and the Natural Forest Community permit for the project. These effects also are presented under Alternative 4 (4.3, County Approved Zoning) of the EA with supporting materials in the appendices. We are not aware of any safety concerns that might arise based on the Project's proximity of the State Department installation, and the State Department did not submit comments on the Project.

Other

Comment: Neither the EA nor the HCP sufficiently analyze the extent to which the proposed Project would adversely affect migratory birds.

Response: The Service did not identify any special migratory bird conservation needs that should have been addressed in the EA or HCP. Neither the Coral Reef Commons property nor the UM Richmond Campus provides unique or novel habitat to species during migration or contains features, such as marshes or open water, that commonly encourage the congregation of migratory birds.

Comment: The Applicants' characterization of the land use in the HCP is inconsistent with the Woodmansee report that it references.

Response: The Applicants worked with Woodmansee to develop Figure 2-2 of the HCP based on the Woodmansee report and additional on-site evaluation.

Specific Comments that resulted in specific changes to the HCP or EA

Comment: Plantings within the southern boundary area should be comprised "exclusively" -not "primarily"- of native plants from the referenced Miami-Dade County plant list.

Response: The text has been changed to reflect that only native plants will be used.

Comment: One commenter commented that the property boundaries were incorrectly depicted in Figure 1-A of the HCP.

Response: The Applicants verified this map with the property appraiser maps. The map in the figure is intended to function as a conceptual boundary map.

Comment: The HCP incorrectly identifies the entities that harvested plants on-site as “environmental groups.”

Response: The Applicants have modified the HCP to refer to “three entities.”

Comment: The Miami tiger beetle was not included in certain sections of the EA when disclosing and considering when take would be likely to occur.

Response: This was an oversight and the typographical error has been corrected in the EA.

VI. NATIONAL ENVIRONMENTAL POLICY ACT – ANALYSIS AND FINDINGS

Issuance of the ITP will result in the authorization of take of the Covered Species incidental to site preparation, construction, occupancy, and habitat maintenance on the Coral Reef Commons development and incidental to habitat restoration and maintenance on the UM Richmond Campus conservation area. Issuance of the Permit would be predicated on full and continued implementation of the Applicants/Permittees’ HCP and compliance with all other requirements of the ITP, including, but not limited to, the terms of the Permit. The Applicants developed and modified drafts of the HCP based on pre-application, technical assistance consultations with the Service on various aspects of the application.

Our evaluation in the Environmental Assessment of the direct, indirect, and cumulative impacts of issuing the ITP did not identify a significant effect on the human environment. Specifically, we determined that the cumulative effects of ITP issuance would not result in permanent and irreversible changes to the current state of the physical and biological environment, infrastructure, societal issues, economics, aesthetics, or public health and safety to the human environment. We further determine that the incremental impact of the proposed action, when added to past, present, and reasonably foreseeable future actions, also will not significantly affect the human environment.

VII. RECOMMENDATIONS ON ISSUANCE OF PERMIT

Based on our findings with respect to the ITP application, HCP, EA, and section 7 biological opinion, we recommend the issuance of the section 10(a)(1)(B) ITP, TE15009C-0, to Ram Coral Reef and the University of Miami. In the spirit and intent of the Council of Environmental Quality's regulations for implementation of the National Environmental Policy Act of 1969 (as amended), other statutes, orders, and policies that protect fish and wildlife resources, I have made a finding of no significant impact for the proposed action. I have also determined that this application meets the issuance criteria of section 10(a)(2)(B) of the ESA.

Submittal:


Assistant Regional Director, Ecological Services

12/4/17
Date

Concurrence:

acting 
Deputy Regional Director, Southeast Region
Fish and Wildlife Service

12/4/2017
Date