

Recovery Plan for the endangered St. Croix ground lizard (*Ameiva polops*)
USFWS (U.S. Fish and Wildlife Service). 1984. St. Croix Ground Lizard Recovery Plan.
Atlanta, Georgia. 26 pp.

Original Approved: March 29, 1984
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AMENDMENT 1

We have identified the best available information that indicates the need to amend recovery criteria for the St. Croix ground lizard (SCGL) since the recovery plan was completed. In this modification, we synthesize the adequacy of the existing recovery criteria, show amended recovery criteria, and the rationale supporting the recovery plan modification. The modification is shown as an addendum that supplements the recovery plan by adding delisting criteria which were not developed at the time this recovery plan was completed. The recovery objective and the step-down outline are described on Part II A and B (page 8) of the Recovery Plan (RP) for the SCGL (USFWS 1984). Recovery plans are a non-regulatory document that provides guidance on how best to help recover the species.

For
U.S. Fish and Wildlife Service
Atlanta, Georgia

Approved: Franklin J. Howard
Acting Regional Director, U.S. Fish and Wildlife Service

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METHODOLOGY USED TO COMPLETE THE RECOVERY PLAN AMENDMENT

The amendments to the recovery criteria were developed using the most recent and best available information for the species. The lead biologist for the species gathered the information for the SCGL and notified the species expert of the Service's process to complete this amendment. In addition, a meeting among biologists and managers in the Caribbean Ecological Services Field Office (CESFO) was conducted in order to develop the delisting criteria for the endangered St. Croix ground lizard.

ADEQUACY OF RECOVERY CRITERIA

Section 4(f)(1)(B)(ii) of the Endangered Species Act (Act) requires that each recovery plan shall incorporate, to the maximum extent practicable, "objective, measurable criteria which, when met, would result in a determination...that the species be removed from the list." Legal challenges to

recovery plans (see *Fund for Animals v. Babbitt*, 903 F. Supp. 96 (D.D.C. 1995)) and a Government Accountability Audit (GAO 2006) also have affirmed the need to frame recovery criteria in terms of threats assessed under the five listing factors.

Recovery Criteria

The RP (USFWS 1984, p. 8; https://ecos.fws.gov/docs/recovery_plan/840329.pdf) only provides downlisting criteria for the SCGL. The RP establishes that this species could be considered for reclassification from endangered to threatened when:

1. The existing population at Green Cay is protected.
2. The continued existence of the population on Protestant Cay is ensured.
3. A self-sustaining population (500 or more individuals) is established on Buck Island.
4. Adequate population dispersion is obtained.

Synthesis

The SCGL was listed as endangered in 1977 due to predation by the introduced mongoose and habitat modification (42 FR 28543). Critical habitat was designated that same year (42 FR 47840). The most recent status review for the SCGL was in 2013 with the completion of the species' 5-year status review (USFWS 2013), which recommended no change to the species endangered status. The SCGL currently occupies only four offshore islands/cays in St. Croix, U.S. Virgin Islands: (1) one native population on Protestant Cay (designated Critical Habitat); (2) an introduced population on Ruth Cay from individuals translocated from Protestant Cay; (3) a second native population on Green Cay (designated Critical Habitat); and (4) an introduced population on Buck Island from individuals translocated from Green Cay. General population estimates for each island are: between 100-300 individuals on Protestant Cay, 200-350 on Ruth Cay, 100-300 on Green Cay, and more than 1,000 individuals in Buck Island. The lowest lying cays (Ruth, Green and Protestant) were severely impacted by storm surge from hurricanes Irma and Maria, impacts to SCGL populations are unknown. The species was extirpated from the main island of St. Croix probably in the late 1960s. Currently, the species is considered somewhat stable in all islands/cays, though the Buck Island population still has space for increasing its size and disperse further within that Island.

In 1977, Green Cay was designated as a USFWS National Wildlife Refuge primarily to protect the SCGL population and continues to be managed in consideration of the SCGL, thus achieving recovery criteria #1. Although efforts to meet criteria #2 were initiated by the Service in 2003, through a Partner for Fish and Wildlife Program agreement, it has been somewhat inconsistent due to challenges in implementing conservation measures on Protestant Cay due the existence of a hotel and associated tourist-managed area. Criteria #3 was recently met with the successful establishment and growth of the replicate population on Buck Island (Fitzgerald et al. 2015, Angeli et al. 2018). Buck Island's introduced population contributes to criteria #4, as well as the recent (2017) lizard translocations from each native island/cay to its respective introduced sites in order to enhance the genetic structure of the species.

The SCGL is currently affected by Factors A (habitat destruction and modification), C (predation), and E (other natural or manmade factors) (USFWS 2013). Since the species was listed, the SCGL lizard habitat on Protestant Cay has continually been modified by hotel landscape management practices (e.g., raking and removal of leaf litter, removal of undergrowth and woody vegetation, and planting of exotic vegetation). Habitat degradation has also been identified in Green Cay due to the presence of invasive vegetation and rats. Predation by rats also has been a concern on Protestant, Ruth, and Green cays. Effects of hurricanes and sea level rise are identified as threats to all coastal areas where the species occurs and the low-lying Protestant, Ruth and Green cays.

The Green Cay National Wildlife Refuge has and will continue to implement management actions that benefit SCGL persistence (e.g., managing invasive vegetation and rats). In addition, the Service and other partners will continue to work with the hotel on the management on Protestant Cay to further protect and enhance the species and its habitat. Protestant Cay also hosts a relatively large number of nesting invasive green iguanas that dig up SCGL burrows and habitat. Hotel management has started actions to remove/control green iguanas on that Cay with the assistance from USDA-APHIS.

Predation by mongoose is thought to be one of the main reasons the species was extirpated from the main island of St. Croix. Mongooses are not currently present in any of the areas where the species occurs (i.e., Protestant, Ruth and Green cays, and Buck Island). However, rats are currently present in Protestant, Ruth, and Green cays. Despite the presence of rats in these cays, the SCGL has persisted, perhaps as a consequence of the rat control efforts. Mongoose and rat eradication efforts in Buck Island and Green Cay have proven extremely effective towards maintaining the short and long-term viability of the SCGL populations. However, because of the proximity of all four of these areas to mainland St. Croix and public visitation to these areas, presence of mongoose and rats will be a concern.

The lowest lying cays are Ruth, Green and Protestant. Projected sea-level rise may reduce the available habitat for the species. In addition, these low-lying cays are vulnerable to storm surges caused for example by the recent hurricanes Irma and Maria. Ruth Cay is believed to have been completely inundated due to the effects of these hurricanes and the post-hurricane status of the Ruth Cay SCGL population is unknown. The Service will continue to evaluate these threats on the species and its habitat.

The Service and its partners have continued to evaluate potential recovery actions for the SCGL. Specific recovery recommendations were developed during a SCGL workshop in 2014 and will be used to further guide the full recovery of this species. For example, the establishment of a new population in mainland St. Croix is already in the planning phases and a preliminary plan is in place to eradicate rats once again from Green Cay.

AMENDED RECOVERY CRITERIA

Recovery criteria serve as objective, measurable guidelines to assist in determining when an endangered species has recovered to the point that it may be downlisted to threatened, or that the protections afforded by the Act are no longer necessary and the SCGL may be delisted. Delisting

is the removal of a species from the Federal Lists of Endangered and Threatened Wildlife and Plants. Downlisting is the reclassification of a species from endangered to threatened. The term “endangered species” means any species (species, sub-species, or DPS) which is in danger of extinction throughout all or a significant portion of its range. The term “threatened species” means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Revisions to the Lists, including delisting or downlisting a species, must reflect determinations made in accordance with sections 4(a)(1) and 4(b) of the Act. Section 4(a)(1) requires that the Secretary determine whether a species is an endangered species or threatened species (or not) because of threats to the species. Section 4(b) of the Act requires that the determination be made “solely on the basis of the best scientific and commercial data available.” Thus, while recovery plans provide important guidance to the Service, States, and other partners on methods of minimizing threats to listed species and measurable objectives against which to measure progress towards recovery, they are guidance and not regulatory documents.

Recovery criteria should help indicate when we would anticipate that an analysis of the species’ status under section 4(a)(1) would result in a determination that the species is no longer an endangered species or threatened species. A decision to revise the status of or remove a species from the Federal Lists of Endangered and Threatened Wildlife and Plants, however, is ultimately based on an analysis of the best scientific and commercial data then available, regardless of whether that information differs from the recovery plan. When changing the status of a species, we first propose the action in the *Federal Register* to seek public comment and peer review, followed by a final decision announced in the *Federal Register*.

Herein, we provide delisting criteria for the SCGL RP (USFWS 1984) as the plan only developed downlisting criteria as discussed above.

Downlisting Recovery Criteria

We are not amending the existing downlisting criteria (refer to page 2 above or page 8 of the species Recovery Plan).

Amended Delisting Recovery Criteria:

The SCGL will be considered for delisting when the following criteria are met:

1. Establish two (2) additional populations that show a stable or increasing trend, evidenced by natural recruitment and multiple age classes (addresses Factor C, and E).
2. Existing three (4) populations on Buck Island, Protestant Cay, Ruth Cay, and Green Cay show a stable or increasing trend, evidenced by natural recruitment and multiple age classes (addresses Factor A, C, and E).
3. Threats have been addressed and/or managed to the extent that the species will remain viable into the foreseeable future (addresses Factor A, and C).

Rationale for Recovery Criteria

The delisting recovery criteria reflect the best available and most up-to-date information of the SCGL. The establishment of the self-sustaining population on Buck Island was a crucial step towards the recovery of this species. Building from that experience, the most important amended criterion for delisting is the reintroduction and establishment of two new populations on the main island of St. Croix. With this criterion, we expect the species to colonize and persist well into the foreseeable future, thus increasing viability of the species. As with any reintroduction plan, there are some uncertainties on how the species will respond, as well as unforeseen circumstances that may arise, for example, a new threat. We will work together with the Virgin Islands Department of Planning and Natural Resources (VIDPNR), to strategically and efficiently implement the new criteria. The VIDPNR has already identified potential reintroduction areas and partners, and has recently a stepwise project towards achieving this goal.

Concurrently, the other criterion addresses maintaining the viability of the currently known populations. Except for the newest population on Buck Island, the population trends of the other SCGL populations (Green, Protestant, and Ruth Cays) have been challenging to determine and interpret. However, those populations have demonstrated certain resilience to potential threats, in part due to the implementation of recovery actions and monitoring. Actions towards monitoring of population trends and threats abatement (i.e., predation control/eradication, habitat enhancement, implementation of Best Management Practices on landscape practices) will continue in order to ensure the populations meet the new criteria.

LITERATURE CITED

- Angeli, N.F., I.A. Lundgren, C.G. Pollock, Z.M. Hillis-Starr, and L.A. Fitzgerald. 2018. Dispersal and population state of an endangered island lizard following a conservation translocation. *Ecological Applications* 28(2): 336-347. <https://doi.org/10.1002/eap.1650>.
- Fitzgerald, L.A., M.L. Treglia, N. Angeli, T.J. Hibbitts, D.J. Leavitt, A.L. Subalusky, I. Lundgren, Z. Hillis-Starr. 2015. Determinants of successful establishment and post-translocation dispersal of a new population of the critically endangered St. Croix ground lizard (*Ameiva polops*). *Restoration Ecology* 23(6): 776-786. <https://doi.org/10.1111/rec.12248>.
- USFWS (U.S. Fish and Wildlife Service). 1984. St. Croix Ground Lizard Recovery Plan. Atlanta, Georgia. 26 pp.
- USFWS. 2013. St. Croix Ground lizard (*Ameiva polops*) 5-Year Review: Summary and Evaluation. USFWS Southeast Region, Caribbean Ecological Services Field Office, Boquerón, Puerto Rico. 18 pp.