

**Anastasia Island Beach Mouse (*Peromyscus polionotus phasma*) Recovery Plan**  
[https://ecos.fws.gov/docs/recovery\\_plan/930923b.pdf](https://ecos.fws.gov/docs/recovery_plan/930923b.pdf)

**Original Approved:** September 23, 1993  
**Original Prepared by:** Southeast Region

**DRAFT AMENDMENT 1**

We have identified the need to amend recovery criteria for Anastasia Island beach mouse (*Peromyscus polionotus phasma*; AIBM). In this proposed modification, we synthesize the adequacy of the existing recovery criteria; show amended recovery criteria, and provide the rationale supporting the modification. The proposed modification is an addendum that supplements the AIBM Recovery Plan (USFWS 1993) by adding delisting criteria which were not developed at the time of publication. The Recovery Objective and the Recovery Actions are described in Part II. RECOVERY sections A and B (pages 8-12) of the AIBM Recovery Plan. 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**  
**Region 4**  
**Atlanta, Georgia**

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**METHODOLOGY USED TO COMPLETE THE RECOVERY PLAN AMENDMENT**

This proposed amendment to the recovery criteria was developed using the most recent and best available information for the species. This information was analyzed by the U.S. Fish and Wildlife Service (Service) biologists and managers in the North Florida Ecological Services Field Office in order to develop the delisting criteria for the AIBM. .

**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 current AIBM Recovery Plan (USFWS 1993, p. 9 [https://ecos.fws.gov/docs/recovery\\_plan/930923b.pdf](https://ecos.fws.gov/docs/recovery_plan/930923b.pdf)) only provides downlisting criteria for the AIBM.

## **Synthesis**

The assessment of threats, suggested recovery actions, and life history information included in the Recovery Plan (USFWS 1993) and 5-Year Review Action Items (USFWS 2008) largely remain applicable and relevant. Habitat loss, fragmentation, and need for management/restoration (Factor A), as well as invasive house mice and predation by free-roaming cats (Factor C) remain directly pertinent for AIBM's recovery. Hurricanes and sea level rise are also identified as stressors (Factor D and E) in the 5-Year Review (USFWS 2008).

In developing the delisting criteria, the Service reviewed and utilized the existing downlisting criteria from the AIBM Recovery Plan (USFWS 1993), information from the 5-Year Review (USFWS 2008), and the most recent and best information available for the AIBM which was derived from the draft 5-Year Review that was initiated in 2014. This draft review was delayed due to impacts to Anastasia Island from Hurricane Matthew in October 2016 and Hurricane Irma in September 2017, both with storm surges ranging from 8-11 feet that caused severe erosion, overwash, and large amounts of precipitation leaving the status of the existing AIBM populations tenuous and unknown. Post storms monitoring and habitat assessments conducted by the Florida Fish and Wildlife Conservation Commission, Florida State Parks, National Park Service, St. Johns County and U.S. Fish and Wildlife Service have also informed this effort to develop delisting criteria.

At the time of listing in 1989, AIBM were distributed along the entire length of Anastasia Island, from the southern end at Fort Matanzas National Monument (FMNM) to the northern end at Anastasia State Park (ASP). Historical records document the distribution of the AIBM as extending north past the St. Augustine Inlet to an area now known as Mickler's Landing, near the St. Johns - Duval County line, and possibly north to the St. Johns River, but this population was extirpated prior to listing. The effort to reintroduce mice into this portion of the historic range with releases in 1992 and 2000 at the Guana-Tolomato-Matanzas NERR has been unsuccessful. Currently, AIBM continue to be distributed within the coastal dunes and swales along the entire length of Anastasia Island. The status of AIBM is tenuous without significant habitat restoration and management, and without acquiring, protecting and managing additional habitat along Anastasia Island.

## **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 AIBM 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 an endangered species to a threatened species. 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, which triggers rulemaking. 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 AIBM as the Recovery Plan (USFWS 1993) only developed downlisting criteria as discussed above.

### **Downlisting Recovery Criteria**

We are not amending the existing downlisting criteria (listed above; also refer to page 8 of the AIBM Recovery Plan; [https://ecos.fws.gov/docs/recovery\\_plan/930923b.pdf](https://ecos.fws.gov/docs/recovery_plan/930923b.pdf)).

### **Amended Delisting Recovery Criteria**

The Anastasia Island beach mouse will be considered for delisting when the following criteria are met:

1. The three (3) Anastasia Island populations exhibit a stable or increasing population trend for multiple generations, and natural recruitment (addresses Factors A, C and E)
2. Establish one (1) population of AIBM between St. Augustine Inlet and the St. Johns River that exhibit a stable or increasing population trend for multiple generations, and natural recruitment. (addresses Factors A, C and E)
3. When in addition to the above criteria, it can be demonstrated that despite habitat loss associated with sea level rise and development adequate suitable habitat remains for AIBM to remain viable into the foreseeable future. (addresses Factors A, C and E)

## **Justification for Amended Recovery Criteria**

Criterion 1 and 2: Provides redundancy through multiple populations and sufficient habitat, additionally reaching demographic parameters allows for resiliency to stochastic events. For the Anastasia Island beach mouse, it is believed that four populations, three within the coastal dune, swale, grassland, and scrub habitats along the 14 miles of Anastasia Island and one north of St. Augustine Inlet, exhibiting these traits is necessary to ensure this subspecies of beach mouse will no longer require protection under the Act. These demographic metrics provide resiliency, redundancy, and representation and ensure the viability of the Anastasia Island beach mouse into the foreseeable future.

Criterion 3: Adequate suitable habitat to support the Anastasia Island beach mouse's distribution along Anastasia Island and also within a section of the historic range north of St. Augustine Inlet will help ensure viability of this subspecies. In the presence of threats such as development and sea level rise this distribution reflects redundancy and representation and habitat connectivity allows for long-term persistence and viability.

## **Rationale for Amended Recovery Criteria**

The proposed delisting recovery criteria reflect the best available and most up-to-date information on the AIBM, while incorporating information still relevant from the AIBM Recovery Plan. Furthermore, the downlisting criteria were developed to reflect this subspecies overarching recovery strategy, and are consistent with current goals, objectives, and known risk levels. Specifically, each delisting criterion ensure ensures that the underlying causes of decline and impediments to recovery will be addressed and mitigated.

Population Criterion: Provides redundancy and resiliency through three populations that occupy suitable habitat along the length of Anastasia Island and through the demographic parameters that allow for resilient and stable populations. Since populations of many small mammals, including the AIBM, fluctuate cyclically, it is necessary to evaluate population demographics across multiple generations to assess true trends.

Reintroduced Population Criterion: Provides redundancy and resiliency through multiple populations, and by meeting the demographic parameters allows for resilient and stable populations.

Habitat Criterion: Adequate areas of suitable habitat and habitat connectivity ensure long-term persistence, despite habitat changes, population fluctuations, and habitat loss projected due to sea level rise, and development. This criterion provides redundancy through multiple areas along 25-40 miles of Florida's coast that support AIBM and representation through habitat connectivity to ensure gene flow. Viability ensures maintaining genetic diversity, and thus representation, in order to preserve population variability and population adaptability.

Together, these recovery criteria cover current threats related to habitat loss and connectivity, genetic diversity, sea level rise, and habitat loss; all of which are likely drivers of the AIBM's population demographics and the species long-term persistence. Once meeting these criteria, we

expect the AIBM to have a low probability of extinction for the foreseeable future and have two robust, stable populations along 35-50 miles of coastal habitat, appropriate for long-term recovery. We will work together with our partners to strategically and efficiently achieve the new criteria.

## **LITERATURE CITED**

- Florida Fish and Wildlife Conservation Commission. 2018. Anastasia Island Beach Mouse Track Tube Survey Summary, June 4, 2018.
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