

Miami Blue Butterfly

Final Rule: Listing as Endangered

Questions and Answers

What action is the U.S. Fish and Wildlife Service taking?

The Service is listing the Miami blue butterfly (*Cyclargus thomasi bethunebakeri*) as endangered and listing three similar blue butterflies as threatened due to similarity of appearance in only a portion of their ranges.

What are the other three species of butterflies listed due to similarity of appearance?

The three butterflies are the cassius blue (*Leptotes cassius theonus*); ceraunus blue (*Hemiargus ceraunus antibubastus*); and nickerbean blue (*Cyclargus ammon*). These three butterflies overlap in range with the Miami blue's historical range in coastal south and central Florida, but their entire natural ranges include the Cayman Islands, Bahamas, Cuba, and Greater Antilles.

The listing of these similar butterflies is applicable only within the historical range of the Miami blue in Florida, which includes the coastal counties south of Interstate 4.

What will the permanent listing do?

The Service previously listed these butterflies under the Endangered Species Act's (ESA) emergency provisions on August 10, 2011. That action immediately protected these butterflies for 240 days and expires April 6, 2012. This listing action is a final rule, which will provide continuing protections for the Miami blue and expansion of recovery efforts.

Conservation measures provided to species listed as endangered or threatened under the ESA include recognition, recovery actions, requirements for federal protection, and prohibitions against certain practices. The ESA makes it illegal to kill, harm, or otherwise "take" a listed species, or to possess, import, export, or engage in interstate or international commerce of a listed species without authorization in the form of a permit from the Service. The ESA also requires all federal agencies to minimize the impact of their activities on listed species, and directs the Service to work with federal agencies and other partners to develop and carry out recovery efforts for those species. Listing focuses attention on the needs of the species, encouraging conservation efforts by other federal, state, and local agencies, conservation groups, and other organizations and individuals. Please refer to the "Available Conservation Measures" section of the final rule for a more complete discussion.

The Service believes that federal listing increases the likelihood that extinction can be prevented and that the Miami blue may ultimately be recovered.

Why did the Service emergency list the Miami blue and then permanently list it as endangered?

The status of the Miami blue butterfly is precarious, and it faces significant, imminent threats. Its habitat and range are threatened by destruction, modification, and curtailment. Only a couple of populations are known to occur on a handful of islands within the extreme southern portion of its range. Due to its few populations, small population size, restricted range, and loss of genetic diversity, catastrophic environmental events could cause the extinction of the Miami blue. Collection also is

significant threat, and existing regulations do not provide adequate protection. Other natural factors and human activity also threaten the subspecies. As a result, impacts from increasing threats, singly or in combination, are likely to result in the extinction of the Miami blue.

If additional populations are found within the Miami blue's historical range, other threats will include: habitat loss and fragmentation, pesticide application from mosquito control practices, displacement of native host plants by invasive, exotic species, detrimental land management practices, inadequate regulatory protection, and restricted genetic exchange. Climatic changes, including sea level rise, are significant long-term threats that are expected to substantially reduce the butterfly's habitat in its current and historic range.

Emergency listing provided immediate, temporary protection. Concurrent with the emergency listing, the Service published a proposed rule, seeking additional information and comments for listing. In making this final listing determination, the Service has carefully assessed the best scientific and commercial information available regarding the butterfly's status and past, present, and future threats.

Are there any specific differences between the proposed and the final rules?

There are a couple of primary differences. After careful review of public comments and consultation with Law Enforcement, the Service has reduced the geographic scope of the listing of the three similarity of appearance butterflies to coastal south and central Florida within the historical range of the Miami blue (coastal counties south of the Interstate 4 corridor between Tampa and Daytona Beach). The Service also has limited prohibitions to just the collection of these three similar butterflies, rather than collection, possession, and trade, as proposed. The Service believes this helps to protect the Miami blue from collection, yet reduces unnecessary regulations and restrictions.

What's the story behind this butterfly's federal listing/non-listing history?

The Miami blue was first recognized as a federal candidate in 1984, and then as a category 2 candidate (i.e., species for which information in the Service's files indicated that listing may be appropriate, but for which additional data were needed to support a listing proposal). In 1991, the Miami blue was downgraded from a category 2 to category 3c candidate, due to an unknown trend (meaning additional survey work was required to determine the current population trend). Category 3C species were those that proved to be more abundant or widespread than previously believed and/or those that were not subject to any identifiable threat. In 1996, the Miami blue was removed from the candidate list along with all Category 2 and 3C species.

On June 15, 2000, the Service received a petition from the North American Butterfly Association (NABA) to emergency list the Miami blue as endangered with critical habitat pursuant to the ESA. The petition cited habitat loss and fragmentation, influence of mosquito control chemicals, unethical butterfly collection, and human-caused changes to habitat occupied by the subspecies' only known population.

On January 3, 2002 (67 FR 280), the Service announced a 90-day finding for this petition, initiated a status review, and sought data and information from the public. In this finding, the Service indicated the Miami blue may be in danger of extinction. However, the Service did not believe the threats to be so great that extinction was imminent, requiring the agency to provide emergency protection to the butterfly through the emergency listing provisions. The Service indicated that it could issue an emergency rule when an immediate threat posed a significant risk to the well-being of the subspecies.

On May 11, 2005, the Service recognized the Miami blue butterfly as a federal candidate in the Service's annual Candidate Notice of Review (70 FR 24872). This action constituted a 12-month finding for the butterfly in which it was determined that the Miami blue was warranted but precluded for listing by other higher priority listing actions. On November 9, 2009, in the Service's annual Candidate Notice of Review (74 FR 57809), it changed the Listing Priority Number (LPN) for the Miami blue from 6 to 3 due to increased and more immediate threats.

On August 10, 2010, the Service received a renewed petition from the NABA for emergency listing of the Miami blue butterfly as endangered. This petition stated that the entire remaining population is in significant and immediate danger because it exists in a single location and is subject to hurricanes, iguanas, and human impacts given that the area is remote and difficult to patrol. On January 11, 2011, the Service received a separate petition for emergency listing of the Miami blue butterfly with critical habitat from the Center for Biological Diversity.

The Service's decision to emergency list the Miami blue butterfly resulted from a careful review of the status of the butterfly and the threats it faces. The Service based this decision on information in the agency's files or otherwise available (including the results of recent status surveys), as well as information contained in the original petition (2000), the renewed petition (2010), the new petition (2011), and information referenced in the petitions.

Emergency and proposed rules were published in the *Federal Register* on August 10, 2011. The emergency rule provided temporary protection for the Miami blue for 240 days. The proposed rule solicited information and comments from stakeholders and the public, with a 60-day public comment period, and these comments were considered in the final rule.

In making this final listing determination, the Service has carefully assessed the best scientific and commercial information available regarding the butterfly's status and past, present, and future threats.

Why are other butterflies being listed due to similarity of appearance and how will this affect others?

There are only slight differences between the Miami blue, and the cassius blue, ceraunus blue, and nickerbean blue, making it difficult to differentiate between the species, especially due to their small size. This poses a problem for federal and state law enforcement agents trying to prevent illegal collection of the Miami blue.

It is possible that collectors seeking similar species may inadvertently (or purposefully) collect the Miami blue butterfly thinking it was one of the other three similar butterflies, which also occur in the same geographical area and habitat type. The listing of these similar blue butterflies as threatened due to similarity of appearance reduces the ability of amateur butterfly enthusiasts, collectors, and others to purposefully or accidentally misrepresent the Miami blue as one of these other species. It also will aid law enforcement efforts in curtailing illegal collection.

The listing of these other similar blue butterflies only pertains to collection and is solely intended to reduce these threats to the Miami blue. Only collection of these similar butterflies within the current and historical range of the Miami blue will be prohibited. The listing of similar butterflies should not be cause for concern for most people, including land managers and mosquito control districts, since it will have no effect on land management activities or other incidental take.

Most butterfly enthusiasts will not be affected by this action. The listing of other similar butterflies only affects collection within the current and historical range of the Miami blue in coastal south and central Florida and is solely intended to reduce the threat of collection of the Miami blue. Those interested in the cassius blue, ceraunus blue, or nickerbean blue butterflies may be affected, depending upon the nature and location of activity. Collection of these butterflies within coastal south, and central Florida would no longer be allowed without appropriate permits and authorization. However, the similar butterflies occur in other areas of Florida (e.g., non-coastal areas, northern areas of the state) and in other countries. This final rule does not prohibit collection or other activities regarding the similar butterflies beyond the Miami blue's historical range.

Butterfly collectors, enthusiasts, and researchers are encouraged to contact the South Florida Ecological Services Field Office with questions and guidance on the need for permits and how to apply for necessary permits. Please contact: U.S. Fish and Wildlife Service, South Florida Ecological Services Field Office, 1339 20th Street, Vero Beach, Florida, 32960-3559, telephone 772-562-2909.

Would designating critical habitat help to save the Miami blue?

The Service has carefully weighed the pros and cons of designating critical habitat and found that designation is not prudent. While the designation of critical habitat would provide some benefits, such as educating stakeholders and the public on those areas that are important for the conservation of the Miami blue, it also would also increase risks to the Miami blue and important, sensitive habitats. Its few remaining populations, small population size, restricted range, and the remoteness of its occupied habitat make collection a significant threat that can occur at any time. Even limited collection from the small, remaining population could have negative impacts on reproductive and genetic viability, and could contribute to its extinction.

Identification of critical habitat would increase the severity of the collection threat by depicting exactly where the butterfly can be found and more widely publicizing specific location information, exposing the fragile population and its habitat to greater risks. Critical habitat designation may also increase the likelihood of habitat destruction and could also increase enforcement problems. For more information on the Service's "not prudent" determination, please see the "Critical Habitat and Prudency Determination" section of the final rule.

How many of these butterflies are left? What's the viable population size for an insect?

The Miami blue's historic range, which once extended from the Keys north along the Florida coasts to about St. Petersburg and Daytona, has been severely reduced. In 2009, there were two known populations, one at Bahia Honda State Park (BHSP) and one within Key West National Wildlife Refuge (KWNWR). The population at KWNWR was believed to be several hundred in 2007, possibly more, with fewer reported in 2009-2010. Size of this population is not currently known, but estimated in the hundreds. From 1999 to 2009, the population at BHSP appeared to be restricted to a couple hundred individuals. This population may no longer exist. No adults have been seen at BHSP since July 2010. A population of 1,000 has been suggested as marginally viable for an insect, although this is likely highly dependent upon type of species. Butterfly populations of less than 200 adults per generation would have difficulty surviving over the long term.

What impact will this final rule have on mosquito spraying in Florida?

The Mosquito Control Districts in south Florida will likely be concerned about their ability to apply mosquito control pesticides. The Service believes concerns will generally be restricted to Monroe County, as this is the only county that currently is known to support the Miami blue. However, occupied areas are not currently treated. Therefore, no changes in mosquito control will be required at the present time. The Service does not envision additional mosquito control restrictions in Monroe County or elsewhere in the Miami blue's historic range at the present time. Rather, the Service anticipates building upon its evolving partnerships and encouraging stakeholders to, wherever possible, avoid or minimize pesticide application in suitable habitat to increase the likelihood of potential survival and recovery. The Service remains hopeful that the butterfly can be found in other locations or re-establish itself in former locations. If the butterfly is confirmed in locations outside of KWNWR, the Service will work with landowners and stakeholders to avoid and minimize impacts from pesticides. Similarly, the Service plans to work with other stakeholders and partners to reduce other threats.

Where can more information be found?

For more information about the Miami blue butterfly and this final rule, please visit <http://www.fws.gov/southeast/> or <http://www.fws.gov/verobeach/>. The final rule also is available at <http://www.regulations.gov>, Docket # FWS-R4-ES-2011-0043.

To learn more about the Endangered Species Program, visit <http://www.fws.gov/endangered/>.