

Species Conservation Guidelines
South Florida

Cape Sable seaside sparrow

The Standard Local Operating Procedures for Endangered Species (SLOPES) for the Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*) provides a tool to determine if a project, *i.e.*, a Federal permit, an Everglades National Park Special Use Permit, a Federal construction project, or other such action, may adversely affect Cape Sable seaside sparrows. Here we describe what actions might have a detrimental impact on the Cape Sable seaside sparrow and how these effects can be avoided or minimized.

The U.S. Fish and Wildlife Service (Service) listed the Cape Sable seaside sparrow as endangered in 1967 due to its limited distribution and threats to its habitat posed by large-scale conversion of land in southern Florida to agricultural uses. The ecology of the Cape Sable seaside sparrow in south Florida is summarized in the *South Florida Multi-Species Recovery Plan* (Service 1999).

Cape Sable seaside sparrows do not explore much of the area surrounding their place of hatching (Pimm et al. 2002). Adults tend to stay within the same area their entire life. During the nonbreeding season, adults explore from approximately 5 to 51 ha (12.5-125 acres) (Dean and Morrison 2001, Lockwood et al. 2001). Juveniles may explore more area than adults (Lockwood et al. 2001). Breeding season territories average approximately 2 ha (5 acres) in extent (Pimm et al. 2002). However, evidence collected this far indicates individual Cape Sable seaside sparrows settle within approximately 3.3 km (2 mi) of their natal site. The area over which the average Cape Sable seaside sparrow travels in its lifetime is well under approximately 51 km² (125 acres) (Pimm et al. 2002).

Cape Sable seaside sparrows build nests near the ground with an average nest height of approximately 16 cm (6.3 in) above the ground surface (between the soil surface and the base of the nest). The average nest height increases after the onset of the wet season rainfall pattern, which typically begins in early June (Lockwood et al. 2001). This appears to be an adaptive response to rising surface water conditions. The Cape Sable seaside sparrows build new nests for each successive brood. Nesting has been observed from late February (Werner 1975) through early August (Dean and Morrison 2001). The majority of nesting occurs in the spring when large areas of the Everglades marl prairies are dry.

Females initiate clutches on average 2.7 days after the nest is completed, they lay on average 3.1 eggs per nest, and incubation lasts for approximately 12.1 days (Pimm et al. 2002). Totaling the number of days required for all the nesting stages (egg laying, incubation, nestling, fledgling), Pimm et al. (2002) estimate the nest cycle of Cape Sable seaside sparrows to be 34 to 44 days per brood. Cape Sable seaside sparrows usually raise one or two broods in a season, although they may raise a third brood if weather conditions are favorable (Kushlan et al. 1982). Current

information indicates Cape Sable seaside sparrows can produce up to four broods in one season if conditions are favorable (Lockwood et al. 2001).

The preferred nesting habitat of the Cape Sable seaside sparrow appears to be strictly Everglades mixed marl prairie communities that often include muhly grass (*Muhlenbergia filipes*) (Stevenson and Anderson 1994). These Everglades marl prairies are characterized by their plant species diversity rather than the dominance of a few species. Researchers often find more than 10 plant species per m² (Olmstead and Armentano 1997, Ross et al. 2001). The majority of plant species present in these vegetative communities are short (< 1 m [3 ft] tall) and sparsely distributed. This configuration creates open space near the base of the vegetation, especially around plant species that grow in bunches. This open space is used for foraging by the Cape Sable seaside sparrow (Pimm et al. 2002). The Cape Sable seaside sparrow tends to avoid tall, dense, sawgrass-dominated communities, spike rush (*Eleocharis* spp.) marshes, extensive cattail (*Typha* spp.) monocultures, long-hydroperiod wetlands with tall, dense vegetative cover, and sites supporting woody vegetation (Werner 1975, Bass and Kushlan 1982). Cape Sable seaside sparrows also avoid sites with permanent water cover (Curnutt and Pimm 1993).

The suitability of short-hydroperiod, Everglades mixed marl prairie communities for the Cape Sable seaside sparrow is driven by a combination of hydroperiod and periodic fire events (Kushlan and Bass 1983). Fire events prevent hardwood (woody) species from invading these communities and prevent the accretion of dead plant material, both of which decrease the suitability of this habitat type for Cape Sable seaside sparrows.

In the 1930's, Cape Sable was the only known breeding range for the Cape Sable seaside sparrow (Nicholson 1928). Areas on Cape Sable that were occupied by Cape Sable seaside sparrows in the 1930's have experienced a shift in vegetative communities from freshwater vegetation to mangroves, bare mud flats, and salt-tolerant plants, such as *Batis maritima* and *Borrchia frutescens* (Kushlan and Bass 1983). As a result, Cape Sable seaside sparrows no longer use this area.

Critical habitat for the Cape Sable seaside sparrow was designated in 1977. The critical habitat, as designated, does not adequately account for the distribution of the present-day core subpopulations, or the areas necessary for continued survival and recovery. An important area west of Shark River Slough, which until 1993 supported one of two core subpopulations, is not included within critical habitat designation, and has undergone detrimental changes in habitat structure as a result of previous water management practices. Additionally, other parts of the designated critical habitat have been converted to agriculture, and are no longer occupied by Cape Sable seaside sparrows.

Currently, the Cape Sable seaside sparrow only occupies habitat within Everglades National Park (ENP), Big Cypress National Preserve, and the Southern Glades Wildlife and Environmental Area - Units 1 and 2 (adjacent to eastern panhandle of ENP) (Fig. 1).

Determination

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USFWS South Florida Ecological Services Office

The consultation area for the Cape Sable seaside sparrow can be found in Figure 1. Use the SLOPES flow chart (Fig. 2) to guide you through the SLOPES procedure.

If your project is outside the consultation area the no effect is anticipated to the Cape Sable Seaside sparrow. Keep in mind if Cape Sable seaside sparrows are encountered on site outside the consultation area the protective measures below should be implemented.

Anthropogenic changes in the amount and timing of freshwater flow into the consultation area may have adverse impacts on the Cape Sable seaside sparrow and its habitat. All projects that might alter hydrology (drier or wetter) in the consultation and critical habitat areas should be thoroughly evaluated as to their effects on the Cape Sable seaside sparrow and its habitat. If predicted to have minimal effects in these areas, then the project is not likely to adversely affect the Cape Sable seaside sparrow. Written concurrence should be obtained from the Service.

If inside the consultation area and suitable habitat is not present, then no effect to the Cape Sable seaside sparrow is anticipated from the project. If inside the consultation area and suitable habitat is present, then the project may affect the Cape Sable seaside sparrow. A survey is needed to evaluate potential protective measures. The survey should be performed during the breeding season (March to July) by a person experienced with Cape Sable seaside sparrows. If Cape Sable seaside sparrows are found on site then formal consultation is necessary. Formal consultation is also necessary, if the project is within the critical habitat. Early contact and discussion with the Service will facilitate the completion of the project. A biological assessment with survey results is required to start the formal consultation process.

[A language about western subpopulation if not clear from consultation area map.]

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GIS Layers

Consultation Area	CSSS_CA.shp
Critical Habitat	CSSS_CH.shp