
St. Anthony Sand Dune Tiger Beetle

Cicindela arenicola

Insecta — Coleoptera — Cicindelidae

CONSERVATION STATUS / CLASSIFICATION

Rangewide: Critically imperiled/Imperiled (G1G2)
Statewide: Imperiled (S2)
ESA: No status
USFS: Region 1: No status; Region 4: No status
BLM: Rangewide/Globally imperiled (Type 2)
IDFG: Not classified

BASIS FOR INCLUSION

Idaho endemic; habitat threats and limited distribution.

TAXONOMY

When first described, this taxon included a population west of the Snake River at Bruneau Dunes State Park. However, the Bruneau Dunes tiger beetle (*C. waynei*) has been recognized as a distinct taxon.

A population occurring in Minidoka County was located between populations of the Bruneau Dunes beetle and the St. Anthony Dunes tiger beetles and was thought to be morphologically intermediate between the St. Anthony and the Bruneau Dunes tiger beetle populations. Unfortunately, this population was extirpated before the mid-1980s (Shook and Clark 1988).

DISTRIBUTION AND ABUNDANCE

Cicindela arenicola is an Idaho endemic tiger beetle species reported to occur in portions of Fremont, Jefferson, Clark, Bonneville, Bannock, Power, Blaine, Minidoka, and Lincoln counties and perhaps also Madison and Bingham counties. A population formerly occurring in Minidoka County appears to have been extirpated (Anderson 1989; Shook and Clark 1988).

The largest numbers of beetles have been found at a dune complexes in Fremont and Lincoln counties. Few beetles have been found at other sites, but Logan (1995) observed that this may be the result of sampling conditions rather than population densities.

POPULATION TREND

At least 1 population appears to have been extirpated.

HABITAT AND ECOLOGY

This species is found on sand dunes. Larvae live in burrows located in flat, grassy areas where the sand is at least a meter thick, often on the windward side of sand dunes. Natural mortality of newly hatched larvae is high, and larvae are particularly

vulnerable to increased mortality from trampling or vehicles during the early stages of development. Adult beetles that disperse are reported to move up to 1 km within 6 weeks of emergence; most adults remain in the immediate area of the dune system on which they developed (Anderson 1989; Idaho Conservation Effort 1996).

ISSUES

Habitat loss is considered to be a prevalent threat to populations and may arise from a variety of land-use practices. Intentional stabilization of dunes using grass seeding and conversion of dune habitats to agriculture (Idaho Conservation Effort 1996) may be threats to some populations. Motorized vehicle use on dunes can damage breeding habitat and cause increased mortality, particularly of beetle larvae (Idaho Conservation Effort 1996; LaBonte 1995; Shook and Clark 1988; Anderson 1989); off-road vehicle use is thought to have contributed to the extirpation of a population in Minidoka County (Shook and Clark 1988). Livestock trampling is also an important threat because it, too, can cause increased mortality of beetle larvae (Idaho Conservation Effort 1996).

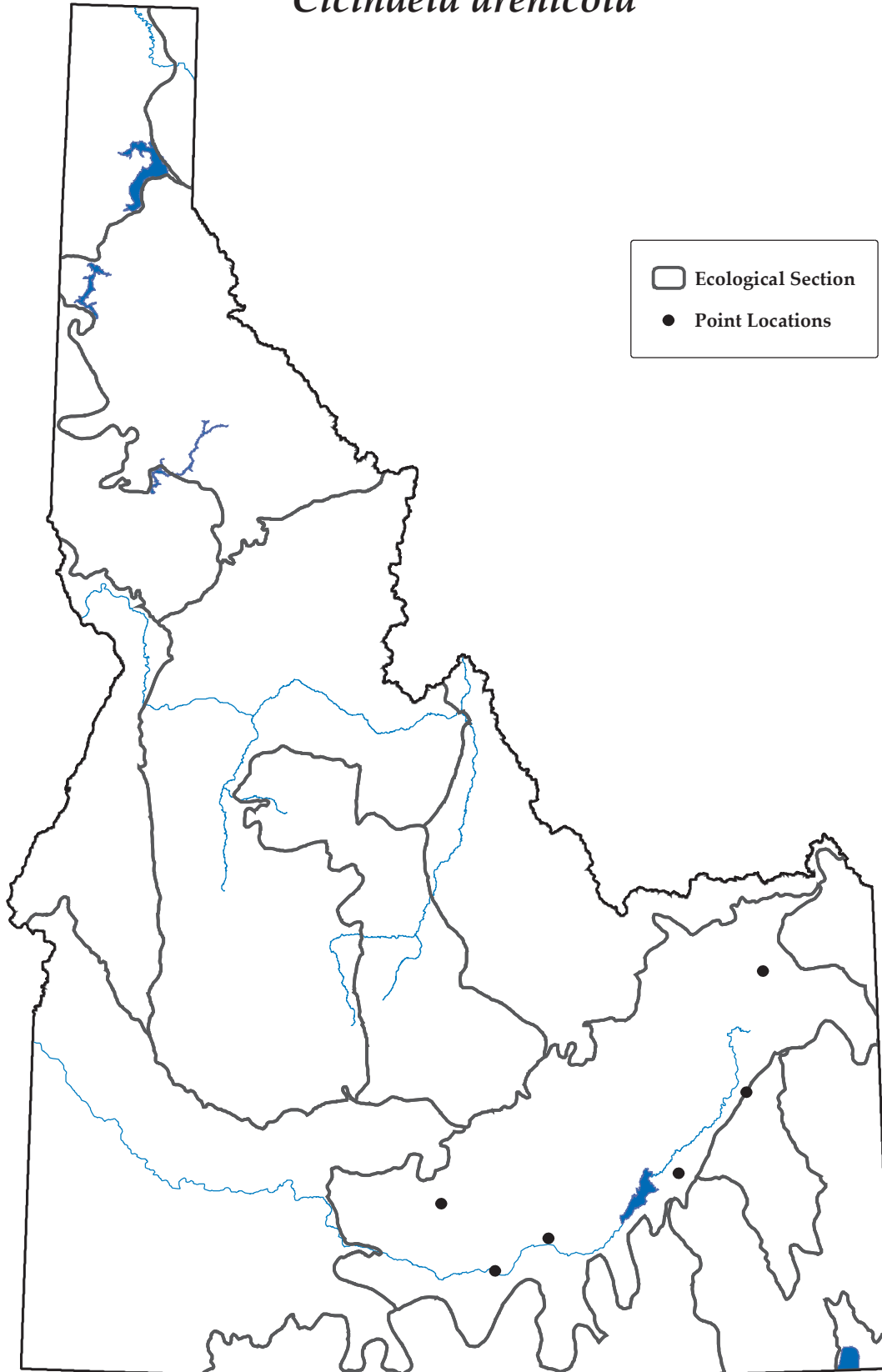
Over-collecting has been identified as a threat to populations, as has rangeland pesticide applications (Idaho Conservation Effort 1996).

RECOMMENDED ACTIONS

The Idaho Conservation Effort produced a 1996 Habitat Conservation Assessment and Conservation Strategy that summarizes existing actions as well as management recommendations. These recommendations included the management of off-road vehicle usage, limitation of pesticide applications, public education, and inventory and monitoring activities. As of early 2005, BLM's Shoshone Field Office and Burley Field Office have not implemented monitoring programs (P. McClain, Shoshone FO and P. Bartels, Burley FO; pers. Comm.). Habitat protection and monitoring efforts are needed to assure the persistence of this species.

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0 20 40 80 Kilometers

0 20 40 80 Miles

2 September 2005

Point data are from Idaho Conservation Data Center,
Idaho Department of Fish and Game.

