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# Bruneau Tiger Beetle

## *Cicindela waynei*

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Insecta — Coleoptera — Cicindelidae

### CONSERVATION STATUS / CLASSIFICATION

Rangewide: Critically imperiled (G1)  
Statewide: Critically imperiled (S1)  
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; reduced distribution.

### TAXONOMY

Until recently the Bruneau tiger beetle was considered to be the same species as the Idaho Dunes tiger beetle (*C. arenicola*), which occurs at sites across southern Idaho east of Bruneau Dunes. Populations at Bruneau Dunes are now recognized as taxonomically distinct from Idaho Dunes tiger beetles.

### DISTRIBUTION AND ABUNDANCE

The Bruneau Dunes tiger beetle is an Idaho endemic species restricted to 2 locations in northern Owyhee County.

Basing population size on counts of the burrows of larvae during later stages of development, Baker et al. (1997) estimated that approximately 7,500 larvae existed in the general area of Bruneau Dunes State Park in the spring of 1995. During the years 1993-1995, the density of burrows at Bruneau Dunes State Park ranged from 0.019 - 0.03 burrow/m<sup>2</sup>, which is lower than burrow densities of other tiger beetle species in this part of Idaho (Baker et al. 1997). Fewer larval burrows were encountered during more recent observations (C. Baker, pers. comm., 2004).

During 1994 at least 37 adults and more than 120 larval burrows were counted at a location east of Bruneau Dunes. During 1995 between 100 and 200 adult beetles were observed (Baker et al. 1997), and the population was considered to be especially small and limited in extent.

### POPULATION TREND

From 1993 through 1995, the number of larval burrows increased (Baker et al. 1997) and abundance appeared to be stable. However, in recent years, the population trend at Bruneau Dunes State Park has been downward (C. Baker, pers. com., 2004).

## **HABITAT AND ECOLOGY**

This species primarily occurs in the sparsely vegetated margins of sand dunes. Adults can be found on dunes but spend much of their time on more stabilized substrate in saddles between dunes. Larvae develop in burrows in flat areas in the narrow area between the drifting sand of the dunes and the established desert plant community (Baker et al. 1994). Such sites usually having a covering of small gravel or pebbles.

## **ISSUES**

Populations are threatened by both over-collecting and habitat degradation. As recently as 1990 (Baker 1990), the Bruneau Dunes State Park manager continued to “encounter collectors especially from Oregon, Washington, and Idaho who persist in collecting significant numbers of this rare beetle.”

The Bruneau Dunes tiger beetle was “well-known to collectors and has been extensively collected for the commercial trade” (Shook and Clark 1988).

Factors contributing to the loss of habitat include invasive weeds (Baker et al. 1997; Idaho Conservation Effort 1996), which reduce larval habitat suitability, motorized vehicles (Baker et al. 1997; Idaho Conservation Effort 1996; Shook and Clark 1988), and human trampling (Baker et al. 1997; Idaho Conservation Effort 1996). The site east of Bruneau Dunes is particularly vulnerable to human disturbance, and signs of disturbance have been observed.

Rangeland pesticide applications are also a threat (Idaho Conservation Effort 1996; LaBonte 1995).

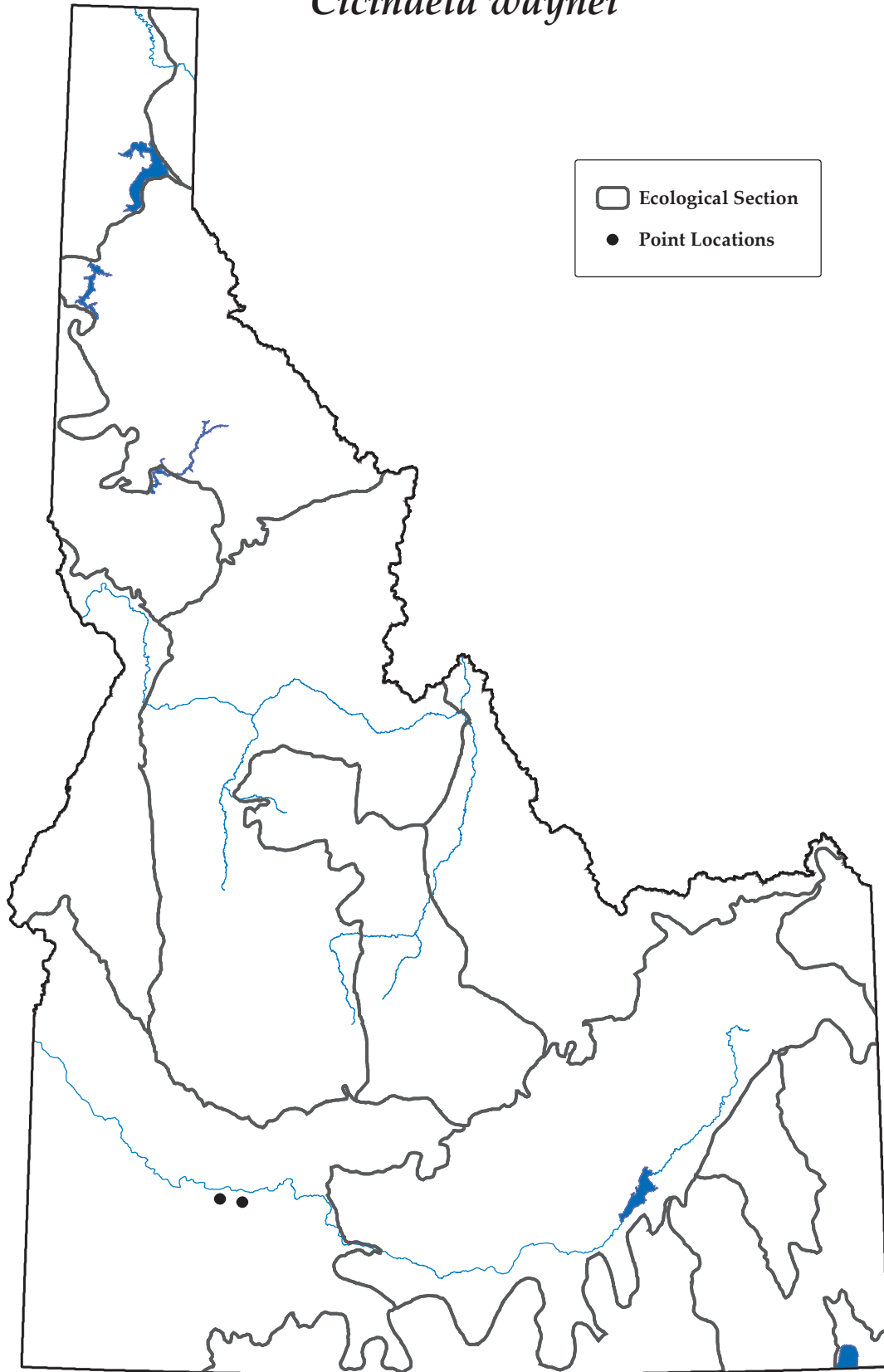
## **RECOMMENDED ACTIONS**

The Idaho Conservation Effort produced the 1996 Habitat Conservation Assessment and Conservation Strategy for *C. arenicola* which, at that time, included the Bruneau Dunes population. Recommended actions included limitations on insecticides in Bruneau Dunes State Park and an adjacent BLM parcel containing a tiger beetle population, a no collecting policy in the state park, a cattle exclosure in the state park, ORV management, and regulation of human and horse traffic. Implementation of a monitoring program and study of the effects of weed invasions on larval habitat were also recommended.

Regarding the site east of Bruneau Dunes State Park, Baker et al. (1997) recommended that annual site visitations be made in spring and fall to evaluate the general conditions of the dunes and adjacent larval habitat, but he believed that research activities should be limited at this site considering the vulnerability of the habitat to the effects of disturbance.

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12 July 2005  
Point data are from Idaho Conservation Data Center,  
Idaho Department of Fish and Game.

