

Incremental Effects Memorandum for the Economic Analysis of the Proposed Rule to Revise Critical Habitat for the Salt Creek Tiger Beetle

December 6, 2013

Introduction

The purpose of this document is to provide information to serve as a basis for conducting an economic analysis of the proposed revision of critical habitat for the Salt Creek tiger beetle (SCTB) (*Cicindela nevadica lincolniiana*). The Service is not aware of any state or local laws that would change due to the designation of this critical habitat. Little additional time would be required by the Service to address critical habitat in expected section 7 consultations. Section 7 consultations would be expected to occur along the Little Salt, Rock, Oak, and Haines Branch creeks. It is difficult to anticipate the number of section 7 consultations that may occur in the near future. However, the development of the City of Lincoln is south and eastward and not in the locations where the Service is proposing the critical habitat designation.

Section 4(b)(2) of the Endangered Species Act (Act) requires that the Service consider the economic, national security, and other impacts of designating a particular area as critical habitat. The Service may exclude an area from critical habitat if it determines that the benefits of exclusion outweigh the benefits of including the area as critical habitat, unless the exclusion will result in the extinction of the species. To support its weighing of the benefits of excluding versus including an area in critical habitat, the Service prepares an economic analysis for each proposed critical habitat rule describing and monetizing, where possible, the economic impacts (costs and benefits) of the designation.

Most courts have held that the Service only needs to consider the incremental impacts imposed by the critical habitat designation over and above those impacts imposed as a result of listing the species. For example, the Ninth Circuit Court of Appeals reached this conclusion twice within the last few years, and the U.S. Supreme Court declined to hear any further appeal from those rulings. *Arizona Cattle Growers' Assoc. v. Salazar*, 606 F.3d 116 (9th Cir. 2010), cert. denied, 179 L. Ed. 2d 300, 2011 U.S. LEXIS 1362 (2011); *Home Builders Association of Northern California v. United States Fish & Wildlife Service*, 616 F. 3rd 983 (9th Cir. 2010), cert. denied, 179 L. Ed. 2d 300, 2011 U.S. LEXIS 1362 (2011).

There are a number of ways that designation of critical habitat could influence activities, but one of the important functions of this memo is to provide detailed information about the differences between actions required to avoid jeopardy versus actions that may be required to avoid adverse modification. The Service is working to update the regulatory definition of adverse modification since it was invalidated by a prior court ruling. In the meantime, we will rely on guidance provided by the Director's December 9, 2004, Memorandum, *Application of the "Destruction of Adverse Modification" Standard under Section 7(a)(2) of the Endangered Species Act*. This memo explains that the conclusion for a section 7 analysis of a Federal action is to determine if

the “critical habitat would remain functional (or retain the current ability for the primary constituent elements to be functionally established) to serve the intended conservation role of the species...” (p. 3). The information provided below is intended to identify the possible economic, national security, and other impacts for this species under the jeopardy and adverse modification section 7 consultation standards.

Background

In response to a lawsuit filed by Earthjustice Legal Defense Fund and several other plaintiffs, the Service agreed to submit a final listing determination for the SCTB to the Federal Register by September 30, 2005. The final rule to list the SCTB as endangered was published in the Federal Register on October 6, 2005 (70 FR 58335). We published a proposed rule to designate critical habitat for the SCTB in the Federal Register on December 12, 2007 (72 FR 70716). On June 3, 2008, we published a notice in the Federal Register to reopen the comment period and announce a public hearing (73 FR 31665). On April 28, 2009, we published a revised proposed rule in the Federal Register to include an additional 138 acres as critical habitat and reopened the public comment period (74 FR 19167). A final rule was published in the Federal Register on April 6, 2010 (75 FR 17466). The Center for Native Ecosystems, Center for Biological Diversity, and Xerces Society (plaintiffs) filed a complaint on February 23, 2011, regarding designation of critical habitat for the species. The plaintiffs asserted that we failed to designate sufficient critical habitat to conserve and recover the species. A settlement agreement between the plaintiffs and the Service was reached on June 7, 2011, and we agreed to reevaluate our designation of critical habitat.

Intensive visual surveys conducted by University of Nebraska-Lincoln (UNL) entomologists since 1991 documented the abundance of the SCTB at six discrete populations in northern Lancaster County and the southern margin of Saunders County in Nebraska. Half of these populations have now been extirpated since annual surveys began in 1991. Currently, there are three known populations of SCTB – the Upper Little Salt Creek North, Little Salt Creek Arbor, and Little Salt Creek Roper populations. Each population is discrete and exists on a stream segment where suitable habitat and saline seeps are present on Little Salt Creek.

The Service is proposing to revise our designation of critical habitat for the SCTB. Critical habitat now being proposed consists of 1,110 acres (449 hectares) of habitat and includes occupied and unoccupied streams and barren salt flats on Rock, Little Salt, Oak, and Haines Branch creeks. The proposed critical habitat is considered essential to the conservation of this species. It includes saline wetland seeps. The Service previously designated 1,933 acres of critical habitat on Little Salt and Rock creeks in our 2010 final rule (75 FR 17466). The revised designation includes additional areas on Haines Branch and Oak creeks that were not previously included in our 2010 final rule.

The proposed critical habitat area requires special management considerations or protections from the threats of development, drought, and climate change. The long-term probability of the survival and recovery of the SCTB is dependent upon the protection of existing population areas; the maintenance of ecological functions within these areas, including connectivity, through dispersal between existing populations; keeping these areas free of major habitat-disturbing

activities; and continued efforts to rear and propagate the species for release in suitable habitat. Our proposed critical habitat designation works toward the survival and recovery of the SCTB by protecting known population areas and dispersal corridors and unoccupied areas where the species could be released in the future.

Critical Habitat Unit	Land Ownership by Type	Estimated Quantity of Critical Habitat	Percent of Critical Habitat Unit
Little Salt Creek Unit	City of Lincoln	40 ac (16 ha)	14.1
	Lower Platte South Natural Resources District	19 ac (8 ha)	6.7
	Nebraska Game & Parks Commission	41 ac (17 ha)	14.4
	The Nature Conservancy	29 ac (12 ha)	10.2
	Pheasants Forever	11 ac (4 ha)	3.9
	Private*	132 ac (53 ha)	46.5
	Private WRPs (Wetland Reserve Program)	12 ac (5 ha)	4.2
	Subtotal	284 ac (115 ha)	
Rock Creek Unit	Nebraska Game & Parks Commission	152 ac (62 ha)	28.9
	Private*	314 ac (127 ha)	59.7
	Private WRPs	60 ac (24 ha)	11.4
	Subtotal	526 ac (213 ha)	
Oak Creek Unit	Nebraska Department Roads	30 ac (12 ha)	85.6
	City of Lincoln	178 ac (72 ha)	10.67
	Subtotal	208 ac (84 ha)	
Haines Branch Unit	Private	92 ac (37 ha)	100
Total	City of Lincoln	70 ac (28 ha)	6.3
	Lower Platte South Natural Resources District	19 ac (8 ha)	1.7
	Nebraska Game & Parks Commission	193 ac (78 ha)	17.4
	Nebraska Department Roads	178 ac (72 ha)	16.0
	The Nature Conservancy	29 ac (12 ha)	2.6
	Pheasants Forever	11 ac (4 ha)	1.0
	Private*	610 ac (247 ha)	55.0
	Total	1,110 ac (449 ha)	

* Several private tracts are protected by easements

Baseline Analysis

The following discussion describes the existing regulatory circumstances that are anticipated without critical habitat being designated for the SCTB. In the baseline scenario, section 7 of the Act requires Federal agencies to consult with the Service to ensure that any action authorized,

funded, or carried out in the SCTB habitat will not likely jeopardize the continued existence of the species.

Conservation plans and regulatory mechanisms that provide protection to the species and its habitat without critical habitat designation

The following are ongoing conservation efforts that provide benefits to SCTB habitat and are considered part of the baseline because these activities are occurring without a revised critical habitat designation.

(1) Land Acquisition: A considerable amount of land has been purchased and restored along Little Salt and Rock creeks by the Saline Wetland Conservation Partnership. Funds used for land acquisition and restoration generally originate from several sources including the Nebraska Environmental Trust, Lower Platte South Natural Resources District, City of Lincoln, Lancaster County, Nebraska Game and Parks Commission through nontraditional section 6 grants from the Service, The Nature Conservancy, and others. The primary impetus for land acquisition was listing of the SCTB as endangered in 2005.

(2) Wetland Reserve Program: The Natural Resource Conservation Service (NRCS) has worked extensively along Little Salt and Rock creeks to enroll several private landowners in the Wetland Reserve Program (WRP). A considerable amount of habitat restoration has been done to restore saline wetlands on lands that have been enrolled. Listing of the Salt Creek tiger beetle in 2005 was the primary catalyst for these efforts.

Federal agencies and other project proponents that are likely to consult with the Service under section 7 without critical habitat

U.S. Army Corps of Engineers (Corps): Issuance of permits under the section 404 of the Clean Water Act has resulted in the need for section 7 consultation with the Corps of Engineers. The Corps would be the primary action agency for bridge and highway projects when local, nonfederal funds are proposed to be used for construction. Additionally, the Corps would initiate section 7 consultation on bank armoring, placement of culverts, channelizations, and other projects that would result in the placement of fill material in Rock and Little Salt creeks and their associated tributaries. The Corps may also issue permits to contractors for construction of various utilities (e.g., electric, water, gas) across Little Salt and Rock creeks.

Natural Resources Conservation Service (NRCS): The NRCS's Wetland Reserve Program (WRP) and any associated restoration projects have resulted in the need for section 7 consultation. There may be additional WRP projects in the future along Rock and Little Salt creeks and their associated tributaries. NRCS's rural development program could provide funding to projects that might result in withdrawal or impoundment of water in the Little Salt and Rock creek drainages. Examples of these might be construction of impoundments or providing funding for construction of ethanol plants.

Federal Highway Administration (FHWA): Section 7 consultation with the FHWA has also occurred in instances where federal funds are proposed to be provided for road and bridge construction, upgrade, and maintenance projects. Federally-funded County bridge and road

projects crossing Rock and Little Salt creeks and their associated tributaries may require section 7 consultation.

Environmental Protection Agency (EPA): EPA could provide funding for the upgrade of water treatment facilities ultimately resulting in an increase in water withdrawal from Little Salt and Rock creek drainages. This action could require section 7 consultation.

Housing and Urban Development (HUD): Section 7 consultation could occur in instances where a development is proposed to be funded by HUD in the Little Salt and Rock creek watersheds.

Agriculture interests may contact the Service in instances where grazing or cultivation of row crops and application of pesticides may affect occupied habitat for the species.

What types of project modifications are currently recommended or will likely be recommended by the Service to avoid jeopardy (i.e., the continued existence of the species)?

There have been several section 7 consultations on the SCTB with the Corps, FHWA, and NRCS, but none involving federally-funded water withdrawals, impoundments, or developments to date. Project proponents have been willing to incorporate the following conservation measures into their proposed projects to avoid impact to the SCTB. These include: (a) Soil erosion control at construction sites; (b) Use of temporary bridges instead of earthen causeways when crossing Little Salt and Rock creeks; (c) No nighttime work during the active time for SCTB adults; (d) Down shielding of lights and use of sodium vapor bulbs; (e) No equipment in wetlands and Rock Creek and Little Salt Creek; (f) Construction of permanent retention basins to contain freshwater; and (g) Use of spill kits at construction sites.

Adverse Modification Analysis

The following discussion describes the regulatory circumstances that are anticipated with revision of critical habitat, as proposed, for the SCTB. Once critical habitat is designated, section 7 of the Act requires Federal agencies to ensure that their actions will not result in the destruction or adverse modification of critical habitat. As will be discussed in more detail below, the key factor for determining adverse modification is whether, with implementation of the proposed Federal action, the affected critical habitat will continue to have the capability to serve its intended conservation role for the species. From section 3(3) of the Act:

The terms “conserve,” “conserving,” and “conservation” mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided under the Endangered Species Act are no longer necessary.

Thus, designation of critical habitat helps ensure that proposed project actions will not result in the adverse modification of habitat to the point that the species will not achieve recovery, meaning they will not be capable of being removed from the threatened or endangered species list.

What Federal agencies or project proponents are likely to consult with the Service under section 7 based on designation of critical habitat? What kinds of additional activities are likely to undergo consultation with critical habitat?

U.S. Army Corps of Engineers: Proposed issuance of permits under the section 404 of the Clean Water Act at Haines Branch and Oak creeks and their associated tributaries may require section 7 consultation with the Corps. For example, the Corps would be the primary action agency for bridge and highway projects when local, nonfederal funds are proposed to be used for construction and that construction would occur in waters under federal jurisdiction pursuant to the Clean Water Act. Section 7 consultation may be required on bank armoring, placement of culverts, channelizations, and other projects that would result in the placement of fill material in Haines Branch and Oak creeks and their associated tributaries. The Service has determined that this is an incremental effect from the proposed critical habitat designation because the Haines Branch and Oak creeks have been added in the proposal and are unoccupied.

Natural Resources Conservation Service: The NRCS's Wetland Reserve Program (WRP) Program and any associated restoration projects may require section 7 consultation on Haines Branch and Oak creeks and their associated tributaries. A critical habitat designation may make planning for WRP projects in Haines Branch and Oak creeks and their tributaries a higher priority.

Federal Highway Administration (FHWA): Section 7 consultation with the FHWA may be required for highway construction, upgrade, and maintenance projects on Haines Branch and Oak creeks and their associated tributaries. For example, federally-funded county bridge and road projects crossing Haines Branch and Oak creeks and their associated tributaries may require section 7 consultation. Construction and maintenance along Interstate 80 in the Oak Creek area may require section 7 consultation.

It is anticipated that section 7 consultations on designated critical habitat would occur with EPA and HUD when such projects occur on Haines Branch and Oak creeks and their associated tributaries.

Agriculture interests may contact the Service in instances where grazing or cultivation of row crops and application of pesticides may affect occupied habitat for the species and its designated critical habitat, some of which is currently unoccupied. In these instances, the Service may recommend establishment of buffers around critical habitat areas, retiming pesticide applications, and reduced stocking rates for livestock.

How much administrative effort does or will the Service expend to address adverse modification in its section 7 consultations with critical habitat? Estimate the difference compared to baseline.

We think it will be similar, considering that the species has been listed since October 2005. The addition of Haines Branch and Oak creeks will probably increase the number of consultations.

What project proponents are likely to pursue HCPs under section 10 after the designation of critical habitat? No project proponents are likely to pursue HCPs under section 10 after the

designation of critical habitat. Less private development has occurred in the Little Salt and Rock creek areas than was previously anticipated following the initial listing in 2005 due to the city and county not providing utilities, including water, sewer, gas, and electrical, to these areas.

Under the Act, incidental take of critical habitat is not provided as is incidental take of a species. When a non-Federal entity voluntarily seeks coverage under the ESA, it is for incidental take of the species only. The internal Service section 7 consultation on the issuance of the HCP/incidental take permit addresses the potential for adverse modification of critical habitat within the HCP area. Thus, the designation of critical habitat does not provide a trigger for a non-Federal entity to pursue an HCP.

What types of project modifications might the Service make during a section 7 consultation to avoid destruction or adverse modification of critical habitat that are different than those for avoiding jeopardy?

Even though the Service recognizes differences in the standards between avoidance of destruction or adverse modification and jeopardy, the types of project modifications that would be recommended would remain the same given the extremely low numbers and small number of populations of Salt Creek tiger beetles.