Billing Code 4310-55

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[FWS–R3–ES–2013–0017; 4500030113]

RIN 1018-AZ58

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Dakota Skipper and Poweshiek Skipperling

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service, propose to designate critical habitat for the Dakota skipper and Poweshiek skipperling under the Endangered Species Act of 1973, as amended. The Endangered Species Act requires that critical habitat be designated to the maximum extent prudent and determinable for species determined to be endangered or

threatened species. The effect of this regulation is to designate critical habitat for the Dakota skipper and Poweshiek skipperling under the Endangered Species Act.

DATES: *Written Comments*: We will accept comments received or postmarked on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES** section, below) must be received by 11:59 p.m. Eastern Time on the closing date. We must receive requests for public hearings, in writing, at the address shown in **ADDRESSES** by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

Public Informational Meetings: To better inform the public of the implications of the proposed listing and to answer any questions regarding this proposed rule, we plan to hold five public informational meetings. We have scheduled informational meetings regarding the proposed rule in the following locations:

(1) Minot, North Dakota, on November 5, 2013, at the Souris Valley Suites, 800 37th Avenue SW;

(2) Milbank, South Dakota, on November 6, 2013, at the Milbank Chamber of Commerce, 1001 East 4th Avenue;

(3) Milford, Iowa, on November 7, 2013, at the Iowa Lakeside Laboratory, 1838 Highway 86;

(4) Holly, Michigan, on November 13, 2013, at the Rose Pioneer Elementary School, 7110 Milford Road; and

(5) Berlin, Wisconsin, on November 14, 2013, at the Berlin Public Library, 121 West

Park Avenue.

Except for the meeting in Berlin, Wisconsin, each informational meeting will be from 5:30 p.m. to 8:00 p.m.; the meeting in Berlin, Wisconsin will be from 4:30 p.m. to 7:00 p.m.

ADDRESSES: You may submit comments by one of the following methods:

(1) *Electronically*: Go to the Federal eRulemaking Portal: *http://www.regulations.gov*. In the Search box, enter FWS–R3–ES–2013–0017, which is the docket number for this rulemaking. You may submit a comment by clicking on "Comment Now!" If your comments will fit in the provided comment box, please use this feature of *http://www.regulations.gov*, as it is most compatible with our comment review procedures. If you attach your comments as a separate document, our preferred file format is Microsoft Word. If you attach multiple comments (such as form letters), our preferred format is a spreadsheet in Microsoft Excel.

(2) *By hard copy*: Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS–R3–ES–2013–0017; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, MS 2042–PDM; Arlington, VA 22203.

We request that you send comments **only** by the methods described above. We will post all comments on *http://www.regulations.gov*. This generally means that we will post any personal information you provide us (see the **Public Comments** section below for more information).

The coordinates or plot points or both from which the maps are generated are included in the administrative record for this critical habitat designation and are available at (http://www.fws.gov/midwest/Endangered/), *www.regulations.gov* at Docket No. FWS–R3–ES–

2013–0017, and at the Twin Cities Ecological Services Office (see FOR FURTHER INFORMATION CONTACT). Any additional tools or supporting information that we may develop for this critical habitat designation will also be available at the Fish and Wildlife Service website and Field Office set out above, and may also be included at *http://www.regulations.gov.*

FOR FURTHER INFORMATION CONTACT: Peter Fasbender, Field Supervisor, U.S. Fish and Wildlife Service, Twin Cities Ecological Services Office, 4101 American Boulevard East, Bloomington, Minnesota, 55425, by telephone 612–725–3548 or by facsimile 612–725–3609. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Endangered Species Act (Act), any species that is determined to be a threatened or endangered species requires critical habitat to be designated, to the maximum extent prudent and determinable. Designations and revisions of critical habitat can only be completed by issuing a rule. Elsewhere in today's **Federal Register**, we propose to list the Dakota skipper (*Hesperia dacotae*) and Poweshiek skipperling (*Oarisma poweshiek*) as endangered species under the Act.

This rule proposes to designate critical habitat for Dakota skipper and Poweshiek skipperling.

We are proposing critical habitat for Dakota skipper and Poweshiek skipperling under the Act. Approximately 11,243 hectares (ha) (27,782 acres (ac)) are being proposed for designation as critical habitat for the Dakota skipper in Chippewa, Clay, Kittison, Lincoln, Murray, Norman, Pipestone, Polk, Pope, and Swift Counties in Minnesota; McHenry, McKenzie, Ransom, Richland, Rolette, and Wells Counties in North Dakota; and Brookings, Day, Deuel, Grant, Marshall, and Roberts Counties in South Dakota. Approximately 10,596 ha (26,184 ac) are being proposed for designation as critical habitat for the Poweshiek skipperling, in Cerro Gordo, Dickinson, Emmet, Howard, Kossuth, and Osceola Counties in Iowa; in Hilsdale, Jackson, Lenawee, Livingston, Oakland, and Washtenaw Counties in Michigan; Chippewa, Clay, Cottonwood, Douglas, La Qui Parle, Lincoln, Lyon, Mahnomen, Murray, Norman, Pipestone, Pope, Swift, and Wilkin Counties in Minnesota; Ransom, Richland, and Sargent Counties in North Dakota; Brookings, Day, Deuel, Grant, Marshall, Moody, and Roberts Counties in South Dakota; and Green Lake and Waukesha Counties in Wisconsin. In total, approximately 15,797 ha (39,035 ac) is being proposed as critical habitat for both species combined, as approximately 6,042 ha (14,931 ac) of proposed critical habitat is common to both species.

The basis for our action. Under the Endangered Species Act, any species that is determined to be a threatened or endangered species shall, to the maximum extent prudent and determinable, have habitat designated that is considered to be critical habitat. Section 4(b)(2) of the Endangered Species Act states that the Secretary shall designate and make revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if she

determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless she determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species.

We are preparing an economic analysis of the proposed designations of critical habitat. In order to consider economic impacts, we are preparing an analysis of the economic impacts of the proposed critical habitat designations and related factors. We will announce the availability of the draft economic analysis as soon as it is completed, at which time we will seek additional public review and comment.

We will seek peer review. We are seeking comments from independent specialists to ensure that our critical habitat proposal is based on scientifically sound data and analyses. We have invited these peer reviewers to comment on our specific assumptions and conclusions in this critical habitat proposal. Because we will consider all comments and information we receive during the comment period, our final determinations may differ from this proposal.

Information Requested

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from other concerned government agencies, the scientific community, industry, or any other interested party concerning this proposed rule. We particularly seek comments concerning:

(1) The reasons we should or should not designate habitat as "critical habitat" under section 4 of the Act (16 U.S.C. 1531 *et seq*.), including whether there are threats to the species from human activity, the degree of which can be expected to increase due to the designation, and whether that increase in threat outweighs the benefit of designation such that the designation of critical habitat may not be prudent.

(2) Specific information on:

(a) The amount and distribution of Dakota skipper and Poweshiek skipperling habitat;

(b) What areas, that were occupied at the time of listing (or are currently occupied) and that contain features essential to the conservation of the species, should be included in the designation and why;

(c) Special management considerations or protection that may be needed in critical habitat areas we are proposing, including how to implement livestock grazing, haying, or prescribed fire in a manner that is conducive to the conservation of Dakota skipper or Poweshiek skipperling, and managing for the potential effects of climate change; and

(d) What areas not occupied at the time of listing are essential for the conservation of the species and why.

(3) Land use designations and current or planned activities in the subject areas and their possible impacts on proposed critical habitat.

(4) Information on the projected and reasonably likely impacts of climate change on the Dakota skipper and Poweshiek skipperling and proposed critical habitat.

(5) Any probable economic, national security, or other relevant impacts of designating any area that may be included in the final designation; in particular, any impacts on small entities

or families, and the benefits of including or excluding areas that exhibit these impacts.

(6) Whether any specific areas we are proposing for critical habitat designation should be considered for exclusion under section 4(b)(2) of the Act, and whether the benefits of potentially excluding any specific area outweigh the benefits of including that area under section 4(b)(2) of the Act. For instance, should the final designation exclude properties that are under conservation easement to the U.S. Fish and Wildlife Service or another conservation agency, or properties held by conservation organizations, and why? In addition, we are seeking information to better understand how the exclusion or inclusion of specific private lands in the final critical habitat designation would affect private landowner interest and acceptance of programs that are intended to conserve native grasslands in the range of Dakota skipper and Poweshiek skipperling. We seek any information relevant to potential exclusion of any proposed critical habitat unit, and particularly seek information relating to conservation programs or plans of any kind that may protect butterfly habitat on these units. Exclusion of any number of proposed critical habitat units, pursuant to section 4(b)(2) of the Act is within the range of possible decisions in the final rule.

(7) Whether any specific Tribally-owned areas we are proposing for critical habitat designation should be considered for exclusion from final designation under section 4(b)(2) of the Act, and information regarding the management of those areas.

(8) Whether we could improve or modify our approach to designating critical habitat in any way to provide for greater public participation and understanding, or to better accommodate public concerns and comments.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Please note that submissions merely stating support for or opposition to the action under consideration without providing supporting information, although noted, will not be considered in making a determination, as section 4(b)(1)(A) of the Act directs that listing and critical habitat determinations must be made "solely on the basis of the best scientific and commercial data available."

You may submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**. We request that you send comments **only** by the methods described in the **ADDRESSES** section.

If you submit information via *http://www.regulations.gov*, your entire submission—including any personal identifying information—will be posted on the website. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on *http://www.regulations.gov*. Please include sufficient information with your comments to allow us to verify any scientific or commercial information you include.

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on *http://www.regulations.gov*, or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Twin Cities Ecological Services Office (see **FOR FURTHER INFORMATION CONTACT**).

Previous Federal Actions

All previous Federal actions are described in the proposal to list the Dakota skipper as a threatened species and the Poweshiek skipperling as an endangered species under the Endangered Species Act published elsewhere in today's **Federal Register.**

Critical Habitat

Background

For more information on Dakota skipper and Poweshiek skipperling taxonomy, life history, habitat, and population descriptions and our proposal to list the species under the Act, please refer to the proposed rule to list the species that is published elsewhere in today's Federal Register.

It is our intent to discuss below only those topics directly relevant to the designation of critical habitat for the Dakota skipper and Poweshiek skipperling in this section of the proposed rule.

Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that Federal agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Where a landowner requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) of the Act would apply, but even in the event of a destruction or adverse modification finding, the obligation of the Federal action agency and the landowner is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act's definition of critical habitat, areas within the geographical area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) essential to the conservation of the species and (2) which may require special management considerations or protection. For these areas, critical habitat designations identify, to the extent known using the best scientific and commercial data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat). In identifying those physical or biological features within an area, we focus on the principal biological or physical constituent elements (primary constituent elements such as roost sites, nesting grounds, seasonal wetlands, water quality, tide, soil type) that are essential to the conservation of the species. Primary constituent elements are the elements of physical or biological features that provide for a species' life-history processes, and are essential to the conservation of the species.

Under the second prong of the Act's definition of critical habitat, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. For example, an area that was recently occupied, but not occupied at the time of listing, may be essential to the conservation of the species and may be included in the critical habitat designation. We designate critical habitat in areas outside the geographical area occupied by a species only when a designation limited to its range would be inadequate to ensure the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information

Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658)), and our associated Information Quality Guidelines, provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be designated as critical habitat, our primary source of information is generally the information developed during the listing process for the species. Additional information sources may include the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, other unpublished materials, or experts' opinions or personal knowledge.

Habitat is dynamic, and species may move from one area to another over time. Climate change will be a particular challenge for biodiversity because the interaction of additional stressors associated with climate change and current stressors may push species beyond their ability to survive (Lovejoy 2005, pp. 325–326). The synergistic implications of climate change and habitat fragmentation are the most threatening facet of climate change for biodiversity (Hannah and Lovejoy 2005, p. 4). Current climate change predictions for terrestrial areas in the Northern Hemisphere indicate warmer air temperatures, more intense precipitation events, and increased summer continental drying (Field *et al.* 1999, pp. 1–3; Hayhoe *et al.* 2004, p. 12422; Cayan *et al.* 2005, p. 6; Intergovernmental Panel on Climate Change (IPCC) 2007, p. 1181). Climate change may lead to increased frequency and duration of severe storms and droughts (Golladay *et al.* 2004, p. 504; McLaughlin *et al.* 2002, p. 6074; Cook *et al.* 2004, p.

1015).

We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, will continue to be subject to: (1) conservation actions implemented under section 7(a)(1) of the Act, (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species, and (3) the prohibitions of section 9 of the Act if actions occurring in these areas may take the species. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of this species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

Prudency Determination

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12), require that, to the maximum extent prudent and determinable, the Secretary shall designate critical habitat at the time the species is determined to be an endangered or threatened species.

Our regulations (50 CFR 424.12(a)(1)) state that the designation of critical habitat is not prudent when one or both of the following situations exist:

(1) The species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of threat to the species, or

(2) such designation of critical habitat would not be beneficial to the species.

There is currently no immediate threat of take attributed to collection or vandalism (see the **Summary of Factors Affecting the Species** section of the proposed listing rule published elsewhere in today's **Federal Register**) for either the Dakota skipper or Poweshiek skipperling, and identification and mapping of critical habitat is not expected to initiate any such threat. In the absence of finding that the designation of critical habitat would increase threats to a species, if there are any benefits to a critical habitat designation, then a prudent finding is warranted. Here, the potential benefits of designation include: (1) Triggering consultation under section 7 of the Act, in new areas for actions in which there may be a Federal nexus where it would not otherwise occur because, for example, it is or has become unoccupied or the occupancy is in question; (2) focusing conservation activities on the most essential features and areas; (3) providing educational benefits to State or county governments or private entities; and (4) preventing people from causing inadvertent harm to the species. Therefore, because we have determined that the designation of critical habitat will not likely increase the degree of threat to the Dakota skipper or Poweshiek skipperling and may provide some measure of benefit, we find that designation of critical habitat is prudent for the Dakota skipper and Poweshiek skipperling.

Critical Habitat Determinability

Having determined that designation is prudent, under section 4(a)(3) of the Act we must find whether critical habitat for the Dakota skipper and Poweshiek skipperling is determinable. Our regulations at 50 CFR 424.12(a)(2) state that critical habitat is not determinable when one or both of the following situations exist:

(i) Information sufficient to perform required analyses of the impacts of the designation is lacking, or

(ii) The biological needs of the species are not sufficiently well known to permit identification of an area as critical habitat.

When critical habitat is not determinable, the Act allows the Service an additional year to publish a critical habitat designation (16 U.S.C. 1533(b)(6)(C)(ii)).

We reviewed the available information pertaining to the biological needs of the species and habitat characteristics where these species are located. This and other information represent the best scientific data available and led us to conclude that the designation of critical habitat is determinable for the Dakota skipper and Poweshiek skipperling.

Physical or Biological Features

In accordance with section 3(5)(A)(i) and regulations at 50 CFR 424.12(b), in determining which areas within the geographical area occupied by the species at the time of listing to designate as critical habitat, we consider the physical or biological features that are essential to the conservation of the species and which may require special management considerations or protection. These include, but are not limited to:

(1) Space for individual and population growth and for normal behavior;

(2) Food, water, air, light, minerals, or other nutritional or physiological requirements;

(3) Cover or shelter;

(4) Sites for breeding, reproduction, or rearing (or development) of offspring; and

(5) Habitats that are protected from disturbance or are representative of the historical geographic and ecological distributions of a species.

Dakota Skipper

We derived the specific physical or biological features required for the Dakota skipper from studies of the species' habitat, ecology, and life history as described below. Additional information can be found in the Background section of the proposed listing rule, published elsewhere in today's **Federal Register**. We have determined that the following physical or biological features are essential for the Dakota skipper:

Space for Individual and Population Growth and for Normal Behavior

Dakota skippers are obligate residents of remnant (untilled) high-quality prairie—habitats that are dominated by native grasses and that contain a high diversity of native forbs (flowering herbaceous plants). Dakota skipper habitat has been categorized into two main types: Type A habitat is described as high-quality, low (wet-mesic) prairie with little topographic relief that occurs on near-shore glacial lake deposits, dominated by little bluestem grass (*Schizachyrium scoparium*), with the likely presence of wood lily (*Lilium philadelphicum*), bluebell bellflower

(*Campanula rotundifolia*), and mountain deathcamas (smooth camas; *Zigadenus elegans*) (McCabe 1981, p. 190; Royer and Marrone 1992a, pp. 8, 14–16, 21). Type B habitat is described as rolling native-prairie terrain over gravelly glacial moraine deposits and is dominated by bluestems and needle-grasses (*e.g.*, *Hesperostipa spartea*) with the likely presence of bluebell bellflower, wood lily, purple coneflower (*Echinacea angustifolia*), upright prairie coneflower (*Ratibida columnifera*), and common gaillardia (*Gaillardia aristata*) (Royer and Marrone 1992a, pp. 21–22).

Dry prairies are described to have a sparse shrub layer (less than 5 percent cover) composed mainly of leadplant (*Amorpha canescens*), with prairie rose (*Rosa arkansana*) and wormwood sage (*Artemisia frigida*) often present (Minnesota Department of Natural Resources 2012a, p. 1). Taller shrubs, such as smooth sumac (*Rhus glabra*), may also be present. Occasional trees, such as bur oak (*Quercus macrocarpa*) or black oak (*Quercus velutina*), may also be present but remain less than approximately 5 percent cover (Minnesota Department of Natural Resources 2012a, p. 1). Similarly, wet-mesic prairies are described to have a sparse shrub layer (less than 5 to 25 percent cover) of leadplant, prairie rose, wolfberry (*Symphoricarpos occidentalis*), and other native shrubs such as gray dogwood (*Cornus racemosa*), American hazelnut (*Corylus americana*), and wild plum (*Prunus americana*) (Minnesota Department of Natural Resources 2012b, p. 1). Therefore, based on the information above, we identify high-quality Type A or Type B native remnant (untilled) prairie, as described above, containing a mosaic of native grasses and flowering forbs and sparse shrub and tree cover to be a physical or biological feature essential to the conservation of the Dakota skipper.

Nonnative invasive plant species, such as Kentucky bluegrass (*Poa pratensis*) and smooth brome (*Bromus inermus*) may outcompete native plants that are necessary for the

survival of Dakota skipper and lead to the deterioration or elimination of native vegetation. Dakota skipper depend on a diversity of native plants endemic to tallgrass and mixed-grass prairies; therefore, when nonnative or woody plant species become dominant, Dakota skipper populations decline due to insufficient sources of larval food and nectar for adults. Therefore, native prairies, as described above, with an absence or only sparse presence of nonnative invasive plant species is a physical or biological feature essential to the conservation of the Dakota skipper.

Royer and Marrone (1992a, p. 25) concluded that Dakota skippers are "not inclined to dispersal," although they did not describe individual ranges or dispersal distances. Concentrated activity areas for Dakota skippers shift annually in response to local nectar sources and disturbance (McCabe 1979, p. 9; 1981, p. 186). Marked adults moved across less than 200 meters (m) (656 feet (ft)) of unsuitable habitat between two prairie patches and moved along ridges more frequently than across valleys (Dana 1991, pp. 37–38). Average movements of recaptured adults were less than 300 m (984 ft) over 3–7 days. Dana (1997, p. 6) later observed reduced movement rates across a small valley with roads and crop fields compared with movements in adjacent widespread prairie habitat.

Dakota skipper are not known to disperse widely and have low mobility; experts estimate Dakota skipper has a mean mobility of 3.5 (standard deviation = 0.71) on a scale of 0 (sedentary) to 10 (highly mobile) (Burke *et al*. 2011, Fitzsimmons 2012, pers. comm.). Five Dakota skipper experts interviewed in 2001 indicated that it was unlikely that Dakota skippers were capable of moving greater than 1 kilometer (km) (0.6 miles (mi)) between patches of prairie habitat separated by structurally similar habitats (*e.g.*, perennial grassland, but not necessarily native prairie) (Cochrane and Delphey 2002, p. 6). The species will not likely disperse across

unsuitable habitat, such as certain types of row crops (*e.g.*, corn, beets), or anywhere not dominated by grasses. Skadsen (1999, p. 2) reported possible movement of unmarked Dakota skippers from a known population at least 800 m (2,625 ft) away to a site with an unusually heavy growth of purple coneflower where he had not found Dakota skippers in three previous years when coneflower production was sparse. The two sites were connected by "native vegetation of varying quality" with a few asphalt and gravel roads interspersed (Skadsen *in litt*. 2001).

Dakota skipper may move in response to local nectar sources, disturbance, or in search of a mate. The tallgrass prairie that once made up a vast ecosystem prior to European settlement has now been reduced to fragmented remnants that make up less than 1 to 15 percent of the original land area across the species' range (Samson and Knopf 1994, p. 419). Similarly, mixed-grass prairie has been reduced to fragmented remnants that make up less than 1, 19, and 28 percent of the original land area in Manitoba, Saskatchewan, and North Dakota, respectively (Samson and Knopf 1994, p. 419). Before the range-wide fragmentation of prairie habitat, the species could move freely across suitable tallgrass and mixed-grass prairie and between high-quality prairies through suitable dispersal habitat. Now, these fragmented populations need immigration corridors for dispersal from nearby populations to prevent genetic drift and perhaps to reestablish a population after local extirpation. Therefore, based on the information above, we identify undeveloped dispersal habitat, structurally similar to suitable high-quality prairie habitat, as described above, to be a physical or biological feature essential to the conservation of the Dakota skipper. These dispersal habitats should be adjacent to or between high-quality prairie patches and within the known dispersal distance of Dakota skipper; within 1 km (0.6 mi) from suitable high-quality Type A or Type B prairie and should have limited shrub and tree cover, and

no or limited amounts of certain row crops, which may act as barriers to dispersal.

In summary, we identify high-quality wet-mesic or dry (Type A and Type B) remnant (untilled) prairie containing a mosaic of native grasses and flowering forbs to be a physical or biological feature necessary to allow for normal behavior and population growth of Dakota skipper. Both wet-mesic and dry prairies have limited tree and low shrub coverage that may act as barriers to dispersal and limited or no invasive plant species that may lead to a change in the plant community. Dispersal habitat, structurally similar to suitable high quality prairie habitat and adjacent to or between high-quality prairie patches should be located within the known dispersal distance of Dakota skipper (within 1 km (0.6 miles) from suitable high-quality Type A or Type B prairie) to help maintain genetic diversity and to provide refuges from disturbance.

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements

Dakota skipper larvae feed only on a few native grass species; little bluestem is a frequent food source (Dana 1991, p. 17; Royer & Marrone 1992a, p. 25), although they have also been found on *Panicwn* spp., *Poa* spp., and other native grasses (Royer and Marrone 1992a, p. 25). Seasonal senescence patterns (timing of growth) of grass species relative to the larval period of Dakota skippers are likely important in determining the suitability of grass species as larval host plants because warm-season grasses such as little bluestem grow and stay green and palatable from June through early September, the months when Dakota skipper larvae are feeding (NRCS 2004, p. 1). By contrast, cool-season grasses such as the nonnative Kentucky bluegrass grow during the cooler spring and fall (NRCS 2004, p. 1), and are, therefore, not available during the larval period of Dakota skipper. Consequently, based on the information

above, we identify native grass species, such as little bluestem, to be a physical or biological feature essential to the conservation of the Dakota skipper. These native grasses should be available during the larval stage of Dakota skipper.

Adult Dakota skippers may use several species of native forbs as nectar sources, which can vary regionally. Examples of adult nectar sources include: purple coneflower, bluebell bellflower, white prairie clover (*Dalea candida*), upright prairie coneflower, fleabanes (*Erigeron spp.*), blanketflowers (*Gaillardia spp.*), black-eyed Susan, yellow sundrops (*Calylophus serrulatus*), groundplum milkvetch (*Astragalus crassicarpus*), deathcamas (smooth camas), common primrose, and tooth-leaved primrose (*Calylophus serrulata*) (McCabe and Post 1977b, p. 36, McCabe 1979, p. 42, 1981, p. 187, Royer and Marrone 1992a, p. 21, Swengel and Swengel 1999, pp. 280–281). Plant species likely vary in their value as nectar sources for Dakota skipper due to the amount of nectar available to the species during the adult flight period (Dana 1991, p. 48). Swengel and Swengel (1999, pp. 280–281) observed nectaring at 25 plant species, but 85 percent of the observations were at the following three taxa, in declining order of frequency: purple coneflower, blanketflower, and groundplum milkvetch. Dana (1991, p. 21) reported the use of 25 nectar species in Minnesota with purple coneflower most frequented. Flowering forbs also provide water necessary to avoid desiccation (drying out) during the flight period (Dana 2013, pers. comm.). Therefore, based on the information above, we identify the availability of native nectar plant species, including but not limited to, those listed above to be a physical or biological feature for this species. These nectar plant species should be flowering during the Dakota skipper's adult flight period.

Dakota skipper larvae are vulnerable to desiccation during hot, dry weather, and this vulnerability may increase in the western parts of the species' range (Royer *et al.* 2008, p. 15).

Compaction of soils in the mesic and relatively flat Type A habitats may alter vertical water distribution and lead to decreased relative humidity levels near the soil surface (Gardiner and Miller 2007, pp. 36–40, 510–511; Frede 1985 in Royer 2008, p. 2), which would further increase the risk of desiccation (Royer 2008, p. 2). Soils associated with dry and wet-mesic prairies are described as having a seasonally high water table and moderate to high permeability. Soil textures in Dakota skipper habitats are classified as loam, sandy loam, or loamy sand (Royer and Marrone 1992b, p. 15, Skadsen 1997, Lenz 1999, pp. 4–5, 8, Swengel and Swengel 1999, p. 282); soils in moraine deposits are described as gravelly, but the deposits associated with glacial lakes are not described as gravelly. The native-prairie grasses and flowering forbs detailed in the above sections are typically found on these soil types (Lenz 1999, pp. 4–5, 8), and plant species diversity is generally higher in remnant prairies where the soils have never been plowed (Higgins *et al*. 2000, pp. 23–24). Cultivation changes the physical state of the soil, including changes to bulk density (compaction), which may hinder seed germination and root growth (Tomko and Hall 1986, pp. 173–175; Miller and Gardiner 2007, pp. 510–511). Furthermore, certain native prairie plants are found only in prairies that lack a tillage history (Higgins *et al.* 2000, p. 23). Finally, bulk density affects plant growth (Gardiner and Miller 2008, p. 36) and, therefore, can alter the plant community. For example, Dakota skippers appear to be generally absent from Type A habitat in North Dakota when it is grazed due to a shift away from a plant community that is suitable for the species (McCabe 1979, p. 17; McCabe 1981, p. 179). The shift in plant community composition may occur rapidly (McCabe 1981, p. 179; Royer and Royer 1998, p. 23).

Therefore, we identify loam, sandy loam, loamy sand, or gravelly soils that have never been plowed or tilled to be a physical feature essential to the conservation of the Dakota skipper.

In summary, the biological features that provide food sources include native grass species for larval food, such as little bluestem and prairie dropseed, and native forb plant species for adult nectar sources, such as purple coneflower, bluebell bellflower, white prairie clover, upright prairie coneflower, fleabanes, blanketflowers, black-eyed Susan, and groundplum milkvetch. These prairies have undisturbed (untilled) edaphic (related to soil) features that are conducive to the development and survival of larval Dakota skipper and soil textures that are loam, sandy loam, loamy sand, or gravelly.

Cover or Shelter

Dakota skippers oviposit (lay eggs) on broadleaf plants such as *Astragalus* spp. (McCabe 1981, p. 180) and grasses such as little bluestem, big bluestem (*Andropogon gerardii*), sideoats gramma, prairie dropseed, porcupine grass (*Hesperostipa spartea*), and Wilcox's Panic Grass (*Dichanthelium wilcoxianum*) (Dana 1991, p. 17). After hatching, Dakota skipper larvae crawl to the bases of grasses where they form shelters at or below the ground surface with silk fastened together with plant tissue (Dana 1991, p. 16). Dakota skippers overwinter in their ground-level or subsurface shelters during either the fourth or fifth instar (Dana 1991, p. 15; McCabe 1979, p. 6; 1981; Royer & Marrone 1992a, pp. 25–26). In the spring, larvae resume feeding and undergo two additional molts before they pupate. During the last two instars, larvae shift from buried shelters to horizontal shelters at the soil surface (Dana 1991, p. 16). Therefore, sufficient availability of grasses used to form shelters at or below the ground surface is a physical or biological feature essential for cover and shelter for Dakota skipper larvae.

As discussed above, Dakota skipper larvae are vulnerable to desiccation (drying out)

during hot, dry weather; this vulnerability may increase in the western parts of the species' range (Royer *et al.* 2008, p. 15). Compaction of soils in the mesic and relatively flat Type A habitats may alter vertical water distribution and lead to decreased relative humidity levels near the soil surface, Gardiner and Miller 2007, pp. 36–40, 510–511; Frede 1985 in Royer 2008, p. 2), which would further increase the risk of desiccation (Royer 2008, p. 2). Soils associated with wet-mesic prairies are described as having a seasonally high water table and moderate to high permeability (Lenz 1999, pp. 4–5). Cultivation changes the physical state of soil (Tomko and Hall 1986, pp. 173–175; Gardiner and Miller 2007, pp. 510–511), by, for example, changes to bulk density (compaction) that result in slower water movement through the soil (*e.g.*, Tomko and Hall 1986, pp. 173–175). Furthermore, because Dakota skipper spend a portion of their larval stage underground, the soil must remain undisturbed (untilled) during that time. Therefore, we identify untilled glacial soils including, but not limited to, loam, sandy loam, loamy sand, or gravelly soils to be a physical feature essential to the conservation of the Dakota skipper.

Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

The annual, single generation of adult Dakota skippers emerges from mid-June to early July, depending on the weather, with flights starting earlier farther west in the range (McCabe 1979, p. 6, 1981, p. 180, Dana 1991, p. 1, Royer and Marrone 1992a, p. 26, Skadsen 1997, p. 3, Swengel and Swengel 1999, p. 282). During this time, adult male Dakota skippers typically perch on tall grasses and forbs, and occasionally appear to patrol in search of mating opportunities (Royer and Marrone 1992a, p. 25). Therefore, the physical or biological features

essential to the conservation of the Dakota skipper include above-ground parts of grasses and forbs for perching that are available during the adult flight period.

The local flight period lasts two to four weeks and mating occurs throughout this period (McCabe 1979, p. 6, 1981, p. 180, Dana 1991, p. 15). Adults are thought to disperse a maximum of 1.0 mi (1.6 km) in search of a mate or nectar sources (Cochrane and Delphey 2002, p. 6). During this time, adult Dakota skippers depend on nectar plants for food and water. Therefore, it is important that nectar plants are available in close proximity to areas suitable for oviposition and larval feeding.

Dakota skippers lay eggs on broadleaf plants such as *Astragalus* spp. (McCabe 1981, p. 180) and grasses such as little bluestem, big bluestem (*Andropogon gerardii*), sideoats gramma, prairie dropseed, porcupine grass (*Hesperostipa spartea*), and Wilcox's Panic Grass (*Dichanthelium wilcoxianum*) (Dana 1991, p. 17), although larvae feed only on native grasses, such as little bluestem (Dana 1991, p. 17; Royer and Marrone 1992a, p. 25) and prairie dropseed (Royer and Marrone 1992a, p. 25). After hatching, Dakota skipper larvae crawl to the bases of grasses where they form shelters at or below the ground surface (Dana 1991, p. 16) and emerge at night from their shelters to forage (McCabe 1979, p. 6, 1981, p. 181, Royer and Marrone 1992a, p. 25). Dakota skippers overwinter in their ground-level or subsurface shelters during either the fourth or fifth instar (McCabe 1979, p. 6, 1981, p. 181, Dana 1991, p. 15, Royer and Marrone 1992a, pp. 25–26). In the spring, larvae resume feeding and undergo two additional molts before they pupate. During the last two instars, larvae shift from buried shelters to horizontal shelters at the soil surface (Dana 1991, p. 16). Therefore, the physical or biological features essential to the conservation of the Dakota skipper include above- and below-ground parts of grasses for oviposition and larval shelters and foraging; these grasses should be in close

proximity to nectar plants where the adults are feeding during the short flight period.

Dakota skipper larvae spend most of the summer at or near the soil surface (McCabe 1981, p. 181, Dana 1991, p. 15), therefore, biological factors such as availability of nectar and larval food sources, edaphic features such as bulk density (an indicator of soil compaction) and soil moisture, as well as related non-biotic factors such as temperature and relative humidity at and near (to a 2.0 cm depth; 0.79 in) the soil surface may limit the survival of the sensitive larval and pupal stages of Dakota skippers (Royer *et al.* 2008, p. 2). Soil evaporation rates in the north-central United States are substantially affected by microtopography (variations of the soil surface on a small scale) (Cooper 1960 in Royer *et al.* 2008, p. 2). For example, removal of vegetation due to heavy livestock grazing, plowing, fire, and soil compaction alters evaporation and water movement through the soil, thereby altering the humidity of soil near the surface (*e.g.*, Tomko and Hall 1986, pp. 173–175; Zhao *et al.* 2010, pp. 93–96), although the timing and intensity of these operations may affect the results. Livestock grazing can increase soil bulk density (an indicator of soil compaction) (Greenwood *et al*. 1997, pp. 413, 416–418; Gardiner and Miller 2007, pp. 510–511; Zhao *et al*. 2007, p. 248), particularly when the soil is wet (Gardiner and Miller 2008, p. 510), and these increases have been correlated with decreased soil water content and movement of water through the soil (Zhao *et al.* 2007, p. 248). The loss of porosity results in higher bulk densities, thereby decreasing water movement through the soil (Warren *et al*. 1986, pp. 493–494).

Similarly, vehicle traffic (including tilling and harvesting) increases compaction (Gardiner and Miller 2008, pp. 36, 510), and tilled land increases bulk densities (*e.g.*, Tomko and Hall 1986, pp. 173–175). During the hot and dry summer months, these changes in the soil restrict the movement of shallow groundwater to the soil surface, thus resulting in a dry soil layer

during the time when Dakota skipper larvae are vulnerable to desiccation (Royer *et al.* 2008, p. 2). Furthermore, bulk density affects plant growth (Gardiner and Miller 2008, p. 36) and, therefore, can alter the plant community. For example, Dakota skippers appear to be generally absent from Type A habitat in North Dakota when it is grazed due to a shift away from a plant community that is suitable for the species (McCabe 1979, p. 17; McCabe 1981, p. 179). The shift in plant community composition and adverse effects to Dakota skipper populations may occur rapidly (McCabe 1981, p. 179; Royer and Royer 1998, p. 23).

The following are acceptable levels for microclimatological (climate in a small space, such as at or near the soil surface) variables between the soil surface and 2.0 cm (0.79 in) deep throughout the range of Dakota skippers during the summer season (from when eggs are laid through when larvae enter diapause near the end of September); mean temperature range of 17.8 to 20.5 °C (64.0 to 68.9 °F), mean dew point ranging from 13.9 to 16.8 °C (57.0 to 62.2 °F), and mean relative humidity between 72.5 and 85.1 percent (Royer 2008, pp. 7, 14–15). Type A habitats, as discussed above, are topographically of low relief (little change in elevation) (less than l m (3.2 ft)), with sandy soils that are relatively free of gravel at least to depths of 60 cm (23.6 in) and nearly saturated at depths between 40 and 60 cm (15.7 to 23.6 in). In these habitat types, soil bulk density exceeds 1.0 gram/cubic centimeter (g/cm^3) (0.8 ounce/cubic inch (oz/in^3) (Royer *et al.* 2008, p. 14). Type A habitat has a high water table (0.3 to 1.8 m (1 to 6 ft)) and is subject to intermittent flooding in the spring, but provides some habitat that is not flooded during the spring larval growth period (Royer *et al.* 2008, p. 15). Bulk density at Dakota skipper sites (including Type A and Type B habitats) ranged from approximately 0.9 g/cm^3 to 1.3 g/cm^3 (0.5 $oz/in^3$to 0.7 oz/in^3), bulk density in Type A habitat ranged from 1.0 g/cm^3 to 1.3 g/cm^3 (0.6 oz/in^3 to 0.7 oz/in^3), whereas mean bulk densities in Type B habitat are below 1.0g/cm^3 (0.8 oz/in^3)

(Royer *et al.* 2008, p. 10). The gravelly soils of type B habitats are considerably more compact at all depths than the bulk density of Type A habitat, perhaps due to the presence of gravel and its effect on the accuracy of the instrument (Royer 2008, p. 15). Soil textures in Dakota skipper Type A habitats are classified as loam, sandy loam, or loamy sand (Royer *et al.* 2008, pp. 3–5, 14–15). Type B habitats are associated with gravelly glacial landscapes of predominantly sandy loams and loamy sand soils with relatively higher relief, more variable soil moisture, and slightly higher soil temperatures than Type A habitats (Royer *et al.* 2008, p. 15).

Edaphic features that allow for micro-climate (between the soil surface and 2.0 cm (0.8 in) deep) conditions that are conducive to Dakota skipper larvae survival during the summer months include, specifically, mean summer temperatures from 17.8 to 20.5 °C (64.0 to 68.9 °F), mean dew point ranging from 13.9 to 16.8 °C (57.0 to 62.2 °F), mean relative humidity between 72.5 and 85.1 percent, and bulk densities between 0.86 g/cm^3 and 1.28 g/cm^3 (0.5 oz/in^{3}to 0.74 oz/in^3). These microclimatological levels are characteristic of untilled glacial soils. Furthermore, as described above, intensive livestock grazing can increase soil bulk density (an indicator of soil compaction)—the effects of grazing are dependent on the intensity and timing of grazing and soil type. The increases in soil bulk density increases have been correlated with decreased soil water content and movement of water through the soil. Therefore, untilled glacial soils that are not subject to intensive grazing pressure are physical or biological features essential to the conservation of the Dakota skipper.

Habitats Protected from Disturbance or Representative of the Historical, Geographic, and Ecological Distributions of the Species

The Dakota skipper has a restricted geographic distribution. Species whose populations exhibit a high degree of isolation are extremely susceptible to extinction from both random and nonrandom catastrophic natural or human-caused events. Therefore, it is essential to maintain the native tallgrass prairies and native mixed-grass prairies upon which the Dakota skipper depends. This means protection from destruction or conversion, disturbance caused by exposure to land management actions (e.g., intense grazing, fire management, early haying, and herbicide or pesticide use), flooding, lack of management, and nonnative species that may degrade the availability of native grasses and flowering forbs. The Dakota skipper must, at a minimum, sustain its current distribution for the species to continue to persist. Introduced nonnative species are a serious threat to native tallgrass prairies and native mixed-grass prairies on which Dakota skipper depends ((Orwig 1997, pp. 4 and 8, Skadsen 2002, p. 52, Royer and Royer 2012b, p. 15–16, 22–23); see both *Factor C: Disease and Predation, and Factor E: Other Natural or Manmade Factors Affecting Its Continued Existence* sections of our proposed listing rule published elsewhere in today's **Federal Register**). Because the distribution of the Dakota skipper is isolated and its habitat so restricted, introduction of certain nonnative species into its habitat could have significant negative consequences. Dakota skipper typically occur at sites embedded in agricultural or developed landscapes, which makes them more susceptible to nonnative or woody plant invasion.

Potentially harmful nonnative species include leafy spurge (*Euphorbia esula*), Kentucky bluegrass, alfalfa (*Medicago sativa*), glossy buckthorn *(Frangula alnus*), smooth brome, purple loosestrife (*Lythrum salicaria*), Canada thistle (*Cirsium arvense*), reed canary grass (*Phalaris arundinacea*), gray dogwood (*Cornus racemosa*), and others (Orwig 1997, pp. 4 and 8, Skadsen 2002, p. 52, Royer and Royer 2012b, pp. 15–16, 22–23). Once these plants invade a site, they

replace or reduce the coverage of native forbs and grasses used by adults and larvae of both butterflies. Leafy spurge displaces native plant species and its invasion is facilitated by actions that remove native plant cover and expose mineral soil (Belcher and Wilson 1989, p. 172). The threat from nonnative invasive species is compounded by the encroachment of native woody species into native-prairie habitat. Invasion of tallgrass and mixed-grass prairie by woody vegetation such as glossy buckthorn reduces light availability, total plant cover, and the coverage of grasses and sedges (Fiedler and Landis 2012, pp. 44, 50–51). This in turn reduces the availability of both nectar and larval host plants for Dakota skipper.

Dakota skippers are obligate residents of undisturbed high-quality prairie, ranging from wet-mesic tallgrass prairie to dry-mesic mixed-grass prairie (Royer and Marrone 1992a, pp. 8, 21). High-quality prairie contains a high diversity of native species, including flowering herbaceous species (forbs). Degraded habitat consists of a high abundance of nonnative plants, woody vegetation, and a low abundance of native grasses and flowering forbs available during the larval growth period and a low abundance of native flowering forbs available during adult nectaring periods. Intensive grazing or fire management practices, early haying, flooding, as well as lack of management create such degraded habitats. Conversion to agriculture or other development also degrades or destroys native-prairie habitat. Therefore, based on the information above, we identify the necessary physical or biological features for the Dakota skipper as nondegraded native tallgrass prairie and native mixed-grass prairie habitat devoid of nonnative plant species, or habitat in which nonnative plant species and nonnative woody vegetation are at levels that allow persistence of Dakota skipper.

Poweshiek Skipperling

We derived the specific physical or biological features required for the Poweshiek skipperling from studies of the species' habitat, ecology, and life history as described below. Additional information can be found in the Background section of the proposed listing rule, published elsewhere in today's **Federal Register**. We have determined that the following physical or biological features are essential for the Poweshiek skipperling:

Space for Individual and Population Growth and for Normal Behavior

The full range of habitat preferences for Poweshiek skipperling includes high-quality prairie fens, grassy lake and stream margins, remnant moist meadows, and wet-mesic to dry tallgrass remnant (untilled) prairies. These areas are dominated by native-prairie grasses, such as little bluestem and prairie dropseed (*Sporobolus heterolepis*), but also contain a high diversity of native forbs, including black-eyed Susan (*Rudbeckia hirta*) and palespike lobelia (*Lobelia spicata*). The disjunct populations of Poweshiek skipperling in Michigan occur in prairie fens, specifically, in peat domes within larger prairie fen complexes in areas co-dominated by mat muhly (*Muhlenbergia richardsonis*) and prairie dropseed (Cuthrell 2011, pers. comm.).

Dry prairies are described to have a sparse shrub layer (less than 5 percent of cover) composed mainly of leadplant, with prairie rose and wormwood sage often present (Minnesota Department of Natural Resources 2012a, p. 1). Taller shrubs, such as smooth sumac, may also be present. Occasional trees, such as bur oak or black oak, may also be present but remain less than 5 percent cover (Minnesota Department of Natural Resources 2012a, p. 1). Similarly, wet-mesic prairies are described to have a sparse shrub layer (less than 5–25 percent cover) of

leadplant, prairie rose, wolfberry, and other native shrubs such as gray dogwood, American hazelnut, and wild plum (Minnesota Department of Natural Resources 2012b, p. 1).

Nonnative invasive plant species, such as Kentucky bluegrass and smooth brome, may outcompete native plants that are necessary for the survival of Poweshiek skipperling and lead to the deterioration or elimination of native vegetation. Poweshiek skipperling depend on a diversity of native plants endemic to tallgrass prairies and prairie fens; therefore, when nonnative or woody plant species become dominant, Poweshiek skipperling populations decline due to insufficient sources of larval food and nectar for adults. Therefore, native prairies as defined above, with an absence or only sparse presence of nonnative invasive plant species is a physical or biological feature essential to the conservation of the Poweshiek skipperling.

The vegetative structure of prairie fens is a result of their unique hydrology and consists of plants that thrive in wetlands and calcium-rich soils mixed with tallgrass prairie and sedge meadow species (Michigan Natural Features Inventory 2012, p. 1). Three or four vegetation zones are often present in prairie fens, including diverse sedge meadows, wooded fen often dominated by tamarack (*Larix laricina*), and an area of calcareous groundwater seepage with sparsely vegetated marl precipitate (clay- or lime-rich soils that formed from solids that separated from water) at the surface (Michigan Natural Features Inventory 2012, p. 3). Shrubs and trees that may be present include shrubby cinquefoil (*Potentilla fruticosa*), bog birch (*Betula pumila*), and others (Michigan Natural Features Inventory 2012, p. 3).

Based on the information above, we identify high-quality remnant (untilled) wet-mesic to dry tallgrass prairies, moist meadows, or prairie fen habitat, as described above, containing a high diversity of native plant species and sparse tree and shrub cover to be a physical or biological feature essential to the conservation of the Poweshiek skipperling. These native

prairies should have no or low coverage of nonnative invasive plant species.

Poweshiek skipperling are not known to disperse widely. The maximum dispersal distance for male Poweshiek skipperling travelling across contiguous suitable habitat is estimated to be approximately 1.6 km (1.0 mi) (Dana 2012a, pers. comm.). The species was evaluated among 291 butterfly species in Canada and is thought to have relatively low mobility, lower mobility than that of the Dakota skipper (Burke *et al*. 2011; Fitzsimmons 2012, pers. comm.). Therefore, a more conservative estimated dispersal distance would be that of the Dakota skipper, approximately 1 km (0.6 mi) (Cochrane and Delphey 2002, p. 6). Poweshiek skipperling frequently perch on vegetation, but males will occasionally patrol in search of mating opportunities (Royer and Marrone 1992b, p. 15). Poweshiek skipperling may move between patches of prairie habitat separated by structurally similar habitats (*e.g*., perennial grasslands but not necessarily native prairie); small populations need immigration corridors for dispersal from nearby populations to prevent genetic drift and to reestablish a population after local extirpation. The species will not likely disperse across unsuitable habitat, such as certain types of row crops, or anywhere not dominated by grasses (Westwood 2012, pers. comm.; Dana 2012a, pers. comm.).

Poweshiek skipperling may move in response to local nectar sources, disturbance, or in search of a mate. The tallgrass prairie that once made up a vast ecosystem prior to European settlement has now been reduced to fragmented remnants that make up less than 1 to 15 percent of the original land area across the species' range (Samson and Knopf 1994, p. 419). Before the range-wide fragmentation of prairie habitat, the species could move freely across suitable tallgrass prairie and between high-quality prairies through suitable dispersal habitat. Now, these fragmented populations need immigration corridors for dispersal from nearby populations to

prevent genetic drift and perhaps to reestablish a population after local extirpation. Therefore, based on the information above, we identify undeveloped dispersal habitat, structurally similar to suitable high-quality prairie habitat, as described above, to be a physical or biological feature essential to the conservation of the Poweshiek skipperling. These dispersal habitats should be adjacent to or between high-quality prairie patches and within the known dispersal distance of Poweshiek skipperling; within 1 km (0.6 mi) from suitable high-quality tallgrass prairie or prairie fen and should have limited shrub and tree cover, and not consist of certain row crops (*e.g.*, corn, beets), which may act as barriers to dispersal.

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements

Preferred nectar plants vary across the geographic range of Poweshiek skipperling. Smooth ox-eye (*Heliopsis helianthoides*) and purple coneflower were noted as the preferred nectar plants in North Dakota, Iowa, and Minnesota (Swengel and Swengel 1999, p. 280, Selby 2005, p. 5). In Wisconsin, other documented nectar species include stiff tickseed (*Coreopsis palmata*), black-eyed Susan, and palespike lobelia (Borkin 1995b, p. 6). On the relatively wet prairie habitats of Canada and prairie fens in Michigan, preferred nectar plants are black-eyed Susan, palespike lobelia, sticky tofieldia (*Triantha glutinosa*), and shrubby cinquefoil (*Dasiphora fruticosa ssp. floribunda*) (Bess 1988, p. 13; Catling and Lafontaine 1986, p. 65; Holzman 1972, p. 111; Nielsen 1970, p. 46; Summerville and Clampitt 1999, p. 231). Flowering forbs also provide water necessary to avoid desiccation during the flight period (Dana 2013, pers. comm.). Therefore, based on the information above, we identify the presence of native nectar plants, as listed above, that are flowering during the adult flight period of Poweshiek skipperling

to be a physical or biological feature essential to the conservation of the Poweshiek skipperling.

Poweshiek skipperling larvae may not rely on a single species of grass for food, but instead may be able to use a narrow range of acceptable plant species at a site (Dana 2005, pers. comm.). Dana (2005, pers. comm.) noted that larvae and ovipositing females prefer grasses with "very fine, threadlike structures." Recent observations indicate that prairie dropseed is the preferred larval food plant for some Poweshiek skipperling populations (Borkin 1995b, pp. 5–6); larval feeding has also been observed on little bluestem (Borkin 1995b, pp. 5–6) and sideoats grama (*Bouteloua curtipendula*) (Dana 2005, pers. comm.). Oviposition has been also observed on mat muhly (Cuthrell 2012, pers. comm.), a grass found in Michigan's prairie fens (Penskar and Higman 1999, p. 1). In general, to sustain all larval instars (developmental stages) and metamorphosis, Poweshiek skipperling require the availability of native, fine-stemmed grasses. Therefore, based on the information above, we identify native, fine-stemmed grasses, including but not limited to prairie dropseed, little bluestem, sideoats grama, and mat muhly to be a physical or biological feature essential to the conservation of the Poweshiek skipperling. These native grasses should be available during the larval stage of Poweshiek skipperling.

Soil textures in areas that overlap with Poweshiek skipperling sites are classified as loam, sandy loam, or loamy sand (Royer *et al.* 2008, pp. 3, 10); soils in moraine deposits are described as gravelly, but the deposits associated with glacial lakes are not described as gravelly. Michigan prairie fen habitat soils are described as saturated organic soils (sedge peat and wood peat) and marl, a calcium carbonate ($CaCO_3$) precipitate (Michigan Natural Features Inventory website accessed August 3, 2012). The native-prairie grasses and flowering forbs detailed above are typically found on these types of soils (Royer *et al.* 2008, p. 4, Michigan Natural Features Inventory 2012, pp. 1–3). As discussed above, plant species community composition is

generally higher in remnant prairies where the soils have never been plowed (Higgins *et al.* 2000, pp. 23–24) and certain native prairie plants are found only in prairies that lack a tillage history (Higgins *et al.* 2000, p. 23). The physical state of cultivated soil can result in slower water movement, which can hamper root growth and seed germination (*e.g.*, Tomko and Hall 1986, pp. 173–175). Therefore, we identify loam, sandy loam, loamy sand, gravel, organic peat or marl soils that have never been plowed or tilled to be a physical feature essential to the conservation of the Poweshiek skipperling.

Cover or Shelter

Poweshiek skipperlings lay their eggs near native-grasses leaf-blade tips (McAlpine 1972, pp. 85–93); McAlpine did not identify the grasses, but Dana (2005, pers. comm.) noted that larvae and ovipositing females prefer grasses with "very fine, threadlike structures" such as prairie dropseed (Borkin 1995b, pp. 5–6); little bluestem (Borkin 1995b, pp. 5–6), sideoats grama (*Bouteloua curtipendula*) (Dana 2005, pers. comm.), and mat muhly (Cuthrell 2012, pers. comm.). After hatching, Poweshiek larvae crawl to the base of native grasses. Larvae emerge at night to forage, clip off blades of grass, and then crawl back to consume the grass (Dana 2012b, pers. comm.). Unlike Dakota skippers, Poweshiek skipperling do not burrow into the soil surface (McAlpine 1972, pp. 88–92, Borkin 1995b, p. 9). Therefore, sufficient availability of grasses used to form shelters at the ground surface is a physical or biological feature essential for cover and shelter for Poweshiek skipperling larvae.

Similar to Dakota skipper, as discussed above, Poweshiek skipperling larvae are vulnerable to desiccation during hot, dry weather and may require wet low areas to provide relief from high summer temperatures or fire (Borkin 1994, p. 8, 1995a, p. 10). Poweshiek skipperling

adults also require low wet areas to provide refugia from fire (Borkin 1994, p. 8, 1995a, p. 10). Therefore, based on the information above, we identify the presence of low wet areas that provide shelter and relief from high summer temperatures and fire for both larvae and adults, to be a physical or biological feature for the Poweshiek skipperling.

Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

The annual, single generation of adult Poweshiek skipperling emerges from mid-June to early July, although the actual flight period varies somewhat across the species' range and can also vary significantly from year-to-year depending on weather patterns (Royer and Marrone 1992b, p. 15, Skadsen 1997, Swengel and Swengel 1999, p. 282). The flight period in a locality lasts two to four weeks, and mating occurs throughout this period (McCabe and Post 1977a, p. 38, Swengel and Swengel 1999, p. 282). During this time, adult Poweshiek skipperling depend on nectar plants for food and water. Therefore, it is important that nectar plants are available in close proximity to areas suitable for oviposition and larval feeding. Adult male Poweshiek skipperling perch on tall grasses and forbs, and appear to patrol in search of mating opportunities (Royer and Marrone 1992b, p. 15). Therefore, the physical or biological features essential to the conservation of Poweshiek skipperling include above-ground parts of grasses and forbs for perching.

As described above, Poweshiek skipperling lay their eggs near the tips of leaf blades (McAlpine 1972, pp. 85–93). Poweshiek skipperling larvae crawl to the base of grasses and emerge at night to forage, clip off blades of grass, and then crawl back down to consume the grass (Dana 2012b, pers. comm.). Therefore, the physical or biological features essential to the conservation of Poweshiek skipperling include above-ground parts of grasses for oviposition and

larval foraging and shelter; these grasses should be in close proximity to nectar plants, where the adults are feeding during the short flight period.

Poweshiek skipperling larvae are vulnerable to desiccation during hot, dry weather (Borkin 1994, p. 8, 1995a, p. 10). After hatching, Poweshiek larvae crawl to the base of grasses, but unlike Dakota skippers, Poweshiek skipperling do not form shelters underground, therefore, nonbiotic factors such as temperature and relative humidity at and near (to a 2.0 cm depth; 0.79 in) the soil surface may limit the survival of the sensitive larval and pupal stages of Poweshiek skipperling, as has been suggested for Dakota skippers (Royer *et al.* 2008, p. 2). Soil evaporation rates in the north-central United States are substantially affected by microtopography (evenness of the soil surface on a small scale) (Cooper 1960 in Royer *et al*. 2008, p. 2). For example, removal of vegetation due to livestock grazing, plowing, fire, and soil compaction alters evaporation and water movement through the soil, thereby altering the humidity of soil near the surface (*e.g.*, Tomko and Hall 1986, pp. 173–175; Zhao *et al.* 2010, pp. 93–96). Livestock grazing increases soil bulk density (an indicator of soil compaction) (Greenwood *et al.* 1997, p. ; Zhao *et al.* 2007, p. 248), and these increases have been correlated with decreased soil water content and movement of water through the soil (Zhao *et al.* 2007, p. 248). The loss of porosity results in higher bulk densities, thereby decreasing water movement through the soil (Warren *et al.* 1986, pp. 493–494). Furthermore, bulk density affects plant growth (Gardiner and Miller 2008, p. 36) and, therefore, can alter the plant community. For example, a rapid shift in plant community was documented in wet-mesic habitats in North Dakota that were grazed (McCabe 1979, p. 17, 1981, p. 179). The shift in plant community due to intensive grazing composition may occur rapidly (McCabe 1981, p. 179; Royer and Royer 1998, p. 23). Similarly, tilled land increases bulk densities (*e.g.*, Tomko and Hall 1986, pp. 173–

175). During the hot and dry summer months, these changes in the soil restrict the movement of shallow groundwater to the soil surface (Royer *et al.* 2008, p. 2), thus resulting in a dry soil layer during the summer months (Royer *et al.* 2008, p. 2), when Poweshiek skipperling larvae are vulnerable to desiccation (Borkin 1994, p. 8; Borkin 1995a, p. 10).

Although Poweshiek skipperling habitats have not been studied extensively in terms of micro-climate, Royer (2008, pp. 4–5) studied six sites throughout the range of Dakota skipper that overlap with Poweshiek skipperling sites. The six sites represent Type B habitats, which are described as rolling native prairie terrain over gravelly glacial moraine deposits (Royer and Marrone 1992a, pp. 21–22). Royer (2008, pp. 7, 14–15) found the following acceptable levels for microclimatological (climate in a small space, such as at or near the soil surface) variables between the soil surface and 2.0 cm (0.79 in) deep throughout the range of Dakota skippers during the summer season (from when eggs are laid through when larvae enter diapause near the end of September): mean temperature range of 17.8 to 20.5 °C (64.0 to 68.9 °F), mean dew point ranging from 13.9 to 16.8 °C (57.0 to 62.2 °F), and mean relative humidity between 72.5 and 85.1 percent. Bulk density at the six sites ranged from 0.86g/cm^3 to 0.96 g/cm^3 (0.5 oz/in^3; to 0.55 oz/in^3); mean bulk density was below 1.0 g/cm^3 (0.8 oz/in^3). Type B habitat are associated with gravelly glacial landscapes of predominantly sandy loams and loamy sand soils with relatively higher relief, more variable soil moisture, and slightly higher soil temperatures than Type A habitats (Royer *et al.* 2008, p. 15). These variables have not been studied in Iowa, Michigan, and Wisconsin sites.

Micro-climate conditions near the soil surface conducive to Poweshiek skipperling larvae survival are characteristic of untilled glacial soils without intense grazing pressure. Therefore, untilled glacial soils that are not subject to intense grazing pressure are physical or biological

features essential to the conservation of the Poweshiek skipperling.

Habitats Protected from Disturbance or Representative of the Historical, Geographic, and Ecological Distributions of the Species

The Poweshiek skipperling has a restricted geographic distribution. Species whose populations exhibit a high degree of isolation are extremely susceptible to extinction from both random and nonrandom catastrophic natural or human-caused events. Therefore, it is essential to maintain the native tallgrass prairies and prairie fens upon which the Poweshiek skipperling depends. This means protection from disturbance caused by exposure to land management actions (cattle grazing, fire management, destruction or conversion, early haying, and herbicide or pesticide use), flooding, water withdrawal or depletion, water contamination, lack of management, and nonnative species that may degrade the availability of native grasses and flowering forbs. The Poweshiek skipperling must, at a minimum, sustain its current distribution for the species to continue to persist. Introduced nonnative species are a serious threat to native tallgrass prairies and prairie fens on which Poweshiek skipperling depends ((Orwig 1997, pp. 4, 8, MNFI unpubl. data 2011, Skadsen 2002, p. 52, Royer and Royer 2012b, pp. 15–16, 22–23); see both *Factor C: Disease and Predation, and Factor E: Other Natural or Manmade Factors Affecting Its Continued Existence* sections of our proposed listing rule published elsewhere in today's **Federal Register**).

Because the distribution of the Poweshiek skipperling is isolated and its habitat so restricted, introduction of certain nonnative species into its habitat could be devastating. Poweshiek skipperling typically occur at sites embedded in agricultural or developed landscapes,

which makes them more susceptible to nonnative or woody plant invasion. Potentially harmful nonnative species include leafy spurge (*Euphorbia esula*), Kentucky bluegrass, alfalfa (*Medicago sativa*), glossy buckthorn *(Frangula alnus*), smooth brome, purple loosestrife (*Lythrum salicaria*), Canada thistle (*Cirsium arvense*), reed canary grass (*Phalaris arundinacea*), gray dogwood (*Cornus racemosa*), and others (Orwig 1997, p. 4, 8, MNFI unpubl. data 2011, Skadsen 2002, p. 52, Royer and Royer 2012b, pp. 15–16, 22–23). Once these plants invade a site, they replace or reduce the coverage of native forbs and grasses used by adults and larvae of both butterflies. Leafy spurge displaces native plant species and its invasion is facilitated by actions that remove native plant cover and expose mineral soil (Belcher and Wilson 1989, p. 172). The threat from nonnative invasive species is compounded by the encroachment of native woody species into native prairie habitat. Invasion of tallgrass prairie by woody vegetation such as glossy buckthorn reduces light availability, total plant cover, and the coverage of grasses and sedges (Fiedler and Landis 2012, pp. 44, 50–51). This in turn reduces the availability of both nectar and larval host plants for Poweshiek skipperling.

In Michigan, Poweshiek skipperling live on prairie fens, which occur on the lower slopes of glacial moraines or ice contact ridges (Albert 1995 in Michigan Natural Features Inventory 2012, p. 1) where coarse glacial deposits provide high hydraulic connectivity that forces groundwater to the surface (Moran 1981 in Michigan Natural Features Inventory 2012, p. 1). Small lakes, headwater streams, or rivers are often associated with prairie fens. The sapric peat (partially decomposed vegetation with less than one-third recognizable plant fibers) substrate typical of prairie fens is saturated with calcareous (rich in calcium in magnesium bicarbonate) groundwater as a result of its filtration through glacial deposits. These bicarbonates often precipitate as marl at the soil surface. The typical pH ranges from 6.8 to 8.2 (Michigan Natural

Features Inventory 2012, p. 1). As described above, prairie fens may include some low shrubs and trees, but the amount of tree and shrub cover should not cause a barrier to dispersal (i.e., >15% trees or shrubs). Prior to European settlement, fires on upland habitats likely spread to adjacent prairie fens, which inhibited shrub invasion and maintained the open prairie fen plant community (Michigan Natural Features Inventory 2012, pp. 1–3). Now, the vegetation is largely a result of the unique hydrology; the plant community consists of obligate wetland and calcicolous species (species that thrive in lime-rich soils) mixed with tallgrass prairie and sedge meadow species (Michigan Natural Features Inventory 2012, pp. 1–3). The hydraulic processes connecting groundwater to the surface are essential to maintain the vegetative structure of prairie fens and are, therefore, a physical or biological feature essential to the conservation of the Poweshiek skipperling.

Poweshiek skipperling are obligate residents of untilled high-quality prairie, ranging from wet-mesic tallgrass prairie to dry-mesic mixed-grass prairie to prairie fens (Royer and Marrone 1992a, pp. 8, 21). High-quality remnant tallgrass prairies and prairie fens contain a high diversity of native species, including flowering herbaceous species (forbs) (Dana 2001, pers. comm.). Degraded habitat consists of a high abundance of nonnative plants, woody vegetation, and a low abundance of native grasses and flowering forbs available during the larval growth period and a low abundance of native flowering forbs available during adult nectaring periods. Intense grazing or fire management practices, early haying, flooding, as well as lack of management create such degraded habitats. Conversion to agriculture or other development also degrades or destroys native prairie habitat. Therefore, based on the information above, we identify the necessary physical or biological features for the Poweshiek skipperling as nondegraded habitat devoid of nonnative plant species, or habitat in which nonnative plant

species and nonnative woody vegetation are at levels that allow persistence of Poweshiek skipperling.

Summary

We identify high-quality remnant untilled tallgrass prairies, moist meadows, or prairie fen habitat containing a high diversity of native plant species including a mosaic of native grasses and flowering forbs to be a physical or biological feature necessary for population growth and normal behavior of Poweshiek skipperling. These prairies have edaphic features that support the development and survival of larval Poweshiek skipperling and soil textures that are loam, sandy loam, loamy sand, gravel, or peat. Biological features that provide food sources for larvae are native fine-stemmed grass species, such as prairie dropseed, little bluestem, sideoats grama or mat muhly, and native forb plant species for adult nectar and water sources, such as purple coneflower, black-eyed Susan, stiff tickseed, palespike lobelia, sticky tofieldia, and shrubby cinquefoil. Physical or biological features for breeding, reproduction and offspring include grasses and forbs at or above the ground surface used for perching by adults and grasses at or above the ground surface used for oviposition as well as for larval shelter. Physical or biological features that provide cover or shelter dispersed within or adjacent to native prairies include areas for relief from high summer temperatures and fire, such as depressional wetlands, low wet areas, within or adjacent to prairies and edaphic features that are conducive to the development and survival of larval Poweshiek skipperling.

These high-quality native tallgrass prairies and prairie fens have limited tree and low shrub coverage that may act as barriers to dispersal. These habitats also have limited or no

invasive plant species that may lead to a change in the plant community. Physical or biological features that provide cover or shelter and relief from high summer temperatures include depressional wetlands, low wet areas, as well as undisturbed glacial soils. Contiguous prairie habitat that once characterized the historical distribution of the species has been severely fragmented; therefore, dispersal habitat, structurally similar to suitable high-quality prairie habitat and adjacent to or between high-quality prairie patches within the known dispersal distance of Poweshiek skipperling (within 1 km from suitable high-quality prairie or prairie fens) is another physical and biological feature identified for the Poweshiek skipperling to help maintain genetics and to provide refuges from disturbance. The unique hydrology that supports prairie fen vegetation is an essential physical and biological feature for Poweshiek skipperling in Michigan prairie fens.

Primary Constituent Elements

Dakota Skipper

Under the Act and its implementing regulations, we are required to identify the physical or biological features essential to the conservation of Dakota skipper in areas occupied at the time of listing, focusing on the features' primary constituent elements. We consider primary constituent elements to be the elements of physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species.

Based on our current knowledge of the physical or biological features and habitat characteristics required to sustain the species' life-history processes, we determine that the primary constituent elements specific to the Dakota skipper are:

(1) Primary Constituent Element 1—Wet-mesic tallgrass or mixed-grass remnant untilled prairie that occurs on near-shore glacial lake soil deposits or high-quality dry-mesic remnant untilled prairie on rolling terrain consisting of gravelly glacial moraine soil deposits, containing:

a. A predominance of native grasses and native flowering forbs,

b. Glacial soils that provide the soil surface or near surface (between soil surface and 2 cm depth) micro-climate conditions conducive to Dakota skipper larval survival and native prairie vegetation such as, mean soil surface summer temperatures from 17.8 to 20.5 °C (64.0 to 68.9 °F), mean near soil surface dew point ranging from 13.9 to 16.8 °C (57.0 to 62.2 °F), mean near soil surface relative humidity between 72.5 and 85.1 percent, and soil bulk densities between 0.86g/cm^3 and 1.28 g/cm^3 (0.5 oz/in^3 to 0.74 oz/in^3);

c. If present, trees or large shrub cover of less than 5 percent of area in dry prairies and less than 25 percent in wet-mesic prairies; and

d. If present, nonnative invasive plant species occurring in less than 5 percent of area.

(2) Primary Constituent Element 2—Native grasses and native flowering forbs for larval and adult food and shelter, specifically;

a. At least one of the following native grasses to provide larval food and shelter sources during Dakota skipper larval stages: prairie dropseed (*Sporobolus heterolepis*) or little bluestem (*Schizachyrium scoparium*); and

b. One or more of the following forbs in bloom to provide nectar and water sources during the Dakota skipper flight period: purple coneflower (*Echinacea angustifolia*),

bluebell bellflower (*Campanula rotundifolia*), white prairie clover (*Dalea candida*), upright prairie coneflower (*Ratibida columnifera*), fleabane (*Erigeron spp.*), blanketflower (*Gaillardia spp.*), black-eyed Susan (*Rudbeckia hirta*), yellow sundrops (*Calylophus serrulatus*), groundplum milkvetch (*Astragalus crassicarpus*), common gaillardia (*Gaillardia aristata*), or tooth-leaved primrose (*Calylophus serrulata*).

(3) Primary Constituent Element 3—Dispersal grassland habitat that is within 1 km (0.6 mi) of native high-quality remnant prairie (as defined in Primary Constituent Element 1) that connects high-quality wet-mesic to dry tallgrass prairies or moist meadow habitats. Dispersal grassland habitat consists of undeveloped open areas dominated by perennial grassland with limited or no barriers to dispersal including tree or shrub cover less than 25 percent of the area and no row crops such as corn, beans, potatoes, or sunflowers.

With this proposed designation of critical habitat, we intend to identify the physical or biological features essential to the conservation of the species, through the identification of the features' primary constituent elements sufficient to support the life-history processes of the species.

All units and subunits proposed to be designated as critical habitat that are currently occupied by the Dakota skipper contain the primary constituent elements sufficient to support the life-history needs of the species. Additional unoccupied units that we determine are essential for the conservation of the species also contain the primary constituent elements sufficient to support the life-history needs of the species.

Poweshiek Skipperling

Under the Act and its implementing regulations, we are required to identify the physical or biological features essential to the conservation of Poweshiek skipperling in areas occupied at the time of listing, focusing on the features' primary constituent elements. We consider primary constituent elements to be the elements of physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species.

Based on our current knowledge of the physical or biological features and habitat characteristics required to sustain the species' life-history processes, we determine that the primary constituent elements specific to the Poweshiek skipperling are:

(1) Primary Constituent Element 1—Wet-mesic to dry tallgrass remnant untilled prairies or remnant moist meadows containing:

a. A predominance of native grasses and native flowering forbs;
b. Undisturbed (untilled) glacial soil types including, but not limited to, loam, sandy loam, loamy sand, gravel, organic soils (peat), or marl that provide the edaphic features conducive to Poweshiek skipperling larval survival and native prairie vegetation;
c. Depressional wetlands or low wet areas, within or adjacent to prairies that provide shelter from high summer temperatures and fire;
d. If present, trees or large shrub cover less than 5 percent of area in dry prairies and less than 25 percent in wet-mesic prairies and prairie fens; and
e. If present, nonnative invasive plant species occurring in less than 5 percent of area.

(2) Primary Constituent Element 2—Prairie fen habitats containing:

a. A predominance of native grasses and native flowering forbs;

b. Undisturbed (untilled) glacial soil types including, but not limited to, organic soils (peat), or marl that provide the edaphic features conducive to Poweshiek skipperling larval survival and native prairie vegetation;

c. Depressional wetlands or low wet areas, within or adjacent to prairies that provide shelter from high summer temperatures and fire;

d. Hydraulic features necessary to maintain prairie fen groundwater flow and prairie fen plant communities;

e. If present, trees or large shrub cover less than 25 percent of the unit; and

f. If present, nonnative invasive plant species occurring in less than 5 percent of area.

(3) Primary Constituent Element 3—Native grasses and native flowering forbs for larval and adult food and shelter, specifically;

a. At least one of the following native grasses available to provide larval food and shelter sources during Poweshiek skipperling larval stages: prairie dropseed (*Sporobolus heterolepis*), little bluestem (*Schizachyrium scoparium*), sideoats grama (*Bouteloua curtipendula*), or mat muhly (*Muhlenbergia richardsonis*); and

b. At least one of the following forbs in bloom to provide nectar and water sources during the Poweshiek skipperling flight period: purple coneflower (*Echinacea angustifolia*), black-eyed Susan (*Rudbeckia hirta*), smooth ox-eye (*Heliopsis helianthoides*), stiff tickseed (*Coreopsis palmata*), palespike lobelia (*Lobelia spicata*), sticky tofieldia (*Triantha glutinosa*), or shrubby cinquefoil (*Dasiphora fruticosa ssp.*

floribunda).

(4) Primary Constituent Element 4—Dispersal grassland habitat that is within 1 km (0.6 mi) of native high-quality remnant prairie (as defined in Primary Constituent Element 1) that connects high quality wet-mesic to dry tallgrass prairies, moist meadows, or prairie fen habitats. Dispersal grassland habitat consists of the following physical characteristics appropriate for supporting Poweshiek skipperling dispersal: undeveloped open areas dominated by perennial grassland with limited or no barriers to dispersal including tree or shrub cover less than 25 percent of the area and no row crops such as corn, beans, potatoes, or sunflowers.

With this proposed designation of critical habitat, we intend to identify the physical or biological features essential to the conservation of the species, through the identification of the features' primary constituent elements sufficient to support the life-history processes of the species. Many of the units proposed to be designated as critical habitat are currently occupied by the Poweshiek skipperling and contain the primary constituent elements sufficient to support the life-history needs of the species. Additional unoccupied units also contain the primary constituent elements sufficient to support the life-history needs of the species.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the specific areas within the geographical area occupied by the species at the time of listing contain features that are essential to the conservation of the species and which may require special management considerations or

protection. All areas proposed for designation as critical habitat as described below may require some level of management to address the current and future threats to the physical or biological features essential to the conservation of Dakota skipper and Poweshiek skipperling. In all of the described units, special management may be required to ensure that the habitat is able to provide for the biological needs of both species.

A detailed discussion of the current and future threats to Dakota skipper and Poweshiek skipperling can found in the proposed listing rule to list each species as an endangered species, which is published elsewhere in today's **Federal Register**. In general, the features essential to the conservation of Dakota skipper and Poweshiek skipperling may require special management considerations or protection to reduce the following individual threats and their interactions:

(1) the direct and indirect impacts of land use conversions, primarily from urban and energy development, gravel mining, and conversion to agriculture;

(2) invasive species encroachment and secondary succession of woody plants;

(3) grazing that reduces or continues to suppress the availability or predominance of native plants that provide larval food and adult nectar;

(4) wetland destruction and degradation such that the affected area is flooded or drained of water permanently or over a long term such that it increases the risk of invasive species invasion, changes the prairie plant community, or eliminates wet areas used as relief from high temperatures and fire;

(5) herbicide application; and

(6) the stochastic effects of drought or floods.

The greatest, overarching threat to Dakota skipper and Poweshiek skipperling are habitat curtailment, destruction, and fragmentation. The aforementioned activities will require special management consideration not only for the direct effects of the activities on the species and their habitat, but also for their indirect effects and how they are cumulatively and individually increasing habitat curtailment, destruction, and fragmentation.

Based on our analysis of threats to Dakota skipper and Poweshiek skipperling, special management activities that could ameliorate these threats include, but are not limited to, habitat maintenance or restoration activities that occur at an intensity, duration, spatial arrangement or timing that is not detrimental to the species. These activities include, but are not limited to:

(1) prescribed fire,

(2) late-season haying (after August 1),

(3) brush or tree removal,

(4) prescribed low-intensity rotational grazing,

(5) invasive species control, and

(6) habitat preservation.

Management activities should be of the appropriate timing, intensity, and extent to be protective of Dakota skipper and Poweshiek skipperling during all life stages (*e.g.,* pupae, larvae, and adults) and to maximize habitat quality and quantity. Some management activities, depending on how they are implemented, can have intensive impacts to the species, its habitat, or both. Depending on site-specific conditions, management that includes prescribed fire and some low-intensity grazing must affect no more than one-quarter to one-third of the occupied habitat at a site in any single year to ensure that the resulting mortality or effects to reproduction do not

have undue impacts on population viability. Management activities should protect the primary constituent elements for the species by conserving the extent of the habitat patches, the quality of habitat within the patches, and connectivity among occupied patches (*e.g*., see Schmitt, 2003). Appropriate management helps increase the number of individuals reproducing each year by minimizing the activities that may harm Dakota skippers or Poweshiek skipperling during adult, larval, or pupal stages.

Such special management activities may be required to protect the physical or biological features and support the conservation of Dakota skipper and Poweshiek skipperling by preventing or reducing the loss, degradation, and fragmentation of native prairie landscapes. Additionally, management of critical habitat lands can increase the amount of suitable habitat and enhance connectivity among Dakota skipper and Poweshiek skipperling populations through the restoration of areas that were previously composed of native tallgrass and mixed-grass prairie communities. The limited extent of native tallgrass and mixed-grass prairie habitats, particularly the eastern portion of the Poweshiek skipperling range, emphasizes the need for additional habitat into which the Poweshiek skipperling could expand to survive and recover as well as to allow for adjustment to changes in habitat availability that may result from climate change.

Criteria Used To Identify Critical Habitat

As required by section 4(b)(2) of the Act, we use the best scientific data available to designate critical habitat. We review available information pertaining to the habitat requirements of the species. In accordance with the Act and its implementing regulation at 50 CFR 424.12(e), we consider whether designating additional areas—outside those currently occupied at the time

of listing—are necessary to ensure the conservation of the species. We are proposing to designate critical habitat in areas within the geographical area currently occupied by Dakota skipper and Poweshiek skipperling as described in detail below. We also are proposing to designate specific areas outside the geographical area occupied by the Dakota skipper and Poweshiek skipperling at the time of listing that were historically occupied, but where we are uncertain of the current occupancy, and areas that are presently unoccupied, because such areas are essential for the conservation of the species.

Species Occupancy

We generally considered a species to be "present" at sites where it was detected during the most recent survey, if the survey was conducted in 2002 or more recently and no evidence suggests that the species is now extirpated from the site, (*e.g.*, no destruction or obvious and significant degradation of the species' habitat), with the exception of one Poweshiek skipperling site and four Dakota skipper sites, which are discussed in detail in the listing rule published elsewhere in this **Federal Register**. At these five sites, there is no evidence to suggest the species is not still present because the habitat and management is still considered to be conducive to the species, the occupancy status was supported by the species expert review of the site, and at least one of these sites had a 2012 habitat assessment that concluded that the habitat was suitable for the species.

We assigned a status of "unknown" if the species was found in 1993 or more recently, but not in the most recent one to two sequential survey year(s) since 1993 and we found no evidence to suggest the species is now extirpated from the site (*e.g.*, no destruction or obvious and significant degradation of the species' habitat). We considered a species to be "possibly

extirpated" at sites where it was detected at least once prior to 1993, but not in the most recent one to two sequential survey years(s). A species is also considered "possibly extirpated" at sites where it was found prior to 1993 and no surveys have been conducted in 1993 or more recently. At least three sequential years of negative surveys were necessary for us to consider the species "extirpated" from a site, because of the difficulty of detecting these species, as explained further in this section. A species is also considered "extirpated" at sites where habitat for the species is no longer present.

When determining whether the species occupancy is unknown, possibly extirpated, or extirpated at a particular site, we used the survey year 1993 as a cut-off date, because most known sites (more than 75 percent of known Poweshiek skipperling sites and more than 89 percent of known Dakota skipper sites) have been surveyed at least once since 1993 and survey data more than 20 years old may not reflect the current status of a species or its habitat at a site (for example, due to habitat loss from secondary succession of woody vegetation or a change in plant communities due to invasive species). Although it cannot be presumed that the species is absent at sites not surveyed since 1993, the likelihood of occupancy of these sites should be considered differently than sites with more recent survey data (*e.g.,* due to woody vegetation succession over time). When analyzing survey results, we disregarded negative surveys conducted outside of the species' flight period or under unsuitable conditions (*e.g*., high wind speeds).

After we applied these standards to initially ascertain the status of the species, we asked species experts and Service personnel to help verify, modify, or correct species' occupancy at each site (particularly for sites with questionable habitat quality or those that have not been surveyed recently). In most cases, we used the status confirmed during expert review, unless we

received additional information (*e.g.,* additional survey or habitat data provided after the expert reviews) that suggests a different status at a particular site.

Timing of surveys is based on initial field checks of nectar plant blooms and sightings of butterfly species with synchronous emergence (sightings of butterfly species that emerge at the same time as Dakota skipper and Poweshiek skipperling), and, more recently, emergence estimated by a degree-day emergence model using high and low daily temperature data from weather stations near the survey sites (Selby, undated, unpublished dissertation). Surveys are conducted during flight periods when the species' abundance is expected to be at levels at which the species can be detected. However, as with many rare species, detection probabilities are imperfect and some uncertainty remains between non-detection and true absence (Gross *et al*. 2007, pp. 192, 197–198; Pellet 2008, pp. 155–156). Three sequential years of negative surveys is sufficient to capture variable detection probabilities, since each survey year typically encompasses more than one visit (*e.g.,* the average number of visits per Dakota skipper site per year ranges from 1 to 11) and the probability of false absence after 5–6 visits drops below 5 percent for studied butterfly species with varying average detection probabilities (Pellet 2008, p. 159). Therefore, the site is considered "extirpated" if there are three sequential years of negative surveys.

It cannot be presumed that the species is not persisting at a site only because there have not been recent surveys. At several sites, the species has persisted for longer than 20 years; for example, Dakota skipper was first recorded at Scarlet Fawn Prairie in South Dakota in 1985 and has had positive detections every survey since that date–the most recent detection was in 2012. The year 1993 was chosen based on habitat-related inferences, specifically, the estimated time for prairie habitat to degrade to non-habitat due to woody encroachment and invasive species.

For example, native prairies with previous light-grazing management that were subsequently left idle transitioned from mixed grass to a mix of woody vegetation and mixed grass in 13 years and it was predicted that these idle prairies would be completely lost due to woody succession in a 30-year timeframe (Penfound 1964, pp. 260–261). The time for succession of idle prairie depends on numerous factors, such as the size of the site, edge effects (the changes that occur on the boundary of two habitat types), and the plant composition of adjacent areas.

This approach is the most objective way to evaluate the data range-wide. Most sites have been surveyed over multiple years, although the frequency and type of surveys varied among sites and years. In several cases, species experts provided input on occupancy based on their familiarity with the habitat quality and stressors to populations at particular sites.

We determined current occupancy using occurrence data from the Service's Dakota skipper geodatabase (Service 2013, unpubl, geodatabase) and Poweshiek skipperling database (Service 2013, unpubl. data), which were built based on survey reports from throughout the range of the species and expert input. Areas with occurrence records or sites classified as "present" (see Background of the proposed listing rule and above for definitions) are considered occupied, while areas where the species is presumed extirpated or possibly extirpated are considered currently unoccupied, but occupied historically.

Several proposed critical habitat units contain several nearby survey sites (or point occurrences) that occur within the maximum estimated dispersal distance of Dakota skipper and Poweshiek skipperling. Because the species could move between these sites (or occurrences), if several sites are contained within one CH unit, we used the "best" status for the species to determine occupancy in areas where the habitat was contiguous. For example, if there are two sites (or occurrences) within a proposed critical habitat unit and one site has a status of present

and the other status is unknown, we used the status of present and considered the unit to be occupied. We did this because we found it reasonable to assume that the species could travel between sites (or point occurrence locations) if they were within the maximum dispersal distance of each other and if we determined that the habitat between point locations was, at the minimum, suitable for dispersal. Furthermore, the delineation of what constituted a "site" by surveyors was often not ecologically based, but was instead based on ownership or political boundaries and may only roughly approximate the extent of a suitable habitat patch.

The status of the species is unknown at a number of sites—in other words, we are not certain whether the species may be extant at densities that are so low that it has not been recently detected, or if it is truly absent at these sites. Therefore, we are uncertain of the occupancy in units where the best species status is unknown. Areas with an uncertain occupancy were examined to determine if such areas were essential for the conservation of the species. In other words, for the purposes of these critical habitat designations, we are considering these areas to be unoccupied at the time of listing and we examined these areas with uncertain occupancy using the same criteria as we used for unoccupied areas. We also examined lands where the status of the species is considered to be possibly extirpated or extirpated to determine if such areas are essential for the conservation of the species.

Areas occupied at time of listing

We reviewed available information that pertains to the ecology, natural history, and habitat requirements of each species and evaluated all known species locations using data from the following sources: Spatial data for known species locations from the Minnesota Natural Heritage Program (MN DNR, 2012, entire data set), Michigan Natural Heritage Program (MI DNR 2011, entire data set), Michigan Natural Features Inventory (MNFI), regional Geographic

Information System (GIS) coverages, recent biological surveys and reports; site visits and site-specific habitat evaluations; research published in peer-reviewed articles and presented in academic theses or reports; and discussions with species experts.

Criteria for selecting critical habitat units are based on species survey data and the extent and distribution of essential habitat features. Our criteria are based on the available scientific information on habitat and distribution of the species (see ‘‘Background’’ section of the proposed listing rule). The criteria for selecting the occupied sites are: (1) type, amount, and quality of habitat associated with occupied areas; (2) presence of the physical or biological features essential for the species; and (3) estimated population viability of the species in a particular area, if known.

We considered occupied areas containing plant communities classified as (or based on the best available information and recent aerial photography) dry prairie, dry-mesic prairie, mesic prairie, or wet-mesic remnant (untilled) prairie as potential suitable habitat for Dakota skipper and Poweshiek skipperling. Prairie fens, as defined by the MNFI, were also considered as potential suitable habitat for Poweshiek skipperling in Michigan. Using state natural heritage rankings, habitat information from recent reports, and expert knowledge, we selected areas with habitat quality ratings of fair to excellent because these areas are most likely to contain the physical or biological features essential for the conservation of the species. In some cases the habitat was not given a quality rating, but instead the site was given an estimated population viability rating, in recent reports or heritage databases, which directly reflect the quality of the habitat (*e.g.*, excellent population viability rating indicates the presence of high-quality native prairie habitat). Therefore, we selected sites with viability ranks of fair to excellent from the most recent reports available because these areas are most likely to contain the physical or

biological features essential for the conservation of the species. Another physical or biological feature essential for the conservation of the species is grassland-dominated areas that are necessary for dispersal between higher quality prairies. Therefore, we also considered including areas that contain potential dispersal habitat to connect patches of higher quality native prairies that are (1) lesser quality (or unrated) native dry-mesic prairie, mesic prairie, or wet-mesic remnant prairies or other habitat types such as wet meadow, oak savannas, and other types of grassland-dominated areas (*e.g.*, not row crops or dense forests) suitable for dispersal and (2) within 1 km (0.6 mi) of higher (fair to excellent) quality native prairie. In other words, more than one site may be contained in a single unit if the habitats are connected by areas that contain the physical or biological features essential for the conservation of the species (nearby sites may have been named as different sites, for example, in survey reports, due to changes in landownership, dispersal barriers that may have existed at the time of the survey, or other situations).

Why occupied areas are not sufficient for the conservation of Dakota skippers and why unoccupied areas are essential for the conservation of the species

The Dakota skipper has experienced recent declines in large parts of its historical range. The species is now considered to be present at 46 sites in the United States, including 14 sites in Minnesota, 18 sites in North Dakota, and 14 sites in South Dakota. More than one site can be contained in a single proposed critical habitat unit; consequently, we are proposing a total of 31 occupied units (*i.e.,* 6 occupied units in Minnesota, 10 occupied units in North Dakota, and 10 occupied units in South Dakota). The remaining sites where the species is considered to be present are located in Canada (45 of total 91), mostly within three isolated complexes, and were

observed in either 2002 or 2007 with no subsequent surveys.

The areas of unoccupied habitat that we are proposing as critical habitat were recently occupied (had positive records in 1993 or more recently) and are within the historical range of the species. The areas of habitat where we are uncertain of the occupancy that we are proposing as critical habitat were recently occupied (generally, a site with an unknown occupancy had positive records in 1993 or more recently but may have had one or two years of negative surveys or were determined by a species expert in the state to have an unknown occupancy), and are within the historical range of the species. We determine that these unoccupied areas are essential for the Dakota skipper's conservation because the range of the species has been severely curtailed, occupied habitats are limited and isolated, population sizes are small, and additional lands will be necessary to recover the species.

Furthermore, the unoccupied units and units where we are uncertain of the occupancy are needed to satisfy the conservation principles of redundancy, resiliency, and representation for the Dakota skipper, as there may be too few occupied areas remaining to ensure conservation of the species—the species having been extirpated from substantial portions of its range. The inclusion of unoccupied habitat and habitat where we are uncertain of the occupancy as proposed critical habitat is essential for the species' conservation in three ways: (1) It would substantially increase the diversity of historically occupied habitats and geographic areas to increase the chances of the species persisting despite demographic and environmental stressors that are not uniformly distributed; (2) it would ensure that at least some populations may be sufficiently large to withstand stochastic events; and, (3) it would help to ensure that geographic areas of recent importance to the species contain sufficient numbers of populations to maintain the species.

Specifically, we are proposing unoccupied critical habitat units and units with uncertain occupancy to conserve habitat that may hold potential genetic representation of the species that is necessary for the species to conserve its adaptive capabilities across portions of its highly fragmented historical ranges. A 2002 study of Dakota skipper genetics showed that each Dakota skipper population studied had evidence of inbreeding and was subject to genetic drift that may erode its genetic variability over time (Britten and Glasford 2002, pp. 371–372). Therefore, it is essential to conserve the range-wide genetic diversity we have for the species (and the habitats that may contain that diversity) to help safeguard the genetic representation necessary for the species to maintain its adaptive capabilities. The fragmentation of Dakota skipper's genetic diversity and limited detectability during low population densities further argue for the conservation value of populations currently defined as unknown. We are certain of the species' presence at relatively few sites and there remains some likelihood of Dakota skipper presence at sites where they have not been detected during recent surveys. In light of the species' fragmentation and the need to preserve any remaining genetic diversity, we believe it is also essential to conserve Dakota skipper at units where the occupancy of the species is unknown.

Since a species'genetics is shaped by its environment, successful conservation should aim to preserve a species across the array of environments in which it occurs (Shaffer and Stein 2000, p. 308), especially if much remains unknown about the nature and extent of its genetic diversity. Conservation of habitat and genetic material is vital in the core of the species' range, but it is also critical to preserve the species in less typical habitats on the periphery of its range, for example, wet-mesic prairies in North Dakota, to preserve the adaptive capabilities of the species over the long term.

Genetic variation allows populations to tolerate a range of environmental stressors such

as new infectious diseases, parasites, pollution, food sources, predators, and changes in climate. Fragmentation of a species' habitat across its range can "exacerbate genetic drift and random fluctuations in allele frequencies, causing the genetic variation originally present within a large population to become redistributed among the remaining subpopulations"(Redford *et al.* 2011, p. 41). Furthermore, a "fully representative sample of founders is required, if the population is to encompass the genetic diversity in the wild and minimize subsequent inbreeding" (Frankham *et al*. 2009, p. 434). Because there is evidence of range-wide genetic isolation and inbreeding, the Dakota skipper's historical genetic variation may be fragmented unevenly among the remaining subpopulations. As a basis of future reintroductions, a sample of founders representative of appropriate types and levels of genetic diversity (e.g., to minimize inbreeding) is essential to conserve the genetic material at units where we are uncertain of the occupancy.

We are also proposing critical habitat units with uncertain occupancy and unoccupied units to help capture the habitats necessary for population persistence despite stochastic events—in other words, we would increase the likelihood that units would contain large enough populations to be resilient to those stressors. We do not know the minimum population size needed to attain an acceptable likelihood of population persistence of Dakota skipper, but we make inferences using data from populations for which we have some evidence of persistence—in general, the chances of maintaining a species is thought to increase with the size of the sites. Insects may need a population size of more than 10,000 individuals to maintain population viability for 40 generations (Trail *et al.* 2007 in Frankham *et al.* 2009, pp. 518–519). By increasing the resiliency of each unit (*e.g.*, by ensuring an appropriate size), we are hoping to increase the chance of species persistence in individual units. In systematic surveys on Minnesota prairies, Swengel and Swengel (1997; 1999) found no Dakota skippers on the

smallest remnants (< 20 ha (49 ac)), and significantly lower abundance on intermediate size (30–130 ha (74–321 ac)) than on larger tracts (>140 ha (346 ac)). We did not specify a minimum size for proposed critical habitat units; however, almost all of the proposed Dakota skipper critical habitat units are larger than 30 ha (74 ac) and are, therefore, more resilient to stochastic events. In general, researchers have made consistent observations of relatively small proposed critical habitat units that demonstrate persistence of the species or are one of a few units representative of a specific eco-region or eco-region subsection (see the redundancy discussion below in this section), or a combination of these factors.

Furthermore, the importance of conserving habitats with uncertain occupancy and unoccupied areas is vital in proposed units that contain sites that were, until recently, considered some of the best populations of the species range-wide. For example, some of the areas where we are uncertain of the species occupancy have had positive detections as recently as 2009. Other unoccupied units also had relatively recent detections; for example, one unoccupied unit in South Dakota had positive detections of the species in 2008, but the species is now extirpated at the site. In addition, some of these areas were considered to have, until recently, some of the best populations of Dakota skipper, but the populations have apparently suddenly disappeared or have been reduced to undetectable numbers, not due to habitat degradation or destruction, but instead due to unknown stressors (see further discussion in Factor E of the proposed listing rule published elsewhere in this **Federal Register**). These unoccupied units and units with uncertain occupancy are essential for the conservation of the Dakota skipper, particularly for future reintroduction efforts to aid species recovery, because they contain the habitat that is conducive to the species.

Finally, by proposing unoccupied units and units where we are uncertain of the

occupancy, we include areas that help to provide adequate redundancy within the Dakota skipperling's recent geographic distributions and full variety of habitat types. By including unoccupied units and units with uncertain occupancy, we will help to ensure that geographic areas of recent importance to the species contain sufficient numbers of populations to maintain the species. In order to conserve the Dakota skipper across the array of environments in which it occurs, we capture habitat redundancy by including a number of sites within each Bailey's eco-region (*i.e.*, Bailey 1983, entire) section and subsection of critical habitat units that is roughly proportional to the number of sites with recent records within those areas. The Dakota skipper historically ranged across at least 10 eco-region sections and 18 eco-region subsections, with the majority of historically documented sites from the Red River Valley, North Central Glaciated Plains, and North East Glaciated Plains eco-region sections (Service 2013, unpubl. geodatabase; Service 2013, unpubl.). Occupied units occur on 9 eco-region subsections within 5 eco-regions, the Red River Valley, North Central Glaciated Plains, North West Great Plains sections, and two sections with the same name (North East Glaciated Plains). By including unoccupied units and units with uncertain occupancy, we are capturing areas in 3 additional eco-region subsections within 2 sections (*i.e.,* Lake Agassiz-Aspen Parklands and North East Glaciated Plains eco-region sections). Furthermore, by including unoccupied units and units with uncertain occupancy, we are including more areas within the eco-regions where a larger number of sites are located (*e.g.*, Red River Valley, North Central Glaciated Plains, and North East Glaciated Plains eco-region sections); therefore, the number of units within each section and subsection is roughly proportional to the number of sites with recent records within those areas. These unoccupied units and units with uncertain occupancy are essential for the conservation of the Dakota skipper, particularly for future reintroduction efforts to aid species recovery, because

they contain the habitat that is conducive to the species and help capture the environmental variability across the range of the species.

In summary, representation, resiliency, and redundancy are the three conservation principles important to threatened and endangered species recovery (Shaffer and Stein 2000, p. 307) (USFWS 2004, p 89). Representation involves conserving the breadth of the genetic makeup of the species to conserve its adaptive capabilities; resiliency involves ensuring that each population is sufficiently large to withstand stochastic events; and redundancy involves ensuring a sufficient number of populations to provide a margin of safety for the species to withstand catastrophic events (USFWS 2004, p. 89). Both the occupied and unoccupied units are needed to satisfy the conservation principles of redundancy, resiliency, and representation for the Dakota skipper because there may be too few occupied areas remaining to ensure the species' conservation. The concepts of representation, resiliency, and redundancy are not mutually exclusive; populations that contribute to the resiliency of a species may also contribute to its redundancy or representation. Furthermore, it may not be necessary for a single population to contribute to all three conservation principles to be important for maintaining the species across its range in the long term—because the Dakota skipper is being evaluated across its range, a particular population may not meet the strictest test of one of the three conservation principles yet contribute to the others.

Why occupied areas are not sufficient for the conservation of the Poweshiek skipperling and why unoccupied areas are essential for the conservation of the species

The Poweshiek skipperling has experienced recent declines in large parts of its historical range. The species is now considered to be present at 10 sites in Michigan, 3 sites in Wisconsin,

and 1 site in Manitoba. More than 1 site can be contained in a single proposed critical habitat unit; consequently, we are proposing a total of 10 occupied units (*i.e.,* 8 occupied units in Michigan and 2 occupied units in Wisconsin). Until relatively recently, Poweshiek skipperling was also present in native prairies in Iowa, Minnesota, North Dakota and South Dakota—none of these areas are included in occupied areas.

The areas of unoccupied habitat that we are proposing as critical habitat were recently occupied (had positive records in 1993 or more recently) and are within the historical range of the species. The areas of habitat where we are uncertain of the occupancy that we are proposing as critical habitat were recently occupied (generally, a site with an unknown occupancy had positive records in 1993 or more recently but may have had one or two years of negative surveys or were determined by a species expert in the state to have an unknown occupancy), and are within the historical range of the species. We determine that these unoccupied areas are essential for the Poweshiek skipperling's conservation because the range of the species has been severely curtailed, occupied habitats are limited and isolated, population sizes are small, and additional lands will be necessary to recover the species.

Furthermore, the unoccupied units and units where we are uncertain of the occupancy are needed to satisfy the conservation principles of redundancy, resiliency, and representation for the Poweshiek skipperling, as there may be too few occupied areas remaining to ensure conservation of the species—the species having been extirpated from substantial portions of its range. The inclusion of unoccupied habitat and habitat where we are uncertain of the occupancy as proposed critical habitat is essential for the species' conservation in three ways: (1) It would substantially increase the diversity of historically occupied habitats and geographic areas to increase the chances of the species persisting despite demographic and environmental stressors that are not

uniformly distributed; (2) it would ensure that at least some populations may be sufficiently large to withstand stochastic events; and (3) it would help to ensure that geographic areas of recent importance to the species contain sufficient numbers of populations to maintain the species.

Specifically, we are proposing unoccupied critical habitat units and units with uncertain occupancy to conserve habitat that may hold potential genetic representation of the species that is necessary for the species to conserve its adaptive capabilities across portions of its highly fragmented historical ranges. Poweshiek skipperling populations are small and fragmented, and thus are subject to genetic drift and inbreeding (Frankham *et al.* 2009, p. 309). Therefore, it is essential to conserve the range-wide genetic diversity we have for the species (and the habitats that may contain that diversity) to help safeguard the genetic representation necessary for the species to maintain its adaptive capabilities. The fragmentation of Poweshiek skipperling's genetic diversity and limited detectability during low population densities further argue for the conservation value of populations currently defined as unknown. We are certain of the species' presence at relatively few sites and there remains some likelihood of Poweshiek skipperling presence at sites where they have not been detected during recent surveys. In light of the species' fragmentation and the need to preserve any remaining genetic diversity, we believe it is also essential to conserve Poweshiek skipperling at units where the occupancy of the species is unknown.

Since a species'genetics is shaped by its environment, successful conservation should aim to preserve a species across the array of environments in which it occurs (Shaffer and Stein 2000, p. 308), especially if much remains unknown about the nature and extent of its genetic diversity. Conservation of habitat and genetic material is vital in the core of the species' range, but it is also critical to preserve the species in less typical habitats on the periphery of its range, for

example, prairie fens in Michigan, to preserve the adaptive capabilities of the species over the long term.

Genetic variation allows populations to tolerate a range of environmental stressors such as new infectious diseases, parasites, pollution, food sources, predators, and changes in climate. Fragmentation of a species' habitat across its range can "exacerbate genetic drift and random fluctuations in allele frequencies, causing the genetic variation originally present within a large population to become redistributed among the remaining subpopulations" (Redford *et al*. 2011, p. 41). Furthermore, a "fully representative sample of founders is required, if the population is to encompass the genetic diversity in the wild and minimize subsequent inbreeding" (Frankham *et al*. 2009, p. 434). Because there is evidence of range-wide genetic isolation and inbreeding, the species' historical genetic variation may be fragmented unevenly among the remaining subpopulations. As a basis of future reintroductions, a sample of founders representative of appropriate types and levels of genetic diversity (e.g., to minimize inbreeding) is essential to conserve the genetic material at units where we are uncertain of the occupancy.

We are also proposing critical habitat units with uncertain occupancy and unoccupied units to help capture the habitats necessary for population persistence despite stochastic events—in other words, we would increase the likelihood that units would contain large enough populations to be resilient to those stressors. We do not know the minimum population size needed to attain an acceptable likelihood of population persistence for either species, but we make inferences using data from populations for which we have some evidence of persistence–in general, the chances of maintaining a species is thought to increase with the size of the sites. Insects may need a population size of more than 10,000 individuals to maintain population viability for 40 generations (Trail *et al.* 2007 in Frankham *et al.* 2009, pp. 518–519). By

increasing the resiliency of each unit (*e.g.*, by ensuring an appropriate size), we are hoping to increase the chance of species persistence in individual units. Based on ten years of surveys in Iowa, Minnesota, and North Dakota, Poweshiek skipperling was found to peak in numbers in "undegraded (never tilled)" upland prairie sites that were greater than 30 ha (74 ac) with some topographic diversity (referenced within Swengel and Swengel 2012, p. 3). Systematic surveys on Minnesota prairies show that Dakota skipper abundances increased with increasing size of sites (Swengel and Swengel 1999, pp. 278, 284). We did not specify a minimum size for proposed critical habitat units; however, almost all of the proposed Poweshiek skipperling critical habitat units in Minnesota, Iowa, South Dakota, North Dakota, and Wisconsin are much larger than 30 ha (74 ac) and are, therefore, more resilient to stochastic events. In general, relatively small proposed critical habitat units have had consistent observations that demonstrate persistence of the species or are one of a few units representative of a specific eco-region or eco-region subsection (see the redundancy discussion below in this section), or a combination of these factors.

Furthermore, the importance of conserving habitats with uncertain occupancy and unoccupied units is vital in proposed units that contain sites that were, until recently, considered some of the best populations of the species range-wide. For example, some of the areas where we are uncertain of the species occupancy have had positive detections as recently as 2007. Other unoccupied units also had relatively recent detections, for example, as one unoccupied unit in Iowa and two unoccupied units in South Dakota contain sites that had positive detections of the species in 2008, but where the species is now extirpated. In addition, some of these areas were considered to have, until recently, some of the best populations of Poweshiek skipperlings, but the populations have apparently suddenly disappeared or have been reduced to undetectable

numbers, not due to habitat degradation or destruction, but instead due to unknown stressors (see further discussion in Factor E of the proposed listing rule published in this **Federal Register**). These unoccupied units and units with uncertain occupancy are essential for the conservation of the Poweshiek skipperling, particularly for future reintroduction efforts to aid species recovery, because they contain the habitat that is conducive to the species.

Finally, by proposing unoccupied units and units where we are uncertain of the occupancy, we include areas that help to provide adequate redundancy within the Poweshiek skipperling's recent geographic distributions and full variety of habitat types. By including unoccupied units and units with uncertain occupancy, we will help to ensure that geographic areas of recent importance to the species contain sufficient numbers of populations to maintain the species. In order to conserve the Poweshiek skipperling across the array of environments in which it occurs, we capture habitat redundancy by including a number of sites within each Bailey's eco-region (Bailey 1983) section and subsection critical habitat units that is roughly proportional to the number of sites with recent records within those areas. The Poweshiek skipperling historically ranged across at least 12 eco-regions sections and 21 eco-region subsections, with the majority of historically documented sites from the Red River Valley and North Central Glaciated Plains eco-region sections (Service 2013, unpubl. geodatabase; Service 2013, unpubl.). Occupied units occur on 3 eco-region subsections within 2 eco-regions, the Jackson Interlobate Moraine and the Southwest Great Lakes Morainal sections. By including unoccupied units and units with uncertain occupancy, we are capturing 6 additional eco-region subsections within 3 sections (*i.e.,* Red River Valley, North Central Glaciated Plains, and the Minnesota and Northwest Iowa Morainal-Oak Savannah eco-region sections) roughly proportional to the number of sites with recent records within those areas. These additional eco-

region subsections include core areas of the species range. These unoccupied units and units with uncertain occupancy are essential for the conservation of the Poweshiek skipperling, particularly for future reintroduction efforts to aid species recovery, because they contain the habitat that is conducive to the species and help capture the environmental variability across the range of the species.

In summary, representation, resiliency, and redundancy are the three conservation principles important to threatened and endangered species recovery (Shaffer and Stein 2000, p. 307) (USFWS 2004, p 89). Representation involves conserving the breadth of the genetic makeup of the species to conserve its adaptive capabilities; resiliency involves ensuring that each population is sufficiently large to withstand stochastic events; and redundancy involves ensuring a sufficient number of populations to provide a margin of safety for the species to withstand catastrophic events (USFWS 2004, p. 89). Both the occupied and unoccupied units are needed to satisfy the conservation principles of redundancy, resiliency, and representation for the Poweshiek skipperling because there may be too few occupied areas remaining to ensure the species' conservation. The concepts of representation, resiliency, and redundancy are not mutually exclusive; populations that contribute to the resiliency of a species may also contribute to its redundancy or representation. Furthermore, it may not be necessary for a single population to contribute to all three conservation principles to be important for maintaining the species across its range in the long term—because the Poweshiek skipperling is being evaluated across its range, a particular population may not meet the strictest test of one of the three conservation principles yet contribute to the others.

Areas Unoccupied at Time of Listing

We also examined lands that were historically occupied by both species, but where we are uncertain of the current occupancy, or that are currently unoccupied. These units were all occupied within the past 20 years (had records in 1993 or more recently) and are essential for the conservation of the species. Some units may have multiple landowner types.

The criteria for selecting unoccupied sites and areas where we are uncertain of the occupancy as critical habitat are: (1) type, amount, and quality of habitat associated with those occurrences (*e.g.,* high-quality native remnant prairies); (2) presence of the physical or biological features essential for the species; (3) no known appreciable degradation in habitat quality since the species was last detected; (4) prairies where known threats to the species are few and could feasibly be alleviated (*e.g*., by modifying grazing practices or controlling invasive species) through conservation measures; (5) prairies where there is reasonable potential for survival of the species if reoccupation were to occur, either by natural means through dispersal from currently occupied sites or by future reintroduction efforts; and (6) prairies currently occupied by other remnant prairie-dependent butterfly species, (*e.g.,* Dakota skipper, Poweshiek skipperling, Ottoe skipper, Leonard's skipper, or regal fritillary) that share essential habitat features with the species. These areas outside the geographical area currently occupied by the Dakota skipper and Poweshiek skipperling that were historically occupied are essential for the conservation of the species.

For unoccupied areas, and areas where we are uncertain of the occupancy of the species, we considered areas containing plant communities classified as (or based on the best available information and recent aerial photography) dry prairie, dry-mesic prairie, mesic prairie, or wet-mesic remnant (untilled) prairie as potential suitable habitat for Dakota skipper and Poweshiek skipperling. Prairie fens, as defined by the MNFI, were also considered as potential suitable

habitat for Poweshiek skipperling in Michigan. Using state natural heritage rankings, habitat information from recent reports, and expert knowledge, we selected areas with habitat quality ratings of fair to excellent because these areas are most likely to contain the physical or biological features essential for the conservation of the species. In some cases the habitat was not given a quality rating, but instead the site was given an estimated population viability rating, in recent reports or heritage databases, which directly reflect the quality of the habitat (*e.g.*, excellent population viability rating indicates the presence of hig- quality native-prairie habitat). Therefore, we selected sites with viability ranks of fair to excellent from the most recent reports available because these areas are recognized to contain the physical or biological features essential for the conservation of the species. As discussed above in the *Physical or Biological Features* section of this proposal, one physical or biological feature essential for the conservation of the species is grassland-dominated areas that are necessary for dispersal between higher quality prairies. Therefore, we also considered including areas that contain potential dispersal habitat to connect patches of higher quality native prairies that are (1) lesser quality (or unrated) native dry-mesic prairie, mesic prairie, or wet-mesic remnant prairies or other habitat types such as wet meadow, oak savannas, and other types of grassland-dominated areas (*e.g.*, not row crops or dense forests) suitable for dispersal and (2) within 1 km (0.6 mi) of higher (fair to excellent) quality native prairie.

Mapping of proposed critical habitat units

The following steps to map potential critical habitat areas were taken separately for each species. First we mapped all known locations (points and polygons) of each species in ArcGIS and divided them into occupied and other (either unoccupied (areas with extirpated or possibly

extirpated occupancy) or areas where we were uncertain of the occupancy (areas with unknown occupancy) using the definitions above and the population status provided in the "Background" section of the proposed listing rule.

Mapping of occupied critical habitat units

Mapping occupied units was conducted separately for the two species; however, the general procedure was the same for both species. The following describes our mapping procedure for occupied areas. Occupied areas contain the physical and biological features essential for the conservation of the Dakota skipper or Poweshiek skipperling.

Using state natural heritage rankings, habitat information from recent reports and expert knowledge, as described in more detail above, we chose occupied sites with quality prairie habitat ratings of fair to excellent or population viability ratings of fair to excellent, which directly reflects the habitat quality. If habitat at a site was not previously defined (*e.g.*, we had a point or transect location for the butterfly survey, but the boundaries of the suitable habitat were not mapped in such a way to define the entire area of suitable habitat such as a mapped polygon in a survey report), a circle with a radius of 1 km (0.6 mi) [776 ac (314 ha)] (estimated dispersal distance) was circumscribed around each occurrence point location; the area within the circle was then examined for possible suitable habitat. Polygons were drawn around areas that contain the features essential to the conservation of the species. We conducted aerial photograph interpretation using the National Agriculture Imagery Program (NAIP) aerial imagery, which was acquired during the 2010–2011 agricultural growing seasons, to draw and refine polygons around areas that contain the physical or biological features essential for the conservation of the species. If available, we also used state natural heritage plant community, natural feature

polygons, and other habitat mapping information to help refine habitat polygons.

Areas containing plant communities classified as dry prairie, dry-mesic prairie, mesic prairie, or wet-mesic prairie as defined by the MNFI, Minnesota Department of Natural Resources (MN DNR) (Michigan Natural Features Inventory 2012, Minnesota Department of Natural Resources 2012b, a), recent reports, and expert knowledge are mapped as potentially suitable habitat for Dakota skipper and Poweshiek skipperling, and these areas with fair to excellent quality habitat in particular contain the features essential to the conservation of the species and were included in polygons. Prairie fens, as defined by the MNFI (Michigan Natural Features Inventory 2012), also contain the features essential for the conservation of Poweshiek skipperling in Michigan; these areas with fair to excellent quality habitat in particular contain the features essential to the conservation of the species. Patches of wet meadow, oak savannas, and other grassland-dominated prairies contain features essential to the conservation of the species because they provide dispersal habitat between patches of higher quality habitat and, therefore, were also included in the polygons. Patches of grassland-dominated habitats that are lower quality or have not been given a habitat quality rating also contain features essential to the conservation of the species—these areas provide for dispersal between higher quality prairies. To the maximum extent possible, converted areas (e.g., row crops and housing developments) were excluded from the suitable habitat mapped polygons, as described below in this section.

Dakota skipper and Poweshiek skipperling may move between patches of prairie habitat separated by structurally similar habitats (*e.g.*, perennial grasslands but not necessarily native prairie); small populations need immigration corridors for dispersal from nearby populations to prevent genetic drift and to reestablish a population after local extirpation. Thus, a Poweshiek skipperling or Dakota skipper population may require a sufficient amount of undeveloped

dispersal habitat to ensure immigration of adults to the population from nearby native prairies. For this reason, if polygons were in close proximity to each other, buffer zones between polygons were examined for suitable dispersal habitat and were combined to create areas containing multiple prairies connected to each other by dispersal habitat corridors.

After initial suitable habitat polygons were refined, we applied a 0.5-km (0.3-mile) radius buffer (half the estimated dispersal distance) to each polygon. If the polygons of two or more buffers overlapped, we examined the areas within the buffers for potential areas of overlapping, contiguous dispersal habitat (*e.g.*, prairies dominated by grasses, not row-crop), which was defined above as one of the essential physical or biological features essential to the conservation of the species, through aerial photograph (NAIP) interpretation and overlaying state natural heritage plant community and natural feature polygons, where available. We then combined overlapping areas of suitable dispersal habitat to form the proposed critical habitat polygons. Generally, polygons separated by less than 0.6 mi (1 km) were defined as subunits of a larger unit encompassing those subunits, if there was a barrier to dispersal between the polygons. Polygons and thus critical habitat subunits of units may have multiple landowners. Units or subunits were named and numbered separately for each state.

When determining proposed critical habitat boundaries, we made every effort to avoid including developed areas such as buildings, paved areas, and other structures that lack PCEs for the Dakota skipper or Poweshiek skipperling. The scale of the maps prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, if the critical habitat is finalized as

proposed, a Federal action involving these developed lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect physical or biological features in the adjacent critical habitat.

Mapping of unoccupied critical habitat units

Mapping unoccupied units (and units with uncertain occupancy) was conducted separately for the two species; however, the general procedure was the same for both species. The following describes our mapping procedure for unoccupied units (and units with uncertain occupancy). As described above, we analyzed areas with uncertain occupancy as if they were unoccupied, in other words, using the standard of "necessary for the conservation of the species" as defined in the Act. Both unoccupied areas and areas where we are uncertain of the occupancy are necessary for the conservation of the Dakota skipper or Poweshiek skipperling.

Using state natural heritage rankings, habitat information from recent reports and expert knowledge, as described in more detail above, we chose unoccupied sites (and sites with uncertain occupancy) with fair to excellent quality prairie habitat ratings of fair to excellent or population viability ratings of fair to excellent, which directly reflects the habitat quality, and that met our criteria as discussed above. If habitat at a site was not previously defined (*e.g.*, we had a point or transect location for the butterfly survey, but the boundaries of the suitable habitat were not mapped in such a way to define the entire area of suitable habitat such as a mapped polygon in a survey report), a circle with a radius of 1 km (0.6 mi) [776 ac (314 ha)] (estimated dispersal distance) was circumscribed around each occurrence point location; the area within the circle was then examined for possible suitable habitat. Polygons were drawn around areas that

were considered to be essential to the conservation of the species. We conducted aerial photograph interpretation using the National Agriculture Imagery Program (NAIP) aerial imagery, which was acquired during the 2010–2011 agricultural growing seasons, to draw and refine polygons around areas considered to be essential to the conservation of the species. If available, we also used state natural heritage plant community, natural feature polygons, and other habitat mapping information to help refine habitat polygons. Areas containing plant communities classified as dry prairie, dry-mesic prairie, mesic prairie, or wet-mesic prairie as defined by the MNFI, MN DNR (Michigan Natural Features Inventory 2012, Minnesota Department of Natural Resources 2012b, a), recent reports, and expert knowledge are mapped as potentially suitable habitat for Dakota skipper and Poweshiek skipperling, and these areas with fair to excellent quality habitat in particular were considered to be essential to the conservation of the species. Prairie fens, as defined by the MNFI (Michigan Natural Features Inventory 2012), are essential for the conservation of the Poweshiek skipperling in Michigan, particularly these areas with fair to excellent quality habitat.

Patches of wet meadow, oak savannas, and other grassland-dominated prairies are also considered to be essential to the conservation of the species, primarily because these areas provide the species with dispersal habitat between patches of higher quality prairie; therefore, these areas were also included in the mapped polygons. Patches of grassland-dominated habitats that are lower quality or have not been given a habitat quality rating are also considered to be essential to the conservation of the species, primarily because these areas provide the species with patches of dispersal habitat between patches of higher quality habitat. To the maximum extent possible, converted areas (*e.g.*, row crops and housing developments) were excluded from the mapped polygons, as described below in this section.

Dakota skipper and Poweshiek skipperling may move between patches of prairie habitat separated by structurally similar habitats (*e.g.*, perennial grasslands but not necessarily native prairie); small populations need immigration corridors for dispersal from nearby populations to prevent genetic drift and to reestablish a population after local extirpation. Thus, a Poweshiek skipperling or Dakota skipper population may require a sufficient amount of undeveloped dispersal habitat to ensure immigration of adults to the population from nearby native prairies. For this reason, if polygons were in close proximity to each other, buffer zones between polygons were examined for suitable dispersal habitat and were combined to create areas containing multiple prairies connected to each other by dispersal habitat corridors. Dispersal areas, which connect native-prairie habitats, are essential to the conservation of the species.

After initial suitable habitat polygons were refined, we applied a 0.5-km (0.3-mile) radius buffer (half the estimated dispersal distance) to each polygon. If two or more buffer polygons overlapped, we examined the areas within the buffers for potential areas of overlapping, contiguous dispersal habitat (*e.g.*, prairies dominated by grasses, not row-crop) through aerial photograph (NAIP) interpretation and overlaying state natural heritage plant community and natural feature polygons, where available. We then combined overlapping areas of suitable dispersal habitat to form the proposed critical habitat polygons.

Generally, polygons separated by less than 0.6 mi (1 km) were defined as subunits of a larger unit encompassing those subunits, if there was a barrier to dispersal between the polygons. Polygons and thus critical habitat subunits of units may have multiple landowners. Units or subunits were named and numbered separately for each state.

When determining proposed critical habitat boundaries, we made every effort to avoid including developed areas such as buildings, paved areas, and other structures that lack PCEs for

the Dakota skipper or Poweshiek skipperling. The scale of the maps prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, if the critical habitat is finalized as proposed, a Federal action involving these developed lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect physical or biological features in the adjacent critical habitat.

We are proposing for designation of critical habitat lands that we have determined are occupied at the time of listing and contain sufficient elements of physical or biological features to support life-history processes essential for the conservation of the species, and lands outside of the geographical area occupied at the time of listing that we have determined are essential for the conservation of Dakota skipper and Poweshiek skipperling.

Units were proposed for designation based on sufficient elements of physical or biological features being present to support Dakota skipper and Poweshiek skipperling life-history processes. Some units contained all of the identified elements of physical or biological features and supported multiple life-history processes. Some units contained only some elements of the physical or biological features necessary to support the Dakota skipper and Poweshiek skipperling particular use of that habitat.

The critical habitat designation is defined by the map or maps, as modified by any accompanying regulatory text, presented at the end of this document in the rule portion. We include more detailed information on the boundaries of the critical habitat designation in the

preamble of this document. We will make the coordinates or plot points or both on which each map is based and detailed textual descriptions of each unit or subunit available to the public on http://www.regulations.gov at Docket No. FWS–R3–ES–2013–0017, on our Internet site http://www.fws.gov/midwest/Endangered, and at the Twin Cities Field Office (see FOR FURTHER INFORMATION CONTACT above).

Proposed Critical Habitat Designation

Dakota Skipper

For the Dakota skipper, we are proposing for designation of critical habitat lands that we have determined are occupied at the time of listing and contain sufficient elements of the physical or biological features necessary to support life-history processes essential for the conservation of the species. We are also proposing lands outside of the geographical area occupied at the time of listing that we have determined are essential for the conservation of Dakota skipper. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieve population levels necessary for recovery.

We are proposing 51 areas as critical habitat for the Dakota skipper: (1) DS Minnesota Units 1 through 15, (2) DS North Dakota Units 1 through 14, and (3) DS South Dakota Units 1 through 22. The occupancy status of all units is listed in Table 1. Table 1 shows the primary type of ownership and approximate area of each proposed critical habitat unit. Each unit contains all of the primary constituent elements of the physical or biological features essential to the conservation of the Dakota skipper, unless otherwise noted.

Table 1.—Proposed critical habitat units for Dakota skipper. Area estimates reflect all land within critical habitat unit boundaries. Note: Area sizes may not sum due to rounding. Detailed unit descriptions are posted at *http://www.regulations.gov* and can be found at Docket No. FWS–R3–ES–2013–0017.

Some units may have multiple landowner types; the Primary Landowner column gives the type of owner with the most land area in each unit. Occupancy of each proposed unit is noted as either occupied (Yes) or unoccupied (No). Units with uncertain occupancy are noted as unoccupied (No) as they are treated as such for the purposes of this critical habitat proposal. The primary constituent elements (PCEs) present in each unit are also given.

State	County	Critical Habitat Unit Name	Area in Acres (ha)	Primary Landowner (Type)	Occupied ?	PCE
MN	Pope	DS Minnesota Unit 1	2,887 (1,168)	State	Yes	1, 2, 3
MN	Murray	DS Minnesota Unit 2	905 (366)	Private	Yes	1, 2, 3
MN	Murray	DS Minnesota Unit 3	126 (51)	Private	No	1, 2
MN	Clay	DS Minnesota Unit 4	1,875 (759)	Consv. Org.	Yes	1, 2
MN	Clay	DS Minnesota Unit 5	1,470 (595)	Private	Yes	1, 2, 3
MN	Norman	DS Minnesota Unit 6	275 (111)	Consv. Org.	No	1, 2
MN	Lincoln	DS Minnesota Unit 7A	1,312 (531)	State	No	1, 2
MN	Lincoln	DS Minnesota Unit 7B	92 (37)	Consv. Org.	No	1, 2
MN	Lincoln	DS Minnesota Unit 7C	149 (60)	Consv. Org.	No	1, 2
MN	Pipestone	DS Minnesota Unit 8	352 (143)	State	No	1, 2
MN	Pipestone	DS Minnesota Unit 9	416 (168)	State	Yes	1, 2
MN	Swift/ Chippewa	DS Minnesota Unit 10	967 (392)	State	No	1, 2, 3
MN	Pipestone	DS Minnesota Unit 11	197 (80)	State	No	1, 2
MN	Lincoln	DS Minnesota Unit 12	549 (222)	Private	Yes	1, 2
MN	Kittison	DS Minnesota Unit 13A	38 (16)	State	No	1, 2
MN	Kittison	DS Minnesota Unit 13B	224 (91)	State	No	1, 2
MN	Polk	DS Minnesota Unit 14	842 (341)	State	No	1, 2
MN	Polk	DS Minnesota Unit 15	268 (108)	Consv. Org.	No	1, 2
ND	Richland	DS North Dakota Unit 1	119 (48)	Federal	No	1, 2
ND	Ransom	DS North Dakota Unit 2	949 (348)	Federal	No	1, 2, 3
ND	McHenry	DS North Dakota Unit 3	1,526 (618)	Private	Yes	1, 2, 3
ND	McHenry	DS North Dakota Unit 4	197 (80)	Private	Yes	1, 2

ND	McHenry	DS North Dakota Unit 5	2,446 (990)	Private	Yes	1, 2, 3
ND	McHenry	DS North Dakota Unit 6	80 (33)	State	Yes	1, 2
ND	McHenry	DS North Dakota Unit 7	280 (113)	Private	Yes	1, 2
ND	McHenry	DS North Dakota Unit 8	448 (181)	State	Yes	1, 2, 3
ND	Rolette	DS North Dakota Unit 9	514 (208)	Private	No	1, 2, 3
ND	McKenzie	DS North Dakota Unit 10	639 (259)	Tribal	No	1, 2, 3
ND	McKenzie	DS North Dakota Unit 11	418 (169)	Federal	Yes	1, 2
ND	McKenzie	DS North Dakota Unit 12	309 (125)	Federal	Yes	1, 2
ND	Ransom	DS North Dakota Unit 13	727 (294)	Federal	Yes	1, 2
ND	Wells	DS North Dakota Unit 14	242 (98)	Private	Yes	1, 2
SD	Marshall	DS South Dakota Unit 1	451 (183)	Federal	No	1, 2
SD	Brookings	DS South Dakota Unit 2	169 (68)	State	Yes	1, 2
SD	Deuel	DS South Dakota Unit 3	516 (209)	State	No	1, 2
SD	Grant	DS South Dakota Unit 4	292 (118)	Federal	Yes	1, 2
SD	Deuel	DS South Dakota Unit 5	119 (48)	Federal	No	1, 2
SD	Roberts	DS South Dakota Unit 6	31 (13)	State	Yes	1, 2
SD	Roberts	DS South Dakota Unit 7	470 (190)	Tribal	Yes	1, 2, 3
SD	Roberts	DS South Dakota Unit 8	501 (203)	Federal	Yes	1, 2, 3
SD	Roberts	DS South Dakota Unit 9	160 (65)	Tribal	Yes	1, 2, 3
SD	Roberts	DS South Dakota Unit 10	117 (47)	Tribal	Yes	1, 2
SD	Roberts	DS South Dakota Unit 11	89 (36)	Tribal	Yes	1, 2
SD	Day	DS South Dakota Unit 12	531 (215)	Tribal	Yes	1, 2, 3
SD	Day	DS South Dakota Unit 13	56 (23)	Private	No	1, 2
SD	Day	DS South Dakota Unit 14	189 (76)	Tribal	Yes	1, 2
SD	Day	DS South Dakota Unit 15	188 (76)	State	No	1, 2, 3
SD	Roberts	DS South Dakota Unit 16	348 (141)	Federal	No	1, 2, 3
SD	Roberts	DS South Dakota Unit 17	552 (223)	Federal	Yes	1, 2
SD	Marshall/ Roberts	DS South Dakota Unit 18	216 (87)	Federal	No	1, 2
SD	Roberts	DS South Dakota Unit 19	363 (147)	Private	Yes	1, 2
SD	Brookings	DS South Dakota Unit 20	255 (103)	Private	Yes	1, 2
SD	Brookings	DS South Dakota Unit 21	198 (80)	Private	Yes	1, 2

SD	Brookings	DS South Dakota Unit 22	133 (54)	Private	Yes	1, 2

Poweshiek Skipperling

For the Poweshiek skipperling, we are proposing for designation as critical habitat lands that we have determined are occupied at the time of listing and contain sufficient elements of the physical or biological features necessary to support life-history processes essential for the conservation of the species. We are also proposing lands outside of the geographical area occupied at the time of listing (unoccupied lands) that we have determined are essential for the conservation of the Poweshiek skipperling because it provides the features necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery of the species.

We are proposing 61 areas as critical habitat for the Poweshiek skipperling: (1) PS Iowa Units 1 through 11, (2) PS Michigan Units 1 through 9, (3) PS Minnesota Units 1 through 18, (4) PS North Dakota Units 1 through 3, (5) PS South Dakota Units 1 through 18, and (6) PS Wisconsin Units 1 and 2. All critical habitat units are occupied by Poweshiek skipperling unless otherwise stated. Table 2 shows the primary type of ownership and approximate area of each proposed critical habitat unit.

Table 2. —Proposed critical habitat units for Poweshiek skipperling, with occupancy and size information. Area estimates reflect all land within critical habitat unit boundaries. Note: Area sizes may not sum due to rounding. Detailed unit descriptions are posted at *http://www.regulations.gov* in Docket No. FWS–R3–ES–2013–0017. Some units may have multiple landowner types. The Primary Landowner column gives the type of owner with the most land area in each unit. Occupancy of each proposed unit is noted as either occupied (Yes), unoccupied (No). Units with uncertain occupancy are noted as unoccupied (No) as they are

treated as such for the purposes of this critical habitat proposal. The primary constituent elements (PCEs) present in each unit are also given.

State	County	Critical Habitat Unit Name	Area in Acres (ha)	Primary Landowner (Type)	Occupied	PCE
IA	Howard	PS Iowa Unit 1	237 (96)	State	No	1, 3
IA	Cerro Gordo	PS Iowa Unit 2	34 (14)	Consv. Org.	No	1, 3
IA	Dickinson	PS Iowa Unit 3	136 (55)	Consv. Org.	No	1, 3
IA	Dickinson	PS Iowa Unit 4	755 (306)	State	No	1, 3, 4
IA	Osceola	PS Iowa Unit 5	75 (30)	Private	No	1, 3, 4
IA	Dickinson	PS Iowa Unit 6	79 (32)	State	No	1, 3
IA	Dickinson	PS Iowa Unit 7	146 (59)	State	No	1, 3
IA	Osceola	PS Iowa Unit 8	205 (83)	Private	No	1, 3
IA	Dickinson	PS Iowa Unit 9	312 (126)	Private	No	1, 3
IA	Kossuth	PS Iowa Unit 10	139 (56)	Private	No	1, 3
IA	Emmet	PS Iowa Unit 11	272 (110)	State	No	1, 3
MI	Oakland	PS Michigan Unit 1	25 (10)	State	Yes	2, 3
MI	Oakland	PS Michigan Unit 2	66 (27)	State	Yes	2, 3
MI	Oakland	PS Michigan Unit 3	456 (184)	Private	Yes	2, 3, 4
MI	Oakland	PS Michigan Unit 4	369 (149)	Private	Yes	2, 3
MI	Livingston	PS Michigan Unit 5	23 (10)	Private	No	2, 3
MI	Washtenaw	PS Michigan Unit 6	268 (109)	County	Yes	2, 3
MI	Lenawee	PS Michigan Unit 7	123 (50)	Consv. Org.	Yes	2, 3
MI	Jackson/ Hilsdale	PS Michigan Unit 8	363 (147)	Private	Yes	2, 3, 4
MI	Jackson	PS Michigan Unit 9	34 (14)	Private	Yes	2, 3
MN	Pope	PS Minnesota Unit 1	2,887 (1168)	State	No	1, 3, 4
MN	Murray	PS Minnesota Unit 2	905 (366)	Private	No	1, 3, 4
MN	Murray	PS Minnesota Unit 3	126 (51)	Private	No	1, 3
MN	Clay	PS Minnesota Unit 4	1,875 (759)	Consv. Org.	No	1, 3
MN	Clay	PS Minnesota Unit 5	1,470 (595)	Private	No	1, 3, 4
MN	Norman	PS Minnesota Unit 6	275 (111)	State	No	1, 3
MN	Lincoln	PS Minnesota Unit 7	1,312 (531)	State	No	1, 3, 4
MN	Pipestone	PS Minnesota Unit 8	352 (143)	State	No	1, 3
MN	Pipestone	PS Minnesota Unit 9	416 (168)	State	No	1, 3
MN	Swift/ Chippewa	DS Minnesota Unit 10	967 (392)	State	No	1, 3, 4
MN	Wilkin	PS Minnesota Unit 11	437 (177)	Consv. Org.	No	1, 3, 4
MN	Lyon	PS Minnesota Unit 12	274 (111)	State	No	1, 3

MN	La Qui Parle	PS Minnesota Unit 13	525 (212)	Consv. Org.	No	1, 3
MN	Douglas	PS Minnesota Unit 14	90 (36)	Consv. Org.	No	1, 3
MN	Mahnomen	PS Minnesota Unit 15	1,369 (554)	State	No	1, 3
MN	Cottonwood	PS Minnesota Unit 16	239 (97)	State	No	1, 3
MN	Pope	PS Minnesota Unit 17	431 (174)	Consv. Org.	No	1, 3
MN	Clay	PS Minnesota Unit 18	466 (189)	Consv. Org.	No	1, 3
ND	Richland	PS North Dakota Unit 1	119 (48)	Federal	No	1, 3
ND	Richland	PS North Dakota Unit 2	47 (19)	Federal	No	1, 3
ND	Sargent	PS North Dakota Unit 3	117 (47)	Federal	No	1, 3
SD	Marshall	PS South Dakota Unit 1	451(183)	Federal	No	1, 3
SD	Brookings	PS South Dakota Unit 2	169 (68)	State	No	1, 3
SD	Deuel	PS South Dakota Unit 3A	516 (209)	State	No	1, 3
SD	Deuel	PS South Dakota Unit 3B	582 (236)	State	No	1, 3
SD	Grant	PS South Dakota Unit 4	292 (118)	Federal	No	1, 3
SD	Deuel	PS South Dakota Unit 5	119 (48)	Federal	No	1, 3
SD	Roberts	PS South Dakota Unit 6	31 (13)	State	No	1, 3
SD	Roberts	PS South Dakota Unit 7	470 (190)	Tribal	No	1, 3, 4
SD	Roberts	PS South Dakota Unit 8	501 (203)	Federal	No	1, 3, 4
SD	Roberts	PS South Dakota Unit 9	160 (65)	Tribal	No	1, 3, 4
SD	Roberts	PS South Dakota Unit 10	117 (47)	Tribal	No	1, 3
SD	Roberts	PS South Dakota Unit 11	89 (36)	Tribal	No	1, 3
SD	Day	PS South Dakota Unit 12	676 (274)	Tribal	No	1, 3, 4
SD	Day	PS South Dakota Unit 13	56 (23)	Private	No	1, 3
SD	Day	PS South Dakota Unit 14	189 (76)	Tribal	No	1, 3
SD	Day	PS South Dakota Unit 15	188 (76)	State	No	1, 3, 4
SD	Day	PS South Dakota Unit 16	348 (141)	Federal	No	1, 3, 4
SD	Moody	PS South Dakota Unit 17	198 (80)	Consv. Org.	No	1, 3
SD	Marshall	PS South Dakota Unit 18	401 (162)	Federal	No	1, 3
WI	Waukesha	PS Wisconsin Unit 1	1,535 (621)	State	Yes	1, 3, 4
WI	Green Lake	PS Wisconsin Unit 2	280 (113)	State	Yes	1, 3

Note: Area sizes may not sum due to rounding.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that any action they fund, authorize, or carry out is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species. In addition, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any agency action that is likely to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of proposed critical habitat.

Decisions by the 5th and 9th Circuit Courts of Appeals have invalidated our regulatory definition of "destruction or adverse modification" (50 CFR 402.02) (see *Gifford Pinchot Task Force* v. *U.S. Fish and Wildlife Service*, 378 F. 3d 1059 (9th Cir. 2004) and *Sierra Club* v. *U.S. Fish and Wildlife Service et al*., 245 F.3d 434, 442 (5th Cir. 2001)), and we do not rely on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the statutory provisions of the Act, we determine destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species.

If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Examples of actions that are subject to the section 7 consultation process are actions on State, tribal, local, or private lands

that require a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq*.) or a permit from the Service under section 10 of the Act) or that involve some other Federal action (such as funding from the U.S. Department of Agriculture, Natural Resources Conservation Service, Farm Service Agency, Rural Development, Rural Utilities Service, Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not affecting listed species or critical habitat, and actions on State, tribal, local, or private lands that are not federally funded or authorized, do not require section 7 consultation.

As a result of section 7 consultation, we document compliance with the requirements of section 7(a)(2) through our issuance of:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that may affect, or are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat. We define "reasonable and prudent alternatives" (at 50 CFR 402.02) as alternative actions identified during consultation that:

(1) Can be implemented in a manner consistent with the intended purpose of the action,

(2) Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,

(3) Are economically and technologically feasible, and

(4) Would, in the Director's opinion, avoid the likelihood of jeopardizing the continued existence of the listed species and/or avoid the likelihood of destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where we have listed a new species or subsequently designated critical habitat that may be affected and the Federal agency has retained discretionary involvement or control over the action (or the agency's discretionary involvement or control is authorized by law). Consequently, Federal agencies sometimes may need to request reinitiation of consultation with us on actions for which formal consultation has been completed, if those actions with discretionary involvement or control may affect subsequently listed species or designated critical habitat.

Application of the "Adverse Modification" Standard

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species. Activities that may destroy or adversely modify critical habitat are those that alter the physical or biological features to an extent that appreciably reduces the conservation value of critical habitat for the Dakota skipper and

Poweshiek skipperling. As discussed above, the role of critical habitat is to support life-history needs of the species and provide for the conservation of these species.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation.

Activities that may affect critical habitat, when carried out, funded, or authorized by a Federal agency, should result in consultation for the Dakota skipper and Poweshiek skipperling. These activities include, but are not limited to:

(1) Actions that would significantly alter the native plant community such that native grasses or flowering forbs are not readily available during the adult flight period or larval stages in the life cycle of the species. Such activities could include, but are not limited to, conversion to agriculture or other nonagricultural development, heavy grazing, haying prior to July 15, spraying of herbicides or pesticides, and fire. These activities could eliminate or reduce the habitat necessary for the growth and reproduction of these species by reducing larval and adult food sources that could result in direct or indirect adverse effects to individuals and their life cycles.

(2) Actions that would significantly disturb the unplowed (untilled) soils and thereby reduce the native plant community and increase the nonnative plant and woody vegetation within the prairie habitat. Such activities could include, but are not limited to, plowing (tilling), heavy grazing, mining, development, and other disturbances to the soil such that the native plant community is reduced and the encroachment of nonnative plants and woody vegetation can outcompete native plants. These activities can result in the loss of the native plant community necessary for adult and larval food sources to levels below the tolerances of the

species.

(3) Actions that would significantly alter the hydrology of the prairie or prairie fen habitat. Such activities could include but are not limited to water withdrawal or diversion, agricultural tilling, urban development, mining, and dredging. These activities may lead to changes in water levels that would degrade or eliminate the native-prairie plants and their habitats to levels that are beyond the tolerances of the species.

Exemptions

Application of Section 4(a)(3) of the Act

Section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) provides that: "The Secretary shall not designate as critical habitat any lands or other geographic areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan [INRMP] prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation." There are no Department of Defense lands with a completed INRMP within the proposed critical habitat designation.

Exclusions

Application of Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary shall designate and make revisions to

critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, the impact on national security, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if she determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless she determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the statute on its face, as well as the legislative history, are clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

Under section 4(b)(2) of the Act, we may exclude an area from designated critical habitat based on economic impacts, impacts on national security, or any other relevant impacts. In considering whether to exclude a particular area from the designation, we identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and evaluate whether the benefits of exclusion outweigh the benefits of inclusion. If the analysis indicates that the benefits of exclusion outweigh the benefits of inclusion, the Secretary may exercise her discretion to exclude the area only if such exclusion would not result in the extinction of the species. Therefore, and as discussed in more detail below, we are seeking any and all relevant information relating to the possible exclusion of any particular proposed critical habitat unit. The potential exclusion of any number of the proposed critical habitat units is one logical outgrowth of this proposed rule.

Exclusions Based on Economic Impacts

Under section 4(b)(2) of the Act, we consider the economic impacts of specifying any particular area as critical habitat. In order to consider economic impacts, we are preparing an analysis of the probable economic impacts of the proposed critical habitat designation and related factors.

Sectors that may be affected by the proposed designation include, but are not limited to, private developers of residential, recreational, and commercial property; city, county, and State governments that construct and maintain roads and other infrastructure; private and public entities that use land for grazing and other agricultural purposes; Native American Tribal governments; energy developers, private conservation organizations; entities that mine gravel or other products; and wind power developers.

We will announce the availability of the draft economic analysis as soon as it is completed, at which time we will seek public review and comment. At that time, copies of the draft economic analysis will be available for downloading from the Internet at http://www.regulations.gov, or by contacting the Twin Cities Ecological Services Field Office directly (see **FOR FURTHER INFORMATION CONTACT** section). During the development of a final designation, we will consider the probable economic impacts, public comments, and other new information, and areas may be excluded from the final critical habitat designation under section 4(b)(2) of the Act and our implementing regulations at 50 CFR 424.19.

Exclusions Based on National Security Impacts

Under section 4(b)(2) of the Act, we consider whether there are lands owned or managed by the Department of Defense where a national security impact might exist. In preparing this

proposal, we have determined that the lands within the proposed designation of critical habitat for the Dakota Skipper and Poweshiek skipperling are not owned or managed by the Department of Defense, and, therefore, we anticipate no impact on national security. Consequently, the Secretary does not propose to exert her discretion to exclude any areas from the final designation based on impacts on national security.

Exclusions Based on Other Relevant Impacts

Under section 4(b)(2) of the Act, we consider any other relevant impacts, in addition to economic impacts and impacts on national security. We consider a number of factors, including whether the landowners have developed any HCPs or other management plans for the area, or whether there are conservation partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, we look at any tribal issues, and consider the government-to-government relationship of the United States with tribal entities. We also consider any social impacts that might occur because of the designation.

To determine whether any non-Federal lands should be excluded from the final designation, we compare the benefits of designating them as critical habitat to the benefits to the conservation of the species and the physical or biological features that would likely occur as a result of implementing and maintaining existing and functioning management plans and conservation partnerships, respectively. Partnerships between the Service and private landowners, state conservation agencies, and others that are likely to facilitate the continued implementation of management actions that benefit the species and its habitat may provide as much or more benefit than might be realized as a result of consultation carried out under section

7(a)(2) of the Endangered Species Act. We must evaluate each potential exclusion on a case-by-case basis to determine whether the benefits of exclusion may outweigh the benefits of inclusion with regard to the conservation and recovery of the listed species in question.

When we evaluate a management plan during our consideration of the benefits of exclusion, we assess a variety of factors, including but not limited to, whether the plan is finalized, how it provides for the conservation of the essential physical or biological features, whether there is a reasonable expectation that the conservation management strategies and actions contained in the plan will be implemented into the future, whether the conservation strategies in the plan are likely to be effective, and whether the plan contains a monitoring program or adaptive management to ensure that the conservation measures are effective and can be adapted in the future in response to new information.

Based on the information provided by entities seeking exclusion, as well as any additional public comments received, we will evaluate whether certain lands in the proposed critical habitat are appropriate for exclusion from the final designation under section 4(b)(2) of the Act. If the analysis indicates that the benefits of excluding lands from the final designation outweigh the benefits of designating those lands as critical habitat, then the Secretary may exercise her discretion to exclude the lands from the final designation.

For example, some stakeholders and conservation agencies are concerned that designating critical habitat on private lands may harm existing or future conservation partnerships necessary to conserve a range of prairie species, including these butterflies, especially in light of the factors that may be relaxing some of the "natural constraints" (*e.g.*, soil quality and slope) on conversion of prairie to cropland (Sylvester *et al*. 2013, p. 14). Continued private landowner acceptance of conservation programs has been identified as one of the most

important factors that will determine whether or not efforts to protect prairie from conversion will succeed—more than 90 percent of land in the range of the Dakota skipper may be privately owned, and protection of remaining grassland by conservation easements is now the primary tool used to slow their conversion to cropland (Doherty *et al*. 2013, p. 13). In an era of high commodity prices and expanding agricultural technological innovations, critical habitat may influence some owners to sell or plow their grasslands or it may erode landowner interest and acceptance of conservation programs, which would undermine butterfly and prairie conservation. At this time, we are requesting specific information on this topic so that we may weigh the relative benefits of critical habitat designation versus exclusion to the conservation of the species and the physical or biological features essential to the conservation of the species.

We seek information regarding any and all types of conservation programs and plans relevant to the protection of proposed critical habitat units for the Dakota skipper and Poweshiek skipperling. Such programs and plans may include conservation easements, management agreements, tax incentive programs, or any other plan or program, particularly those programs that include specific grazing regimes and other management actions that benefit these species. We also note that the Service is not the only agency with active conservation programs throughout the range of these two butterflies; landowners interested in conserving native prairie should also consider contacting their State and Tribal conservation offices, as well as offices of the U.S. Department of Agriculture, Natural Resources Conservation Service, and other agencies in your area. Some examples of existing conservation programs and plans are provided below, though these are not intended to present an exhaustive list of programs that may be relevant to potential exclusion of proposed critical habitat from the final designation.

Grassland Easements: The Service's grassland easement program began in 1989. With the continued conversion of grassland to cropland and consistent declines in the populations of grassland-dependent birds, the need to protect grassland habitats became evident. A grassland easement transfers limited perpetual rights to the Service for a one-time, lump-sum payment; perpetual easements are bought from willing landowners. The program was developed and is carried out by managers, biologists, and realty specialists with an interest in protecting resources at the landscape scale. Grassland easements generally prohibit the cultivation of grassland habitat, while still permitting the landowner traditional livestock uses. Grassland easements restrict the landowner from altering the grass by digging, plowing, disking, or otherwise destroying the vegetative cover. Haying, mowing, and seed harvest are restricted until July 16 of each year. Grassland easements are inspected yearly for possible violations of the easement contract.

The grassland easement program further advanced the philosophy of protecting working landscapes that provide conservation benefits in the agricultural environment. The Service intended the grassland easement and management policy to reflect a partnership between the Service and the surface owner of the property. Each potential easement is evaluated for its value to wildlife. Large native grass tracts with good wetland complexes are given the highest priority when Migratory Bird Treaty Act funds are used to purchase the easement. Land and Water Conservation Funds are also used to preserve northern tallgrass prairie. This program may benefit the Dakota skipper and Poweshiek skipperling to the extent that native prairie meeting the habitat needs of these species is protected; parcels covered by a grassland easement will be examined on a case-by-case basis to determine the conservation benefits of this program for

these two butterfly species. Landowners interested in participating in this program should contact the Service's Partners for Fish and Wildlife program in their particular state.

Voluntary Grazing Agreements: Native prairie grasslands are the foundation of the ranching and livestock industry, but are increasingly being destroyed through conversion to row crops, such as corn and soybeans. Voluntary conservation programs that focus on helping ranchers manage their native-prairie grasslands to stay economically viable and preserve grassland condition are vitally important to maintaining grassland-dominated landscapes in North Dakota and South Dakota. Such conservation programs provide financial cost-share assistance and prescribe managed grazing on native prairie grasslands for periods of time varying from 3 to 10 years and provide incentives for ranchers to conserve wildlife habitat; this can be a benefit for the ranching community and the Dakota skipper and Poweshiek skipperling populations. Therefore, we will consider voluntary grazing agreements as one relevant type of conservation plan or program that may support excluding native-prairie grasslands from our final critical habitat designation. These voluntary grazing programs may benefit the Dakota skipper and Poweshiek skipperling to the extent that native prairie that meets the habitat needs of these species is protected; parcels covered by voluntary grazing agreements will be examined on a case-by-case basis to determine conservation benefits of the particular grazing agreement to these two butterfly species. Landowners interested in participating in this program should contact the Service's Partners for Fish and Wildlife program or the USDA's Natural Resources Conservation Service office in their particular state.

Minnesota's Native Prairie Tax Exemption: The Prairie Tax Exemption program exempts eligible lands from property taxes and is administered by the MN DNR in cooperation with local County Tax Assessors. To be considered for enrollment, landowners complete a one-page Prairie Tax Exemption application and submit it to the local County Assessor's Office with an aerial photo of the property. After a landowner has submitted an application, the County Assessor will contact the MN DNR, who will visit the property to evaluate and certify qualifying acres.

To be eligible for Native Prairie Tax Exemption, a parcel of land must meet several criteria, including that it:

- Has never been plowed, cultivated, or reseeded;
- Has not been severely altered by heavy grazing or herbicides;
- Is dominated throughout by native-prairie vegetation with no, or limited, tree cover;
- Has at least 5 native-prairie species of grasses or sedges and 12 native-prairie forb species present;
- Is not in use as pasture (annually hayed tracts may still qualify); and
- Has at least 5 acres (smaller tracts with important rare species habitat or other significant prairie features may still qualify).

This program may benefit the Dakota skipper and Poweshiek skipperling by providing a financial incentive to protect native prairie that meets habitat needs of these species. Each parcel would be examined on its own merits to determine the conservation benefits of this program.

Minnesota Native Prairie Bank Program: This Program allows landowners, through a conservation easement with the MN DNR, to protect native prairie on their property that has

never been plowed. Landowners receive payment for their native-prairie land while keeping it in private ownership. Certain agricultural practices are included in some easements, such as livestock grazing, mowing for hay, or harvesting of native seed. Because funding for the program is limited, the MN DNR prioritizes tracts for funding based on the quality of the prairie, the variety of plants and animals present, and its proximity to other prairie units. Payments for permanent Prairie Bank easements are based on a percentage of the average value of cropland in the township as recorded in tax assessment records. To be considered for this program, landowners should contact MN DNR's Statewide Acquisition Coordinator, one of the MN DNR's three Regional Prairie Specialists. This program may benefit the Dakota skipper and Poweshiek skipperling to the extent that native prairie that meets the habitat needs of these species is protected; parcels protected by the prairie bank program will be examined on a case-by-case basis to determine the conservation benefits of this program for these two butterfly species.

At the time of publication of this proposed rule, we have not yet identified any specific conservation agreements that would fulfill the above criteria, but will work to identify any such agreements and conservation partnerships before publication of the final rule. Again, however, we are explicitly noting that every type of conservation plan and program applicable or available to each proposed unit will be considered within the context of whether specific units should be excluded from the final critical habitat designation. We encourage any non-Federal landowners who are interested in being excluded from a final designation to contact us (see **ADDRESSES** section of this proposed rule) to obtain our assistance with crafting and evaluating conservation agreements. We are also seeking additional information with regard to how designating specific areas as critical habitat would affect landowner interest and acceptance of programs that protect

Dakota skipper or Poweshiek skipperling habitat via conservation easements. Continued interest and acceptance of easement programs has been identified as one of three factors that are important to the conservation of prairie on private lands, in addition to continued funding of these programs and other public policy initiatives that conserve prairie habitats (Doherty *et al*. 2013, p. 13).

Peer Review

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of peer review is to ensure that our critical habitat designation is based on scientifically sound data, assumptions, and analyses. We have invited these peer reviewers to comment during this public comment period on our specific assumptions and conclusions in this proposed designation of critical habitat.

We will consider all comments and information received during this comment period on this proposed rule during our preparation of a final determination. Accordingly, the final decision may differ from this proposal.

Public Hearings and Informational Meetings

Section 4(b)(5) of the Act provides for one or more public hearings on this proposal, if requested. Requests must be received within 45 days after the date of publication of this proposed rule in the **Federal Register**. Such requests must be sent to the address shown in **FOR FURTHER INFORMATION CONTACT**. We will schedule public hearings on this proposal,

if any are requested, and announce the dates, times, and places of those hearings, as well as how to obtain reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the hearing.

We have scheduled informational meetings regarding the proposed rule in the following locations: Minot, North Dakota, on November 5, 2013, at the Souris Valley Suites, 800 37th Avenue SW; Milbank, South Dakota, on November 6, 2013, at the Milbank Chamber of Commerce, 1001 East 4th Avenue; Milford, Iowa, on November 7, 2013, at the Iowa Lakeside Laboratory, 1838 Highway 86; Holly, Michigan, on November 13, 2013, at the Rose Pioneer Elementary School, 7110 Milford Road; and, in Berlin, Wisconsin, on November 14, 2013, at the Berlin Public Library, 121 West Park Avenue. Except for the meeting in Berlin, Wisconsin, each informational meeting will be from 5:30 p.m. to 8:00 p.m.; the meeting in Berlin, Wisconsin will be from 4:30 p.m. to 7:00 p.m.

Any interested individuals or potentially affected parties seeking additional information on the public informational meetings should contact the Twin Cities Ecological Services Office (See **FOR FURTHER INFORMATION CONTACT**). The U.S. Fish and Wildlife Service is committed to providing access to this event for all participants. Please direct all requests for interpreters, closed captioning, or other accommodation to the Twin Cities Ecological Services Office (See **FOR FURTHER INFORMATION CONTACT**).

Required Determinations

Regulatory Planning and Review (Executive Order 12866 and 13563)

Executive Order 12866 provides that the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget will review all significant rules. The Office of Information and Regulatory Affairs has determined that this rule is not significant.

Executive Order (E.O.) 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The executive order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. E.O. 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. We have developed this rule in a manner consistent with these requirements.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq*.), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA; 5 U.S.C 801 *et seq.*), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide

a certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

According to the Small Business Administration, small entities include small organizations such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; and small businesses (13 CFR 121.201). Small businesses include such businesses as manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than $5 million in annual sales, general and heavy construction businesses with less than $27.5 million in annual business, special trade contractors doing less than $11.5 million in annual business, and forestry and logging operations with fewer than 500 employees and annual business less than $7 million. To determine whether small entities may be affected, we will consider the types of activities that might trigger regulatory impacts under this designation as well as types of project modifications that may result. In general, the term "significant economic impact" is meant to apply to a typical small business firm's business operations.

Importantly, the incremental impacts of a rule must be *both* significant and substantial to prevent certification of the rule under the RFA and to require the preparation of an initial regulatory flexibility analysis. If a substantial number of small entities are affected by the proposed critical habitat designation, but the per-entity economic impact is not significant, the Service may certify. Likewise, if the per-entity economic impact is likely to be significant, but the number of affected entities is not substantial, the Service may also certify.

Under the RFA, as amended, and following recent court decisions, Federal agencies are only required to evaluate the potential incremental impacts of rulemaking on those entities

directly regulated by the rulemaking itself, and not the potential impacts to indirectly affected entities. The regulatory mechanism through which critical habitat protections are realized is section 7 of the Act, which requires Federal agencies, in consultation with the Service, to ensure that any action authorized, funded, or carried by the Agency is not likely to adversely modify critical habitat. Therefore, only Federal action agencies are directly subject to the specific regulatory requirement (avoiding destruction and adverse modification) imposed by critical habitat designation. Under these circumstances, it is our position that only Federal action agencies will be directly regulated by this designation. Therefore, because Federal agencies are not small entities, the Service may certify that the proposed critical habitat rule will not have a significant economic impact on a substantial number of small entities.

We acknowledge, however, that in some cases, third-party proponents of the action subject to permitting or funding may participate in a section 7 consultation, and thus may be indirectly affected. We believe it is good policy to assess these impacts if we have sufficient data before us to complete the necessary analysis, whether or not this analysis is strictly required by the RFA. While this regulation does not directly regulate these entities, in our draft economic analysis we will conduct a brief evaluation of the potential number of third parties participating in consultations on an annual basis in order to ensure a more complete examination of the incremental effects of this proposed rule in the context of the RFA.

In conclusion, we believe that, based on our interpretation of directly regulated entities under the RFA and relevant case law, this designation of critical habitat will directly regulate only Federal agencies, which are not by definition small business entities. And as such, we certify that, if promulgated, this designation of critical habitat would not have a significant economic impact on a substantial number of small business entities. Therefore, an initial

regulatory flexibility analysis is not required. However, though not necessarily required by the RFA, in our draft economic analysis for this proposal we will consider and evaluate the potential effects to third parties that may be involved with consultations with Federal action agencies related to this action.

Energy Supply, Distribution, or Use (Executive Order 13211)

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare Statements of Energy Effects when undertaking certain actions. We do not expect the designation of this proposed critical habitat to significantly affect energy supplies, distribution, or use because the majority of the lands we are proposing do not have energy production or distribution. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required. However, we will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment as warranted.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.*)*

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq*.), we make the following findings:

(1) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or tribal governments, or the private sector, and includes both "Federal intergovernmental

mandates" and "Federal private sector mandates." These terms are defined in 2 U.S.C. 658(5)–(7). "Federal intergovernmental mandate" includes a regulation that "would impose an enforceable duty upon State, local, or tribal governments" with two exceptions. It excludes "a condition of Federal assistance." It also excludes "a duty arising from participation in a voluntary Federal program," unless the regulation "relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority," if the provision would "increase the stringency of conditions of assistance" or "place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding," and the State, local, or tribal governments "lack authority" to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. "Federal private sector mandate" includes a regulation that "would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program."

The designation of critical habitat does not impose a legally binding duty on non-Federal Government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above onto State governments.

(2) We do not believe that this rule will significantly or uniquely affect small governments because the proposed areas that cover small government jurisdictions are small, and there is little potential that the proposal would impose significant additional costs above those associated with the proposed listing of the species. Most lands are Federal, State, or privately owned, and most of the units do not occur within the jurisdiction of small governments. Therefore, a Small Government Agency Plan is not required. However, we will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment if appropriate.

Takings (Executive Order 12630)

In accordance with Executive Order 12630 (''Government Actions and Interference with Constitutionally Protected Private Property Rights''), we have analyzed the potential takings implications of designating critical habitat for the Dakota skipper and Poweshiek skipperling in a takings implications assessment. Based on the best available information, the takings implications assessment concludes that this designation of critical habitat for the Dakota skipper and Poweshiek skipperling does not pose significant takings implications. However, we will further evaluate this issue as we develop our final designation, and review and revise this assessment as warranted.

Federalism (Executive Order 13132)

In accordance with Executive Order 13132 (Federalism), this proposed rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior policy, we requested information from, and coordinated development of, this proposed critical habitat designation with appropriate State resource agencies in Iowa, Michigan, Minnesota, North Dakota, South Dakota, and Wisconsin. From a federalism perspective, the designation of critical habitat directly affects only the responsibilities of Federal agencies. The Act imposes no other duties with respect to critical habitat, either for States and local governments, or for anyone else. As a result, the rule does not have substantial direct effects either on the States, or on the relationship between the national government and the States, or on the distribution of powers and responsibilities among the various levels of government. The designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the species are more clearly defined, and the physical or biological features of the habitat necessary to the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist these local governments in long-range planning (because these local governments no longer have to wait for case-by-case section 7 consultations to occur).

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) would be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that

otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Civil Justice Reform (Executive Order 12988)

In accordance with Executive Order 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed designating critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the species, the rule identifies the elements of physical or biological features essential to the conservation of the species. The designated areas of critical habitat are presented on maps, and the rule provides several options for the interested public to obtain more detailed location information, if desired.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.*)*

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq*.). This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act (42 U.S.C. 4321 et seq.*)*

We have determined that environmental assessments and environmental impact statements, as defined under the authority of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*), need not be prepared in connection with listing a species as endangered or threatened under the Endangered Species Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses pursuant to NEPA in connection with designating critical habitat under the Endangered Species Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This position was upheld by the U.S. Court of Appeals for the Ninth Circuit (*Douglas County* v. *Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)).]

Clarity of the Rule

We are required by Executive Orders 12866 and 12988 and by the Presidential Memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

(1) Be logically organized;

(2) Use the active voice to address readers directly;

(3) Use clear language rather than jargon;

(4) Be divided into short sections and sentences; and

(5) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in the **ADDRESSES** section. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

Government-to-Government Relationship with Tribes

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with tribes in developing programs for healthy ecosystems, to acknowledge that tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to tribes.

There are tribal lands in North Dakota and South Dakota included in this proposed designation of critical habitat. Using the criteria found in the Criteria Used to Identify Critical

Habitat section, we have determined that Tribal lands meet the definition of critical habitat for the Dakota skipper and Poweshiek skipperling. We will seek government-to-government consultation with these tribes throughout the proposal and development of the final designation of critical habitat. We will consider these areas for exclusion from final critical habitat designation to the extent consistent with the requirements of 4(b)(2) of the Act. We informed tribes of how we are evaluating areas under section 4(b)(2) of the Act and of our interest in consulting with them on a government-to-government basis.

References Cited

A complete list of references cited in this rulemaking is available on the Internet at *http://www.regulations.gov* and upon request from the Twin Cities Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this package are staff of the Twin Cities Ecological Services Field Office.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Proposed Regulation Promulgation

Accordingly, we propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 1531–1544; and 4201–4245, unless otherwise noted.

2. In § 17.95, amend paragraph (i) by adding an entry for "Dakota Skipper *(Hesperia dacotae)"* after the entry for "Ash Meadows Naucorid *(Ambrysus amargosus)"* and an entry for "Poweshiek Skipperling *(Oarisma Poweshiek)"* after the entry for "Laguna Mountains Skipper *(Pyrgus ruralis lagunae)",* to read as follows:

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(i) *Insects.*

* * * * *

Dakota Skipper *(Hesperia dacotae)*

(1) Critical habitat units are designated in Chippewa, Clay, Kittison, Lincoln, Murray, Norman, Pipestone, Polk, Pope, and Swift Counties in Minnesota; McHenry, McKenzie, Ransom, Richland, Rolette, and Wells Counties in North Dakota; and Brookings, Day, Deuel, Grant, Marshall, and Roberts Counties in South Dakota.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Dakota skipper are:

(i) Primary Constituent Element 1—Wet-mesic tallgrass or mixed-grass remnant untilled prairie that occurs on near-shore glacial lake soil deposits or high-quality dry-mesic remnant untilled prairie on rolling terrain consisting of gravelly glacial moraine soil deposits, containing:

(A) A predominance of native grasses and native flowering forbs,

(B) Glacial soils that provide the soil surface or near surface (between soil surface and 2 cm depth) micro-climate conditions conducive to Dakota skipper larval survival and native-prairie vegetation such as mean soil surface summer temperatures from 17.8 to 20.5 °C (64.0 to 68.9 °F), mean near soil surface dew point ranging from 13.9 to 16.8 °C (57.0 to 62.2 °F), mean near soil surface relative humidity between 72.5 and 85.1 percent, and soil bulk densities between 0.86 g/cm^3 and 1.28 g/cm^3 (0.5 oz/in^3 to 0.74 oz/in^3);

(C) If present, trees or large shrub cover of less than 5 percent of area in dry prairies and less than 25 percent in wet-mesic prairies; and

(D) If present, nonnative invasive plant species occurring in less than 5 percent of

area.

(ii) Primary Constituent Element 2—Native grasses and native flowering forbs for larval and adult food and shelter, specifically;

(A) At least one of the following native grasses to provide food and shelter sources during Dakota skipper larval stages: prairie dropseed *(Sporobolus heterolepis)* or little bluestem *(Schizachyrium scoparium);* and

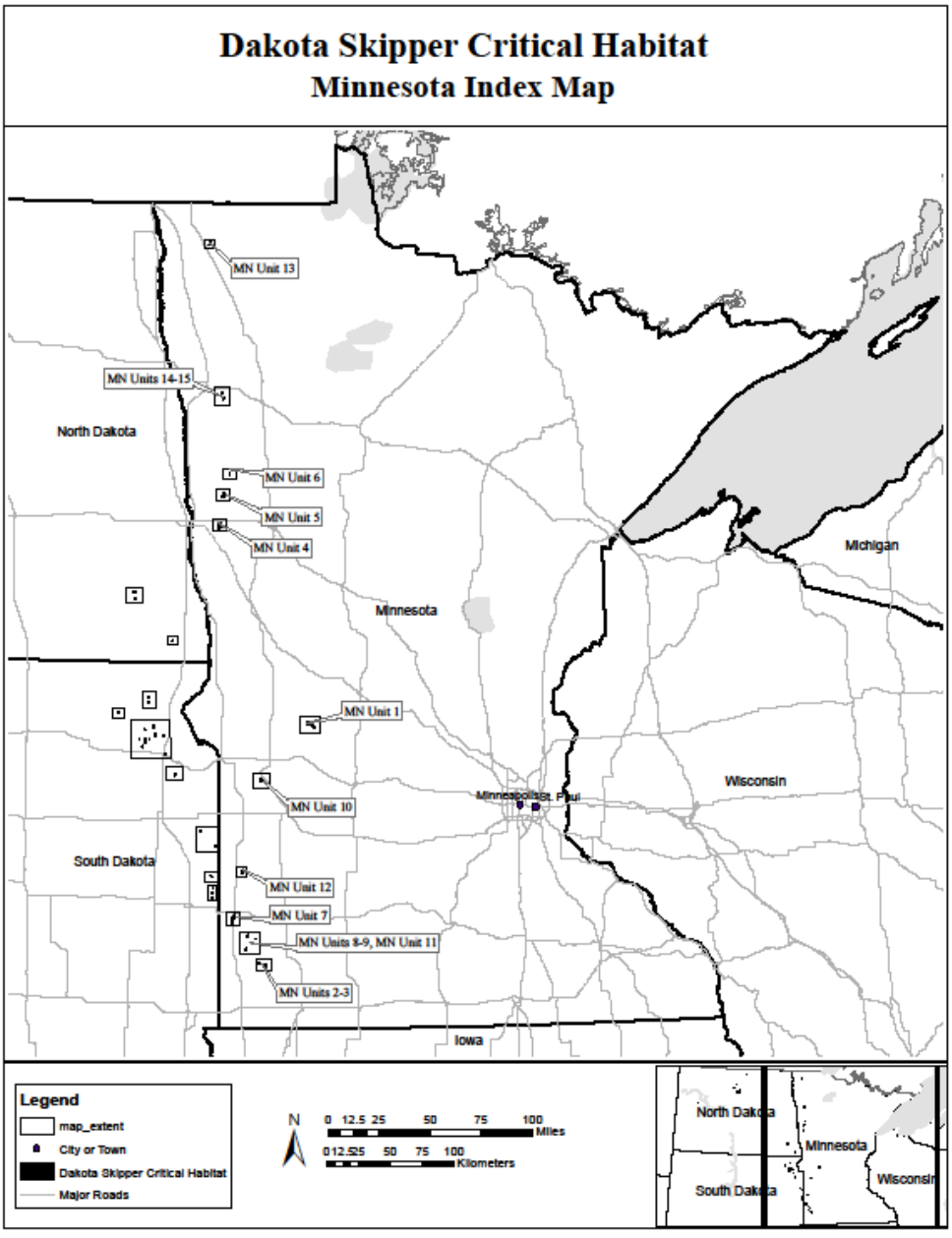
(B) One or more of the following forbs in bloom to provide nectar and water sources during the Dakota skipper flight period: purple coneflower *(Echinacea angustifolia),* bluebell bellflower *(Campanula rotundifolia),* white prairie clover *(Dalea candida),* upright prairie coneflower *(Ratibida columnifera),* fleabane *(Erigeron* spp.), blanketflower *(Gaillardia* spp.), black-eyed Susan *(Rudbeckia hirta),* yellow sundrops *(Calylophus serrulatus),* groundplum milkvetch *(Astragalus crassicarpus),* common gaillardia *(Gaillardia aristata),* or tooth-leaved primrose *(Calylophus serrulata).*

(iii) Primary Constituent Element 3—Dispersal grassland habitat that is within 1 km (0.6 mi) of native high-quality remnant prairie (as defined in Primary Constituent Element 1) that connects high-quality wet-mesic to dry tallgrass prairies or moist meadow habitats. Dispersal grassland habitat consists of undeveloped open areas dominated by perennial grassland with limited or no barriers to dispersal including tree or shrub cover less than 25 percent of the area and no row crops such as corn, beans, potatoes, or sunflowers.

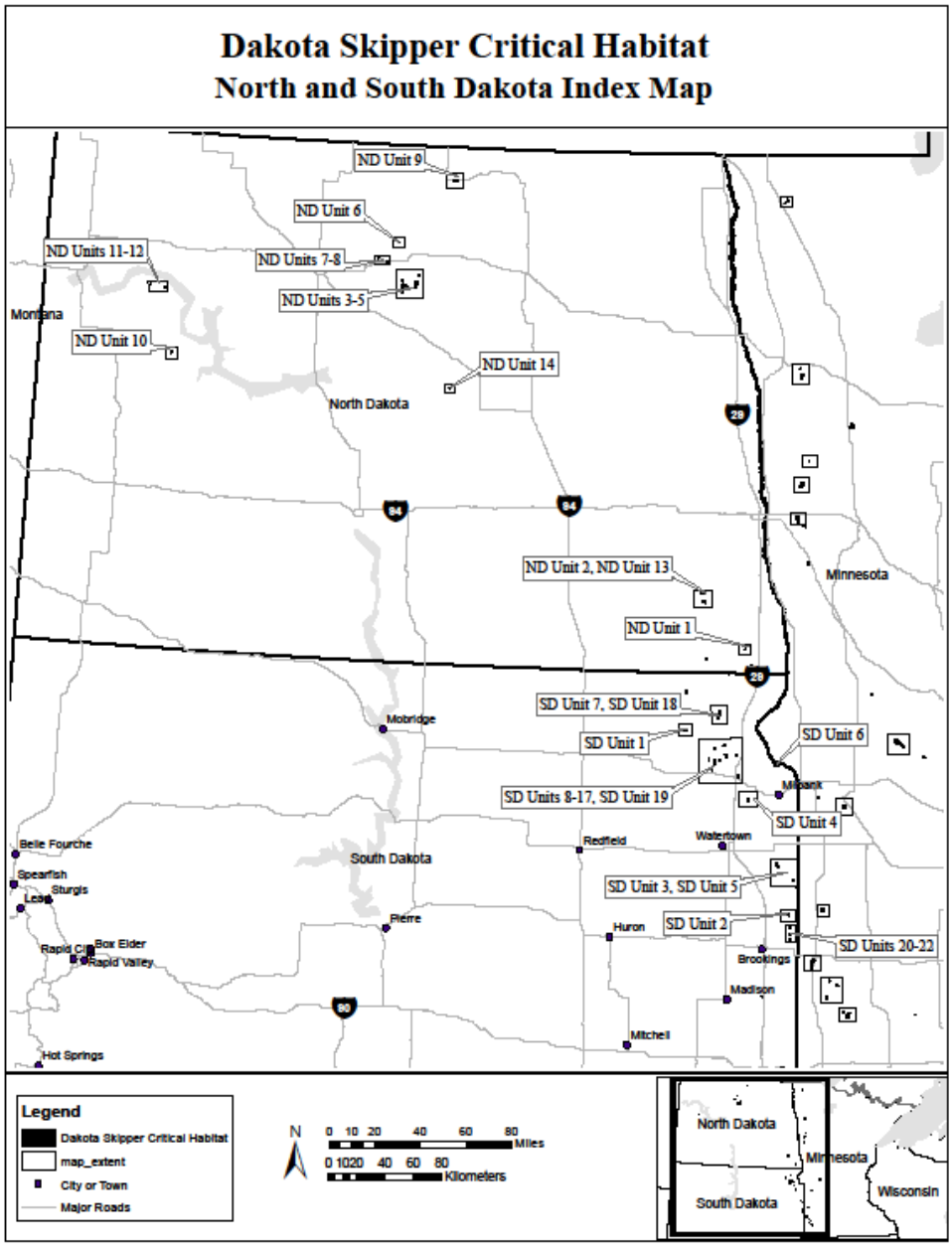
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on [INSERT EFFECTIVE DATE OF FINAL RULE].

(4) Critical habitat map units. Data layers defining map units were created and digitized using ESRI's ArcMap (version 10.0) and comparing USGS NAIP/FSA high-resolution orthophotography from 2010 or later and previously mapped skipper habitat polygons submitted by contracted researchers or prairie habitat polygons made available from Minnesota Department of Natural Resources' County Biological Survey. Critical habitat units then were mapped in Geographic Coordinate System WGS84. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site (http://www.fws.gov/midwest/Endangered), at *http://www.regulations.gov* at Docket No. FWS–R3–ES–2013–0017, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

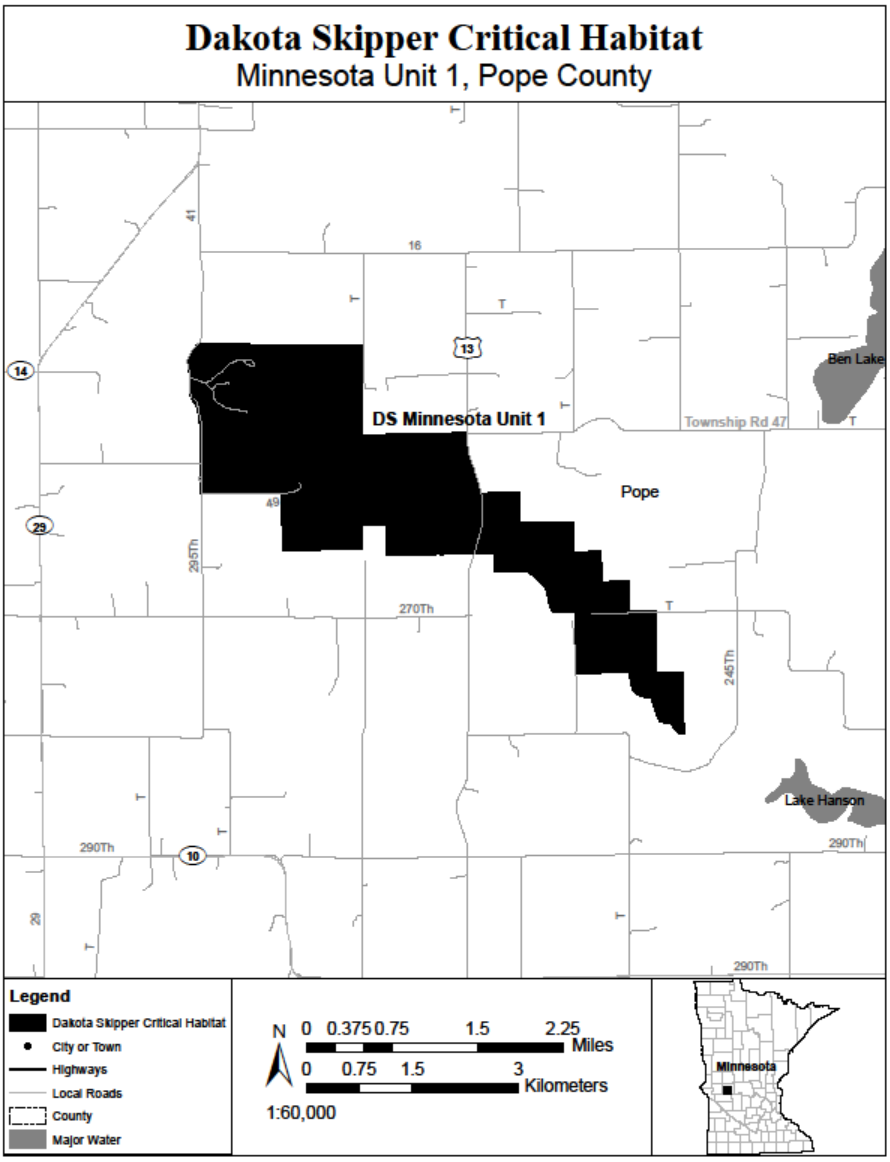
(5) Minnesota index map follows:



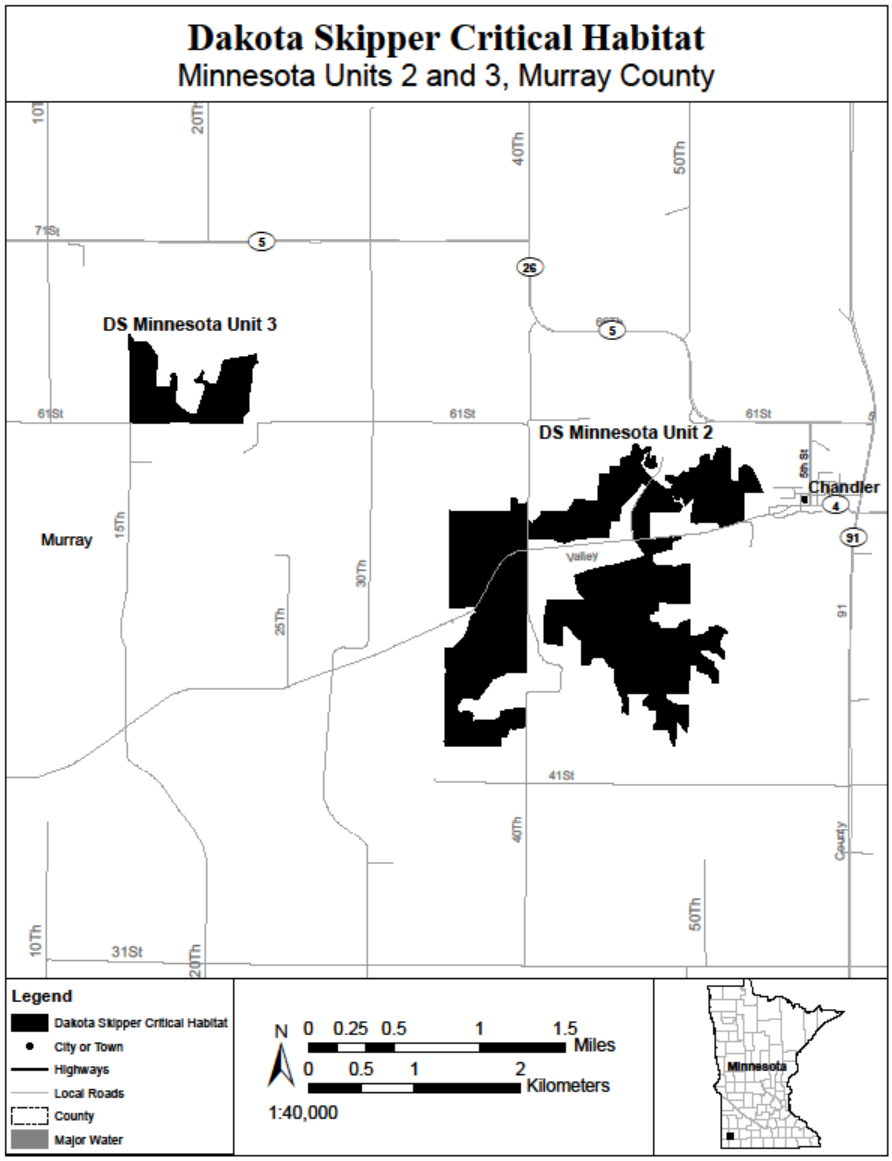
(6) North Dakota and South Dakota index map follows:



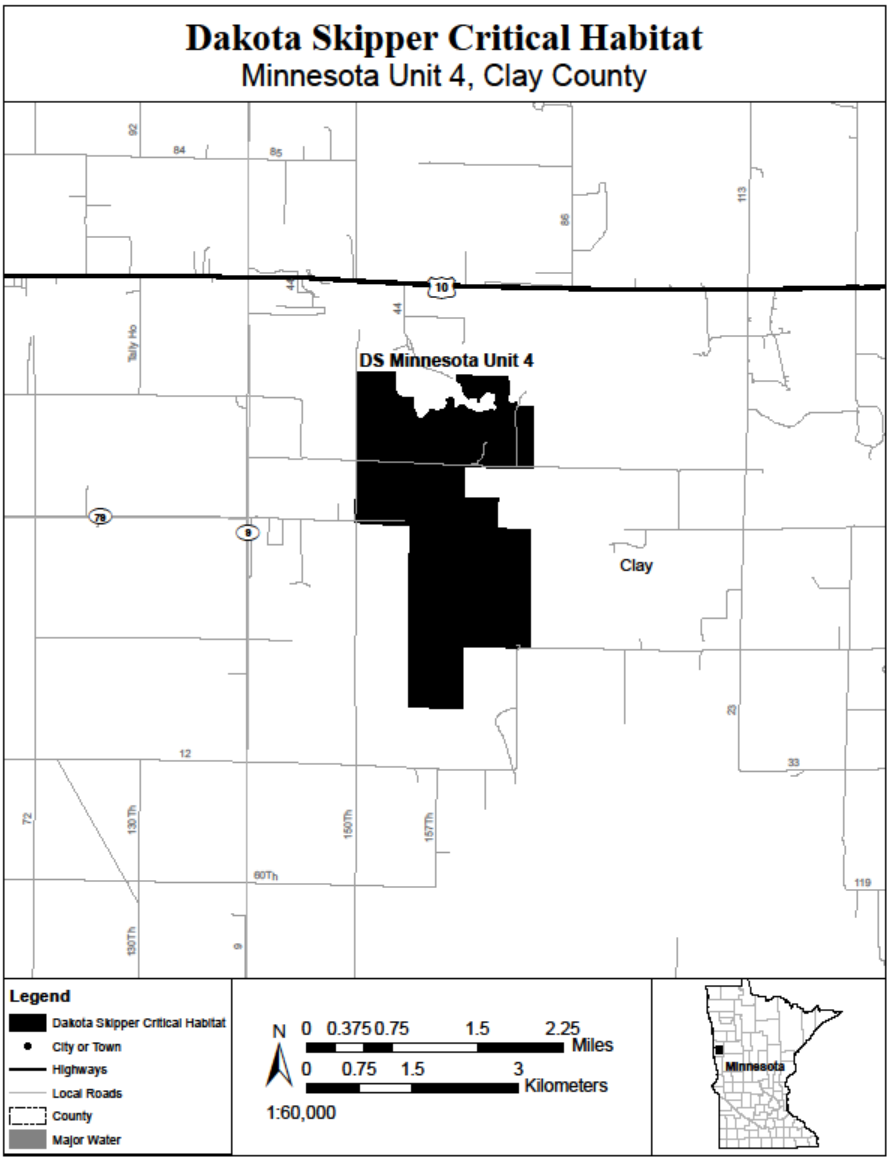
(7) DS Minnesota Unit 1, Pope County, Minnesota. Map of DS Minnesota Unit 1 follows:



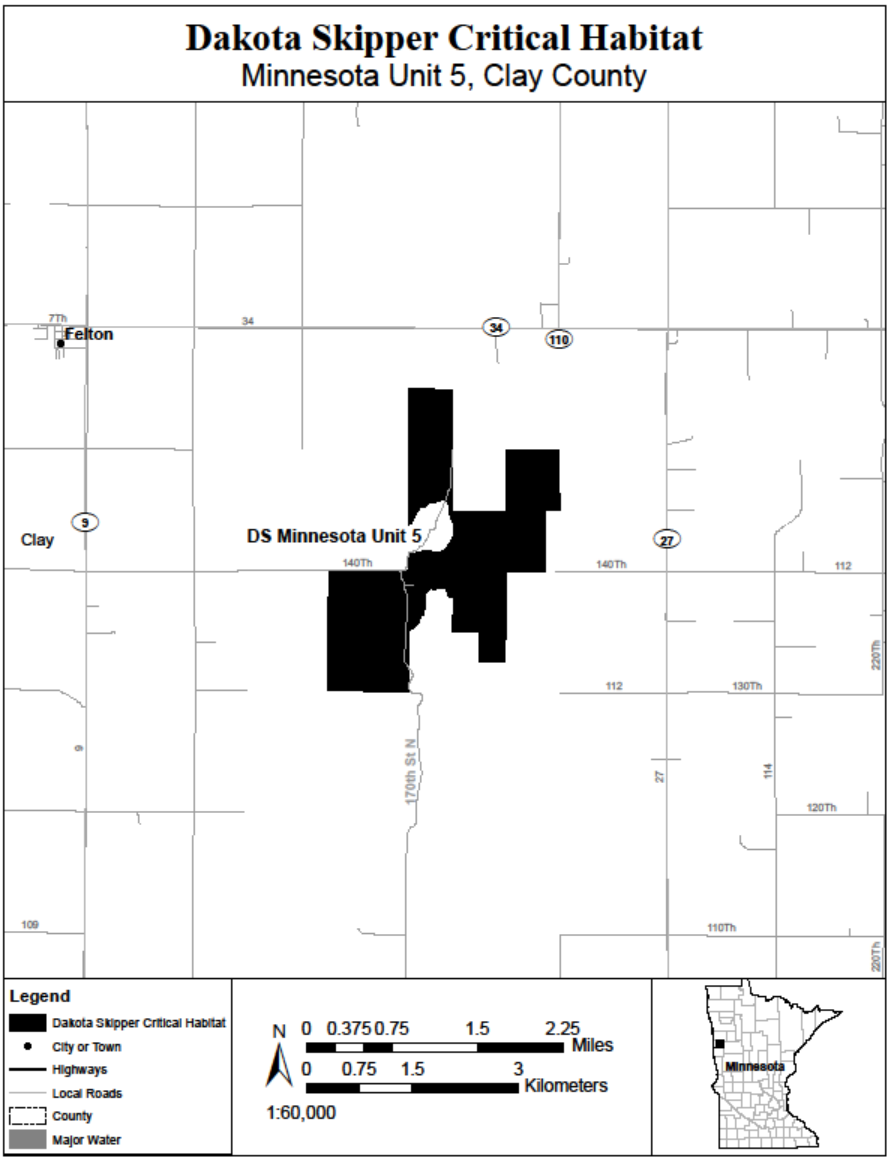
(8) DS Minnesota Units 2 and 3, Murray County, Minnesota. Map of DS Minnesota Units 2 and 3 follows:



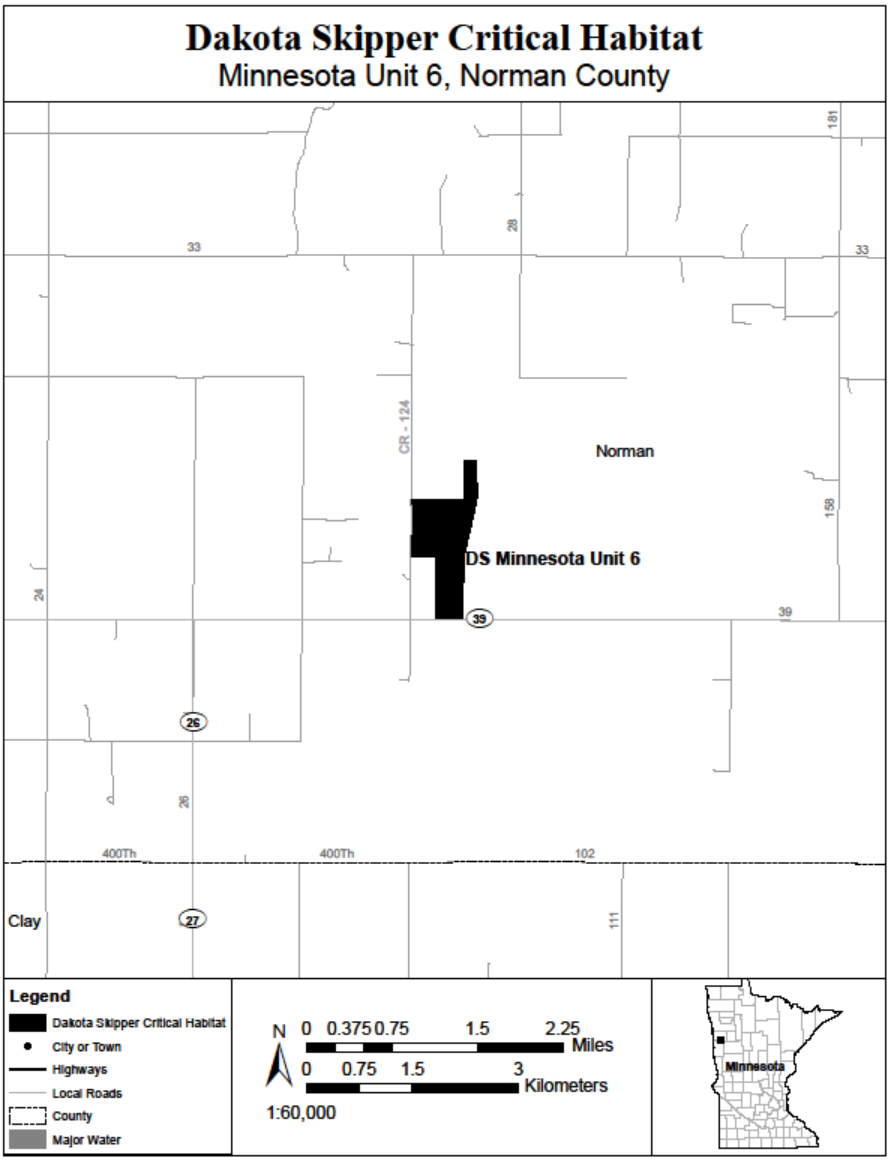
(9) DS Minnesota Unit 4, Clay County, Minnesota. Map of DS Minnesota Unit 4 follows:



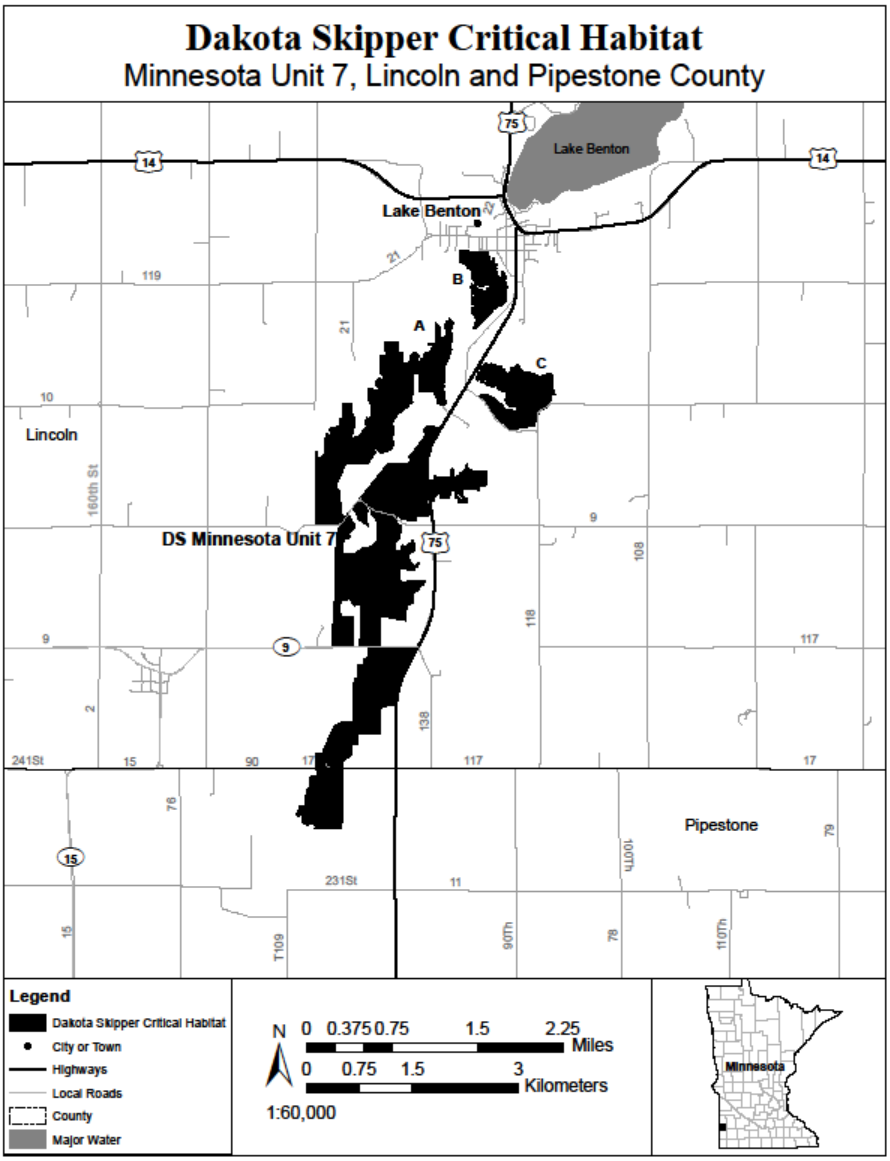
(10) DS Minnesota Unit 5, Clay County, Minnesota. Map of DS Minnesota Unit 5 follows:



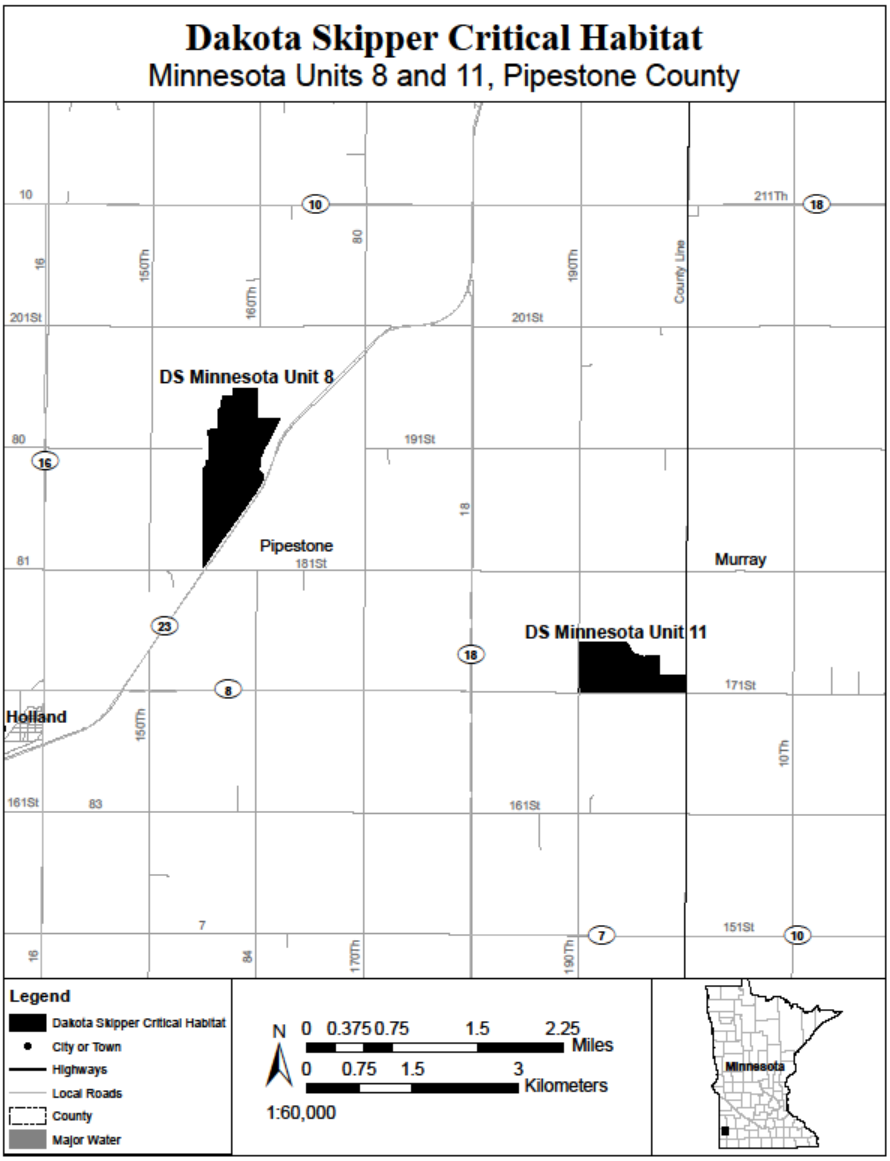
(11) DS Minnesota Unit 6, Norman County, Minnesota. Map of DS Minnesota Unit 6 follows:



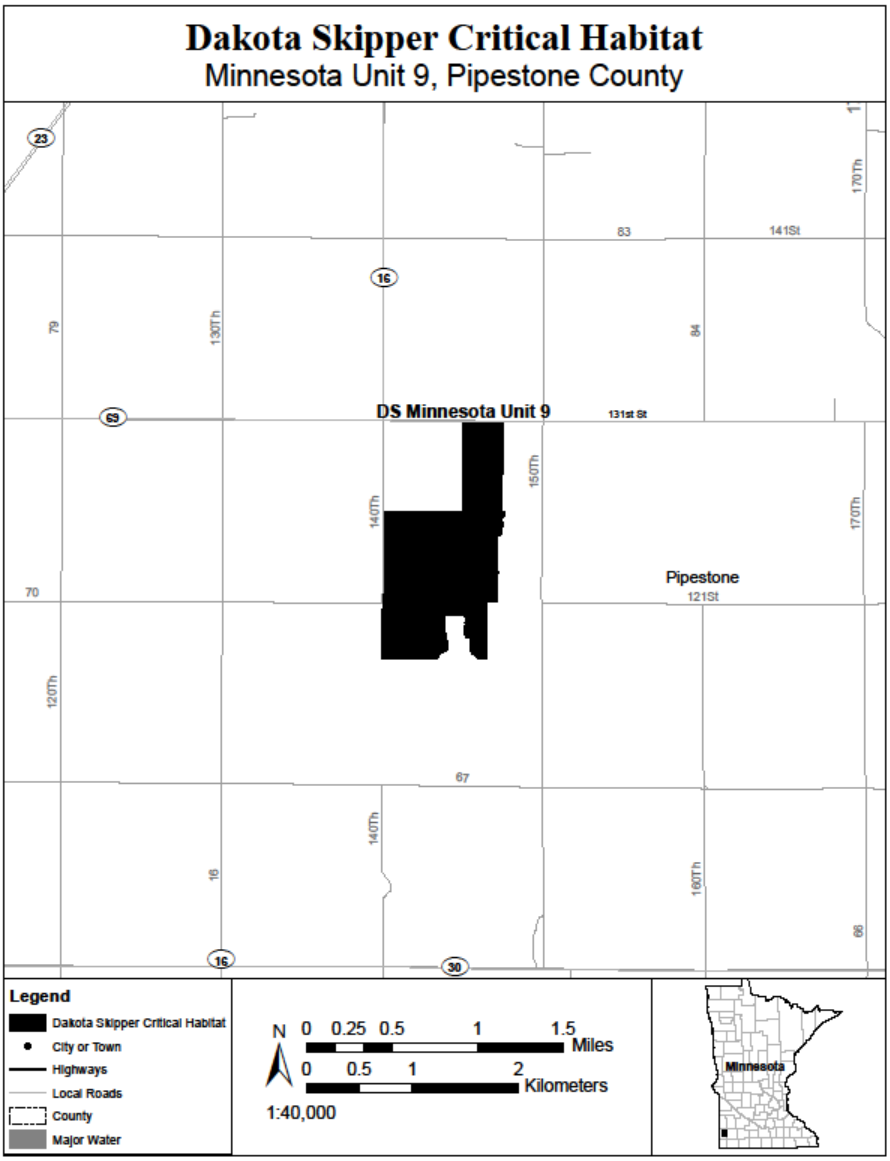
(12) DS Minnesota Unit 7, Lincoln County, Minnesota. Map of DS Minnesota Unit 7 follows:



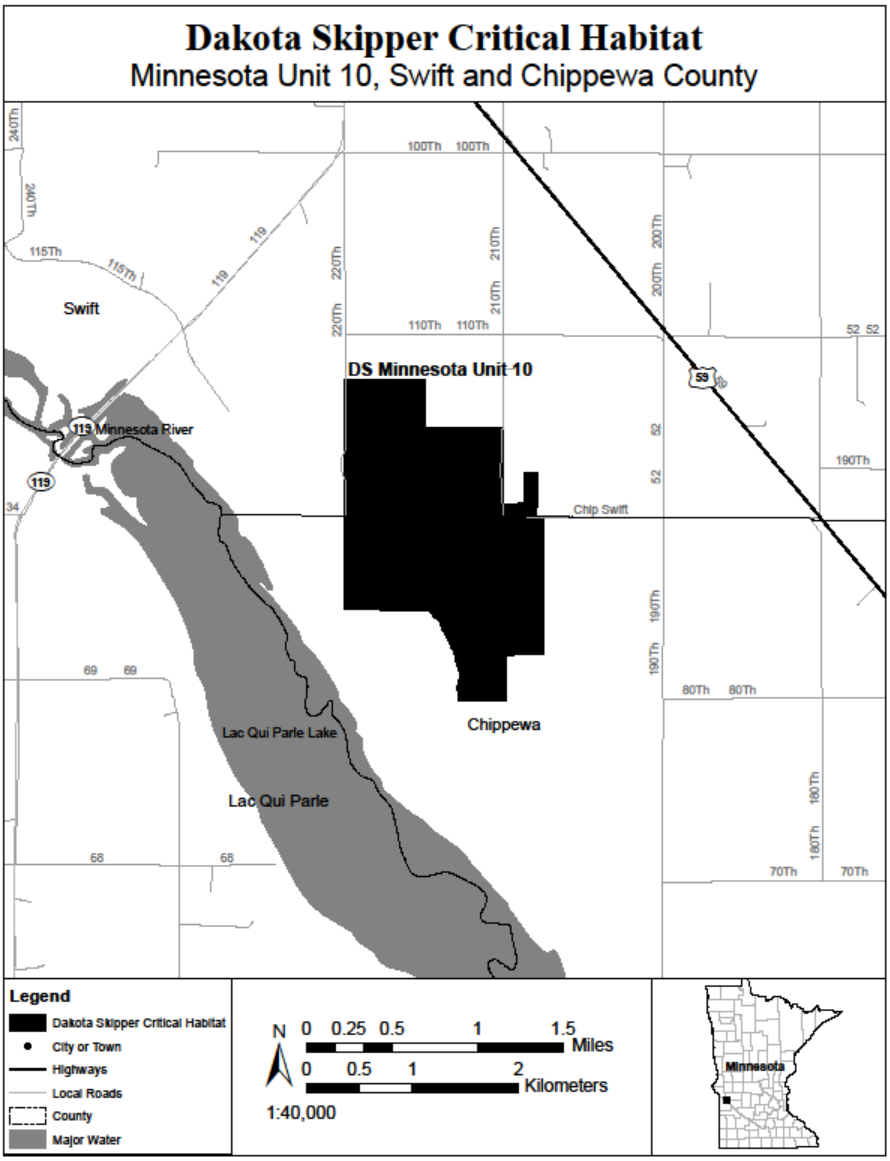
(13) DS Minnesota Units 8 and 11, Pipestone County, Minnesota. Map of DS Minnesota Units 8 and 11 follows:



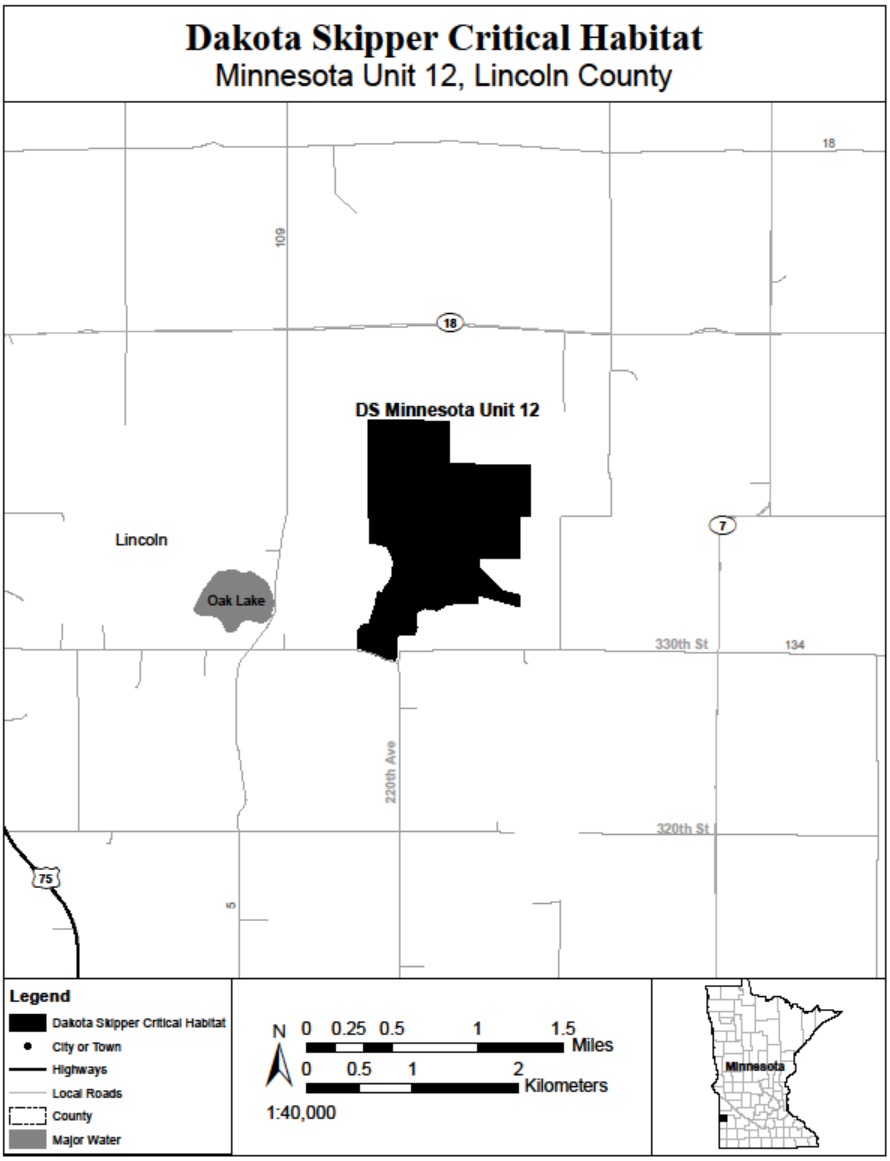
(14) DS Minnesota Unit 9, Pipestone County, Minnesota. Map of DS Minnesota Unit 9 follows:



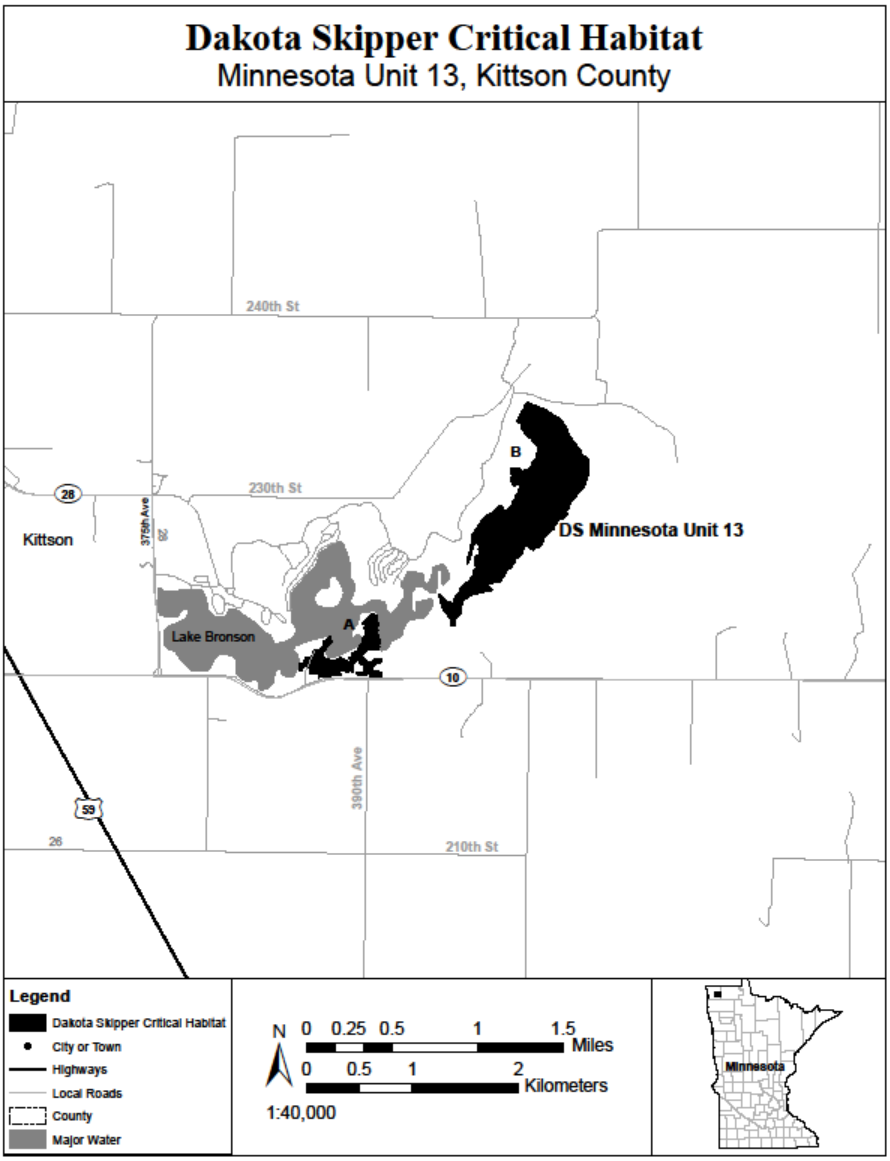
(15) DS Minnesota Unit 10, Chippewa County and Swift County, Minnesota. Map of DS Minnesota Unit 10 follows:



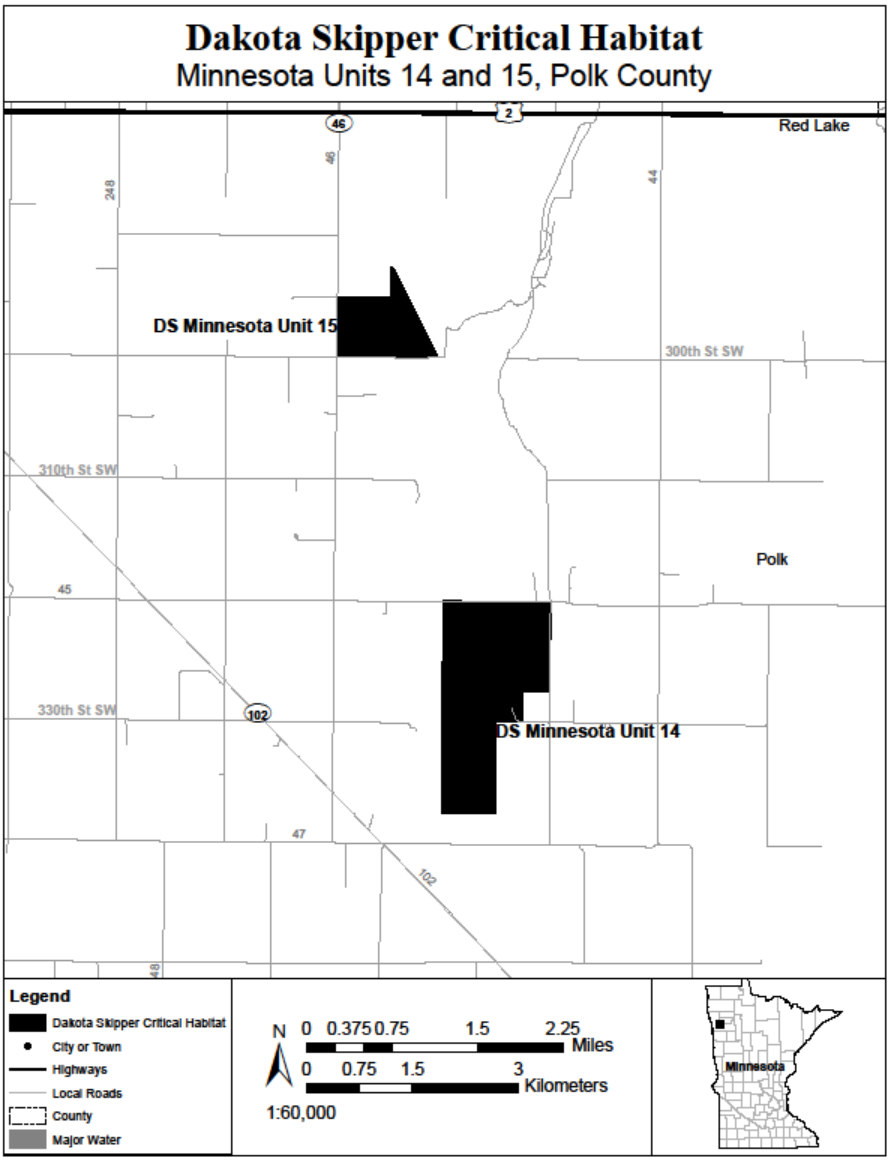
(16) DS Minnesota Unit 12, Lincoln County, Minnesota. Map of DS Minnesota Unit 12 follows:



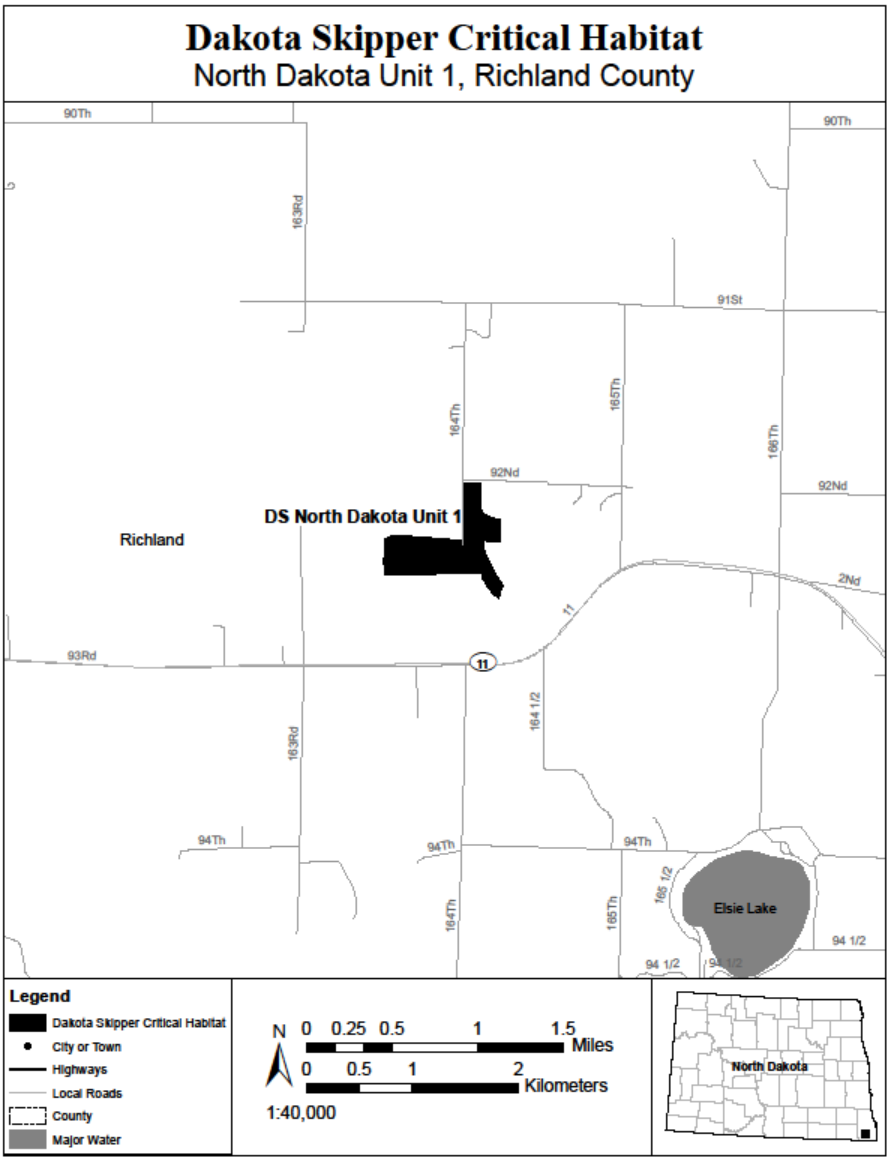
(17) DS Minnesota Unit 13, Kittison County, Minnesota. Map of DS Minnesota Unit 13 follows:



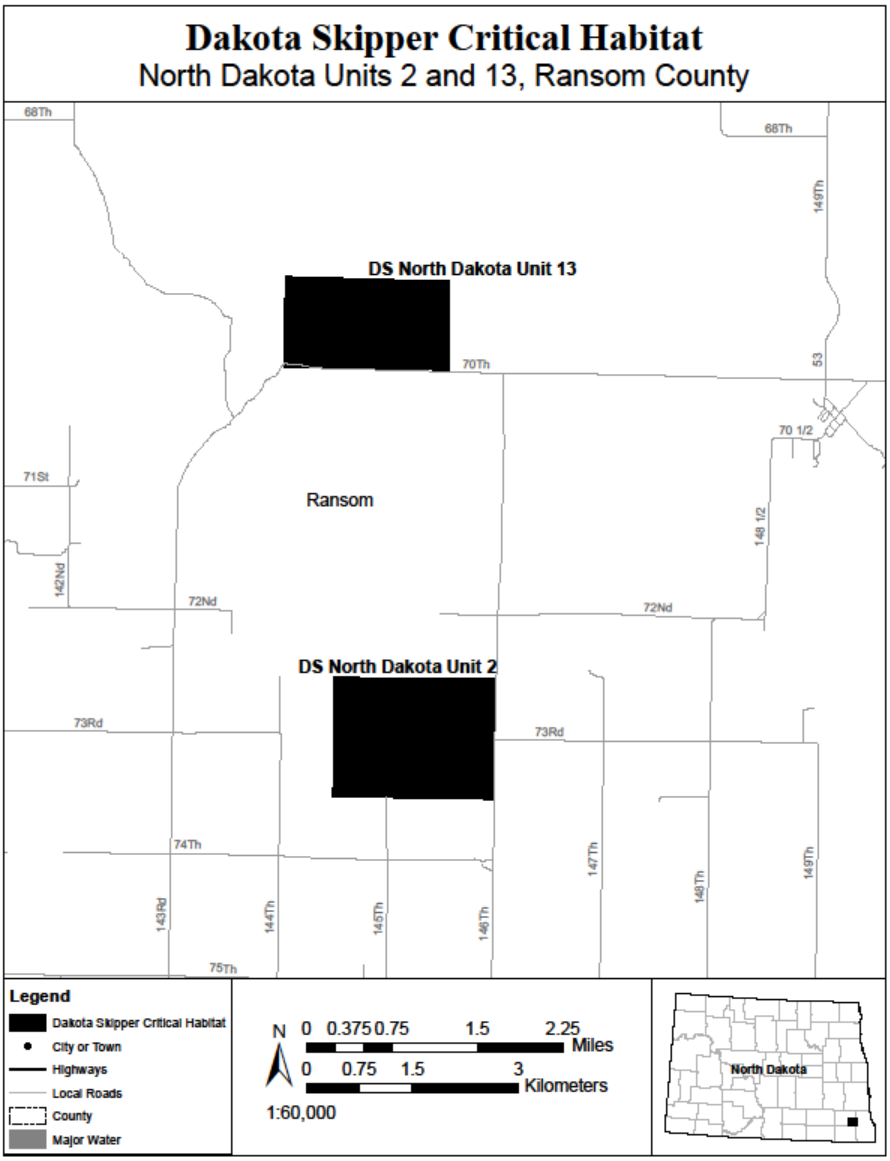
(18) DS Minnesota Units 14 and 15, Polk County, Minnesota. Map of DS Minnesota Units 14 and 15 follows:



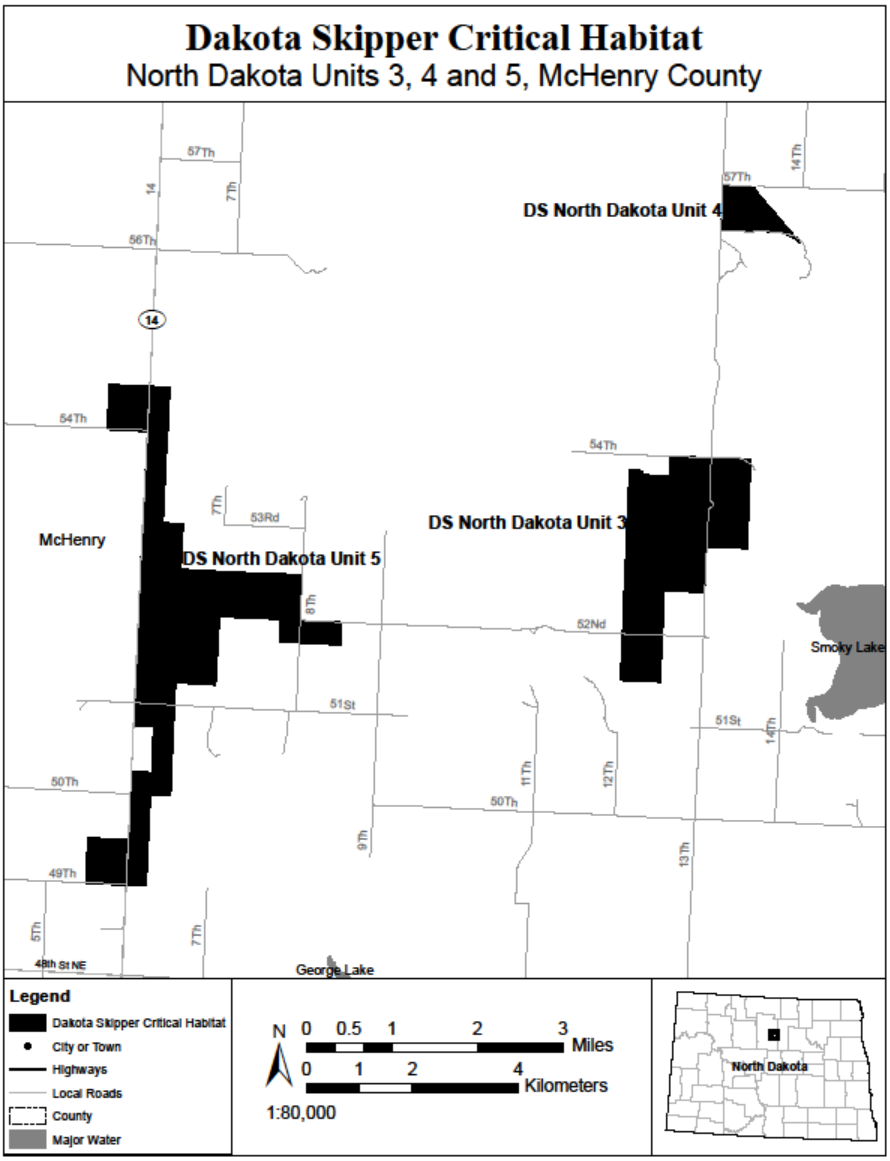
(19) DS North Dakota Unit 1, Richland County, North Dakota. Map of DS North Dakota Unit 1 follows:



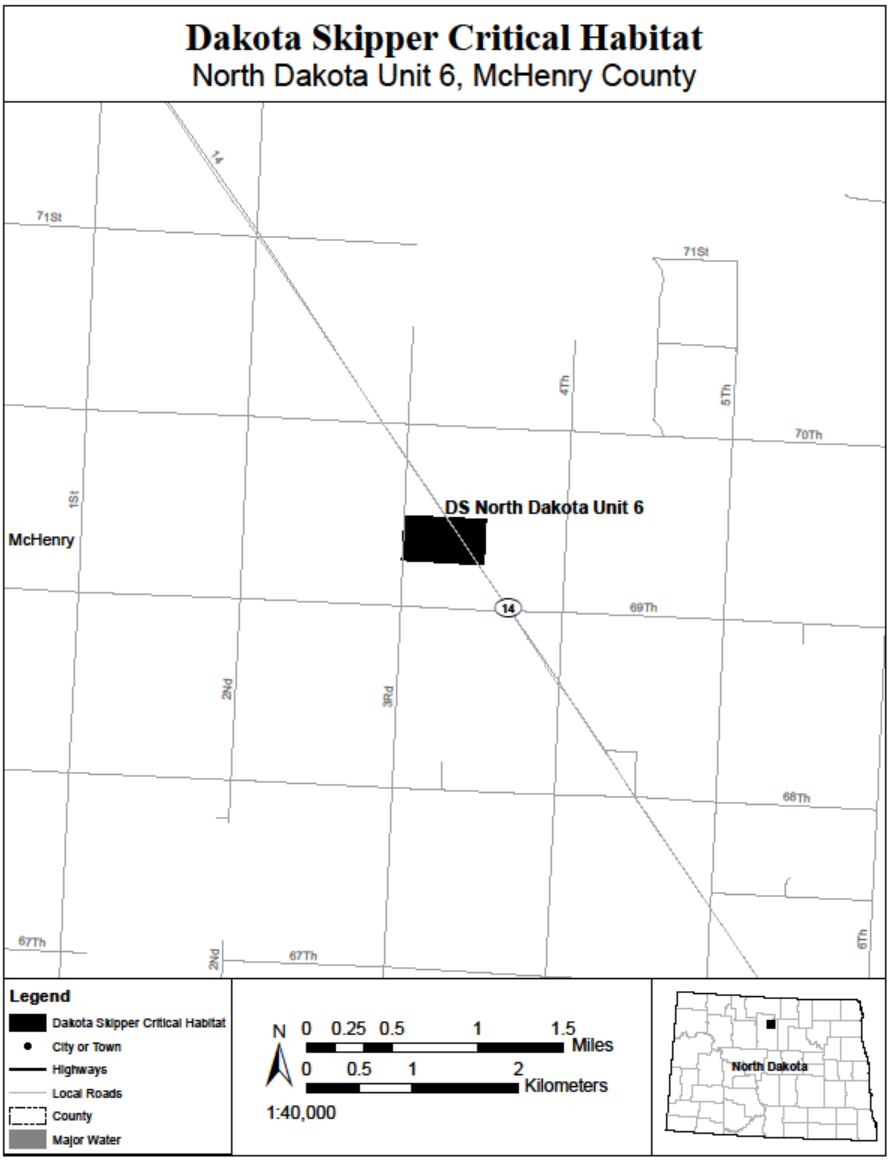
(20) DS North Dakota Units 2 and 13, Ransom County, North Dakota. Map of DS North Dakota Units 2 and 13 follows:



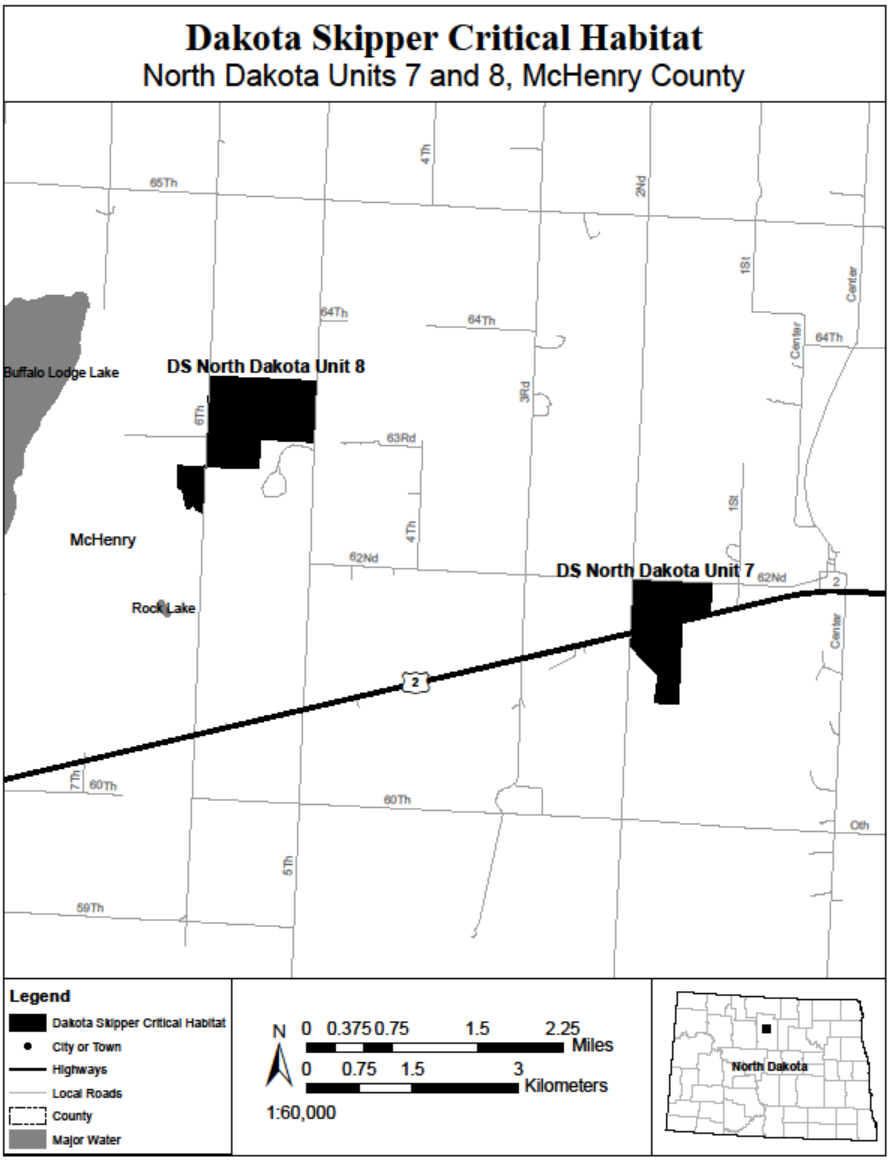
(21) DS North Dakota Units 3, 4, and 5, McHenry County, North Dakota. Map of DS North Dakota Units 3, 4, and 5 follows:



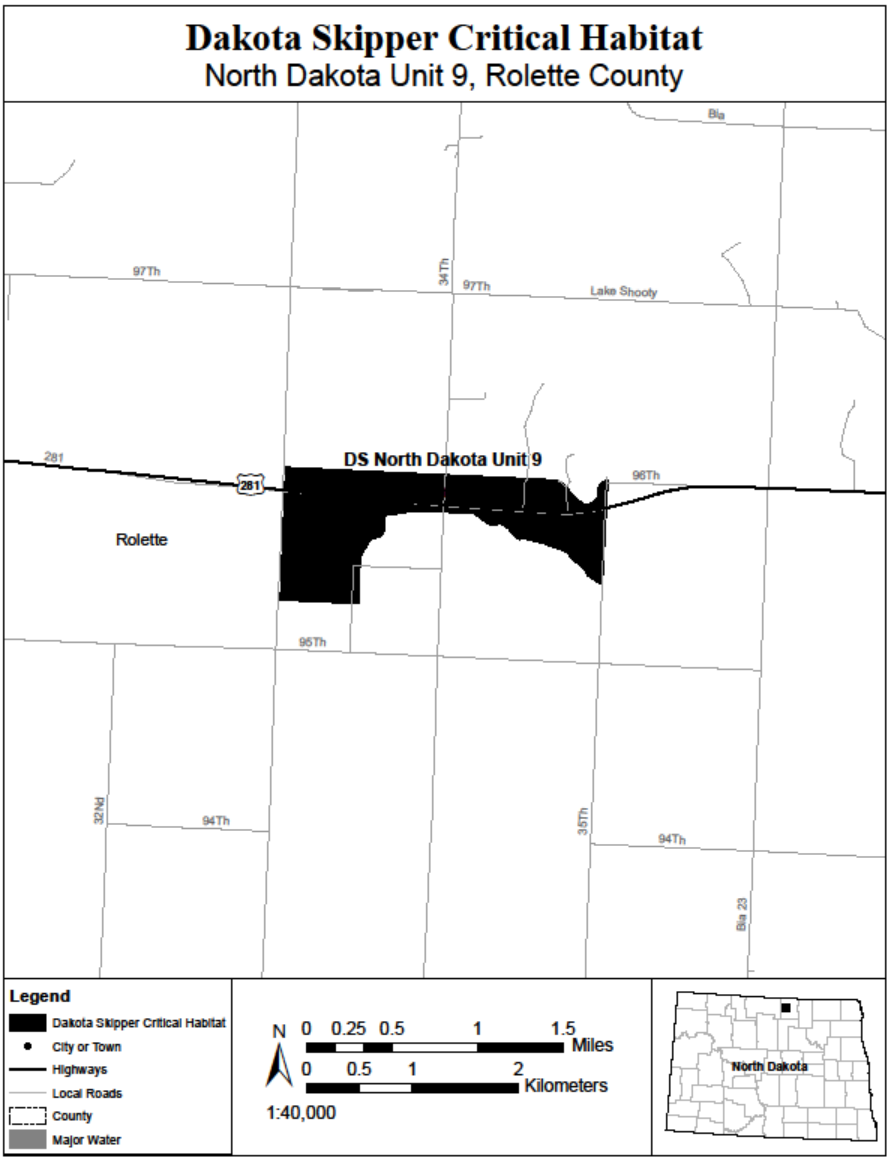
(22) DS North Dakota Unit 6, McHenry County, North Dakota. Map of DS North Dakota Unit 6 follows:



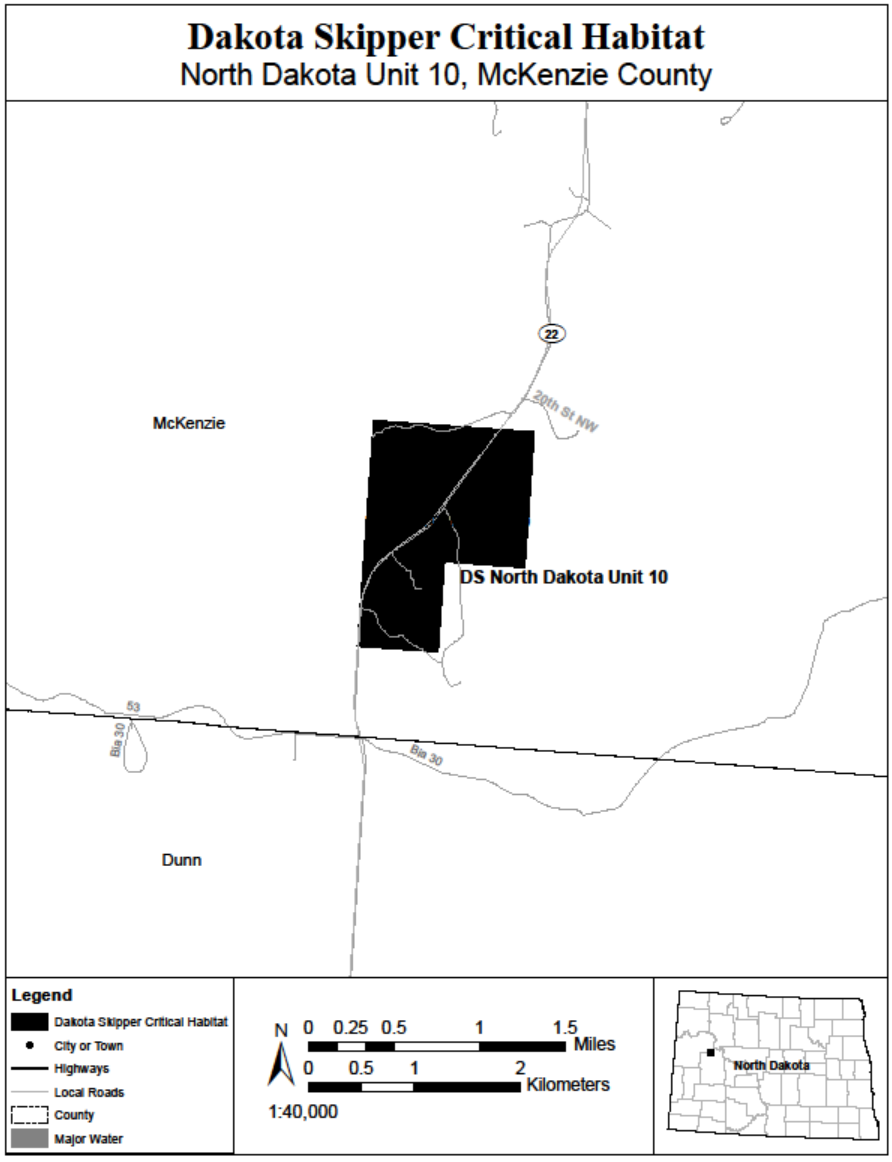
(23) DS North Dakota Units 7 and 8, McHenry County, North Dakota. Map of DS North Dakota Units 7 and 8 follows:



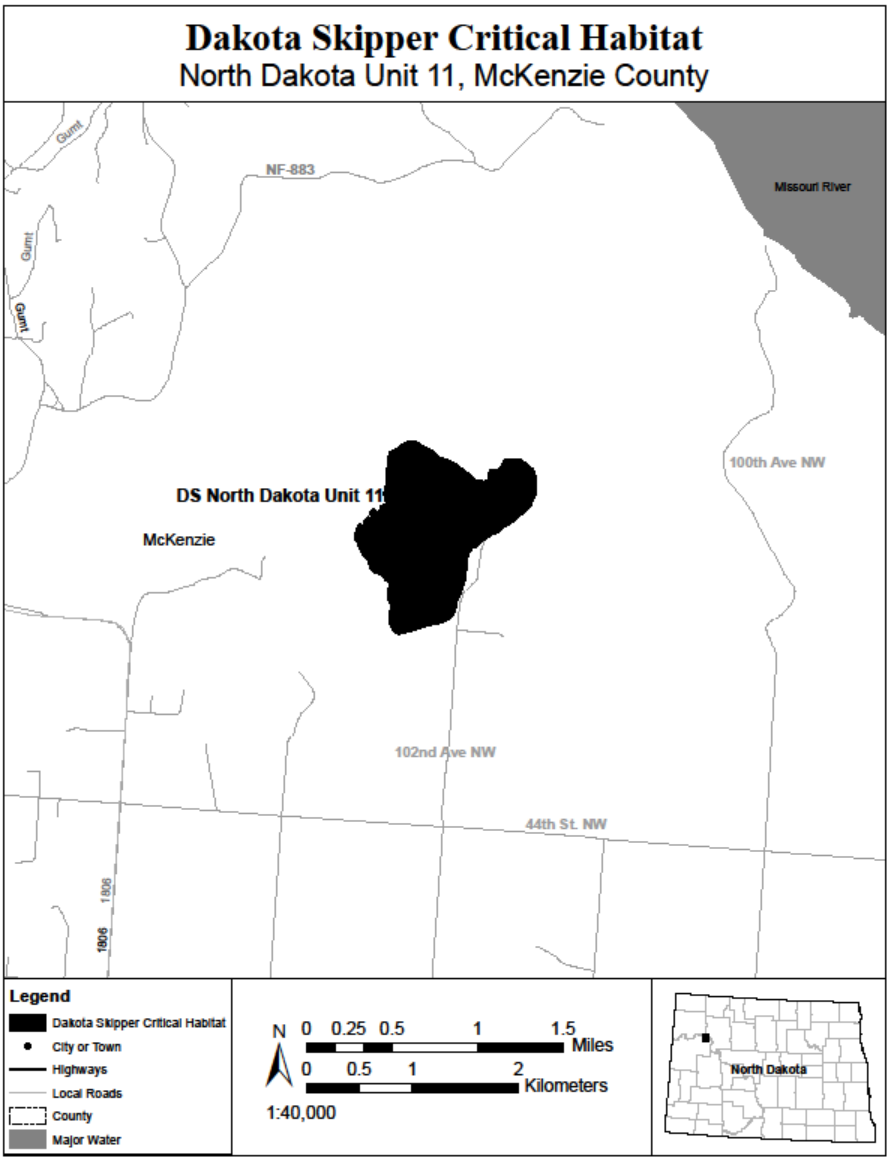
(24) DS North Dakota Unit 9, Rolette County, North Dakota. Map of DS North Dakota Unit 9 follows:



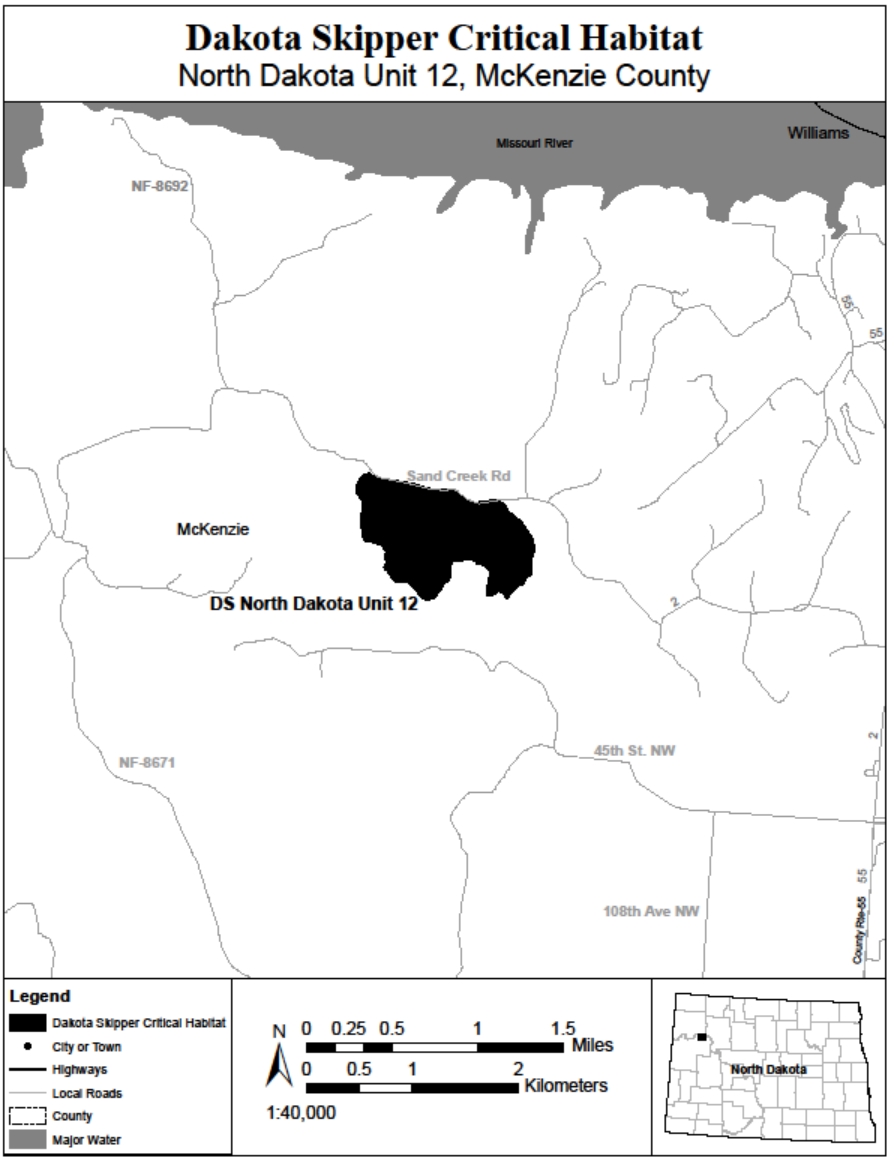
(25) DS North Dakota Unit 10, McKenzie County, North Dakota. Map of DS North Dakota Unit 10 follows:



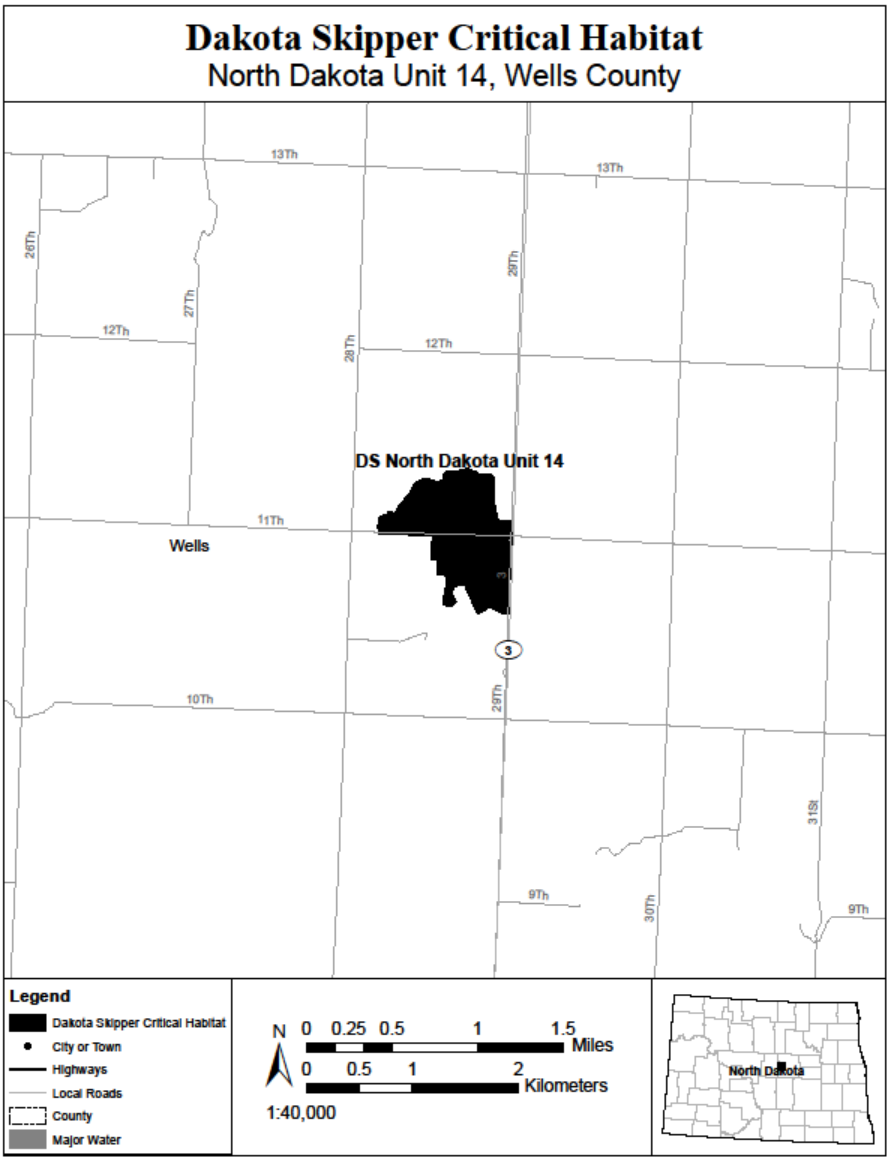
(26) DS North Dakota Unit 11, McKenzie County, North Dakota. Map of DS North Dakota Unit 11 follows:



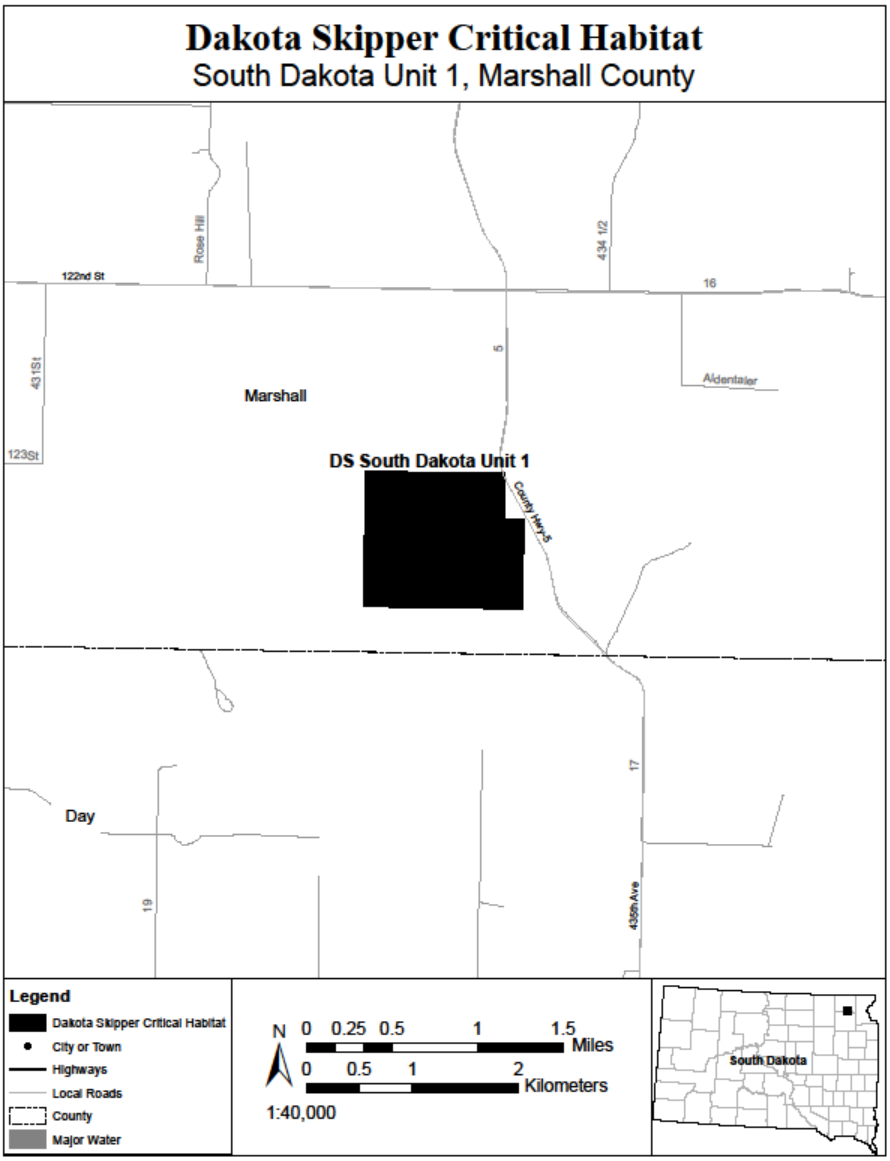
(27) DS North Dakota Unit 12, McKenzie County, North Dakota. Map of DS North Dakota Unit 12 follows:



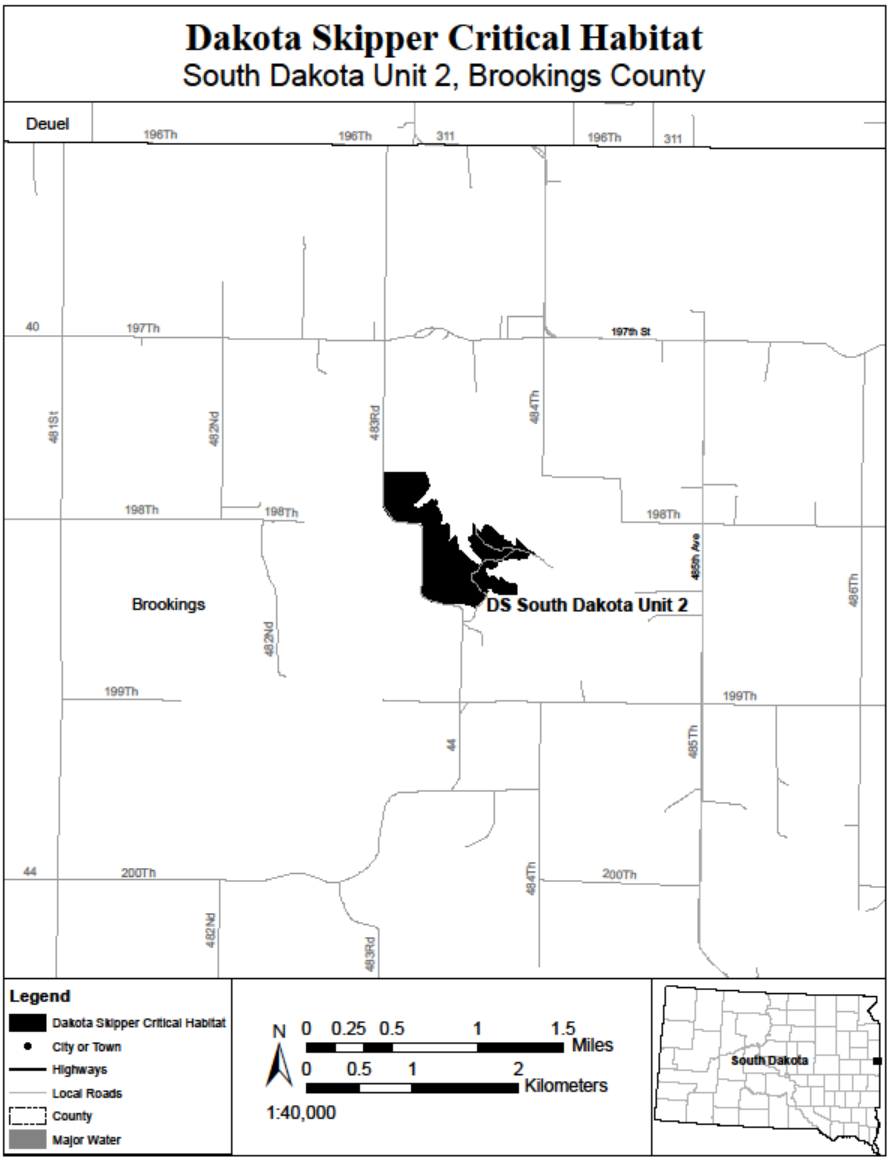
(28) DS North Dakota Unit 14, Wells County, North Dakota. Map of DS North Dakota Unit 14 follows:



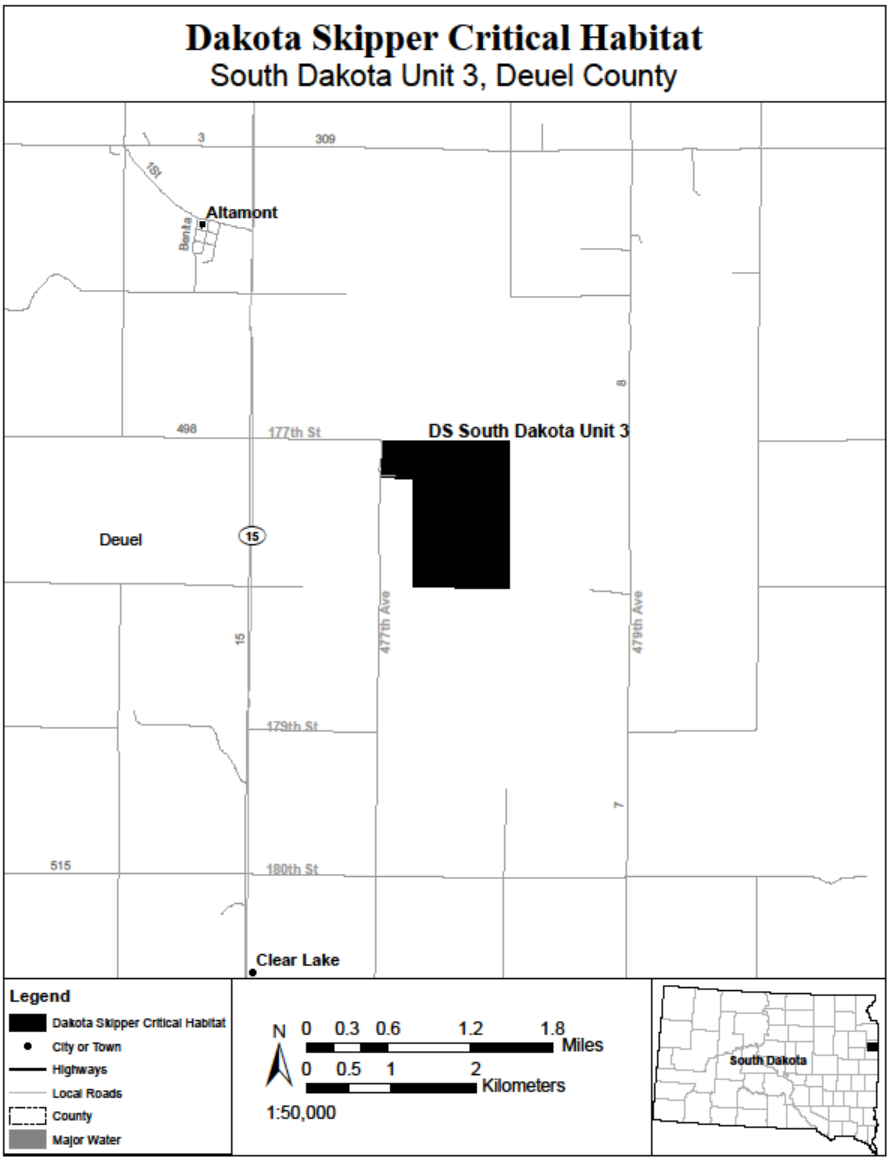
(29) DS South Dakota Unit 1, Marshall County, South Dakota. Map of DS South Dakota Unit 1 follows:



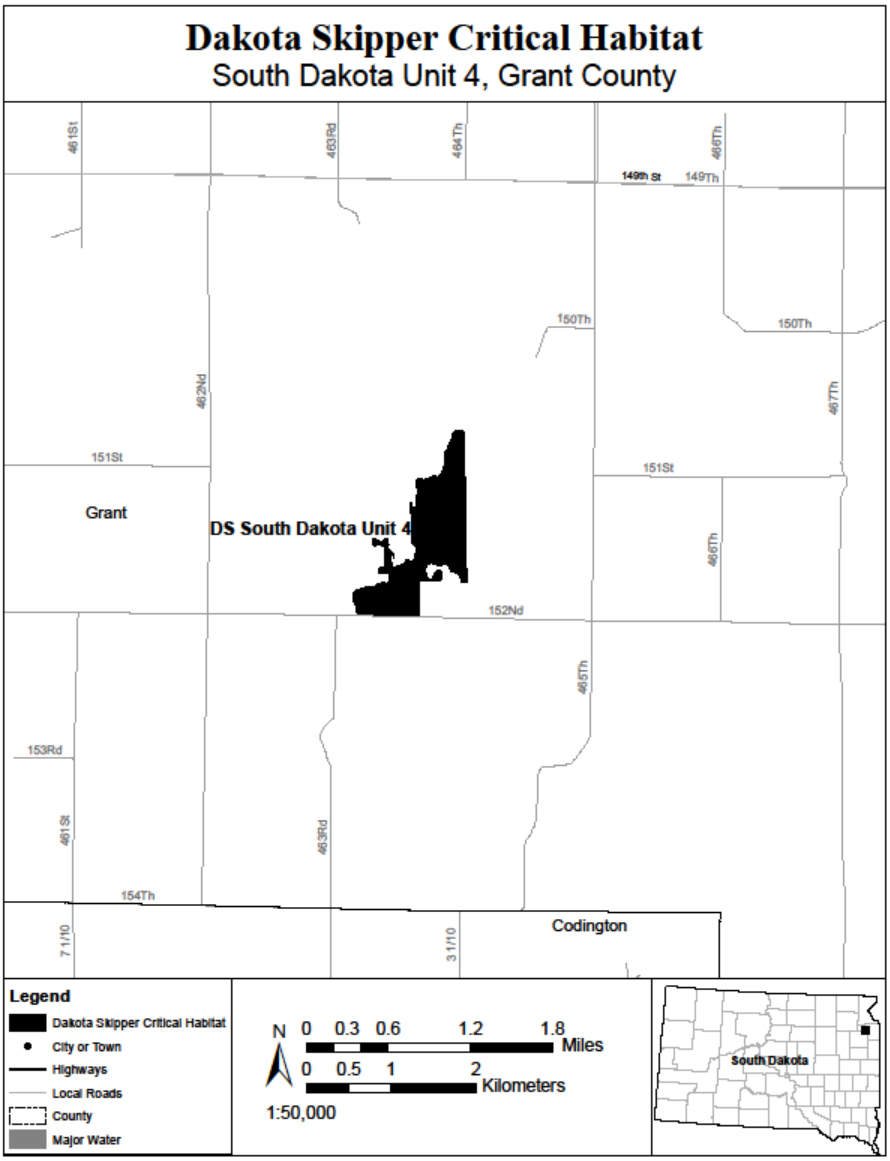
(30) DS South Dakota Unit 2, Brookings County, South Dakota. Map of DS South Dakota Unit 2 follows:



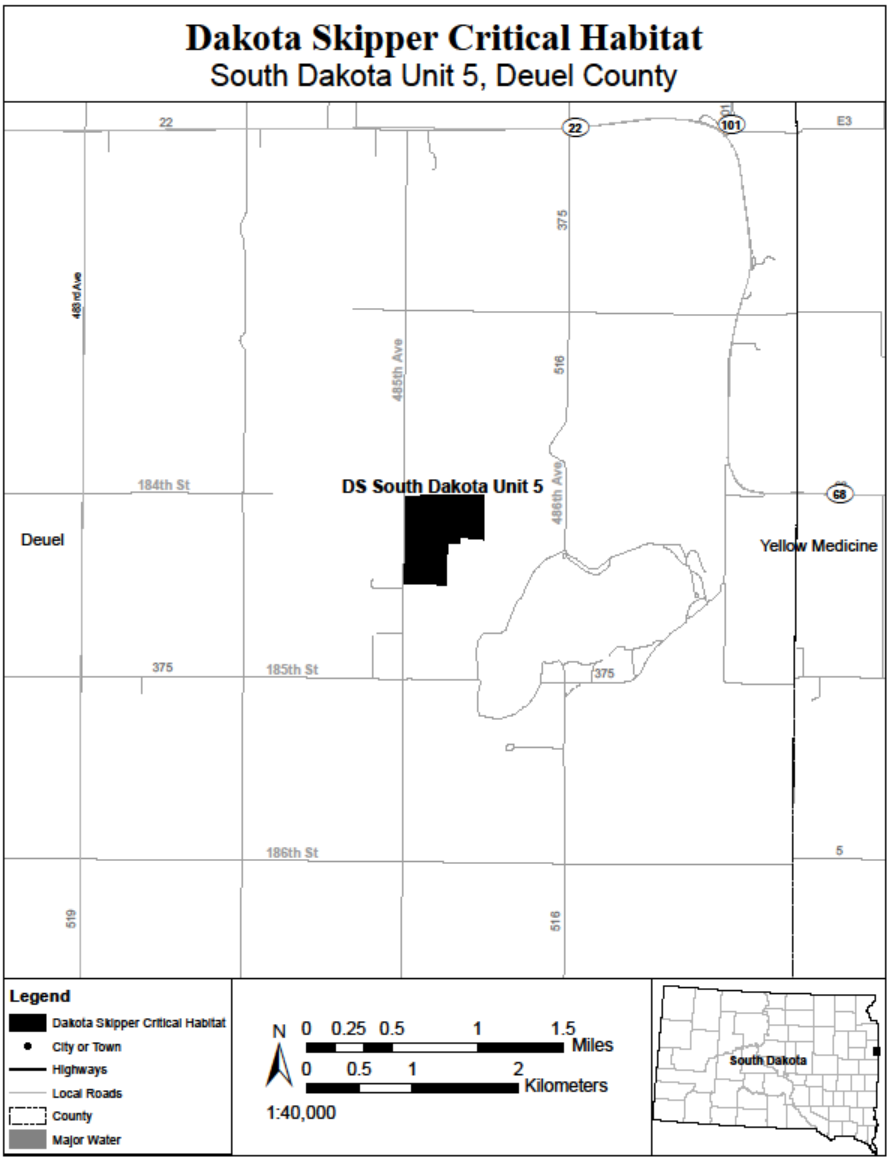
(31) DS South Dakota Unit 3, Deuel County, South Dakota. Map of DS South Dakota Unit 3 follows:



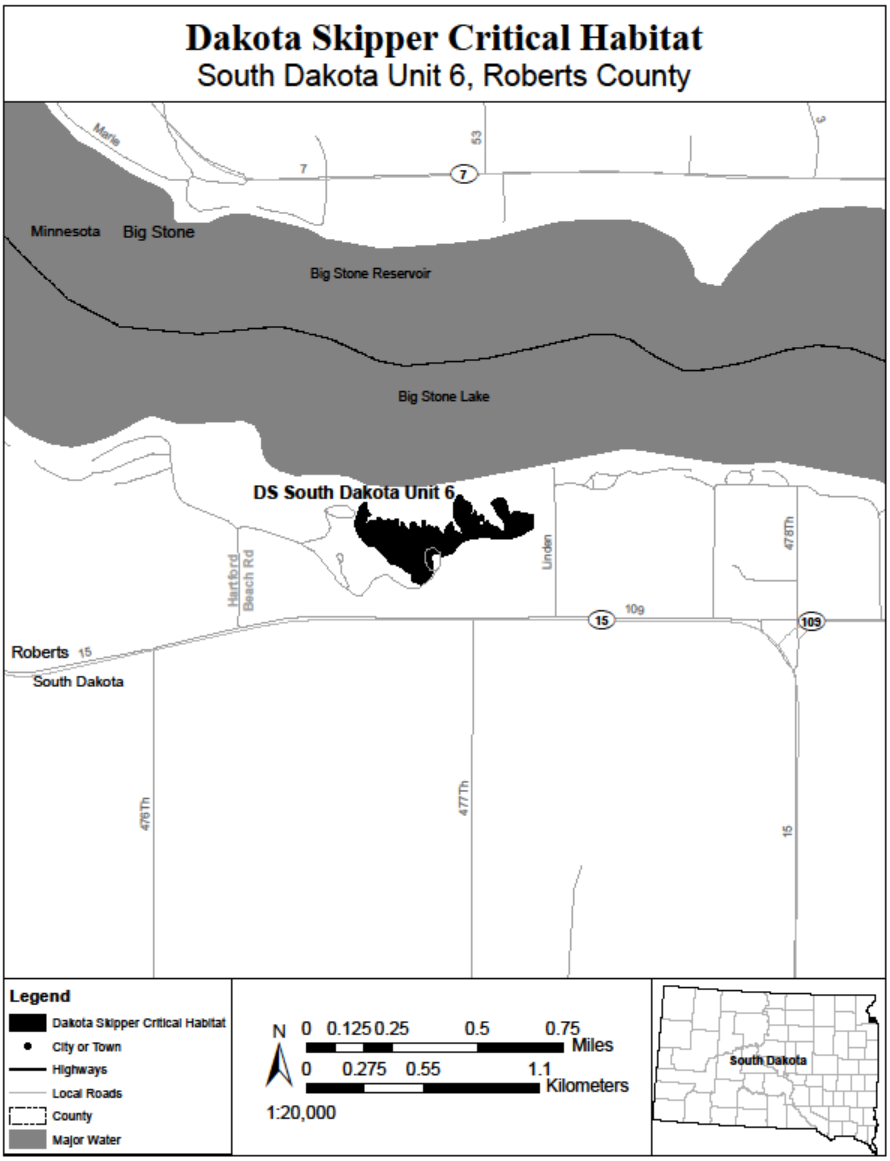
(32) DS South Dakota Unit 4, Grant County, South Dakota. Map of DS South Dakota Unit 4 follows:



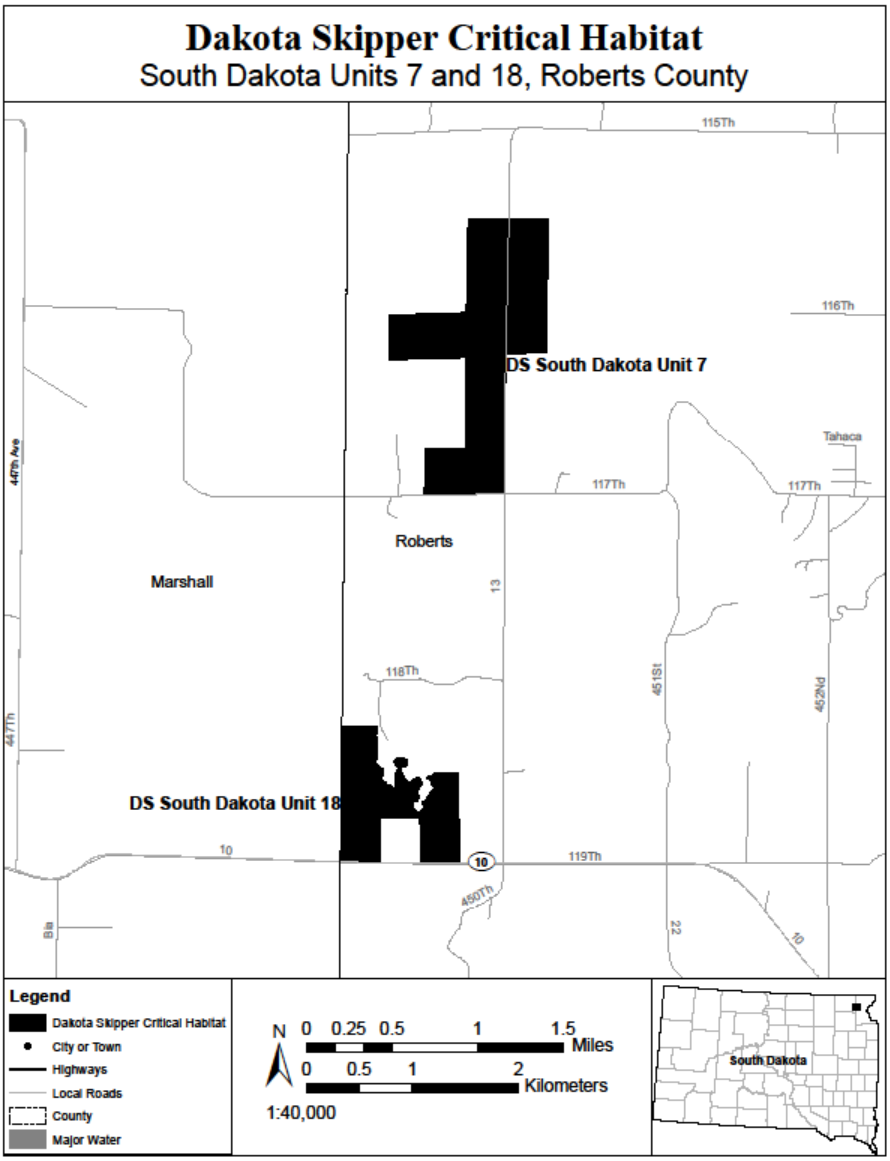
(33) DS South Dakota Unit 5, Deuel County, South Dakota. Map of DS South Dakota Unit 5 follows:



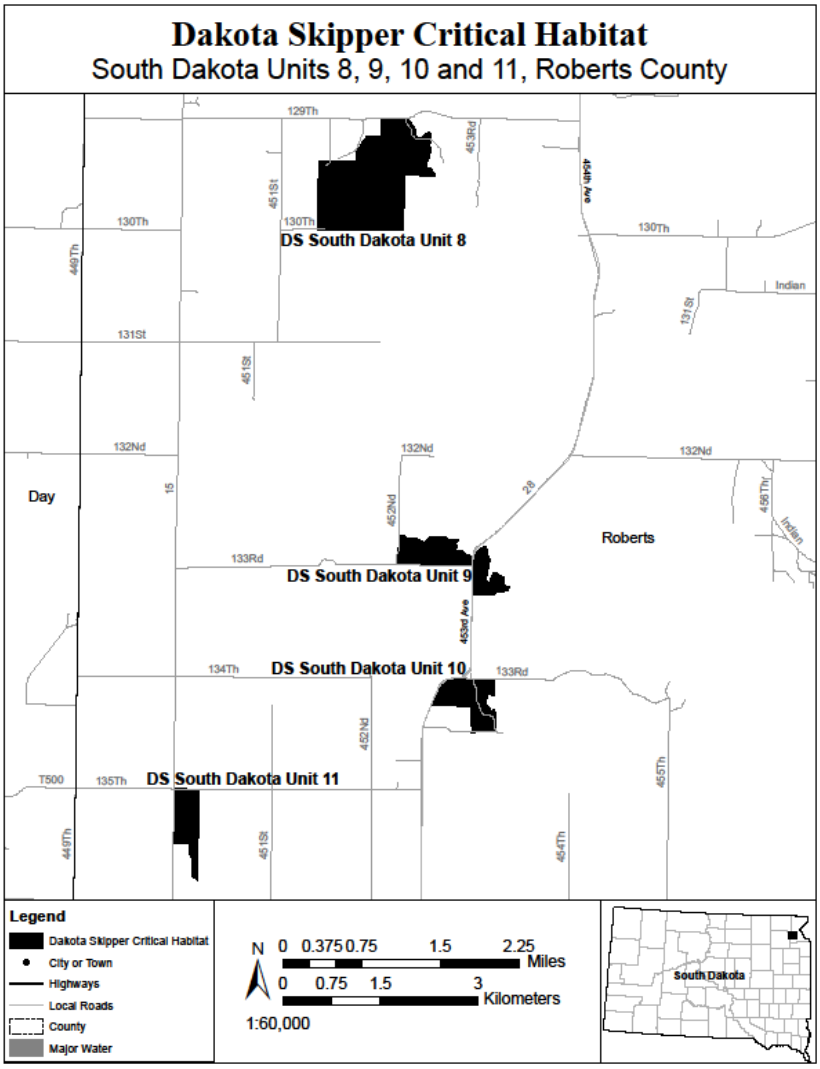
(34) DS South Dakota Unit 6, Roberts County, South Dakota. Map of DS South Dakota Unit 6 follows:



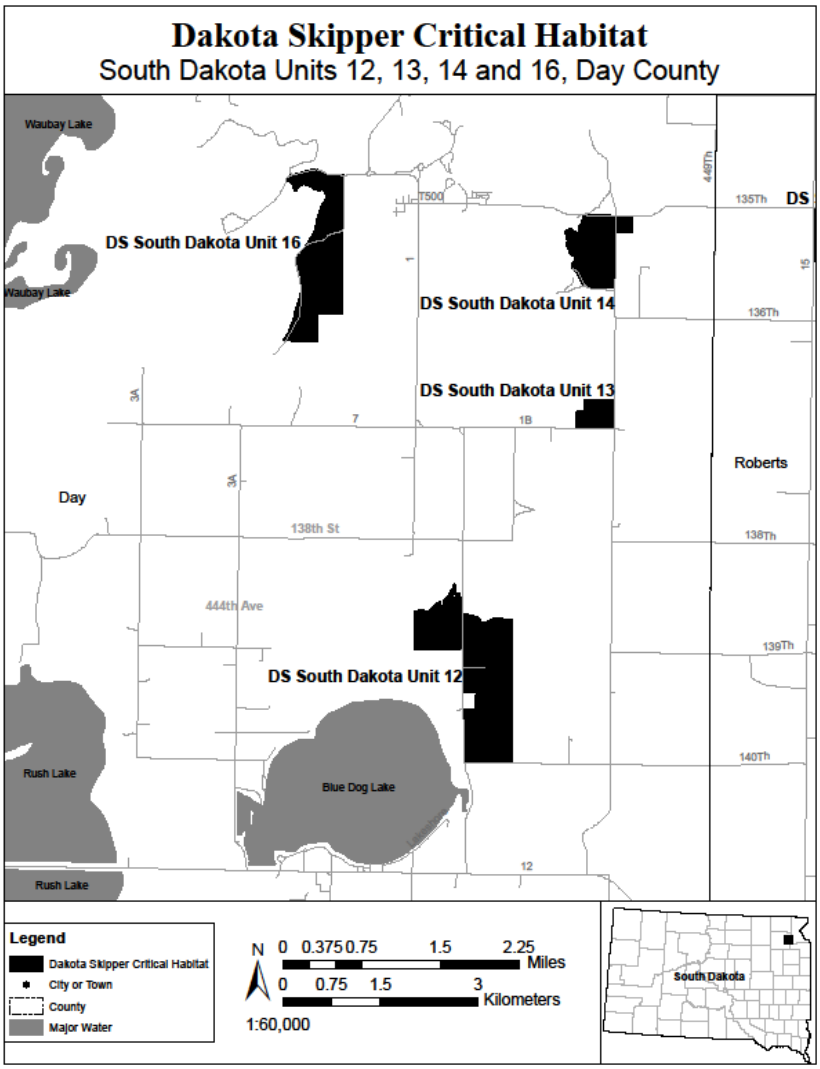
(35) DS South Dakota Units 7 and 18, Roberts County, South Dakota. Map of DS South Dakota Units 7 and 18 follows:



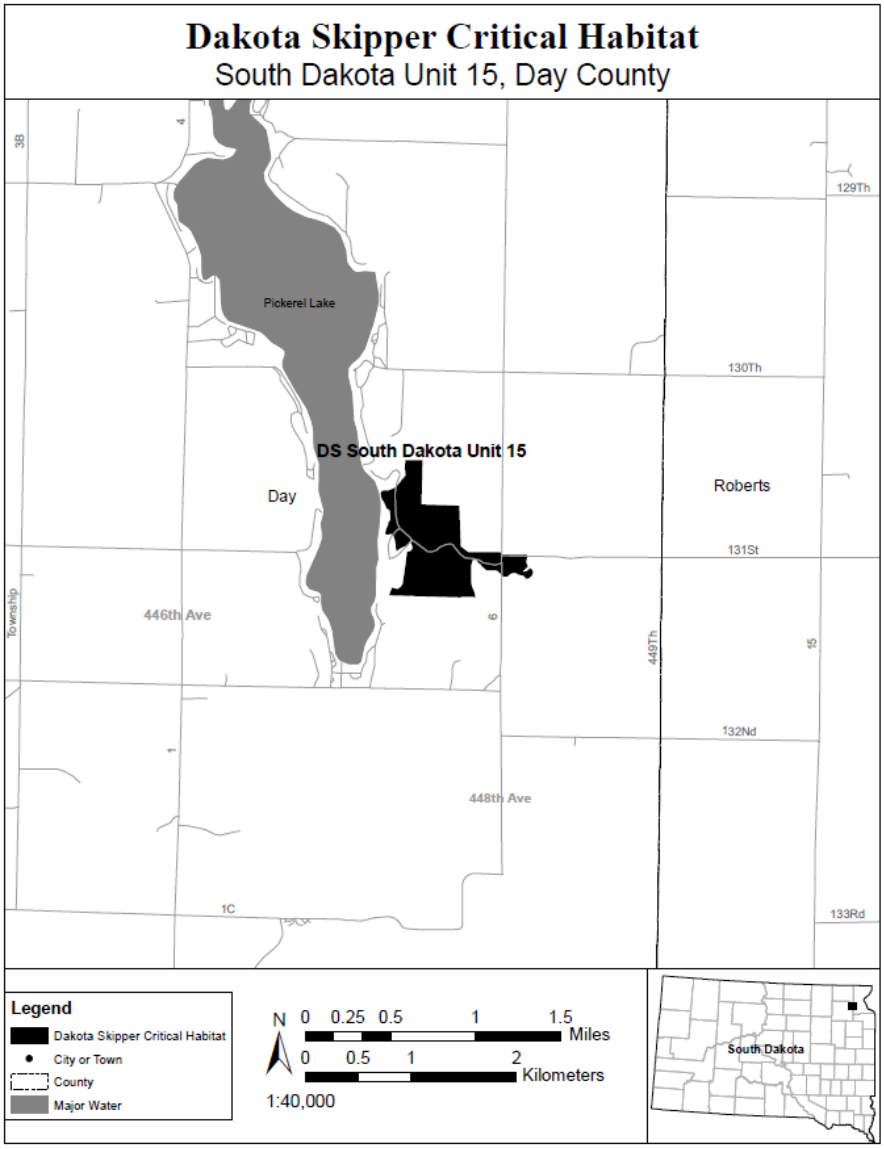
(36) DS South Dakota Units 8, 9, 10, and 11, Roberts County, South Dakota. Map of DS South Dakota Unit 8, 9, 10, and 11 follows:



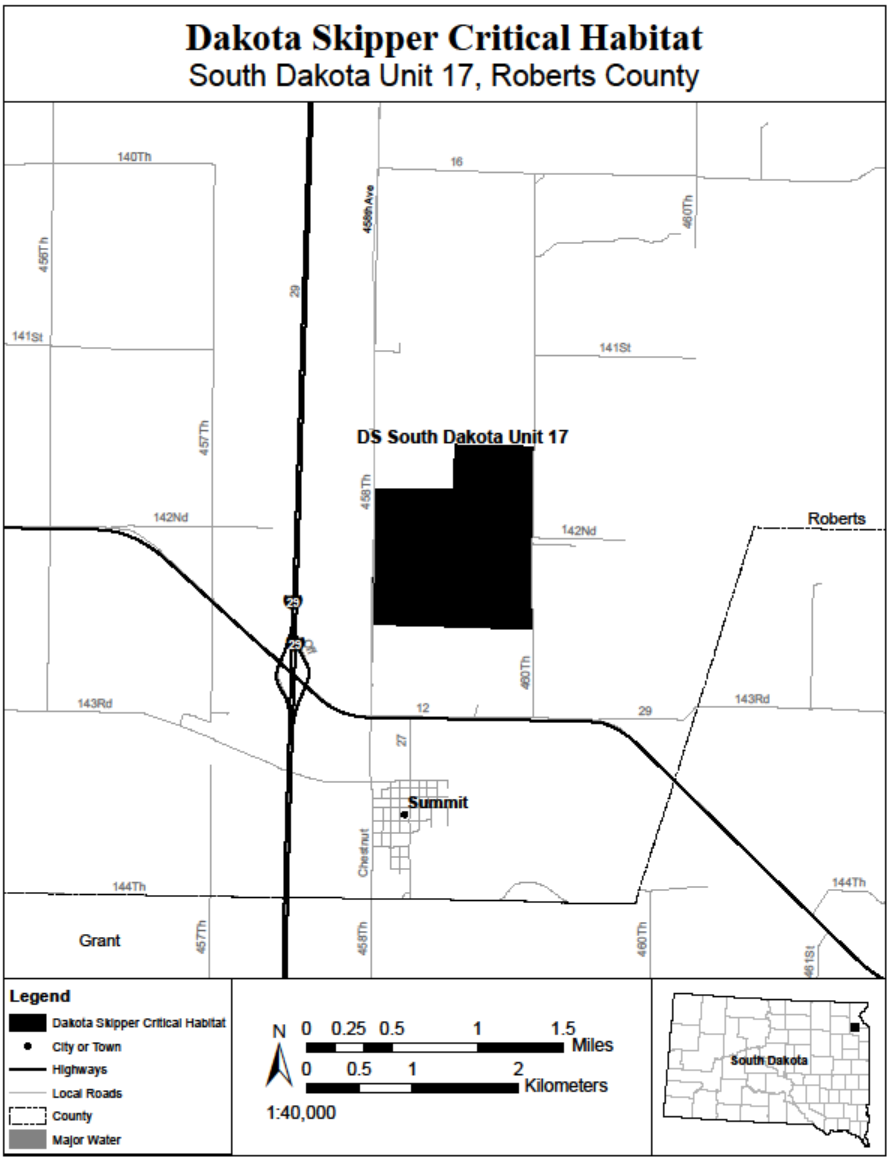
(37) DS South Dakota Unit 12, 13, 14, and 16, Day County, South Dakota. Map of DS South Dakota Unit 12, 13, 14, and 16 follows:



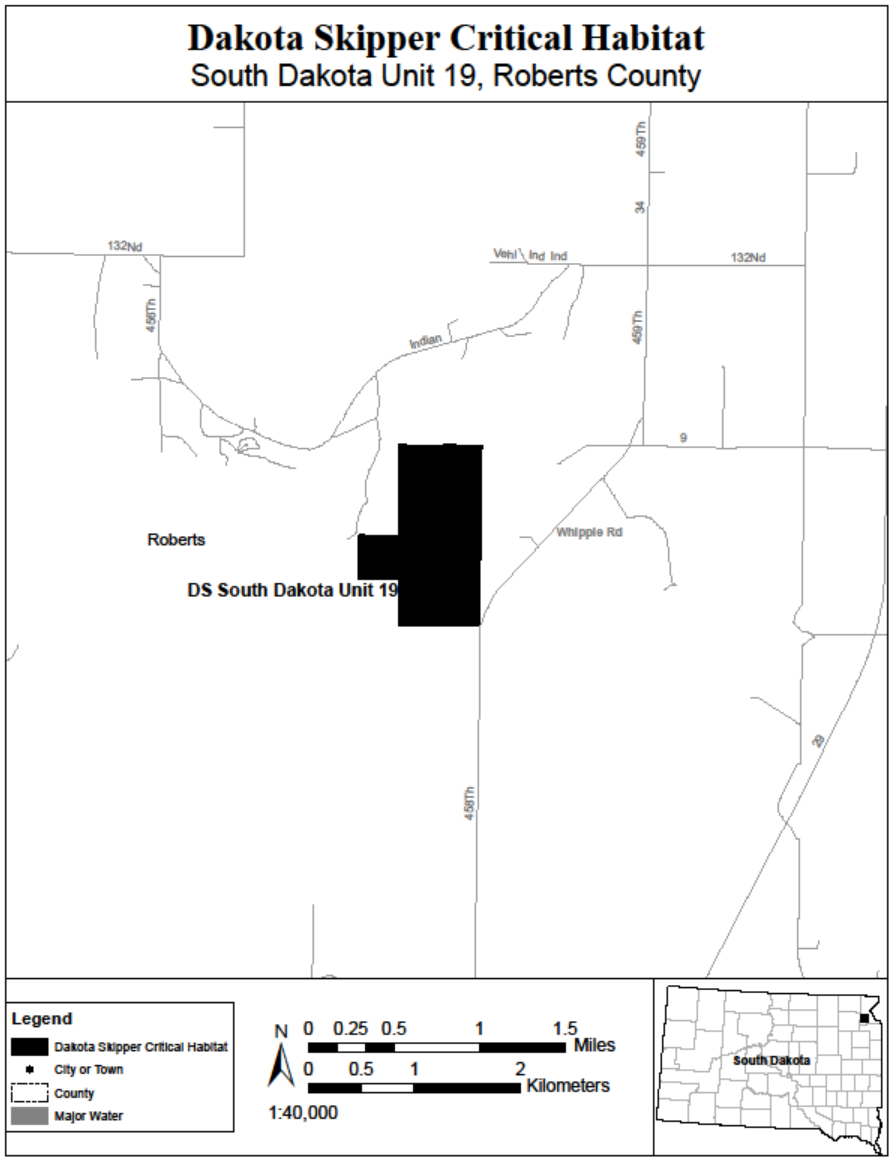
(38) DS South Dakota Unit 15, Day County, South Dakota. Map of DS South Dakota Unit 15 follows:



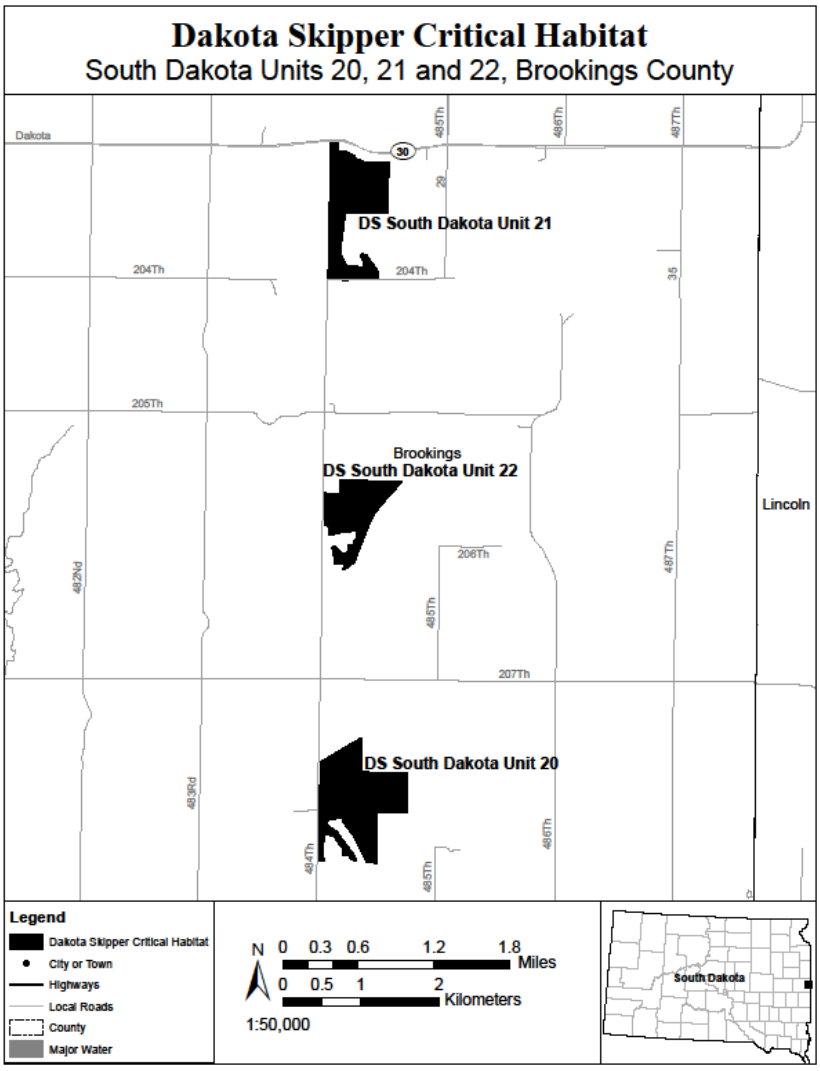
(39) DS South Dakota Unit 17, Roberts County, South Dakota. Map of DS South Dakota Unit 17 follows:



(40) DS South Dakota Unit 19, Roberts County, South Dakota. Map of DS South Dakota Unit 19 follows:



(41) DS South Dakota Units 20, 21, and 22, Brookings County, South Dakota. Map of DS South Dakota Units 20, 21, and 22 follows:



* * * * *

Poweshiek Skipperling *(Oarisma poweshiek)*

(1) Critical habitat units are designated for Cerro Gordo, Dickinson, Emmet, Howard,

Kossuth, and Osceola Counties in Iowa; in Hilsdale, Jackson, Lenawee, Livingston, Oakland, and Washtenaw Counties in Michigan; Chippewa, Clay, Cottonwood, Douglas, La Qui Parle, Lincoln, Lyon, Mahnomen, Murray, Norman, Pipestone, Pope, Swift, and Wilkin Counties in Minnesota; Ransom, Richland, and Sargent Counties in North Dakota; Brookings, Day, Deuel, Grant, Marshall, Moody, and Roberts Counties in South Dakota; and Green Lake and Waukesha Counties in Wisconsin.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of Poweshiek skipperling consist of four components:

(i) Primary Constituent Element 1—Wet-mesic to dry tallgrass remnant untilled prairies or remnant moist meadows containing:

(A) A predominance of native grasses and native flowering forbs;

(B) Undisturbed (untilled) glacial soil types including, but not limited to, loam, sandy loam, loamy sand, gravel, organic soils (peat), or marl that provide the edaphic features conducive to Poweshiek skipperling larval survival and native-prairie vegetation;

(C) Depressional wetlands or low wet areas, within or adjacent to prairies that provide shelter from high summer temperatures and fire;

(D) If present, trees or large shrub cover less than 5 percent of area in dry prairies and less than 25 percent in wet-mesic prairies and prairie fens; and

(E) If present, nonnative invasive plant species occurring in less than 5 percent of area.

(ii) Primary Constituent Element 2—Prairie fen habitats containing:

(A) A predominance of native grasses and native flowering forbs;

(B) Undisturbed (untilled) glacial soil types including, but not limited to, organic soils (peat), or marl that provide the edaphic features conducive to Poweshiek skipperling larval survival and native-prairie vegetation;

(C) Depressional wetlands or low wet areas, within or adjacent to prairies that provide shelter from high summer temperatures and fire;

(D) Hydraulic features necessary to maintain prairie fen groundwater flow and prairie fen plant communities;

(E) If present, trees or large shrub cover less than 25 percent of the unit; and

(F) If present, nonnative invasive plant species occurring in less than 5 percent of area.

(iii) Primary Constituent Element 3—Native grasses and native flowering forbs for larval and adult food and shelter, specifically:

(A) At least one of the following native grasses available to provide larval food and shelter sources during Poweshiek skipperling larval stages: prairie dropseed *(Sporobolus heterolepis),* little bluestem *(Schizachyrium scoparium),* sideoats grama *(Bouteloua curtipendula),* or mat muhly *(Muhlenbergia richardsonis);* and

(B) At least one of the following forbs in bloom to provide nectar and water sources during the Poweshiek skipperling flight period: purple coneflower *(Echinacea angustifolia),* black-eyed Susan *(Rudbeckia hirta),* smooth ox-eye *(Heliopsis helianthoides),* stiff tickseed *(Coreopsis palmata),* palespike lobelia *(Lobelia spicata),*

sticky tofieldia *(Triantha glutinosa),* or shrubby cinquefoil *(Dasiphora fruticosa* ssp. *floribunda).*

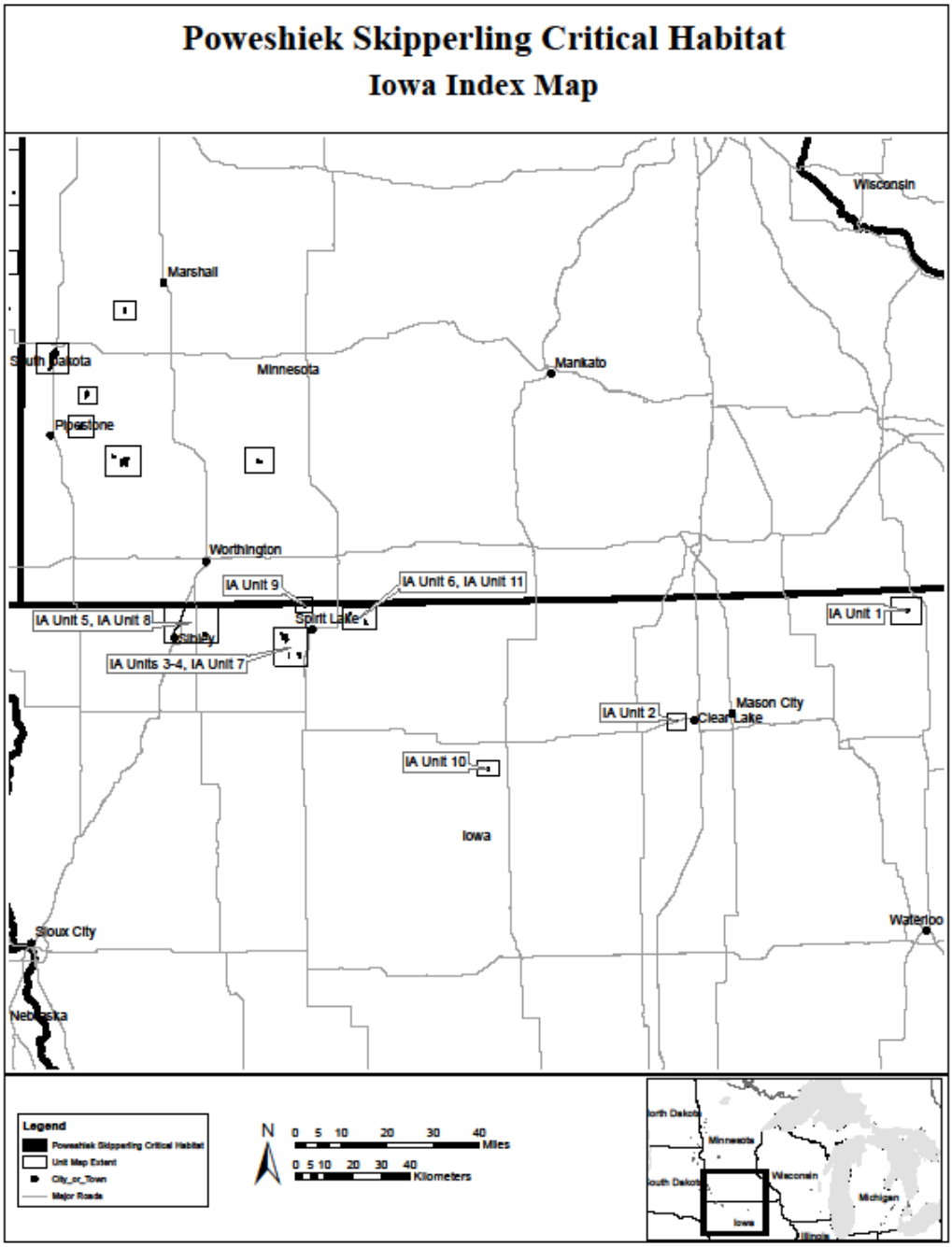
(iv) Primary Constituent Element 4—Dispersal grassland habitat that is within 1 km (0.6 mi) of native high-quality remnant prairie (as defined in Primary Constituent Element 1) that connects high-quality wet-mesic to dry tallgrass prairies, moist meadows, or prairie fen habitats. Dispersal grassland habitat consists of the following physical characteristics appropriate for supporting Poweshiek skipperling dispersal; undeveloped open areas dominated by perennial grassland with limited or no barriers to dispersal including tree or shrub cover less than 25 percent of the area and no row crops such as corn, beans, potatoes, or sunflowers.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on [INSERT EFFECTIVE DATE OF FINAL RULE].

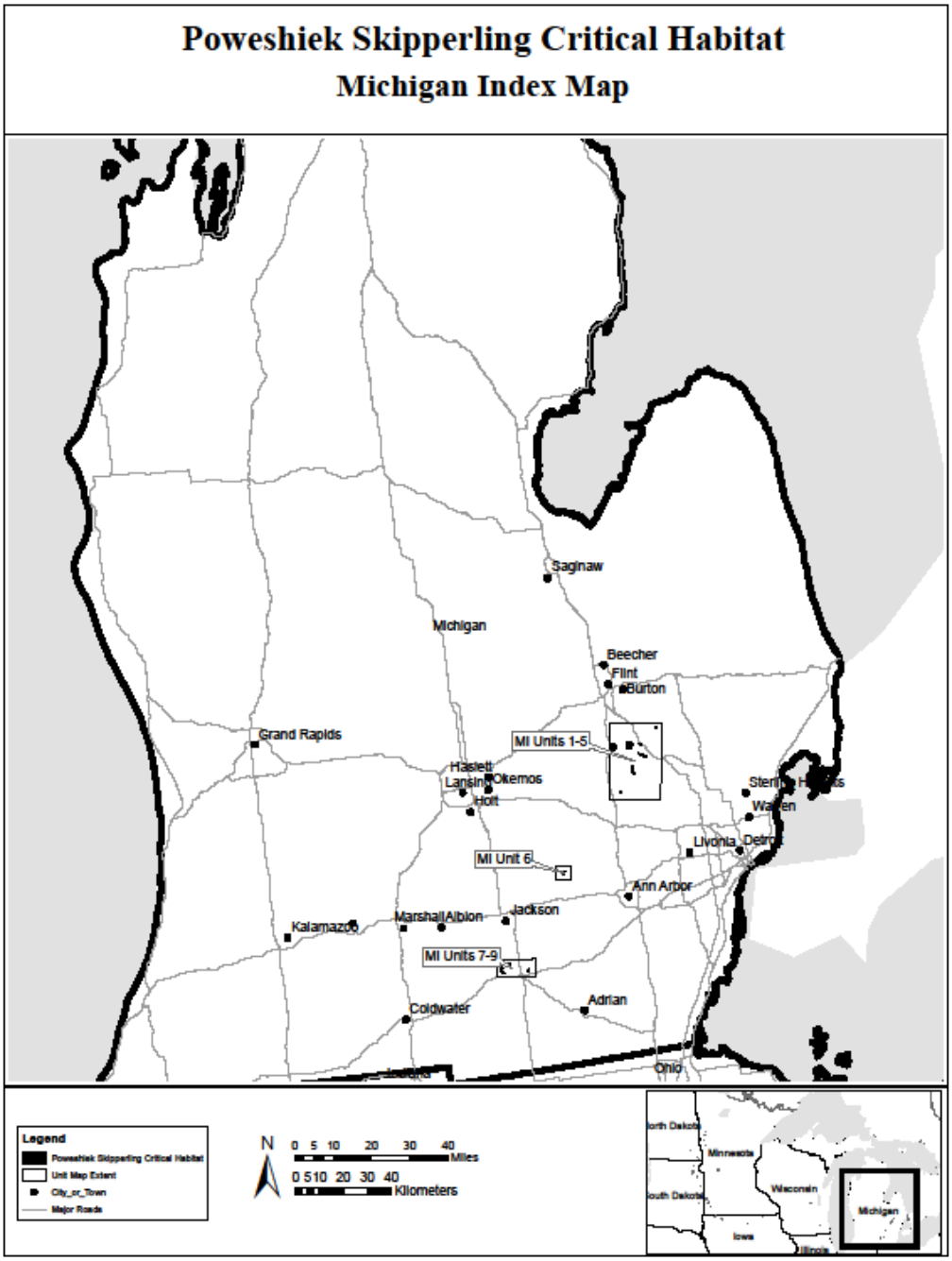
(4) Critical habitat map units. Data layers defining map units were created created and digitized using ESRI's ArcMap (version 10.0) and comparing USGS NAIP/FSA high-resolution orthophotography from 2010 or later and previously mapped skipper habitat polygons submitted by contracted researchers or prairie habitat polygons made available from Minnesota Department of Natural Resources' County Biological Survey. Critical habitat units then were mapped in Geographic Coordinate System WGS84. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the

Service's internet site (http://www.fws.gov/midwest/Endangered/), at *http://www.regulations.gov* at Docket No. FWS–R3–ES–2013–0017, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

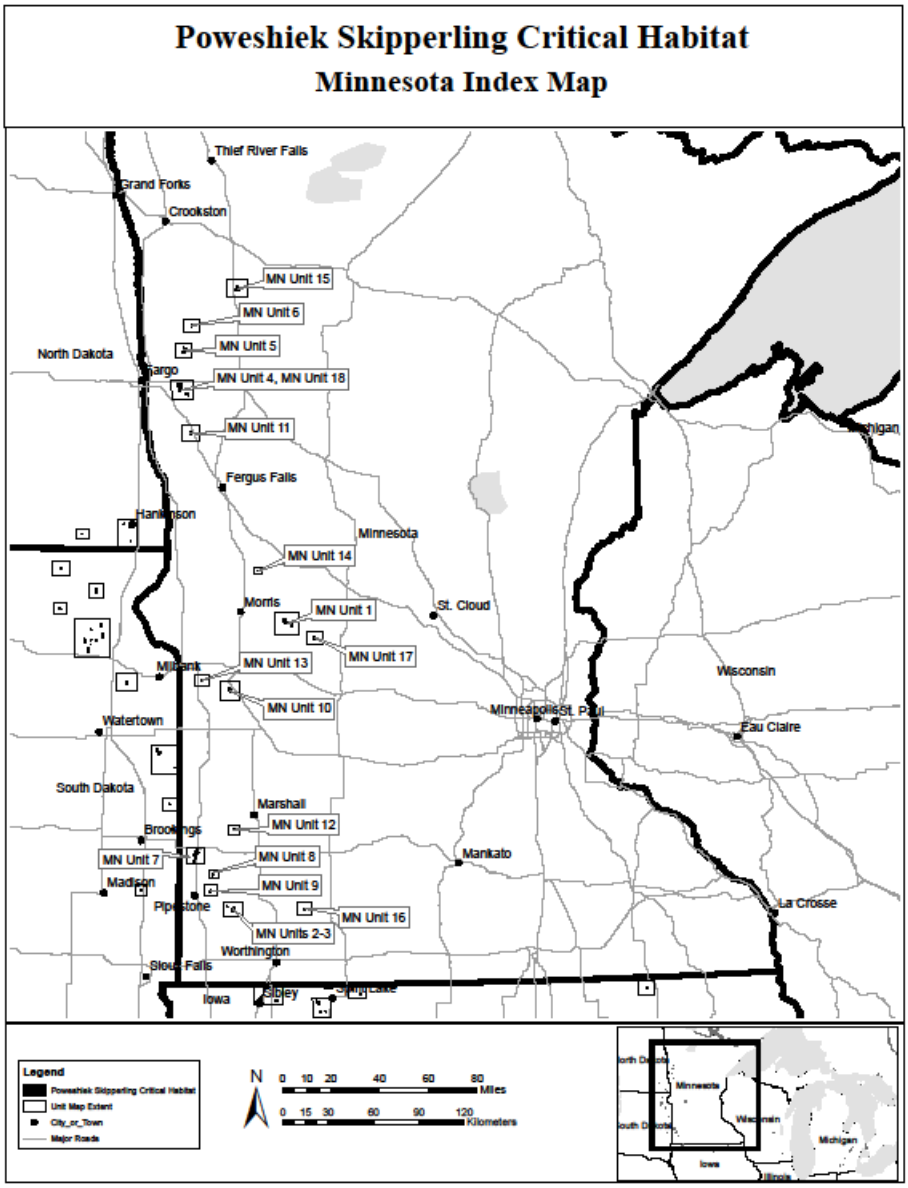
(5) Iowa index map follows:



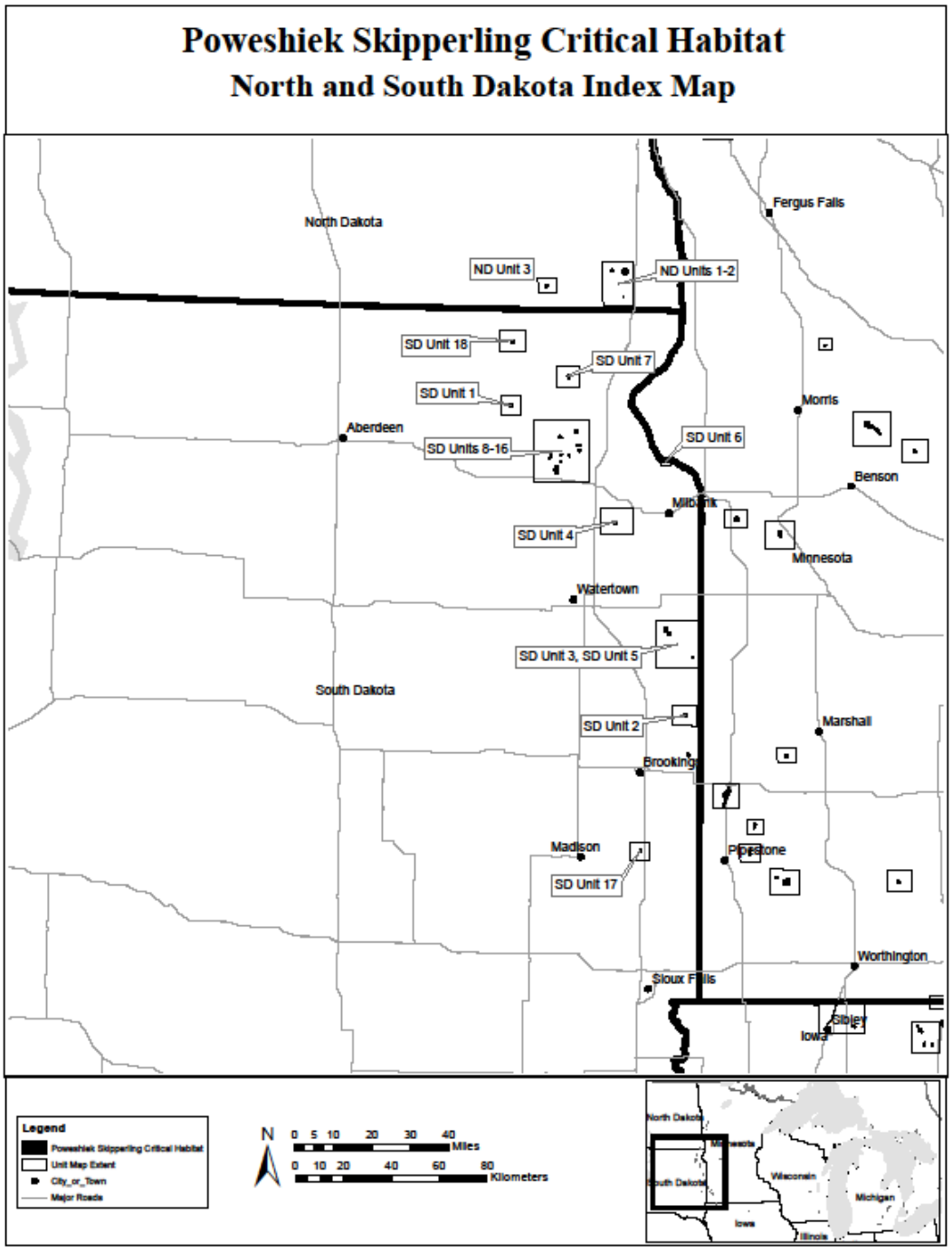
(6) Michigan index map follows:



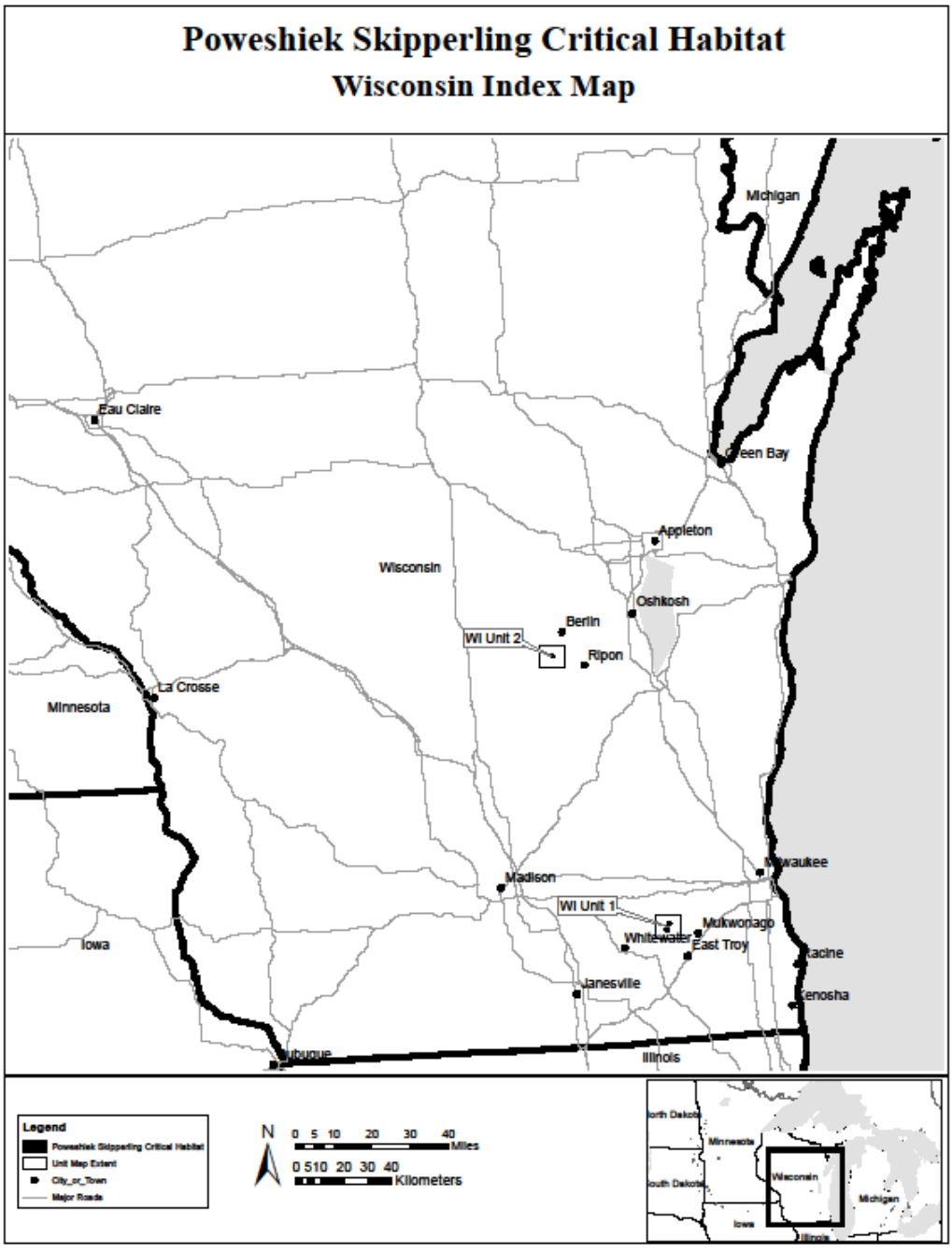
(7) Minnesota index map follows:



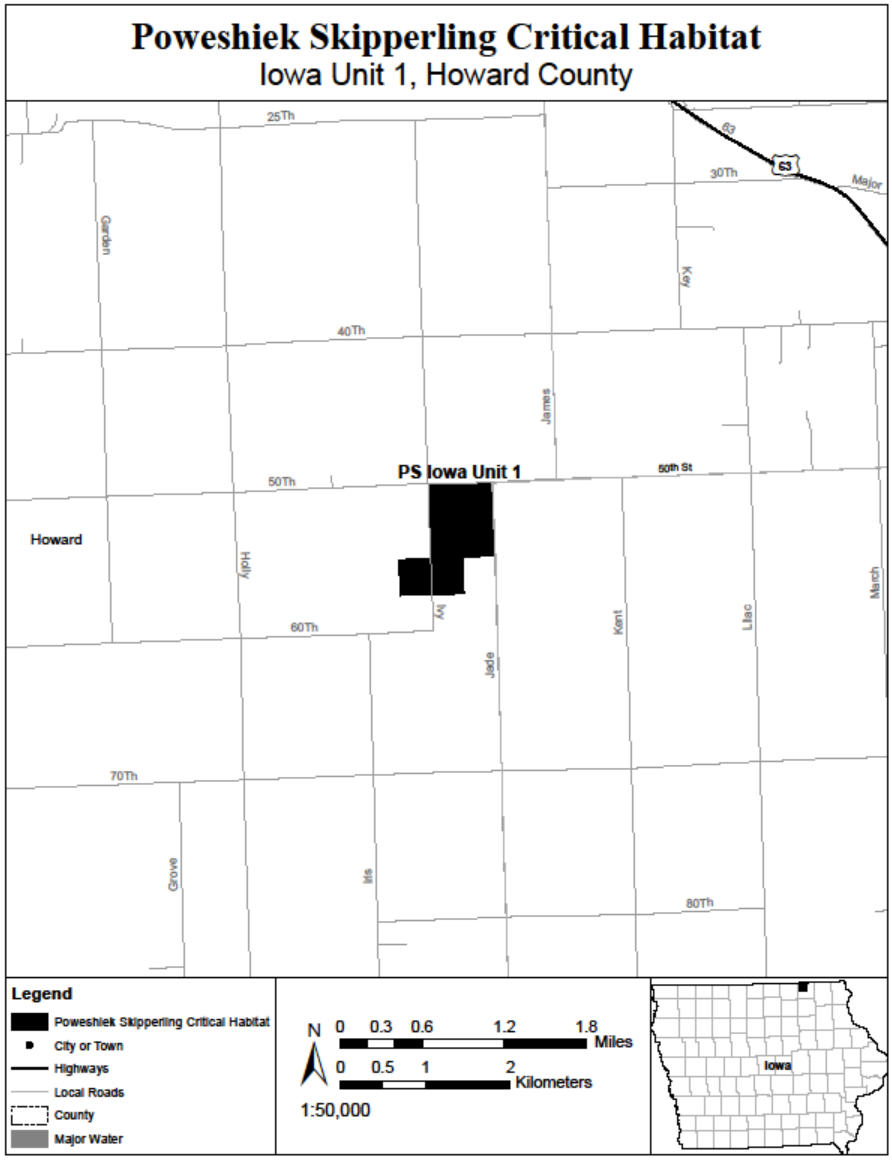
(8) North and South Dakota index map follows:



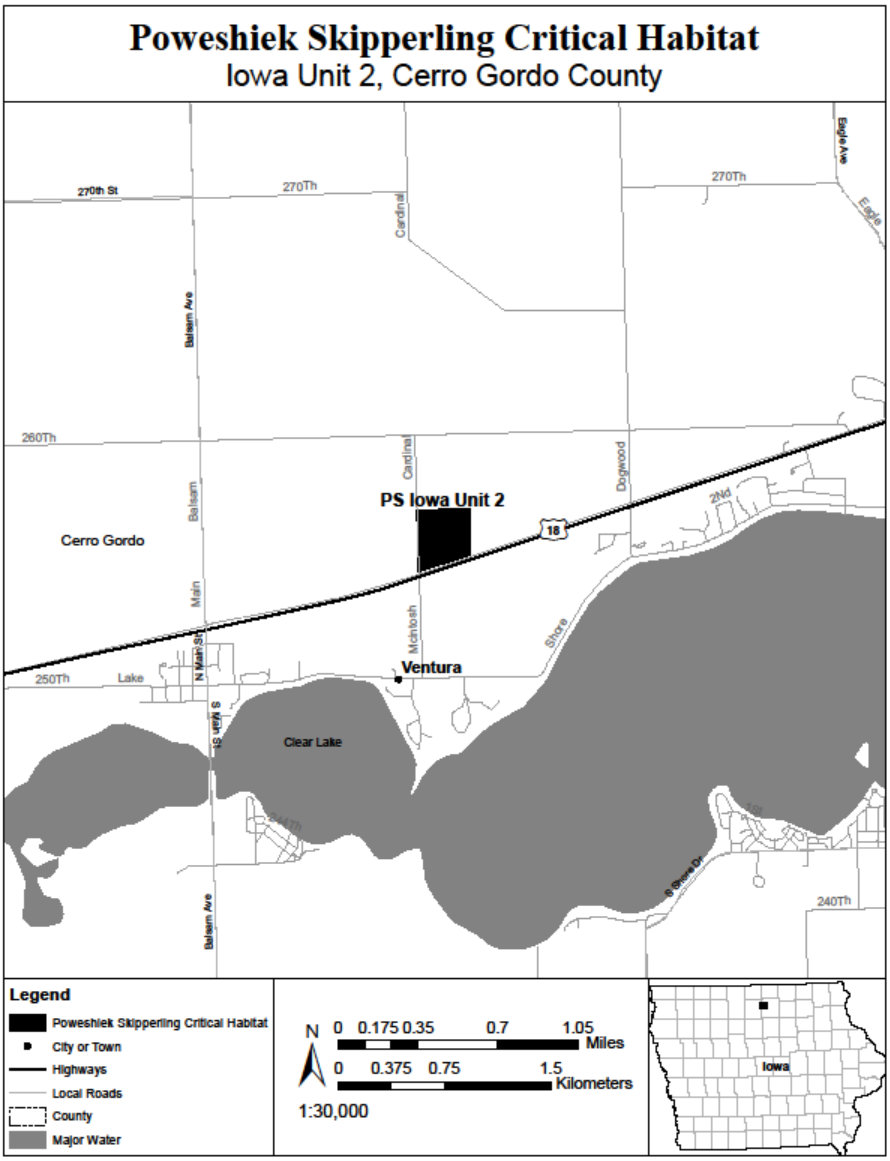
(9) Wisconsin index map follows:



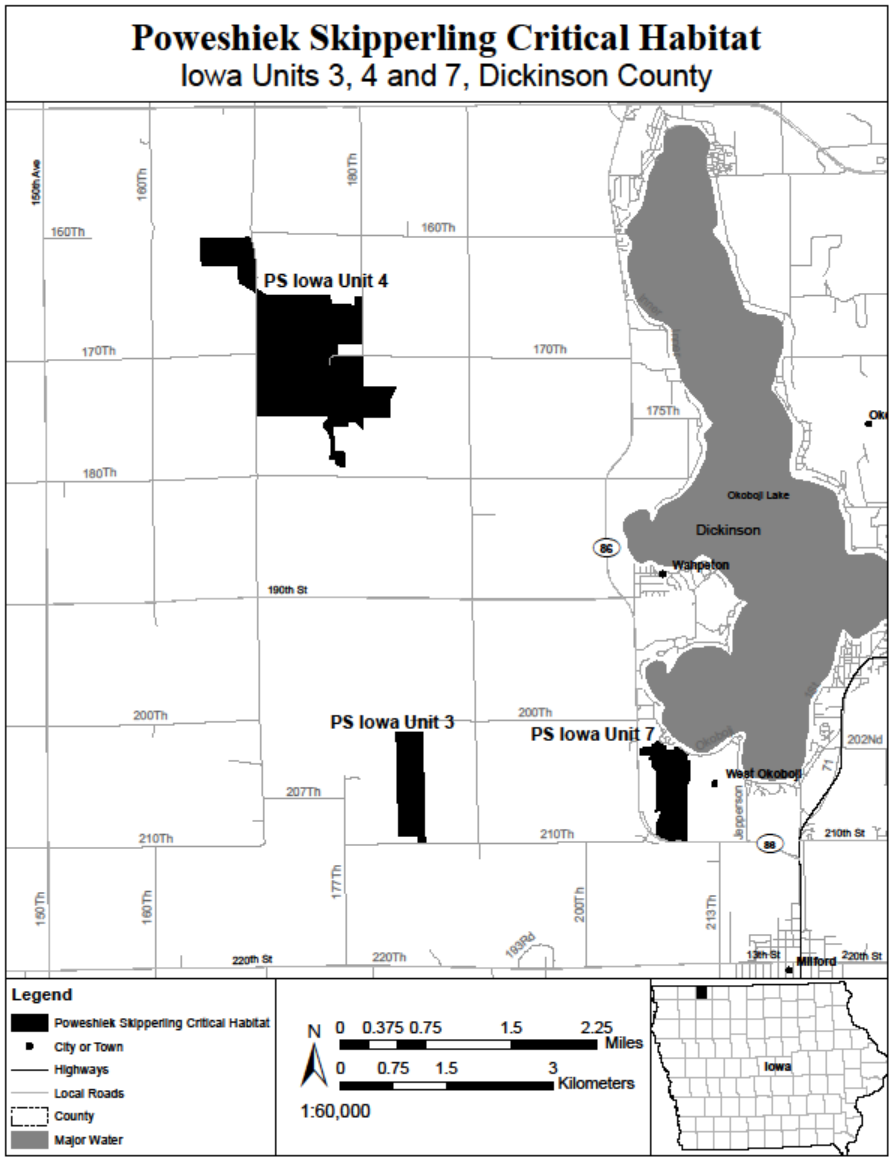
(10) PS Iowa Unit 1, Howard County, Iowa. Map of PS Iowa Unit 1 follows:



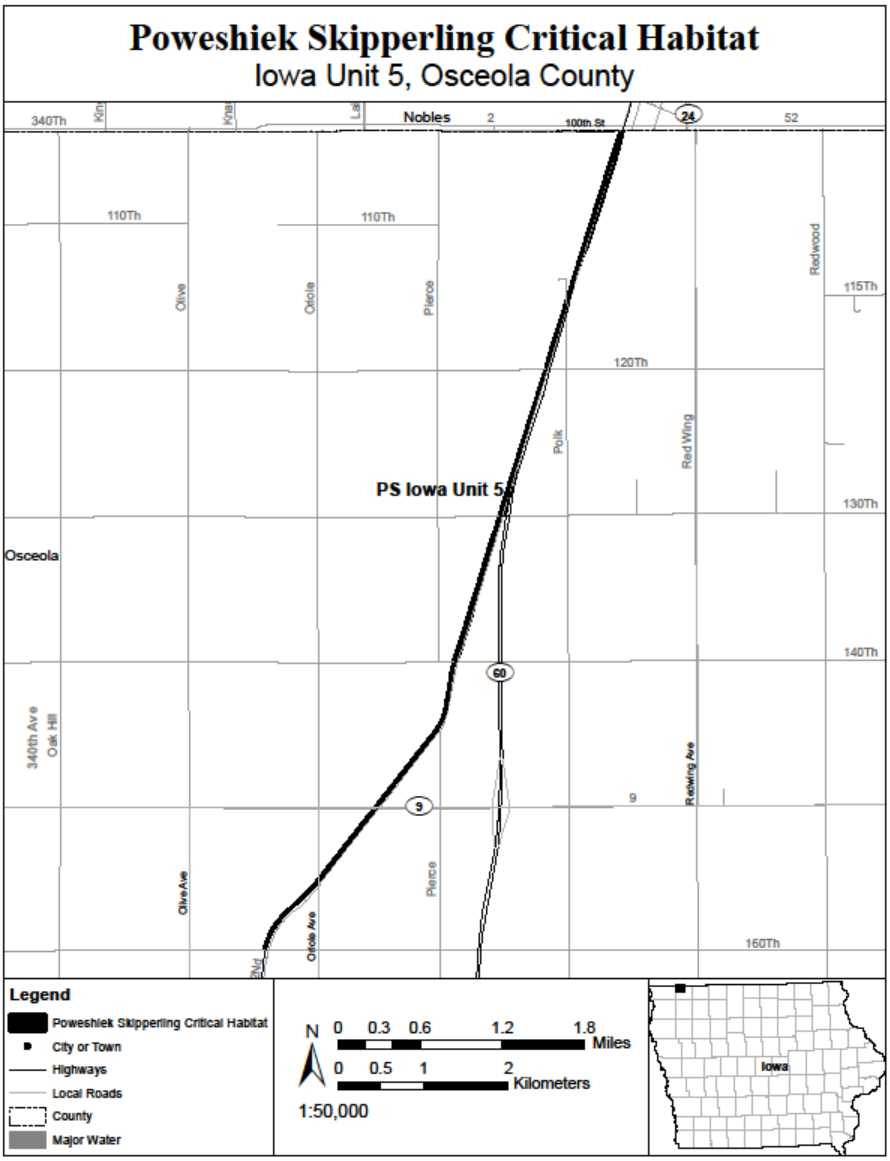
(11) PS Iowa Unit 2, Cerro Gordo County, Iowa. Map of PS Iowa Unit 2 follows:



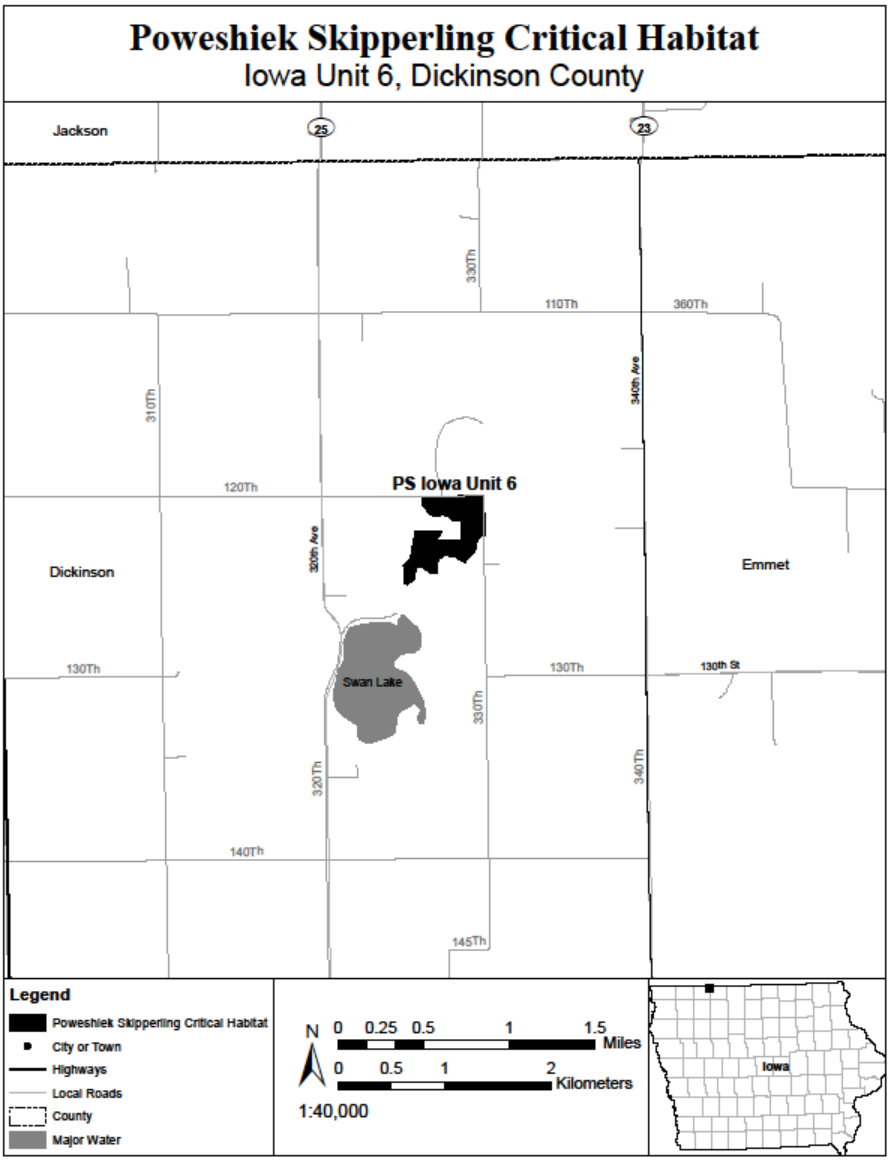
(12) PS Iowa Units 3, 4, and 7, Dickinson County, Iowa. Map of PS Iowa Units 3, 4, and 7 follows:



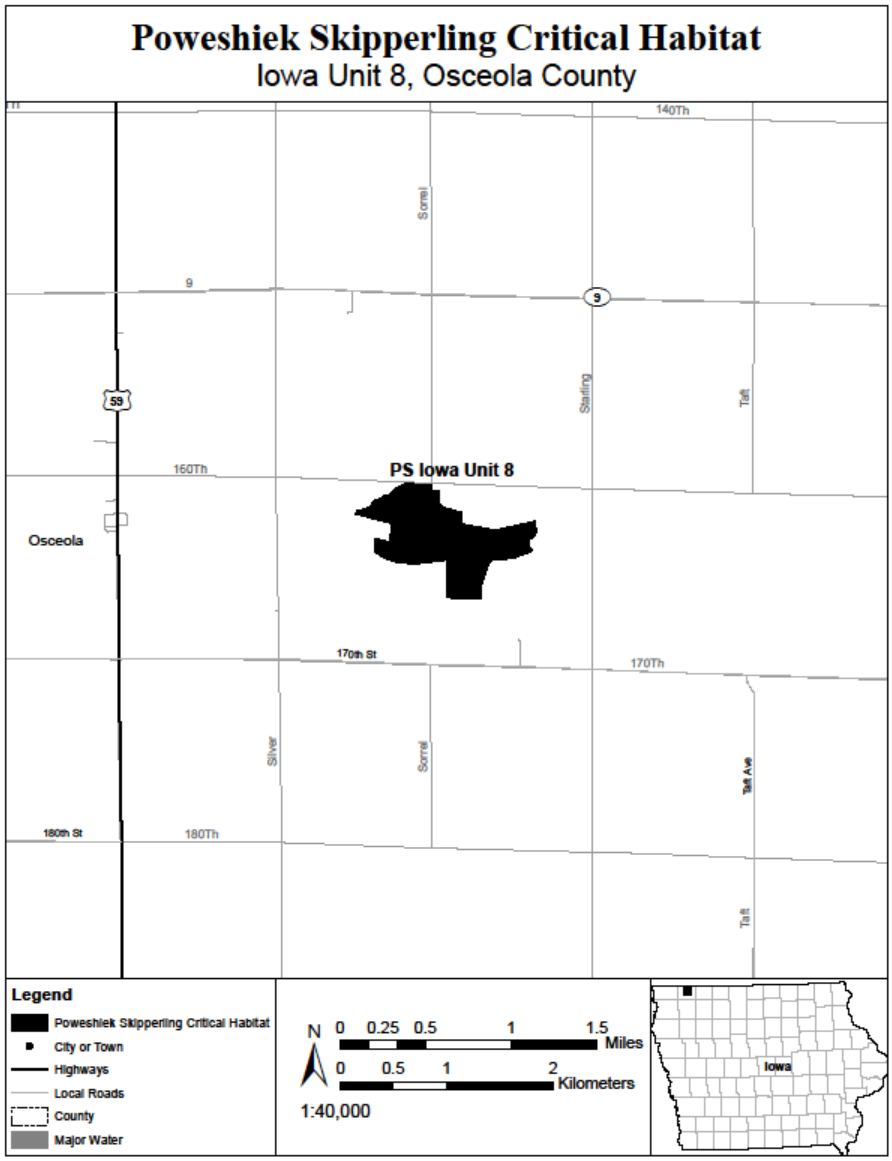
(13) PS Iowa Unit 5, Dickinson County, Iowa. Map of PS Iowa Unit 5 follows:



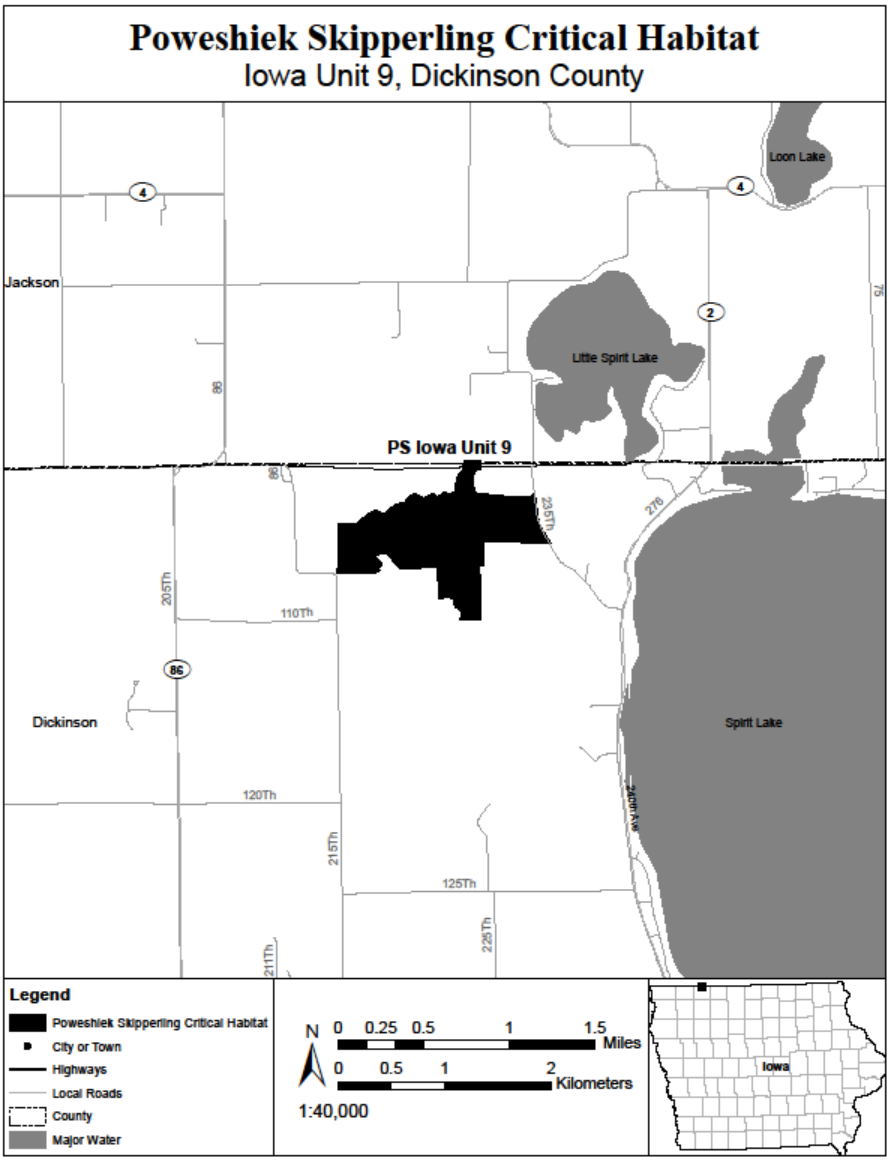
(14) PS Iowa Unit 6, Dickinson County, Iowa. Map of PS Iowa Unit 6 follows:



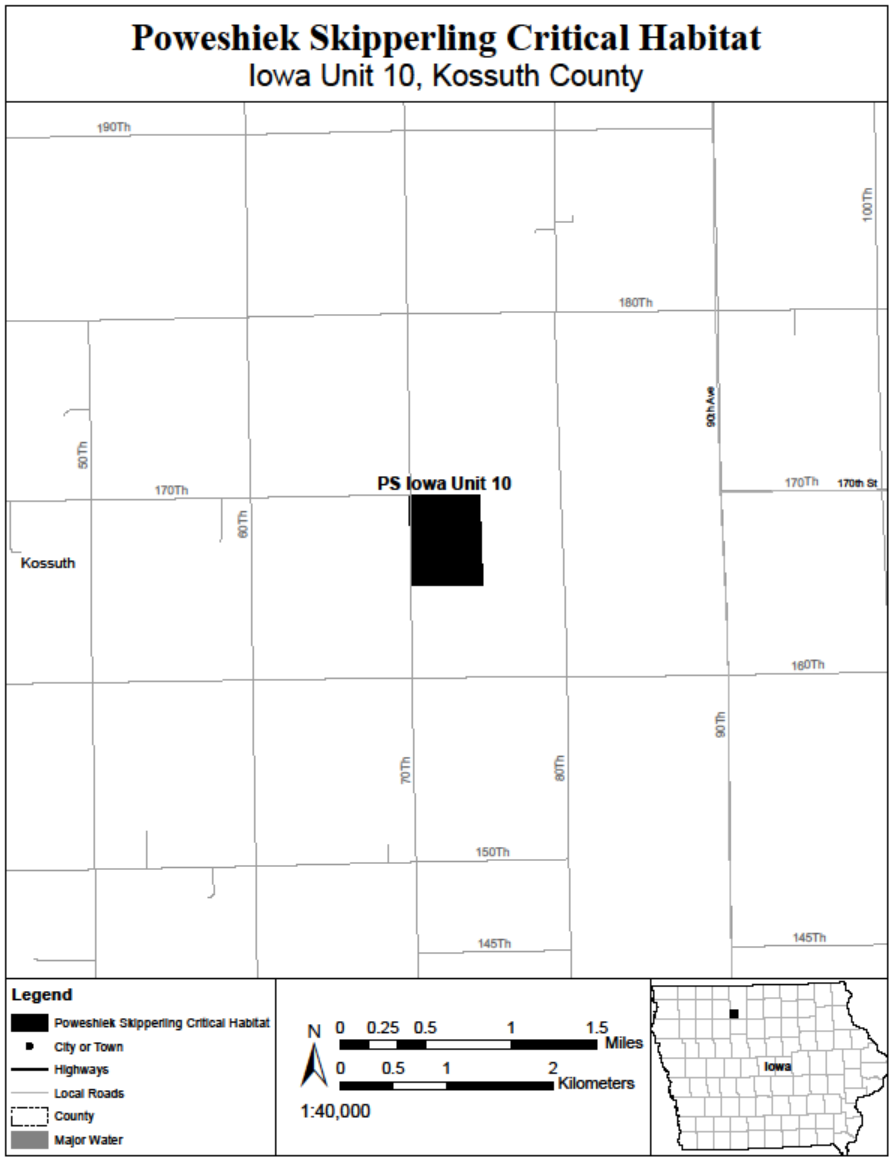
(15) PS Iowa Unit 8, Osceola County, Iowa. Map of PS Iowa Unit 8 follows:



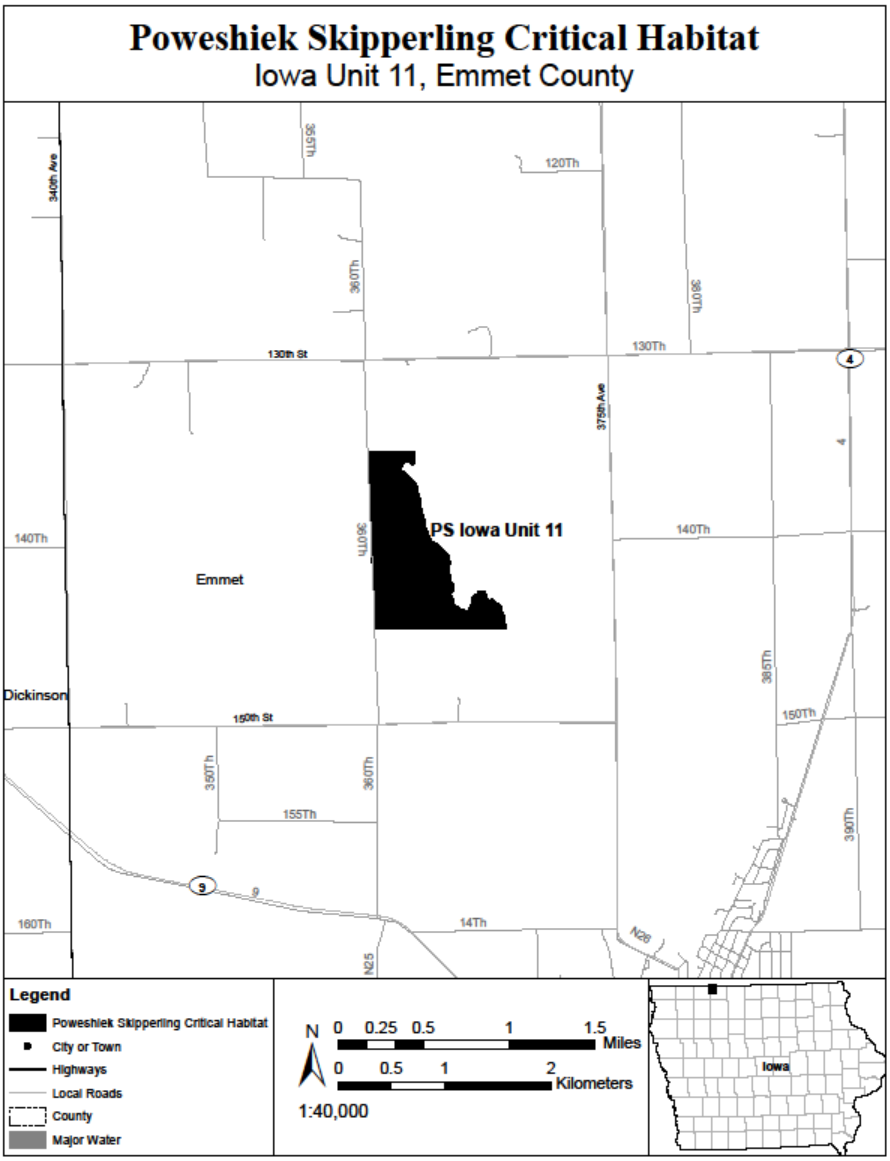
(16) PS Iowa Unit 9, Dickinson County, Iowa. Map of PS Iowa Unit 9 follows:



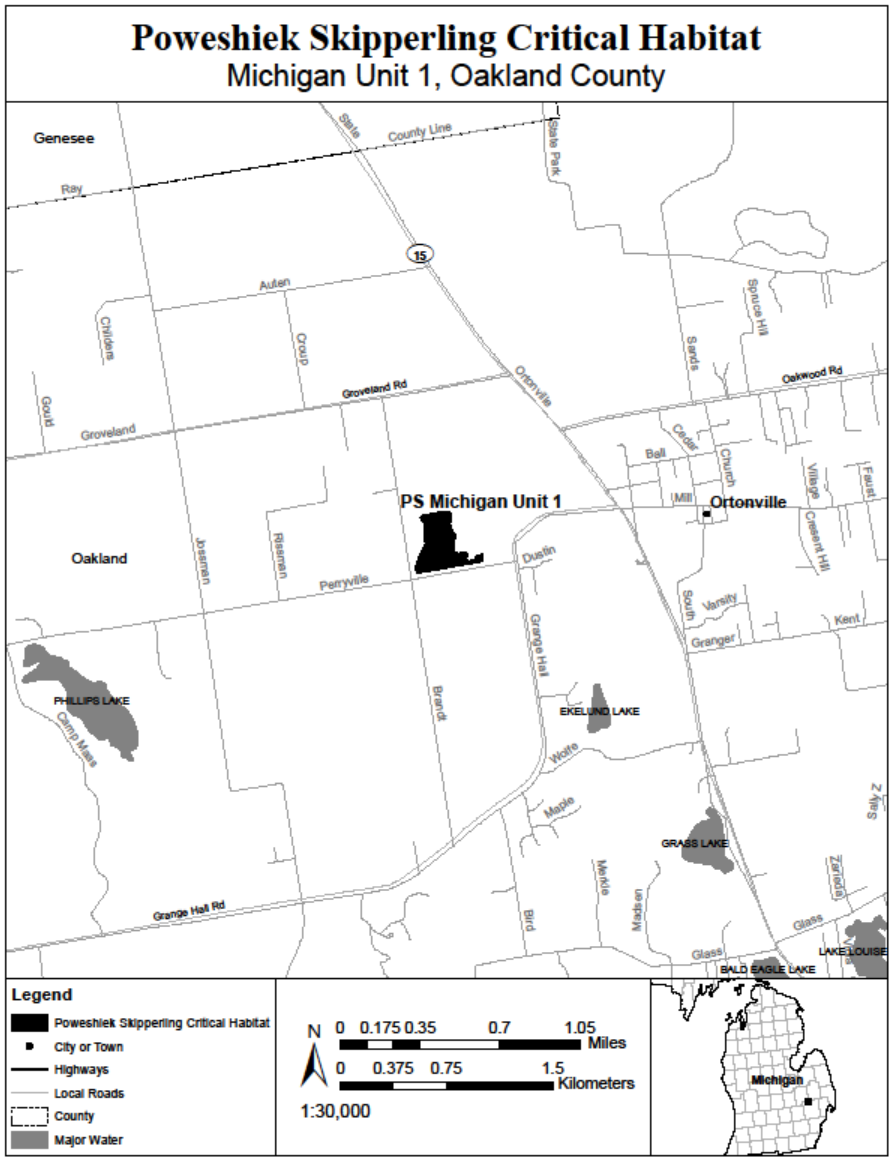
(17) PS Iowa Unit 10, Kossuth County, Iowa. Map of PS Iowa Unit 10 follows:



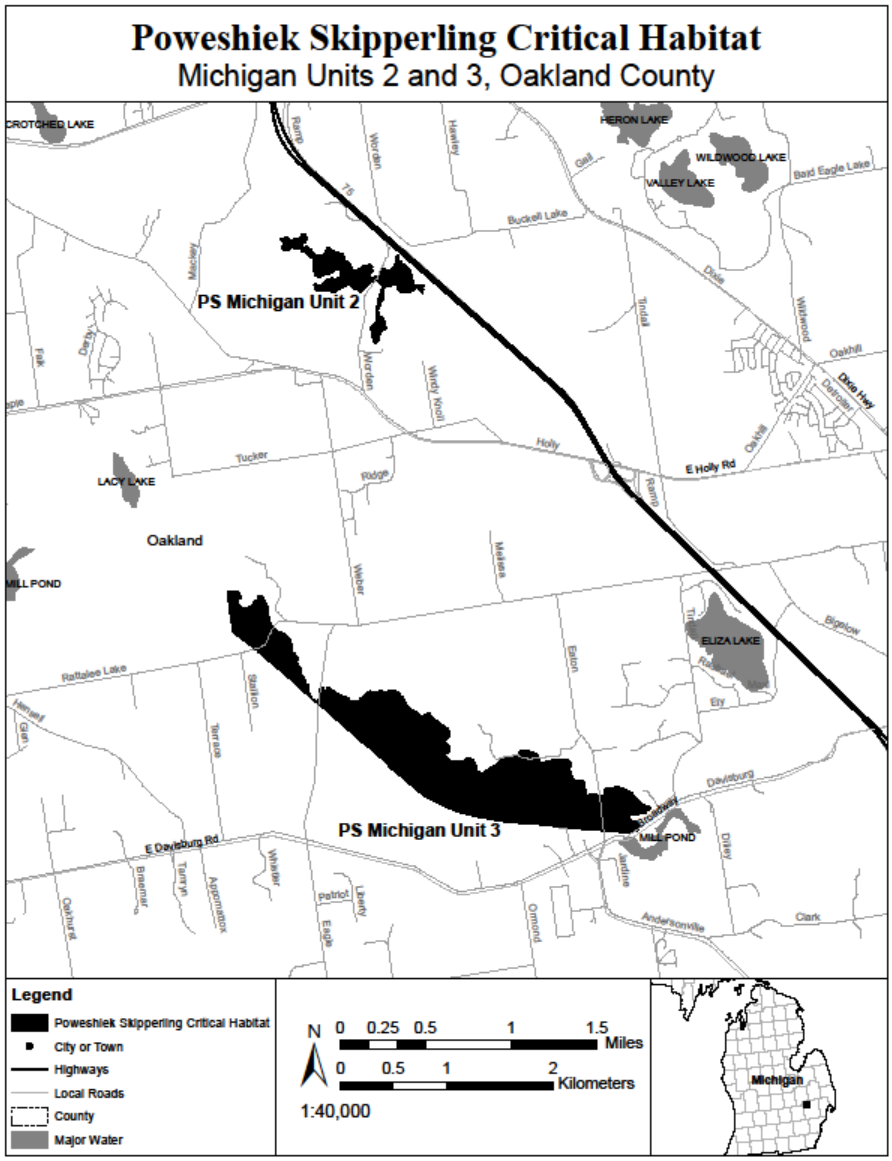
(18) PS Iowa Unit 11, Emmet County, Iowa. Map of PS Iowa Unit 11 follows:



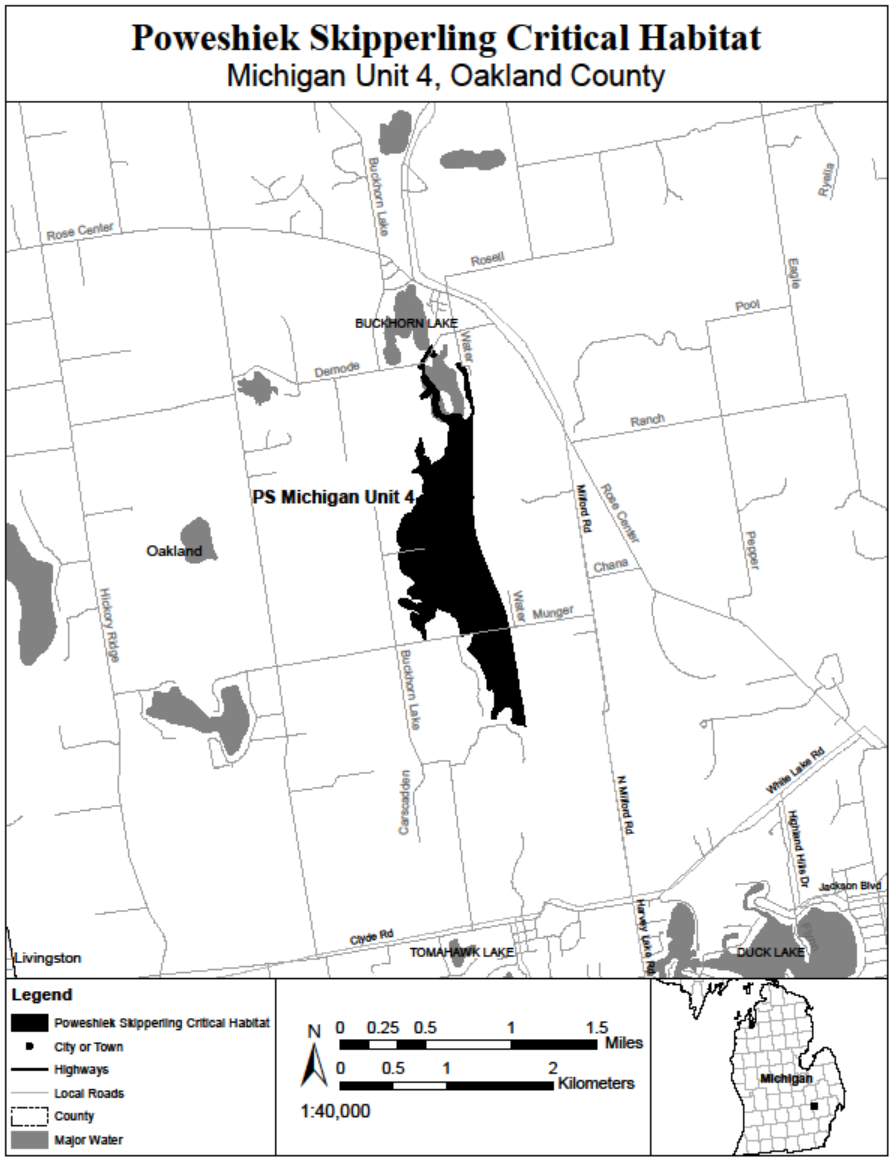
(19) PS Michigan Unit 1, Oakland County, Michigan. Map of PS Michigan Unit 1 follows:



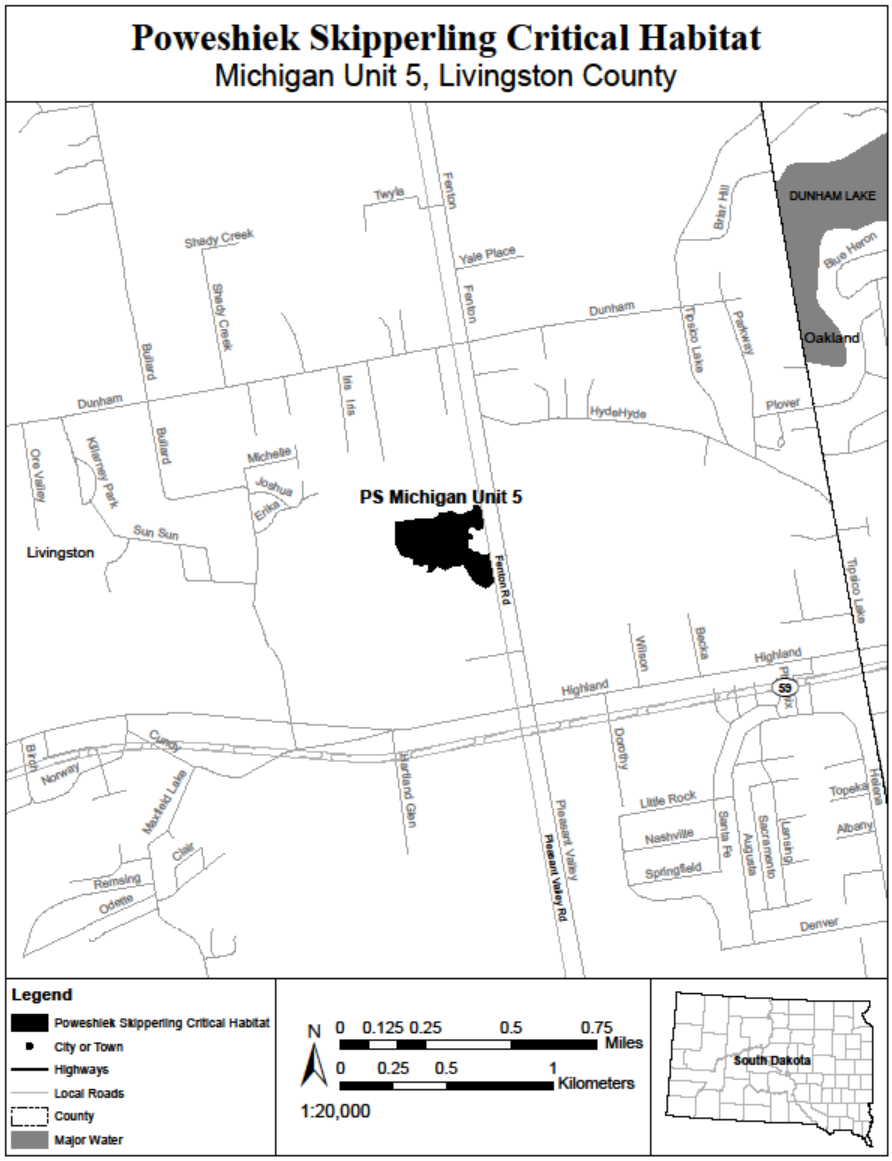
(20) PS Michigan Units 2 and 3, Oakland County, Michigan. Map of PS Michigan Units 2 and 3 follows:



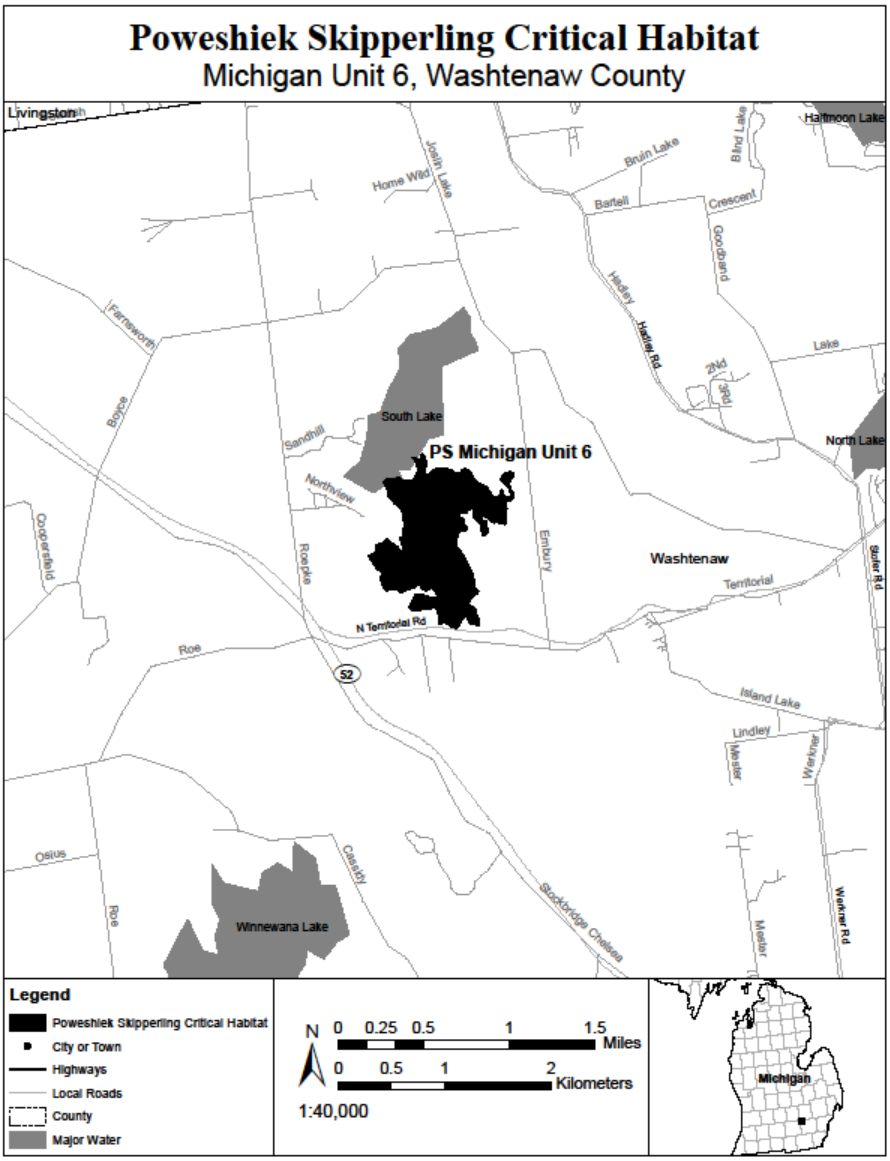
(21) Unit 15: PS Michigan Unit 4, Oakland County, Michigan. Map of PS Michigan Unit 4 follows:



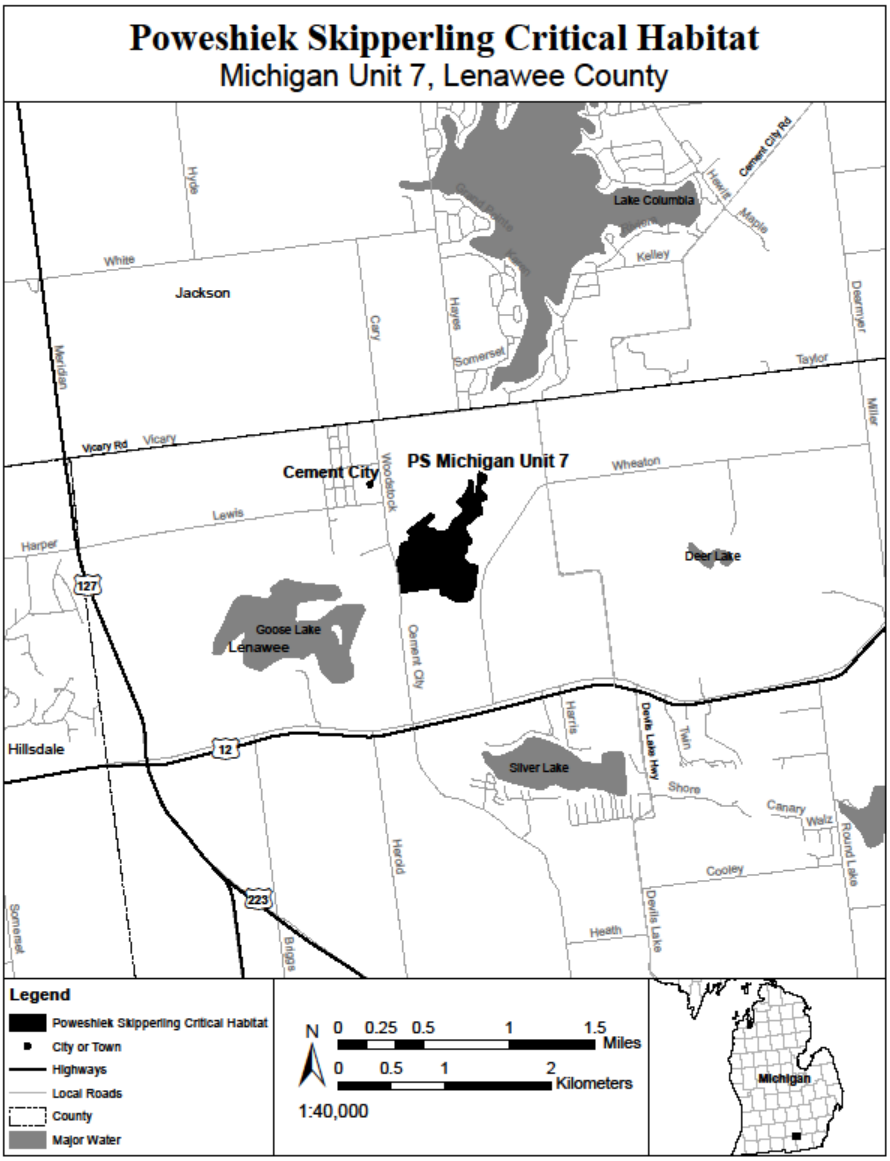
(22) PS Michigan Unit 5, Livingston County, Michigan. Map of PS Michigan Unit 5 follows:



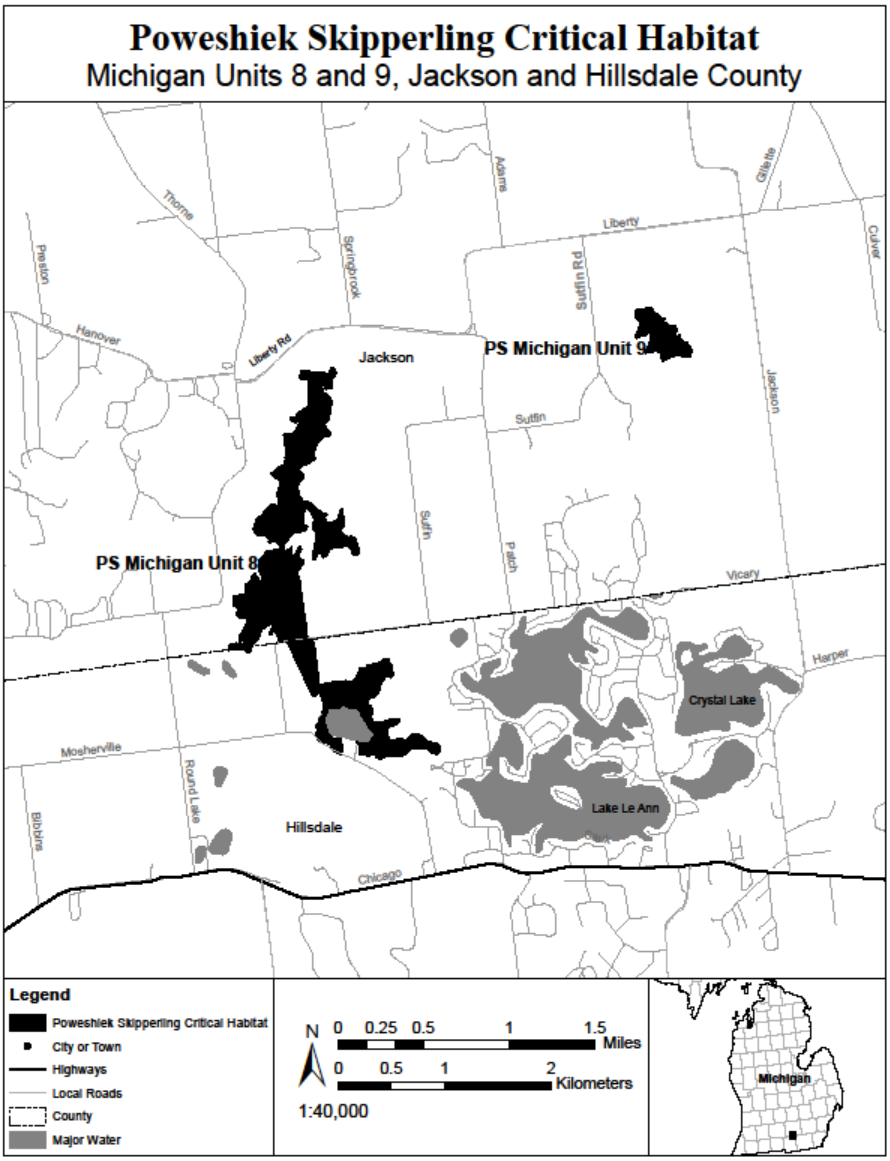
(23) PS Michigan Unit 6, Washtenaw County, Michigan. Map of PS Michigan Unit 6 follows:



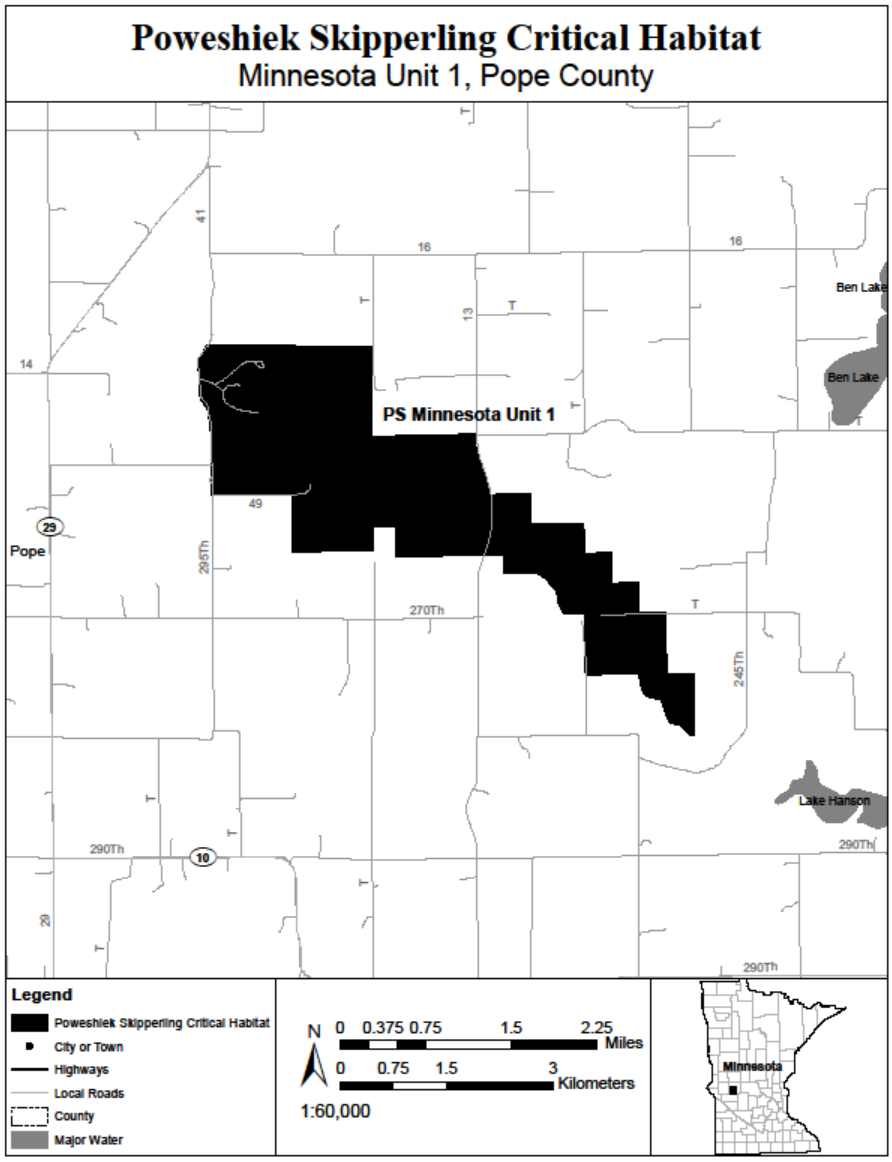
(24) PS Michigan Unit 7, Lenawee County, Michigan. Map of PS Michigan Unit 7 follows:



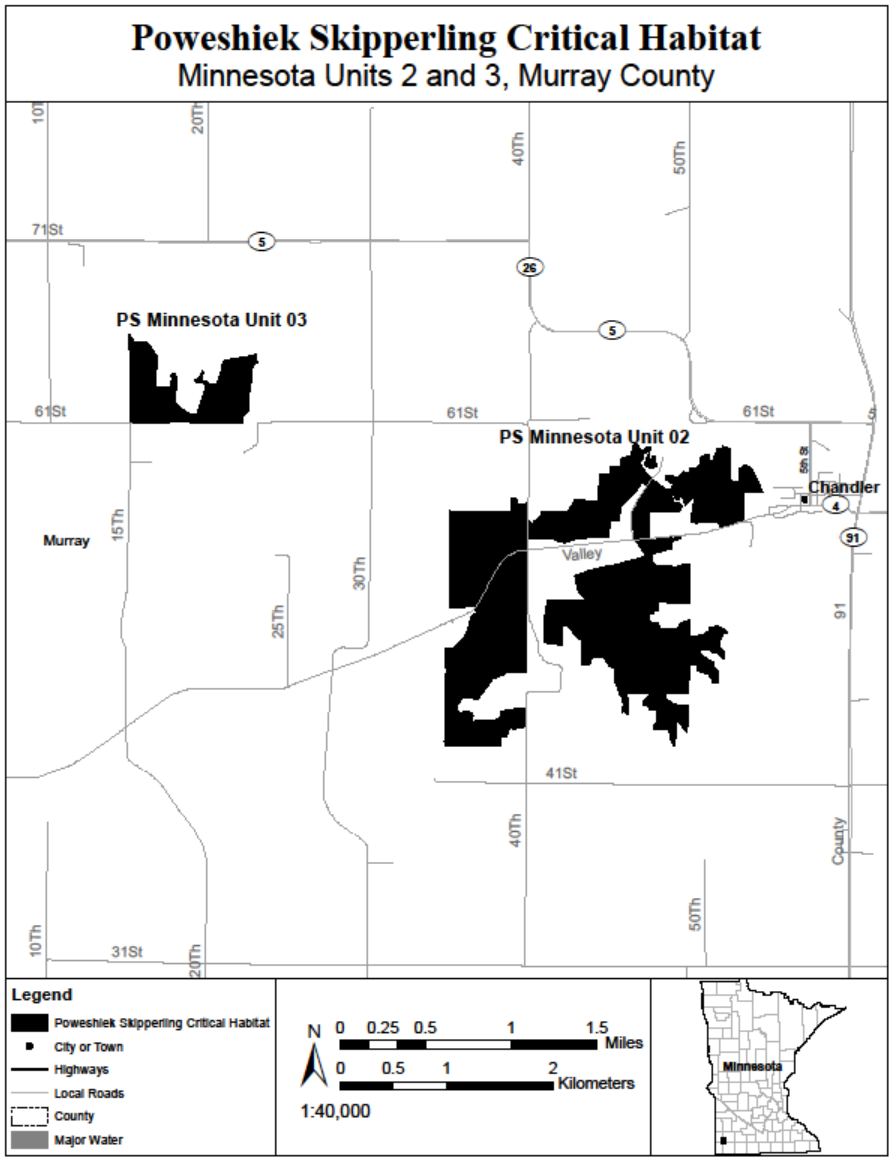
(25) PS Michigan Units 8 and 9, Hillsdale County and Jackson County, Michigan. Map of PS Michigan Units 8 and 9 follows:



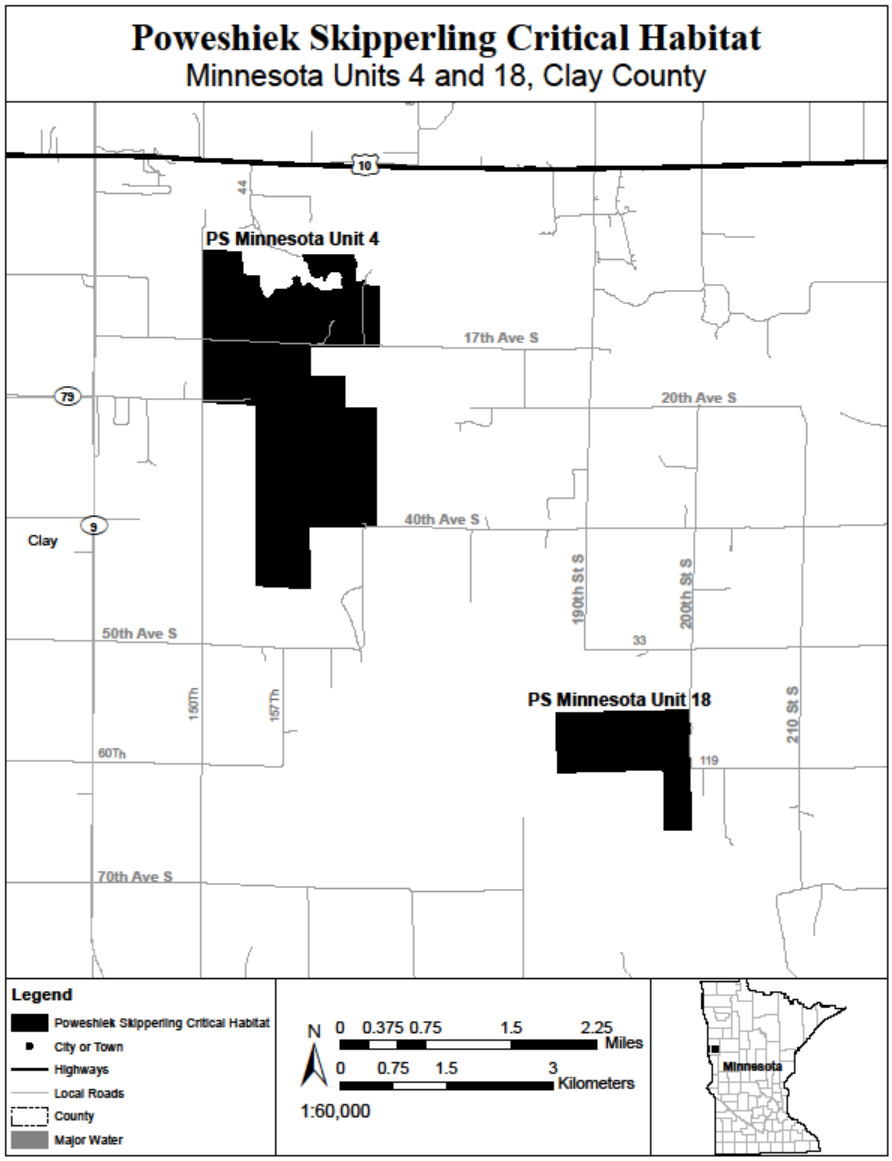
(26) PS Minnesota Unit 1, Pope County, Minnesota. Map of PS Minnesota Unit 1 follows:



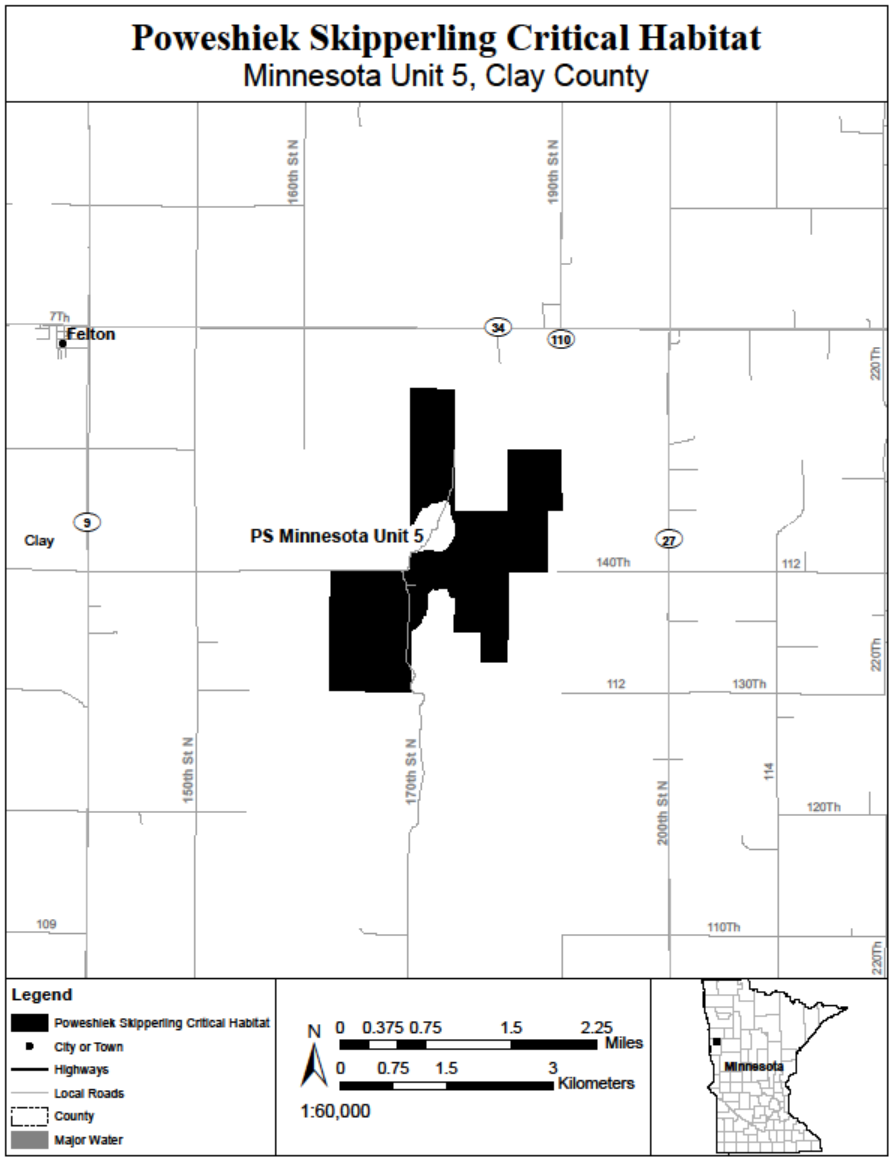
(27) PS Minnesota Units 2 and 3, Murray County, Minnesota. Map of PS Minnesota Units 2 and 3 follows:



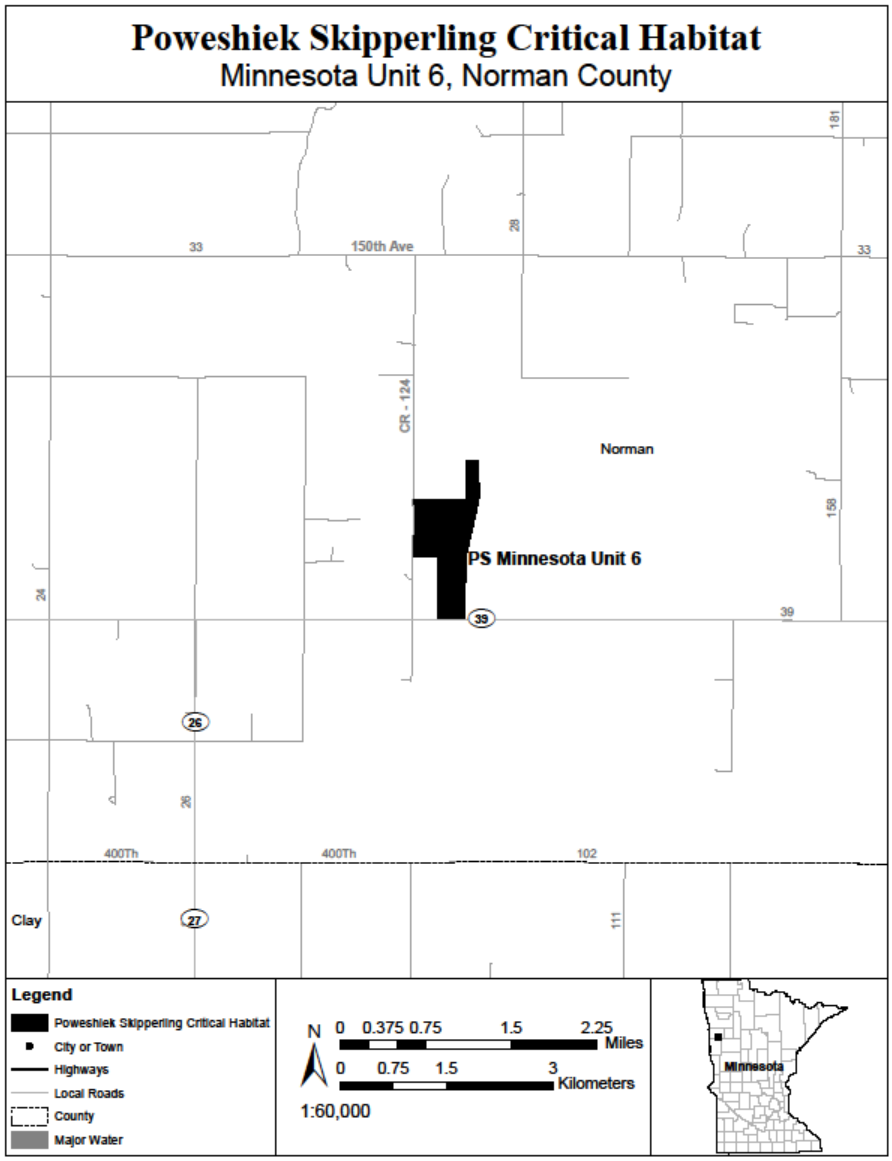
(28) PS Minnesota Units 4 and 18, Clay County, Minnesota. Map of PS Minnesota Units 4 and 18 follows:



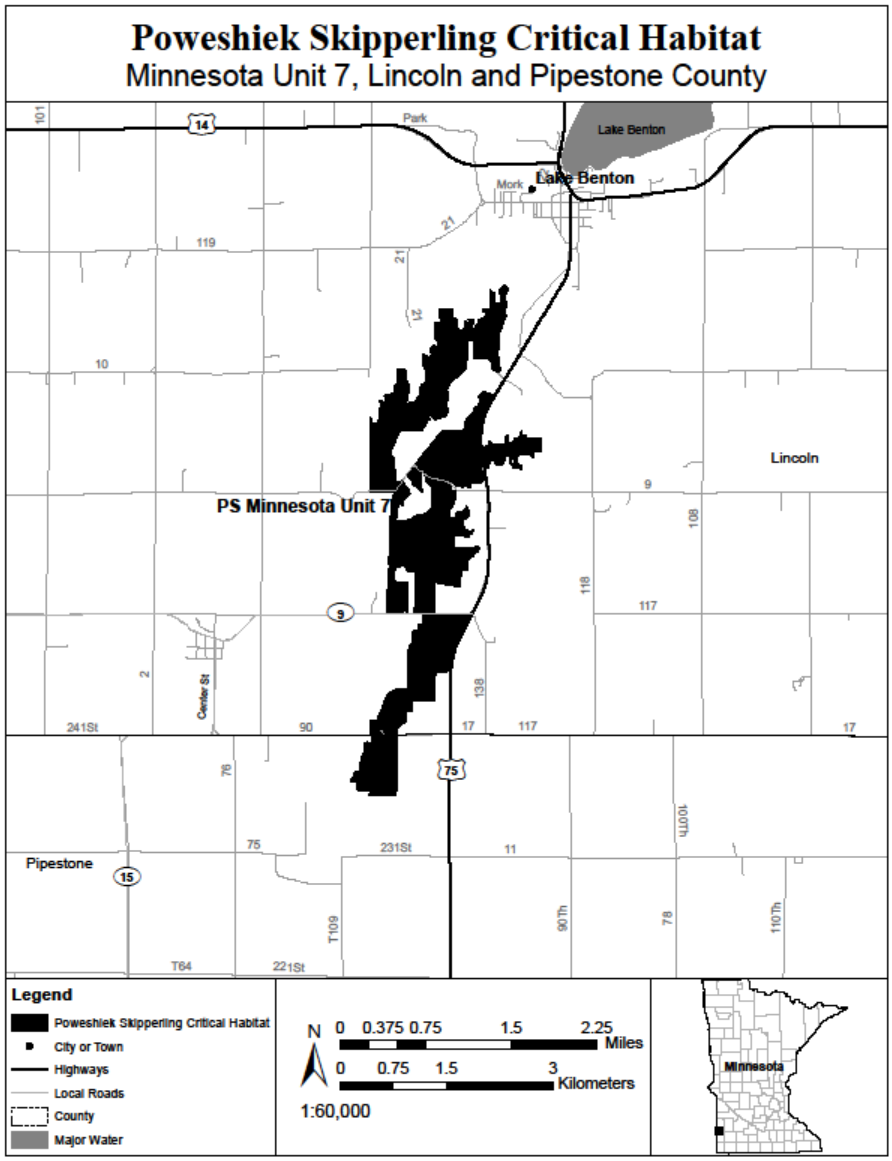
(29) PS Minnesota Unit 5, Clay County, Minnesota. Map of PS Minnesota Unit 5 follows:



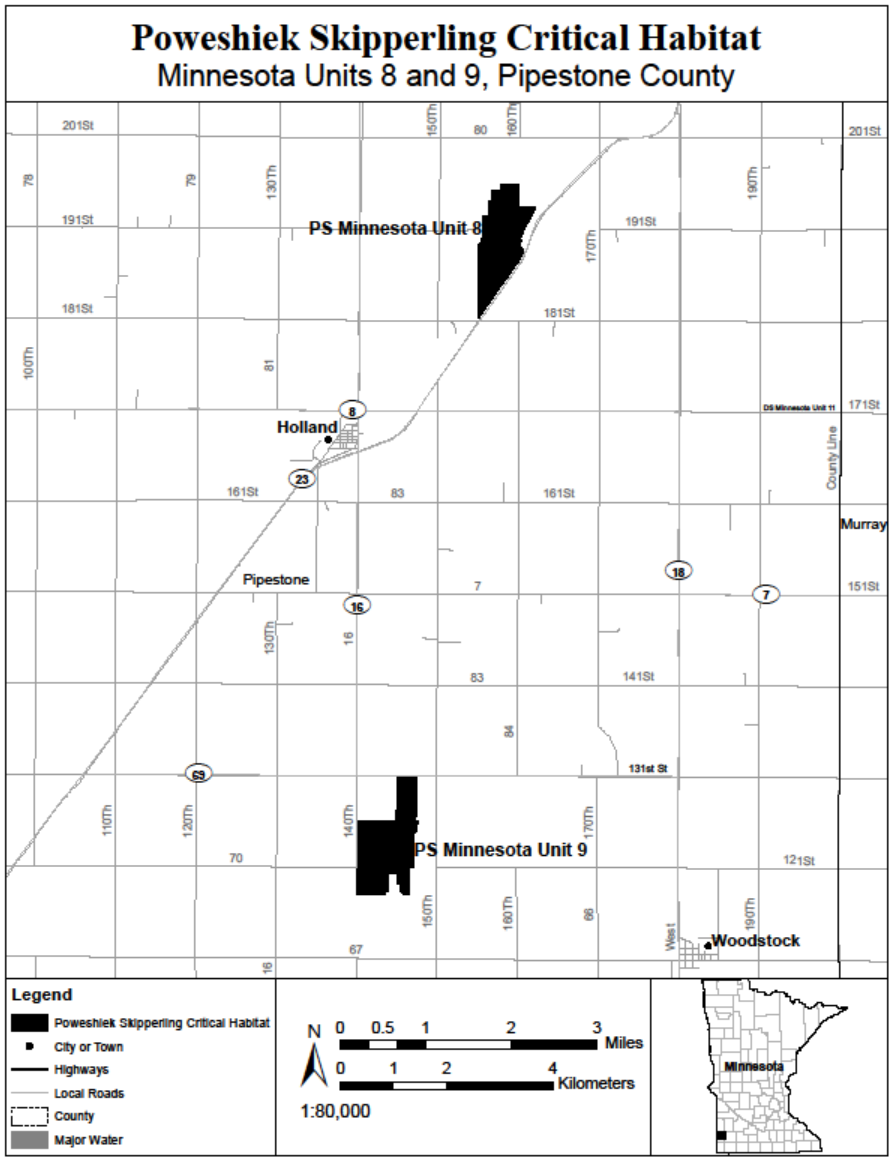
(30) PS Minnesota Unit 6, Norman County, Minnesota. Map of PS Minnesota Unit 6 follows:



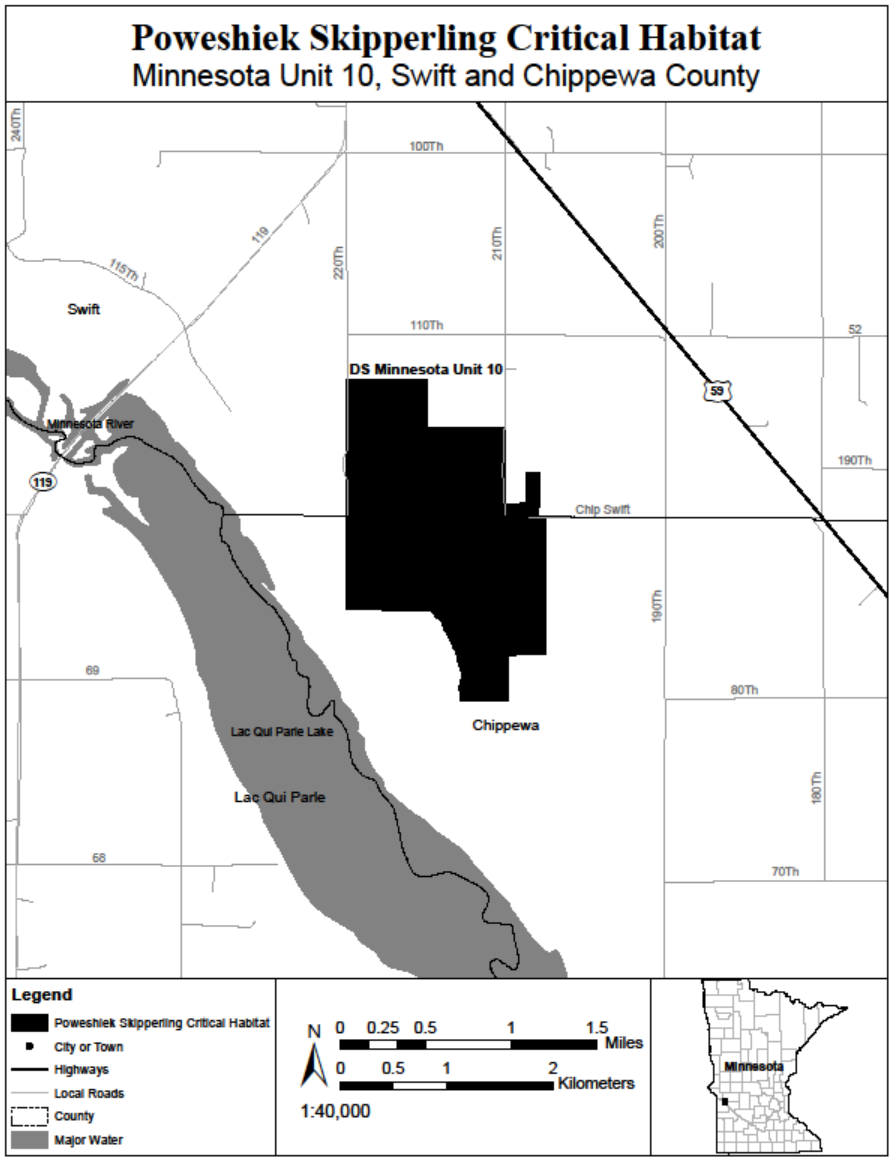
(31) PS Minnesota Unit 7, Lincoln County, Minnesota. Map of PS Minnesota Unit 7 follows:



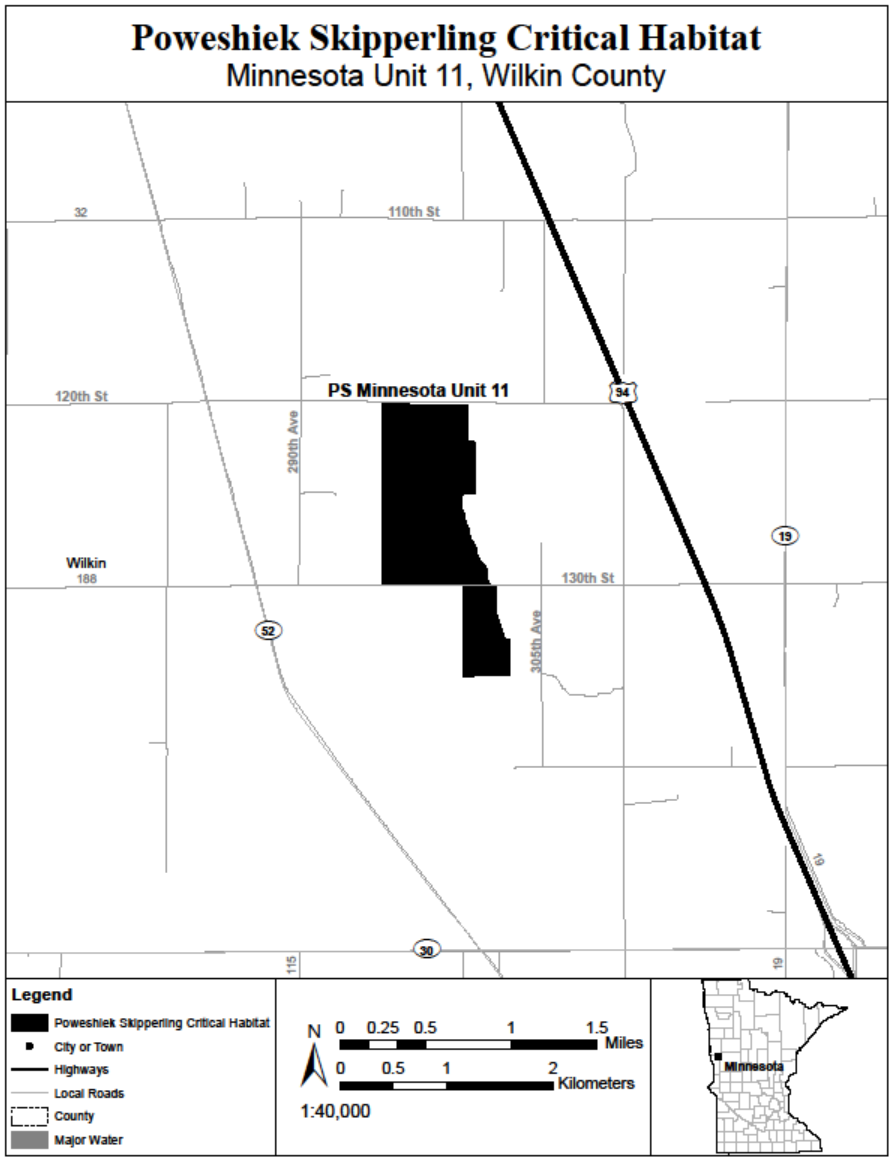
(32) PS Minnesota Units 8 and 9, Pipestone County, Minnesota. Map of PS Minnesota Units 8 and 9 follows:



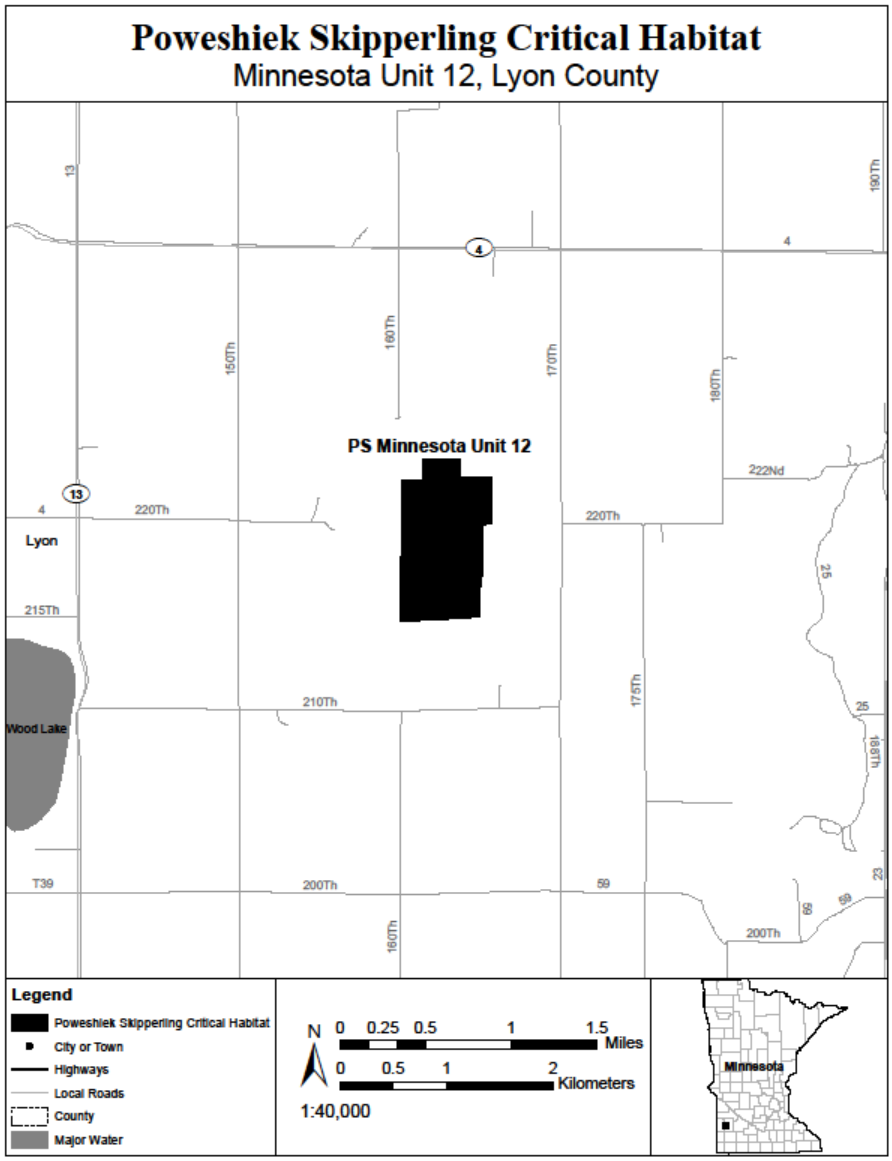
(33) PS Minnesota Unit 10, Chippewa County and Swift County, Minnesota. Map of PS Minnesota Unit 10 follows:



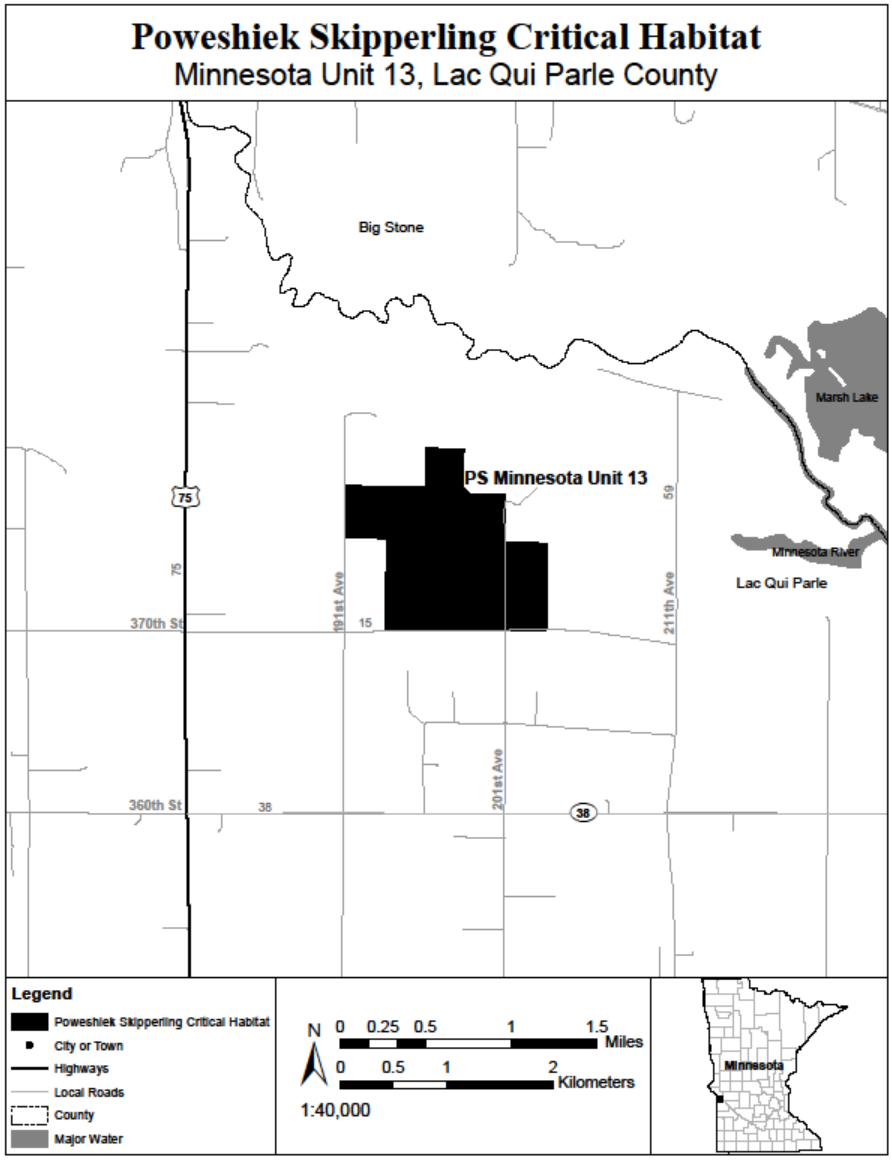
(34) PS Minnesota Unit 11, Wilkin County, Minnesota. Map of PS Minnesota Unit 11 follows:



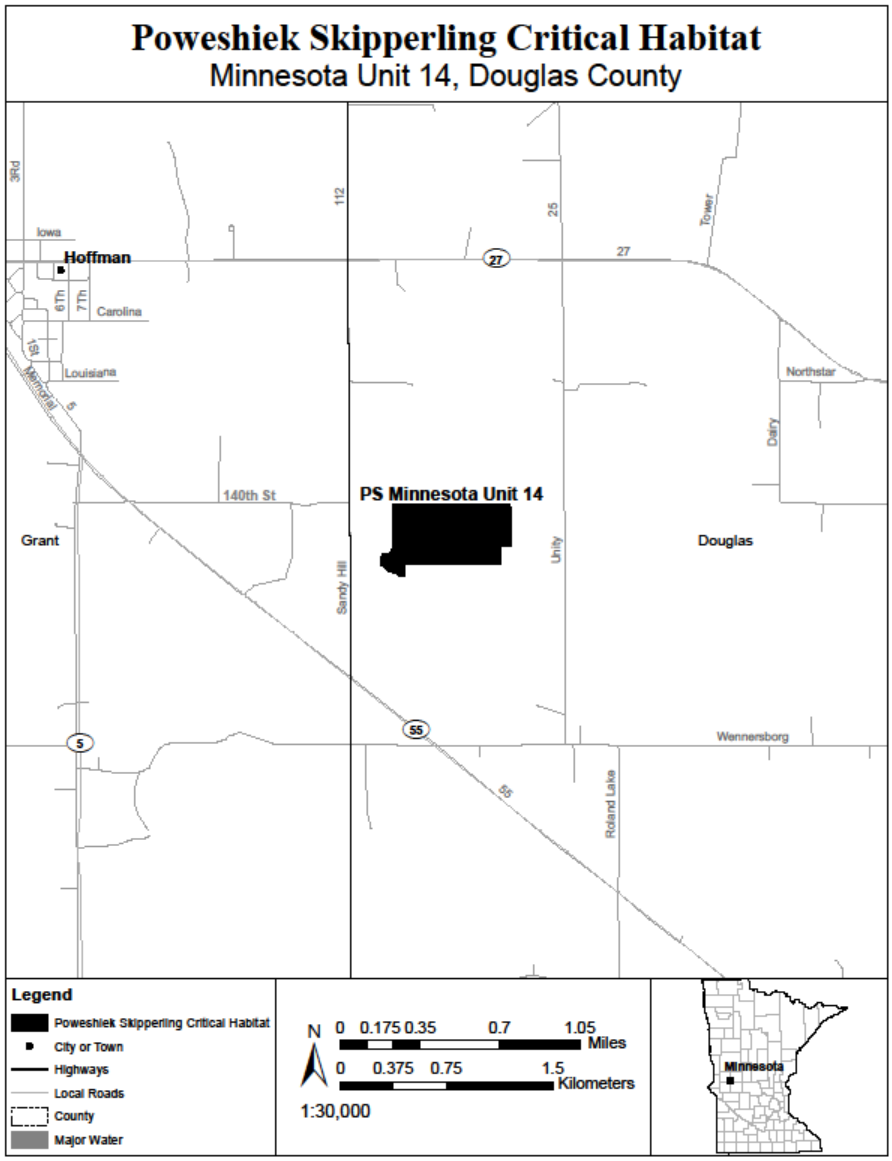
(35) PS Minnesota Unit 12, Lyon County, Minnesota. Map of PS Minnesota Unit 12 follows:



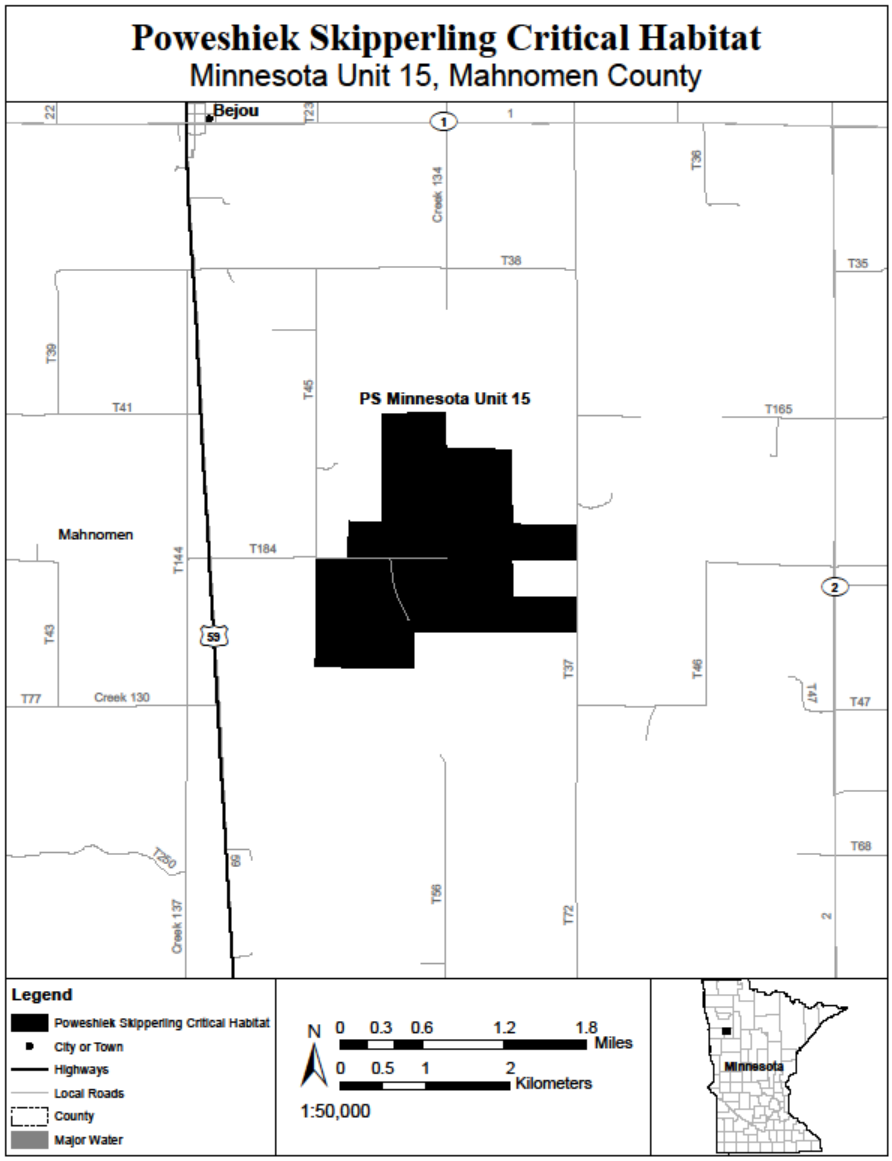
(36) PS Minnesota Unit 13, Lac Qui Parle County, Minnesota. Map of PS Minnesota Unit 13 follows:



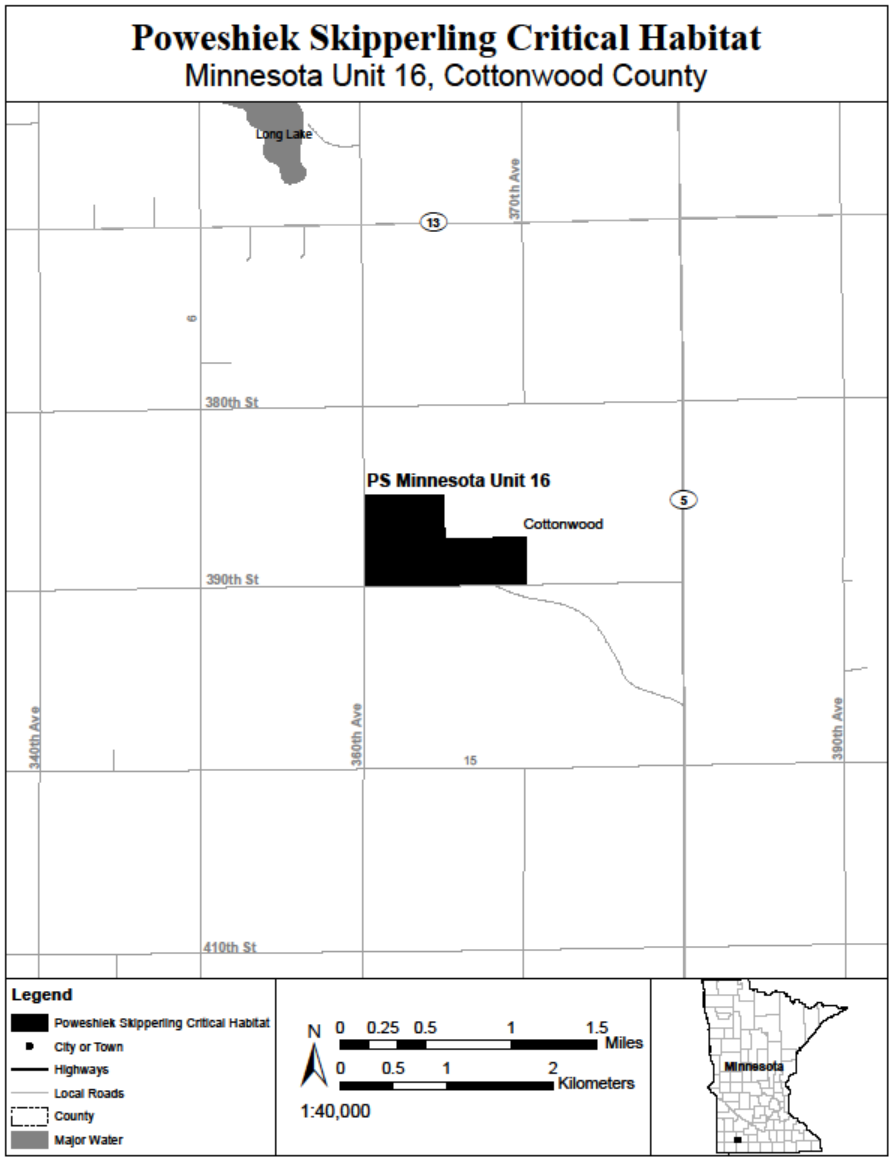
(37) PS Minnesota Unit 14, Douglas County, Minnesota. Map of PS Minnesota Unit 14 follows:



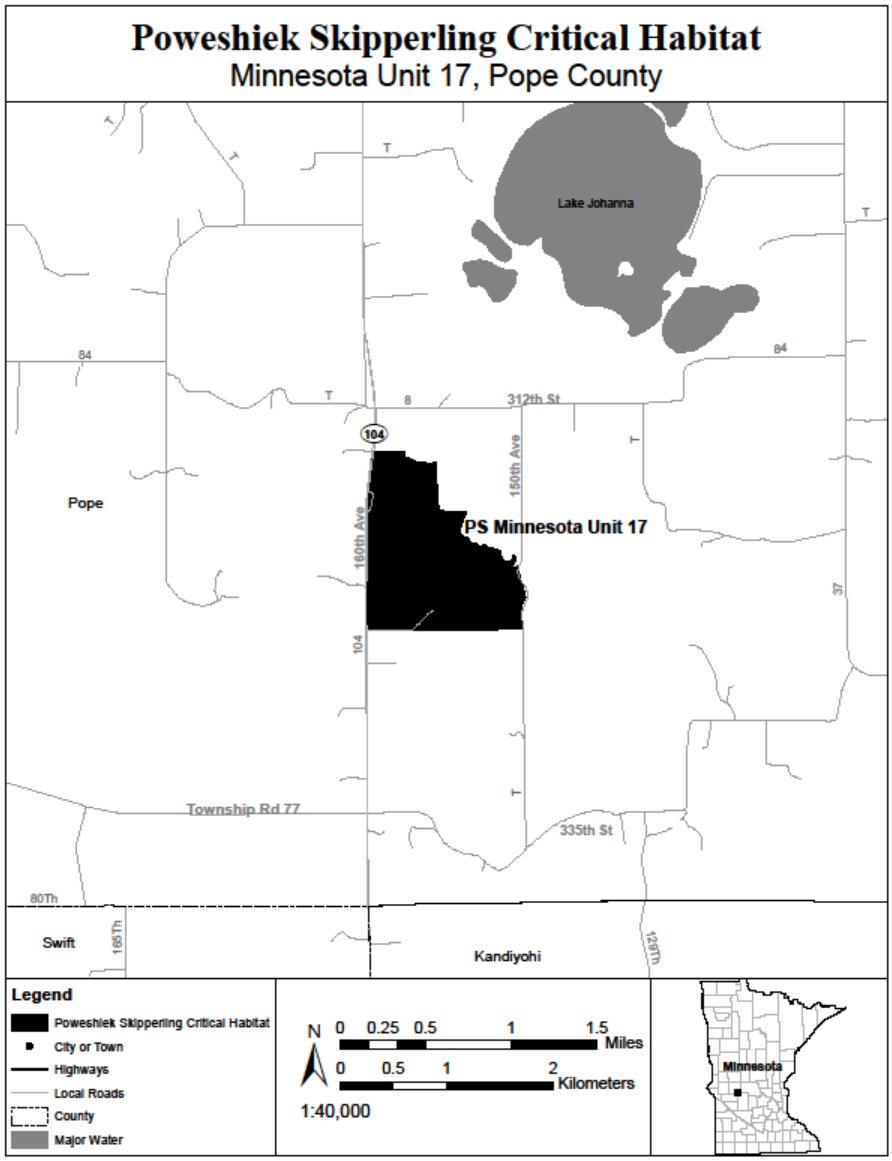
(38) PS Minnesota Unit 15, Mahnomen County, Minnesota. Map of PS Minnesota Unit 15 follows:



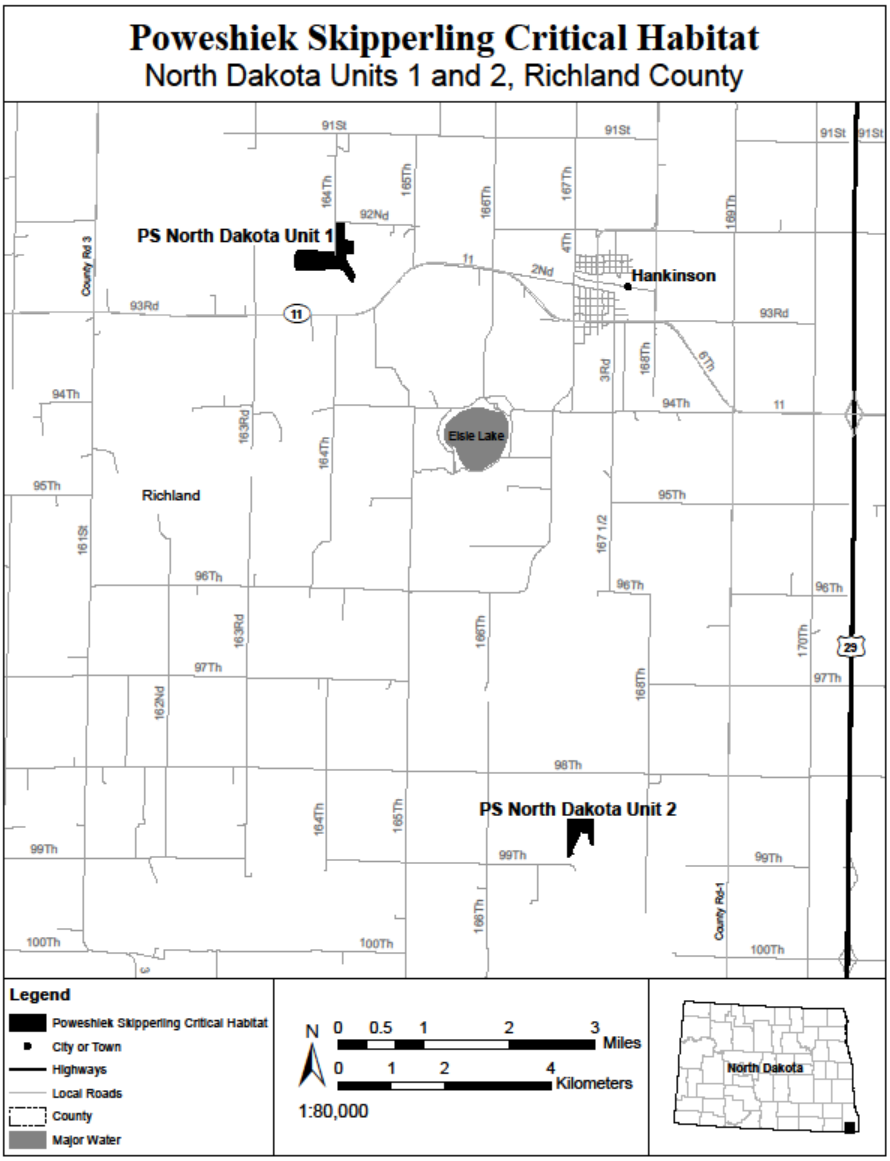
(39) PS Minnesota Unit 16, Cottonwood County, Minnesota. Map of PS Minnesota Unit 16 follows:



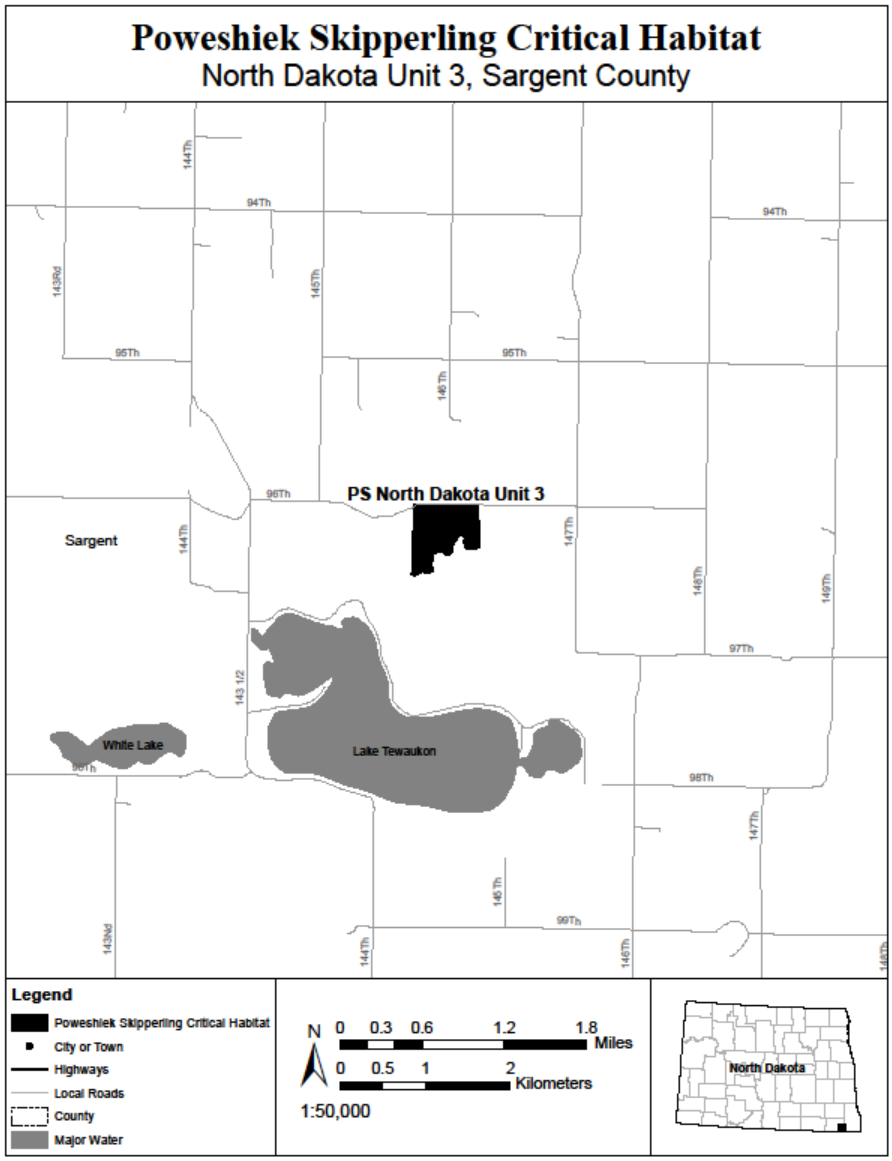
(40) PS Minnesota Unit 17, Pope County, Minnesota. Map of PS Minnesota Unit 17 follows:



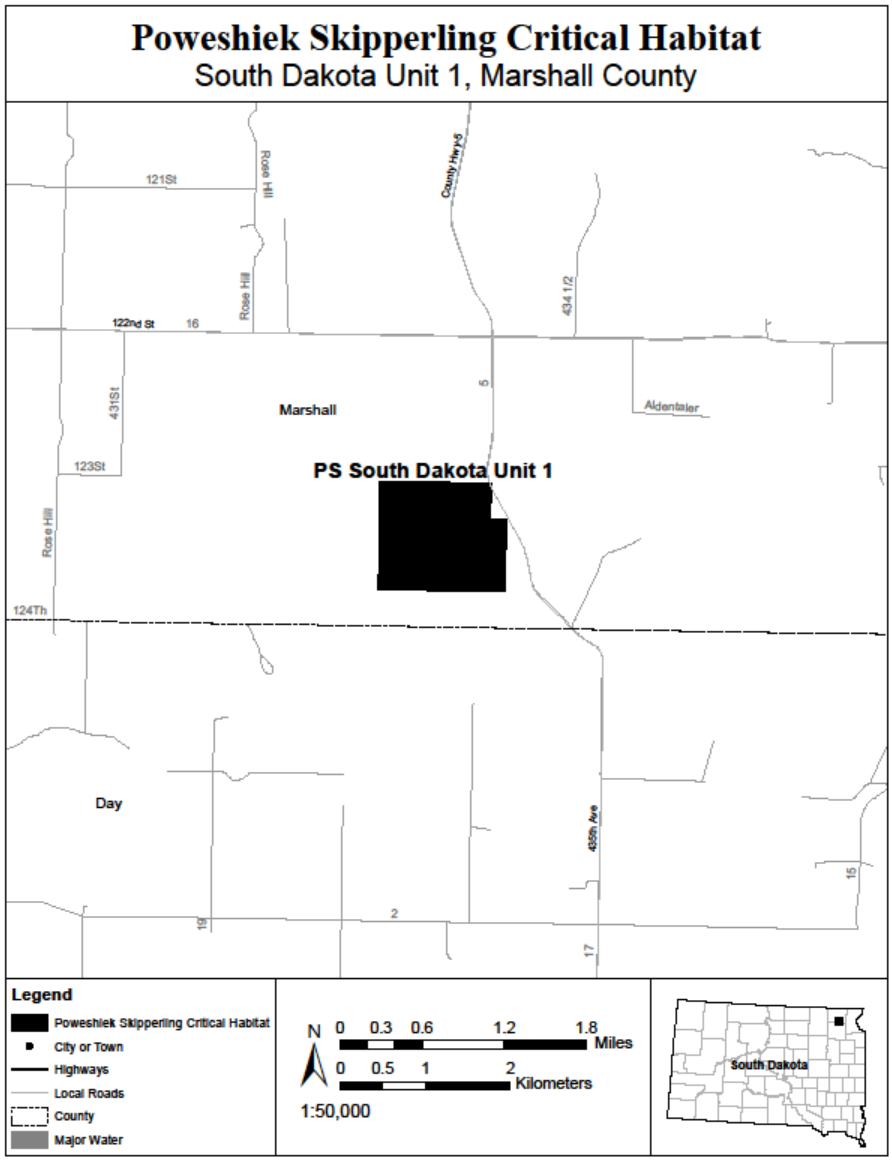
(41) PS North Dakota Units 1 and 2, Richland County, North Dakota. Map of PS North Dakota Units 1 and 2 follows:



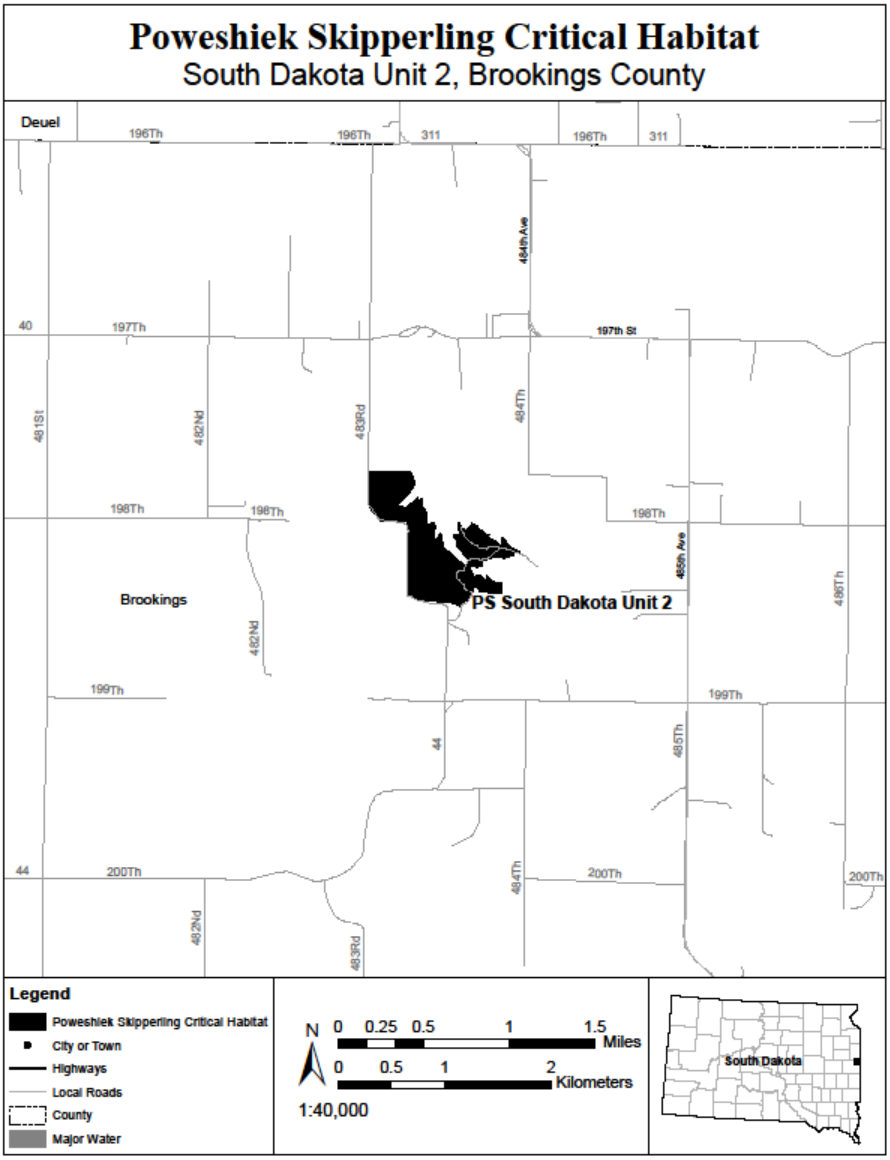
(42) PS North Dakota Unit 3, Sargent County, North Dakota. Map of PS North Dakota Unit 3 follows:



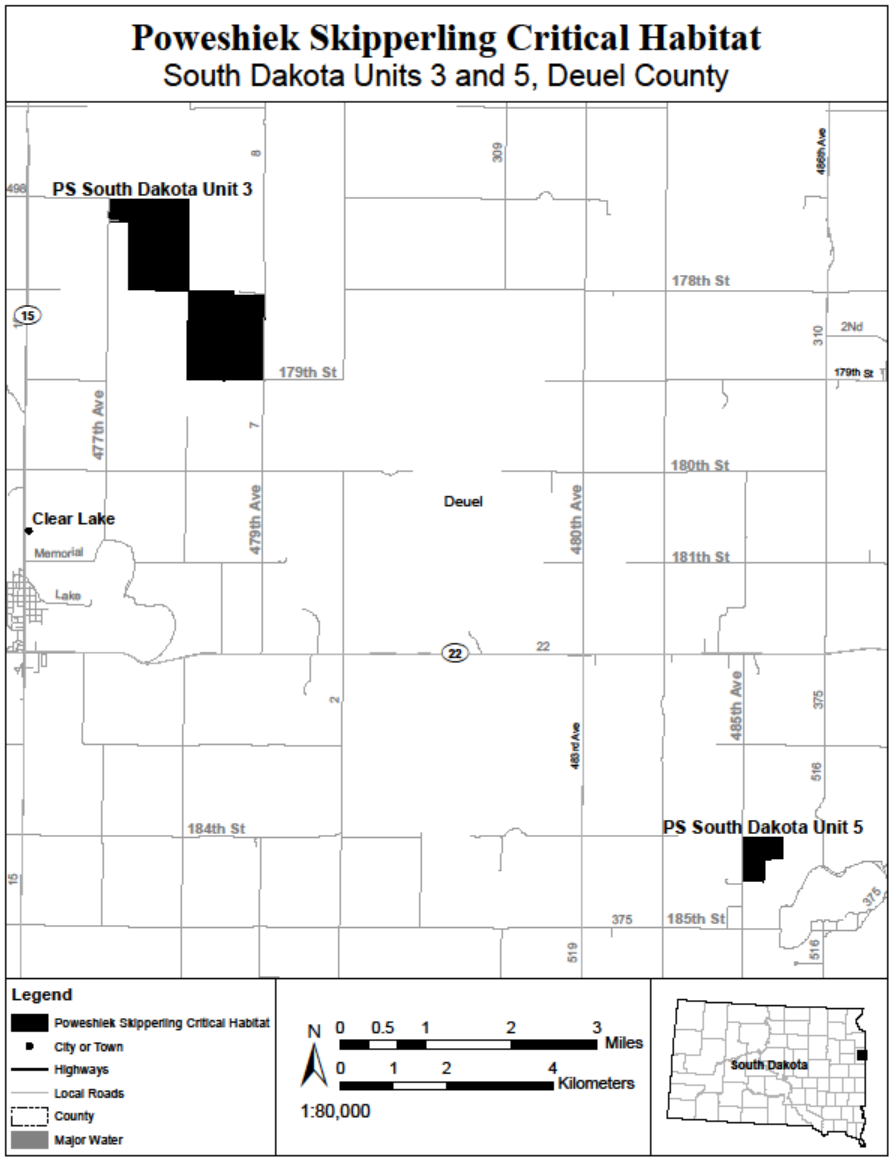
(43) PS South Dakota Unit 1, Marshall County, South Dakota. Map of PS South Dakota Unit 1 follows:



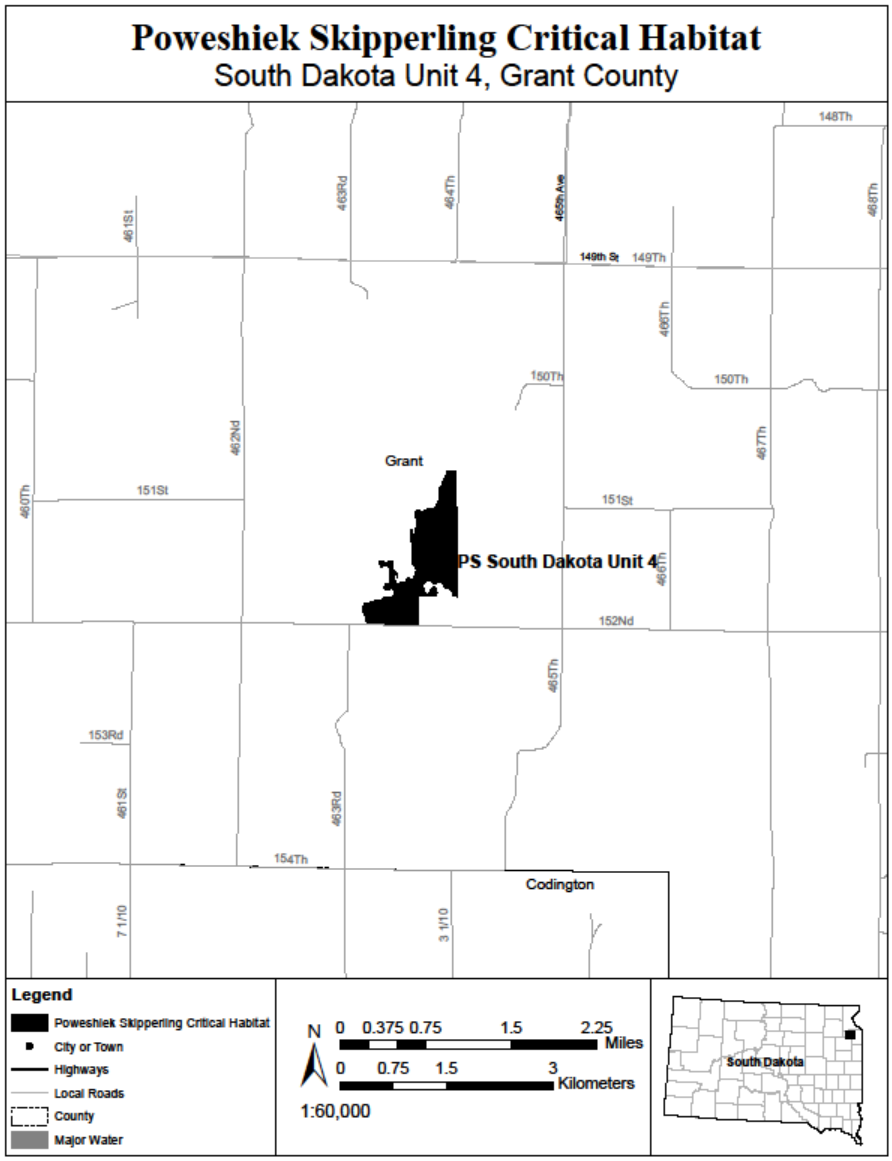
(44) PS South Dakota Unit 2, Brookings County, South Dakota. Map of PS South Dakota Unit 2 follows:



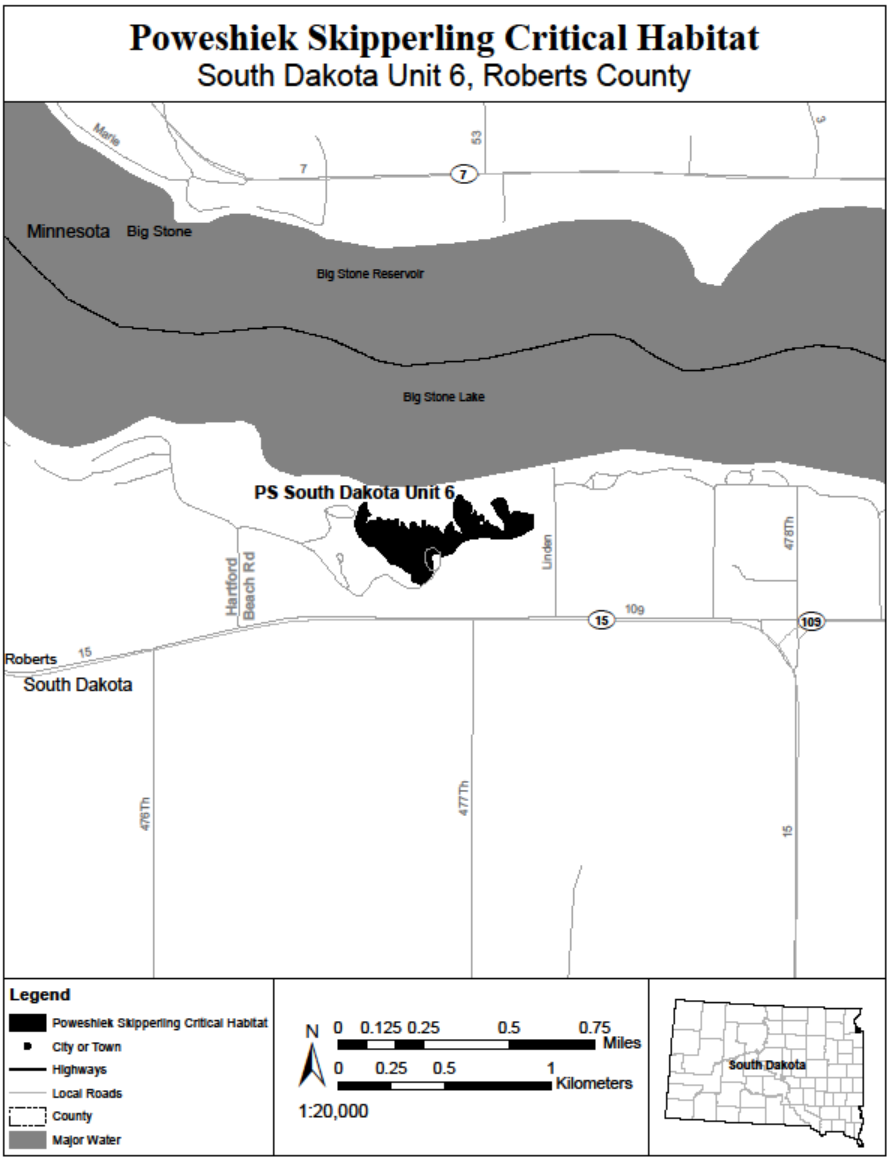
(45) PS South Dakota Units 3 and 5, Deuel County, South Dakota. Map of PS South Dakota Units 3 and 5 follows:



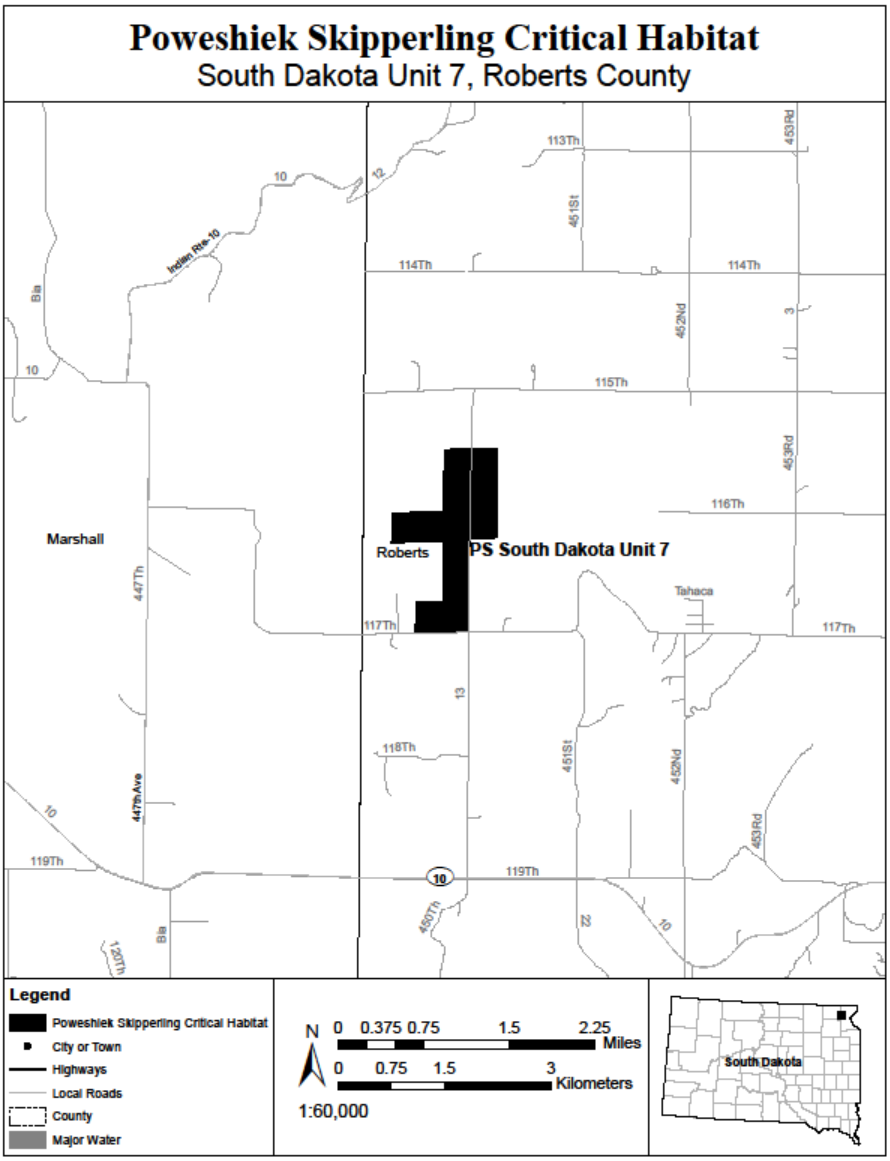
(46) PS South Dakota Unit 4, Grant County, South Dakota. Map of PS South Dakota Unit 4 follows:



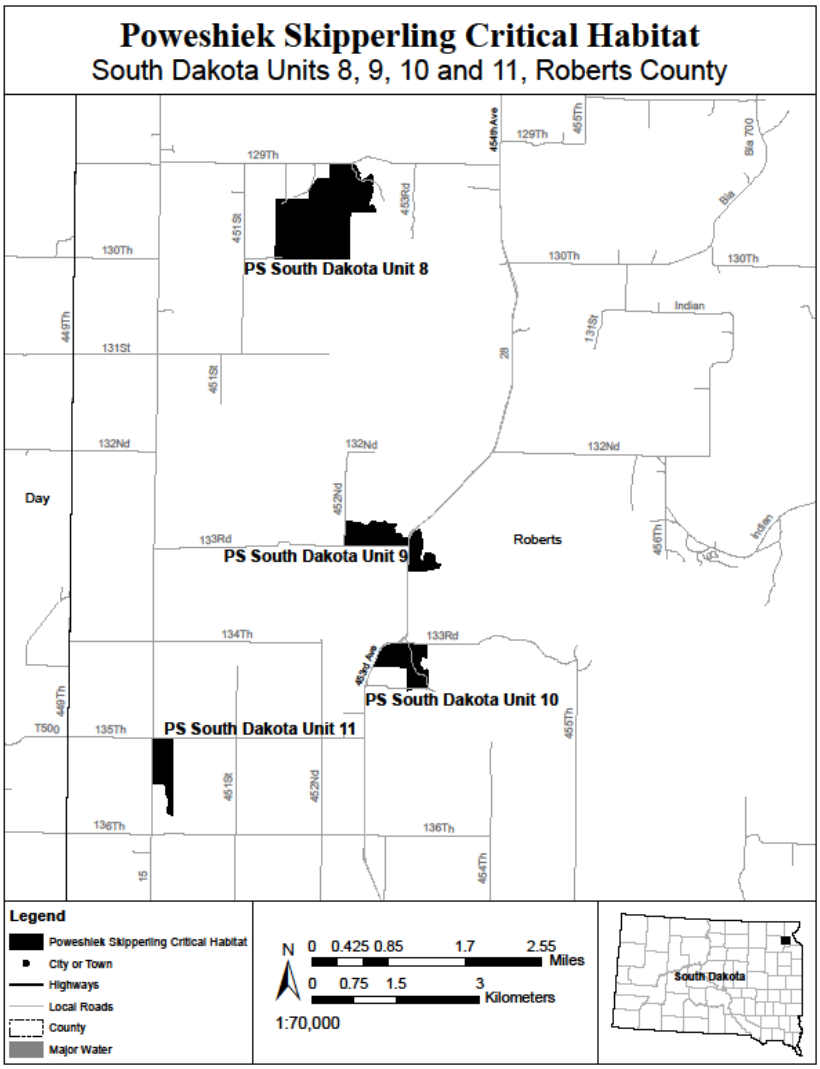
(47) PS South Dakota Unit 6, Roberts County, South Dakota. Map of PS South Dakota Unit 6 follows:



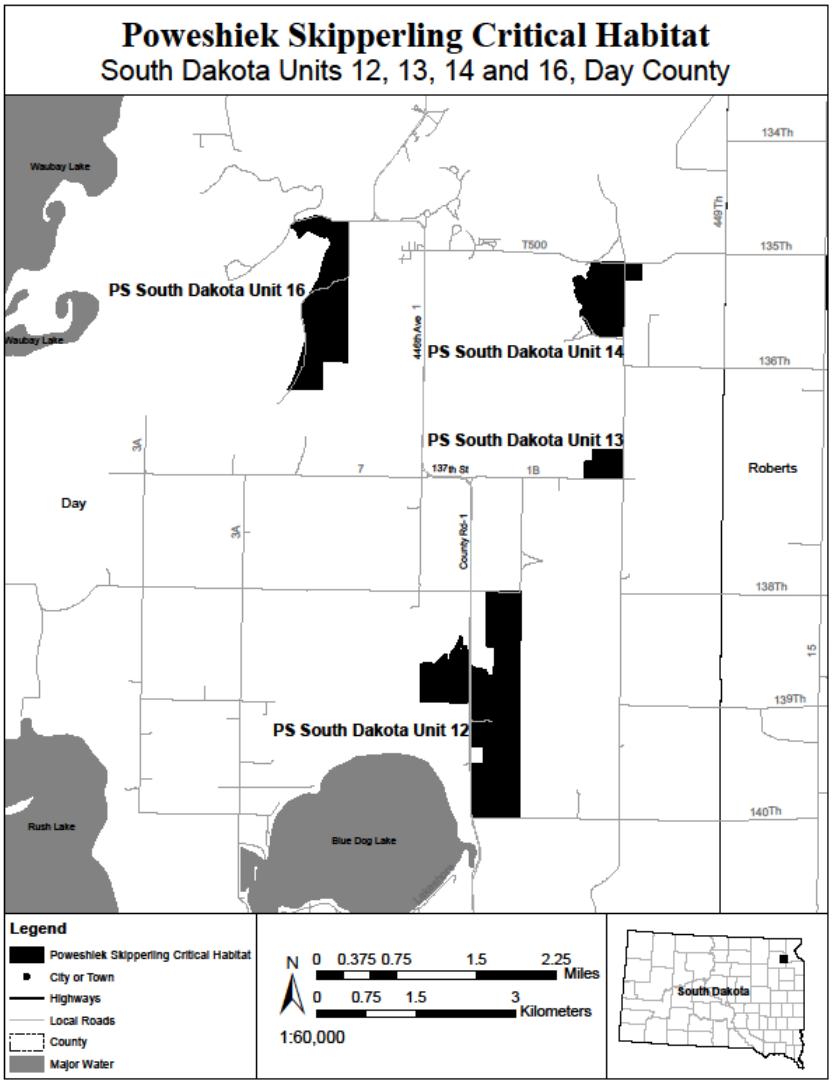
(48) Unit 48: PS South Dakota Unit 7, Roberts County, South Dakota. Map of PS South Dakota Unit 7 follows:



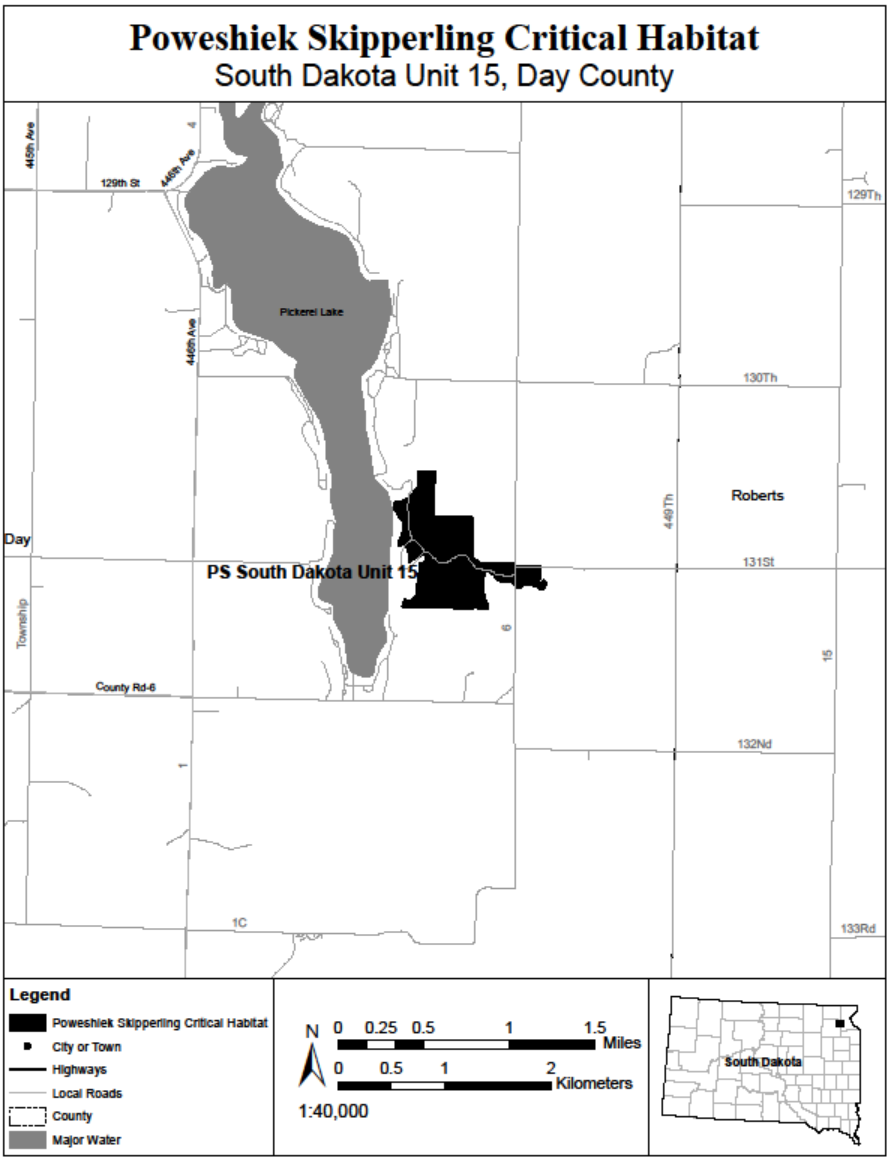
(49) PS South Dakota Units 8, 9, 10, and 11, Roberts County, South Dakota. Map of PS South Dakota Units 8, 9, 10, and 11 follows:



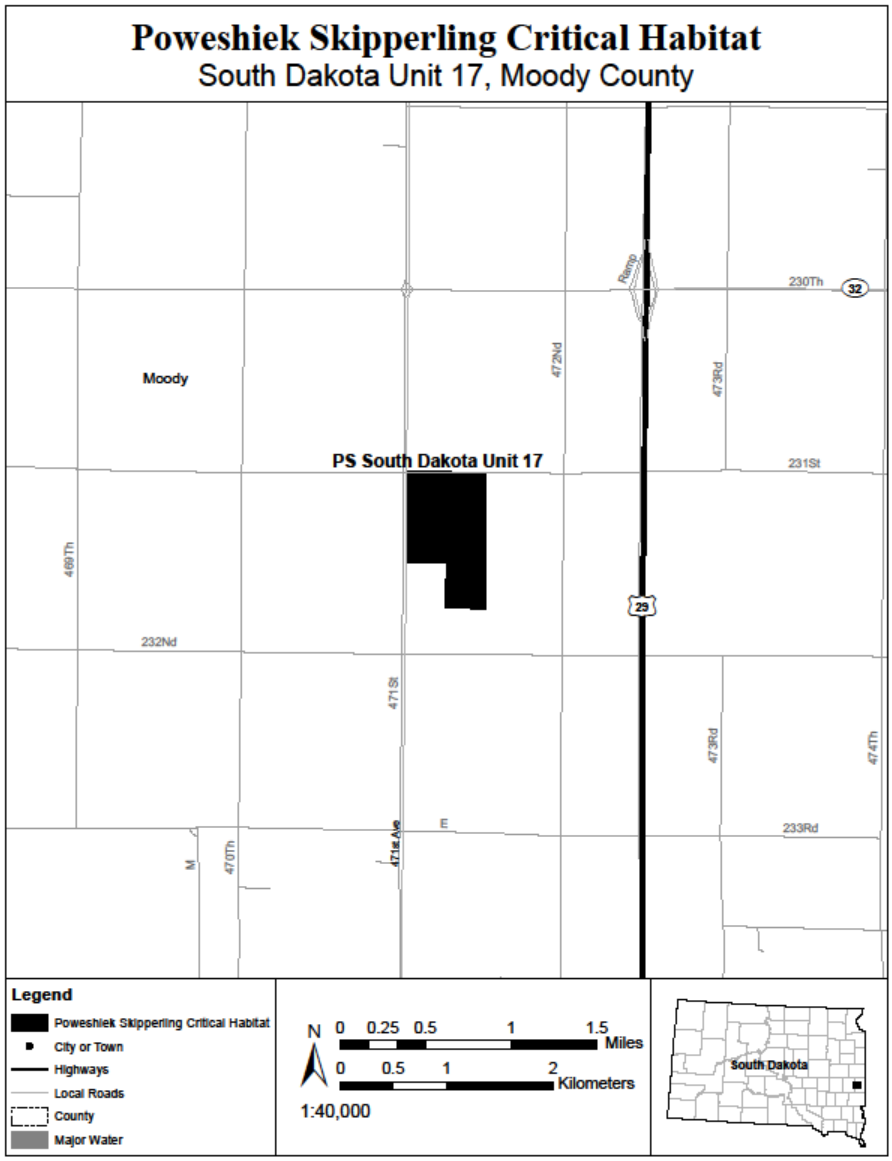
(50) PS South Dakota Unit 12, 13, 14, and 16, Day County, South Dakota. Map of PS South Dakota Units 12, 13, 14, and 16 follows:



(51) PS South Dakota Unit 15, Day County, South Dakota. Map of PS South Dakota Unit 15 follows:

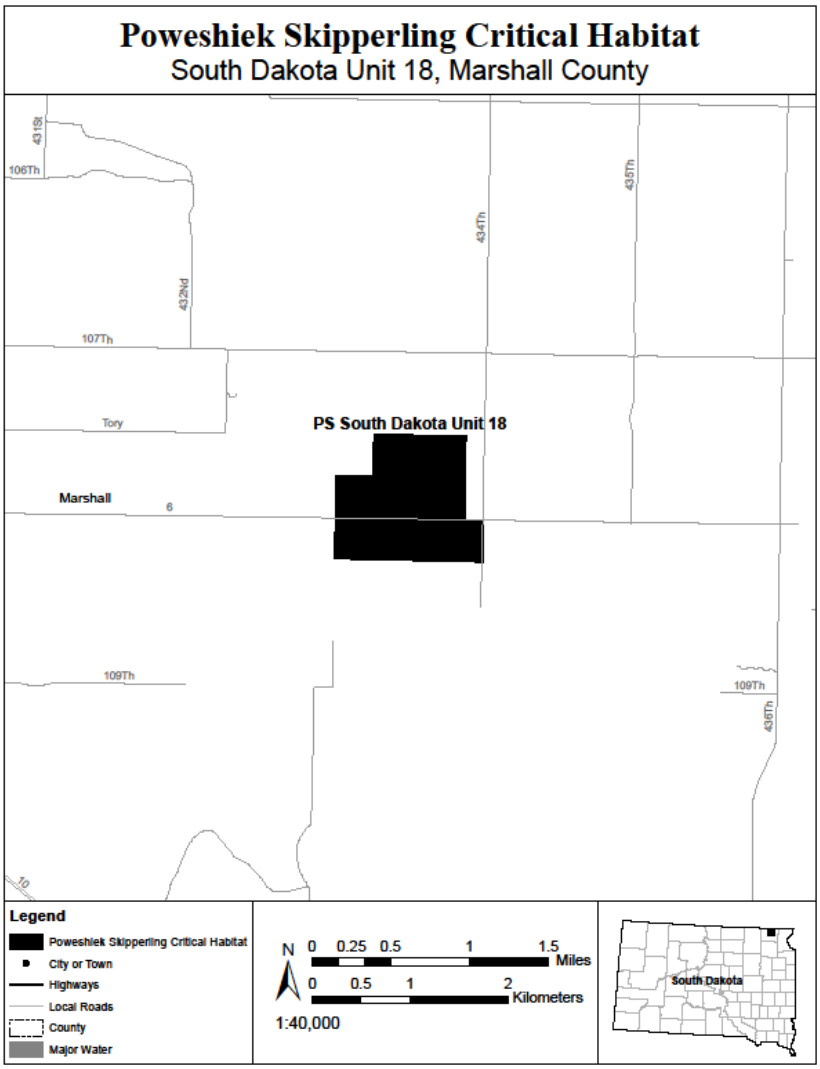


(52) PS South Dakota Unit 17, Moody County, South Dakota. Map of PS South Dakota Unit 17 follows:

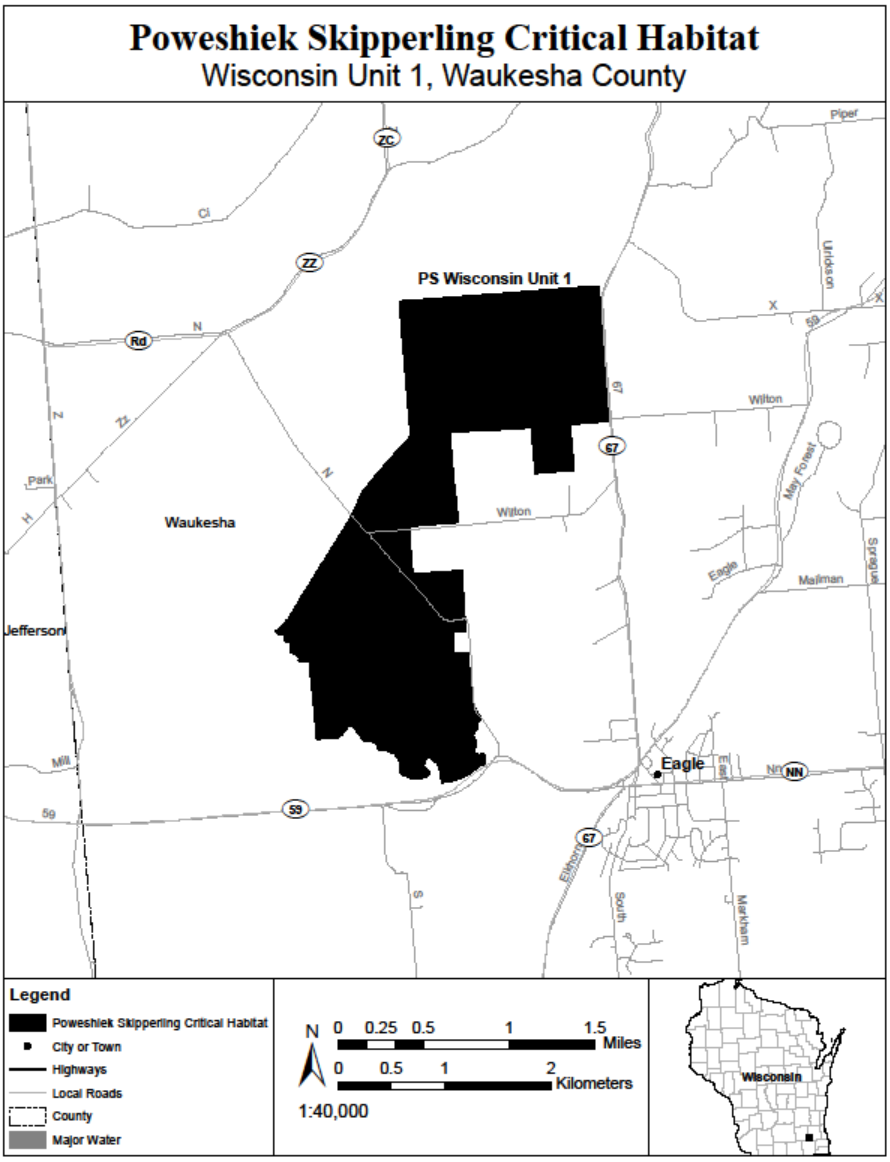


(53) PS South Dakota Unit 18, Marshall County and Roberts County, South Dakota.

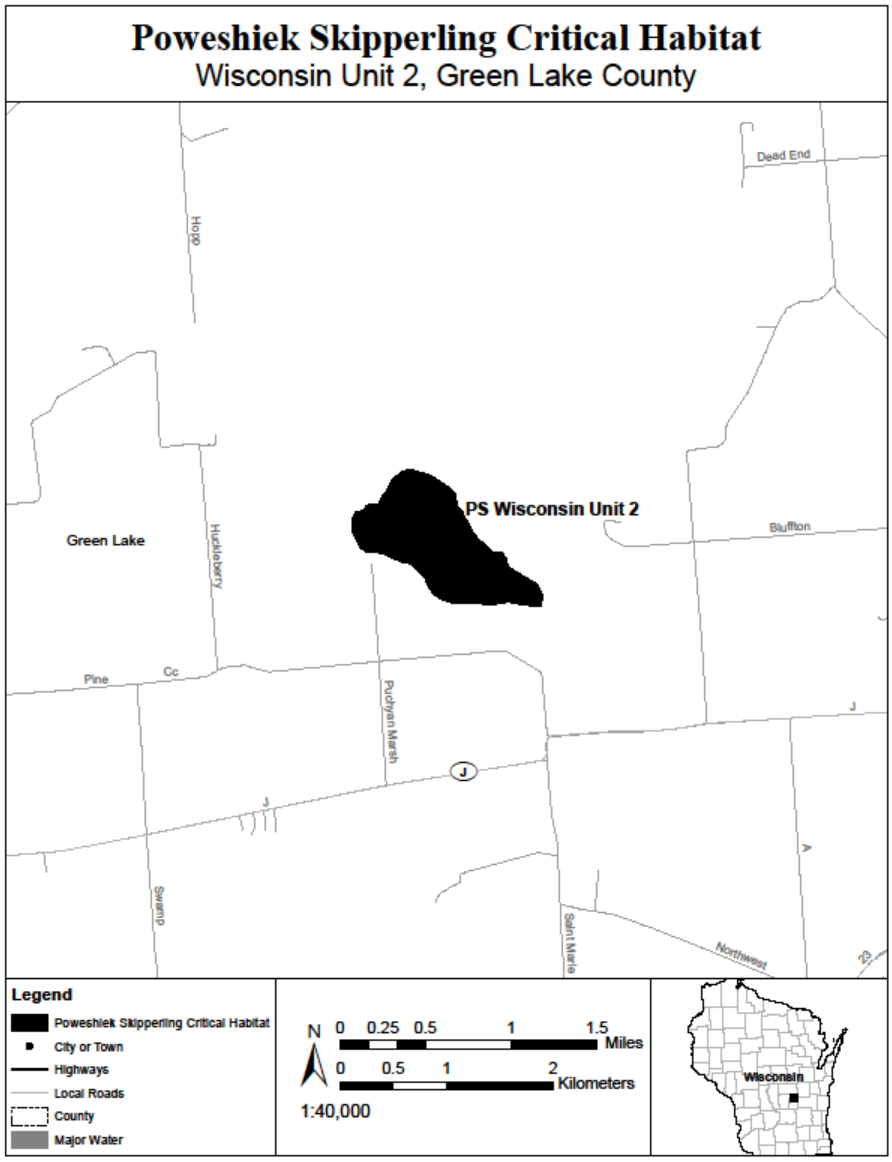
Map of PS South Dakota Unit 18 follows:



(54) PS Wisconsin Unit 1, Waukesha County, Wisconsin. Map of PS Wisconsin Unit 1 follows:



(55) PS Wisconsin Unit 2, Green Lake County, Wisconsin. Map of PS Wisconsin Unit 2 follows:



* * * * *

Dated: __09/27/2013_____

__Rachel Jacobsen_____

Principal Deputy Assistant Secretary for Fish and Wildlife and Parks

[~~Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Dakota skipper and Poweshiek skipperling~~]

[FR Doc. 2013-24778 Filed 10/23/2013 at 8:45 am; Publication Date: 10/24/2013]