

Biological Assessment Technical Report

Final Environmental Impact Statement

US-95 Thorncreek Road to Moscow

Project No. DHP-NH-4110(156);Key No 09294



United States Department of the Interior



FISH AND WILDLIFE SERVICE
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Consultation Code: 01EIFW00-2015-SLI-0451

April 27, 2015

Event Code: 01EIFW00-2015-E-00415

Project Name: US-95 Thorncreek Rd. to Moscow

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having

similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

Please note the module for identifying proposed and designated critical habitat by your defined project area is currently incomplete. At this time, we ask that you use the following County by County list to aid you in determining whether your project may affect proposed or designated critical habitat in your action area.

Canada Lynx (*Lynx canadensis*)

Designated Critical Habitat: (designated February 24, 2009) Boundary County.

Federal Register Notice:

<http://www.gpo.gov/fdsys/pkg/FR-2009-02-25/pdf/E9-3512.pdf#page=1>

Printable Maps:

http://www.fws.gov/mountain-prairie/species/mammals/lynx/criticalhabitat_files/20081222_fedre

GIS Data: http://criticalhabitat.fws.gov/docs/crithab/zip/lynx_ch.zip

KML for Google Earth: (None Currently Available)

Selkirk Mountains Woodland Caribou (*Rangifer tarandus Caribou*)

Proposed Critical Habitat: (proposed November 30, 2011) Bonner and Boundary Counties.

Federal Register Notice: <http://www.fws.gov/idaho/home/2011-30451FINALR.pdf>

Printable Maps: http://www.fws.gov/idaho/home/Map1_sub1_150.pdf

GIS Data: (None Currently Available)

KML for Google Earth: (None Currently Available)

Bull Trout (*Salvelinus confluentus*)

Designated Critical Habitat: (designated September 30, 2010) Adams, Benewah, Blaine, Boise, Bonner, Boundary, Butte, Camas, Clearwater, Custer, Elmore, Gem, Idaho, Kootenai, Lemhi, Lewis, Nez Perce, Owyhee, Shoshone, Valley, and Washington Counties.

Federal Register Notice:

<http://www.gpo.gov/fdsys/pkg/FR-2010-10-18/pdf/2010-25028.pdf#page=2>

Printable Maps: http://www.fws.gov/pacific/bulltrout/CH2010_Maps.cfm#CHMaps

GIS Data: <http://criticalhabitat.fws.gov/docs/crithab/zip/bulltrout.zip>

KML for Google Earth:

http://www.fws.gov/pacific/bulltrout/finalcrithab/BT_FCH_2010_KML.zip

Kootenai River White Sturgeon (*Acipenser transmontanus*)

Designated Critical Habitat: (designated July 9, 2008) Boundary County.

Federal Register Notice:

<http://www.gpo.gov/fdsys/pkg/FR-2008-07-09/pdf/E8-15134.pdf#page=1>

Printable Maps: (None Currently Available)

GIS Data: http://criticalhabitat.fws.gov/docs/crithab/zip/fch_73fr39506_acit_2009.zip

KML for Google Earth: (None Currently Available)

Slickspot Peppergrass (*Lepidium papilliferum*)

Proposed Critical Habitat: Ada, Canyon, Elmore, Gem, Owyhee, and Payette Counties.

Federal Register Notice: <http://www.gpo.gov/fdsys/pkg/FR-2011-10-26/pdf/2011-27727.pdf>

Printable Maps: <http://www.fws.gov/idaho/Lepidium.html>

GIS Data: (None Currently Available)

KML for Google Earth: (None Currently Available)

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: US-95 Thorncreek Rd. to Moscow

Official Species List

Provided by:

Idaho Fish and Wildlife Office
1387 SOUTH VINNELL WAY, SUITE 368
BOISE, ID 83709
(208) 378-5243

Consultation Code: 01EIFW00-2015-SLI-0451

Event Code: 01EIFW00-2015-E-00415

Project Type: Transportation

Project Name: US-95 Thorncreek Rd. to Moscow

Project Description: Evaluation of 4 alternatives for a highway improvement on US-95 between Moscow and Thorncreek Road. The project would improve safety and capacity and evaluates highway realignment alternatives.

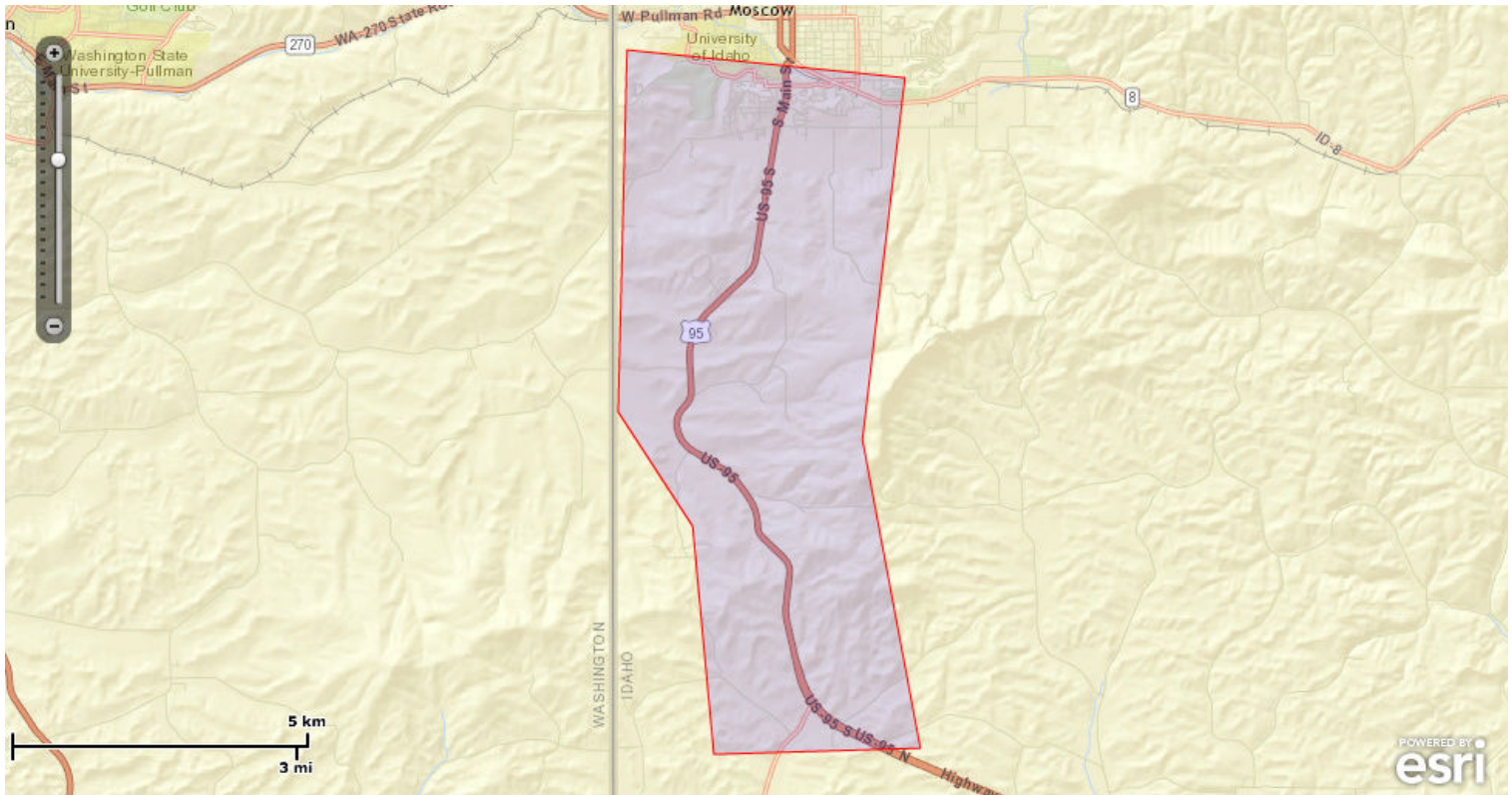
Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: US-95 Thorncreek Rd. to Moscow

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-117.036553 46.7272411, -116.9747549 46.7230284, -116.9842649 46.6678562, -116.9713216 46.6207398, -117.0172582 46.6198201, -117.0220304 46.6546611, -117.0385442 46.6720967, -117.036553 46.7272411)))

Project Counties: Latah, ID



United States Department of Interior
Fish and Wildlife Service

Project name: US-95 Thorncreek Rd. to Moscow

Endangered Species Act Species List

There are a total of 2 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Flowering Plants	Status	Has Critical Habitat	Condition(s)
Spalding's Catchfly (<i>Silene spaldingii</i>)	Threatened		
Water howellia (<i>Howellia aquatilis</i>)	Threatened		



United States Department of Interior
Fish and Wildlife Service

Project name: US-95 Thorncreek Rd. to Moscow

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Project No.: DHP-NH-4110(156)

Project Key No.: 9294

Date: 13 May 2014

Project title: A survey for the threatened plant species Spalding's catchfly (*Silene spaldingii*) in the Highway 95, Thorncreek Road to Moscow project area.

Author: Juanita Lichthardt, Vegetation Ecologist

INTRODUCTION

During 2005 I identified and delineated 33 remnants of native Palouse vegetation in the Thorncreek Road to Moscow project area (Lichthardt 2005; Figure 1). The project area contained various alternatives, determine by the Idaho Transportation Department (ITD), for widening and realigning a portion of highway 95 south of Moscow. Grassland portions of the remnants I identified represented the Idaho fescue/common snowberry (*Festuca idahoensis*/*Symphoricarpos albus*) plant association described by Daubenmire (1970). This plant association provides habitat for a number of rare plant species in this region including the federally listed Spalding's catchfly (Hill and Gray 2004). However, Spalding's catchfly was not found anywhere in the project area during the 2005 surveys.

In 2006, however, Spalding's catchfly was found in remnant G12, just south of Moscow (Figure 1), during an Idaho Native Plant Society field trip. Six flowering plants were observed. These data were sent to the Idaho Natural Heritage Program (INHP), and environmental staff at ITD were notified.

One consideration when surveying for Spalding's catchfly is its capacity for prolonged dormancy. An individual plant can remain alive without producing above-ground growth for up to three consecutive years (Lesica 1997). For this reason, I resurveyed six of the highest quality remnants (G1, G3, G4, G5, G9, and SEPR) in 2007, at an appropriate time of year, but did not find Spalding's catchfly.

In 2011, a separate study conducted by the Idaho Natural Heritage Program targeted native grassland remnants throughout Latah County (Hill 2011). As part of this study, 13 of the remnants (SEPR, G2, G3, G4, G5, G6, G7, G8, G9, G10, G14, G15, and M1) were again surveyed at a time appropriate for finding Spalding's catchfly. Spalding's catchfly was not found in any of these remnants.

This report documents a resurvey of portions of seven of the remnants in 2013.

METHODS

Not all of the remnants identified in the project area were resurveyed in 2014. Remnants were prioritized based on their cover type, condition, and proximity to a project footprint. 2005 methods are described below as background for remnant selection.

Original (2005) survey methods

The 2005 survey (Lichthardt 2005) targeted nine rare plant species tracked by the INHP, in addition to remnants of native Palouse vegetation. The target plant species were: Jessica's aster (*Aster jessicae*), Palouse milkvetch (*Astragalus arrectus*), Green-band mariposa lily (*Calochortus macrocarpus* var. *maculosus*), broad-fruit mariposa lily (*Calochortus nitidus*), Palouse thistle (*Cirsium brevifolium*), Idaho hawkbeard (*Crepis bakeri* ssp. *idahoensis*), Palouse goldenweed (*Pyrrocoma liatrifolmis*), ample monkey-flower (*Mimulus ampliatus*), and Spalding's catchfly (*Silene spaldingii*).

A remnant was defined as an unplowed patch of native vegetation at least 0.1 ac in size, with less than 50% cover of non-natives. I examined an aerial photo of the project area to identify potential remnants, and then conducted a ground survey of each site identified. This process was conducted without regard for the specific project footprints. Remnants were subdivided into different cover types (grassland, snowberry, hawthorn, pine, aspen, or mixed), and coded with a letter indicating their cover type (Table 1). The exception was the South End Paradise Ridge site (SEPR), a mixed-cover site previously recognized as important by the INHP (Lichthardt and Moseley 1997) and designated by that name. I used the acronym SEPR to refer to that site. In Table 1 adjoining remnants of different cover or condition are combined into remnant complexes (e.g., "SEPR/G9/G10").

Grassland remnants were the most intensively surveyed because they represented potential habitat for all of the target species except Jessica's aster. Grassland remnants were also ranked as to condition, A to C, with A indicating the best condition. This condition rank was based solely on the cover and extent of non-native species. The only significant non-native species were grasses, both annual and perennial. The protocol I used was that class A grassland remnants could have patches of annual grasses, but these were restricted in extent (minor relative to size of remnant) and abundance, such that 80-90% of the community was intact, without exotic annuals or only sparsely infested. In a class A remnant the perennial grasses tall oatgrass (*Arrhenatherum elatius*) and smooth brome (*Bromus inermis*) were absent,¹ and Kentucky bluegrass (*Poa pratensis*) was inconspicuous. In class B remnants, annual or perennial exotic grasses had made inroads to the extent that they could not be excluded from the remnant polygon. This meant that tall oatgrass might have been scattered within. In class C grasslands, annuals were dense and extensive and appeared to have displaced bunchgrass cover in some places, but patches of equal or greater size, in good condition, were mixed within.

In addition, all of the remnants, regardless of cover type, were assigned a conservation value, 1 to 4 (highest to lowest), relative to others in the project area, based on size and condition (Table 1). This ranking system was a modification of Natural Heritage Program methodology (NatureServe 2002) in which plant communities or populations are ranked A-D based on condition, size, and landscape context. Because these communities all occur in the same general landscape context, the ranking system was simplified by setting them all equal in this respect. The condition was a subjective assessment based on the extent of non-native species (It was less subjective for grassland communities as described above). The South End Paradise Ridge remnant (SEPR) being the largest, and of good to excellent condition, was the only remnant given a rank of 1. Six remnants were given a rank of 2. (Lichthardt 2005.)

¹ They had no tall oatgrass or smooth brome in the remnant as delineated, but all have smooth brome or other weeds at or near their margins.

2013 survey

Remnants for the 2013 survey were selected based on their proximity to a project footprint (Figure 1), cover type, condition rank assigned in the original 2005 survey, and my ability to secure landowner approval to evaluate the site. Among the plant communities in the project area, Idaho fescue grasslands in good condition are the most likely to support Spalding's catchfly, and rare plant populations in good-condition habitat are the most likely to be viable over the long-term, so prioritizing remnants in this way optimized the probability of finding Spalding's catchfly, in a site susceptible to project impacts, within the timeframe available to me during August of 2013. All but two of the selected remnants contained A-ranked grassland.

Grassland portions of five remnants were resurveyed: G2, G3, G4, G5/G10, and M5. S2, which consisted mostly of tall forb and shrub cover, was also surveyed. In addition, I extended my original survey downstream from remnant A2 (Figure 1), at the request of ITD, in the vicinity of the eastern alternative.

I conducted the surveys between 8 August and 22 August. I recorded my routes with a hand-held GPS unit. As I searched a previously delineated remnant, I made a list of all vascular plant species observed (Table 2). The new remnants discovered, G16 and G17 were exceptions. There I was focused on determining whether they qualified as remnants and where the boundaries should be, and I did not make a complete species list. For all remnants I recorded the location of any species tracked by the INHP. These included Palouse goldenweed (*Pyrrocoma liatrifolmis*) and Palouse thistle (*Cirsium brevifolium*). These data were provided to Anderson Environmental Consulting LLC and ITD.

The SEPR remnant was excluded from the survey due to its size and the time frame available. However, G5 and G10 contain grassland habitat of comparable quality and occur closer to a footprint. The very small, G1 grassland should have been revisited based on its proximity to a footprint, but I was unable to make landowner contact during the appropriate survey time. I did not consider it a high priority, since it had been thoroughly surveyed in 2005 and 2007, and visited by botanists looking for Spalding's catchfly on two occasions prior to 2005.

RESULTS

Spalding's catchfly was not found in any of the eight remnants surveyed. Most of the habitat appeared suitable and included several Spalding's catchfly associates (Table 1). S2 was probably the least suitable, being low in bunchgrasses, and Idaho fescue was not noted there. Five known populations of Palouse goldenweed were relocated, and one of Palouse thistle. In addition, two populations of Palouse goldenweed were extended: in G16 to within 50 ft of the eastern alternative, and near M5, to within 375 ft of the eastern alternative.

Downstream from A2, in the vicinity of the eastern alternative, I delineated two, Class C grassland remnants (G16 and G17; Figure 1), and discovered a small, previously unrecorded native grassland patch. The new grassland patch discovered was measured at 0.07 ac, so did not technically represent a remnant, by my original criteria of at least 0.1 ac size. However, it did contain a population of about 30 individuals of Palouse goldenweed, within 400 ft of the eastern alternative.

REFERENCES CITED

- Hill, J.L. 2011. Conservation of the Palouse Prairie Ecosystem - Phase 3. Site Assessment of Potential Remnants of Palouse Grassland in Latah County, Idaho. 2010 Progress Report and Final Report (2008-2010). U.S. Fish and Wildlife Service, Boise, Idaho, and Idaho Natural Heritage Program, Idaho Department of Fish and Game, Boise, Idaho. 36 pp., plus appendices.
- Hill, J.L. and K.L. Gray. 2004. Conservation strategy for Spalding's catchfly (*Silene spaldingii* Wats.). Idaho Conservation Data Center, Idaho Department of Fish and Game, Boise. 154 pp.
- Lesica, P. 1997. Demography of the endangered plant, *Silene spaldingii* (Caryophyllaceae) in northwest Montana. *Madroño* 44:347-358.
- Lichthardt, J. 2005. Biological evaluation of plant species and communities of conservation concern in the U.S. highway 95–Thorncreek Road to Moscow–project area. Idaho Conservation Data Center, Idaho Department of Fish and Game, Boise. 44 pp.
- Lichthardt, J. and R.K. Moseley. 1997. Status and conservation of the Palouse Grassland in Idaho. Idaho Conservation Data Center, Idaho Department of Fish and Game.
- NatureServe. 2002. Element occurrence data standard. NatureServe, Arlington, Virginia, USA: NatureServe. 201 pp. Available: <http://www.natureserve.org/conservation-tools/standards-methods/element-occurrence-data-standard>. (Accessed 10 January 2014).
- NatureServe. 2014. NatureServe Explorer: An On-line Encyclopedia of Life [web application]. Version 7.1. NatureServe, Arlington, Virginia, USA. Available: <http://www.natureseve.org/explorer>. (Accessed 9 May 2014).

Table 1. Relative conservation value of remnants in the study area, based on key biodiversity factors (adapted from Lichthardt 2005).

Value	Remnant ^f	Sec. ^g	Communities ^a					Rare species ^{a,b}				Notes	
			Fescue/snowberry (G1)			Hawthorn (G1)	Snowberry ^c (G1)	PG (G2)	PM (G2G4)	BL (G3)	PT (G3)		
			Condition rank ^d		ac	ac	ac	Conservation value ^e					
			A	B				C					
1	SEPR/G5/G10		x	x	x	35 ^h		x	A		D	A	~40 ac ponderosa pine
2	G15	13	x			3.0			A		x		
	G7	12	x			0.5	0.69		D			x	Hawthorn was not mapped
	G1/H2	29	x			0.2	1.70	<0.1					
	G3/H4	8	x			0.4	0.79	<0.1	C			D	
	G4/S1/S8	7	x			0.2		1.90	A				
	G9	5	x			0.1			A				
3	G12/G13	30		x	x	1.1			B	x			Spalding's catchfly, condition D
	G8/G14/H6	12		x		0.7	1.41						
	G2	7		x		0.2			A				> 100 plants of Palouse goldenweed
	M5/P1	5		x		<0.1		0.1				x	~1.4 ac ponderosa pine & 1.4 ac mixed
	G6/M1	12/7			x	0.1	1.31						
4	H1	12					2.30						
	H3	8					0.30						
	S6	5						0.79	C			A	
	S4	5			x	<0.1		0.20	B				
	S2	6						0.42				x	
	S3	5						0.20				x	
	S7	5						1.09					
	M4	7					0.25	x					
	A1	32											1.3 ac
	A2	32											2.0 ac
	G16	32			C	0.5			C				Discovered in 2013
	G17	32			C	0.2			C				Discovered in 2013

^a With NatureServe (2014) conservation rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = vulnerable globally; G4 = apparently secure; G2G4 indicates uncertainty about the rank.

^b Palouse goldenweed (PG), Palouse milkvetch (PM), broad-fruit mariposa lily (BL), and Palouse thistle (PT), with NatureServe conservation ranks ^a

^c The snowberry community is considered a phase of the Idaho fescue/snowberry association (NatureServe 2014).

^d From A, excellent to C, poor; see text for criteria.

^e From A (most viable) to D (least viable); x=not ranked

^f G = grassland (Fescue/snowberry), S = snowberry, H = hawthorn, P = pine, A = aspen, M = mixed, SEPR = South End Paradise Ridge Conservation Site.

^g Sec. = section in which the remnants occur.

^h A-ranked portion = 7.4 ha (18 ac), B-ranked = 2.3 ha (5.7 ac), C-ranked = 4.6 ha (11.5 ac).

Table 2. Species lists from each of eight remnants surveyed in 2013(a complete list of vascular species with the exception of G16 & 17).

Scientific name	Common name	Remnant							
		G2	G3	G4	G5/ G10	S2	M5	G16	G17
SHRUBS									
<i>Amelanchier alnifolia</i>	Serviceberry	x		x	x		x		
<i>Crataegus douglasii</i>	Black hawthorn		x		x	x			
<i>Eriogonum heracleoides</i>	Wyeth buckwheat				x			x	x
<i>Juniperus occidentalis</i>	Western juniper		x						
<i>Juniperus scopulorum</i>	Rocky Mtn juniper					x			
<i>Prunus virginiana</i>	Chokecherry		x		x		x		
<i>Rosa nutkana</i>	Nutka rose	x	x	x		x	x		
<i>Spiraea betulifolia</i>	Birch-leaved spiraea		x	x	x	x	x		
<i>Symphoricarpos albus</i>	Common snowberry	x	x	x	x	x	x		
GRAMINOIDS									
<i>Alopecurus pratensis^b</i>	Meadow foxtail	x		x					
<i>Arrhenatherum elatius^b</i>	Tall oatgrass				x	x	x	x	
<i>Bromus inermis^b</i>	Smooth brome					x			
<i>Bromus japonicus^b</i>	Japanese brome	x	x	x	x		x		x
<i>Bromus tectorum^b</i>	Cheatgrass		x						
<i>Carex geyeri</i>	Geyer's sedge	x	x	x	x	x	x		
<i>Elymus elongates^b</i>	Tall wheatgrass					x			
<i>Festuca idahoensis^a</i>	Idaho fescue	x	x	x	x		x	x	x
<i>Koeleria macrantha^a</i>	Junegrass	x	x	x	x				
<i>Poa bulbosa^b</i>	bulbous bluegrass	x						x	x
<i>Poa palustris^b</i>	Fowl bluegrass					x			
<i>Poa pratensis^b</i>	Kentucky bluegrass	x	x	x	x	x	x		
<i>Poa secunda</i>	Sandberg's bluegrass	x		x	x				x
<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass	x	x	x	x	x	x	x	x
<i>Stipa</i> sp.	Needle and thread grass					x	x		
<i>Ventenata dubia^b</i>	Windgrass	x	x	x	x				
FORBS									
<i>Achillea millefolium</i>	Western yarrow	x	x	x	x				
<i>Agastache urticifolia</i>	Nettleleaf giant hyssop		x		x	x			
<i>Allium</i> sp.	Wild onion		x		x				
<i>Apocynum androsaemifolium</i>	Dogbane	x	x	x	x				
<i>Aster conspicuous</i>	Eastern showy aster					x			
<i>Aster occidentalis</i>	Western aster	x	x	x	x	x			
<i>Balsamorhiza sagittata</i>	Arrow-leaf balsamroot	x	x	x	x		x		
<i>Besseyia rubra</i>	Red besseyia		x		x		x		
<i>Castilleja</i> sp.	Indian paintbrush	x	x	x		x	x		
<i>Centaurea Montana^b</i>	Batchelor buttons	x							
<i>Cirsium brevifolium</i>	Palouse thistle					x			
<i>Collomia grandiflora</i>	Grand collomia		x		x		x		
<i>Crupina vulgaris</i>	Common crupina	x		x					
<i>Delphinium</i> sp.	Larkspur	x							
<i>Epilobium angustifolium</i>	fireweed					x			

<i>Epilobium paniculatum</i>	Willowweed	x		x	x				
<i>Erigeron corymbosus</i> ^a	Longleaf fleabane	x		x			x		
<i>Fragaria virginiana</i>	strawberry					x			
<i>Gaillardia aristata</i>	Blanketflower	x		x	x	x	x		
<i>Galium boreale</i> ^a	Northern bedstraw		x		x	x	x		
<i>Gentiana algida</i> ^a	Pleated gentian		x		x	x	x		
<i>Geranium viscosissimum</i> ^a	Sticky geranium	x	x	x	x	x	x		
<i>Geum triflorum</i> ^a	Prairie smoke	x	x	x	x		x		
<i>Gnaphalium</i> sp.	Cudweed				x				
<i>Habenaria unalaskensis</i>	Slender-spire orchid					x			
<i>Helianthella uniflora</i>	Little sunflower	x				x	x		
<i>Heracleum maximum</i>	Cow parsnip					x			
<i>Heuchera cylindrica</i> ^a	Alum-root		x		x	x	x		
<i>Hieracium albertinum</i> ^a	Western hawkweed	x	x	x	x	x	x		
<i>Hypericum perforatum</i> ^b	St. John's wort	x		x		x			
<i>Iris missouriensis</i> ^a	Blueflag iris		x		x	x	x		
<i>Lactuca serriola</i> ^b	Prickly lettuce		x		x				
<i>Lepidium</i> sp.	annual peppergrass	x							
<i>Lithospermum ruderales</i>	Puccoon	x	x	x		x			
<i>Lomatium dissectum</i>	Fern-leaved lomatium	x	x	x	x	x	x		
<i>Lomatium triternatum</i>	Nine-leaf lomatium	x	x	x			x		
<i>Lupinus arbustus</i>	Longspur lupine						x		
<i>Lupinus sericeus</i>	Silky lupine	x	x	x	x	x			
<i>Madia</i> sp.	Tarweed								x
<i>Penstemon attenuatus</i>	Narrow-leaf penstemon				x				
<i>Perideridea gairdneri</i> ^a	Yampa	x	x	x	x	x	x		
<i>Phlox gracilis</i>	Slender phlox						x		
<i>Phlox longifolia</i>	Long-leaf phlox								
<i>Potentilla arguta</i>	Tall cinquefoil	x	x	x	x		x		
<i>Potentilla gracilis</i>	Slender cinquefoil	x	x	x	x	x	x		
<i>Pyrrocoma liatrifomis</i> ^a	Palouse goldenweed	x	x	x	x		x	x	x
<i>Rumex acetosella</i> ^b	Common sheep sorrel								
<i>Sanguisorba minor</i> ^b	Small burnet		x						
<i>Senecio integerrimus</i>	Lambstongue ragwort		x		x		x		
<i>Senecio serra</i>	Tall ragwort					x			
<i>Silene douglasii</i>	Douglas campion		x		x		x		
<i>Silene scouleri</i>	Simple campion				x	x			
<i>Sisymbrium altissimum</i> ^b	Tumble mustard								
<i>Solidago missouriensis</i>	Goldenrod	x	x	x	x	x			
<i>Tragopogon dubius</i>	Yellow salsify				x				
<i>Triteleia grandiflora</i>	Largeflower triteleia		x						
<i>Viola adunca</i>	Early blue violet					x	x		
<i>Wyethia amplexifolius</i>	Mule's ears	x		x			x		
<i>Zygadenus venenosus</i>	Death camas	x		x	x		x		

^a Spalding's catchfly associate

^b Exotic

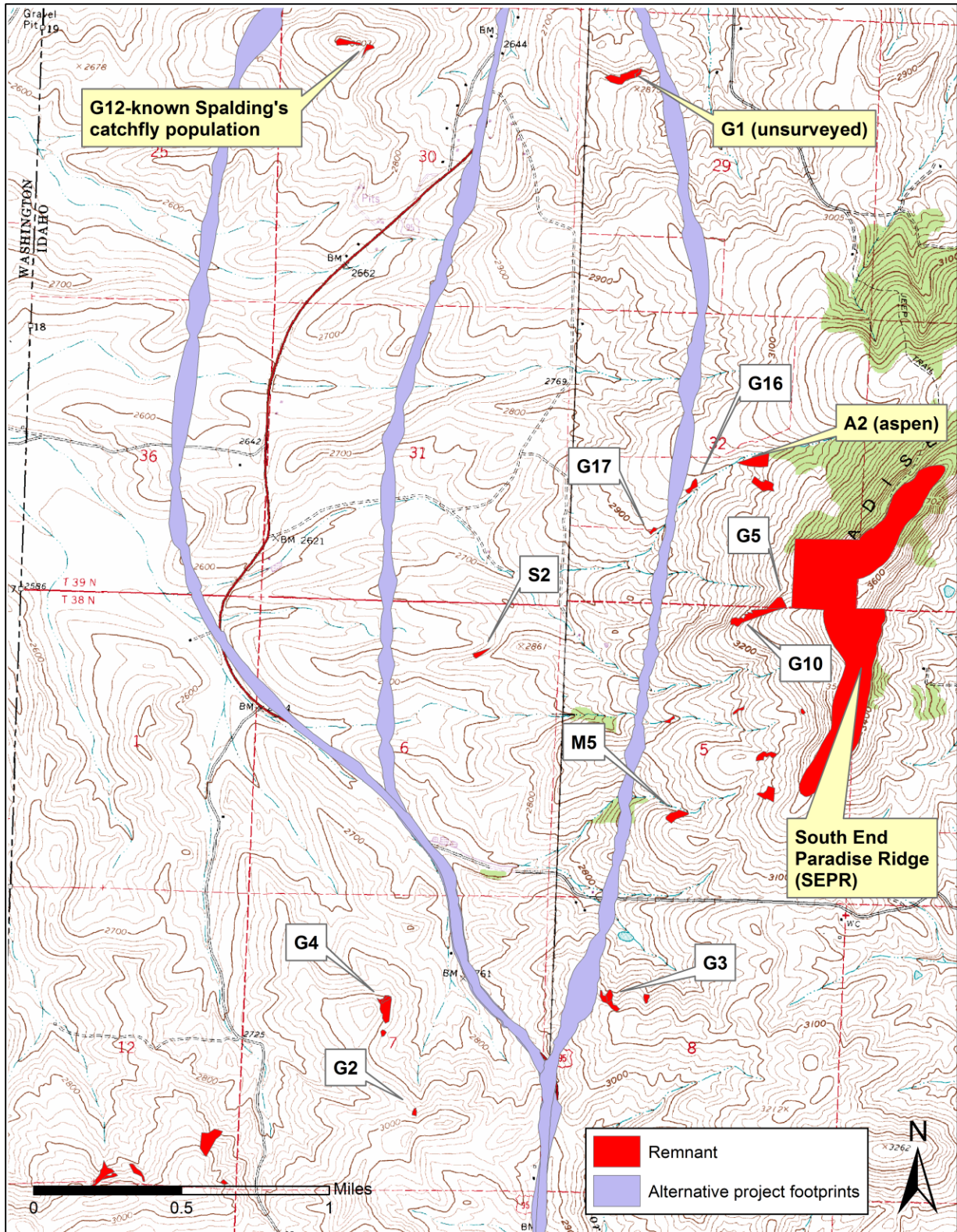


Figure 1. Remnants of Palouse vegetation identified during 2005 & 2013 survey work. Remnants with white labels were surveyed for Spalding's catchfly in 2013. G16 & G17 were discovered in 2013 (G=grassland remnant, S=shrubland, M=mixed grassland and forest).

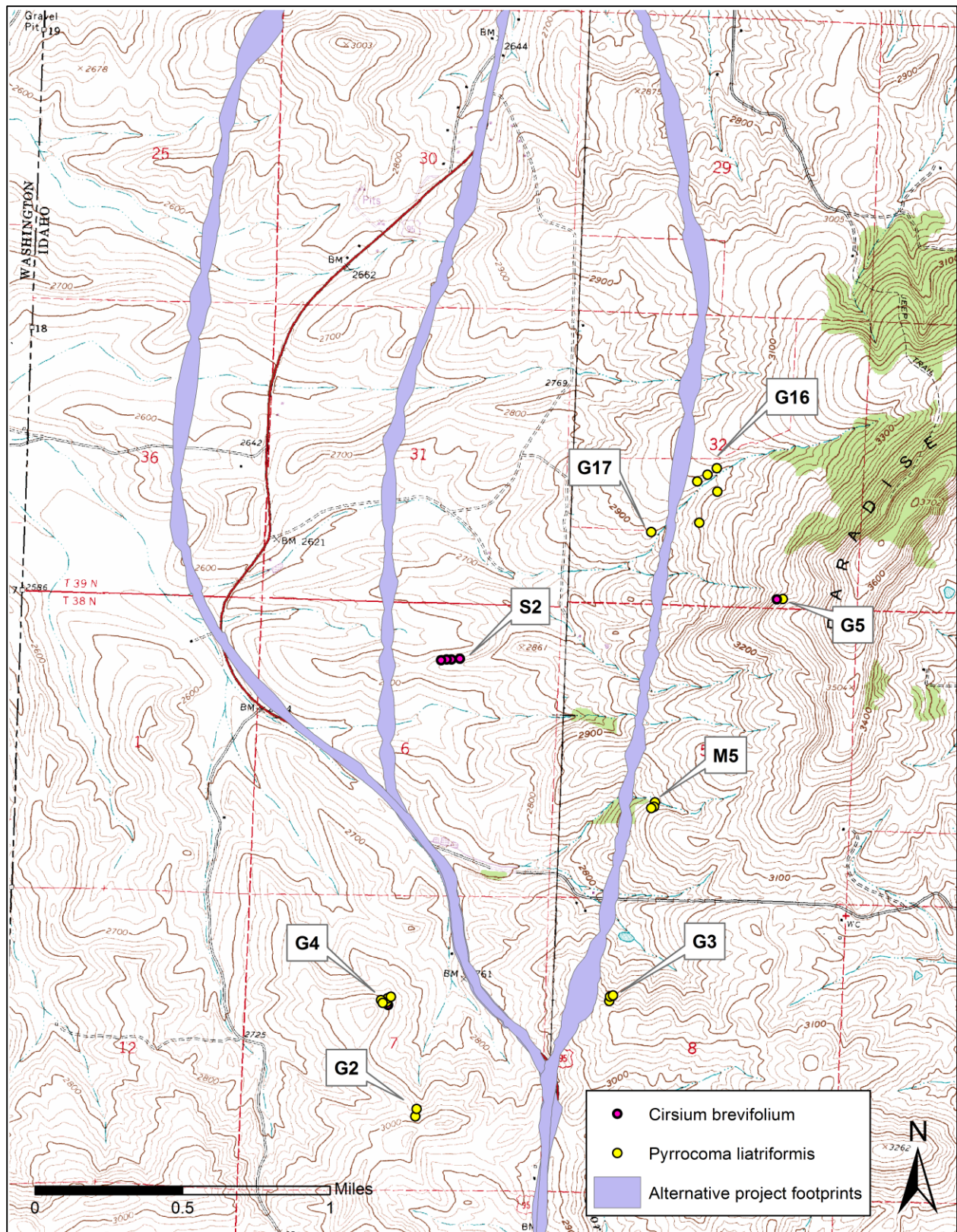


Figure 2. Locations at which rare plants were recorded in 2013, with remnant numbers.

BIOLOGICAL ASSESSMENT
THORNCREEK ROAD TO MOSCOW
HIGHWAY CONSTRUCTION PROJECT

STATE OF IDAHO
TRANSPORTATION DEPARTMENT

Project Number: DHP-NH-4110 (156)
Key Number: 9294

Location

Hwy 95 South of Moscow
Latah County, Idaho

T39N R05W Sections 19, 20, 29, 30, 31, and 32
T39N R06W Sections, 24, 25, and 36
T38N R05W Sections 5, 6, 7, 8, 9, 17, 18, and 20
T38N R06W Sections 1, 12, and 13

USGS Quadrangles: Moscow West, Idaho and Moscow East, Idaho

FEBRUARY 2007

TABLE OF CONTENTS

I. EXECUTIVE SUMMARY	3
II. PROJECT DESCRIPTION	4
A. Location	4
B. Project and Action areas	4
C. Proposed Action	5
D. Best Management Practices and Measures to Minimize Impacts	5
E. Monitoring	6
III. ENVIRONMENTAL BASELINE	6
IV. SPECIES ACCOUNTS, EFFECTS ANALYSIS AND DETERMINATIONS	6
A. Gray Wolf	6
B. Canada Lynx	6
C. Spalding's Catchfly	7
D. Water Howellia	7
E. Steelhead Trout	7
V. EFFECTS OF THE ACTION	8
A. Direct and Indirect Effects	8
B. Cumulative Effects	8
C. Interrelated and Interdependent Effects	8
VI. REFERENCES	8

List of Tables

Table 1	Endangered, Threatened, Proposed, and Candidate species known or suspected to occur in Latah County, Idaho.	3
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List of Figures

Figure 1.	Vicinity of Project Area in Latah County, Idaho.	4
Figure 2.	View of the Project Area showing the extensive agricultural use; looking south southwest.	5

I. Executive Summary

The Idaho Transportation Department (ITD) is proposing to expand a 6.5-mile (10.5-kilometer) section of US 95 from a two-lane principle arterial to a four-lane divided highway that meets current highway safety standards. The proposed section of expansion extends from 1 mile south of Moscow to approximately 8 miles north of Genesee in Latah County, Idaho. The yet-to-be-determined alignment of the new highway would occur within the defined Project Area (Figure 1).

The purpose of this Biological Assessment (BA) is to analyze the potential impacts of the proposed highway expansion on Threatened, Endangered, Proposed, and Candidate fish and wildlife species. A list of these species known or suspected to occur in Latah County is provided in Table 1.

Table 1 Endangered, Threatened, Proposed, and Candidate fish and wildlife species known or suspected to occur in Latah County, Idaho.

Scientific Name	Common Name	Federal Status	Effects Determination
<i>Canis lupus</i>	Gray wolf	Nonessential, experimental	No Effect
<i>Lynx Canadensis</i>	Canada lynx	Listed Threatened	No Effect
<i>Silene spaldingii</i>	Spalding's catchfly	Listed Threatened	NLAA
<i>Howellia Aquatilis</i>	Water howellia	Listed Threatened	No Effect
<i>Oncorhynchus mykiss</i>	Steelhead trout	Listed Threatened	No Effect
<i>Oncorhynchus mykiss</i>	Steelhead trout	Designated Critical Habitat	No Effect

II. Project Description

A. Location

The Project Area is a corridor approximately 2 miles (3 kilometers) wide, located in Latah County, Idaho, which extends from 1 mile (1.6 kilometers) south of the Moscow city limits to 7.7 miles (12.4 kilometers) north of Genesee. The Project Area encompasses a 6.5-mile section of US 95. Areas adjacent to the highway also lie within the Project Area boundary; these vary in width along the length of the corridor. The proposed widening of US 95 will occur along a yet-to-be-determined alignment that will not exceed a distance of 1.5 miles (2.4 kilometers) from the existing US 95 right-of-way (ROW). A legal description of the Project Area is presented on the title page of this document.

B. Project and Action areas

The Project Area is located on privately-owned land utilized almost exclusively for agriculture (Figure 2). The Nez Perce Indian Reserve is located 7 miles (11 kilometers) to the southeast, the Saint Joe National Forest is 20 miles (32 kilometers) to the northeast, and the Umatilla National Forest is 28 miles (45 kilometers) to the southwest of the Project Area. The Project Area occurs in two watersheds: Upper South Fork of the Palouse River (HUC5 1706010824) and Upper Cow Creek (HUC5 1706010825), both of which drain into the Snake River approximately 90 stream miles (145 kilometers) away. No perennial streams occur in the Project Area.

Since the actual Project footprint would be much smaller than the Project Area, and since the Project Area does not contain any perennial streams, the Action area has been defined as the Project Area. In other words, it is unlikely that any Project related impacts would occur outside of the already defined Project Area.

The Action area also includes any off-site use areas. Once identified, ITD will analyze species effects at the off-site locations and will notify the US Fish and Wildlife Service and National Marine Fisheries Service of those effects determinations prior to project

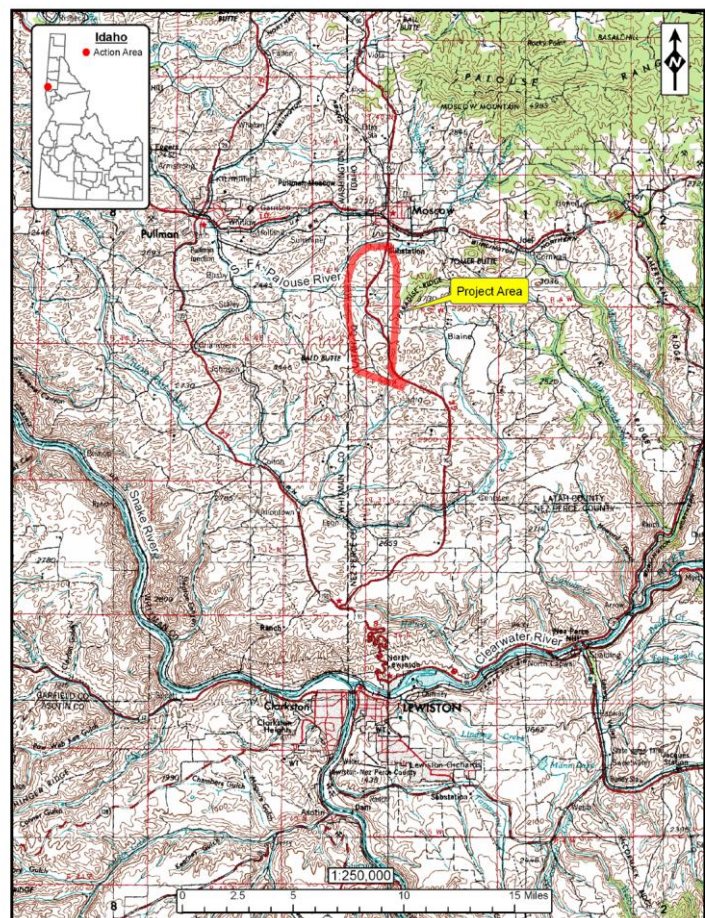


Figure 1. Vicinity of Project Area in Latah County, Idaho.

implementation. If those determinations are not consistent with those specified for the entire project, ITD would reinitiate consultation at that time.



Figure 2. View of the Project Area showing the extensive agricultural use; looking south southwest.

C. Proposed Action

The present highway is a two-lane facility of variable width, classified as a Principle Arterial under the 2005 Functional Classification System. The Proposed Action is to widen the present facility into a four-lane divided highway and to realign the road as necessary to meet 70 mph design speed within the Project Area boundary. The expanded highway is designed to meet current highway safety standards. Lanes will be 12 feet (3.7 meters) wide with inside shoulders and outside shoulders measuring 4 feet (1.2 meters) and 8 feet (2.4 meters) wide, respectively. A 44-foot (13.4 meters) wide grass median will separate north- and southbound traffic. Bicycle and pedestrian traffic will be safely accommodated. Alignment of the new highway will have a maximum super elevation of 6% with a profile grade of 5%.

D. Best Management Practices and Measures to Minimize Impacts

The following Best Management Practices (BMPs) will be implemented during Project activities in order to minimize potential impacts to listed species.

- If streams need to be realigned, adequate drainage facilities will be maintained without interruption and prior to construction.
- To minimize the potential for introducing sedimentation to ephemeral streams and to control erosion in the Project Area, ground disturbing activities will occur during the dry season.
- Sediment fences will also be installed between areas of disturbance and ephemeral streams, and will be cleaned regularly to maintain function.
- Immediately after construction, all disturbed areas adjacent to the highway will be seeded with an approved seed mixture.

- To minimize the potential for introducing hazardous material to ephemeral streams in the Project Area, precautionary measures will be taken to reduce the risk of spills. A spill prevention and contingency plan will be prepared by the construction contractor, approved by ITD prior to construction, and submitted to USEPA prior to Project implementation.
- All staging, fueling, storage, and maintenance areas will be located away from ephemeral streams and adequately buffered from drainage areas by at least 150 feet (45.7 meters).
- In case of emergency, a hazardous materials spill kit will be kept on site during construction that is appropriate for the solvents involved in operation and maintenance of vehicles and machinery used during the project.
- ITD is currently working with a private landowner that has at least 6 individual Spalding's catchfly plants growing on a small remnant. Currently, the property has no protection other than the existing land use of the property owner. ITD is working with the landowner to establish a conservation easement to protect this site. The action required to complete the easement agreement is not complete. If agreement can be reached with the landowner, it is estimated that the easement will be filed during the summer of 2007.
- While developing the easement, ITD will work with a private contractor, CDC, IDFG and FWS to collect seed from local Spalding catchfly populations and within the Palouse Grassland physiographic region (Draft Recovery Plan for *Silene Spaldingii*) and attempt to grow approximately 100 additional plants. Seed collection for this project took place during the growing season of summer 2007.
 - To the maximum extent practicable, all seed collection activities will follow Berry Botanic Garden guidelines for Collecting Seeds for Genetic Conservation.
- In addition, ITD is working with a private landowner that owns a large Palouse Prairie remnant which contains suitable habitat for Spalding's catchfly. When the project growing additional Spalding's catchfly plants is complete, they will be transplanted to both of the private remnant sites. It is estimated that introduction of additional Spalding's catchfly grown for this project will take place over the summer of 2008.
- If additional Spalding's catchfly surveys discover the species at any remnant locations that may be effected by the new alignment, ITD will work with the FWS to establish appropriate vegetation management practices suitable for the location and the species occurrence.

E. Monitoring

An ITD environmental monitor will visit the site regularly to examine the application and effectiveness of the BMPs and mitigation measures.

III. Environmental Baseline

The Action area is located between 2,600-3,000 feet (792-914 meters) elevation on privately owned land used almost exclusively for farming (i.e., cropland). Some small patches of conifer, brush, and riparian habitat exist, but these patches are too small and disjunct to provide habitat for most large terrestrial species. The Action area occurs in the Palouse subbasin within the Upper South Fork of the Palouse River (HUCS 1706010824) and Upper Cow Creek (HUCS 1706010825) watersheds. No perennial streams occur within the Action area. Intermittent streams in the Action area eventually drain into the Snake River, at Palouse River Falls, approximately 90 stream miles away, via the Palouse River and its South Fork, Thorn Creek, Cow Creek, and Union Flat Creek. A thorough description, including past and present condition, of the Subbasin is provided by Gilmore (2004 – www.nwppc.org/fw/subbasinplanning/palouse/plan). Potential impacts to watershed function and fish habitat from agricultural practices are well documented. In general, these practices have impacted vegetation, water quality, sedimentation, and stream alignment within the subbasin and the action area.

IV. Species Accounts, Effects Analysis, and Determinations

A. Gray Wolf

The gray wolf was listed as endangered on 9 March 1978 (CFR 43:9612). Since the translocation of wolves from Canada in 1994, the wolf population in Idaho south of Interstate Highway 90 is considered “experimental, non-essential” under Section 10 (j) of the Endangered Species Act. Under these circumstances, Federal action agencies are required to confer with the Service if their actions are likely to jeopardize the continued existence of gray wolves (CFR 59:60264, CFR 59:60279). The Service does not anticipate any actions that would result in a “likely to jeopardize the continued existence” determination for the reintroduced, experimental population of wolves. The closest wolf pack, Marble Mountain pack in north-central Idaho, is located approximately 45 miles (72 kilometers) northeast of the Project Area (Mack et al. 2002). The Action area is not located within a gray wolf territory, does not contain any den or rendezvous sites, and does not contain a sufficient prey source or space from human activities to support wolves. Off-site areas will also not be located within wolf territories. The Project will have no effect on the gray wolf.

B. Canada Lynx

The Canada lynx was listed as threatened on 24 March 2000 (CFR 65:16052). In Idaho, lynx primarily occur in coniferous forest (USFWS 2004) above 4,000 feet (1,219 meters) in elevation (Koehler and Brittell 1990). Lynx utilize Engelmann spruce (*Picea engelmannii*), subalpine fir (*Abies lasiocarpa*), and lodgepole pine (*Pinus contorta*) habitats that provide a mosaic of forest age classes. The Project Area is located on agricultural land less than 3,000 feet (914 meters) in elevation and is located greater

than 20 miles (32 kilometers) from the nearest potential Lynx Analysis Unit (i.e., the Umatilla or Saint Joseph National Forests). Off-site areas will not be located within an LAU. The Project will have no effect on Canada lynx.

C. Spalding's Catchfly

Spalding's catchfly is known from the adjoining counties of Nez Perce and Whitman. It was a target species of this survey and, based on community composition, most of the grassland remnants appeared to be suitable habitat. Spalding's catchfly does exist within the action area. The species was found in a small private property remnant located south of Moscow on the south side of Clyde Hill. During the summer of 2006, six individual plants were identified on this remnant. The remnant is located within the study area of the Thorncreek Road to Moscow project and lies in between proposed alignments W-4 and C-3. This distance from the Spalding's catchfly location to all of the proposed alignments follows:

- Distance from alignment W-4 to the Spalding's catchfly remnant: 1,573 feet.
- Distance from alignment C-3 to the Spalding's catchfly remnant: 2,102 feet.
- Distance from alignment E-2 to the Spalding's catchfly remnant: 4,757 feet.

The next closest known occurrences of the species is near Genesee, Idaho at the Shirrod gravel source and 15 miles west near Colton, Washington. The project will not effect Spalding's catchfly at those locations.

Within the action area there are also numerous Palouse Prairie remnants which would function as suitable habitat for Spalding's catchfly. All of the proposed alignments have Palouse Prairie remnants that occur within 1 kilometer of the proposed roadway corridors. All of the remnants that exist within the study area have been surveyed for the presence of Spalding's catchfly and none were found. Additional surveys will be completed during the summers of 2007 and 2009.

D. Water Howellia

Water howellia is known from one location in Latah County. It requires partly shaded vernal ponds-shallow ponds that hold water into mid-summer but dry out by September. At Turnbull Wildlife Refuge in eastern Washington these ponds are provided by glacial potholes, and near Harvard, Idaho by old meander scars in the floodplain of the Palouse River. The only place Water howellia could have occurred in the study area is in the floodplain of the South Fork Palouse River. However, a road survey revealed that the floodplain is under cultivation and the stream channelized, therefore no Water howellia habitat is present. The highway development within the Project Area will have no effect on water howellia.

E. Steelhead Trout

Steelhead trout are an anadromous form of rainbow trout that were listed as threatened on 17 June 1998 (CFR 63:32997). Critical habitat for steelhead was designated on 2 November 1999 (CFR 59:54840), and then temporarily withdrawn in compliance with a 30 April 2002 District Court order. The National Oceanic and Atmospheric Administration proposed to designate critical habitat again for steelhead on 30

November 2004. No critical habitat is proposed within the Action area. The nearest occupied habitat within the Subbasin is the Snake River (Gilmore 2004:1-65), approximately 90 stream miles away. Due to distance and implementation of BMPs, this Project would have no effect on steelhead trout or their habitat.

V. Effects of the Action

A. Direct and Indirect Effects

As described above, the action area does not provide habitat for any listed fish or animal species, and would thus have no direct or indirect effects. Effects occurring outside of the action area (i.e., transport of sediments and other pollutants downstream) would be unlikely due to the distance to suitable habitat from the action area and the implementation of BMP's.

B. Cumulative Effects

Cumulative effects are those effects of future State or private activities, not involving Federal activities, which are reasonably certain to occur within the Action area (50 CFR 404.02). One non-Federal activity that is reasonably certain to occur within the action area is urban development along the highway corridor. By improving access along this section of US 95, the proposed action would increase the suitability of this area for development. Since the habitat in the action area, especially along the US 95 corridor, is largely unsuitable for listed species, cumulative effects to listed fish and animal species are unlikely. No other future, non-Federal actions, are known that will occur within the action area.

C. Direct Effects to Spalding's catchfly

There are no direct effects to Spalding's catchfly anticipated under any alignment carried forward on the Thorncreek Road to Moscow project. Spalding's catchfly are present within the study area for this project, but the species nor its habitat has been found within or near the footprint of any of the proposed alignments.

D. Indirect and Cumulative Effects to Spalding's catchfly

Based on the best available scientific literature and field examination of the project area, the area of indirect effect extends 1 kilometer on each side of all the proposed alignments. This area is identified as the zone adjacent to highway construction and operation that will be exposed to invasion by noxious and invasive weeds that are present or brought into the corridor. There are 24 Palouse prairie remnants that occur within the zone of indirect effect adjacent to the E-2 alignment. These remnants will be exposed to threat of invasion by noxious and invasive weeds. All of these remnants have been surveyed for the Spalding's catchfly and would be considered suitable habitat for the species. Spalding's catchfly has not been found at any of the Palouse Prairie remnant locations other than the Clyde Hill site.

Based on distance of the known Spalding's catchfly location to all of the project alternatives (alignments W-4, C-3 and E-2) the Thorncreek Road to Moscow project *may effect, but is not likely to adversely affect* the Spalding's catchfly.

VI. References

- Gilmore, S. 2004. Final draft Palouse subbasin management plan. Resource Planning Unlimited, Moscow, Idaho. *For The Palouse-Rock Lake Conservation District.*
<<http://www.nwppc.org/fw/subbasinplanning/palouse/plan/Default.asp>>
- Koehler, G. M. and J. D. Brittell. 1990. Managing spruce-fir habitat for lynx and snowshoe hares. *Journal of Forestry* 88:10-14.
- Mack, C. M., I. Babcock, and J. Holyan. 2002. Idaho Wolf Recovery Program: Recovery and Management of Gray Wolves in Idaho. Progress report 1999-2001. Nez Perce Tribe, Department of Wildlife Management, Lapwai, ID.
- US Fish and Wildlife Service (USFWS). 2004. Snake River Fish and Wildlife Office: Endangered, Threatened and Candidate Species. Fact sheets.
<<http://idahoes.fws.gov/idahot&e.html>>.



Trust Resources List

Freshwater Forested/Shrub Wetland	PSS1B	7.1835
Freshwater Forested/Shrub Wetland	PSS1A	87.0887
Freshwater Forested/Shrub Wetland	PFO1C	13.242
Freshwater Forested/Shrub Wetland	PSS1C	131.4814
Freshwater Forested/Shrub Wetland	PFO1A	43.7163
Freshwater Pond	PUBFx	2.1011
Freshwater Pond	PUBHx	19.5694
Freshwater Pond	PABHh	11.3521
Freshwater Pond	PAB4/UBF	2.5935
Freshwater Pond	PUB/AB4Hh	0.3971
Freshwater Pond	PAB4FH	0.3436
Freshwater Pond	PUSCh	0.1991
Freshwater Pond	PUBH	7.1283
Freshwater Pond	PUBF	3.2189
Freshwater Pond	PABH	7.7693
Freshwater Pond	PAB4F	1.1237
Freshwater Pond	PUB/AB4FH	0.2985
Freshwater Pond	PUBHh	99.8899
Freshwater Pond	PUBHb	3.1536
Freshwater Pond	PUBFh	5.7827
Lake	L1UBH	26.06
Other	PUSC	0.5611
Riverine	R3UBF	8.3877
Riverine	R3UBH	5108.4268
Riverine	R4SBC	565.5606
Riverine	R4SBA	34.4064



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Riverine	R4SBCx	7.2101
Riverine	R3USC	7.88
Riverine	R3USA	4.2301