

**Idaho Natural  
Heritage Program**

**Wildlife Bureau**

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of Fish and Game**

**Boise, Idaho**



**Conservation of Palouse  
and Canyon Grasslands  
in Nez Perce County, Idaho.  
Phases 2 and 3:  
Landowner Contact and  
Site Assessments**

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## ABSTRACT

The overall objective of this project is to find, document and conserve remnants of Palouse and Canyon Grasslands in Nez Perce County, Idaho, that may support populations of the federally threatened Spalding's catchfly (*Silene spaldingii*) or suitable habitat for reintroduction. The pilot model for this project was initiated in Latah County for Palouse Grassland Remnants in 2008 and was designed to be expanded into adjacent counties supporting Palouse Grasslands. The Nez Perce County project focused not only on Palouse Grasslands but also Canyon Grasslands that have high potential to support Spalding's catchfly and suitable habitat. Beginning in 2011, Phase 1 of the Nez Perce project, mapping potential remnant polygons in Palouse and Canyon Grasslands using GIS and compiling landowner information, identified 229 potential remnant polygons—74 representing Palouse Grasslands and 155 representing Canyon Grasslands. Phase 2, landowner contact and education, and Phase 3, site assessments of the potential remnant polygons for which landowner access permission was granted, have been completed. In March 2015, a mass mailing that included an introductory letter requesting permission to access their property, an educational pamphlet, and a response return postcard, was sent to all 142 landowners within the delineated polygons; 29% of them responded, 16% of them granted permission to access their property. Based on priority order, with Palouse Grasslands given highest priority, thirteen site assessments, seven Palouse Grassland sites and six Canyon Grassland sites, were conducted from July to September 2015. A total of 232 acres were assessed and 29.8 acres met the designated criteria for either a Palouse Grassland Remnant or a Canyon Grassland Remnant. Several rare plants were encountered during these site assessments, including Palouse milkvetch (*Astragalus arrectus*), Piper's milkvetch (*Astragalus riparius*), rough goldenweed (*Pyrrcoma scaberula*), Spalding's catchfly (*Silene spaldingii*), and plumed clover (*Trifolium plumosum* ssp. *amplifolium*). Element occurrence reports were completed for each rare plant site and submitted to IFWIS. We recommend that the final phase of this project (Phase 4), to identify cooperative landowners that are willing to implement conservation projects on their land, be conducted to complete this project.

## KEY WORDS

*Astragalus arrectus*, *Astragalus riparius*, Canyon Grassland Remnant, GIS, Nez Perce County, Palouse goldenweed, Palouse Grassland Remnant, Palouse milkvetch, Palouse Prairie conservation, Piper's milkvetch, plumed clover, potential remnant polygons, *Pyrrcoma scaberula*, rare plants, Spalding's catchfly, *Silene spaldingii*, *Trifolium plumosum* ssp. *amplifolium*

## **SUGGESTED CITATION**

Pekas, K.M., J. Lichthardt, and J. Hill. 2020. Conservation of Palouse and Canyon Grasslands in Nez Perce County, Idaho. Phases 2 and 3: Landowner Contact and Site Assessments. Idaho Natural Heritage Program, Idaho Department of Fish and Game, Boise, ID. 16 pp., plus appendices.

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## **INTRODUCTION**

The overall objective of this project is to find, document and conserve remnants of Palouse and Canyon Grasslands in Nez Perce County, Idaho, that may support populations of the federally threatened Spalding's catchfly (*Silene spaldingii* S.Watson) or suitable habitat for reintroduction. This project fulfills Recovery Tasks 1.2 and 1.5 in the Recovery Plan for Spalding's catchfly—to conserve, identify, develop, and expand Spalding's catchfly populations and habitat within the Canyon and Palouse Grasslands (USFWS 2007). The Idaho Natural Heritage Program (IDNHP), Latah Soil and Water Conservation District (LSWCD), and U.S. Fish and Wildlife Service (USFWS) initiated a multi-phase project in 2008 in Latah County to address this objective, although it focused primarily on Palouse Grasslands (Hill et al. 2012). The Latah County project consisted of four phases. Phase 1 produced a GIS layer of potential remnant polygons, areas with high potential to support Palouse Grasslands in Latah County. A total of 344 potential remnant polygons encompassing a total of 3,500 acres were delineated. Phase 2 addressed landowner contact and education. Phase 3 included site assessments of the potential remnant polygons (for which landowner permission was obtained) to determine if they supported areas that met designated criteria as a Palouse Grassland Remnant. Total or partial assessment of 108 potential remnant polygons encompassing 1,267 acres was completed. Within these polygons, a total of 103 areas encompassing 35 acres met the criteria for designation as Palouse Grassland Remnants. Phase 4, protection and conservation of documented Palouse Grassland Remnants, is currently being implemented by several entities and programs, including private conservation landowners, LSWCD, the USFWS's 'Partners for Fish and Wildlife' program, Palouse Land Trust, and the Palouse Prairie Foundation.

The current project represents the expansion of the Latah County pilot project into Nez Perce County and includes Canyon Grasslands in addition to Palouse Grasslands. Phase 1, the mapping of potential remnant polygons, has been completed (Pekas and Lichthardt 2014 Revised; Appendix 1 – Phase 1 Report). This report documents Phase 2, landowner contact and education, and Phase 3, site assessments of potential remnant polygons for which landowner permission has been granted.

## **STUDY AREA**

The study area includes northern and central Nez Perce County and represents 65-70% of the area in the county (Figure 1). With the exception of the Canyons and Dissected Uplands ecoregion, the study area includes all level IV ecoregions (USEPA 2019) in Nez Perce County that lie within the Palouse Grasslands and Canyon Grasslands physiographic regions, as defined in the Recovery Plan for Spalding's catchfly (USFWS 2007). The Palouse Grasslands physiographic region, which occurs on the rolling surfaces of uplands surrounded by croplands, includes the Palouse Hills, Dissected Loess Uplands, and Grassy Potlatch Ridges ecoregions. The Canyon Grasslands physiographic region, which occurs in canyons and breaks of waterways that interfinger into the Palouse Grasslands, includes the Lower Snake and Clearwater Canyons and Lower Clearwater Canyons ecoregions (Figure 2).

Elevations within the study area range from 225 to 1,390 m (740 to 4,560 ft) for the Palouse Grasslands and 220 to 1,300 m (720 to 4,265 ft) for the Canyon Grasslands. The soil parent material on the Palouse is loess (wind-deposited silt), which is deep in most places. Outcroppings of the basalt that underlays most of the loess are common. Outcroppings of other basement rock, such as granite and quartzite, occur in areas that are not covered by basalt. Loess also accumulated on northerly slopes within the Canyon Grasslands, but soils are generally shallower and basalt bedrock is commonly exposed.

Vegetation in most of the study area is dominated by the 'meadow steppe' of the Palouse region of southeastern Washington and adjoining west-central Idaho described by Daubenmire (1970). These mesic, forb-rich meadow steppe communities are the primary native steppe plant communities that characterize Palouse Grassland in Idaho (Lichthardt and Moseley 1997). Two meadow steppe habitat types support Spalding's catchfly in Palouse Grasslands in Idaho, the Idaho fescue-common snowberry [*Festuca idahoensis*-*Symphoricarpos albus* habitat type (FEID-SYAL h.t.)], and the Idaho fescue-Nootka rose [*Festuca idahoensis*-*Rosa nutkana* habitat type (FEID-RONU h.t.)]. These two meadow steppe habitat types also occur in Canyon Grasslands, typically on the cooler, northerly aspects (northwest to north to northeast), and support Spalding's catchfly (Mancuso and Moseley 1994; Hill and Gray 1999). Another native grassland habitat type described by Daubenmire (1970) occurs within the meadow steppe zone, i.e., the lithosolic phase of the bluebunch wheatgrass-Sandberg's bluegrass [*Agropyron spicatum*-*Poa secunda* habitat type (AGSP-POSE h.t.)]. This type, which occurs on very shallow soil, usually <35 cm deep is characterized by the presence of bluebunch wheatgrass (in the caespitose bunchgrass form), a robust Sandberg's bluegrass ecotype, and the absence of Idaho fescue, was frequently encountered during assessment of Palouse Grasslands in the Latah County project (Hill et al. 2012). This type is not known to support Spalding's catchfly. \*NOTE: Habitat type names used in this report follow those assigned in the original references, even though scientific names for several of the individual species comprising the habitat types have been changed.

An additional mesic Idaho fescue habitat type, the Idaho fescue/prairie junegrass [*Festuca idahoensis*/*Koeleria cristata* habitat type (FEID/KOCR h.t.)] described by Tisdale (1986) occurs in Canyon Grasslands and supports Spalding's catchfly (Mancuso and Moseley 1994; Hill and Gray 1999). In the study area, this mesic Idaho fescue grassland habitat type also occurs on northerly aspects. South-facing slopes, as well as east- and west-facing slopes, typically do not support the mesic Idaho fescue grassland types, and consequently, are not known to support Spalding's catchfly in Canyon Grasslands in the study area. At the same elevation, northerly slopes in Canyon Grasslands have deeper soils, receive less direct insolation, and, therefore, experience less evapo-transpiration than southerly slopes that have shallower soils, receive more direct insolation and experience higher evapo-transpiration rates. This allows greater soil moisture retention on northerly slopes that permits the establishment of the mesic Idaho fescue types. This mesic Idaho fescue/prairie junegrass habitat type does occur on southerly grassland slopes in Idaho County where the Canyon Grasslands ecoregion intergrades into the Wallowa/Seven Devils ecoregion between

the Snake and Salmon Rivers. Elevations are higher (>5,000 ft) in this area than in the study area (~4200 ft) and likely receive more precipitation, a factor that may contribute to the presence of this mesic Idaho fescue type on southerly aspects in that area. Canyon Grassland elevations in the study area generally are not high enough to receive the extra precipitation needed to support the mesic Idaho fescue types on southerly slopes.

Generally, southerly slopes in the Canyon Grasslands of the study area support drier bluebunch grassland habitat types, the xeric bluebunch wheatgrass/Sandberg's bluegrass/arrowleaf balsamroot [(*Agropyron spicatum*/*Poa sandbergii*/*Balsamorhiza sagittata* habitat type (AGSP/POSA/BASA h.t.)) at lower elevations and the less xeric Idaho fescue/bluebunch wheatgrass [(*Festuca idahoensis*/*Agropyron spicatum* habitat type (FEID/AGSP h.t.)) at higher elevations (Tisdale 1986). Daubenmire (1970) also describes similar habitat types, the bluebunch wheatgrass-Sandberg's bluegrass (*Agropyron spicatum*-*Poa secunda* habitat type (AGSP-POSE h.t.)) and the bluebunch wheatgrass-Idaho fescue (*Agropyron spicatum*-*Festuca idahoensis* habitat type (AGSP-FEID h.t.)). A feature that distinguishes the two bluebunch wheatgrass-Sandberg's bluegrass habitat types is that the large perennial forb, arrowleaf balsamroot, is a major component of the Tisdale habitat type but does not occur in the Daubenmire habitat type. None of these drier types are known to support Spalding's catchfly in Canyon Grasslands in the study area (Hill and Gray 1999, 2004). These more xeric grassland habitat types are often highly degraded by weed invasion, whereas the mesic Idaho fescue grassland types on northerly aspects appear to be more resistant to weed invasion (Hill and Gray 1999).

The Idaho fescue-rough fescue habitat type (*Festuca idahoensis*-*Festuca scabrella* h.t.) (Mueggler and Stewart 1980) occurs in Palouse Grasslands; however, it is very rare with disjunct occurrences at the forest-prairie transition zone in the northern portion of Latah County (Lichthardt and Moseley 1997).

Other vegetation occurring within the study area include black hawthorn (*Crataegus douglasii*) and aspen (*Populus tremuloides*) habitat types. Prior to cultivation, thickets of black hawthorn were a common feature on floodplains and north slopes. Daubenmire (1970) recognized two habitat types dominated by this tall shrub: black hawthorn-cow parsnip (*Crataegus douglasii*-*Heracleum maximum* h.t.), and black hawthorn-common snowberry (*Crataegus douglasii*-*Symphoricarpos albus* h.t.). NatureServe recognizes a black hawthorn-cow parsnip habitat type that sometimes occurs with an aspen overstory, and this habitat type is ranked G1—globally imperiled (NatureServe 2019). Aspen glades were probably common in the study area, around wetlands, in drainages, and on floodplains. Palouse Grasslands often contain both bunchgrass and hawthorn habitat types (Lichthardt 2005).

Currently, thirteen Element Occurrences (mapped locations or populations) of Spalding's catchfly are known from the study area, occurring in both Palouse and Canyon Grasslands (Pekas et al. 2019; Idaho Fish and Wildlife Information System 2019).



## **METHODS**

### **Phase 1 – Mapping of Potential remnant Polygons**

Due to the large amount of grassland habitat in Nez Perce county, mapping of potential remnant polygons was prioritized based on ecoregions, giving highest priority to the threatened Palouse Grasslands region:

- 1) Palouse Hills
- 2) Dissected Loess Uplands
- 3) Lower Snake and Clearwater Canyons
- 4) Lower Clearwater Canyons
- 5) Grassy Potlatch Ridges

A sixth ecoregion, the Canyons and Dissected Uplands, occurs in Canyon Grasslands but was not included in our study because this area, which includes Craig Mountain, has been well-surveyed (Mancuso and Moseley 1994; Hill and Gray 1999; Gray and Lichthardt 2003) and several long-term monitoring plots, including demography plots for Spalding's catchfly, have been established (Hill 2012; Hill et al. 2014; Lichthardt and Pekas 2019).

Based on this prioritization, mapping of polygons was confined to the priority ecoregions, the Palouse Hills and Dissected Loess Uplands ecoregions; Canyon Grasslands occurred in the canyons and river breaks that interfinger into these ecoregions. A total of 229 potential remnant polygons were delineated and landownership compiled (Pekas and Lichthardt 2014 Revised; Appendix 1 – Phase 1 Report).

### **Phase 2 – Landowner Contact and Education**

A packet of information, including an introductory letter requesting access permission, an educational pamphlet, and a response postcard, was mailed to each landowner in March 2015 and responses from the landowners were documented (Appendix 2 – Landowner Contact and Education).

### **Phase 3 – Site Selection and Field Assessments**

#### Site Selection:

A list of 64 potential remnant polygons for which landowners granted permission to access their land was compiled (Appendix 3 –Site Selection), including 13 Palouse Grassland polygons and 51 Canyon Grassland polygons. Since it was not possible to conduct site assessments for all of these, the following priority order was determined for selection of sites to assess:

1. Palouse Grassland sites
2. Sites with known rare plants
3. Largest Canyon Grassland sites

Twelve potential remnant polygons were selected from this list for site assessments; an additional polygon within the Lower Snake and Clearwater Canyon ecoregion was also included that was not within the originally delineated polygons from Phase 1, bringing the total to thirteen. Following are the thirteen selected potential remnant polygons, seven Palouse Grassland (PG) polygons and six Canyon Grassland (CG) polygons, that were selected for field site assessments (PH = Palouse Hills ecoregion; DLU= Dissected Loess Uplands ecoregion; LSCC=Lower Snake and Clearwater Canyons ecoregion):

1. PG16PH
2. PG17PH
3. PG18PH
4. PG38PH
5. PG56DLU
6. PG62DLU
7. PG67DLU
8. CG1LSCC
9. CG44DLU
10. CG52DLU
11. CG67DLU
12. CG75DLU
13. CG83DLU

#### Protocol Revision:

The primary objective of Phase 3 for the Latah County project was to locate Palouse Grassland Remnants that support Spalding's catchfly or its habitat. Criteria were established in the Latah County project for designation of an area as a Palouse Grassland Remnant and included: 1. Minimum size of 0.1 acres, 2) never plowed or seeded, and 3) support the native meadow steppe communities, i.e., the Idaho fescue-common snowberry and Idaho fescue-rose habitat types characteristic of the Palouse region of southeast Washington and adjoining west-central Idaho (Daubenmire 1970; Lichthardt and Moseley 1997) in a condition that is capable of continued existence.

A protocol for conducting site assessments that incorporated the Palouse Grassland Remnant criteria was developed during the Latah County project (Hill and Benker 2009). It consisted of a dichotomous key to help identify the various plant communities/plant assemblages that might be encountered in site assessments and help distinguish them from the meadow steppe habitat types representative of Palouse Grasslands. It was determined that the baseline condition deeming a Remnant 'capable of continued existence' was  $\geq 50\%$  cover of native species. Each designated Remnant was assigned a condition rank based on 50-100% cover of native species; each condition rank was accompanied by a general restoration potential category (in

parentheses), a modification of Natural Heritage methodology (NatureServe 2010) as follows:

- A = 98-100% (excellent)
- AB = 95-98% (good to excellent)
- B = 90-95% (good)
- BC = 80-90% (fair to good)
- C = 70-80% (fair)
- CD = 60-70% (fair to poor)
- D = 50-60% (poor)

The Latah County protocol for site assessments and criteria for designation as a Remnant required revisions for use in the Nez Perce Grasslands project. Whereas the Latah County project focused on Palouse Grasslands, the Nez Perce project included both Palouse and Canyon Grasslands. Since this project was an area-wide effort and involved several land managers across the Palouse and Canyon Grasslands, meetings were held with members of the Latah Soil and Water Conservation District, the Nez Perce Tribe, and the Palouse Conservation District to discuss and revise the field protocol. Revisions were incorporated in the protocol for both Palouse and Canyon Grassland Remnants and added native habitats in addition to the meadow steppe habitat types characteristic of the Palouse Grasslands. Habitats with native species that are adjacent to or in close proximity to a Remnant can provide protective benefits in the overall conservation efforts for the Remnants. Condition rankings based on percentage of native species present were also revised as follows:

- A = 75-100%
- B = 50-75%
- C = 25-50%
- D = 10-25%.

The revised protocol for conducting site assessments for Palouse and Canyon Grassland Remnants in Nez Perce County is included in Appendix 4 – Protocol Revision.

Site assessments were conducted from July-September 2015. For each site we created a map and determined the best access; this often involved contacting the landowner. After making arrangements with landowners (if necessary), we used a Trimble Nomad to navigate to a polygon (if the entire polygon was owned by one landowner) or a landowner's portion of a polygon (if the polygon was owned by multiple owners). We made sure to cover as much of the polygon or portion of a polygon as possible, paying special attention to habitat known to support Spalding's catchfly. During site assessments, if areas outside of the originally delineated potential remnant polygon were encountered or observed that appeared to support Palouse or Canyon Grasslands and were on land for which we had permission to access, these adjacent areas were also assessed. We delineated the Remnants using GPS units, compiled species lists, assigned habitat types and condition ranking, and took photographs. We

created site maps showing the results from our site assessments and completed site assessment forms for each site (Appendix 5 – Site Assessments). GPS locations were taken for locations of any rare plant species encountered during the assessments and information on number of plants present, size of site, plant associates was recorded and photographs taken. Element occurrence reports were completed for each rare plant location encountered (Appendix 6 – Element Occurrence Records). All photographs are in Appendix 7 – Photographs; Waypoints are in Appendix 8; ArcGIS Shapefiles are in Appendix 9, and Google Earth Files are in Appendix 10.

## **RESULTS**

### **Phase 1 – Mapping of Potential Remnant Polygons**

A total of 229 potential remnant polygons were delineated, 74 representing Palouse Grasslands and 155 representing Canyon Grasslands (Pekas and Lichthardt 2014 Revised; Appendix 1 – Phase 1 Report).

### **Phase 2 – Landowner Contact and Education**

Of the 142 landowners contacted, 101 did not respond (71%), 23 granted permission to access their land (16%), 13 responded NO (9%), and 5 requested to be called to discuss (4%). Landowner responses are presented in Appendix 2 – Landowner Contact and Education.

### **Phase 3 – Site Selection and Assessments**

The 13 selected potential remnant polygons for site assessments encompassed 377 acres. Several of these polygons had multiple ownership, and not all landowners within a polygon granted access to their land. Landowner access permission was granted for 175 acres (47%) of the total polygon area. We assessed all 175 acres in the polygons as well as 57 acres in areas adjacent to, but not within, assessed polygons for which we had access permission. A total of 232 acres were assessed in Phase 3 of this project, including 44 acres within Palouse Grasslands and 188 acres within Canyon Grasslands. (Table 1 – Total Acres Assessed). Figures 3 and 4 show locations of Assessed Potential Remnant Polygons in the Study Area.

Table 2 summarizes the results of the site assessments and information for designated Remnants. For some assessed potential remnant polygons, no areas were found that met the Remnant criteria; for other polygons, one to several areas within them met the remnant criteria. One potential remnant polygon in Canyon Grasslands supported six Remnants. Twenty-one areas within the assessed polygons met the criteria for Remnant designation, 14 of these were Canyon Grassland (CG) Remnants and 7 were Palouse Grassland (PG) Remnants. The CG52DLU potential remnant polygon supported both a Canyon Grassland Remnant and a Palouse Grassland Remnant. The total acreage for the 21 Remnants was 29.43 acres, including 3.82 acres of Palouse

Grassland Remnants and 25.61 acres of Canyon Grassland Remnants. Within Palouse Grasslands, five of the seven Remnants supported the mesic FEID-SYAL h.t.; the remaining two Remnants supported the drier AGSP/POSA/BASA h.t. and the AGSP-FEID h.t. Within Canyon Grasslands, six of the fourteen Remnants supported the mesic FEID-SYAL and FEID/KOCR h.t.s; the remaining seven Remnants supported the drier AGSP/POSA/BASA h.t. and FEID/AGSP h.t. The average condition of the Canyon Grassland Remnants was B (50-75% cover of native species) and that of the Palouse Grassland Remnants was C (25-50% cover of native species). Five rare plant species were encountered during the site assessments and included Spalding's catchfly, Palouse milkvetch (*Astragalus arrectus*), Piper's milkvetch (*Astragalus riparius*), rough goldenweed (*Pyrrocoma scaberula*), and plumed clover (*Trifolium plumosum* ssp. *amplifolium*).

## **DISCUSSION**

The overall objective of this project is to find, document and conserve Palouse and Canyon Grasslands remnants in Nez Perce County, Idaho, that may support populations of the federally threatened Spalding's catchfly (*Silene spaldingii*) or suitable habitat for reintroduction. The majority of designated Remnants, 11 of 21, supported the mesic Idaho fescue habitat types known to support Spalding's catchfly, including 5 of the 7 Palouse Grassland Remnants and 6 of the 14 Canyon Grassland Remnants. One of these Canyon Grassland Remnants also supported a population of Spalding's catchfly. These twelve Remnants represent suitable habitat for reintroduction of this species.

It is likely that more Canyon Grassland Remnants supporting mesic Idaho fescue habitat types and possibly additional occurrences of Spalding's catchfly would have been located in Canyon Grasslands in the study area if the Phase 1 delineation and Phase 2 site selection had focused only on potential remnant polygons that supported predominantly northerly aspects. Although over 70% of the 51 potential remnant polygons in Canyon Grasslands for which landowner access permission was granted, supported northerly aspects, 30% of them did not. Unfortunately, the five largest Canyon Grassland polygons selected for assessment did not support northerly aspects. They basically had either east or west aspects that rarely support the mesic Idaho fescue habitat types known to support Spalding's catchfly in Canyon Grasslands in the study area. If Phase 1 had delineated only potential remnant polygons in Canyon Grasslands with northerly slopes, then prioritization of 'large Canyon Grassland sites' in the Phase 2 selection process would be justified on the basis that larger sites have more restoration potential and are more protectable.

## **RECOMMENDATIONS**

Of the seven Palouse Grassland potential remnant polygons assessed in this project, it is recommended that the PG62DLU polygon have the highest priority for restoration and

potential introduction of Spalding's catchfly. The three Palouse Grassland Remnants designated within this polygon consist of 2.21 acres, 58% of the total area of Palouse Grassland Remnant acres (3.82 acres) documented in this project. All three remnants at this polygon have the FEID-SYAL habitat type known to support Spalding's catchfly. The two rare plant species, rough goldenweed and plumed clover, occur in all three remnants. There is also high potential for additional FEID-SYAL habitat, Palouse Grassland Remnants, and occurrences of rare plants at this site if the third landowner can be encouraged to allow assessment/conservation efforts to proceed on their land.

Of the six Canyon Grassland potential remnant polygons assessed in this project, it is recommended that the CG1LSCC polygon on the Lewiston Hill hairpin have the highest priority for restoration. It supports a population of Spalding's catchfly as well as the rare plant Piper's milkvetch. The two Canyon Grassland Remnants designated within this polygon support the FEID/KOCR habitat that is in excellent condition (A condition = 75-100% native plant cover). The site has easy access and would make a good restoration and demonstration site.

Any further surveys in Canyon Grasslands within the Nez Perce County study area should focus on the delineated potential remnant polygons with predominantly northerly aspects that are capable of supporting the mesic Idaho fescue habitat types known to support Spalding's catchfly. Assessments should be conducted early in the growing season (June-early July) prior to senescence. Spalding's catchfly is present and identifiable in early June.

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## TABLES

**Table 1 - Total Acres Assessed. Landowner access permission was granted for only 47% of the total potential remnant polygon area.**

Potential Remnant Polygons	Polygon Size (acres)	% of Polygon Assessed	Acres Assessed In Polygon	Adjacent Acres Assessed	Total Acres Assessed
PG16PH	2.48	35.0	0.87		0.87
PG17PH	0.24	100	0.24		0.24
PG18PH	10.37	29.4	3.05		3.05
PG38PH	1.33	100	1.33		1.33
PG56DLU	13.53	69.1	9.35		9.35
PG62DLU	10.37	49.2	5.1	0.35	5.45
PG67DLU	23.08	100	23.08	0.56	23.64
<b>Total PG Polygons</b>	<b>61.4</b>		<b>43.02</b>	<b>0.91</b>	<b>43.93</b>
CG1LSCC	2.36	100	2.36		2.36
CG44DLU	36.84	98.4	36.25	5.82	42.07
CG52DLU	167.23	17.0	28.43	21.8	50.23
CG67DLU	5.6	100	5.6		5.60
CG75DLU	42.26	44.0	18.59		18.59
CG83DLU	61.56	66.8	41.12	28.5	69.62
<b>Total CG Polygons</b>	<b>315.85</b>		<b>132.35</b>	<b>56.12</b>	<b>188.47</b>
<b>TOTAL</b>	<b>377.25</b>		<b>175.4</b>	<b>57.03</b>	<b>232.40</b>

**Table 2 – Palouse Grassland (PC) and Canyon Grassland (CG) Remnants.**

Potential Remnant Polygon	Remnant	Size (acres)	Aspect	Habitat Type(s)	Cond.	Rare Plants
PG16PH	No Remnants					
PG17PH	No Remnants					
PG18PH	No Remnants					ASAR
PG38PH	PG Remnant 1	0.17	N-NE	FEID-SYAL	B	
PG56DLU	No Remnants					
PG62DLU	PG Remnant 1	0.43	WSW-W-NW	FEID-SYAL	C	PYSC; TRPLA
	PG Remnant 2	1.43	WSW-W-NW	FEID-SYAL; AGSP-FEID	C	PYSC; TRPLA
	PG Remnant 3	0.35	NNE-NE	FEID-SYAL	B	PYSC; TRPLA
PG67DLU	PG Remnant 1	0.45	WNW	AGSP/POSA/BASA; AGSP-FEID	C	
	PG Remnant 2	0.10	WNW	AGSP/POSA/BASA; AGSP-FEID	D	
GC52DLU	PG Remnant 1	0.89	WNW	FEID-SYAL	C	TRPLA
<b>Total PG</b>	<b>7</b>	<b>3.82</b>				
CG1LSCC	CG Remnant 1	0.92	N-NE	FEID/KOCR	A	SISP
	CG Remnant 2	0.41	N-NNE	FEID/KOCR	A	ASRI
CG44DLU	CG Remnant 1	0.10	NE	FEID-SYAL; CRDO-SYAL	A	PYSC
	CG Remnant 2	0.83	SW-WSW	AGSP/POSA/BASA	B	
	CG Remnant 3	0.39	S-SSW	AGSP/POSA/BASA	C	
CG52DLU	CG Remnant 1	1.60	WSW	FEID/AGSP	C/D	TRPLA
CG67DLU	No Remnants					
CG75DLU	CG Remnant 1	0.10	N-NNE	FEID-SYAL	C	PYSC
	CG Remnant 2	0.10	ENE	AGSP/POSA/BASA; FEID-SYAL	C	
CG83DU	CG Remnant 1	13.00	E-SSE	AGSP/POSA/BASA; FEID/AGSP	B	
	CG Remnant 2	1.43	E-ESE	AGSP/POSA/BASA	B	
	CG Remnant 3	2.00	E-ESE	AGSP/POSA/BASA	B	
	CG Remnant 4	0.10	ESE	AGSP/POSA/BASA	B	
	CG Remnant 5	1.70	ENE-E	FEID/AGSP; FEID-SYAL	B	PYSC
	CG Remnant 6	2.93	E-ESE	AGSP/POSA/BASA; FEID/AGSP	B	
<b>Total CG</b>	<b>14</b>	<b>25.61</b>				
<b>TOTAL</b>	<b>21</b>	<b>29.43</b>				

AGSP = *Agropyron spicatum*; ASAR = *Astragalus arrectus*; ASRI = *Astragalus riparius*; BASA = *Balsamorhiza sagittata*; CRDO = *Crataegus douglasii*; FEID = *Festuca idahoensis*; KOCR = *Koeleria cristata*; POSA = *Poa sandbergii*; POSE = *Poa secunda*; PYSC = *Pyrrocoma scaberula*; SISP = *Silene spaldingii*; SYAL = *Symphoricarpos albus*; TRPLA = *Trifolium plumosum amplifolium*

**FIGURES**



Figure 1. Study area (in orange) represents about 65-70% of Nez Perce County.

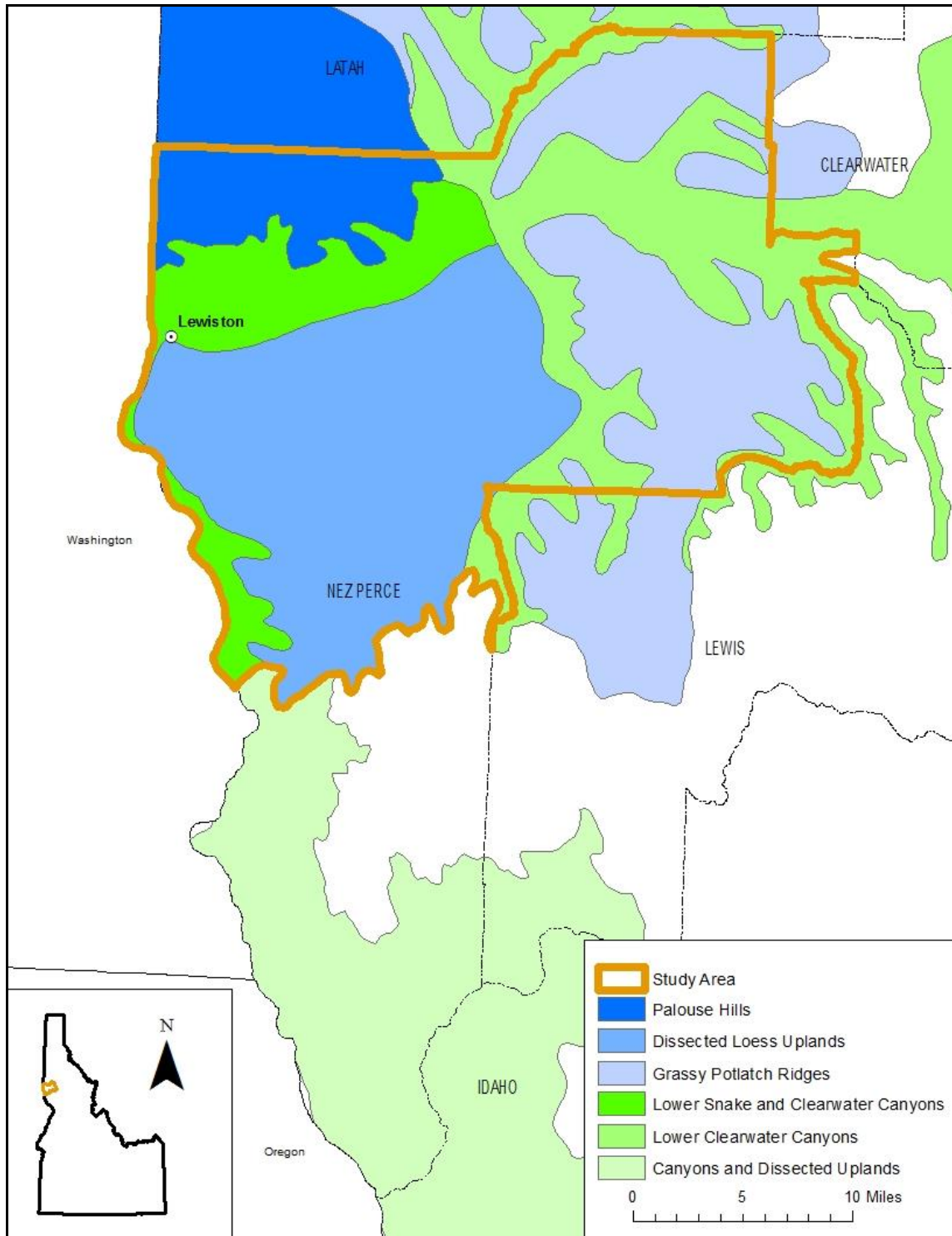
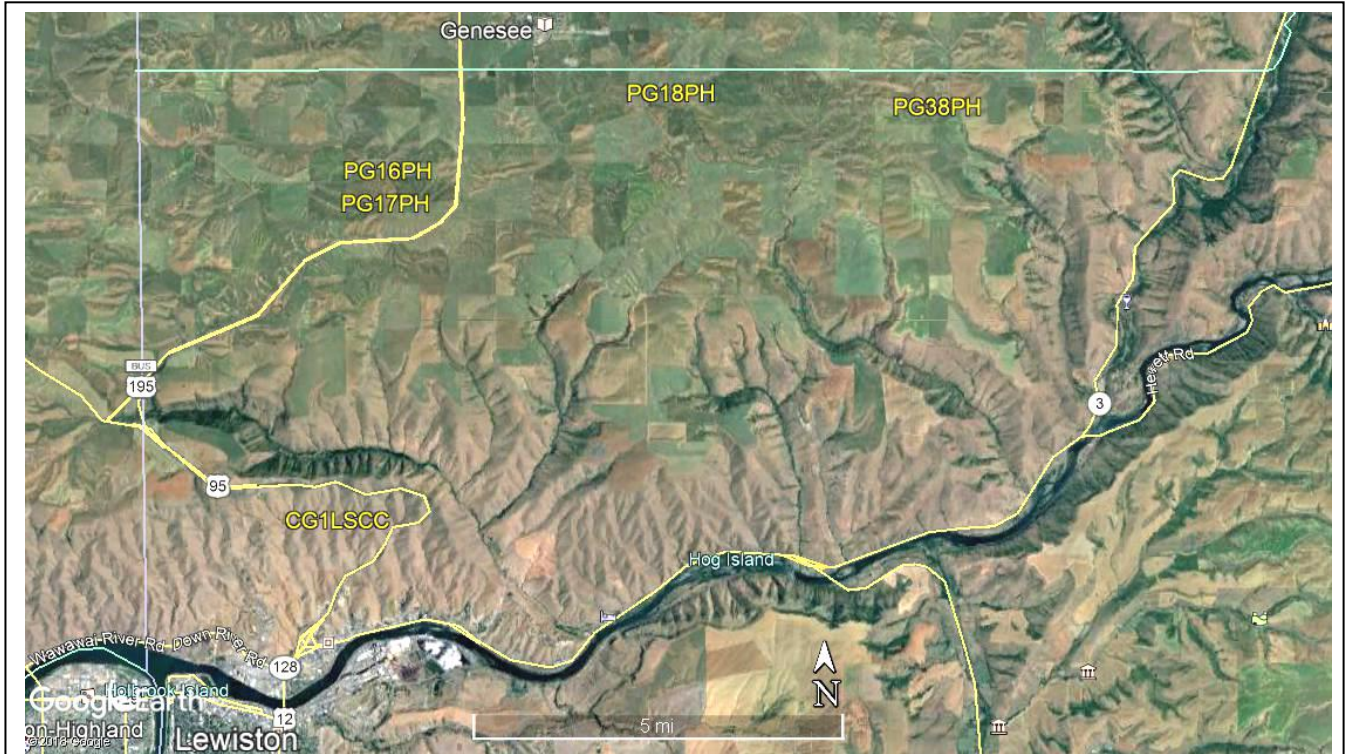


Figure 2. Study area (outlined in orange) and level IV ecoregions that lie within the Palouse Grasslands and Canyon Grasslands physiographic regions as defined in the Recovery Plan for Spalding's catchfly. Ecoregions shaded blue are considered Palouse Grasslands in the Recovery Plan, and those in green are considered Canyon Grasslands.





**Figure 3**  
**Assessed Potential Remnant Polygons (names in yellow print)**  
**In Palouse Hills and Lower Snake and Clearwater Canyons Ecoregions**



**Figure 4**  
**Assessed Potential Remnant Polygons (names in yellow print)**  
**Dissected Loess Uplands Ecoregion**