



Botanical Report 2020

Wallowa Falls Hydroelectric Project

Special Status Plant and Noxious Weed Management



Prepared by:

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Introduction

The Wallowa Falls Hydroelectric Project (Project) is located on the East Fork Wallowa River, approximately 11 miles outside of the City of Joseph in Northeastern Oregon. The Project impoundment/forebay lies over 1,600 meters above mean sea level. The Project operates as run-of-river; therefore, there is no measurable storage. Water is instead diverted from the forebay into a flow line and penstock to the generating turbine in the Project powerhouse. Water exits the turbine and flows into an approximately 300-meter-long tailrace channel that discharges into the West Fork Wallowa River. This channel has an average wetted width of 3.1 meters and an average depth of 0.3 meter. The bypassed portion of the East Fork Wallowa River within and near the Project boundary is approximately 2,800 meters long from the Project diversion dam to its confluence with the West Fork Wallowa River. Gradient in this reach is high, with the upper 1,600 meters (i.e. the area between the falls and the dam) averaging approximately 19 percent and the lower 1,200 meters (i.e. the area between the falls and the confluence with West Fork Wallowa River) averaging 8.5 percent. Geomorphology within the Project area is typical of mountain valleys. It is constrained by steep topography, mountain peaks and the valley floor and lower slopes largely forested with areas of exposed ridges, rocky outcrops, and talus slopes. The Project is adjacent to the Eagle Cap Wilderness boundary, which is known to support several rare, threatened, endangered, and/or special status plant species.

The Federal Energy Regulatory Commission (FERC) Project Boundary, to be examined by this work, is approximately 26 acres and includes project operations, facilities, and portions of the access road and campground. The bypassed portion of the East Fork Wallowa River, within and near the Project Boundary, is approximately 1.75 miles long from the Project diversion dam to its confluence with the West Fork Wallowa River.

Special Status Plant Survey-

Botrychium montanum, Botrychium minganense, Cypripedium fasciculatum

Consultation with Wallowa-Whitman National Forest (WWNF) forest botanist, Jerry Hustafa, concluded an early and late season Special Status Plant Species Survey of the Project area was justified. All species included on the Region 6 Regional Forester Sensitive Species and Strategic Species List (see Table 1) were considered during each survey. However, at the request of Mr. Hustafa, additional effort was directed towards higher probability species. An early to mid-June survey targeted *Cypripedium fasciculatum* and a late July survey was conducted to target *Botrychium* species.

Early Season Survey

An intuitive control botanical survey of the entire project area was conducted on June 2, 2020 in accordance with the Special Status Species Policy <https://www.fs.fed.us/r6/sfpnw/issssp/agency-policy/>. High intensity, 100% coverage, surveys were conducted in areas considered potential habitat and within areas of impact for future construction activities, especially 100 meters from north bank of the North Tailrace Channel and south bank of the South Tailrace Channel and all areas in between. No sensitive species were located during this survey.

No Clustered Lady's-slippers (*Cypripedium fasciculatum*) were located by survey efforts. However, Mountain Lady's-slipper (*Cypripedium montanum*) a closely related species, not considered sensitive, was found blooming in the project area at the lower end of the Wallowa Falls Maintenance Road (Figure 1) and adjacent forest. Clustered Lady's-slipper is a highly visible species, especially when in bloom. The Bio-Resources, Inc. field botanist, Kendrick Moholt, conducting surveys has considerable experience with this species from work in other parts of Oregon. It can be assumed with a high level of confidence that Clustered Lady's-slipper was not present in the project area and was not impacted by any construction activities in 2020.



Figure 1. Mountain Lady's-slipper (*Cypripedium montanum*) found blooming within the project area.

Late Season Survey

A second intuitive control botanical survey of the entire project area was conducted on July 20, 2020 in accordance with the Special Status Species Policy <https://www.fs.fed.us/r6/sfpnw/issssp/agency-policy/>. High intensity, 100% coverage, surveys were conducted in areas considered potential for future construction activities, especially 100 meters from north bank of the North Tailrace Channel and south bank of the South Tailrace Channel and all areas in between. High intensity surveys were also conducted in an area considered high probability for *Botrychium montanum* and in the area around a *Botrychium minganense* plant located in June 2018.

Several data sources have identified *Botrychium* species within the Project area, and in particular near the Project forebay. The ORBIC database has a 1991 record of *Botrychium montanum*, a federal species of concern, in the Project area (ORBIC 2010; ORBIC 2012). In 1992, this plant was identified again during a botanical survey that was conducted as part of the Wallowa Falls Dam Reparation Project (PacifiCorp 1993). *Botrychium* species were relocated but were unable to be distinguished to species. The United States Forest Service (USFS) provided Geographic Information Systems (GIS) data, received in an email, from Mike Gerdis to Russ Howison on August 2, 2010 which identified both *Botrychium minganense* and *Botrychium montanum* located near the forebay on August 4, 1991. Comments received from USFS on the Pre-Application Document (PAD) on June 23, 2011, identified *Botrychium montanum* as being present in the Project vicinity, at or near the forebay, as well as further up in the drainage (USFS 2011). A survey of the Project area conducted during the 2012, 2017, 2018 and 2019 growing seasons failed to relocate any *Botrychium* species (Bio-Resources 2012, 2017, 2018, 2019).

An intensive survey for *Botrychium montanum* in the area of potential habitat was conducted on July 20, 2020 (Figure 3). In addition to this target search, an additional survey was conducted on the entire project area for potential sensitive species (Table 1) with special attention given to the area near the *Botrychium minganense* plant that was first located on June 12, 2018 (Figure 2).

The survey of the forebay area located no *Botrychium montanum* plants. This finding was documented using an R-6 TES Plant Element Occurrence Field Form (See Appendix 1). No plants were located during a survey in 2012, 2017, 2018 and 2019 (Bio-Resources. 2012, 2017, 2018, 2019). At this time, it may be likely that the population of *Botrychium montanum* has been extirpated from the project area. However, it seems prudent to continue to avoid the highest probability areas for the plant. It is our recommendation that construction activities and material storage be minimized or avoided in the area east of the forebay cabin as outlined in the Construction Plan to Protect Special Status Plant Species (Appendix 2).

No species of concern (Table 1) were located during this late season survey.

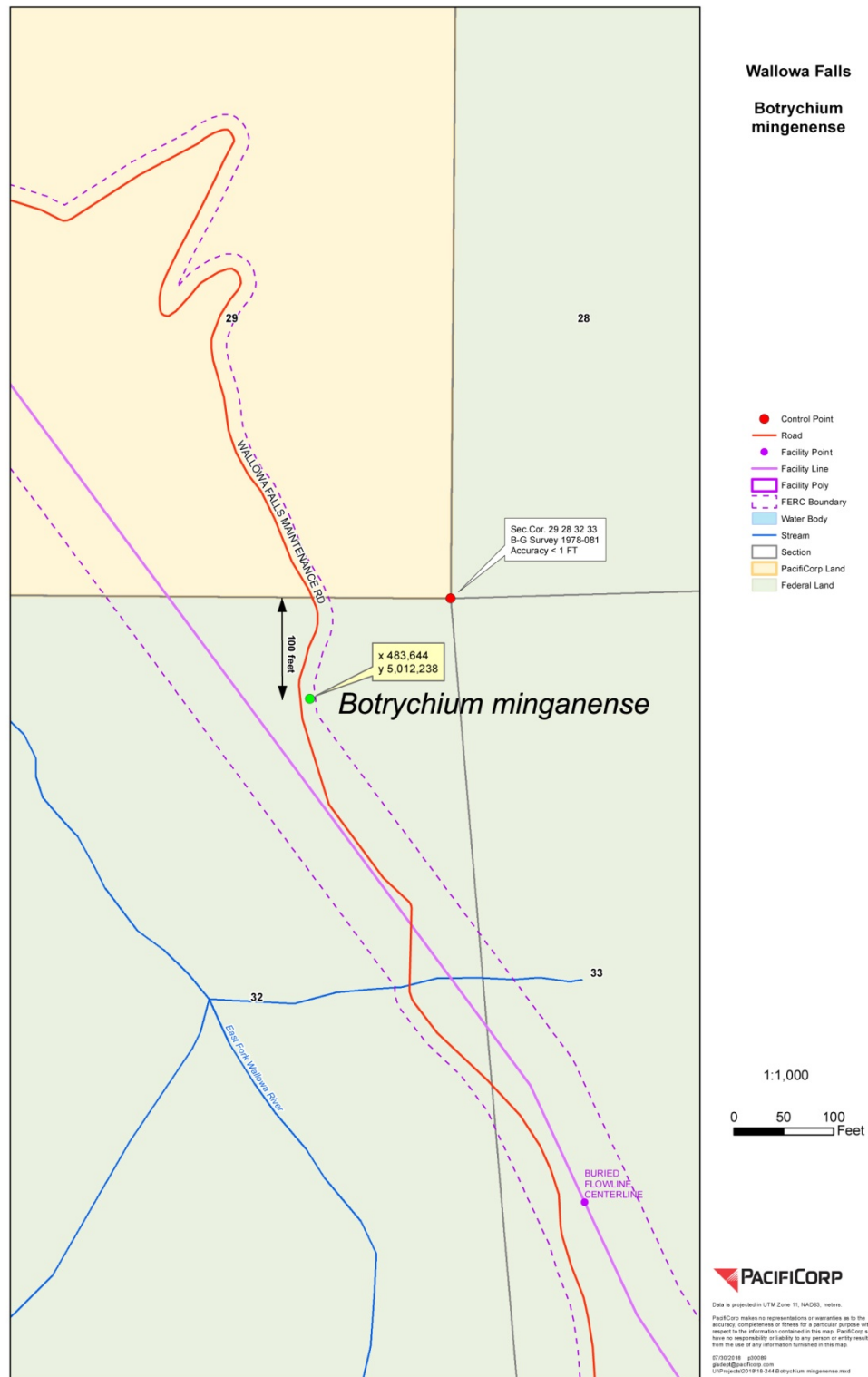


Figure 2. Location of *Botrychium minganense* found in 2018. This single plant was not relocated during searches in 2019 and 2020.

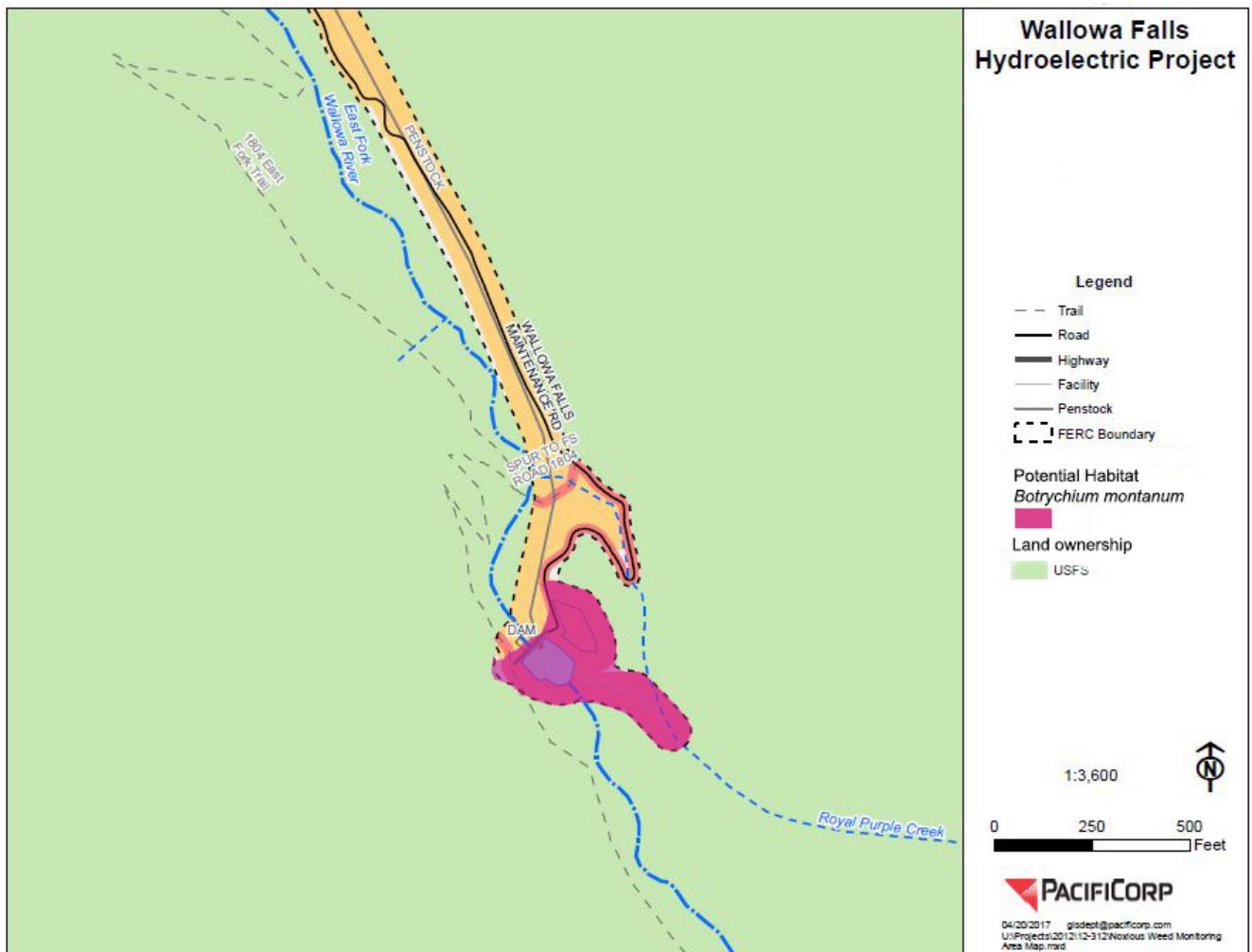


Figure 3. Potential habitat for *Botrychium montanum* on the Wallowa Falls Hydroelectric Project.

Table 1. Region 6 Regional Forester Sensitive Species and Strategic Species List

NRCS PLANTS Code	Scientific Name	Common Name
ANMI8	<i>Anastrophyllum minutum</i>	Liverwort
ANJU	<i>Anthelia julacea</i>	Liverwort
BALY	<i>Barbilophozia lycopodioides</i>	Liverwort
ENBR2	<i>Encalypta brevipes</i>	Moss
ENFA2	<i>Entosthodon fascicularis</i>	Moss
HAFL9	<i>Harpanthus flotovianus</i>	Liverwort
JUPO3	<i>Jungermannia polaris</i>	Liverwort
LOGI3	<i>Lophozia gillmanii</i>	Liverwort
PEQU7	<i>Peltolepis quadrata</i>	Liverwort
PRQU2	<i>Preissia quadrata</i>	Liverwort
PSTR5	<i>Pseudocalliergon trifarium</i>	Moss
PTPU2	<i>Ptilidium pulcherrimum</i>	Liverwort
SCCI5	<i>Schistidium cinclidodonteum</i>	Moss
TEGE	<i>Tetraphis geniculata</i>	Moss
TOMU70	<i>Tortula mucronifolia</i>	Moss
ACWA	<i>Achnatherum wallowaense</i>	Wallowa ricegrass
ACROT	<i>Acomastylis rossii ssp. turbinatum</i>	Slender-stemmed avens
ALGEG	<i>Allium geyeri</i> var. <i>geyeri</i>	Geyer's onion
ASVII0	<i>Asplenium viride</i>	Green spleenwort
BOHA3	<i>Boechera hastatula</i>	Hells canyon rockcress
BOAS2	<i>Botrychium ascendens</i>	Upward-lobed moonwort
BOCA5	<i>Botrychium campestre</i>	Prairie moonwort
BOCR	<i>Botrychium crenulatum</i>	Crenulate moonwort
BOHE5	<i>Botrychium hesperium</i>	Western moonwort
BOLI7	<i>Botrychium lineare</i>	Slender moonwort
BOLU	<i>Botrychium lunaria</i>	Moonwort
BOMO	<i>Botrychium montanum</i>	Mountain grape-fern
BOPA9	<i>Botrychium paradoxum</i>	Twin-spiked moonwort
BOPE4	<i>Botrychium pedunculosum</i>	Stalked moonwort
BUAM2	<i>Bupleurum americanum</i>	Bupleurum
CAMAM	<i>Calochortus macrocarpus</i> var. <i>maculosus</i>	Green-band mariposa-lily
CAAT8	<i>Carex atosquama</i>	Blackened sedge
CACA12	<i>Carex capillaris</i>	Hairlike sedge
CACA13	<i>Carex capitata</i>	Capitate sedge
CACO81	<i>Carex cordillerana</i>	Cordilleran sedge
CADI4	<i>Carex diandra</i>	Lesser paniced sedge
CAGY2	<i>Carex gynocrates</i>	Yellow bog sedge
CAID	<i>Carex idahoa</i>	Idaho sedge

CALAA	<i>Carex lasiocarpa</i> var. <i>americana</i>	Slender sedge
CAME9	<i>Carex media</i>	Intermediate sedge
CAMI16	<i>Carex micropoda</i>	Pyrenaeen sedge
CANA2	<i>Carex nardina</i>	Spikenard sedge
CAPE5	<i>Carex pelocarpa</i>	New sedge
CARE4	<i>Carex retrorsa</i>	Retrorse sedge
CASA10	<i>Carex saxatilis</i>	Russet sedge
CASU7	<i>Carex subnigricans</i>	Dark alpine sedge
CAVE5	<i>Carex vernacula</i>	Native sedge
CAFLR	<i>Castilleja flava</i> var. <i>rustica</i>	Rural paintbrush
CAFR8	<i>Castilleja fraterna</i>	Fraternal paintbrush
CARU8	<i>Castilleja rubida</i>	Purple alpine paintbrush
CAVI9	<i>Castilleja viscidula</i>	Sticky paintbrush
CHFE	<i>Cheilanthes feei</i>	Fee's lip-fern
COTE13	<i>Comastoma tenellum</i>	Slender gentian
CRSI2	<i>Cryptantha simulans</i>	Pine woods cryptantha
CRST2	<i>Cryptogramma stelleri</i>	Steller's rockbrake
CYLUL	<i>Cyperus lupulinus</i> ssp. <i>lupulinus</i>	Great Plains flatsedge
CYFA	<i>Cypripedium fasciculatum</i>	Clustered lady's-slipper
ELBR5	<i>Elatine brachysperma</i>	Short seeded waterwort
ELBO	<i>Eleocharis bolanderi</i>	Bolander's spikerush
ERDA3	<i>Erigeron davisii</i>	Engelmann's daisy
ERDI3	<i>Erigeron disparipilus</i>	White cushion erigeron
ERHY6	<i>Erythranthe hymenophylla</i>	Membrane-leaved monkeyflower
GEPR3	<i>Gentiana prostrata</i>	Moss gentian
HECU3	<i>Heliotropium curassavicum</i>	Salt heliotrope
JUTRA2	<i>Juncus triglumis</i> var. <i>albescens</i>	Three-flowered rush
KOMY	<i>Kobresia myosuroides</i>	Bellard's kobresia
KOSI2	<i>Kobresia simpliciuscula</i>	Simple kobresia
LIAR6	<i>Lipocarpa aristulata</i>	Aristulate lipocarpa
LIBO4	<i>Listera borealis</i>	Northern twayblade
LOER2	<i>Lomatium erythrocarpum</i>	Red-fruited lomatium
LOGR2	<i>Lomatium greenmanii</i>	Greenman's desert parsley
LOPA8	<i>Lomatium pastoralis</i>	Meadow lomatium
LYCO3	<i>Lycopodium complanatum</i>	Ground cedar
MUMI2	<i>Muhlenbergia minutissima</i>	Annual dropseed
OPPU3	<i>Ophioglossum pusillum</i>	Adder's-tongue
PEBR5	<i>Pellaea bridgesii</i>	Bridges' cliff-brake
PEDEV2	<i>Penstemon deustus</i> var. <i>variabilis</i>	Variable hot-rock penstemon
PHMI7	<i>Phacelia minutissima</i>	Dwarf phacelia
PHMU3	<i>Phlox multiflora</i>	Many-flowered phlox
PIAL	<i>Pinus albicaulis</i>	Whitebark pine
PIFL2	<i>Pinus flexilis</i>	Limber pine
PLOB	<i>Platanthera obtusata</i>	Small northern bog-orchid

PLOR3	<i>Pleuropogon oregonus</i>	Oregon semaphoregrass
PODI	<i>Potamogeton diversifolius</i>	Rafinesque's pondweed
PYDE	<i>Pyrola dentata</i>	Toothleaf pyrola
PYSC4	<i>Pyrrocoma scaberula</i>	Rough pyrrocoma
ROCO3	<i>Rorippa columbiae</i>	Columbia cress
RORA	<i>Rotala ramosior</i>	Lowland toothcup
RUBA	<i>Rubus bartonianus</i>	Bartonberry
SAFA	<i>Salix farriae</i>	Farr's willow
SAWO	<i>Salix wolfii</i>	Wolf's willow
SAADO2	<i>Saxifraga adscendens ssp. oregonensis</i>	Wedge-leaf saxifrage
SUVI	<i>Suksdorfia violacea</i>	Violet suksdorfia
THAL	<i>Thalictrum alpinum</i>	Alpine meadowrue
THEU	<i>Thelypodium eucosmum</i>	Arrow-leaf thelypody
TOMO	<i>Townsendia montana</i>	Mountain townsendia
TOPA2	<i>Townsendia parryi</i>	Parry's townsendia
TRDO	<i>Trifolium douglasii</i>	Douglas' clover
TRPA28	<i>Triglochin palustris</i>	Slender bog arrowgrass
TRLAA2	<i>Trollius laxus ssp. albiflorus</i>	American globeflower
UTMI	<i>Utricularia minor</i>	Lesser bladderwort

References

- Bio-Resources. 2012. Final Report Wallowa Falls Hydroelectric Project Special Status Plant Study and Noxious Weed Study. August 2012.
- Bio-Resources. 2017. Botanical Report 2017 Wallowa Falls Hydroelectric Project Special Status Plant and Noxious Weed Management.
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- Bio-Resources. 2019. Botanical Report 2019 Wallowa Falls Hydroelectric Project Special Status Plant and Noxious Weed Management.
- Oregon Biodiversity Information Center. 2010. June 29, 2010. Oregon Biodiversity Information Center data system for rare, threatened and endangered plant and animal records within one mile of the Wallowa Falls Dam Project in T 03S R 45E Sections 29, 32, and 33,WM. Unpublished report for Kendel Emmerson, PacifiCorp Energy.
- Oregon Biodiversity Information Center. 2012. May 25, 2012. Oregon Biodiversity Information Center data system for rare, threatened and endangered plant and animal records within two mile of the Wallowa Falls Dam Project in T 03S R 45E Sections 28, 29, 32, and 33,WM. Unpublished report for Bio-Resources, Inc.
- PacifiCorp. 1993. Biological Evaluation Plant Species Wallowa Falls Dam Reparation Project. Prepared by Campbell-Craven Environmental Consultants. April 15, 1993.
- United States Forest Service. 2011. Wallowa Falls Hydroelectric Project, FERC Project No. 308-005 Comments on Pre-Application Document, Comments on Scoping Document No. 1, and Study Requests. On the web: <http://www.pacifiCorp.com/wallowafalls>.



Noxious Weed Management

On July 20, 2020, a complete inventory of noxious weeds within the Wallowa Falls Hydroelectric Project was conducted by Bio-Resources, Inc. botanist, Kendrick Moholt. Invasive Plant Inventory Forms, maps, and photographs are included in Appendix 3. One week following the inventory on July 27, 2020, a Bio-Resources, Inc. inspector (again Mr. Moholt) oversaw an herbicide spray and manual removal operation to control noxious weeds within the Project Area. Treatment consisted of spraying with Milestone herbicide, a surfactant and a marking dye (see Appendix 3 for Herbicide Application Data Form) and with manual control (digging individual plant with a shovel). The manual control technique was used within 30 meters of open water and exclusively on all property managed by the US Forest Service.

The campground area was treated with very targeted and minimal applications using only backpack sprayer to spot apply chemical on individual plants. A four-wheeler mounted spray unit was use at the hiking trail staging area and along the trail on property owned by PacifiCorp. No herbicides were applied on Forest Service land. The species targeted by application of herbicide were Canada thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), houndstongue (*Cynoglossum officinale*), burdock (*Arctium minus*), and meadow hawkweed (*Hieracium caespitosum*).

One additional species of noxious weed not previously located in the project area was found during the July 20 inventory. Two basal rosettes of Scotch thistle (*Onopordum acanthium*) were found near the velocity barrier at the end of the tailrace. These two plants were treated by spot application of herbicide during the July 27 treatment effort.

Appendix 1

Sensitive Plant Forms

TES Plant Element Occurrence Field Form

USDA FOREST SERVICE 2005

® = required field, ®* = conditionally required field

General Information

1) FS SITE ID: ® EO14340

2) DATE: ® 2 June; 22 July 2020 3) SITE NAME:

4) NRCS PLANT CODE: ® BOMO

5) SCIENTIFIC NAME: ® *Botrychium montanum*

6) RECORD SOURCE: ® RV-Revisit

7) SURVEY ID: ®*

8) Survey Name: Wallowa Falls Hydro. Proj.

9) EXAMINER(S)- LAST: ® Moholt

FIRST: Kendrick

MIDDLE INITIAL:

LAST:

FIRST:

MIDDLE INITIAL:

10) OWNERSHIP: ® United States Forest Service

11) E.O. # 16

12) NEW OCCURRENCE – YES: OR NO: X

13) STATE: ®* Oregon

14) COUNTY: ®* Wallowa

15) REGION: ®* 6

16) FOREST: ®* Wallowa-Whitman

17) DISTRICT: ®* Eagle Cap Ranger District

18) Entire extent mapped: Yes: No :X Uncertain:

19) Area (Est): NA

20) Area UOM: ®* NA

21) Canopy Cover Method ®* (circle one): COVER PERCENT: DAUBEN: X NRMCOV:

Element Occurrence Data

22) EO Canopy Cover: %Cov: 65% or Cover Class Code:

23) Lifeform: FB

24) Number of subpopulations: 1

XX) Plants Found: NO

25) Plant Count: Ø

26) Count Type: Genets/Ramets/Undetermined NA

27) Count: Actual or Estimate NA

28) Revisit needed - No

29) Revisit Date:

30) Revisit Justification:

31) Phenology by %

32) Population Comments: (e.g., distribution, vigor, density, phenology, dispersal)

(Sum to 100%):

Vegetative

Site appears to have a greater shrub cover and tree canopy cover since first discovered 27 years ago.

Flower/Bud

33) Evidence of disease, competition, predation, collection, trampling, or

Fruit/Dispersed

herbivory: Yes___or No ___

Seedlings/

34) Evidence Comments: NA

Juvenile

35) Pollinator observed – Yes or No: X 36) Pollinator type(s):

37) Pollinator comments: NA

Site Morphometry

38) Percent Slope: 3%

39) Slope position: FS

40) Aspect: azimuth: or cardinal: WSW

41) Elev.: Ave: Min: 1768 Max: 1768

42) Elev UOM: @* meter

Soil Characteristics and Light Conditions

43) Substrate on which EO occurs: S

44) Parent Material: RESI

45) Soil Moisture: D

46) Soil Texture: SL

47) Soil Type: rocky, sandy loam

48) Light Exposure: PSH

Site Classifications

Record taxonomic units of the given type(s) if published classifications exist for the area.

CLASSIFICATION TYPE	CLASS CODE	CLASSIFICATION SHORT NAME	CLASSIFICATION SET
49) Existing Veg			
50) Potential Veg			
51) Ecotype			

Habitat Quality and Management Comments

52) **Habitat Description:** Mesic opening in *Picea engelmannii* and *Abies grandis*

53) **Dominant Process:** 70

54) **Community Quality (L, M, H):** M

55) **Landscape Integrity (L, M, H):** M

56) **Process Comment:** Firewood stacked nearby

57) **Disturbance/Threats (present or imminent):** Trampling

58) **Disturbance/Threats Comment:** Area SE of cabin should be avoided

59) **Non-Native Comment:** Minimal threat from non-natives

60) **Current Land Use Comment:** Potential storage area for cabin

Canopy Cover

Record % canopy cover by actual percent, **or** by cover class (as indicated in General Information Block).

Lifeform Canopy Cover	61) % Cov or Code	Ground Cover	62) % Cov or Code
Tree	65	Bare	15
Shrub	5	Gravel	
Forb	10	Rock	
Graminoid	5	Bedrock	
Non-vascular		Moss	
Lichen		Litter/Duff	
Algae		Basal Veg	
Lichen		Water	
		Road surface	

Associated Species

List species directly associated with the EO species on this site. Record the NRCS Plant Code, scientific name or both. If desired, indicate lifeform, dominant species, % cover for each species and flag non-native species.

63) Completeness of Species List: ®* C, R, or S C

64) Species List Comment: small area recorded

65) NRCS	66) Scientific Name	67) Life Form	68) Dom. (Y/N)	69) % Cov or	70) Non- native
Plant Code PIEN	<i>Picea engelmannii</i>	TR	Y	50	No
ABGR	<i>Abies grandis</i>	TR	N	15	No
RILA	<i>Ribes lacustre</i>	SH	Y	5	No
CARO5	<i>Carex rossii</i>	GR	Y	5	No
FRVI	<i>Fragaria virginiana</i>	FB		10	No
ARCO9	<i>Arnica cordifolia</i>	FB		10	No
TAOF	<i>Taraxacum officinale</i>	FB		T	Yes
PYSE	<i>Pyrola secunda</i>	FB		5	No
HIAL2	<i>Hieracium albiflorum</i>	FB		T	No
THOC	<i>Thalictrum occidentale</i>	FB		T	No
EPAN	<i>Epilobium angustifolium</i>	FB		T	No
ANRA	<i>Antennaria racemosa</i>	FB		T	No

EO Specimen Documentation None

71) Reference for ID:

72) Primary Collector – Last Name:

First Name:

M.I.

Other Collectors – Last Name:

First Name:

M.I.

73) Collection #: ®*

74) ID Confirmed: ®* Y: or N: or Questionable:

75) Verification:

76) Specimen Repository: ®*

Image Information

77) Image ID 78) Image Description
 Site SE of cabin

Location Information

(State, County, Region, Forest, District will be auto-populated by the database application when the spatial feature is entered)

79) USGS Quad Number: 45117-C2-TF-024 80) USGS Quad Name: Joseph, Oregon
 81) Forest Quad Number: 82) Forest Quad Name:

83) Legal Description: Required where public land survey is available.

Meridian: Township and Range: 3S 45E

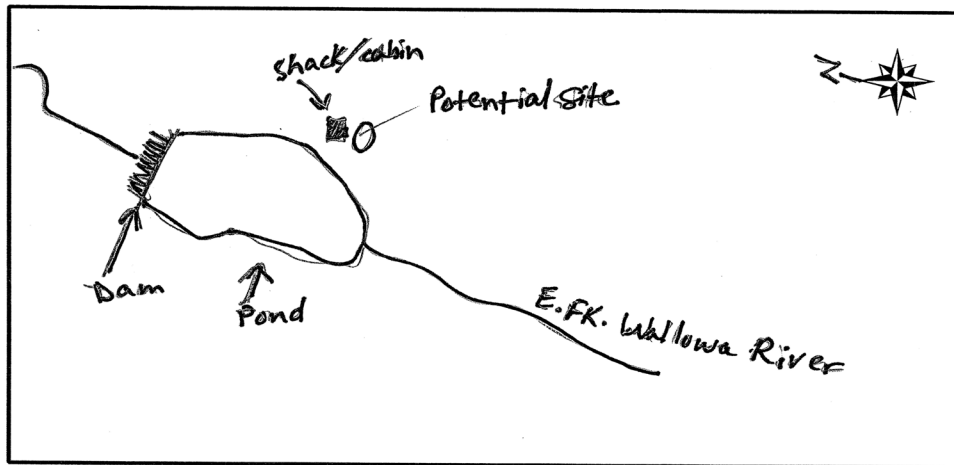
Section: <u>33</u>	Q Sec: <u>SW</u>	QQ Sec: <u> </u>	QQQ Sec: <u> </u>	QQQQ Sec: <u> </u>
84) Latitude and Longitude (either in degrees, minutes, seconds or in decimal degrees)				
Geodetic Datum:				
Latitude:	Degrees <u> </u> N	Minutes <u> </u>	Seconds <u> </u> .	
Longitude:	Degrees <u> </u> W	Minutes <u> </u>	Seconds <u> </u> .	
GPS Datum:				
GPS Lat. Dec. Degrees:		GPS Long. Dec. Degrees:		

85) UTM	
UTM Datum: NAD27	UTM Zone:
Easting: <u>084221</u>	Northing: <u>5011023</u>
86) GPS Equipment Used (Manufacturer and Model):	
Garmin 62S	
87) Metes and Bounds	

88) Directions to Site

From the main USFS trailhead at the end of Hwy. 82, walk the Wallowa Falls maintenance road ~1.2 miles to the dam. The site is located southeast of the shack by the dam.

89) Sketch of Site or Area



90) General EO Comments

TES Plant Element Occurrence Field Form

USDA FOREST SERVICE 2005

® = required field, ®* = conditionally required field

General Information

1) FS SITE ID: ®		2) DATE: 2 June; 22 July 2020®		3) SITE NAME:	
4) NRCS PLANT CODE: BOMI®					
5) SCIENTIFIC NAME: ® <i>Botrychium minganense</i>					
6) RECORD SOURCE: ®		7) SURVEY ID: ®*		8) Survey Name: BRI/PacifiCorp 2020	
9) EXAMINER(S)- LAST: Moholt®			FIRST:Kendrick		MIDDLE INITIAL:
LAST:			FIRST:		MIDDLE INITIAL:
10) OWNERSHIP: USFS (WWNF)®					
11) E.O. #			12) NEW OCCURRENCE –no		
13) STATE: Oregon®*		14) COUNTY: Wallowa ®*			
15) REGION: R6®*	16) FOREST: Wallowa-Whitman®*		17) DISTRICT: Wallowa RD®*		
18) Entire extent mapped: YES No: Uncertain:			19) Area (Est):<0.1 acres		20) Area UOM: ®*
21) Canopy Cover Method ®* (circle one): COVER PERCENT					

Element Occurrence Data

22) EO Canopy Cover: %Cov:50 or Cover Class Code:		23) Lifeform:	
24) Number of subpopulations:		XX) Plants Found: NO	
25) Plant Count:	26)Count Type: Genets/		27) Count:
28) Revisit needed - No		29) Revisit Date:	
30) Revisit Justification: The plant was found last year for the first time. Construction activity in the area this year			
31) Phenology by % (Sum to 100%): Vegetative Flower/Bud . . . Fruit/Dispersed . Seedlings/ Juvenile		32) Population Comments: (e.g., distribution, vigor, density, phenology, dispersal) Plant not relocated. 33) Evidence of disease, competition, predation, collection, trampling, or herbivory: Yes___or No ___ 34) Evidence Comments:	
35) Pollinator observed –No 36) Pollinator type(s):			
37) Pollinator comments: NA			

Site Morphometry

38) Percent Slope: 5%		39) Slope position: southwest	
40) Aspect: azimuth: 220 or cardinal:			
41) Elev.: Ave: Min: 5125 Max:5125		42) Elev UOM: ®*	

Soil Characteristics and Light Conditions

43) Substrate on which EO occurs: Duff layer			
44) Parent Material: granit		45) Soil Moisture: wet	
46) Soil Texture: fine		47) Soil Type: Clay loam	
48) Light Exposure: medium			

FS SITE ID:

Site Classifications

Record taxonomic units of the given type(s) if published classifications exist for the area.			
CLASSIFICATION TYPE	CLASS CODE	CLASSIFICATION SHORT NAME	CLASSIFICATION SET
49) Existing Veg			
50) Potential Veg			
51) Ecotype			

Habitat Quality and Management Comments

52) Habitat Description: On trail edge with twinflower, ocean spray, mixed conifer	
53) Dominant Process:	
54) Community Quality (L, M, H):	55) Landscape Integrity (L, M, H):
56) Process Comment:	
57) Disturbance/Threats (present or imminent): present	
58) Disturbance/Threats Comment: Trail maintenance	
59) Non-Native Comment: little to no non-native	
60) Current Land Use Comment: next to trail	

Canopy Cover

Record % canopy cover by actual percent, or by cover class (as indicated in General Information Block).			
Lifeform Canopy Cover	61) % Cov or Code	Ground Cover	62) % Cov or Code
Tree	50	Bare	
Shrub	10	Gravel	
Forb	20	Rock	
Graminoid	-	Bedrock	
Non-vascular	5	Moss	5
Lichen		Litter/Duff	20
Algae		Basal Veg	
		Water	
		Road surface	
		Lichen	

FS SITE ID:

Associated Species

List species directly associated with the EO species on this site. Record the NRCS Plant Code, scientific name or both. If desired, indicate lifeform, dominant species, % cover for each species and flag non-native species.					
63) Completeness of Species List: ®* C, R, or S					
64) Species List Comment:					
65) NRCS Plant Code	66) Scientific Name	67) Life Form	68) Dom. (Y/N)	69) % Cov or Class	70) Non- native
	<i>Linnaea borealis</i>		y	5	
	<i>Fragaria virginiana</i>				
	<i>Adenocaulon bicolor</i>				
	<i>Chimaphila umbellata</i>				
	<i>Goodyera oblongifolia</i>				
	<i>Thalictrum occidentale</i>				
	<i>Holodiscus discolor</i>		y	10	
	<i>Abies concolor</i>				
	<i>Picea engelmannii</i>				
	<i>Pinus ponderosa</i>				
	<i>Acer glabrum</i>				

EO Specimen Documentation NONE

71) Reference for ID: -----NA		
72) Primary Collector – Last Name:	First Name:	M.I.
Other Collectors – Last Name:	First Name:	M.I.
73) Collection #: ®*	74) ID Confirmed: ®* Y: or N: or Questionable:	
75) Verification:		
76) Specimen Repository: ®*		

Image Information

77) Image ID	78) Image Description

Location Information

(State, County, Region, Forest, District will be auto-populated by the database application when the spatial feature is entered)

79) USGS Quad Number:	80) USGS Quad Name:
81) Forest Quad Number:	82) Forest Quad Name:

83) Legal Description: Required where public land survey is available.

Meridian:	Township and Range: T3S R45E			
Section:	Q Sec:NE	QQ Sec:NW	QQQ Sec:	QQQQ Sec:
32				

84) Latitude and Longitude (either in degrees, minutes, seconds or in decimal degrees)

Geodetic Datum:

Latitude: Degrees_____N	Minutes	Seconds_____.
Longitude: Degrees_____W		

GPS Datum: _____ GPS Long. Dec. Degrees: _____

85) UTM

UTM Datum: NAD 83	UTM Zone: 11T
Easting: <u>0483644</u>	Northing: <u>5012238</u>

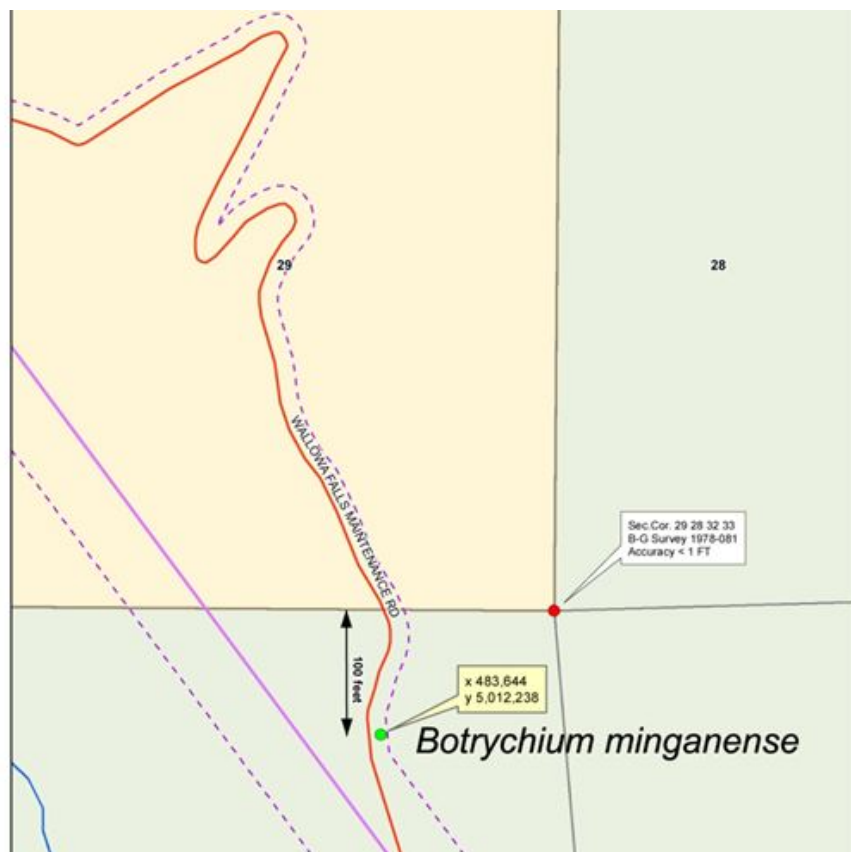
86) GPS Equipment Used (Manufacturer and Model):

Garmin 62S

87) Metes and Bounds

88) Directions to Site

From the southern end of Powerhouse Road walk the Wallowa Falls Maintenance Road to the main falls (~0.1 mile) and continue ~0.2 mile (just 100 feet past the section line between sec. 29 and 32). The plant is located on the east side of the trail.

89) Sketch of Site or Area**90) General EO Comments**

Appendix 2

Construction Plan to Protect **Special Status Plant Species**

Wallowa Falls Hydroelectric Project

Construction Plan to Protect Special Status Plant Species

The Wallowa Falls Hydroelectric Project (Project) is located on the East Fork Wallowa River approximately 11 miles outside of the City of Joseph in Northeastern Oregon. The FERC regulated boundary of this Project is approximately 26 acres and includes project operations, facilities, and portions of the access road and campground (Figures 4, 5, 6). The Project is adjacent to the Eagle Cap Wilderness boundary, which is known to support several rare, threatened, endangered, and/or special status plant species. In addition, several data sources have identified *Botrychium* species within the Project area. This plan has been designed in cooperation with the Wallowa-Whitman National Forest to ensure the protection of sensitive botanical resources.

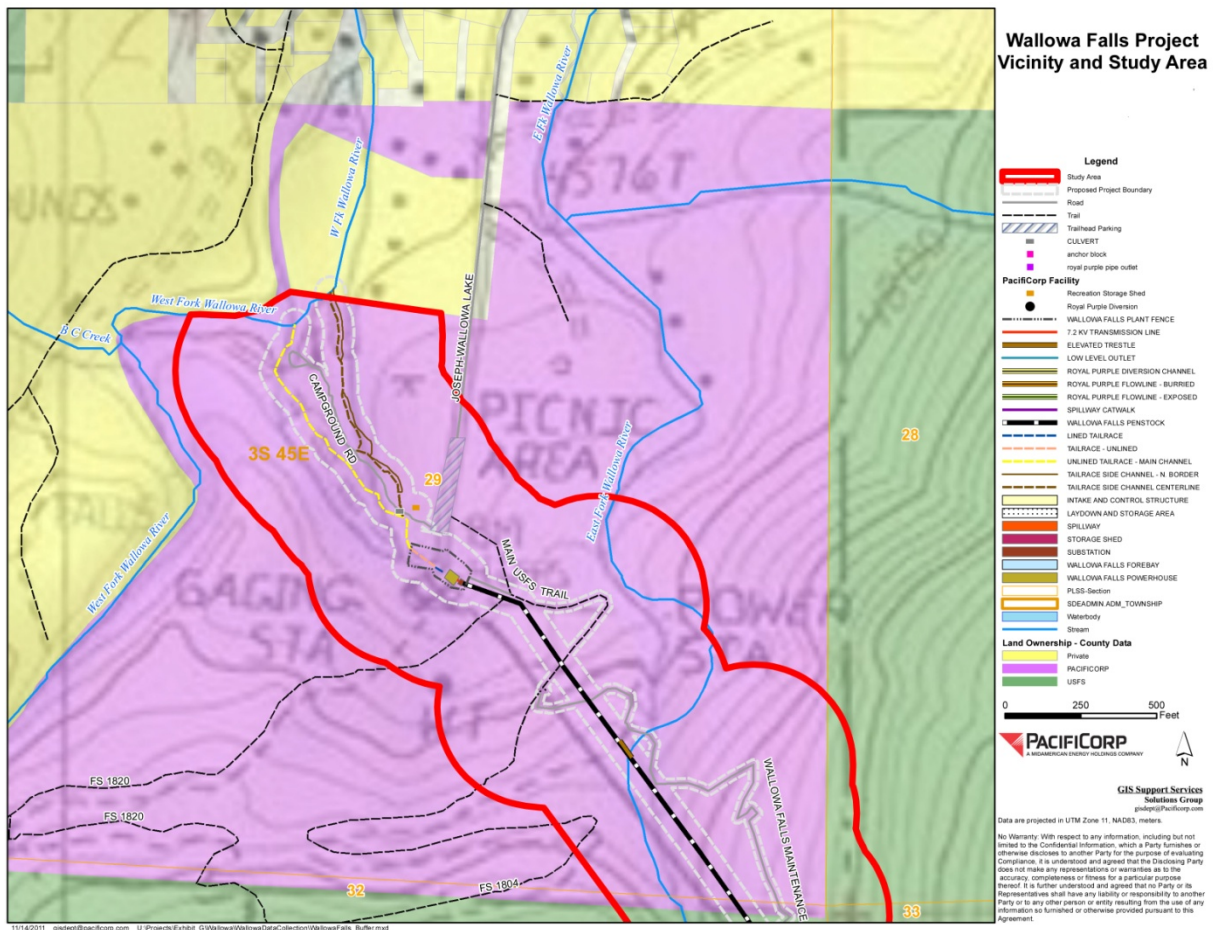


Figure 4. Wallowa-Whitman National Forest Project Area (1 of 3; North)

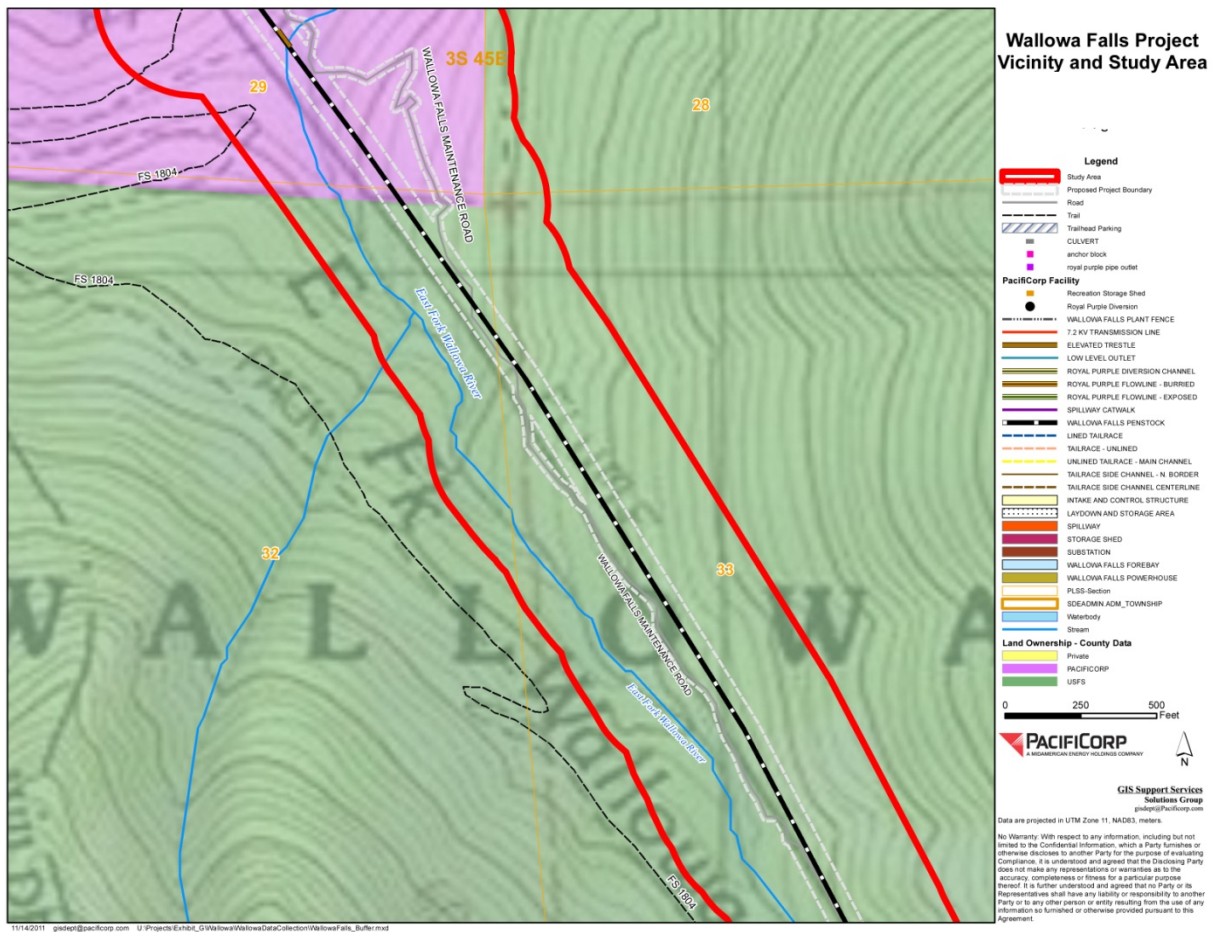


Figure 5. Wallowa-Whitman National Forest Project Area (2 of 3; Middle)

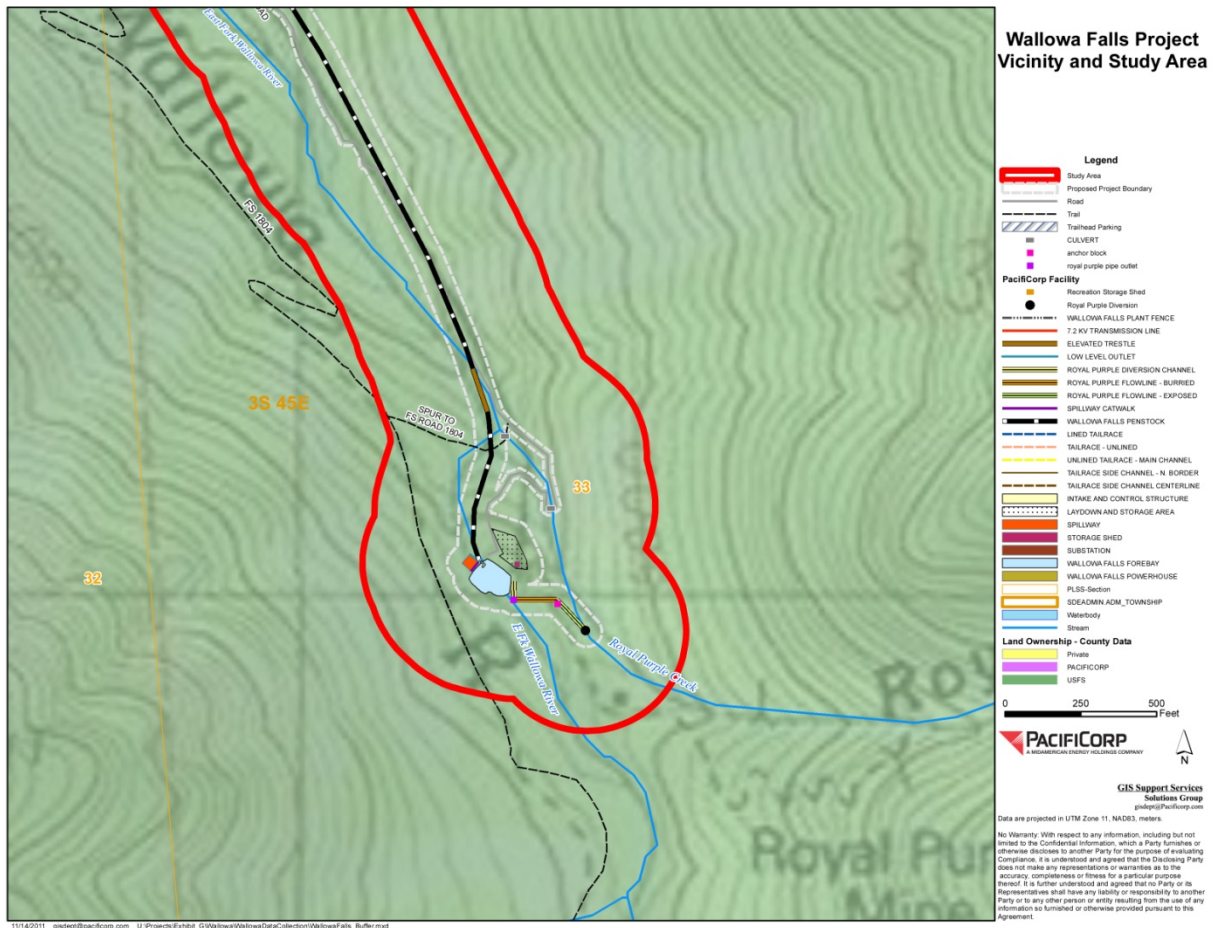


Figure 6. Wallowa-Whitman National Forest Project Area (3 of 3; South)

The area immediately southeast of the forebay cabin in the southern end of the Project area is a historic population for *Botrychium montanum*. Though the population has not been relocated in recent years, the area is considered high probability habitat for this species. Construction activities and material storage should be minimized or avoided in the area east of the forebay cabin (see Figure 7).

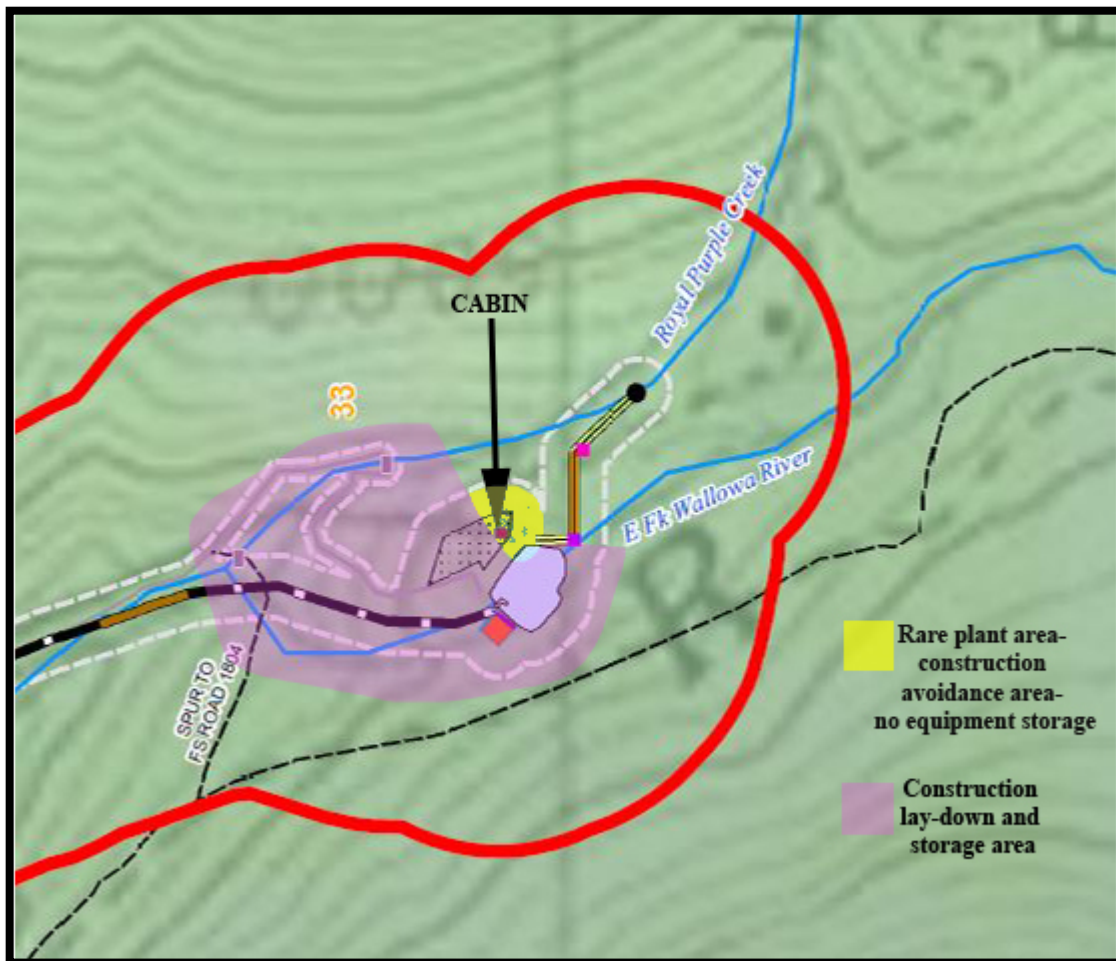


Figure 7. Construction avoidance area for *Botrychium montanum* on the Wallowa Falls Hydroelectric Project.

A population of *Botrychium minganense* is located within the Project area next to the Wallowa Falls Maintenance Road (see Figure 8) approximately 100 feet south of the PacifiCorp/Federal land boundary (line between T3S R45E section 29 and 31). The following mitigation measures are required to ensure the protection of this population:

- Activity in the area around the population of *Botrychium minganense* will be limited to standard trail maintenance **only** within the existing footprint of the previously disturbed access road.
- The avoidance area around the population of *Botrychium minganense* will be considered a 100 meter radius around the population center at NAD 83 11T E0483644 N5012238 (see Table 11).
- If any additional activity is proposed, the Company is directed to contact the WWNF forest botanist for additional consultation.

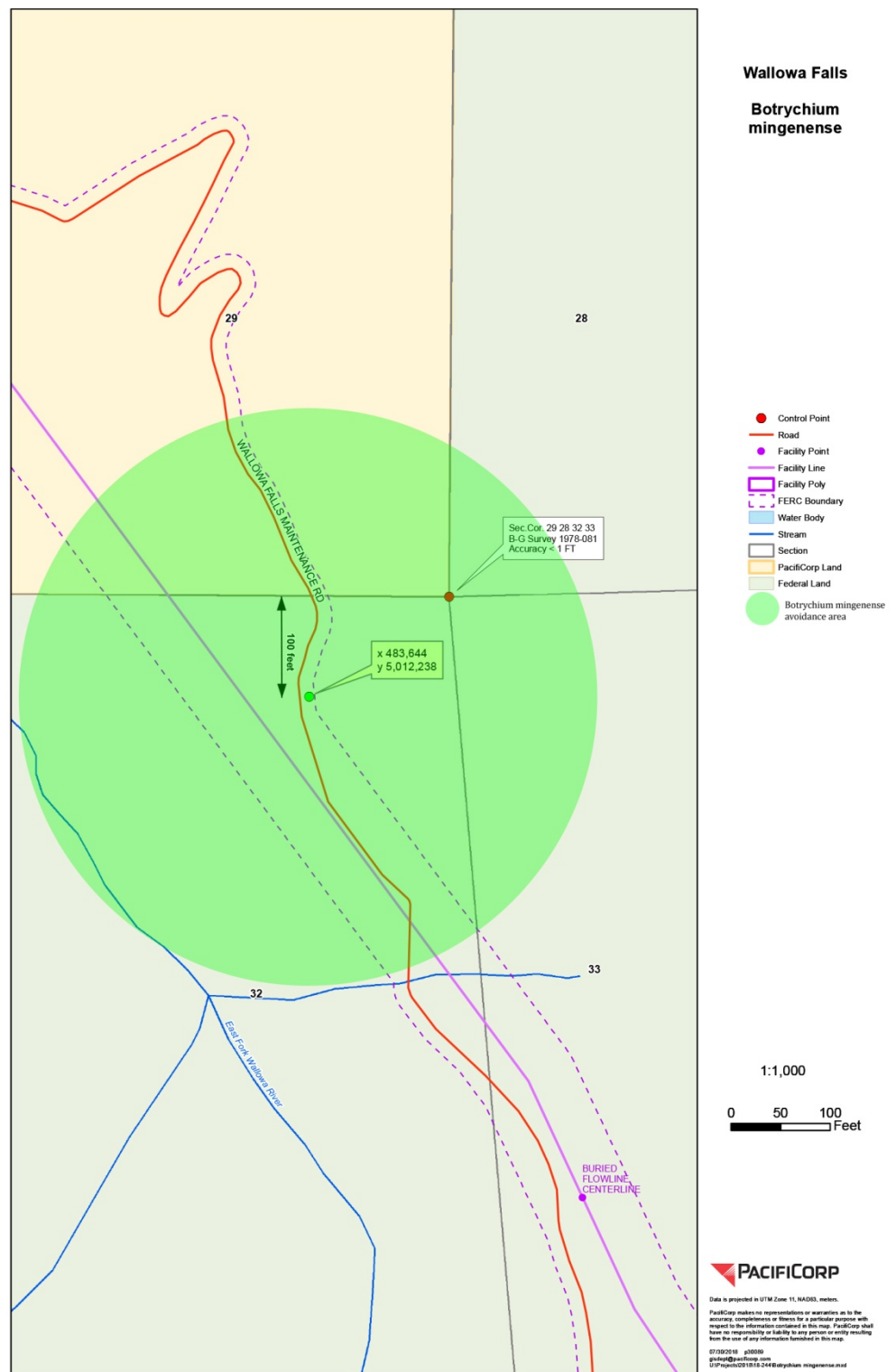


Figure 8. Off trail avoidance area for *Botrychium mingenense* on the Wallowa Falls Hydroelectric Project Maintenance Road.

Appendix 3

Noxious Weed Forms

Invasive Plant Inventory Form

General Site Information

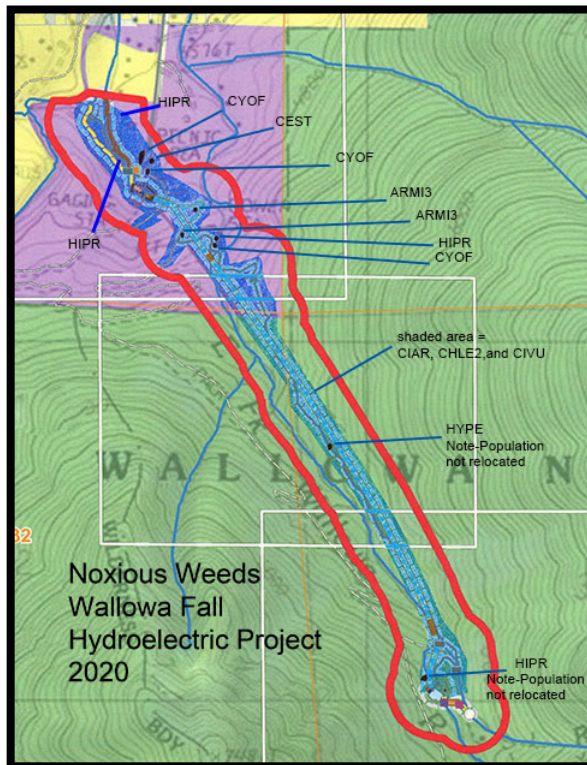
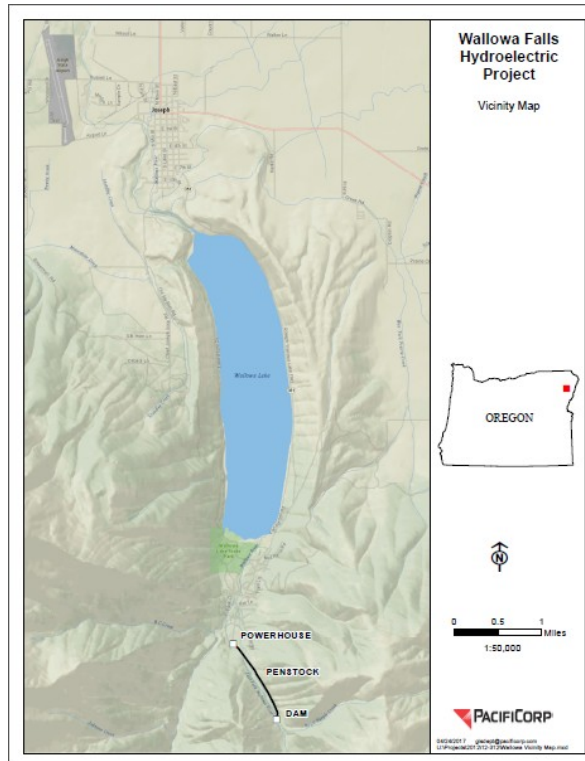
Site Name: Wallowa Falls Hydroelectric Project		Date: July 20, 2020	
Photo Point (GPS):		Ownership/District: USFS, WWNF, Eagle Cap and PacifiCorp	
Photo Name:		Examiner: Kendrick Moholt, Bio-Resources, Inc.	
Botanist Initial:	Elevation: 4700'- 5800'	GPS Coordinates: 0483259 E 5012652N to 0484159E 5011062N	Datum: UTM (NAD 27) Zone 11
Wildlife Biologist:			
EDRR: __Y__N	GPS File Name:	Other Observations:	
Access: Road__ Trail <u>X</u> River__ Other campground			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>33</u> NW ¹ / ₄ of NW ¹ / ₄ , SW ¹ / ₄ of NW ¹ / ₄ , NW ¹ / ₄ of SW ¹ / ₄ , SE ¹ / ₄ of SW ¹ / ₄			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>29</u> SW ¹ / ₄			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>32</u> NE ¹ / ₄ of NE ¹ / ₄			

Site Data Information

Target Species Code: CIVU		Common Name: Bull Thistle	
Scientific Name: <i>Cirsium vulgare</i>		Phenology: R__ B__ FL <u>X</u> S	
Distribution: C Lumped__ Linear__ SE Scattered even__ SP Scattered Patchy <u>X</u> Continuous__			
Total Acres: 26	Percent Infested: <1%	Infested Acres: ~0.15	
% Cover or Count (weeds): ~50		Understory Cover % (all): 40-90%	
Potential to Spread: High__ Med <u>x</u> Low__		Distance to Water: >30m	
Water Type: Perennial__ Ephemeral__		System: Lake__ River__ Spring__ Stream	
Soil Types: sandy loam		Slope % aspect: 2-20%, Aspect variable	
Other Species on Site:			

Comments

Map of Site





Bull Thistle
Cirsium vulgare

Invasive Plant Inventory Form

General Site Information

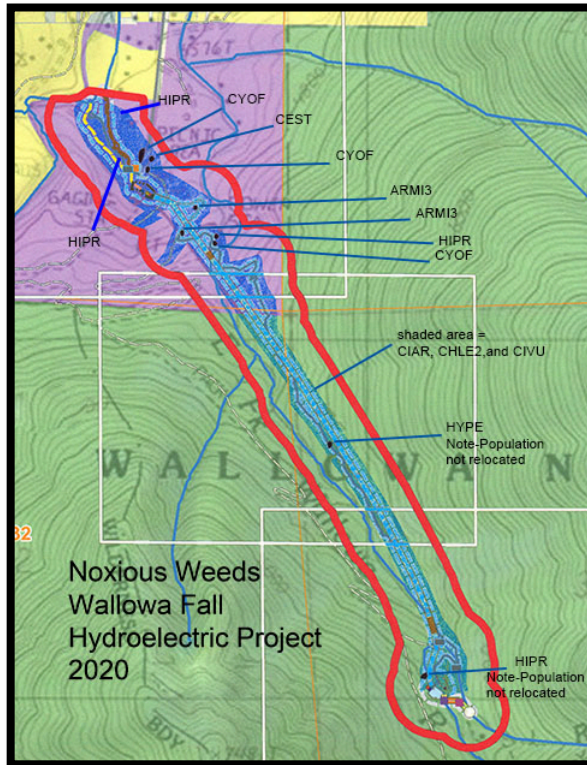
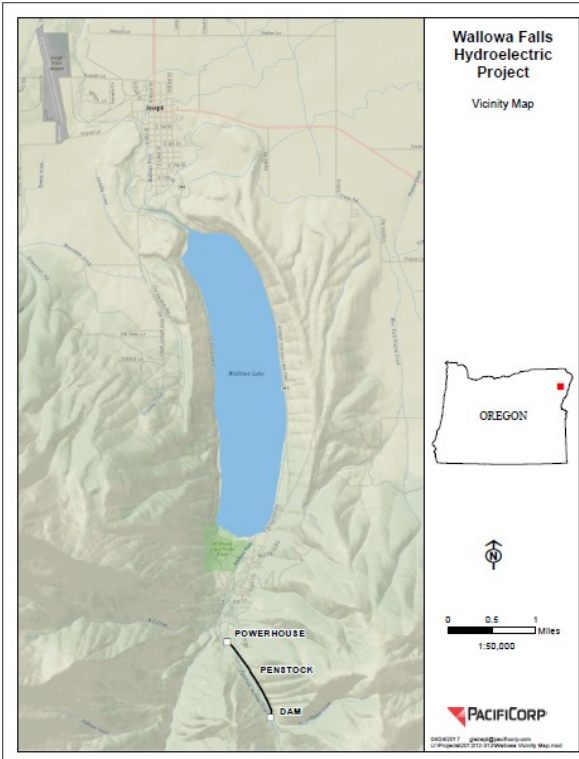
Site Name: Wallowa Falls Hydroelectric Project		Date: July 20, 2020	
Photo Point (GPS):		Ownership/District: USFS, WWNF, Eagle Cap and PacifiCorp	
Photo Name:		Examiner: Kendrick Moholt, Bio-Resources, Inc.	
Botanist Initial:	Elevation: 4700'-5800'	GPS Coordinates: 0483259 E 5012652N to 0484159E 5011062N	Datum: UTM (NAD 27) Zone 11
Wildlife Biologist:			
EDRR: __Y__N	GPS File Name:	Other Observations:	
Access: Road__ Trail <u>X</u> River__ Other campground			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>33</u> NW¼ of NW¼, SW¼ of NW¼, NW¼ of SW¼, SE¼ of SW¼			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>29</u> SW ¼			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>32</u> NE¼ of NE¼			

Site Data Information

Target Species Code: CIAV		Common Name: Canada Thistle	
Scientific Name: <i>Cirsium arvense</i>		Phenology: R__ B__ FL <u>X</u> S	
Distribution: CLumped__ Linear__ SE Scattered even__ SP Scattered Patchy <u>X</u> Continuous__			
Total Acres: 26	Percent Infested: <1%	Infested Acres: ~0.3	
% Cover or Count (weeds): ~1000		Understory Cover % (all): 40-90%	
Potential to Spread: High__ Med <u>x</u> Low__		Distance to Water: >30m	
Water Type: Perennial__ Ephemeral__		System: Lake__ River__ Spring__ Stream	
Soil Types: sandy loam		Slope % aspect: 2-20%, Aspect variable	
Other Species on Site:			

Comments

Map of Site





Canada Thistle
Cirsium arvense

Invasive Plant Inventory Form

General Site Information

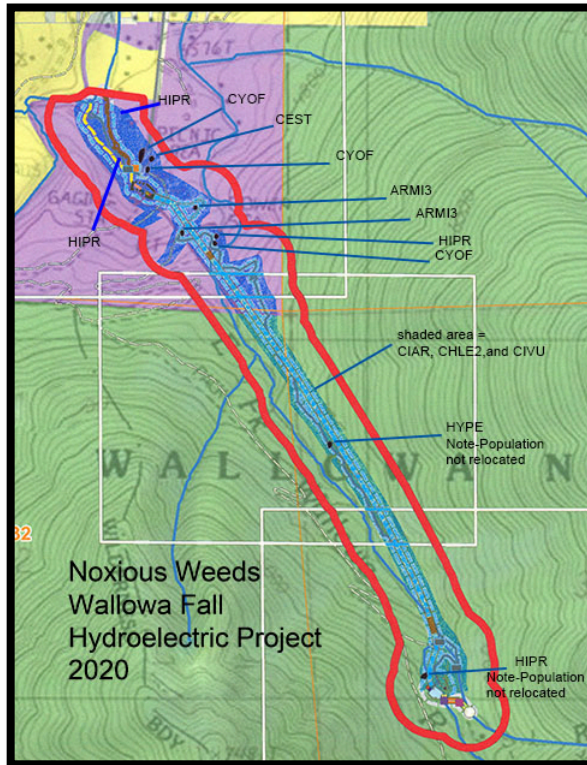
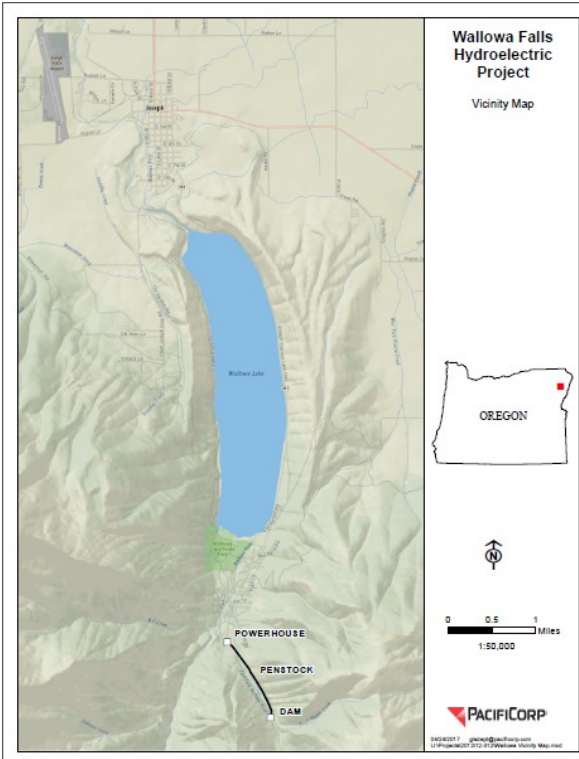
Site Name: Wallowa Falls Hydroelectric Project		Date: July 20, 2020	
Photo Point (GPS):		Ownership: PacifiCorp	
Photo Name:		Examiner: Kendrick Moholt, Bio-Resources, Inc.	
Botanist Initial:	Elevation: 4700'-5000'	GPS Coordinates: 0483488E 5012298N and 0483529E 5012336N	Datum: UTM (NAD 27) Zone 11
Wildlife Biologist:			
EDRR: __Y__N	GPS File Name:		Other Observations:
Access: Road__ Trail <u>X</u> River__ Other Campground			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>29</u> ¼ sec: <u>SE</u> of ¼ sec: <u>SE</u>			

Site Data Information

Target Species Code: ARMI3		Common Name: Common Burdock	
Scientific Name: <i>Arctium minus</i>		Phenology: R__ B__ FL <u>X</u> S	
Distribution: C Lumped__ Linear__ SE Scattered even__ SP Scattered Patchy <u>X</u> Continuous__			
Total Acres: 26	Percent Infested: <1%	Infested Acres: ~0.1	
% Cover or Count (weeds): ~5		Understory Cover % (all): 60-90%	
Potential to Spread: High__ Med <u>x</u> Low__		Distance to Water: >30m	
Water Type: Perennial__ Ephemeral__		System: Lake__ River__ Spring__ Stream	
Soil Types: sandy loam		Slope % aspect: 2-10%, Aspect variable	
Other Species on Site:			

Comments

Map of Site





Common Burdock

Arctium minus

Invasive Plant Inventory Form

General Site Information

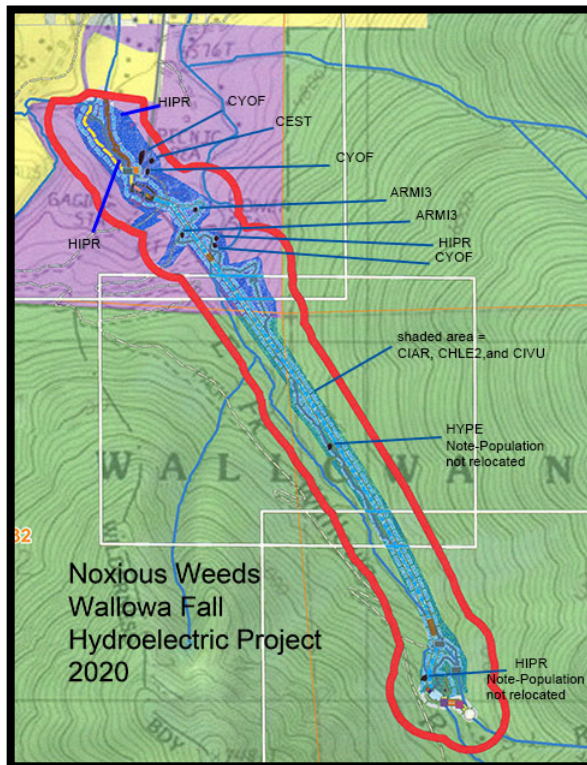
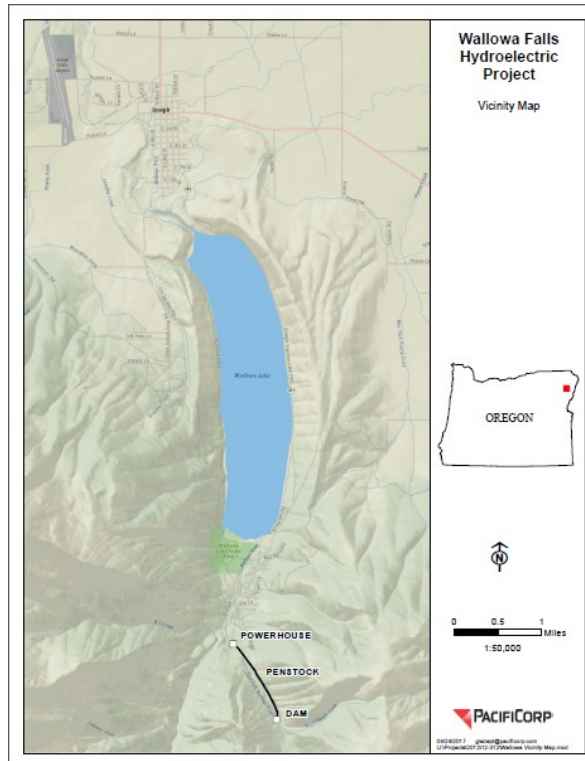
Site Name: Wallowa Falls Hydroelectric Project		Date: July 20, 2020	
Photo Point (GPS):		Ownership: PacifiCorp	
Photo Name:		Examiner: Kendrick Moholt, Bio-Resources, Inc.	
Botanist Initial:	Elevation: 4700'- 5000'	GPS Coordinates: 0483297 5012651N and 0483577E 5012260N	Datum: UTM (NAD 27) Zone 11
Wildlife Biologist:			
EDRR: __Y__N	GPS File Name:	Other Observations:	
Access: Road__ Trail <u>X</u> River__ Other_____#			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>29</u> ¼ sec: <u>NW</u> of ¼ sec: <u>SE</u>			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>29</u> ¼ sec: <u>SE</u> of ¼ sec: <u>SE</u>			

Site Data Information

Target Species Code: CYOF		Common Name: Houndstongue	
Scientific Name: <i>Cynoglossum officinale</i>		Phenology: R__ B__ FL <u>X</u> S	
Distribution: CLumped__ Linear__ SE Scattered even____ SP Scattered Patchy <u>X</u> Continuous_____			
Total Acres: 26	Percent Infested: <1%	Infested Acres: ~0.15	
% Cover or Count (weeds): ~60		Understory Cover % (all): 40-90%	
Potential to Spread: High <u>x</u> Med__ Low____		Distance to Water: >30m	
Water Type: Perennial__ Ephemeral____		System: Lake__ River__ Spring__ Stream	
Soil Types: sandy loam		Slope % aspect: 2-10%, Aspect variable	
Other Species on Site:			

Comments

Map of Site





Houndstongue
Cynoglossum officinale

Invasive Plant Inventory Form

General Site Information

Site Name: Wallowa Falls Hydroelectric Project		Date: July 20, 2020	
Photo Point (GPS):		Ownership/District: USFS, WWNF, Eagle Cap and PacifiCorp	
Photo Name:		Examiner: Kendrick Moholt, Bio-Resources, Inc.	
Botanist Initial:	Elevation: 4700'- 5800'	GPS Coordinates:	Datum: UTM (NAD 27) Zone 11
Wildlife Biologist:		0484195E 5011062N (USFS) 0484223E 5011018N (Pacif)	
EDRR: __Y__N	GPS File Name:	Other Observations:	
Access: Road__ Trail <u>X</u> River__ Other____#			
Township: <u>3</u> S Range: <u>45</u> E Section: <u>33</u> $\frac{1}{4}$ sec: <u>SE</u> (USFS)			
Township: <u>3</u> S Range: <u>45</u> E Section: <u>29</u> $\frac{1}{4}$ sec: <u>SE</u> of $\frac{1}{4}$ sec: <u>SE</u> (PacifiCorp)			

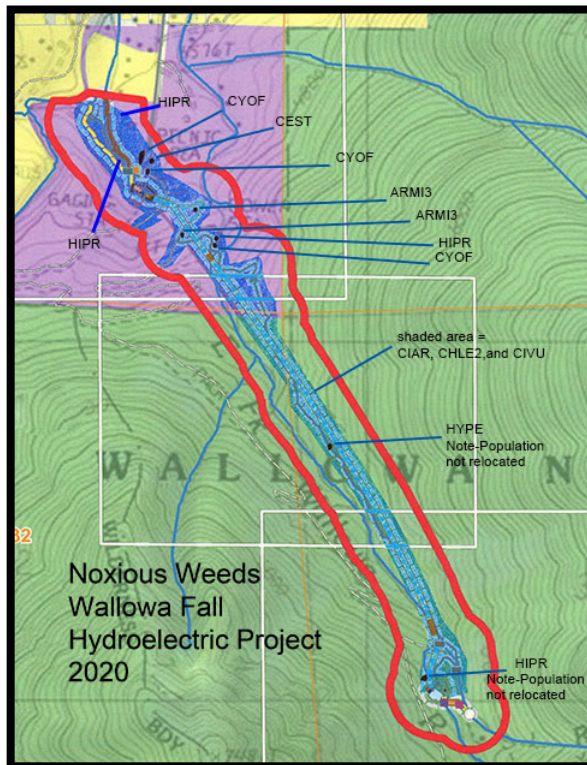
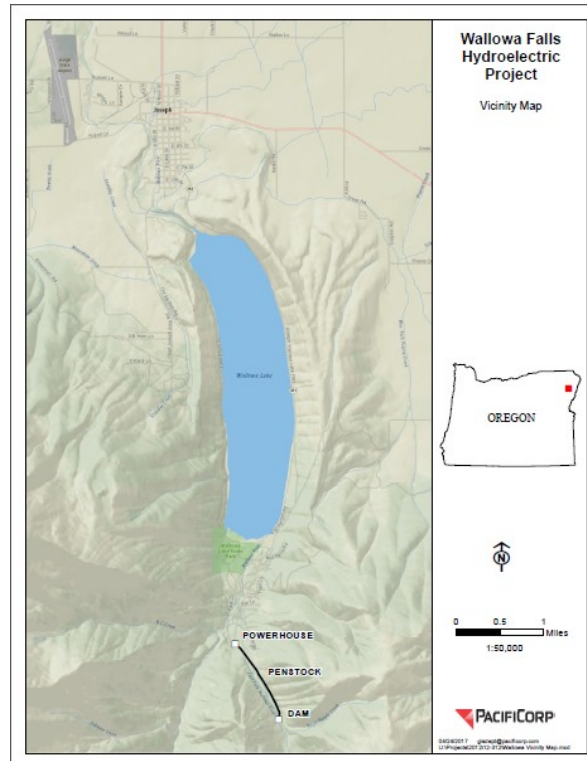
Site Data Information

Target Species Code: HIPR		Common Name: meadow hawkweed	
Scientific Name: <i>Hieracium caespitosum</i> (Synonym: <i>Hieracium pratense</i>)		Phenology: R__ B__ FL <u>X</u> S	
Distribution: C Lumped__ Linear____ S E Scattered even____ S P Scattered Patchy <u>X</u> Continuous____			
Total Acres: 26	Percent Infested: <1%	Infested Acres: ~0.15	
% Cover or Count (weeds): <1% (~60 plants)		Understory Cover % (all): 40-90%	
Potential to Spread: High <u>x</u> Med__ Low____		Distance to Water: >30m	
Water Type: Perennial__ Ephemeral____		System: Lake__ River__ Spring__ Stream	
Soil Types: sandy loam to sandy lithosol		Slope % aspect: 2-20%, Aspect variable	
Other Species on Site:			

Comments

The hawkweed treated here is not in the same location formerly recorded with the infestation ID numbers MH3555 and MH3560. Plants have not been relocated at these older infestation sites.

Map of Site





Meadow Hawkweed

Hieracium caespitosum

Invasive Plant Inventory Form

General Site Information

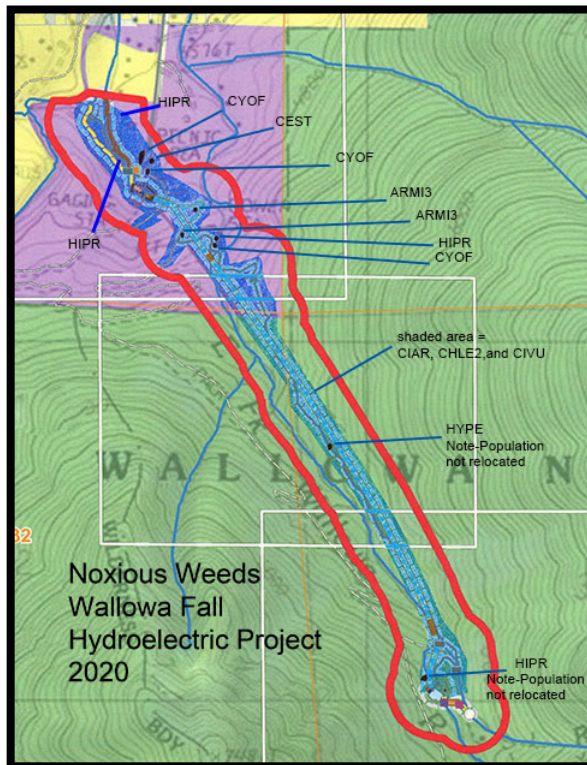
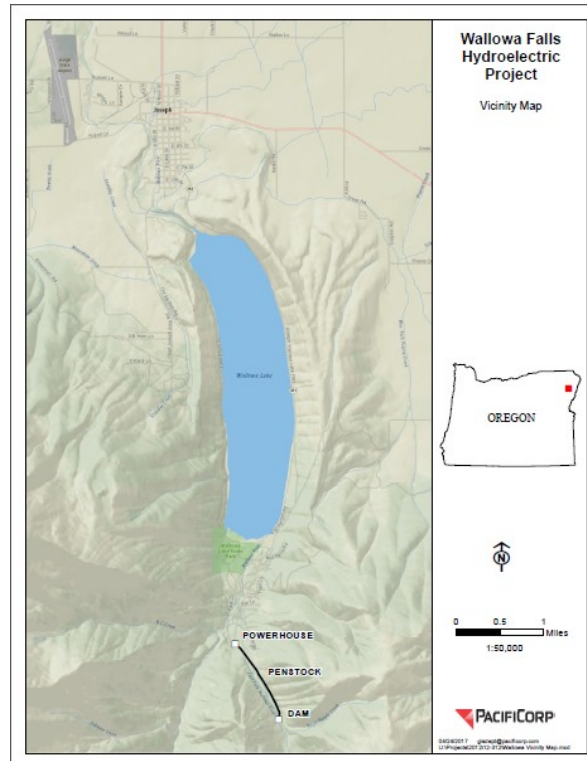
Site Name: Wallowa Falls Hydroelectric Project		Date: July 20, 2020	
Photo Point (GPS):		Ownership/District: USFS, WWNF, Eagle Cap and PacifiCorp	
Photo Name:		Examiner: Kendrick Moholt, Bio-Resources, Inc.	
Botanist Initial:	Elevation: 4700'- 5800'	GPS Coordinates: 0483259 E 5012652N to 0484159E 5011062N	Datum: UTM (NAD 27) Zone 11
Wildlife Biologist:			
EDRR: __Y__N	GPS File Name:	Other Observations:	
Access: Road__ Trail <u>X</u> River__ Other campground			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>33</u> NW ¹ / ₄ of NW ¹ / ₄ , SW ¹ / ₄ of NW ¹ / ₄ , NW ¹ / ₄ of SW ¹ / ₄ , SE ¹ / ₄ of SW ¹ / ₄			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>29</u> SW ¹ / ₄			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>32</u> NE ¹ / ₄ of NE ¹ / ₄			

Site Data Information

Target Species Code: CHLE2		Common Name: Oxeye Daisy	
Scientific Name: <i>Leucanthemum vulgare</i> (Synonym- <i>Chrysanthemum leucanthemum</i>)		Phenology: R__ B__ FL <u>X</u> S	
Distribution: C Lumped__ Linear__ SE Scattered even__ SP Scattered Patchy <u>X</u> Continuous__			
Total Acres: 26	Percent Infested: <1%	Infested Acres: ~0.3	
% Cover or Count (weeds): ~1000		Understory Cover % (all): 40-90%	
Potential to Spread: High__ Med <u>x</u> Low__		Distance to Water: >30m	
Water Type: Perennial__ Ephemeral__		System: Lake__ River__ Spring__ Stream	
Soil Types: sandy loam		Slope % aspect: 2-20%, Aspect variable	
Other Species on Site:			

Comments

Map of Site





Oxeye Daisy
Leucanthemum vulgare

Invasive Plant Inventory Form

General Site Information

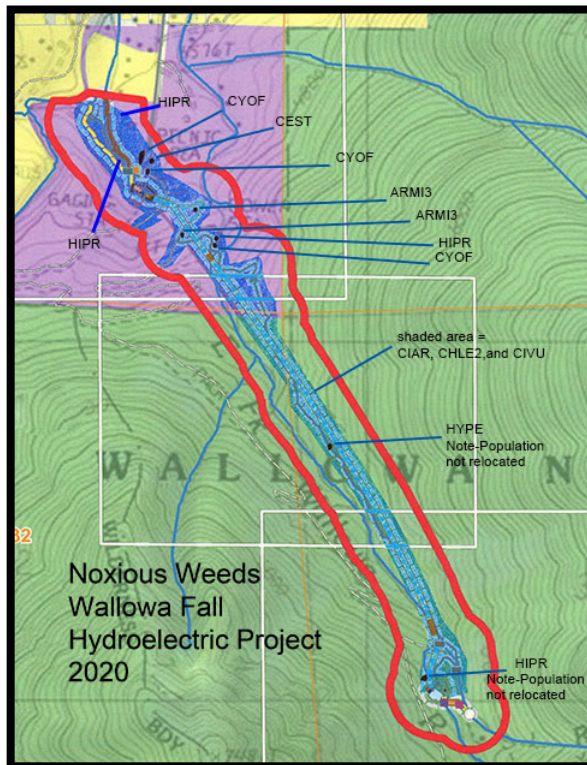
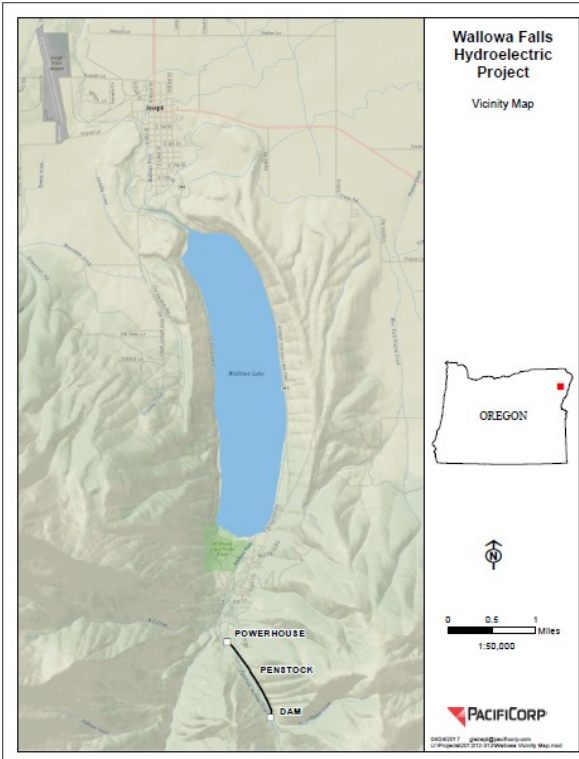
Site Name: Wallowa Falls Hydroelectric Project		Date: July 20, 2020	
Photo Point (GPS):		Ownership: PacifiCorp	
Photo Name:		Examiner: Kendrick Moholt, Bio-Resources, Inc.	
Botanist Initial:	Elevation: 4700'- 5000'	GPS Coordinates: 0483409E 5012480N	Datum: UTM (NAD 27) Zone 11
Wildlife Biologist:			
EDRR: __Y__N	GPS File Name:	Other Observations:	
Access: Road <u>X</u> Trail <u> </u> River <u> </u> Other Campground			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>29</u> $\frac{1}{4}$ sec: <u>NW</u> of $\frac{1}{4}$ sec: <u>SE</u>			

Site Data Information

Target Species Code: CEST		Common Name: Spotted Knapweed	
Scientific Name: <i>Centaurea stoebe</i> Synonym (<i>Centaurea maculosa</i>)		Phenology: R__ B__ FL <u>X</u> S	
Distribution: CLumped__ Linear__ SE Scattered even__ SP Scattered Patchy <u>X</u> Continuous__			
Total Acres: 26	Percent Infested: <1%	Infested Acres: ~0.25	
% Cover or Count (weeds): dozens		Understory Cover % (all): 40-90%	
Potential to Spread: High <u>x</u> Med__ Low__		Distance to Water: >30m	
Water Type: Perennial__ Ephemeral__		System: Lake__ River__ Spring__ Stream	
Soil Types: sandy loam		Slope % aspect: 2-10%, Aspect variable	
Other Species on Site:			

Comments

Map of Site





Spotted Knapweed (rosette)

Centaurea stoebe

Invasive Plant Inventory Form

General Site Information

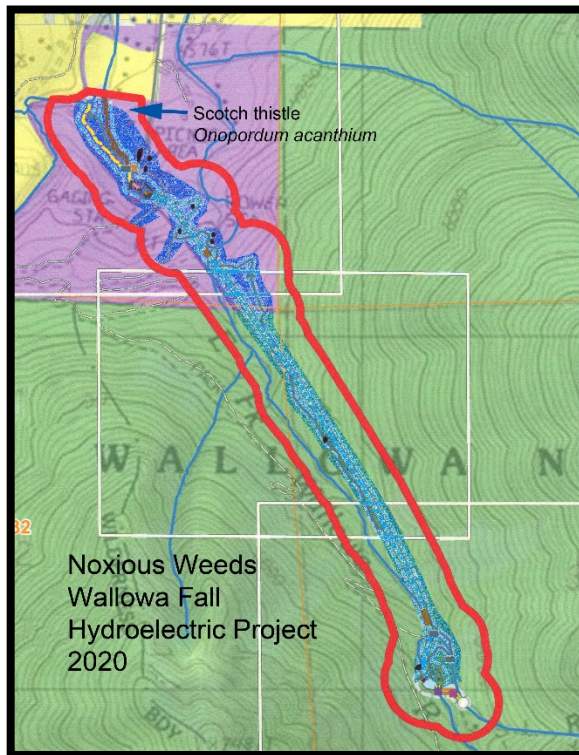
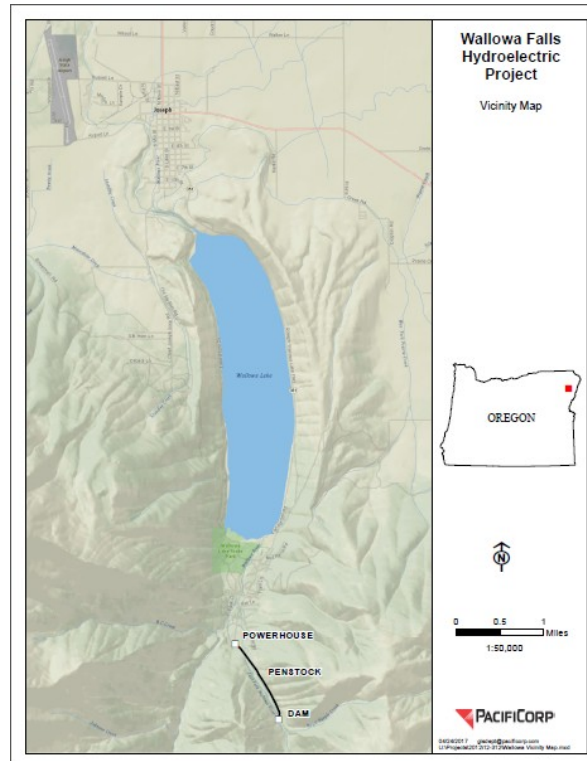
Site Name: Wallowa Falls Hydroelectric Project		Date: 20 July 2020	
Photo Point (GPS):		Ownership: PacifiCorp	
Photo Name:		Examiner: Kendrick Moholt, Bio-Resources, Inc.	
Botanist Initial:	Elevation: 4700'- 5000'	GPS Coordinates: 0483122E 5012854N	Datum: UTM (NAD 83) Zone 11
Wildlife Biologist:			
EDRR: __Y__N	GPS File Name:	Other Observations:	
Access: Road__ Trail__ River__ Other: <u>Campground</u>			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>29</u> ¼ sec: <u>NW</u> of ¼ sec: <u>SE</u>			

Site Data Information

Target Species Code: CEST		Common Name: Scotch Thistle	
Scientific Name: <i>Onopordum acanthium</i>		Phenology: R__ B__ FL <u>X</u> S	
Distribution: CLumped__ Linear__ SEScattered even__ SPScattered Patchy <u>X</u> Continuous__			
Total Acres: 26	Percent Infested: <1%	Infested Acres: ~0.01	
% Cover or Count (weeds): Two rosetts		Understory Cover % (all): 40-90%	
Potential to Spread: High <u>x</u> Med__ Low__		Distance to Water: >30m	
Water Type: Perennial__ Ephemeral__		System: Lake__ River__ Spring__ Stream	
Soil Types: sandy loam		Slope % aspect: 1%, Aspect variable	
Other Species on Site:			

Comments

Map of Site





Scotch Thistle (rosette)

Onopordum acanthium

Invasive Plant Inventory Form

General Site Information

Site Name: Wallowa Falls Hydroelectric Project		Date: 20 July 2020	
Photo Point (GPS):		Ownership/District: USFS, WWNF, Eagle Cap	
Photo Name:		Examiner: Kendrick Moholt, Bio-Resources, Inc.	
Botanist Initial:	Elevation: 5500'	GPS Coordinates: 0484018E 5011521N	Datum: UTM (NAD 27) Zone 11
Wildlife Biologist:			
EDRR: __Y__N	GPS File Name:	Other Observations:	
Access: Road__ Trail <u>X</u> River__ Other_____#			
Township: <u>3S</u> Range: <u>45E</u> Section: <u>33</u> ¼ sec: <u>NW</u>			

Site Data Information

Target Species Code: HIPE		Common Name: St. John's Wort	
Scientific Name: <i>Hypericum perforatum</i>		Phenology: R__ B__ FL_ S None	
Distribution: C Lumped__ Linear__ SE Scattered even__ S P Scattered Patchy__ Continuous_____			
Total Acres: 0 (none)	Percent Infested: <0%	Infested Acres: 0	
% Cover or Count (weeds): 0		Understory Cover % (all): 90%	
Potential to Spread: High__ Med__ Low <u>X</u>		Distance to Water: >30m	
Water Type: Perennial__ Ephemeral__		System: Lake__ River__ Spring__ Stream	
Soil Types: sandy loam		Slope % aspect: 2%, 230°	
Other Species on Site:			

Comments

THIS SMALL WEED POPULATION APPEARS TO HAVE BEEN ERADICATED

Approximately 1 mile from trailhead on Wallowa Falls Maintenance Road (NE of the FS1804 trail switchback on the Sec. 32/33 border).

Herbicide Application (2510) Data Form

General Treatment Data

Treatment Area Name	Owner	FACTS ID #	Subunit	Project
Wallowa Falls Hydroelectric Project	USFS & PacifiCorp	_____	—	Wallowa Falls Hydroelectric Project
Equipment	Fund Code	Comments		
4-Wheeler spray rig, backpack spray rig; shovel	NA	Manual control conducted by hand digging with shovel		

Infestation/Target Species

INFESTATION ID	Species Name	% Infested	Infested Area Treat	Phenology
TBD	Meadow Hawkweed <i>Hieracium caespitosum</i>	<1%	0.00 ac USFS (NONE) 0.10 ac PacifiCorp (spot app)	Flowering
TBD	Bull Thistle <i>Cirsium vulgare</i>	<1%	0.01 ac USFS (Manual) 0.05 ac PacifiCorp (spot app and Manual)	Flowering
TBD	Canada Thistle <i>Cirsium arvense</i>	<1%	0.10 ac USFS (Manual) 0.05 ac PacifiCorp (spot app and Manual)	Flowering
TBD	Common Burdock <i>Arctium minus</i>	<1%	0.01 ac PacifiCorp (spot app and Manual)	Flowering
TBD	Hounds' Tongue <i>Cynoglossum officinale</i>	<1%	0.15 ac PacifiCorp (spot app and Manual)	Flowering
TBD	Oxeye Daisy <i>Leucanthemum vulgare</i>	<1%	0.5 ac PacifiCorp (spot app and Manual)	Flowering
TBD	Spotted Knapweed <i>Centaurea stoebe</i>	<1%	0.5 ac PacifiCorp (spot app and Manual)	Flowering
TBD	Scotch thistle <i>Onopordum acanthium</i>	<1%	0.01 ac PacifiCorp (spot app)	Flowering

DailyLog

Application Site		Licensed Applicator Name and License #				Applicators (other)			
Wallowa Falls Hydroelectric Project campground, and trail		Veezy Contracting #AG-L 1009406 CPA				—			
Application Date	Application Area (Acres)	Time Start	Time Stop	Temp (F)	Wind Speed (MPH)	Wind Direction	Cloud Cover	RH%	Water Distance
27 July 2020	1.5	0700	1600	70°F	1-3	NW	clear	40	>30m
Calibrated Volume		UOM	Volume Applied		UOM		Mix (oz/gal)		Diluent
16		Gal/Acre	24		Gal		0.44		Water
Herb Product Name	EPA Reg #			Product Rate	UOM	Additives		Rate	UOM
Milestone	62719-519			7	Oz/Ac	INSIST 90		12	Oz/Ac

Remarks: Bio-Resources, Inc contract botanist, Kendrick Moholt, on site during herbicide application and manual control.