# AVISTA CORPORATION

# LAND USE MANAGEMENT PLAN
## ARTICLE 419

Spokane River Hydroelectric Project
FERC Project No. 2545

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# TABLE OF CONTENTS

## LIST OF TABLES



## LIST OF FIGURES



## LIST OF APPENDICES

# 1.0 INTRODUCTION

## 1.1 Purpose

On June 18, 2009, the Federal Energy Regulatory Commission (FERC) issued a license (License) for the Spokane River Project (Project), FERC Project No. 2545. The Project is owned by Avista Utilities (Avista) and consists of five individual hydroelectric developments (HEDs) which include the Upper Falls, Monroe Street, Nine Mile and Long Lake HED's in eastern Washington, and Post Falls HED in northern Idaho. Article 419 of the License requires Avista to develop a Spokane River Hydroelectric Project Land Use Management Plan (Plan) for its Washington and Idaho Project lands (see Appendix A). Maps showing the Project boundary are included as *Figures 1 and 2.*

Within the FERC Project boundary Avista holds various interests in the encompassed lands, including fee-simple title ownership and flowage and transmission line easements. These interests determine Avista's rights and ability to use and/or manage the use of its Project lands, those lands necessary for the operation of the Project, by others. Avista manages these lands and waters for purposes associated with the Project HEDs. It also issues permits, leases, and easements to other agencies and individuals for use and occupancy of the lands where appropriate.

The purpose of this Plan is to provide Avista with a land use management plan that facilitates decisions and provides direction regarding natural resource management, land use classifications, compatible activities, and noxious weed control measures.

The Plan provides an overview of land use management goals, land use categories, allowable uses for each land use classification, and a provision to control terrestrial noxious weeds including specific goals, objectives, and success criteria for Project lands. The Plan will be used by Avista to guide both the long-term and day-to-day management of Project lands in a fair and comprehensive manner consistent with applicable local, state, tribal and federal land use regulations and the management goals, as outlined herein. The Plan also serves as an ongoing informational tool for stakeholders and adjacent landowners in the implementation of Avista's FERC License concerning the use and management of the Project lands.

## 1.2 Project Area Description

Avista manages approximately 1,000 acres of Project lands. The Project boundary, as described in FERC Exhibit G drawings, surrounds the Project lands and water bodies that are directly related to operation of the Project's five HEDs. Generally, the Project boundary (*Figures 1- 2*) follows the normal high-water line around the impoundments created by the dams. In Idaho, the Project boundary follows the Spokane River upstream from Post Falls HED to Coeur d'Alene Lake, where it encompasses that water body, and also follows the shorelines of its tributaries (Coeur d'Alene River, St. Joe River, and St. Maries River) upstream to points where the dam no longer influences water flow.

In Washington, the boundary associated with the Upper Falls and Monroe Street HEDs generally follow the Spokane River's shoreline upstream through downtown Spokane, and at the Nine Mile and Long Lake HEDs it includes Nine Mile Reservoir and Lake Spokane respectively. In addition to these water bodies, upland areas in the vicinity of the dams and powerhouses are within the Project boundary, as are additional lands closely associated with the Project that are owned by Avista.

## 1.3 Land Use Management Goals

The Plan is intended to balance and integrate various land uses and goals for Avista's Project lands. The following land management goals have been developed in collaboration with local, state, tribal and federal agencies for Avista's Project lands:

- Provide a balanced approach to natural resource management, including control of terrestrial noxious weeds.
- Provide appropriate protection and management of cultural resources.
- Engage stakeholders in the development and implementation of land management plans to minimize management conflicts.
- Protect and enhance public use of Project lands and waters, to the degree possible while maintaining consistency with cultural and natural resource protection needs.
- Maintain consistency with environmental regulations, including federal, state, and local land use policies and requirements.

# 2.0 LICENSE REQUIREMENTS

In accordance with the License, Avista developed the Plan in consultation with U.S. Fish and Wildlife Service (USFWS), U.S. Bureau of Land Management (BLM), Washington Department of Fish and Wildlife (WDFW), Washington Department of Natural Resources (WDNR), Washington State Parks and Recreation Commission (WSPRC), Idaho Department of Fish and Game (IDFG), Idaho Department of Parks and Recreation (IDPR), and the Coeur d'Alene Tribe (CDA Tribe) (collectively referred to as consulting parties). Avista submitted the Plan to FERC for approval, on June 11, 2010.

On March 9, 2011, FERC issued an Order Modifying and Approving the Spokane River Land Use Management Plan Pursuant to Article 419. The Order requires Avista to update the Plan every five years from the date of the Order, and to provide the Plan to consulting agencies at least 30 days prior to submitting the Plan to FERC, for approval.

The plan was updated in February 2016 and is being updated again in 2021. The plan continues to guide and direct Avista's land use management decisions for Project lands, and other lands that may be acquired by Avista and included within the Project boundary, over the term of the FERC License. It is intended to be a dynamic document, in the sense that it can be modified and supplemented as appropriate in the future.

## 2.1 Plan Organization

The License required Avista to complete a Land Use Management Plan for Project lands within one year of License issuance (June 18, 2010) with the purpose of protecting the scenic quality and environmental resources of the Spokane River and Coeur d'Alene Lake. The plan includes the following elements:

- Identification of land use management goals.
- Provision for land use categories, with associated acres, that identify and describe the four land use categories as:
    - Conservation
    - Public recreation
    - Private recreation
    - Closed/restricted
- Identification of allowable and prohibited uses in each land use category.
- Maps that identify the land use categories in relation to Project lands.
- Provision to monitor and control terrestrial noxious weeds, including:
    - Goals, objectives, and success criteria.
    - Provisions for accessing current county and state lists of undesirable plants to be controlled, and provisions for control measures.
    - Proposed methods for controlling noxious weeds and for evaluating the effectiveness of implemented control measures.
- Implementation schedule for 5-year noxious weed treatments and annual meetings with. with the USFWS, WDFW, WDNR, WSPRC, and IDFG.
- Review and update of the plan every 5 years.

## 2.2 Jurisdiction and Regulatory Considerations

This Plan is not intended to preclude review and regulation of Avista's or any other parties' land use actions or required permitting under applicable federal, state, and local shoreline and land use regulations. Land use actions undertaken on Avista's Project lands shall comply with and be reviewed and approved by all pertinent jurisdictional authorities. Lessees and permittees on Avista's Project lands shall have a continuing obligation to comply with all pertinent regulations and associated land use requirements and restrictions.

Jurisdictions with land use planning and management responsibilities and associated permitting authorities in the Project area include Spokane, Stevens and Lincoln counties in Washington, Kootenai and Benewah counties in Idaho, the cities of Spokane and Post Falls, the various conservation districts in Washington and Idaho, WDNR, WSPRC, Washington Department of Ecology, WDFW, the CDA Tribe, IDPR, IDFG, Idaho Department of Lands, USFWS, and the U.S. Army Corps of Engineers.

## 2.3 Overview of Land Use In and Around the Project Area

A wide variety of land use and human development are associated with the Project waters and shorelines. While some shoreline areas exhibit little or no human development, other areas are characterized by varying levels of residential, recreational, agricultural, commercial, and/or industrial development.

Coeur d'Alene Lake is a significant recreation destination. Northern portions of the lake's shoreline nearest to Coeur d'Alene, Idaho, are characterized by substantial areas of residential and commercial development. The North Idaho Centennial Trail and the Trail of the Coeur d'Alene's parallel the north shore of the lake and the Coeur d'Alene River, respectively. Other portions of the shoreline are more rural in nature with both year-round and seasonal homes including boat docks and shoreline riprap. Other areas along the lake exhibit a natural environment with no development at all. The Project boundary along the lake and associated tributaries is generally established as the elevation 2128-ft contour (per Avista datum), coinciding with the normal, summer pool elevation maintained by Post Falls HED since 1942.

Residential, commercial, industrial and recreational developments are located along the nine miles of the upper Spokane River between Coeur d'Alene Lake and Post Falls HED. Project lands consist of two public parks and two islands, which lie adjacent to Post Falls HED.

Downstream of Post Falls HED, the shorelines exhibit mixed land use containing open space, parks, agriculture, and residential developments. The Idaho-Washington border is located approximately 5 miles downstream of Post Falls HED. Commercial and industrial uses intensify along the shoreline as the river approaches Spokane. Both Upper Falls and Monroe Street HEDs are located within downtown Spokane. Avista owned, Huntington Park is located within Project lands and lies adjacent to the Monroe Street HED.

Downstream from Spokane, land use adjacent to the river changes back to open space, with scattered residential development and limited agricultural lands. The WSPRC's Riverside State Park includes a considerable amount of property adjacent to the river. Avista's Project lands associated with Nine Mile HED lie adjacent to and near the dam and powerhouse.

Lake Spokane, the reservoir created by the Long Lake HED, is characterized by year-round and seasonal residences along the upstream portions of the reservoir. The reservoir also includes public and private access sites and developed and undeveloped recreation areas. The downstream end of the reservoir is relatively rural in nature, undeveloped, and includes several large forested parcels of Project lands.

# 3.0 GENERAL LAND USE MANAGEMENT

## 3.1 Avista-owned Project Lands

Overall, Avista owns, in fee-simple title, approximately 975.5 acres within the Project boundary (Table 1), that are managed under the Plan. Of the Project lands, 804 acres are associated with Long Lake HED, 7.0 acres with Nine Mile HED, 3.5 acres with Monroe Street and Upper Falls HEDs, and 161 acres with Post Falls HED.

Avista has historically managed the Project lands that it owns for a variety of uses. This was based on Avista's voluntary commitments and/or more recent License requirements to preserve and enhance numerous resource values and uses associated with the Project lands and waters.

It is also important to note that Avista has a management agreement in place with Post Falls Parks and Recreation Department for the management of Trailer Park Wave, Q'emiln Park and Falls Park, which are included in the Post Falls HED. The Post Falls Parks and Recreation Department operates and maintains the three parks, including noxious weed control and appropriate land use measures, with the exception of the island's 77 acres that are classified as closed/restricted and conservation near the Post Falls HED's generating facilities.

At Lake Spokane, Avista has incorporated into the Project boundary its land within 200 feet of the shoreline (approximately 320 acres) to manage for recreation, habitat, wildlife, and resource protection as conservation lands under this Plan as appropriate.

Avista entered into a lease agreement with WSPRC from 2012 to 2018 for the management of Avista's properties associated with the Nine Mile and Long Lake HEDs. During this time WSPRC operated and maintained Avista's properties, including noxious weed control and appropriate land use measures in accordance with the agreement. Avista now operates and maintains the Avista properties associated with the Nine Mile and Long Lake HED's, with the exception of the Nine Mile Recreation Area, which is still operated by WSPRC.

## 3.2 Land Use

A significant amount of the Project's aquatic environment, shorelines, and surrounding non-project lands have been greatly affected by activities including agriculture, residential, commercial, and industrial purposes. Additionally, public roads, pedestrian/bicycle trails, and parks and/or recreation areas lie adjacent to the river, reservoir, and lake shorelines intermittently throughout the Project area. Land use category maps (Figures 3-8), identify where on Avista's Project lands various human activities will be allowed and encouraged, versus those areas where human activities will be restricted or otherwise discouraged in order to protect significant cultural and natural resources or to provide for public safety.

Avista's Project lands located at Trailer Park Wave, Q'emiln and Falls parks are managed for public recreation by the City of Post Falls Parks and Recreation Department. Project lands

associated with Huntington Park at the Monroe Street HED are managed by the City of Spokane Parks and Recreation Department for public recreation and wildlife habitat through a management agreement with Avista.

Avista's Project lands associated with Nine Mile HED include the powerhouse, dam and substation. These lands are closed to the public due to safety and security measures. In 2013, Avista added the Nine Mile Overlook into the FERC Project boundary in accordance with FERC's June 12, 2013 Order Modifying and Approving Recreation Plan Amendment and Trailer Park Wave Access Site Plan. These lands are managed by Avista for public recreation.

Project lands associated with Long Lake HED are primarily undeveloped in nature, with the exception of those located between the dam and the downstream employee-housing complex. The undeveloped Project lands are managed for open-space dispersed non-motorized day-use recreational opportunities, boat-in-only camping and wildlife. A number of small parcels of Long Lake HED Project lands are managed for public and private recreation. Avista's Project lands associated with the Long Lake HED are primarily managed for public recreation with the exception of those areas that are closed to the public due to safety and security measures. In 2013, Avista added the newly redeveloped Long Lake Dam Overlook into the FERC Project boundary in accordance with FERC's June 12, 2013 Order Modifying and Approving Recreation Plan Amendment and Trailer Park Wave Access Site Plan. These lands are managed for public recreation by Avista. Avista does not allow grazing or agricultural uses to occur on its Project lands associated with the Long Lake HED.

## 3.3 Recreation

The HED-associated and scattered parcels of Avista's Project lands, most of which occur along Lake Spokane, are generally open to the public for day-use recreational activities with few exceptions. The lands are normally accessible from both land and water. Paved or dirt roads and foot trails connect to most of the Project lands, all of which lie adjacent to the Project waters. Project associated recreation opportunities include; bicycling; shoreline and open water fishing; pleasure boating; water-skiing; swimming; picnicking; camping; sightseeing; horseback riding; windsurfing; canoeing; tubing; sunbathing; kayaking; ice fishing, waterfowl, and other hunting opportunities; hiking; wildlife viewing; etc.

Public access is restricted in a number of areas located immediately adjacent to the HED facilities due to site security and public safety concerns, such as the two islands associated with Post Falls HED. Additionally, the use of motorized vehicles off primary roads is not allowed on the Project lands. Avista works with the appropriate city, county and state law enforcement entities to enforce trespass by motorized users, when necessary.

## 3.4 Terrestrial Resources

The Project area generally falls within the far eastern portion of a semi-arid, intermountain region that lies between the Cascade Mountains to the west and the Rocky Mountains to the east. The Bitterroot Mountains lie to the immediate east of the Project area, where the headwaters of

both the Coeur d'Alene and St. Joe rivers originate. As a result, the Project vicinity supports a wide variety of terrestrial habitats and numerous wildlife species and botanical communities, but is most often characterized by those habitats and species typical of the semi-arid conditions along the Project waters that extend from Coeur d'Alene and Post Falls, Idaho, all the way downstream to Long Lake HED.

The bald eagle, still listed as Greatest Conservation Need in Washington, occurs throughout the Project area. Avista developed a Bald Eagle Management Plan (Avista 2010, Avista 2020), for the Project in order to help protect and monitor the species. Avista will take into consideration the management recommendations in the plan prior to initiating any land use activities.

The gray wolf, which is also listed as threatened, may occur north of Lake Spokane in Washington and north of Interstate 90 in Idaho. A non-essential experimental gray wolf population also occurs south of Interstate 90 in Idaho. The occurrence of a grizzly bear or Canada lynx is possible but highly unlikely within the Project area.

## 3.5 Cultural Resources

Many structures associated with the Project and located within the Project boundary are currently listed on or determined eligible for the National Register of Historic Places. The structures include dams, the Corbin Irrigation Canal and headgate, the Post Street substation, etc., and are more obvious in relation to the other land uses. Other cultural resources associated with the Project boundary are not so obvious and respecting confidentiality needs, land use and management near these areas will include protection of those cultural resources and sites. Project lands will be managed in accordance with the Spokane River Projects Historic Properties Management Plans.

# 4.0 GENERAL LAND USE MANAGEMENT POLICIES

The general land use management policies are intended to provide overall guidance and consistency in managing the use of Project lands in accordance with applicable federal, state, and local land use regulations and other resource management goals and objectives. These policies are intended as a tool to assist Avista in meeting the overall land use management goals outlined in Section 1.3.

## 4.1 Resource Protection Policies

Avista is committed to managing its Project lands in a manner that balances recreational use by the public with appropriate levels of cultural and natural resources protection. The following cultural and natural resource protection policies apply to the management and use of Avista's Project lands:

- Where potential land use conflicts arise, Avista will give priority consideration to resource protection, and preservation of the scenic quality and serenity of the landscape and resources.
- Avista recognizes that scenic beauty or "visual quality", and solitude are some of the primary reasons people choose to spend their time outdoors. Avista will limit disturbances and preserve the natural silence of Project lands, for visitors as well as wildlife, to the practical extent possible. Short-term disruptions may occur due to HED operation and maintenance activities.
- Where existing recreational developments or uses are believed to be degrading natural resources significantly, management measures will be taken to alleviate the impacts by limiting, removing, or restricting such uses and activities for short- or long -term basis.
- Unique, rare, fragile or otherwise highly sensitive or important natural and cultural resources and features, including but not limited to federally listed (under the Endangered Species Act [ESA]) fish, wildlife and plant species will be protected to ensure that conservation and management initiatives are compatible with local recovery efforts.
- The management and protection of cultural resources will be consistent with the principals described in the two Spokane River Project Historic Properties Management Plans (separate Plans were developed for Post Falls and the Washington HEDs). Cultural resource management will receive adequate consideration in the planning of recreational developments, designated activities, and land management measures.
- Avista will preserve geologic and native resources. Destruction or removal of any vegetation, rock, sand, soil, or minerals on Project lands is prohibited except as authorized by Avista.
- New and expanded public recreational facilities will be developed in consultation with recreation, wildlife, cultural, and other natural resource managers to ensure that impacts to natural and cultural resources are avoided and or minimized, and/or mitigated appropriately.
- Native vegetation or locally desirable plants will used for new or improved developments.
- Conservation practices will be utilized for all new or improved facilities or developments.
- Avista will manage noxious weeds and nuisance plant species on Project lands in accordance with and in cooperation with consulting parties.
- The management of fire fuels on Project lands will reduce the risk of catastrophic fires that could be damaging to the environment, wildlife, dwellings and adjoining property.
- Avista will preserve the natural and scenic quality of Project lands associated with the Nine Mile and Long Lake HED's.

- No new private or commercial permits for facilities, irrigation pumps, or pump stations are permitted on Avista Project lands regardless of the land classification. Improvements by Avista for project purposes or public recreation is excluded from this Resource Protection Policy.
- No new leases, easements, or permits for private docks or use are allowed on property designated as Conservation Land.
- Private recreation permits will be considered for use by adjacent private landowners, only if the privately-owned parcel is immediately adjacent to Project lands and the proposed use is consistent with the general resource management goals and objectives identified in this Plan as determined by Avista.

## 4.2 Public Access Management

Use of Project lands by the public for recreational purposes is to be allowed subject to the provisions of this Plan. Public use of Project lands shall be non-exclusive and available for use by all members of the public, without discrimination, where not precluded by security, operational, public-safety or resource-protection concerns.

To provide public access, construction of access roads, trails, boat ramps, docks, and other facilities may be allowed on Project lands to the extent they are compatible with this Plan and the site-specific land use category. The construction and operation of such facilities by persons or groups other than Avista will be subject to the then-current industry standards and Avista permits, leases, and easements. In managing land use and issuing permits, leases, and easements, preference will be given to uses which:

- Comply with the land use category for the subject parcel and relevant resource and site-specific management plans.
- Protect the cultural and natural resources, especially the immediate shoreline resources and habitats.
- Enhance public access and recreational opportunities associated with Project lands and waters.
- Are consistent with the general resource management goals and objectives identified in this Plan.

# 5.0 LAND USE CATEGORIES

This Plan classifies Project lands using four land use categories: conservation, public recreation, private recreation, and closed/restricted. The description, primary objective, and allowable uses for each category are presented below. Avista may at any time, impose short-term, interim modifications to these land use categories for security, public safety concerns, to protect federally listed threatened or endangered species, other species of concern (e.g., state-listed or otherwise of particular concern/interest), or cultural resources. These potential interim

management actions are described in more detail in Section 5.2.

A procedure has also been developed for considering exceptions to the allowable uses provided for under these land use categories and policies. The exception procedures are described in Section 6.4. Avista recognizes that, over the term of the new FERC License, changing conditions, the addition of new lands, new information, or other reasons—such as new recreational opportunities/activities—will arise that may require modifying the land use categories, their definitions, and/or the objectives and allowable uses applicable to each category. A procedure for this land use category amendment process is outlined in Section 7.2.

## 5.1 Conservation Lands

*General Description*:
Conservation lands possess general wildlife, botanical, cultural, aesthetic, or other natural resource values. Protection or enhancement of these values is, however, generally compatible with low-to-moderate levels of public use. Primary uses of conservation lands include resource protection and the provision of day-use opportunities (e.g., hiking, bank fishing, etc.) and associated recreation facilities (e.g., public hiking trails, public parking areas, signs, etc.).

*Primary Land Management Objective*:
Conservation lands are managed primarily to protect or enhance identified wildlife, botanical, cultural, aesthetic, or other natural resource values, while still providing for low-to-moderate levels of public use and enjoyment where compatible with site-specific resource protection needs.

*Resource Management Activities*:
Site-specific management plans may be developed and applied to specific parcels designated as Conservation lands, as well as resource-specific management plans where needed (e.g., bald eagle nest site management plans, other listed or high priority species management plans, cultural resource site protection and management plans, etc.). Avista may enter into agreements with other qualified parties for the management, operations, and maintenance of conservation lands.

*Public Access*:
Unauthorized motorized vehicle access is not allowed on conservation lands. Avista or its designated representative will monitor the conservation lands to ensure inappropriate uses do not occur. If such uses are occurring on conservation lands, Avista or its designated representative will work with the appropriate city, county or state law enforcement entity to stop them. Pedestrian, bicycle, and boat access is allowed unless precluded by site-specific resource protection needs.

*Recreational Development (General Public)*:
Limited recreational facilities for the purposes of water and shoreline access may be compatible with conservation land management objectives. Recreational developments may include trails,

signs, fences, portable toilets, etc. Facilities will be sited and constructed to ensure that impacts to natural and cultural resources are avoided, minimized, and/or mitigated appropriately.

*Recreational Uses and Development (Adjacent Private Land Owners)*:
Compatible recreational uses by the general public on conservation lands may include bank fishing, hiking, wildlife viewing, picnicking, and other passive day-use activities.
Access trails for use by adjacent private landowners may be compatible with conservation land management objectives on a site-by-site basis. Access trails are to be sited and to ensure that impacts to natural and cultural resources are avoided, minimized, and/or mitigated appropriately.

*Other Uses*:
Other land uses and development on conservation lands other than as provided for or excluded above are limited to existing pumps and wells, or those activities specifically designed or necessary for resource protection and management (e.g., fencing, road gates and maintenance, etc.). See Section 7.2 for reference to excluded uses and/or special exemptions.

## 5.2 Public Recreation Lands

*General Description*:
Public recreation lands contain existing recreation facilities or possess desirable and currently recognized recreation facility developmental potential. Primary uses of public recreation lands include the provision of recreation facilities for both day and/or overnight use, which may include picnic facilities, boat ramps or other water access, docks, beach and swimming opportunities, trails, sanitary facilities, playground equipment, camp sites, dump stations, etc. These lands typically experience regular, frequent, and sometimes heavy recreational use. Lands currently identified for possible future public recreation development are also included in this category in order to provide some direction for such future development.

*Primary Land Management Objective*:
Public recreation lands are managed to optimize the recreation potential of appropriate Project lands. This approach to land management is intended to promote public use and enjoyment of Project lands and waters, while limiting effects on sensitive resources by concentrating high demand use in areas that are managed specifically for more intensive public use.

*Resource Management Activities*:
Resource management efforts on public recreation lands are intended to encourage public recreational use in developed areas while monitoring for over-use that may lead to resource damage or degradation. Management efforts vary from parcel to parcel and will include, as appropriate, erosion control measures, vegetation management, weed control, litter control, site hardening, sanitary and other facility construction, scheduled closures to allow heavily used areas to recover, and special closures for site-specific resource protection needs. Avista may enter into agreements with other parties for the management of public recreation lands and facilities, including but not limited to operation and maintenance.

*Public Access*:

Motorized vehicle access on public recreation lands is restricted to designated roads. Pedestrian, bicycle, and boat access are allowed where appropriate and compatible with the other resource values, as determined by Avista.

No permits will be issued to adjacent landowners for individual access across or use of public recreation lands.

Occasional closures may also be implemented to allow areas to recover from heavy public use. These closure periods will be developed and implemented as appropriate. Means of restricting access vary but generally include road closures, signs, and fencing and public notice.

*Recreational Uses and Development*:
Compatible recreational uses include boating, fishing, camping, hiking and walking, bicycling, hunting, wildlife viewing, and other passive recreational activities. Motorized use is restricted to designated roads.

Recreational facilities developed for the purposes of water and shoreline access, general day use, and overnight camping are compatible with and encouraged under the public recreation land management objectives. Appropriate recreational developments include but are not limited to boat launches, fishing piers, trails, interpretive areas, swimming beaches, picnic areas, and campgrounds. "Hardening" of the site or other appropriate management strategies may be authorized to accommodate heavy public use. New facilities at existing developments and at new locations will be sited to ensure that impacts to natural and cultural resources are reduced to the extent possible.

*Other Uses*:
Other compatible uses on public recreation lands may include pumps, wells, water delivery systems, and septic fields. No private or commercial leases, easements, or permits for facilities or activities are permitted on public recreation lands, without special exception as described in Section 7.2.

## 5.3 Private Recreation Lands

*General Description*:
Private recreation lands are lands available for permitted uses by immediately adjacent private landowners. These lands include areas where annual permits and one court ordered easement have been issued in the past and also areas identified as suitable for future private recreation permitting based on the proximity and density of adjacent individual private land owners, the presence of approved major and minor subdivisions, and the absence of extraordinary natural or cultural resource values as identified by natural and cultural resource managers. The primary use of private recreation lands is the provision of low intensity access (e.g., foot trails, boat docks, picnic tables, etc.) to Project lands and waters for adjoining private landowners. The public is allowed to walk along the shoreline and above the high water mark across property that has a private recreation use permit, although public use of permitted private improvements (e.g., docks) may be restricted (as posted by the permittee) if approved in advance by Avista.

*Primary Land Management Objective*:
Private recreation lands are managed primarily to allow for use and enjoyment of Project lands and waters by adjacent private landowners, while still allowing for general public access to these lands. Minimizing damage to natural resources by controlling and concentrating access by adjacent landowners to specific areas is also a management objective for lands in this category.

*Resource Management Activities*:
Resource management efforts on private recreation lands are intended to reduce the impact on riparian areas. Permit standards and individual permit and/or easement conditions will explicitly define acceptable development activities on private recreation lands. These standards restrict vegetation removal and describe acceptable construction methods and standards for any approved facility. Weed and litter control are also required of the permittee/easement holder. Additional management efforts vary from parcel to parcel and may include erosion control measures and resource conservation incentives. Compliance with permit standards and conditions will be monitored annually by Avista and enforced through the private use permitting process.

*Public Access*:
Public pedestrian access to the reservoir for shoreline activities (i.e., bank fishing, hiking along the shoreline, etc.) and water access is allowed. Public activities, if identified in the permit, maybe restricted. Public use of permitted private improvements (e.g., docks) may be restricted, as posted by the permittee if approved in advance by Avista.

Site-specific resource protection needs could arise that require seasonal or other closures of private recreation lands. In the event a closure is deemed necessary, appropriate closure periods and other protection mechanisms will be developed consistent with the site and resource specific conditions.

*Recreational Uses and Development*:
Compatible recreational uses include water and shoreline access by adjacent landowners, and public access along the shoreline.

Recreational facilities developed for the purposes of water and shoreline access by adjacent landowners (e.g., foot paths, boat docks, picnic tables, etc.) are compatible with the private recreation land management objectives. The development of boat houses is not allowed. Group-use docks rather than single-owner docks are encouraged in order to minimize shoreline impacts and development.

Private recreation facilities or structures may be removed if deemed necessary to protect natural resources or increase public recreation opportunities.

*Other Uses*:
Other allowable uses on private Recreation lands include existing pumps and wells. No new private leases, easements, commercial activities, or permits, other than those described above, are permitted on private recreation lands without special exception as described in Section 8.2.

## 5.4 Closed/Restricted Lands

*General Description*:
Closed/restricted lands are Project lands where public use is not allowed or is severely restricted due to security, operational or safety concerns, residential privacy at Avista's employee housing, or for resource protection concerns. These lands typically include Project generating facilities, dam and tailrace areas and waters, substations, company offices and housing and areas with specific environmental and safety concerns.

*Primary Land Management Objective*:
Closed/restricted lands are managed to protect Project facilities and property and to ensure public safety.

*Resource Management Activities*:
Resource management efforts on closed/restricted lands are generally associated with construction or renovation projects. During such projects, measures will be taken to minimize the impact to natural and cultural resources.

In the event that natural or cultural resources are identified on lands within this category, a site-specific management plan will be developed by Avista, as appropriate. If cultural or historic resources are identified, the principals included in the Spokane River Historic Properties Management Plan will be followed.

*Public Access*:
Closed/restricted lands may be open to the public for supervised, organized, tours and events. Except for these regulated uses, public access to closed/restricted lands is prohibited throughout the year.

*Recreational Uses and Development*:
Closed/restricted lands may be open for supervised, organized, tours and events.

There are no recreational developments permitted on closed/restricted lands.

*Other Uses*:
All other uses, other than those described above, are prohibited on closed/restricted lands, without a special exception as described in Section 8.2.

## 5.5 Spatial Designation of Land Use Classifications

The Project lands, Land Use Classification Maps are included in ***Figures 3-8***. The acreage associated with each land use classification is included in Table 1.

**Table 1. Land Use Classifications**

| Post Falls | | |
|---|---|---|
| **CATEGORY** | **ACRES** | **% of Total Acres (this area)** |
| Public Recreation | 56 | 35% |
| Private Recreation | 0.0 | |
| Closed/Restricted* | 105 | 65% |
| Conservation | 77 | 48% |
| Total | 161 | Exceeds 100%* |
| **Upper Falls and Monroe St.** | | |
| **CATEGORY** | **ACRES** | **% of Total Acres (this area)** |
| Public Recreation | 3.0 | 86% |
| Private Recreation | 0.0 | |
| Closed/Restricted | 0.5 | 14% |
| Conservation | 0.0 | |
| Total | 3.5 | 100% |
| **Nine Mile** | | |
| **CATEGORY** | **ACRES** | **% of Total Acres (this area)** |
| Public Recreation | 3.0 | 14% |
| Private Recreation | 0.0 | |
| Closed/Restricted | 6.0 | 86% |
| Conservation | 0.0 | |
| Total | 7.0 | 100% |
| **Long Lake** | | |
| **CATEGORY** | **ACRES** | **% of Total Acres (this area)** |
| Public Recreation | 311 | 39% |
| Private Recreation | 1.0 | |
| Closed/Restricted | 65 | 8% |
| Conservation | 427 | 53% |
| Total | 804 | 100% |
| **Total Acreage for All Categories** | | |
| **CATEGORY** | **ACRES** | **% of Total Acres** |
| Public Recreation | 373 | 35% |
| Private Recreation | 1.0 | |
| Closed/Restricted* | 176.5 | 17% |
| Conservation | 504 | 48% |
| Total acres | 1,052.5 | 100% |

*** 77 acres of the Post Falls closed/restricted category are also managed under the conservation category**

# 6.0 SITE AND RESOURCE-SPECIFIC PLANS AND PROGRAMS

In this Section, site-specific and resource-specific plans and programs relevant to land use management and resource protection on Avista's Project lands are identified, such as a fire and fuel management program and control of terrestrial noxious weeds.

The existence of special resources and particularly valuable habitats, along with the pressures of continuing human use of Project lands and waters, can necessitate the development of specific programs and plans to address protection and management of identified resource values and provisions for appropriate levels of or restrictions to public access and use. These programs and plans are intended to supplement the general land management goals, objectives, and policies presented and to fulfill License requirements. In addition, these resource and site-specific programs and plans provide Avista with more detailed and focused on-the-ground guidance for day-to-day management of the targeted resources. As additional land use related programs or plans are developed, they may be integrated into this Plan and reflected in subsequent Plan amendments and revisions.

## 6.1 Site and Resource Specific Plans

FERC requires Avista to develop and implement various plans to manage the Project's resources. These include but are not limited to:

- Interpretation and Education Plan
- Recreation Management Plan
- Wetland Management Plan
- Eagle Management Plan
- Historic Properties Management Plans

These plans will be implemented in close coordination with this Plan. Additional resource-specific plans (habitat improvement plans, trail plans, etc.) may be developed in the future, and may be incorporated into this Plan if needed. Included in this section below are provisions for fuel management and the control of terrestrial noxious weeds.

## 6.2 Specific Management Actions

Avista may impose site-specific restrictions on land uses and management activities for security or public safety concerns, to protect federally listed threatened or endangered species, other priority species sensitive to human uses and disturbances, or cultural resources. Special management actions that may be implemented include short-term, seasonal or year-round area closures or activity restrictions. Specific measures may include, but are not limited to, fencing to control livestock and human activities, gating, signing, restricting foot travel, vehicle access, road and trail obliteration, reducing day and overnight use, etc.

Avista retains the authority to impose special management actions as it deems appropriate. Upon implementing a special management action, Avista will notify appropriate recreation, wildlife, cultural, and other natural resource managers within 30 days of implementing the action. This notification will include the nature, location, justification, and anticipated duration of the specific measures being utilized. In some cases, information on the exact location and nature of the site or the species involved may be restricted due to the sensitive nature of the resources involved (e.g., a listed species nest site, an eroding or exposed cultural resource site, etc.).

### ***6.2.1 Fuel Management***

Avista's Lake Spokane properties are in an area identified as a high hazard threat for fire due to topography, strong wind, light flashy fuels and the potential for ignition due to public access, adjoining homeowners, and the relative distance to a large population. Within the general vicinity, one major fire incident (a fire that requires extended initial attack and usually threatens structures) occurs approximately every three years. It is common for many small fires to occur every year along the lake because it is located in a "high fire frequency" area and because it lies within a fire-maintained forest.

Avista's Project lands have naturally occurring vegetation ecosystems. The lands that are occupied by Ponderosa Pine forest are typically overstocked with trees because they have missed two to six naturally occurring fires, resulting in extremely heavy fuel loading. Typically, when a fire occurs under these conditions, it will have catastrophic effects, usually acting as a stand replacement fire (leaving fewer than 8 trees per acre over 6 inches in diameter). It would also likely have an adverse effect on wildlife, soil and human dwellings and property.

Through a variety of options, the opportunity exists to reduce the chance of Avista's Project lands being negatively affected, possibly for decades, following a stand replacement fire. Prevention is a function of understanding the threat. It is also important to understand that, under the correct conditions, fire will positively affect the forest, habitats, shrub and grasslands that Avista owns.

The goal of a fuel's management plan is to prevent catastrophic fires that are costly to the environment, human dwellings and property, and to those responsible for their suppression. In achieving this goal, the forest stands are likely to become healthy, well stocked with a variety of tree age classes and size, more functional and beneficial for wildlife, pleasing to the majority of the public, and safer for adjacent land and homeowners.

Managing fuels on Avista's Project lands where fire is likely to occur will:

- Increase potential fire-associated benefits by reducing the likelihood of catastrophic fires from beginning.
- Reduce fuels to improve the possibility of controlling fires that do start.
- Increase safety for fire fighters, local residents, and the general public.
- Reduce the threat to neighboring property and structures.

- Improve habitat.

To effectively manage fuels on Avista's Project lands the following guidelines should be adhered to:

- Create appropriate canopy spacing and minimize ladder fuels for approximately 200 feet along property lines, power lines, roads, or natural barriers that act to keep fires out of the canopy or help the fire "come down" out of the canopy (shaded fuel breaks).
- Manage and develop multiple stand layers and stocking to reduce fuels. The shrub- and grass-dominated lands will require less attention.
- Utilize pre-commercial or commercial thinning or prescribed burns, where appropriate, to reduce fuels in the interior of Avista's Project lands.
- Appropriately dispose of slash through the chipping, mulching, pre-commercial and commercial thinning, prescribed fire, wildlife grazing, etc.
- Identify and incorporate fuel breaks where appropriate.

Additionally, efforts will be made to reclaim site disturbances, especially those associated with logging roads, once the site has been thinned.

### ***6.2.2 Terrestrial Noxious Weed Control Program***

The goal of the noxious weed control program (Weed Program) is to limit the occurrence and spread of invasive noxious weeds on Project lands. Project lands include 804 acres that are associated with Long Lake HED, 7.0 acres with Nine Mile HED, 3.5 acres with Monroe Street and Upper Falls HEDs, and 161 acres with Post Falls HED.

In order to meet the Weed Program objective, Avista inventories weed infestations, develops treatment priorities, uses prevention practices, and controls and monitors strategies. The current efforts associated with the Weed Program are specific to the Long Lake and Nine Mile HEDs because the entities that manage Avista's Project lands, under agreement with Avista, at the Monroe Street, Upper Falls and Post Falls HEDs control weeds under their weed control plans. The Weed Program is designed to be implemented on a five-year cycle of treatment and monitoring to coincide with the ongoing five-year terrestrial noxious weed survey. Avista implements the weed management strategies deemed most appropriate for Project lands in coordination with the cooperating parties which include the USFWS, WDFW, WDNR, WSPRC, IDFG and WSPRC). Program elements include:

- Survey and inventory terrestrial noxious weeds.
- Development and Implementation of a 5-year treatment and monitoring plan.
- Site-specific weed control actions based on annual updates of state and county noxious weed control lists and site surveys.

- Monitoring the effectiveness of site-specific weed control actions.
- Preparation of annual summaries of terrestrial weed management activities and proposed activities for the upcoming year.
- Development of a cumulative five-year Terrestrial Noxious Weed Summary Report (Summary Report) capturing treatment activities, results achieved during the previous 5 years, and the general nature of activities that will take place over the next five-year period.

#### *6.2.2.1 Terrestrial Noxious Weed Survey and Reporting*

Terrestrial noxious weed surveys and will be completed every five years for Avista's Long Lake HED and Post Falls HED Project lands, in order to capture changes in weed species and location, and better evaluate control methods/efforts. Avista contracted with Anderson Environmental Consulting to complete a terrestrial noxious weed survey of Project lands, in 2012 and again in 2017. The Spokane River Project Terrestrial Noxious Weed Control Inventory and Treatment Recommendations Report (Report) (Anderson Environmental Consulting, 2017), identified and quantified the noxious weed species that were present, captured GIS locations of infestations, and provided a five-year treatment implementation plan. The Report is included in Appendix B.

Avista will prepare and submit a cumulative five-year Summary Report to document annual meetings, activities conducted, and overall results achieved during the previous 5 years, and the general nature of activities that will take place over the next five-year period. The Summary Report is included in Appendix C.

#### *6.2.2.2 Coordination and Annual Meetings*

Avista will coordinate noxious weed control efforts with local, state, and federal entities currently involved in invasive weed control. Avista will implement site-specific weed control measures based on information from conservation districts and noxious weed control lists established by the state and county weed boards, including but not limited to: Stevens County Conservation District, Stevens County Noxious Weed Control Board, Spokane County Conservation District, Spokane County Noxious Weed Control Board, Lincoln County Weed Control Board, and Kootenai County Weed Control Board. A current 2021 list, for individual counties and states can be found by accessing the appropriate county websites.

Avista will meet annually with USFWS, WDFW, DNR, IDFG and WSPRC (collectively referred to as cooperating parties) to discuss and review annual treatment measures, monitoring and tasks to achieve mutually agreed-to objectives. Changes to the Weed Program will be based on the results of monitoring and needs identified by the cooperating parties and the results of the terrestrial weed survey report. Avista will be responsible for obtaining all necessary permits and approvals for activities conducted under this Weed Program.

Avista will prepare annual summaries of tasks implemented under this Program and present the information to cooperating parties during the annual meetings. Annual summary reports will be comprised of the following elements:

- A description of measures that were implemented during the year.
- Planned weed management activities for the coming year.
- Any proposed changes to the Program.
- A discussion of the effectiveness of the weed-control method.
- Monitored site information, such as location, activities, and results.

The annual summaries will be made available to the USFWS, WDFW WDNR, and IDFG, and other stakeholders as requested. Annual meeting summaries will be included in the five-year Summary Report.

### *6.2.2.3 Site-Specific Weed Control*

Infestations are usually abundant in river corridors, and in disturbed areas such as roadsides and areas near and around human recreation sites such as campgrounds and hiking trails, due to the high level of human disturbance.

Avista continues to focus weed control measures on high use recreation sites, and roads and trails. Terrestrial weed control at public recreation land classification sites provides benefits, such as enhanced recreation opportunities and experiences, reduced spread, and aesthetics. For this reason, Avista will continue to treat high use recreation areas such as Falls Park and Q'emiln Park (managed by the Post Falls Parks and Recreation Department), Huntington Park (located in downtown Spokane, managed by the Spokane Parks and Recreation Department), and the boat-in-only campsites located at Lake Spokane, managed and operated by Avista. Treatment methods for sites will be determined by the managing agency on an annual basis in cooperation with cooperating parties and may vary depending on stage, severity, and locations of the infestation. Treatment methods may include mechanical, biological and chemical control.

Treatment of infestations will be based upon the current state and county lists of noxious and undesirable plants, and the five -year survey and treatment plan.

### *6.2.2.6 Funding*

Avista generally spends between $5,000 and $10,000 annually for the implementation of the measures described in this Weed Program. Funding provided by Avista may be used to pay for any element of this Weed Program whether implemented by a cooperating party, Avista, or a contractor. Avista determines the allocation of funds in a manner consistent with the goals and priorities established in this Weed Program and in consultation with the cooperating parties. Avista's administrative costs to implement this Weed Program, including the reporting

requirements, are part of Avista's internal costs for License implementation and are not included in the funding identified above.

#### *6.2.2.7 Implementation Schedule*

The Weed Program schedule is implemented annually as described in Table 2. Changes to the schedule may be proposed and enacted on mutual agreement among the cooperating parties, and Avista. The current efforts associated with the Weed Program are specific to the Long Lake and Nine Mile HEDs because the entities that manage Avista's Project lands, under agreement with Avista, at the Monroe Street, Upper Falls and Post Falls HEDs control weeds under their weed control plans.

**Table 2. Annual Implementation Schedule**

| Task | Date |
|---|---|
| Annual meeting with consulting parties | February - March |
| Survey Project lands | Spring-Fall 2022 (every 5 years, as needed) |
| Implement control measures as necessary | Spring - Fall |
| Gather survey/treatment/monitoring information for Avista-supported activities | September - November |
| Annual summary of implementation measures to cooperating parties | Annual Meeting |

# 7.0 OVERALL PLAN IMPLEMENTATION

The basic components to Plan implementation include:

- Administration of permit, lease, and easement programs.
- Consideration of special exception requests.
- Managing fuels on Avista Project lands
- Noxious weed control program.
- Annual land use monitoring.

## 7.1 Permit, Lease, and Easement Programs

Avista may issue leases, permits, and easements on Project lands as provided for in this Plan, and subject to rules, regulations, and obligations imposed by FERC. The lessee or permittee is obliged to comply with all FERC and other federal, state, and local land use laws and regulations. Failure to do so may result in cancellation of the lease, permit, or easement. It is the permittee's or lessee's responsibility to acquire any and all necessary local, state, and federal permits prior to Avista granting the lease, permit, or easement.

### *7.1.1 Private Recreation Permits*

Avista will review and act upon requests for private recreation permits from immediately adjacent landowners and homeowners' associations for the use of private recreation lands. The permits may allow adjacent landowners to establish access routes, place and maintain approved structures on Avista's Project lands, or otherwise make modest modifications to Avista property subject to the conditions, standards, and guidelines presented in this Plan. Avista will encourage group-use facilities for docks in lieu of single occupancy docks as one method of reducing impacts to the natural resource.

### *7.1.2 Recreation Facility Management Leases and Easements*

Avista may enter into a lease agreement with another party for the management, operations, and maintenance of public recreation lands.

### *7.1.3 Annual Monitoring and Review*

Avista will conduct annual inspections of all Project lands to determine compliance with the Plan and the terms and conditions of any permits, leases or easements. The annual inspections are independent of the weekly and/or monthly visits that Avista conducts for on-going management and implementation of the Plan. Based on these annual inspections, and at any other time when violations of the Plan are identified, Avista will take action to eliminate unauthorized uses of Project lands and, to the extent feasible, take action to correct the adverse effects of detected violations. The actions Avista may take include:

- Closures of Avista lands to public use in order to protect natural or cultural resources.

- Canceling private recreation approvals or authorizations (leases and permits) to use and occupy Project lands.
- Requiring the removal of any non-complying structures and facilities.
- Restoration of the site to pre-violation condition.
- Appropriate mitigation.
- Criminal prosecution for trespass.
- Actions in consultation with other natural resource managers and regulatory agencies, as determined necessary and appropriate to prevent future violations and minimize impacts to natural and cultural resources.

Any actions undertaken by Avista to address and rectify violations will be at the expense of the violator(s); Avista will seek to recoup all legal, survey, and restoration costs as appropriate.

## 7.2 Requests for Special Exceptions

Specific requests or proposals for facilities and developments on Avista's Project lands that are not consistent with the land use management goals, objectives, and policies, as outlined in this Plan will require a "special exception" in order to proceed. However, in order to preserve the natural and scenic qualities of Nine Mile Reservoir and Lake Spokane, downstream of Tum Tum special exceptions are not allowed for new or additional launches, docks, pumps, wells, or other structures, within Project lands managed as Conservation Lands, unless the improvements are associated with habitat restoration enhancements, public recreation, public safety or Project purposes. Special exceptions are also not allowed for new private leases, easements, permits, or commercial activities on Conservation Lands.

Avista will consider special exception requests based on the following guidelines, which will aid in the processing and consideration of requests for special exceptions to the Plan. Requests for special exceptions may come from federal, tribal, state, or local agencies, non-governmental organizations or individuals. Any person or group wishing to request a special exception to the Plan should submit the following information to Avista:

- A description and map designating the location where the exception is requested.
- The reason for the request and specific explanation why the desired activity cannot be undertaken elsewhere or otherwise in a manner consistent with the existing Plan's provisions.
- A detailed description and drawing of any proposed facilities or other development, including ground and vegetation disturbance.
- A description of any natural or cultural resources potentially affected by the proposed activity, obtained through current consultation with the appropriate local, state or federal agency or tribe.

- A description of measures taken to avoid, minimize, or mitigate impacts to natural or cultural resources.

Avista will engage the consulting parties and other land use managers that oversee management of cultural, historical, recreation, and/or natural resources, as appropriate, during consideration of any requests for special exceptions. Consultation will ensure that any facilities or developments approved as special exceptions to the Plan are sited and constructed so as to appropriately avoid, minimize, and/or mitigate impacts to cultural, recreational or natural resources.

In processing a request for a special exception, Avista will consider the following in making a determination of whether or not to grant the request:

- Justification for the proposed exception (facility, development, alteration, etc.).
- The presence of alternate areas where the proposed activity is allowed without special exception or non-Project lands.
- The proposed use or project benefit to the public.
- Resource protection benefits by allowing the exception.
- Negative impacts on the ability to meet cultural, wildlife, scenic, and other natural resource goals and objectives and what measures will be taken to ensure that these impacts will be avoided, minimized, and/or mitigated.

After assessing all of the information, Avista will determine whether the special exception is warranted. Possible responses include denial, approval, approval with modifications, and approval with required mitigation.

## 8.0 UPDATE AND AMENDMENTS

In accordance with FERC's Order Modifying and Approving Spokane River Land Use Management Plan Pursuant to Article 419, issued on March 9, 2011, Avista will file an updated Plan every five years from the date of the Order.

## 8.1 Addition of Land Parcels

Avista may acquire additional lands for inclusion within the FERC Project boundary. If lands are acquired and ownership is retained by Avista, Avista will amend the Plan to include the newly acquired parcels, in its five year updates. The newly acquired parcels will be incorporated into the Plan under the relevant land use classification. The land use classification will be based on the purposes for which the lands were acquired, the primary land management objectives for the lands, and the resource management activities that will be undertaken on the land. Any new lands included in the Plan should be fully documented in writing and the documentation attached as an addendum to the Plan.

## 8.2 Requests for Changes to Land Use Classifications

Requests for changes may come from federal, tribal, state, or local agencies, non-governmental organizations, and individuals. These may include changes to land use classification, revisions to the boundaries of classifications, or the addition of new or the removal of classifications.

In considering proposed changes, Avista will:

- Consult with appropriate recreation, cultural and historic resources, terrestrial resources, and fish and water quality management agencies.
- Review the goals and general policies that govern this Plan.
- Consider any changes to adjacent land use patterns.

Any changes to the land use classifications or specific parcel designations that are approved will be fully documented in writing, and the documentation attached as an addendum to the Plan. The revised Plan will be submitted to FERC for approval.

## 9.0 REFERENCES


Anderson Environmental Consultants. 2012. Spokane River Project Terrestrial Noxious Weed Control Inventory and Treatment Recommendations

Anderson Environmental Consultants. 2017. Spokane River Project Terrestrial Noxious Weed Control Inventory and Treatment Recommendations

Avista, 2020. Revised Bald Eagle Management Plan. Spokane River Hydroelectric Project: FERC Project No. 2545. March 12.

Avista, 2010, Bald Eagle Management Plan. Spokane River Hydroelectric Project: FERC Project No. 2545. May 7.

Idaho State Department of Agriculture (ISDA), http://www.agri.idaho.gov/AGRI/Categories/PlantsInsects/NoxiousWeeds/watchlist.php

Kootenai County Noxious Weed Control Advisory Board, http://www.kcweeds.com

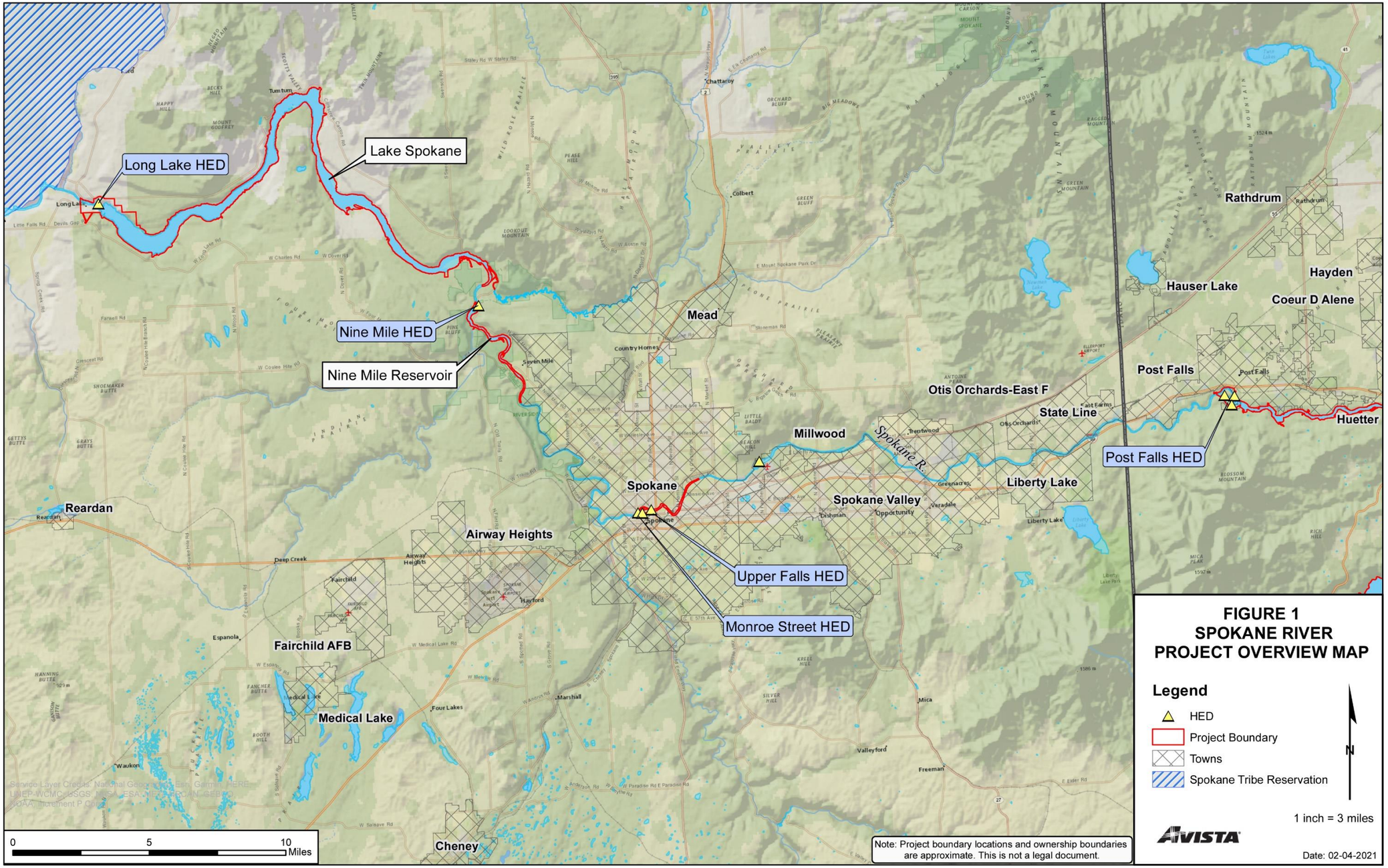
Lincoln County Noxious Weed Control Board, http://www.co.lincoln.wa.us/WeedBoard/weedlist.htm

Spokane County Noxious Weed Control Board, http://www.spokanecounty.org/WeedBoard

Stevens County Noxious Weed Control Board, http://www.co.stevens.wa.us/weedboard/weed_list.htm

Washington State Noxious Weed Control Board, www.nwcb.wa.gov/weed_list/weed_list.htm

# FIGURES


Long Lake HED
Lake Spokane
Nine Mile HED
Nine Mile Reservoir
Upper Falls HED
Monroe Street HED
Post Falls HED
Long Lake
Tum tum
Chattaroy
Colbert
Mead
Nine Mile
Country Homes
Millwood
Spokane
Spokane R.
Spokane Valley
Liberty Lake
Otis Orchards-East F
State Line
Post Falls
Hauser Lake
Hayden
Coeur D Alene
Rathdrum
Huetter
Reardan
Airway Heights
Fairchild AFB
Medical Lake
Cheney
Deep Creek
Espanola
Waukon
Four Lakes
Marshall
Valleyford
Freeman
Mica
0
5
10
Miles
Note: Project boundary locations and ownership boundaries are approximate. This is not a legal document.
FIGURE 1
SPOKANE RIVER
PROJECT OVERVIEW MAP
Legend
HED
Project Boundary
Towns
Spokane Tribe Reservation
N
1 inch = 3 miles
AVISTA
Date: 02-04-2021

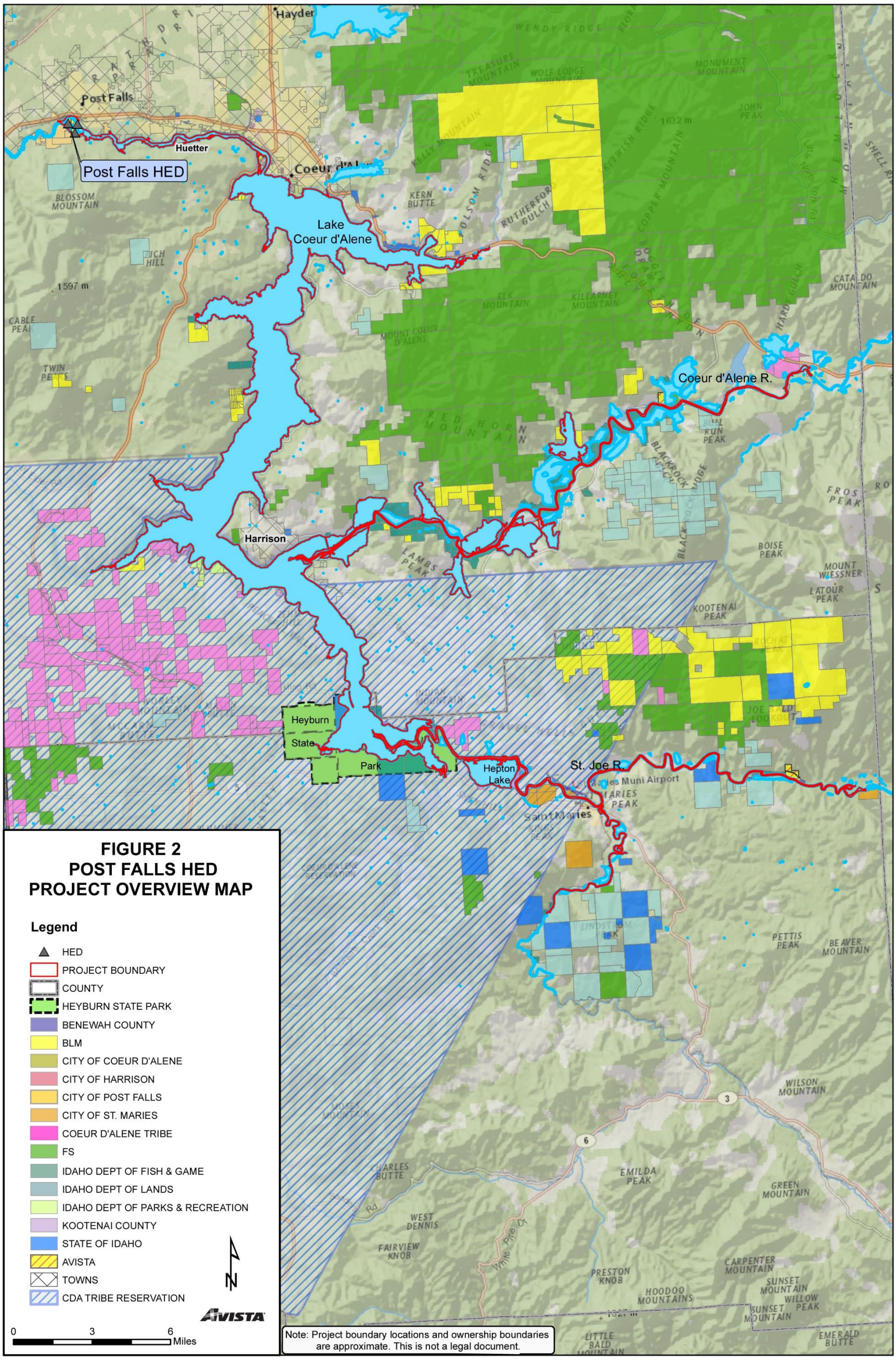



**FIGURE 2**
**POST FALLS HED**
**PROJECT OVERVIEW MAP**

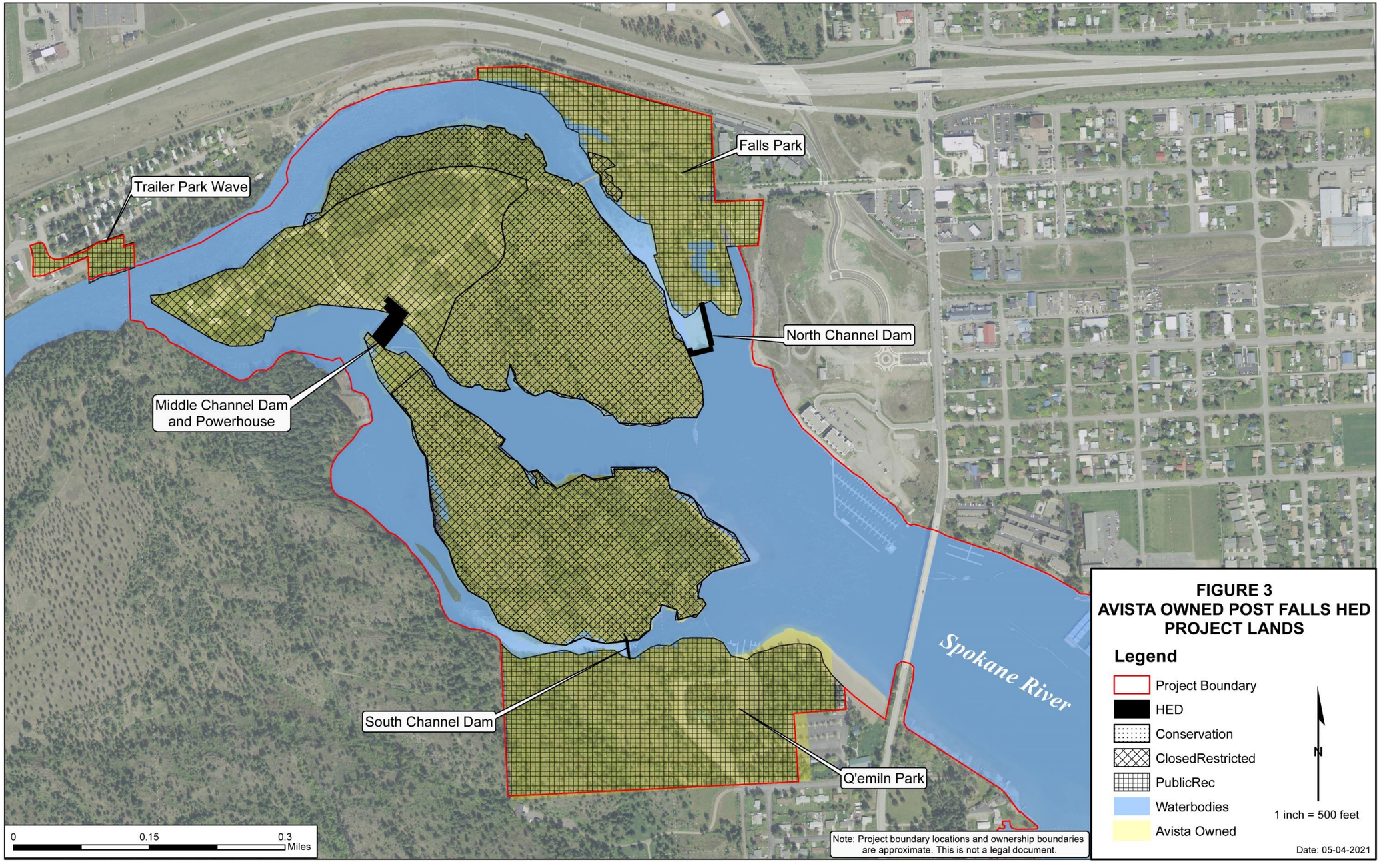
**Legend**

- HED
- PROJECT BOUNDARY
- COUNTY
- HEYBURN STATE PARK
- BENEWAH COUNTY
- BLM
- CITY OF COEUR D'ALENE
- CITY OF HARRISON
- CITY OF POST FALLS
- CITY OF ST. MARIES
- COEUR D'ALENE TRIBE
- FS
- IDAHO DEPT OF FISH & GAME
- IDAHO DEPT OF LANDS
- IDAHO DEPT OF PARKS & RECREATION
- KOOTENAI COUNTY
- STATE OF IDAHO
- AVISTA
- TOWNS
- CDA TRIBE RESERVATION

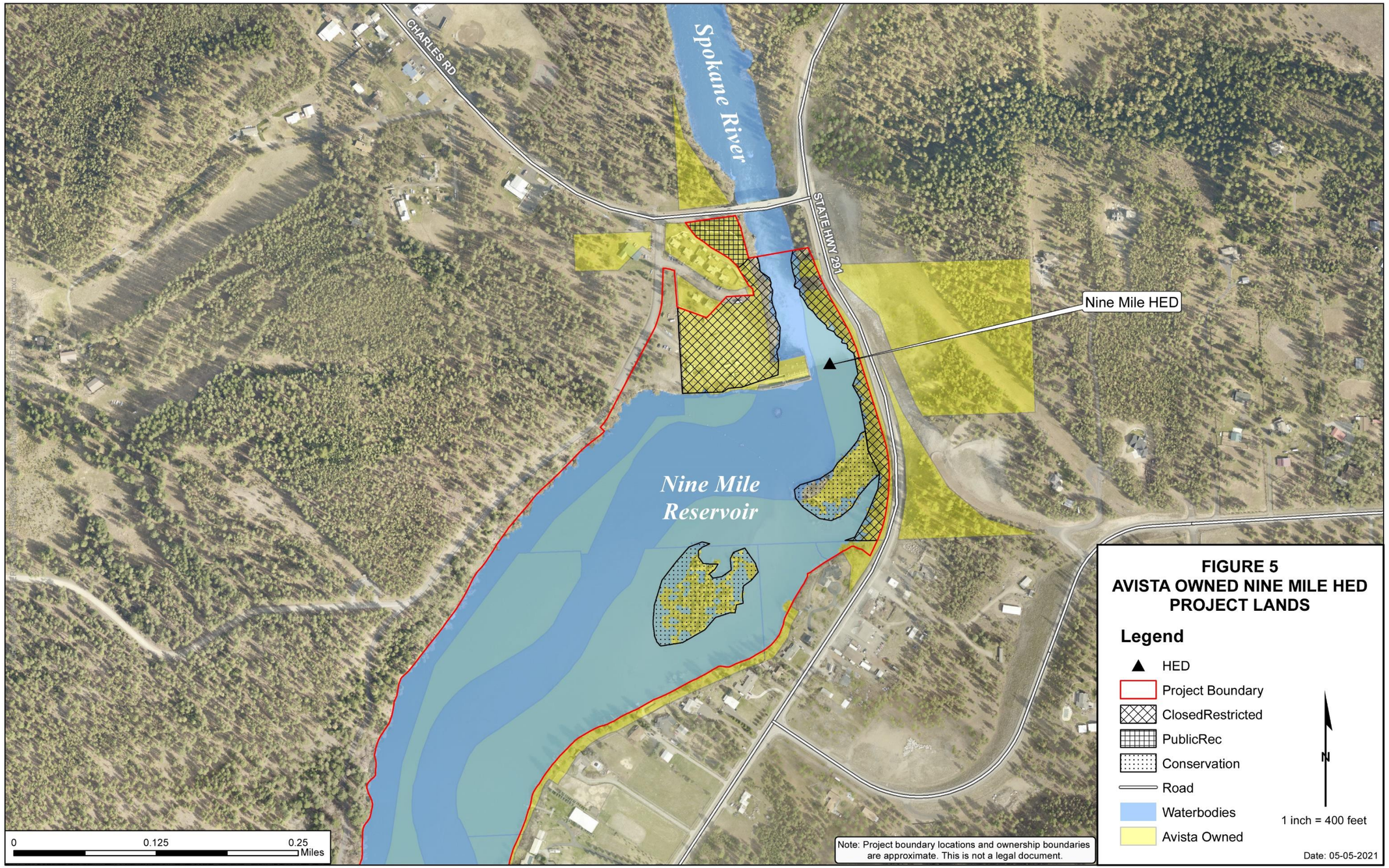
N

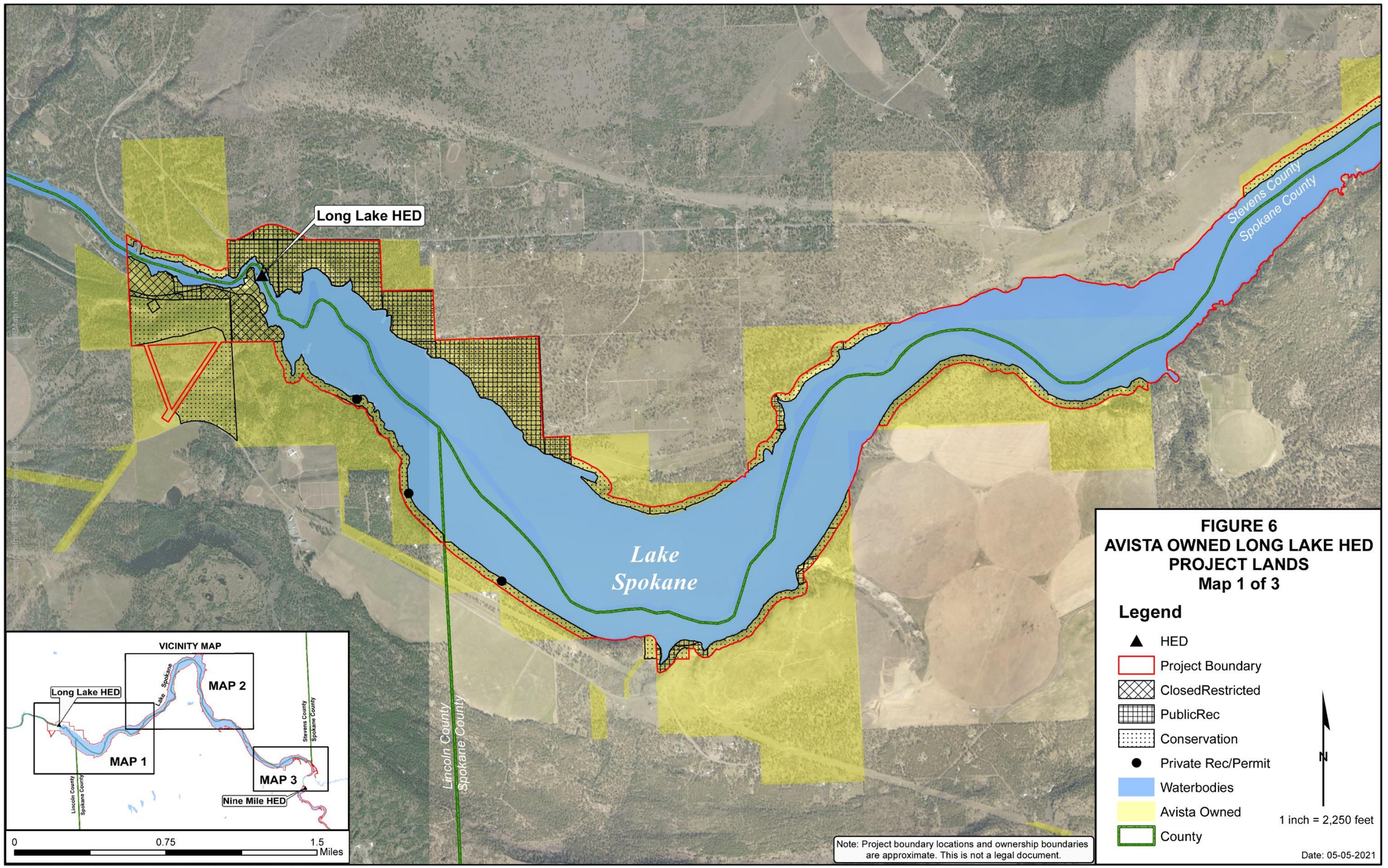
AVISTA

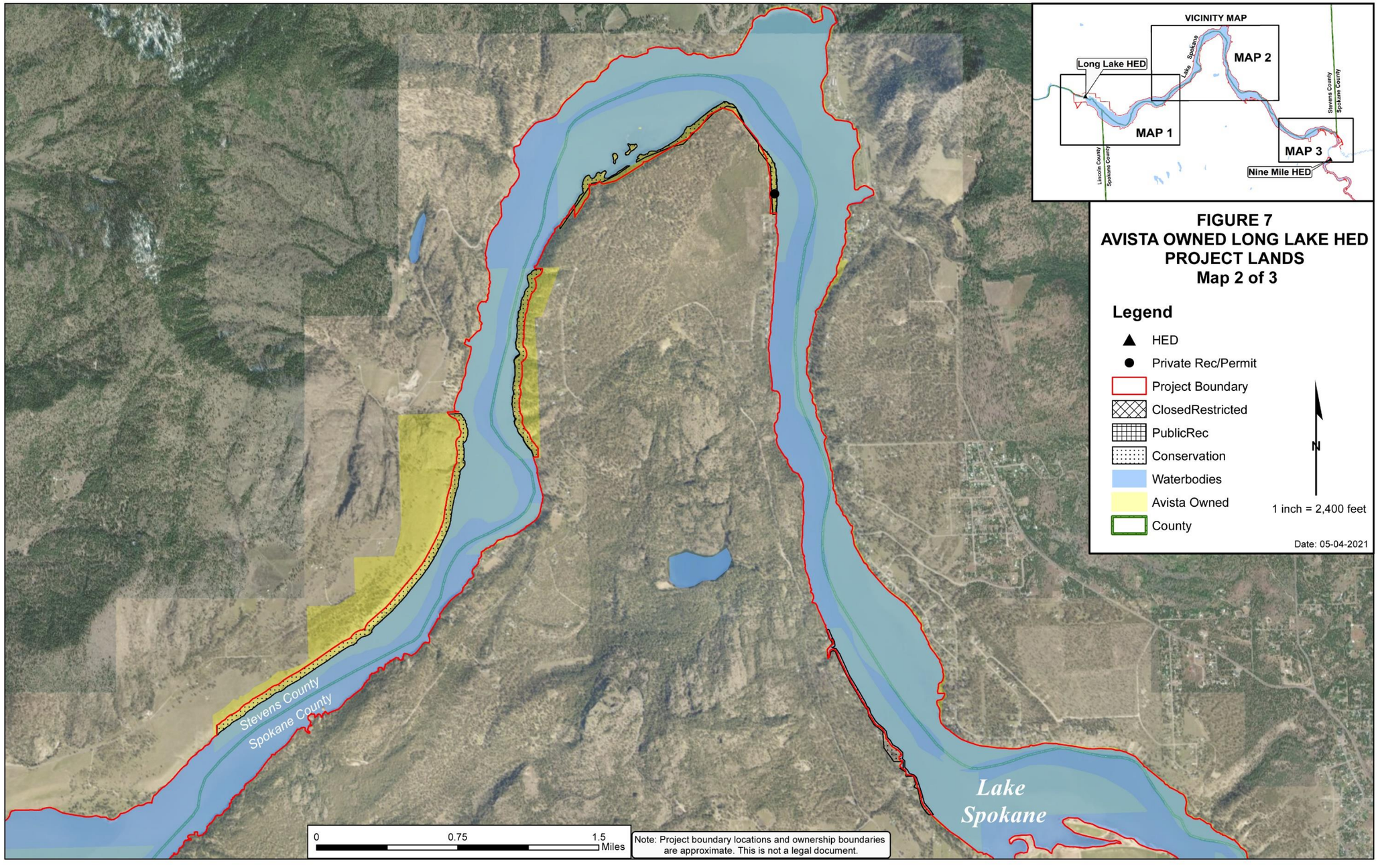
0 3 6 Miles

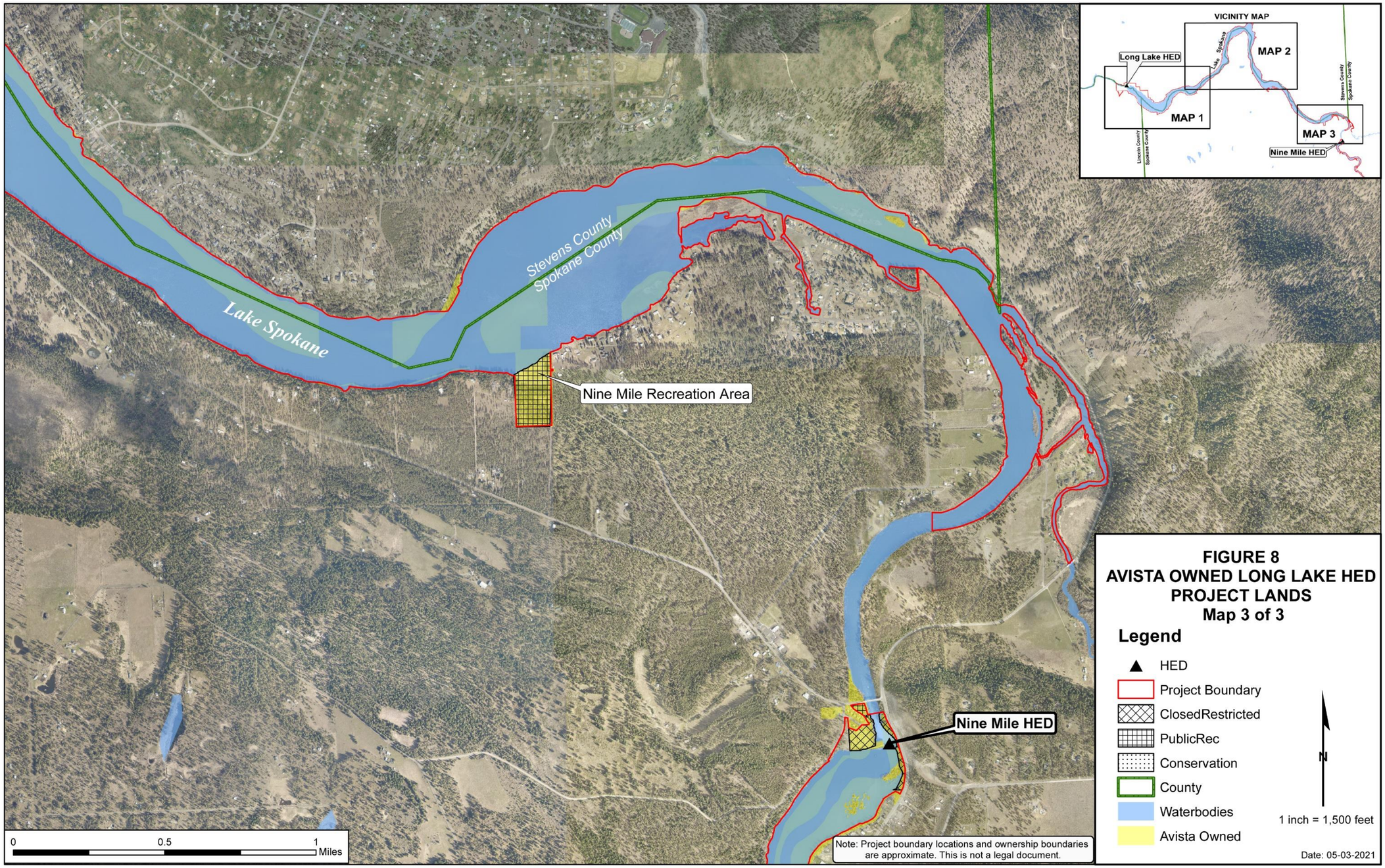

Trailer Park Wave
Falls Park
North Channel Dam
Middle Channel Dam
and Powerhouse
South Channel Dam
Q'emiln Park
Spokane River
0
0.15
0.3
Miles
Note: Project boundary locations and ownership boundaries are approximate. This is not a legal document.
FIGURE 3
AVISTA OWNED POST FALLS HED
PROJECT LANDS
Legend
Project Boundary
HED
Conservation
ClosedRestricted
PublicRec
Waterbodies
Avista Owned
N
1 inch = 500 feet
Date: 05-04-2021


N MONROE ST
DIVISION ST
US HWY 2
BROWN
W SPRAGUE AVE
Upper Falls Control Dam
Spokane River
Upper Falls Powerhouse
Monroe Street HED
0
0.125
0.25
Miles
Note: Project boundary locations and ownership boundaries are approximate. This is not a legal document.
FIGURE 4
AVISTA OWNED MONROE STREET & UPPER FALLS HED PROJECT LANDS
Legend
HED
Project Boundary
ClosedRestricted
PublicRec
Conservation
Waterbodies
Avista Owned
N
1 inch = 400 feet
Date: 05-03-2021


CHARLES RD
Spokane River
STATE HWY 291
Nine Mile HED
Nine Mile
Reservoir
0
0.125
0.25
Miles
Note: Project boundary locations and ownership boundaries are approximate. This is not a legal document.
FIGURE 5
AVISTA OWNED NINE MILE HED
PROJECT LANDS
Legend
HED
Project Boundary
ClosedRestricted
PublicRec
Conservation
Road
Waterbodies
Avista Owned
N
1 inch = 400 feet
Date: 05-05-2021


Long Lake HED
Stevens County
Spokane County
Lake Spokane
Lincoln County
Spokane County
VICINITY MAP
Long Lake HED
Lake Spokane
MAP 2
MAP 1
MAP 3
Nine Mile HED
Stevens County
Spokane County
Lincoln County
Spokane County
0
0.75
1.5
Miles
Note: Project boundary locations and ownership boundaries are approximate. This is not a legal document.
FIGURE 6
AVISTA OWNED LONG LAKE HED PROJECT LANDS
Map 1 of 3
Legend
HED
Project Boundary
ClosedRestricted
PublicRec
Conservation
Private Rec/Permit
Waterbodies
Avista Owned
County
N
1 inch = 2,250 feet
Date: 05-05-2021


VICINITY MAP
Long Lake HED
Lake Spokane
MAP 2
MAP 1
MAP 3
Nine Mile HED
Lincoln County
Spokane County
Stevens County
Spokane County
FIGURE 7
AVISTA OWNED LONG LAKE HED
PROJECT LANDS
Map 2 of 3
Legend
HED
Private Rec/Permit
Project Boundary
ClosedRestricted
PublicRec
Conservation
Waterbodies
Avista Owned
County
N
1 inch = 2,400 feet
Date: 05-04-2021
Stevens County
Spokane County
Lake Spokane
0
0.75
1.5
Miles
Note: Project boundary locations and ownership boundaries are approximate. This is not a legal document.


VICINITY MAP
Long Lake HED
Lake Spokane
MAP 2
MAP 1
MAP 3
Nine Mile HED
Stevens County
Spokane County
Lincoln County
Spokane County
Lake Spokane
Stevens County
Spokane County
Nine Mile Recreation Area
Nine Mile HED
0
0.5
1
Miles
Note: Project boundary locations and ownership boundaries are approximate. This is not a legal document.
FIGURE 8
AVISTA OWNED LONG LAKE HED
PROJECT LANDS
Map 3 of 3
Legend
HED
Project Boundary
ClosedRestricted
PublicRec
Conservation
County
Waterbodies
Avista Owned
N
1 inch = 1,500 feet
Date: 05-03-2021

# APPENDICES

# APPENDIX A

## License Article 419

Article 419. *Land Use Management Plan*. Within one year of license issuance, the licensee shall file for Commission approval a Land Use Management Plan to protect the scenic quality and environmental resources of the Spokane River and Coeur d'Alene Lake.

The plan, at a minimum, shall include, for project lands and adjacent waters: (1) identification of land use management goals; (2) a provision for land use categories, with associated acres, that identify and describe the four land use categories as: (i) conservation, (ii) public recreation, (iii) private recreation, and (iv) closed/restricted; (3) an identification of allowable and prohibited uses in each land use category; (4) a map or maps that identify the land use categories in relation to the Spokane River developments and the Post Falls development project boundaries; (5) a provision to control terrestrial noxious weeds, including: (i) specific goals, objectives, and success criteria; (ii) a list of noxious and undesirable plants to be controlled based on any state and county lists of noxious and undesirable plants, and provisions for periodically updating this list; and (iii) proposed methods for controlling noxious weeds and for evaluating the effectiveness of implemented control measures; (6) an implementation schedule, including a schedule for filing noxious weed monitoring reports with the U.S. Fish and Wildlife Service (Fish and Wildlife Service), Washington Department of Fish and Wildlife (Washington DFW), the Washington Department of Natural Resources (Washington DNR), Idaho Department of Fish and Game (Idaho Fish and Game), and the Commission; and (7) a review and an update of the plan every 5 years.

The licensee shall develop the plan after consultation with the Washington DFW, Washington State Parks and Recreation Commission, Washington DNR, Fish and Wildlife Service, Idaho Fish and Game, Idaho Department of Parks and Recreation, U.S. Bureau of Land Management, and the Coeur d'Alene Tribe. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the entities, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The licensee shall not begin implementing the plan until after the Commission notifies the licensee that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

# APPENDIX B

## Spokane River Project Terrestrial Noxious Weed Control Inventory and Treatment Recommendations Report

# AVISTA CORPORATION

## Spokane River Project Terrestrial Noxious Weed Control Inventory and Treatment Recommendations

**FERC Project No. 2545**
**License Article 419**

*November 28, 2017*

Prepared by:
*Anderson Environmental Consulting (AEC) LLC*



Doc. No. 2017-0469

# Table of Contents

# 1 INTRODUCTION

Avista is required to implement the Spokane River Land Use Management Plan in compliance with Article 419 of the Spokane River Hydroelectric FERC Project No. 2545. One component of this plan is to develop and implement a Terrestrial Noxious Weed Control Program. The goal of the Program is to limit the occurrence and spread of invasive noxious weeds on project lands and to comply with noxious weed laws and regulations. Avista will control the terrestrial weeds according to the same standards and level as other agencies. The following areas were surveyed in 2012 and again in 2017:

- Long Lake HED
- Nine Mile HED
- Monroe St. and Upper Falls HEDs
- Post Falls HED
- Lincoln County Shorelines in project lands

## 1.1 REGULATORY FRAMEWORK

Washington State Weed Law (RCW 17.10) established the State Noxious Weed Control Board and authorized counties to establish their own weed boards. The boards adopt noxious weed lists each year. The Kootenai County weed board provides one list of noxious weed species all of which require control. The Washington county boards categorize weeds into four classes, Class A, Class B, Class B Designates, and Class C according to the seriousness of the threat they pose in the respective counties.

- Class A weeds are non-native species with limited distribution in the State. Preventing new infestations is the highest priority. Eradication is required by law.

- Class B Designate weeds are non-native species that are designated for control in certain regions of the State where they are not yet widespread. Preventing infestations in these areas is a high priority.

- Class B weeds are non-native species that are abundant. Designation and control is decided at a local level and containment is the primary goal. The goal for Class B weeds is to control and reduce their occurrence where they are abundant and to prevent them from spreading to parts of the State where they are rare or absent.

- Class C weeds are species that are widespread in the county. Long-term programs of suppression and control are a local option, depending upon threats and feasibility of control in local areas.

# 2 METHODOLOGY

A noxious weed survey of county listed Class A, B, B designates (B*) and C species was completed for the Spokane River project lands. Due to the large size of survey area and the prevalence of listed weeds, this survey and report cannot identify every weed occurrence but rather provides locations of the highest priority weeds in the locations where further spread to other areas is likely due to human access and where treatment of the weeds for control or eradication would be most successful.

## 2.1 Pre-field Research

AEC completed the following prior to the field survey.

- Reviewed the Washington State Noxious Weed Control Board website to obtain the state listed A, B and C species.

- Reviewed county noxious weed websites to obtain the current county noxious weed lists including Class B designated weeds. Also reviewed the websites to for control recommendations.

- Reviewed *NERC Standard Specification S-11660; Transmission Right-of- Way Clearing*. This engineering specification provides specifications for right-of-way clearing (mechanical mowing and hand cutting), danger tree removal, ornamental pruning, tree growth regulator (TGR), and herbicide application.

- Reviewed *NERC Standard Specification S-1161; Herbicide and Tree Growth Regulator Application* which has requirements for chemical applications.

- Reviewed *Spokane River Hydroelectric Project; Sensitive, Threatened, and Endangered Plant Survey* which provided lists of sensitive species including culturally sensitive species and their general locations to ensure control recommendations would not adversely affect listed species.

- Reviewed *Spokane River Hydroelectric Project; Transmission Line Management Plan* which describes vegetation management strategies for transmission lines in the project lands.

## 2.2 Field Survey

AEC staff, Michelle Anderson and Thomas Fiedler surveyed the project lands as well as additional Avista-owned properties between July and November 2017. The surveys were completed by foot where accessible and by watercraft where access was difficult. Noxious weed populations, densities and approximate sizes of infestations were recorded using a Trimble GeoXT 7x which is resource grade accuracy. Species were recorded in the counties that they were listed. Weed densities were categorized by estimating visible cover as low (<25%), medium (25-50%) or high (>50%). The sizes of infestations were estimated using buffers of 0-1 ft (individual plant), 10 ft., 30 ft., and 50 ft.

## 2.3 Mapping

The GPS data was converted to shapefiles then used in ArcGIS 10.3 to map noxious weed occurrences by species, size and density which was then overlaid on terrain maps.

- Three individual large-scale overview maps were created with GeoPDF function to assist with locating each weed population in the field. Individual maps of weed species, location, area and densities with GeoPDF functions were also created.
- A kmz file of the weeds was created which may be used with Google Earth or other programs to facilitate locating and treating weed infestations. The kmz files have hotspots to bring up the attribute tables.
- Tables were exported from the shapefiles to provide the weed name, weed identifier number that relates to the individual weed maps, county, density, approximate size, field notes and x, y coordinates.

See Attachment A, Noxious Weed Inventory Maps.

# 3 NOXIOUS WEED INVENTORY

The species identified in the project lands during the surveys and their designations for each county are shown in Table 1. Identified Noxious Weeds and Designations .

**Table 1. Identified Noxious Weeds and Designations**

| Common Name | Scientific Name | Designation/Listing by County | | | |
|---|---|---|---|---|---|
| | | Spokane | Lincoln | Stevens | Kootenai |
| **Baby's breath** | *Gypsophila paniculata* | - | C | - | - |
| **Blueweed** | *Echium vulgare* | B*[1] | B* | B* | Listed |
| **Common bugloss** | *Anchusa officinalis* | B | B* | B* | - |
| **Canada thistle** | *Cirsium arvense* | C | C | - | Listed |
| **Cheatgrass** | *Bromus tectorum* | - | - | - | Listed |
| **Common tansy** | *Tanacetum vulgare* | - | C | - | Listed |
| **Dalmatian toadflax** | *Linaria dalmatica* | B* | B* | - | Listed |
| **Diffuse knapweed** | *Centaurea diffusa* | B | B | B | - |
| **Garden loosestrife** | *Lysimachia vulgaris* | - | B* | B* | - |
| **Hound's tongue** | *Cynoglossum officinale* | - | B | - | Listed |
| **Kochia** | *Kochia scoparia* | B | B | B* | Listed |
| **Leafy spurge** | *Euphorbia esula* | B* | B* | B* | Listed |
| **Oxeye daisy** | *Leucanthemum vulgare* | B* | B* | - | Listed |
| **Perennial sowthistle** | *Sonchus arvensis* | - | - | B* | - |
| **Plumeless thistle** | *Carduus acanthoides* | B* | B* | B* | - |
| **Poison hemlock** | *Conium maculatum* | - | B | - | Listed |
| **Purple loosestrife** | *Lythrum salicaria* | B* | B* | B* | Listed |
| **Rush skeletonweed** | *Chondrilla juncea* | B | B | B | Listed |
| **Scotch thistle** | *Onopordum acanthium* | B* | B* | B* | Listed |

| Common Name | Scientific Name | Designation/Listing by County | | | |
|---|---|---|---|---|---|
| | | Spokane | Lincoln | Stevens | Kootenai |
| **Spotted knapweed** | *Centaurea biebersteinii* | B | B | B | Listed |
| **St. John's wort** | *Hypericum perforatum* | - | C | - | Listed |
| **Sulfur cinquefoil** | *Potentilla recta* | - | B* | - | - |
| **Wild carrot** | *Daucus carota* | B* | B* | - | - |
| **Yellow flag iris** | *Iris pseudocorus* | - | C | - | - |
| **Yellow hawkweed** | *Hieracium caespitosum* | B* | A | - | Listed |
| **[1]B*=B designate species.** | | | | | |

The maps in Attachment A, Noxious Weed Inventory Maps display the locations and densities of the noxious weeds in the project area. The acreages of weed species are shown in Table 2. Acreage of Weed Species. The results of the noxious weed inventory can be summarized as follows:

- One County Class A species, Yellow hawkweed (Wooly weed) was identified.
- Areas along roads, trails, and public access areas contained the largest populations of of noxious weeds and were dominated by primarily Rush skeletonweed, Dalmatian toadflax and Spotted knapweed.
- Parks, docks, boat in campsites and dam facilities had large populations of medium and high density weeds. Long Lake Dam Overlook, and Long Lake HED had the highest densities of weeds. The remaining parks, boat launches and dam facilities including Nine Mile Recreational Area, Nine Mile Dam HED, Post Falls HED, and Falls Park had lower densities of noxious weeds.
- Dalmatian toadflax and Rush skeletonweed with smaller populations of Sulfur cinquefoil were present in all densities throughout the project lands but were more dense in open grass stands with the highest densities in the fields near Amy Lane.
- All densities of Yellow flag iris, Scotch thistle, Purple loosestrife, and to a lesser

extent Canada thistle, St. John's wort and Spotted knapweed were commonly found along the shorelines throughout the project area.

- Garden loosestrife, Baby's breath, leafy spurge and kochia were found in limited areas, primarily near the Long Lake Dam HED.

**Table 2. Acreage of Weed Species**

| Weed Name | Estimated Acreage/Weed (acre) |
|---|---|
| Hound's Tongue | Less than 0.01 |
| Kochia | Less than 0.01 |
| Plumeless Thistle | Less than 0.00 |
| Baby's Breath | 0.17 |
| Blueweed | 0.01 |
| Canada Thistle | 0.01 |
| Cheat Grass | Less than 0.00 |
| Common Bugloss | 0.07 |
| Dalmatian Toadflax | 18.37 |
| Diffuse Knapweed | 0.19 |
| Garden Loosestrife | 1.26 |
| Leafy Spurge | 0.07 |
| Purple Loosestrife | 7.31 |
| Rush Skeletonweed | 19.51 |
| Scotch Thistle | 2.46 |
| Spotted Knapweed | 7.89 |
| St. John's Wort | 2.18 |
| Sulfur Cinquefoil | 0.38 |
| Yellow Hawkweed | 0.08 |
| Total acreage of Weeds | 59.97 |

# 4 TREATMENT PRIORITIES AND CONTROL RECOMMENDATIONS

There are three primary categories of treatment recommendations; high, medium and low priorities which are presented Table 3. Treatment Priority Areas. Table 4. Control Recommendations presents recommended biological, mechanical, cultural and chemical control measures for the noxious weeds that occur in the area. Other control recommendations may be found on the county weed board websites or the *Pacific Northwest (PNW) Weed Management Handbook*.

**Table 3. Treatment Priority Areas**

| Treatment Priority | Area or Species | Treatment Area |
|---|---|---|
| **High** | High use recreation sites and high access areas such as:<br>Post falls HED Q'emiln Park<br>Falls Park<br>Nine Mile Dam HED<br>Long Lake Dam Day Use<br>Long Lake Dam Overlook<br>Boat in only sites<br>Trailhead and fields near Amy Lane | High to medium densities of A, B and B* designate species. |
| **High** | Roads and trails | Roads and trails with high to medium densities that are accessible |
| **High** | Infestations in limited extent where eradication is feasible | All Leafy spurge, Garden loosestrife, Yellow hawkweed, Kochia and Baby's breath populations where they occur |
| **Medium** | B-designates | Medium to high densities of Purple loosestrife, Blueweed, Bugloss, Dalmatian toadflax, Scotch thistle and oxeye daisy where acessible. |
| **Medium** | B State Listed | High densities of Rush skeletonweed, Spotted knapweed, Diffuse knapweed, and Sulphur cinquefoil where accessible. |
| **Low** | C listed species | Any density of C-listed Species that are widespread outside of public use areas: Yellow flag iris, St. |

| | | |
|---|---|---|
| | | John's wort, Common tansy, Wild carrot and Canada thistle. |
| **Low** | B State Listed | Low to medium densities of other B state listed species outside of public use areas such as: Diffuse knapweed, spotted knapweed, rush skeletonweed, hounds tongue, and other species. |

## 4.1 High Priority Areas

**High use recreational facilities** with easy access including parks, dam facilities, and boat launches, and trails contained medium to high densities of a variety of weed species. These are areas from which future spread of weeds are likely to originate and are important to control. Long Lake Dam Overlook had the highest densities while the Nine Mile Dam, Nine Mile Recreational Area, Long Lake HED, Falls Park and Q'emiln Riverside Park contained medium to low densities.

*Treatment Recommendation:* These areas with medium to high densities near public access areas should be chemically controlled using a selective herbicide per label instructions. See Table 3, Noxious Weed Control Recommendations. Locations of boat in and campsite access with infestations should be spot sprayed with an appropriate selective or non-selective herbicide as appropriate.

Bare soils should be replanted with native species suitable for the area to minimize weed establishment and to control the expansion of infestations. See Attachment B for suggested species for revegetation. Existing grasses should be fertilized or irrigated where possible to encourage vigorous growth to compete with weeds. Herbicides should be suitable for use near water as applicable.

**Medium to high density weed populations along the roadways and trails** are also a high priority for treatment. These areas are dominated by Dalmatian toadflax, Rush skeletonweed, Sulfur cinquefoil, Diffuse and Spotted knapweed but may also contain other species. Control of weeds in these areas will minimize the further spread of weeds by vehicles and minimize their spread to new areas.

*Treatment Recommendation:* These infestations along roadways should be controlled using a selective herbicide with a surfactant, applied during the spring and fall. Milestone

(aminopyralid) is effective for control of Knapweeds, Thistles, and Rush skeletonweed. Telar (chlorosulfuron) is effective for control of Dalmatian toadflax. Bare ground should be reseeded with native grasses to minimize germination of weed seed and to help out-compete the existing weed species.

**New infestations in limited extent** where eradication is feasible will also be a high priority for control. This will include all Leafy spurge, Yellow hawkweed, Garden loosestrife and Baby's breath and as they are small populations. B designated species which are limited in extent are priorities for local control.

## 4.2 Medium Priority Areas

**Medium to high densities of Purple loosestrife** will be a medium priority for control. Populations of Purple loosestrife are currently located in many wetland areas along the shoreline and are typically heavily interspersed with native plant species

*Treatment Recommendation:* The purple loosestrife populations are already controlled by bio control agents that have been released by the local weed boards. Supplemental release of bio-controls including *Gallerucella pucilla* is the recommended control method. Weed Board Staff will be consulted to determine locations of previous releases and where supplemental releases would be most effective.

Rodeo, a non-selective aquatic herbicide, can also be used in and near water for Purple loosestrife control; however, it is not recommended in these areas due to the presence of nearby sensitive or culturally important plants including Red-osier dogwood, Hawthorne, Cow's parsnip, and Wapato which could be adversely affected. If eliminated, Purple loosestrife would likely be replaced by other non-native invasive species such as Yellow flag iris or Reed canarygrass. Purple loosestrife divides by fragmentation; therefore, mechanical control is not recommended.

**Medium to high densities of Knapweeds, Dalmatian toadflax, and Rush skeletonweed outside of the public use areas, roads and trails.** These populations are commonly in wooded areas, on steep slopes, on sandy slopes with difficult access.

*Treatment Recommendation:* Attempts at chemical or mechanical control could cause

erosion and introduce additional weed species to new areas. Bio-control for these species has proven effective; therefore, supplementing bio-control releases is the recommended control method. Weed Board Staff should be consulted to determine locations of previous releases and where supplemental releases would be most effective.

**Medium to high populations of Blueweed and Bugloss**. Chemical control is recommended for these species. Bare ground should be reseeded as practicable to minimize weed seed germination and establishment.

**Other high-density B designate species** will also be treated as a medium priority for control. See Table 3 for control recommendations.

## 4.3 Low Priority Areas

**Yellow flag iris populations** are located throughout the shorelines at all densities in Long Lake but is only listed in Lincoln County. At this time, Stevens and Spokane counties do not control Yellow flag iris.

*Treatment recommendations:* Yellow flag iris may be chemically controlled but it would not be effective over the long term without controlling the adjacent populations in Long Lake. Additionally, chemical control could adversely affect nearby native species including sensitive and culturally important plants.

**Other B state listed and C-listed species**. These species are typically widespread through the state or county and are less of a priority for control. These may include St. John's wort, cheatgrass, Canada thistle and Common tansy, Wild carrot, and other low priority species at any density outside of public use areas. Accessing wooded areas or sandy bluffs to treat the weeds would cause further erosion and sedimentation and introduce new and more weed species into the sites. Treatment could also affect the adjacent native species. Therefore, these areas should not be treated.

## 4.4 Detailed Control Recommendations

Table 4. Control Recommendations provides recommended biological, mechanical, cultural and chemical control of weeds in the project lands. These recommendations were developed in coordination with County Weed Inspectors and recommendations from the County Noxious Weed websites. All herbicides should be applied according to label instructions and according to applicable laws and regulations. Permits may be required for applications near or in water.

**Table 4. Control Recommendations**

| Common Name | Scientific Name | Biological | Mechanical or Cultural | Chemical[2] (Spring and Fall Applications) |
|---|---|---|---|---|
| **Baby's Breath** | *Gypsophila paniculata* | None | Hand pull if a few plants. Revegetate bare ground. | Aminopyralid (Milestone), dicamba + 2,4-D (Weedmaster) with a methylated seed oil (MSO) surfactant. |
| **Blueweed** | *Echium vulgare* | None | Hand pull if a few plants but use gloves. Revegetate bare ground. | Aminopyralid (Milestone) or chlorosulfuron (Telar) with MSO surfactant. Or glyphosate and 2,4-D in combination with dicamba and/or metsulfuron. |
| **Bugloss** | *Anchusa sp.* | None | Hand pull if a few plants. Revegetate bare ground. | Combination of aminopyralid (Milestone), metsulfuron (Escort), and 2,4-D with MSO surfactant. |
| **Canada thistle** | *Cirsium arvense* | None | Mowing is effective for small patches. Revegetate bare ground. | Clypyrolid with 2,4-D (Curtail) or aminopyralid (Milestone). Use MSO surfactant. Treat at bud or in the fall. |
| **Cheatgrass** | *Bromus tectorum* | None | Revegetate bare ground. | Glyphosate or Selective control using pre-emergent such as Plateau or Pendulum. |
| **Common tansy** | *Tanacetum vulgare* | None | Hand pull if a few plants. Revegetate bare ground. | 2,4-D, metsulfuron (Escort), chlorosulfuron (Telar), or aminopyralid (Milestone). |
| **Dalmatian toadflax** | *Linaria dalmatica* | *Mecinus janthinus* is a stem boring | Hand pull if a few plants. | Chlorosulfuron (Telar), with MSO surfactant. Or 2,4-D or aminopyralid (Milestone). |

| Common Name | Scientific Name | Biological | Mechanical or Cultural | Chemical[2] (Spring and Fall Applications) |
|---|---|---|---|---|
| | | weevil that feeds on shoots and can kill plants. Highly effective. | Revegetate bare ground. | Tordon may be used along roads or under transmission lines. |
| **Diffuse knapweed** | *Centaurea diffusa* | *Larinus minutus* is a beetle effective in reducing seed production. *Cyphocleonus achates* is a weevil that feeds on the roots. | Mowing is ineffective. Hand pull if a few plants. Revegetate bare ground. | 2,4-D, chlorosulfuron (Telar) or aminopyralid (Milestone). Use MSO surfactant. Or dicamba + 2,4-D (Weedmaster), Clypyrolid + 2,4-D (Curtail) or aminopyralid (Milestone). Tordon may be used along roads or under transmission lines. |
| **Garden loosestrife** | *Lysimachia vulgaris* | *Population is too small for biocontrol* | Handpulling ineffective. May cover with plastic/tarps. | Imazapyr, Glyphosate + triclopyr but not in water. |
| **Yellow flag iris** | *Iris pseudocorus* | None | None | Rodeo (glyphosate designed for use in water). |
| **Kochia** | *Kochia scoparia* | None | Hand pull if a few plants. Revegetate bare ground. | Glyphosate or dicamba + 2,4-D (Weedmaster). Or Vista with 2,4-D and Milestone. |
| **Leafy spurge** | *Euphorbia esula* | *Aphthona nigriscutis* and *Aphthona flava* are flea beetles that feed on roots bracts and leaves. | Hand pull if a few plants. Be cautious with toxic sap. Revegetate bare ground. | Chlorosulfuron (Telar) with MSO surfactant. May also use Plateau, Milestone, 2,4-D mix at flowering stage or in the fall. |
| **Oxeye daisy** | *Leucanthemum vulgare* | None | Add Nitrogen fertilizer. | Aminopyralid (Milestone), 2,4-D, or Clypyrolid + 2,4-D (Curtail). |
| **Perennial sowthistle** | *Sonchus arvensis* | None | Hand pull if a few plants. Revegetate bare ground. | 2,4-D |
| **Poison hemlock** | *Conium maculatum* | None | Hand pull if a few plants but use gloves. | 2,4-D, glyphosate or aminopyralid (Milestone). |

| Common Name | Scientific Name | Biological | Mechanical or Cultural | Chemical[2] (Spring and Fall Applications) |
|---|---|---|---|---|
| | | | Revegetate bare ground. | |
| **Purple loosestrife** | *Lythrum salicaria* | *Galerucella pusilla* a beetle that affects seed production. | None | Spot spray Rodeo. |
| **Scotch and Plumeless thistle** | *Onopordum acanthium, Carduus acanthoides* | None | Hand pull if a few plants but use gloves. Revegetate bare ground. | Clypyrolid + 2,4-D (Curtail), 2,4-D, dicamba + 2,4-D (Weedmaster), chlorosulfuron (Telar), or aminopyralid (Milestone). |
| **Spotted knapweed** | *Centaurea bieberstenii* | *Larinus minutus* is a beetle effective in reducing seed production. *Cyphocleonus achates* is a weevil that feeds on roots. | Hand pull if an individual plant. Revegetate bare ground. Mowing is ineffective. | Chlorosulfuron (Telar) or aminopyralid (Milestone). Use surfactant. Or 2,4-D, dicamba + 2,4-D (Weedmaster), Clypyrolid + 2,4-D (Curtail) or Tordon near roads or transmission lines. |
| **St. John's wort** | *Hypericum perforatum* | *Aplocera plagiata* is an inchworm. The larvae feed on leaves and flowers. | Hand pull if an individual plant. Revegetate bare ground. | Dicamba + 2,4-D (Weedmaster), aminopyralid (Milestone) or chlorosulfuron (Telar). |
| **Sulfur cinquefoil** | *Potentilla recta* | None | Hand pull if an individual plant; revegetate bare ground. | Chlorosulfuron (Telar) or aminopyralid (Milestone). Use surfactant. |
| **Wild carrot** | *Daucus carota* | None | Hand pull if an individual plant; revegetate bare ground. | Aminopyralid (Milestone) or 2,4-D. Or may use metsulfuron with 2,4-D. |
| **Yellow hawkweed** | *Hieracium caespitosum* | None | Hand pull if an individual plant; revegetate bare ground. | Aminopyralid (Milestone). Or 2,4-D dicamba + 2,4-D (Weedmaster), or Clypyrolid + 2,4-D (Curtail). |

# 5 WEED CONTROL PROGRAM IMPLEMENTATION

The Spokane River Terrestrial Noxious Weed Control Program is designed to be implemented on a five-year cycle of treatment and monitoring. At the end of each five-year cycle, the program's implementation process will be revised as needed to reflect changes in weed species occurrence and status, management policy, and treatment methods. The goals of the five-year weed control program are to:

- Implement the weed control measures identified in the Federal Energy Regulatory Commission (FERC) approved Land Use Management Plan
- Limit the abundance and spread of noxious weeds on Project lands.
- Implement site-specific weed control measures in coordination with local weed boards.
- Evaluate the effectiveness of weed control measures.
- Prepare annual reports to summarize terrestrial weed control measures and their effectiveness.

## 5.1 Implementation Schedule

This Terrestrial Noxious Weed Control Program will be implemented over a five-year period as summarized below.

**2018** Treatment of the high priority areas with chemical treatment should achieve a 70 percent kill rate over time. Bare soils will be reseeded as practicable to minimize weed seed establishment and to help outcompete the weeds. Treated areas will be monitored annually and follow-up treatments will be completed as recommended in the annual report.

**2019** Treat most medium priority sites and follow-up treatments of the high priority sites, as necessary. Biological controls will be released to supplement existing biological controls for purple loosestrife, Dalmatian toadflax, knapweeds and Rush skeletonweed. Other medium priority areas will be treated as indicated in Table 4. Control Recommendations. The chemically controlled areas should achieve a 70 percent kill rate over time. Biological controls will be monitored every other year by noting signs of plant damage or visible establishment of bio-control agents

**2020** Conduct follow-up treatments based on findings identified in the annual report recommendations. Treat high densities of other B designated species not already treated, and monitor accordingly.

**2021** Conduct follow-up chemical and biological treatments as recommended in the annual reports.

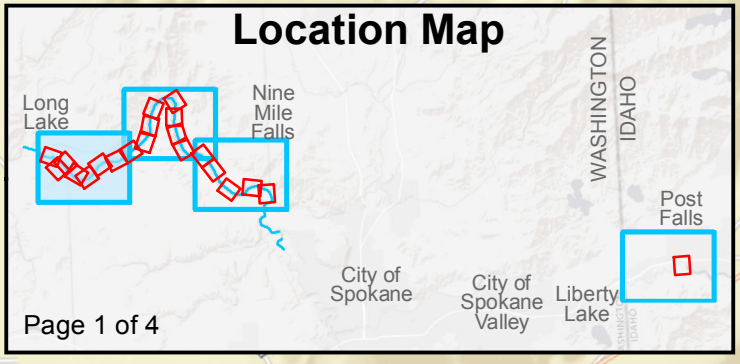
**2022** Conduct follow-up chemical and biological treatments as recommended, and prepare a five-year Summary Report.

Annual reports were prepared which included the following information and were distributed to cooperating agencies.

- A description of control measures that were implemented during the year
- Planned weed management activities for the coming year
- Proposed changes to the Program
- A discussion of the effectiveness of the weed-control method
- Site information including location, activities, and results for the treated areas

# ATTACHMENT A - MAPS OF NOXIOUS WEED LOCATIONS

# Overview Map
# Noxious Weed Area
# Long Lake Dam Area






**Noxious Weed**

- Baby's Breath
- Blueweed
- Canada Thistle
- Cheat Grass
- Common Bugloss
- Dalmatian Toadflax
- Diffuse Knapweed
- Garden Loosestrife
- Hound's Tongue
- Kochia
- Leafy Spurge
- Plumeless Thistle
- Purple Loosestrife
- Rush Skeletonweed
- Scotch Thistle
- Spotted Knapweed
- St. John's Wort
- Sulfur Cinquefoil
- Yellow Hawkweed

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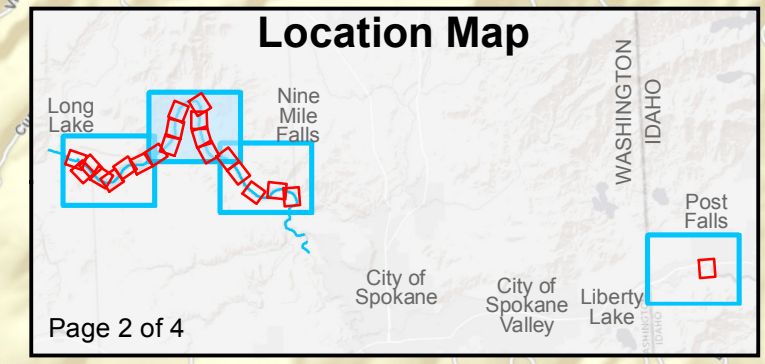
# Overview Map
# Noxious Weed Area
# Long Lake Area





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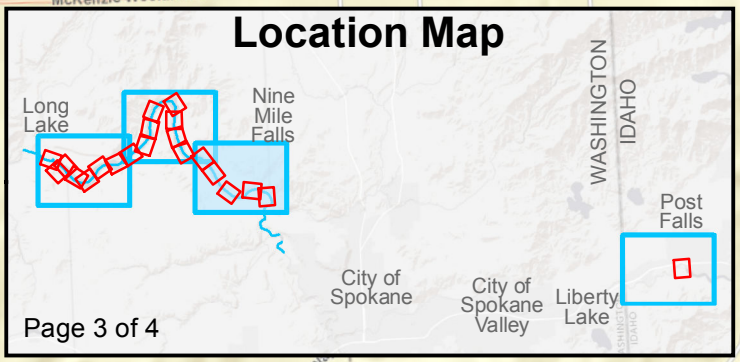
# Overview Map
# Noxious Weed Area
# Nine Mile Area




Bluebird
McKenzie Woolard Rd
S Swenson Rd
Liberty Way
Jergens Rd
Sundance Rd
Jenna Dr
Pearson Dr
Moriah Dr
291
N Sunnyvale Dr
N Meadowview Ln
W Sunnyvale Dr
W Meadowview Ln
N Wylie Dr
W Greenfield Rd
Deer Ridge Wsy
W Mary Lee Ln
W Bernhill Rd
N West Shore Rd
W Shore Rd
N Bond Rd
W Charles Rd
N Suncrest Dr
N Tamarac Ln
N Sagewood Rd
N Sunrise Dr
W Sagewood Rd
Homestead Wsy
W Sunridge Dr
E Franklin Dr
E Shore Rd
W Ownby Dr
W Nelson Dr
W Tormey Rd
Wilynwood Ln
W Autumn Ln
N Lupin Ln
W Charles Rd
N Hedin Rd
Riverside State Park
N Tormey Rd
W Highland Rd
N Samek Ln
W Charles Rd
N Nine Mile Rd

**Noxious Weed**

- Baby's Breath
- Blueweed
- Canada Thistle
- Cheat Grass
- Common Bugloss
- Dalmatian Toadflax
- Diffuse Knapweed
- Garden Loosestrife
- Hound's Tongue
- Kochia
- Leafy Spurge
- Plumeless Thistle
- Purple Loosestrife
- Rush Skeletonweed
- Scotch Thistle
- Spotted Knapweed
- St. John's Wort
- Sulfur Cinquefoil
- Yellow Hawkweed

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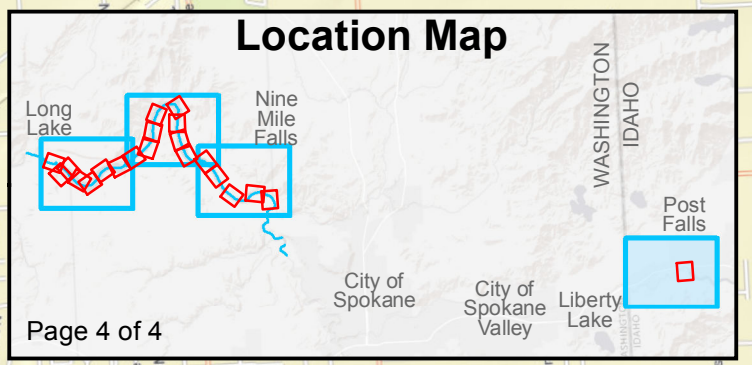
# Overview Map
# Noxious Weed Area
# Post Falls Area




**Noxious Weed**

- Baby's Breath
- Blueweed
- Canada Thistle
- Cheat Grass
- Common Bugloss
- Dalmatian Toadflax
- Diffuse Knapweed
- Garden Loosestrife
- Hound's Tongue
- Kochia
- Leafy Spurge
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- Purple Loosestrife
- Rush Skeletonweed
- Scotch Thistle
- Spotted Knapweed
- St. John's Wort
- Sulfur Cinquefoil
- Yellow Hawkweed

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| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2017 | Stevens | Rush Skeletonweed | L | 10' | | 2372220.967 | 321177.3177 | 10 |
| 2 | 2017 | Stevens | Rush Skeletonweed | L | 0' | | 2372450.671 | 321356.614 | 0 |
| 3 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2373052.907 | 322217.015 | 30 |
| 4 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2373003.835 | 322317.6971 | 30 |
| 5 | 2017 | Stevens | Rush Skeletonweed | L | 0' | | 2372940.434 | 322435.4141 | 0 |
| 6 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2373017.04 | 322036.7063 | 30 |
| 7 | 2017 | Stevens | Rush Skeletonweed | L | 0' | | 2372548.18 | 321015.9582 | 0 |
| 8 | 2017 | Stevens | Rush Skeletonweed | L | 0' | | 2372553.623 | 320978.8242 | 0 |
| 9 | 2017 | Stevens | Rush Skeletonweed | L | 0' | | 2372601.288 | 320803.2043 | 0 |
| 10 | 2017 | Stevens | Rush Skeletonweed | L | 0' | | 2372392.174 | 320350.2481 | 0 |
| 11 | 2017 | Stevens | Rush Skeletonweed | L | 10' | | 2373060.192 | 321622.3334 | 10 |
| 12 | 2017 | Stevens | Rush Skeletonweed | M | 10' | | 2373041.209 | 321539.0348 | 10 |
| 13 | 2017 | Stevens | St. John's Wort | M | 50' | UPSLOPE - sul cinq ,dal tf | 2372496.835 | 320257.1356 | 50 |
| 14 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2373303.508 | 321949.9246 | 30 |
| 15 | 2017 | Stevens | Rush Skeletonweed | L | 50' | | 2373314.593 | 321946.4386 | 50 |
| 16 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2373053.898 | 321318.4839 | 30 |
| 17 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2373112.933 | 321168.8812 | 30 |
| 18 | 2017 | Stevens | Dalmatian Toadflax | H | 0' | | 2372764.839 | 320418.2526 | 0 |
| 19 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2372690.208 | 320182.1345 | 50 |
| 20 | 2017 | Stevens | Garden Loosestrife | M | 50' | | 2372786.656 | 320134.2753 | 50 |
| 21 | 2017 | Lincoln | Rush Skeletonweed | M | 20' | Buf = other, on | 2372165.538 | 318411.0424 | 20 |
| 22 | 2017 | Lincoln | Sulfur Cinquefoil | M | 20' | Buf = other, on | 2372165.538 | 318411.0424 | 20 |
| 23 | 2017 | Lincoln | Spotted Knapweed | M | 20' | Buf = other, on | 2372165.538 | 318411.0424 | 20 |
| 24 | 2017 | Lincoln | Diffuse Knapweed | M | 50' | every 10; on rd | 2372484.821 | 318371.7603 | 50 |
| 25 | 2017 | Lincoln | Sulfur Cinquefoil | L | 30' | along roads | 2372577.185 | 318385.2923 | 30 |
| 26 | 2017 | Lincoln | Rush Skeletonweed | L | 30' | alongside rd | 2372643.125 | 318405.4864 | 30 |
| 27 | 2017 | Lincoln | Baby's Breath | M | 10' | | 2372657.845 | 318423.0498 | 10 |
| 28 | 2017 | Lincoln | Sulfur Cinquefoil | M | 30' | | 2372662.051 | 318442.3145 | 30 |
| 29 | 2017 | Lincoln | St. John's Wort | M | 30' | | 2372662.442 | 318443.4739 | 30 |
| 30 | 2017 | Lincoln | Spotted Knapweed | M | 50' | up hillside | 2372670.098 | 318455.0916 | 50 |
| 31 | 2017 | Lincoln | St. John's Wort | L | 10' | | 2372673.374 | 318465.7408 | 10 |
| 32 | 2017 | Lincoln | Baby's Breath | L | 0' | | 2372662.788 | 318470.0423 | 0 |
| 33 | 2017 | Stevens | Garden Loosestrife | M | 50' | garden loosestrife @ | 2372980.592 | 320111.3487 | 50 |
| 34 | 2017 | Lincoln | Baby's Breath | M | 30' | | 2373099.712 | 319496.7707 | 30 |
| 35 | 2017 | Lincoln | St. John's Wort | L | 0' | | 2373163.674 | 319635.5218 | 0 |
| 36 | 2017 | Lincoln | Baby's Breath | L | 0' | | 2373178.847 | 319628.2254 | 0 |
| 37 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2373132.419 | 321003.7103 | 30 |
| 38 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2373148.507 | 320813.5353 | 50 |
| 39 | 2017 | Stevens | Garden Loosestrife | M | 50' | | 2373210.512 | 320048.5469 | 50 |
| 40 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2373275.289 | 320121.7831 | 30 |
| 41 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2373455.713 | 321833.6569 | 10 |
| 42 | 2017 | Stevens | Rush Skeletonweed | H | 10' | | 2373327.394 | 320114.3368 | 10 |
| 43 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2373433.461 | 320452.0733 | 50 |
| 44 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2373371.998 | 320120.1997 | 10 |
| 45 | 2017 | Stevens | Dalmatian Toadflax | L | 0' | | 2373384.567 | 320111.1154 | 0 |
| 46 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2373708.957 | 321559.9256 | 10 |
| 47 | 2017 | Stevens | Garden Loosestrife | M | 50' | | 2373407.768 | 320021.6992 | 50 |
| 48 | 2017 | Stevens | Garden Loosestrife | M | 50' | | 2373510.216 | 319975.3608 | 50 |
| 49 | 2017 | Stevens | Leafy Spurge | L | 30' | Buf=other | 2373457.356 | 320021.2698 | 30 |
| 50 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2373765.984 | 320191.8742 | 30 |
| 51 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2373716.02 | 320246.7753 | 30 |
| 52 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2373775.303 | 321475.586 | 10 |
| 53 | 2017 | Stevens | Rush Skeletonweed | L | 10' | | 2373745.733 | 321514.1889 | 10 |
| 54 | 2017 | Stevens | Garden Loosestrife | M | 50' | | 2373692.638 | 319901.2518 | 50 |
| 55 | 2017 | Lincoln | Spotted Knapweed | M | 10' | | 2373236.571 | 319653.8188 | 10 |
| 56 | 2017 | Lincoln | Dalmatian Toadflax | M | 10' | | 2373227.878 | 319644.7678 | 10 |
| 57 | 2017 | Lincoln | St. John's Wort | L | 0' | | 2373291.532 | 319630.2948 | 0 |
| 58 | 2017 | Lincoln | Rush Skeletonweed | H | 10' | | 2373285.788 | 319625.2738 | 10 |
| 59 | 2017 | Lincoln | Baby's Breath | M | 10' | | 2373166.579 | 319566.228 | 10 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 60 | 2017 | Lincoln | Baby's Breath | M | 10' | | 2373142.171 | 319406.3764 | 10 |
| 61 | 2017 | Lincoln | Dalmatian Toadflax | L | 10' | | 2373186.856 | 319405.8499 | 10 |
| 62 | 2017 | Lincoln | Baby's Breath | M | 30' | | 2373192.646 | 319403.2579 | 30 |
| 63 | 2017 | Lincoln | Baby's Breath | L | 0' | | 2373142.063 | 319502.6068 | 0 |
| 64 | 2017 | Lincoln | Dalmatian Toadflax | L | 30' | | 2373288.43 | 319569.1541 | 30 |
| 65 | 2017 | Lincoln | Baby's Breath | L | 10' | | 2373295.96 | 319573.8166 | 10 |
| 66 | 2017 | Lincoln | Rush Skeletonweed | L | 30' | | 2373301.065 | 319567.3244 | 30 |
| 67 | 2017 | Lincoln | Rush Skeletonweed | L | 0' | | 2373309.039 | 319591.5444 | 0 |
| 68 | 2017 | Lincoln | Rush Skeletonweed | L | 0' | | 2373312.287 | 319603.3492 | 0 |
| 69 | 2017 | Lincoln | Baby's Breath | L | 10' | | 2373391.225 | 319538.2171 | 10 |
| 70 | 2017 | Lincoln | Rush Skeletonweed | L | 10' | | 2373395.942 | 319533.3082 | 10 |
| 71 | 2017 | Lincoln | Dalmatian Toadflax | L | 0' | | 2373396.866 | 319533.4643 | 0 |
| 72 | 2017 | Lincoln | Common Bugloss | M | 10' | | 2373378.959 | 319499.3977 | 10 |
| 73 | 2017 | Lincoln | Diffuse Knapweed | L | 0' | | 2372759.482 | 318536.2315 | 0 |
| 74 | 2017 | Lincoln | Hound's Tongue | L | 0' | | 2372783.206 | 318545.0091 | 0 |
| 75 | 2017 | Lincoln | Spotted Knapweed | M | 10' | along hillside | 2372794.605 | 318553.2612 | 10 |
| 76 | 2017 | Lincoln | Dalmatian Toadflax | L | 0' | | 2372840.791 | 318593.0683 | 0 |
| 77 | 2017 | Lincoln | Dalmatian Toadflax | L | 10' | | 2372953.94 | 318678.7083 | 10 |
| 78 | 2017 | Lincoln | Sulfur Cinquefoil | L | 20' | Buf = other, on rd in middle | 2373001.375 | 318803.2109 | 20 |
| 79 | 2017 | Lincoln | Diffuse Knapweed | L | 0' | | 2373105.883 | 319088.8289 | 0 |
| 80 | 2017 | Lincoln | St. John's Wort | L | 0' | | 2373115.758 | 319081.9712 | 0 |
| 81 | 2017 | Lincoln | St. John's Wort | L | 30' | s of fence | 2373429.035 | 319385.5543 | 30 |
| 82 | 2017 | Lincoln | St. John's Wort | L | 0' | | 2373516.511 | 319319.0523 | 0 |
| 83 | 2017 | Lincoln | Canada Thistle | L | 10' | | 2373516.392 | 319320.2184 | 10 |
| 84 | 2017 | Lincoln | Canada Thistle | L | 0' | | 2373464.119 | 319342.3572 | 0 |
| 85 | 2017 | Lincoln | St. John's Wort | L | 10' | | 2373520.605 | 319047.6528 | 10 |
| 86 | 2017 | Lincoln | Spotted Knapweed | M | 30' | | 2373525.573 | 319062.4429 | 30 |
| 87 | 2017 | Lincoln | Canada Thistle | L | 0' | | 2373644.292 | 319372.6083 | 0 |
| 88 | 2017 | Lincoln | Spotted Knapweed | L | 0' | | 2373652.259 | 318926.7946 | 0 |
| 89 | 2017 | Lincoln | St. John's Wort | L | 0' | | 2373652.91 | 318926.2862 | 0 |
| 90 | 2017 | Lincoln | Dalmatian Toadflax | M | 10' | | 2373871.695 | 319200.7115 | 10 |
| 91 | 2017 | Lincoln | Kochia | L | 0' | | 2373877.908 | 319240.7283 | 0 |
| 92 | 2017 | Lincoln | Baby's Breath | L | 0' | | 2373986.74 | 319354.6812 | 0 |
| 93 | 2017 | Lincoln | St. John's Wort | L | 0' | | 2374098.453 | 319416.9848 | 0 |
| 94 | 2017 | Lincoln | Dalmatian Toadflax | M | 10' | | 2374100.584 | 319362.5905 | 10 |
| 95 | 2017 | Lincoln | Dalmatian Toadflax | M | 10' | | 2374124.484 | 319317.8603 | 10 |
| 96 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2374353.044 | 320032.451 | 50 |
| 97 | 2017 | Stevens | Dalmatian Toadflax | L | 0' | AND SCOTCH THISTLE | 2374338.815 | 319637.666 | 0 |
| 98 | 2017 | Lincoln | Plumeless Thistle | L | 0' | | 2373997.808 | 316427.248 | 0 |
| 99 | 2017 | Lincoln | Rush Skeletonweed | L | 30' | | 2374021.926 | 316529.1603 | 30 |
| 100 | 2017 | Stevens | Rush Skeletonweed | M | 50' | | 2374501.428 | 320491.8019 | 50 |
| 101 | 2017 | Stevens | Dalmatian Toadflax | H | 10' | | 2374411.222 | 320632.2776 | 10 |
| 102 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2375530.604 | 320837.3276 | 50 |
| 103 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2375680.714 | 320901.8205 | 50 |
| 104 | 2017 | Stevens | Rush Skeletonweed | H | 50' | + DALM TF | 2375680.981 | 320903.7966 | 50 |
| 105 | 2017 | Stevens | Dalmatian Toadflax | H | 10' | | 2375821.681 | 320926.5679 | 10 |
| 106 | 2017 | Stevens | Rush Skeletonweed | H | 50' | + SULFUR CINQ | 2376359.423 | 320708.6674 | 50 |
| 107 | 2017 | Stevens | Dalmatian Toadflax | L | 0' | | 2376927.093 | 320415.403 | 0 |
| 108 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2377079.419 | 320577.0667 | 50 |
| 109 | 2017 | Lincoln | Dalmatian Toadflax | L | 10' | | 2373963.648 | 315915.7968 | 10 |
| 110 | 2017 | Lincoln | Rush Skeletonweed | L | 10' | | 2373963.781 | 315916.9414 | 10 |
| 111 | 2017 | Lincoln | Dalmatian Toadflax | L | 0' | | 2373995.7 | 315937.488 | 0 |
| 112 | 2017 | Lincoln | Rush Skeletonweed | L | 30' | | 2374018.151 | 315986.5977 | 30 |
| 113 | 2017 | Lincoln | Dalmatian Toadflax | L | 10' | | 2373948.635 | 316061.5764 | 10 |
| 114 | 2017 | Lincoln | Rush Skeletonweed | L | 0' | | 2373924.558 | 316131.7965 | 0 |
| 115 | 2017 | Lincoln | Rush Skeletonweed | L | 0' | | 2373974.846 | 316274.594 | 0 |
| 116 | 2017 | Lincoln | Rush Skeletonweed | M | 30' | | 2374262.537 | 316596.0537 | 30 |
| 117 | 2017 | Lincoln | Rush Skeletonweed | L | 10' | | 2374423.37 | 316637.0287 | 10 |
| 118 | 2017 | Lincoln | Rush Skeletonweed | L | 10' | | 2374449.623 | 316677.8264 | 10 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 119 | 2017 | Lincoln | Rush Skeletonweed | M | 30' | | 2374689.172 | 316973.8658 | 30 |
| 120 | 2017 | Lincoln | Rush Skeletonweed | M | 50' | Along road | 2374682.48 | 317032.7621 | 50 |
| 121 | 2017 | Lincoln | Dalmatian Toadflax | L | 0' | | 2374770.791 | 317109.0285 | 0 |
| 122 | 2017 | Lincoln | Rush Skeletonweed | L | 30' | | 2374766.041 | 317120.2789 | 30 |
| 123 | 2017 | Lincoln | Dalmatian Toadflax | L | 0' | | 2374784.822 | 317164.7269 | 0 |
| 124 | 2017 | Lincoln | Leafy Spurge | M | 10' | | 2374887.904 | 317308.5361 | 10 |
| 125 | 2017 | Lincoln | Dalmatian Toadflax | L | 0' | | 2374904.375 | 317311.0351 | 0 |
| 126 | 2017 | Lincoln | Dalmatian Toadflax | M | 10' | | 2374920.915 | 317328.9844 | 10 |
| 127 | 2017 | Lincoln | St. John's Wort | H | 10' | | 2374926.806 | 317330.2839 | 10 |
| 128 | 2017 | Lincoln | Rush Skeletonweed | M | 10' | | 2375188.181 | 317412.9205 | 10 |
| 129 | 2017 | Lincoln | Sulfur Cinquefoil | M | 10' | | 2375189.761 | 317413.745 | 10 |
| 130 | 2017 | Lincoln | Rush Skeletonweed | M | 30' | | 2375414.274 | 317475.6629 | 30 |
| 131 | 2017 | Lincoln | Sulfur Cinquefoil | H | 10' | | 2375425.221 | 317489.0591 | 10 |
| 132 | 2017 | Lincoln | Rush Skeletonweed | H | 50' | | 2375361.408 | 317713.7337 | 50 |
| 133 | 2017 | Lincoln | Yellow Hawkweed | L | 30' | WOOLY WEED | 2375708.178 | 318004.5717 | 30 |
| 134 | 2017 | Lincoln | Yellow Hawkweed | L | 10' | WOOLY WEED | 2375750.989 | 318003.6955 | 10 |
| 135 | 2017 | Lincoln | Yellow Hawkweed | L | 0' | WOOLY WEED | 2375742.126 | 318023.1517 | 0 |
| 136 | 2017 | Lincoln | Yellow Hawkweed | L | 10' | WOOLY WEED | 2375972.918 | 318272.8289 | 10 |
| 137 | 2017 | Lincoln | Yellow Hawkweed | L | 0' | WOOLY WEED | 2375974.55 | 318273.4149 | 0 |
| 138 | 2017 | Lincoln | Diffuse Knapweed | L | 10' | | 2375982.206 | 318245.8186 | 10 |
| 139 | 2017 | Lincoln | Dalmatian Toadflax | L | 10' | | 2376098.651 | 318103.0455 | 10 |
| 140 | 2017 | Lincoln | Dalmatian Toadflax | L | 10' | | 2376106.777 | 318011.2055 | 10 |
| 141 | 2017 | Lincoln | Spotted Knapweed | M | 30' | | 2376455.707 | 317340.9214 | 30 |
| 142 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2377695.742 | 320329.7165 | 30 |
| 143 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2378019.224 | 319264.5071 | 50 |
| 144 | 2017 | Stevens | Spotted Knapweed | M | 50' | ALONG SHORELINE | 2377935.853 | 319475.5472 | 50 |
| 145 | 2017 | Stevens | Dalmatian Toadflax | H | 50' | | 2378309.919 | 319570.3396 | 50 |
| 146 | 2017 | Stevens | Dalmatian Toadflax | M | 50' | | 2378388.33 | 319840.8849 | 50 |
| 147 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2379228.944 | 318048.7217 | 30 |
| 148 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2379490.215 | 318373.2725 | 50 |
| 149 | 2017 | Stevens | Dalmatian Toadflax | M | 10' | | 2379583.624 | 318338.774 | 10 |
| 150 | 2017 | Stevens | Dalmatian Toadflax | M | 50' | | 2379447.477 | 317949.0851 | 50 |
| 151 | 2017 | Stevens | Dalmatian Toadflax | M | 50' | | 2379621.715 | 317867.5941 | 50 |
| 152 | 2017 | Stevens | Spotted Knapweed | L | 30' | pulled | 2379623.805 | 317869.5378 | 30 |
| 153 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2379969.41 | 318216.2343 | 30 |
| 154 | 2017 | Lincoln | Spotted Knapweed | H | 50' | | 2378333.131 | 316395.2905 | 50 |
| 155 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2380053.267 | 318135.1599 | 30 |
| 156 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2380051.092 | 318121.9612 | 50 |
| 157 | 2017 | Stevens | Dalmatian Toadflax | M | 30' | | 2379780.862 | 317782.8109 | 30 |
| 158 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2379922.746 | 317621.844 | 10 |
| 159 | 2017 | Stevens | Rush Skeletonweed | L | 10' | | 2380484.293 | 317858.5516 | 10 |
| 160 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2380604.271 | 317798.2095 | 10 |
| 161 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2381495.623 | 317963.3057 | 30 |
| 162 | 2017 | Lincoln | Dalmatian Toadflax | L | 10' | | 2378659.506 | 315975.2645 | 10 |
| 163 | 2017 | Stevens | Rush Skeletonweed | L | 50' | | 2380928.9 | 317484.2232 | 50 |
| 164 | 2017 | Stevens | Dalmatian Toadflax | M | 50' | | 2380928.866 | 317483.425 | 50 |
| 165 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2381630.866 | 317945.3705 | 10 |
| 166 | 2017 | Lincoln | Spotted Knapweed | H | 30' | | 2378707.6 | 315887.1856 | 30 |
| 167 | 2017 | Lincoln | Spotted Knapweed | H | 30' | | 2378773.368 | 315758.8217 | 30 |
| 168 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2381225.92 | 316623.5246 | 10 |
| 169 | 2017 | Stevens | Dalmatian Toadflax | M | 30' | | 2382759.589 | 317842.3767 | 30 |
| 170 | 2017 | Stevens | Dalmatian Toadflax | M | 10' | | 2382790.393 | 317878.1292 | 10 |
| 171 | 2017 | Stevens | Dalmatian Toadflax | H | 10' | | 2381518.124 | 316460.6351 | 10 |
| 172 | 2017 | Stevens | Dalmatian Toadflax | M | 50' | | 2381518.061 | 316458.8826 | 50 |
| 173 | 2017 | Stevens | Dalmatian Toadflax | M | 50' | | 2381679.958 | 316349.9598 | 50 |
| 174 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2381807.293 | 316270.9505 | 30 |
| 175 | 2017 | Lincoln | Dalmatian Toadflax | L | 0' | | 2379429.081 | 314902.9387 | 0 |
| 176 | 2017 | Lincoln | Purple Loosestrife | L | 0' | | 2379485.587 | 313893.3404 | 0 |
| 177 | 2017 | Stevens | Rush Skeletonweed | L | 0' | | 2381916.034 | 316162.077 | 0 |
| 178 | 2017 | Stevens | Dalmatian Toadflax | M | 50' | | 2381950.284 | 316112.3498 | 50 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 179 | 2017 | Stevens | Dalmatian Toadflax | M | 50' | | 2382050.573 | 315998.1276 | 50 |
| 180 | 2017 | Stevens | Rush Skeletonweed | M | 50' | | 2382098.482 | 315915.0249 | 50 |
| 181 | 2017 | Stevens | Dalmatian Toadflax | M | 50' | | 2382155.385 | 315830.6354 | 50 |
| 182 | 2017 | Lincoln | Spotted Knapweed | L | 10' | | 2380007.565 | 313232.575 | 10 |
| 183 | 2017 | Stevens | Rush Skeletonweed | L | 10' | | 2382303.24 | 315700.6713 | 10 |
| 184 | 2017 | Stevens | Dalmatian Toadflax | H | 10' | | 2382329.503 | 315655.7464 | 10 |
| 185 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2382685.631 | 315997.2838 | 10 |
| 186 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2382596.966 | 315850.6551 | 30 |
| 187 | 2017 | Stevens | Rush Skeletonweed | M | 10' | | 2382597.066 | 315850.5629 | 10 |
| 188 | 2017 | Stevens | Purple Loosestrife | L | 30' | Along shore | 2382388.996 | 315620.8943 | 30 |
| 189 | 2017 | Stevens | Dalmatian Toadflax | M | 50' | | 2382392.691 | 315624.0978 | 50 |
| 190 | 2017 | Stevens | Rush Skeletonweed | M | 50' | | 2382629.693 | 315777.3265 | 50 |
| 191 | 2017 | Stevens | Scotch Thistle | L | 0' | | 2382421.425 | 315489.6295 | 0 |
| 192 | 2017 | Stevens | Spotted Knapweed | L | 10' | | 2382421.011 | 315487.1634 | 10 |
| 193 | 2017 | Stevens | Purple Loosestrife | H | 50' | | 2382486.795 | 315535.552 | 50 |
| 194 | 2017 | Stevens | Spotted Knapweed | L | 10' | | 2382461.68 | 315486.0751 | 10 |
| 195 | 2017 | Stevens | Spotted Knapweed | M | 10' | | 2382459.576 | 315482.6695 | 10 |
| 196 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2382491.121 | 315482.376 | 30 |
| 197 | 2017 | Stevens | Rush Skeletonweed | L | 10' | | 2382499.201 | 315490.4136 | 10 |
| 198 | 2017 | Stevens | St. John's Wort | L | 0' | | 2382431.945 | 315389.0773 | 0 |
| 199 | 2017 | Stevens | Rush Skeletonweed | L | 50' | | 2382605.614 | 315575.9584 | 50 |
| 200 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2382605.992 | 315575.1647 | 50 |
| 201 | 2017 | Stevens | Dalmatian Toadflax | L | 0' | | 2382555.909 | 315398.8561 | 0 |
| 202 | 2017 | Stevens | Rush Skeletonweed | H | 30' | mowed | 2382549.659 | 315382.1842 | 30 |
| 203 | 2017 | Stevens | Common Bugloss | L | 0' | | 2382562.126 | 315388.0889 | 0 |
| 204 | 2017 | Stevens | Purple Loosestrife | L | 10' | | 2382522.429 | 315284.3947 | 10 |
| 205 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2382678.586 | 315218.9169 | 0 |
| 206 | 2017 | Stevens | Purple Loosestrife | L | 10' | | 2382680.057 | 315218.0069 | 10 |
| 207 | 2017 | Stevens | St. John's Wort | L | 10' | | 2382704.967 | 315218.1349 | 10 |
| 208 | 2017 | Stevens | Purple Loosestrife | M | 30' | | 2382757.772 | 315184.1554 | 30 |
| 209 | 2017 | Stevens | Purple Loosestrife | L | 50' | Along shore | 2382828.334 | 315153.7351 | 50 |
| 210 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2383004.114 | 315309.6999 | 30 |
| 211 | 2017 | Stevens | Rush Skeletonweed | M | 50' | | 2383180.653 | 315315.6643 | 50 |
| 212 | 2017 | Stevens | Rush Skeletonweed | L | 10' | | 2383048.654 | 315032.7117 | 10 |
| 213 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2383087.277 | 315035.1529 | 30 |
| 214 | 2017 | Stevens | Dalmatian Toadflax | L | 0' | | 2383109.734 | 315040.6027 | 0 |
| 215 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2383340.999 | 315254.7475 | 30 |
| 216 | 2017 | Spokane | Purple Loosestrife | M | 10' | | 2380853.199 | 312479.1228 | 10 |
| 217 | 2017 | Stevens | St. John's Wort | M | 10' | | 2383168.378 | 314982.3315 | 10 |
| 218 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2383205.387 | 314983.8655 | 30 |
| 219 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2383227.645 | 314963.7294 | 30 |
| 220 | 2017 | Stevens | Purple Loosestrife | M | 50' | along shoreline | 2383213.147 | 314946.9805 | 50 |
| 221 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2383423.75 | 315130.7404 | 10 |
| 222 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2383454.685 | 315127.0373 | 50 |
| 223 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2383558.892 | 315115.0357 | 10 |
| 224 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2383594.524 | 315103.8196 | 50 |
| 225 | 2017 | Spokane | Spotted Knapweed | H | 30' | | 2381051.137 | 312296.8302 | 30 |
| 226 | 2017 | Stevens | Purple Loosestrife | L | 30' | | 2383508.561 | 314813.6532 | 30 |
| 227 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2383751.326 | 315063.3495 | 50 |
| 228 | 2017 | Stevens | Rush Skeletonweed | H | 50' | entire lot | 2384163.385 | 315457.972 | 50 |
| 229 | 2017 | Stevens | Dalmatian Toadflax | M | 100' | Buf = other, | 2384163.46 | 315457.1807 | 100 |
| 230 | 2017 | Stevens | Rush Skeletonweed | H | 50' | both sids rd | 2383870.047 | 315075.4763 | 50 |
| 231 | 2017 | Stevens | Purple Loosestrife | M | 20' | Buf = other, | 2383588.999 | 314757.4054 | 20 |
| 232 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2383952.13 | 315142.4977 | 30 |
| 233 | 2017 | Stevens | Rush Skeletonweed | L | 20' | Buf = other | 2383652.634 | 314799.5665 | 20 |
| 234 | 2017 | Stevens | St. John's Wort | M | 50' | | 2383681.971 | 314805.2494 | 50 |
| 235 | 2017 | Stevens | Rush Skeletonweed | H | 20' | Buf = other | 2384044.781 | 315124.7007 | 20 |
| 236 | 2017 | Stevens | Dalmatian Toadflax | M | 50' | | 2384045.204 | 315125.04 | 50 |
| 237 | 2017 | Stevens | Rush Skeletonweed | H | 50' | all along slope | 2383783.681 | 314753.7637 | 50 |
| 238 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2383799.117 | 314715.0945 | 50 |
| 239 | 2017 | Stevens | Dalmatian Toadflax | M | 50' | | 2384160.021 | 315108.4371 | 50 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 240 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2384179.899 | 315078.6148 | 50 |
| 241 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2383892.156 | 314683.272 | 50 |
| 242 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2384167.057 | 314608.276 | 50 |
| 243 | 2017 | Stevens | Rush Skeletonweed | H | 200' | Buf = other, whole field | 2384399.372 | 314671.1007 | 200 |
| 244 | 2017 | Stevens | Dalmatian Toadflax | L | 200' | Buf = other, whole field | 2384399.372 | 314671.1007 | 200 |
| 245 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2384610.368 | 314198.0258 | 50 |
| 246 | 2017 | Stevens | Rush Skeletonweed | M | 10' | | 2384734.017 | 314111.7411 | 10 |
| 247 | 2017 | Stevens | Diffuse Knapweed | L | 10' | | 2385365.445 | 315595.6717 | 10 |
| 248 | 2017 | Stevens | Rush Skeletonweed | L | 0' | | 2384797.159 | 314082.319 | 0 |
| 249 | 2017 | Stevens | Rush Skeletonweed | H | 50' | whole field | 2385366.823 | 315563.8333 | 50 |
| 250 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | whole field | 2385359.208 | 315455.2017 | 50 |
| 251 | 2017 | Stevens | Rush Skeletonweed | L | 10' | | 2384998.497 | 314141.0196 | 10 |
| 252 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2385126.556 | 314185.8079 | 30 |
| 253 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2385065.283 | 313898.002 | 30 |
| 254 | 2017 | Spokane | Dalmatian Toadflax | L | 10' | | 2383802.932 | 310498.2644 | 10 |
| 255 | 2017 | Stevens | Rush Skeletonweed | L | 30' | | 2385258.952 | 314217.1442 | 30 |
| 256 | 2017 | Stevens | Rush Skeletonweed | L | 10' | | 2385175.865 | 313883.139 | 10 |
| 257 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2383968.953 | 310401.6707 | 30 |
| 258 | 2017 | Stevens | Rush Skeletonweed | L | 10' | | 2385389.954 | 314100.0963 | 10 |
| 259 | 2017 | Spokane | Spotted Knapweed | H | 30' | | 2384682.686 | 310140.9767 | 30 |
| 260 | 2017 | Spokane | Spotted Knapweed | M | 30' | | 2385067.125 | 310152.882 | 30 |
| 261 | 2017 | Spokane | Spotted Knapweed | M | 30' | | 2385447.714 | 310212.4309 | 30 |
| 262 | 2017 | Spokane | Spotted Knapweed | M | 50' | | 2385884.136 | 310085.1602 | 50 |
| 263 | 2017 | Spokane | Spotted Knapweed | M | 10' | | 2386018.058 | 309646.4413 | 10 |
| 264 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2386240.529 | 309801.8475 | 50 |
| 265 | 2017 | Spokane | Dalmatian Toadflax | M | 30' | | 2386350.354 | 309967.3719 | 30 |
| 266 | 2017 | Spokane | Purple Loosestrife | L | 30' | | 2386433.91 | 310046.8157 | 30 |
| 267 | 2017 | Spokane | Spotted Knapweed | M | 50' | | 2387060.125 | 310057.9301 | 50 |
| 268 | 2017 | Spokane | Spotted Knapweed | M | 30' | | 2387285.862 | 309981.3185 | 30 |
| 269 | 2017 | Stevens | Garden Loosestrife | L | 50' | | 2386581.206 | 313563.3956 | 50 |
| 270 | 2017 | Stevens | Purple Loosestrife | L | 10' | | 2386636.305 | 313551.6297 | 10 |
| 271 | 2017 | Spokane | Dalmatian Toadflax | M | 30' | | 2387492.305 | 310107.0886 | 30 |
| 272 | 2017 | Stevens | Garden Loosestrife | H | 10' | | 2386651.996 | 313597.0504 | 10 |
| 273 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2386687.742 | 313804.0958 | 30 |
| 274 | 2017 | Stevens | Rush Skeletonweed | L | 30' | | 2386699.832 | 313856.088 | 30 |
| 275 | 2017 | Spokane | Spotted Knapweed | M | 50' | | 2388417.223 | 310627.9084 | 50 |
| 276 | 2017 | Spokane | Dalmatian Toadflax | M | 30' | | 2388611.952 | 310888.1313 | 30 |
| 277 | 2017 | Spokane | Purple Loosestrife | M | 10' | | 2388698.852 | 311044.0899 | 10 |
| 278 | 2017 | Spokane | Spotted Knapweed | M | 50' | | 2388795.771 | 311080.6637 | 50 |
| 279 | 2017 | Spokane | Spotted Knapweed | M | 30' | | 2388909.869 | 311234.2216 | 30 |
| 280 | 2017 | Spokane | Spotted Knapweed | M | 10' | | 2388940.369 | 311261.6547 | 10 |
| 281 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2389195.171 | 311410.9095 | 0 |
| 282 | 2017 | Stevens | Rush Skeletonweed | L | 30' | | 2387124.017 | 314275.9014 | 30 |
| 283 | 2017 | Spokane | Dalmatian Toadflax | L | 0' | | 2389542.343 | 311702.4673 | 0 |
| 284 | 2017 | Spokane | Dalmatian Toadflax | L | 0' | | 2389618.597 | 311784.7428 | 0 |
| 285 | 2017 | Spokane | Rush Skeletonweed | L | 0' | | 2389585.677 | 311859.2353 | 0 |
| 286 | 2017 | Spokane | Dalmatian Toadflax | L | 0' | | 2389596.325 | 311853.381 | 0 |
| 287 | 2017 | Spokane | Rush Skeletonweed | L | 30' | | 2389665.603 | 311815.1315 | 30 |
| 288 | 2017 | Spokane | Rush Skeletonweed | L | 10' | | 2389659.436 | 311835.1114 | 10 |
| 289 | 2017 | Spokane | Rush Skeletonweed | M | 30' | | 2389704.29 | 311790.01 | 30 |
| 290 | 2017 | Spokane | Rush Skeletonweed | L | 10' | | 2389652.965 | 311860.4497 | 10 |
| 291 | 2017 | Spokane | Spotted Knapweed | L | 0' | | 2389709.073 | 311813.8753 | 0 |
| 292 | 2017 | Spokane | Rush Skeletonweed | M | 30' | | 2389715.973 | 311830.8393 | 30 |
| 293 | 2017 | Spokane | Spotted Knapweed | M | 30' | | 2389747.318 | 311859.531 | 30 |
| 294 | 2017 | Spokane | Dalmatian Toadflax | L | 0' | | 2389743.84 | 311871.0563 | 0 |
| 295 | 2017 | Spokane | Dalmatian Toadflax | M | 30' | | 2389676.84 | 312012.7225 | 30 |
| 296 | 2017 | Spokane | Spotted Knapweed | M | 30' | | 2389676.732 | 312013.3214 | 30 |
| 297 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2389641.98 | 312088.8023 | 30 |
| 298 | 2017 | Spokane | Spotted Knapweed | M | 30' | | 2389822.139 | 311916.4182 | 30 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 299 | 2017 | Spokane | Rush Skeletonweed | M | 30' | | 2389822.72 | 311916.0979 | 30 |
| 300 | 2017 | Spokane | Rush Skeletonweed | H | 50' | | 2389838.595 | 311999.9887 | 50 |
| 301 | 2017 | Spokane | Rush Skeletonweed | M | 50' | | 2389918.119 | 311952.5545 | 50 |
| 302 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2389919.986 | 311951.1747 | 50 |
| 303 | 2017 | Spokane | Rush Skeletonweed | L | 50' | | 2390042.753 | 311981.6318 | 50 |
| 304 | 2017 | Spokane | Rush Skeletonweed | L | 30' | | 2390041.904 | 311983.9455 | 30 |
| 305 | 2017 | Spokane | Rush Skeletonweed | H | 30' | | 2390158.972 | 312014.7572 | 30 |
| 306 | 2017 | Spokane | Rush Skeletonweed | M | 50' | | 2390322.252 | 311925.3763 | 50 |
| 307 | 2017 | Spokane | Spotted Knapweed | H | 50' | | 2390321.8 | 311926.4358 | 50 |
| 308 | 2017 | Spokane | Dalmatian Toadflax | M | 50' | | 2390324.536 | 311931.9639 | 50 |
| 309 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2390265.517 | 312002.4029 | 50 |
| 310 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2389927.757 | 312376.1233 | 30 |
| 311 | 2017 | Spokane | Rush Skeletonweed | M | 30' | | 2389994.831 | 312463.9083 | 30 |
| 312 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2390164.471 | 312691.8569 | 50 |
| 313 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2390631.619 | 313452.2663 | 30 |
| 314 | 2017 | Stevens | Purple Loosestrife | L | 10' | | 2388908.199 | 315039.975 | 10 |
| 315 | 2017 | Stevens | St. John's Wort | L | 10' | Buf = other, along shore | 2388946.211 | 315093.8321 | 10 |
| 316 | 2017 | Stevens | Dalmatian Toadflax | H | 10' | | 2388931.669 | 315104.7138 | 10 |
| 317 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2388913.042 | 315178.4129 | 10 |
| 318 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2390968.828 | 314176.0325 | 30 |
| 319 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2391004.156 | 314262.691 | 30 |
| 320 | 2017 | Stevens | Rush Skeletonweed | L | 30' | | 2388996.053 | 315337.0464 | 30 |
| 321 | 2017 | Stevens | Rush Skeletonweed | L | 30' | | 2388733.864 | 315487.1931 | 30 |
| 322 | 2017 | Stevens | Rush Skeletonweed | L | 30' | | 2389095.468 | 315476.5215 | 30 |
| 323 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2388594.112 | 315762.8921 | 10 |
| 324 | 2017 | Stevens | Rush Skeletonweed | L | 30' | | 2389200.643 | 315646.3301 | 30 |
| 325 | 2017 | Stevens | Rush Skeletonweed | H | 50' | whole field | 2388458.148 | 316023.5045 | 50 |
| 326 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2391159.997 | 314664.495 | 30 |
| 327 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2391176.907 | 314746.1622 | 30 |
| 328 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2391189.804 | 314884.6743 | 50 |
| 329 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | scattered through whole | 2388509.813 | 316244.1834 | 50 |
| 330 | 2017 | Stevens | Rush Skeletonweed | H | 50' | whole field | 2388485.662 | 316316.3238 | 50 |
| 331 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2391208.456 | 314958.3877 | 50 |
| 332 | 2017 | Stevens | Rush Skeletonweed | L | 0' | | 2389131.215 | 316035.8142 | 0 |
| 333 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2391236.024 | 315042.1449 | 30 |
| 334 | 2017 | Stevens | Rush Skeletonweed | M | 20' | buf = other | 2388606.448 | 316452.0038 | 20 |
| 335 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2388606.315 | 316452.2344 | 10 |
| 336 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2388905.299 | 316383.2932 | 10 |
| 337 | 2017 | Stevens | Rush Skeletonweed | H | 10' | | 2388763.501 | 316458.9729 | 10 |
| 338 | 2017 | Stevens | Rush Skeletonweed | M | 50' | | 2388571.466 | 316575.9458 | 50 |
| 339 | 2017 | Stevens | Rush Skeletonweed | M | 10' | | 2388609.188 | 316560.051 | 10 |
| 340 | 2017 | Stevens | Rush Skeletonweed | M | 10' | | 2388689.636 | 316565.0088 | 10 |
| 341 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2388227.748 | 316981.479 | 30 |
| 342 | 2017 | Stevens | Dalmatian Toadflax | M | 30' | | 2388258.662 | 316977.9565 | 30 |
| 343 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2388211.545 | 317002.9064 | 50 |
| 344 | 2017 | Stevens | St. John's Wort | L | 50' | | 2388422.742 | 316945.282 | 50 |
| 345 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2388364.726 | 316995.7361 | 50 |
| 346 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2391485.514 | 315429.4957 | 30 |
| 347 | 2017 | Stevens | Rush Skeletonweed | H | 50' | on slope | 2389320.965 | 316531.7536 | 50 |
| 348 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | on slope | 2389320.963 | 316531.7851 | 50 |
| 349 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2389234.935 | 316587.3112 | 30 |
| 350 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2389070.07 | 316676.4729 | 10 |
| 351 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2389180.487 | 316632.0817 | 30 |
| 352 | 2017 | Stevens | Dalmatian Toadflax | M | 10' | | 2389221.358 | 316612.1835 | 10 |
| 353 | 2017 | Stevens | St. John's Wort | L | 0' | | 2389189.123 | 316638.5586 | 0 |
| 354 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2389507.503 | 316655.3011 | 10 |
| 355 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2391616.956 | 315605.4082 | 30 |
| 356 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2391668.993 | 315650.5937 | 30 |
| 357 | 2017 | Stevens | Dalmatian Toadflax | M | 30' | | 2389498.445 | 316807.6614 | 30 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 358 | 2017 | Spokane | St. John's Wort | L | 50' | | 2391718.708 | 315747.8874 | 50 |
| 359 | 2017 | Stevens | Rush Skeletonweed | L | 50' | along hillside | 2389303.484 | 317400.8599 | 50 |
| 360 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | along hillside | 2389303.361 | 317401.0084 | 50 |
| 361 | 2017 | Stevens | Rush Skeletonweed | L | 30' | | 2389268.894 | 317595.2552 | 30 |
| 362 | 2017 | Stevens | Dalmatian Toadflax | H | 20' | Buf = other | 2390364.799 | 317986.4222 | 20 |
| 363 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2390364.481 | 317986.8845 | 50 |
| 364 | 2017 | Stevens | Dalmatian Toadflax | H | 50' | | 2390421.41 | 318058.4977 | 50 |
| 365 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2390525.867 | 318199.5201 | 50 |
| 366 | 2017 | Stevens | Dalmatian Toadflax | M | 30' | | 2390540.115 | 318323.4406 | 30 |
| 367 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2393272.866 | 317411.5241 | 50 |
| 368 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2393607.217 | 317546.7267 | 30 |
| 369 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2393882.558 | 317578.4185 | 30 |
| 370 | 2017 | Stevens | Spotted Knapweed | M | 10' | | 2393574.586 | 318867.0458 | 10 |
| 371 | 2017 | Stevens | Rush Skeletonweed | M | 10' | | 2393575.416 | 318876.5833 | 10 |
| 372 | 2017 | Stevens | Dalmatian Toadflax | M | 10' | | 2393575.338 | 318877.0588 | 10 |
| 373 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2393818.025 | 318920.9124 | 50 |
| 374 | 2017 | Stevens | Spotted Knapweed | L | 0' | | 2393927.512 | 318968.6021 | 0 |
| 375 | 2017 | Stevens | Spotted Knapweed | M | 10' | | 2393979.373 | 318999.9189 | 10 |
| 376 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2393978.641 | 319001.1564 | 50 |
| 377 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2394097.349 | 319085.7403 | 50 |
| 378 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2394168.564 | 319122.9469 | 30 |
| 379 | 2017 | Stevens | Dalmatian Toadflax | H | 0' | | 2394188.661 | 319123.6051 | 0 |
| 380 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2394345.576 | 319203.119 | 50 |
| 381 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2394347.087 | 319203.6262 | 50 |
| 382 | 2017 | Stevens | Spotted Knapweed | H | 0' | | 2394376.807 | 319207.164 | 0 |
| 383 | 2017 | Stevens | Spotted Knapweed | L | 0' | | 2394414.105 | 319220.116 | 0 |
| 384 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2394421.143 | 319289.9081 | 50 |
| 385 | 2017 | Stevens | Spotted Knapweed | L | 0' | | 2394430.389 | 319222.563 | 0 |
| 386 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2394464.071 | 319291.5822 | 30 |
| 387 | 2017 | Stevens | Spotted Knapweed | M | 10' | | 2394496.088 | 319244.9309 | 10 |
| 388 | 2017 | Stevens | Spotted Knapweed | L | 10' | | 2394528.991 | 319254.4582 | 10 |
| 389 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2394362.848 | 317507.6293 | 30 |
| 390 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2394541.678 | 319336.9461 | 50 |
| 391 | 2017 | Stevens | Spotted Knapweed | M | 10' | | 2394560.883 | 319260.3577 | 10 |
| 392 | 2017 | Stevens | Spotted Knapweed | L | 30' | | 2394623.62 | 319317.1062 | 30 |
| 393 | 2017 | Stevens | Spotted Knapweed | L | 0' | | 2394640.454 | 319309.4014 | 0 |
| 394 | 2017 | Spokane | Dalmatian Toadflax | L | 10' | | 2394469.063 | 317486.8871 | 10 |
| 395 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2394667.01 | 319347.5487 | 50 |
| 396 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2394674.041 | 319352.437 | 50 |
| 397 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2394806.111 | 319396.9658 | 50 |
| 398 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2394861.609 | 319412.875 | 50 |
| 399 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2394862.432 | 319412.9766 | 50 |
| 400 | 2017 | Spokane | Scotch Thistle | L | 30' | | 2395297.005 | 317326.4683 | 30 |
| 401 | 2017 | Spokane | Purple Loosestrife | L | 10' | | 2395401.211 | 317274.8713 | 10 |
| 402 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2395784.72 | 316912.431 | 50 |
| 403 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2395865.22 | 316804.399 | 30 |
| 404 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2395938.711 | 316702.7068 | 30 |
| 405 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2395950.178 | 316732.7829 | 50 |
| 406 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2396062.4 | 316639.6457 | 50 |
| 407 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2396162.098 | 316574.6819 | 50 |
| 408 | 2017 | Spokane | Blueweed | L | 10' | up slopes | 2396286.378 | 316514.1754 | 10 |
| 409 | 2017 | Spokane | Common Bugloss | L | 30' | | 2396315.045 | 316521.7404 | 30 |
| 410 | 2017 | Stevens | Purple Loosestrife | L | 50' | | 2396799.333 | 319605.4515 | 50 |
| 411 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2396514.932 | 316438.5954 | 50 |
| 412 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2396714.069 | 316400.7212 | 50 |
| 413 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2396958.235 | 316396.0655 | 30 |
| 414 | 2017 | Spokane | Dalmatian Toadflax | M | 50' | | 2397104.761 | 316410.9182 | 50 |
| 415 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2397462.41 | 316547.2516 | 30 |
| 416 | 2017 | Spokane | Scotch Thistle | L | 30' | | 2398232.937 | 316726.3659 | 30 |
| 417 | 2017 | Spokane | St. John's Wort | L | 30' | | 2397869.152 | 316725.0578 | 30 |
| 418 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2397971.534 | 316752.5933 | 30 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 419 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2398514.984 | 316979.9576 | 30 |
| 420 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2398617.873 | 316965.052 | 50 |
| 421 | 2017 | Spokane | Spotted Knapweed | L | 20' | Buf = other | 2398904.517 | 316867.0158 | 20 |
| 422 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2399075.721 | 316979.7138 | 30 |
| 423 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2399414.187 | 316946.3704 | 50 |
| 424 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2399326.433 | 317676.1546 | 30 |
| 425 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2399688.506 | 317942.5888 | 30 |
| 426 | 2017 | Spokane | Purple Loosestrife | L | 30' | | 2399746.14 | 317965.4441 | 30 |
| 427 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2399792.514 | 318134.0742 | 50 |
| 428 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2399922.405 | 318244.9946 | 50 |
| 429 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2400601.028 | 318938.0841 | 0 |
| 430 | 2017 | Spokane | Dalmatian Toadflax | L | 10' | | 2400916.058 | 318947.0576 | 10 |
| 431 | 2017 | Stevens | St. John's Wort | L | 30' | | 2399850.793 | 320339.4386 | 30 |
| 432 | 2017 | Stevens | Dalmatian Toadflax | M | 50' | | 2399901.253 | 320433.8495 | 50 |
| 433 | 2017 | Stevens | Rush Skeletonweed | M | 50' | | 2399923.978 | 320436.2378 | 50 |
| 434 | 2017 | Stevens | St. John's Wort | L | 10' | | 2399960.375 | 320451.906 | 10 |
| 435 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2401224.241 | 319426.6022 | 50 |
| 436 | 2017 | Stevens | Scotch Thistle | L | 50' | | 2400135.268 | 320595.0806 | 50 |
| 437 | 2017 | Stevens | St. John's Wort | M | 30' | | 2400213.393 | 320728.318 | 30 |
| 438 | 2017 | Stevens | St. John's Wort | L | 30' | | 2400273.444 | 320806.068 | 30 |
| 439 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2400356.442 | 320876.3385 | 30 |
| 440 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2400556.022 | 321089.5829 | 50 |
| 441 | 2017 | Stevens | Scotch Thistle | L | 50' | | 2400729.822 | 321243.5048 | 50 |
| 442 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2402049.35 | 320220.7958 | 30 |
| 443 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2402082.192 | 320306.6081 | 50 |
| 444 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2401279.937 | 321763.0396 | 50 |
| 445 | 2017 | Stevens | St. John's Wort | L | 30' | | 2401326.07 | 321806.3026 | 30 |
| 446 | 2017 | Stevens | Rush Skeletonweed | M | 50' | up slopes | 2401528.131 | 321949.9324 | 50 |
| 447 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2401593.078 | 322016.462 | 30 |
| 448 | 2017 | Stevens | St. John's Wort | L | 10' | | 2401736.837 | 322126.071 | 10 |
| 449 | 2017 | Spokane | Purple Loosestrife | L | 10' | | 2402909.235 | 321181.4323 | 10 |
| 450 | 2017 | Spokane | Purple Loosestrife | L | 30' | | 2402934.374 | 321200.1553 | 30 |
| 451 | 2017 | Stevens | Purple Loosestrife | L | 50' | | 2402023.741 | 322277.6352 | 50 |
| 452 | 2017 | Stevens | Purple Loosestrife | L | 30' | | 2402087.018 | 322327.2774 | 30 |
| 453 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2403102.87 | 321361.4307 | 50 |
| 454 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2403137.233 | 321380.6491 | 30 |
| 455 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2403165.118 | 321422.7042 | 50 |
| 456 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2403241.309 | 321485.1928 | 50 |
| 457 | 2017 | Spokane | Dalmatian Toadflax | L | 10' | | 2403290.858 | 321549.6893 | 10 |
| 458 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2402361.492 | 322552.7491 | 50 |
| 459 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2403374.951 | 321680.8579 | 30 |
| 460 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2403445.932 | 321768.744 | 50 |
| 461 | 2017 | Stevens | Purple Loosestrife | L | 30' | | 2402811.445 | 322822.0975 | 30 |
| 462 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2403613.145 | 321908.6549 | 50 |
| 463 | 2017 | Stevens | Scotch Thistle | L | 30' | | 2403217.6 | 323065.5573 | 30 |
| 464 | 2017 | Spokane | Scotch Thistle | L | 30' | | 2403865.137 | 322155.0864 | 30 |
| 465 | 2017 | Spokane | Spotted Knapweed | L | 10' | | 2403859.56 | 322272.7508 | 10 |
| 466 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2403380.87 | 323185.0951 | 30 |
| 467 | 2017 | Stevens | St. John's Wort | L | 30' | | 2403592.548 | 323290.2178 | 30 |
| 468 | 2017 | Spokane | Spotted Knapweed | L | 10' | | 2404303.595 | 322663.6189 | 10 |
| 469 | 2017 | Stevens | Scotch Thistle | L | 50' | | 2403790.644 | 323438.0697 | 50 |
| 470 | 2017 | Stevens | Rush Skeletonweed | M | 50' | | 2403790.922 | 323520.323 | 50 |
| 471 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2403855.383 | 323485.8941 | 50 |
| 472 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2403889.876 | 323589.3315 | 50 |
| 473 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2403918.185 | 323609.2824 | 30 |
| 474 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2404015.158 | 323679.0318 | 50 |
| 475 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2404120.959 | 323665.3954 | 50 |
| 476 | 2017 | Stevens | Scotch Thistle | L | 0' | | 2404191.241 | 323709.6673 | 0 |
| 477 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2404223.701 | 323810.3317 | 10 |
| 478 | 2017 | Stevens | Rush Skeletonweed | M | 50' | | 2404224.152 | 323809.9351 | 50 |
| 479 | 2017 | Stevens | Dalmatian Toadflax | L | 0' | | 2404322.218 | 323788.2216 | 0 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 480 | 2017 | Spokane | Dalmatian Toadflax | L | 10' | | 2405083.111 | 322829.1401 | 10 |
| 481 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2404391.596 | 323921.7026 | 50 |
| 482 | 2017 | Stevens | Spotted Knapweed | L | 30' | | 2404449.251 | 323864.6429 | 30 |
| 483 | 2017 | Stevens | Purple Loosestrife | M | 30' | | 2404564.178 | 323951.8305 | 30 |
| 484 | 2017 | Stevens | Dalmatian Toadflax | M | 10' | | 2404550.515 | 324005.3585 | 10 |
| 485 | 2017 | Stevens | Spotted Knapweed | M | 10' | | 2404563.825 | 324008.8822 | 10 |
| 486 | 2017 | Stevens | Spotted Knapweed | L | 10' | | 2404594.058 | 324016.9637 | 10 |
| 487 | 2017 | Stevens | Spotted Knapweed | M | 30' | | 2404627.592 | 324011.8422 | 30 |
| 488 | 2017 | Stevens | Rush Skeletonweed | L | 50' | | 2404678.229 | 324135.6131 | 50 |
| 489 | 2017 | Stevens | Spotted Knapweed | L | 20' | Buf = other | 2404743.712 | 324090.9975 | 20 |
| 490 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2404859.545 | 324244.6564 | 30 |
| 491 | 2017 | Stevens | Scotch Thistle | L | 50' | | 2404920.071 | 324190.1889 | 50 |
| 492 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2404996.419 | 324235.8295 | 30 |
| 493 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2404971.692 | 324313.7471 | 50 |
| 494 | 2017 | Spokane | St. John's Wort | L | 10' | | 2405592.086 | 323405.9183 | 10 |
| 495 | 2017 | Spokane | Dalmatian Toadflax | L | 0' | | 2405635.84 | 323445.5607 | 0 |
| 496 | 2017 | Stevens | Rush Skeletonweed | M | 50' | up slopes | 2405085.341 | 324272.3756 | 50 |
| 497 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2405117.858 | 324403.4501 | 50 |
| 498 | 2017 | Stevens | Scotch Thistle | L | 50' | | 2405238.079 | 324422.6926 | 50 |
| 499 | 2017 | Stevens | Dalmatian Toadflax | L | 50' | | 2405316.604 | 324480.8933 | 50 |
| 500 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2405357.912 | 324562.8098 | 30 |
| 501 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2405358.349 | 324562.8136 | 30 |
| 502 | 2017 | Stevens | Scotch Thistle | L | 50' | | 2405507.821 | 324557.6341 | 50 |
| 503 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2405502.65 | 324631.178 | 50 |
| 504 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2405508.158 | 324632.7711 | 10 |
| 505 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2405574.16 | 324749.6657 | 50 |
| 506 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2405574.035 | 324749.8411 | 10 |
| 507 | 2017 | Stevens | Rush Skeletonweed | M | 50' | | 2405479.204 | 324979.3629 | 50 |
| 508 | 2017 | Spokane | Dalmatian Toadflax | L | 10' | | 2406526.805 | 323958.9216 | 10 |
| 509 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2405778.393 | 324838.8441 | 10 |
| 510 | 2017 | Stevens | Rush Skeletonweed | M | 20' | Buf = other, up slopes | 2405946.968 | 324994.8379 | 20 |
| 511 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2407251.314 | 324452.6048 | 50 |
| 512 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2406203.422 | 325539.0086 | 30 |
| 513 | 2017 | Spokane | Dalmatian Toadflax | L | 10' | | 2407225.555 | 324520.8372 | 10 |
| 514 | 2017 | Stevens | Rush Skeletonweed | M | 50' | up slopes | 2406376.767 | 325385.2634 | 50 |
| 515 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2406508.064 | 325559.3535 | 30 |
| 516 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2406495.153 | 325592.1257 | 10 |
| 517 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2406549.582 | 325697.4295 | 50 |
| 518 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2406549.682 | 325697.5002 | 10 |
| 519 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2406612.609 | 325700.8096 | 30 |
| 520 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2407442.553 | 324928.6856 | 50 |
| 521 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2406668.317 | 325773.7401 | 10 |
| 522 | 2017 | Stevens | Rush Skeletonweed | H | 10' | | 2406686.661 | 325966.3905 | 10 |
| 523 | 2017 | Spokane | Dalmatian Toadflax | L | 10' | | 2407536.543 | 325135.4742 | 10 |
| 524 | 2017 | Spokane | St. John's Wort | L | 30' | | 2407695.956 | 325340.642 | 30 |
| 525 | 2017 | Stevens | Scotch Thistle | L | 50' | | 2406849.139 | 325970.7647 | 50 |
| 526 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2406853.143 | 326019.3808 | 30 |
| 527 | 2017 | Stevens | St. John's Wort | L | 30' | | 2406901.596 | 326088.3271 | 30 |
| 528 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2406972.465 | 326156.0304 | 50 |
| 529 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2406942.065 | 326203.6731 | 50 |
| 530 | 2017 | Stevens | Rush Skeletonweed | M | 50' | up slopes | 2407004.943 | 326216.6967 | 50 |
| 531 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2407959.411 | 325609.2911 | 30 |
| 532 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2407026.814 | 326238.968 | 10 |
| 533 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2408041.474 | 325680.9596 | 50 |
| 534 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2407134.433 | 326389.2742 | 30 |
| 535 | 2017 | Stevens | Rush Skeletonweed | H | 50' | | 2407216.935 | 326494.4096 | 50 |
| 536 | 2017 | Stevens | Scotch Thistle | L | 20' | Buf = other | 2407222.278 | 326517.4057 | 20 |
| 537 | 2017 | Spokane | St. John's Wort | L | 30' | | 2408267.696 | 325929.447 | 30 |
| 538 | 2017 | Stevens | Rush Skeletonweed | M | 50' | up slopes | 2407324.02 | 326674.6523 | 50 |
| 539 | 2017 | Stevens | Rush Skeletonweed | H | 30' | | 2407416.414 | 326831.2744 | 30 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 540 | 2017 | Stevens | Scotch Thistle | L | 50' | | 2407425.937 | 326846.043 | 50 |
| 541 | 2017 | Stevens | Rush Skeletonweed | M | 50' | up slopes | 2407506.315 | 327003.5254 | 50 |
| 542 | 2017 | Stevens | Rush Skeletonweed | M | 50' | up slopes | 2407604.783 | 327234.9622 | 50 |
| 543 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2407618.612 | 327245.166 | 10 |
| 544 | 2017 | Stevens | Dalmatian Toadflax | L | 20' | Buf = other | 2407676.044 | 327403.038 | 20 |
| 545 | 2017 | Stevens | Rush Skeletonweed | M | 50' | up slopes | 2407745.412 | 327562.2866 | 50 |
| 546 | 2017 | Spokane | Spotted Knapweed | M | 50' | | 2408782.937 | 326907.6522 | 50 |
| 547 | 2017 | Stevens | Rush Skeletonweed | M | 30' | | 2407789.272 | 327633.6632 | 30 |
| 548 | 2017 | Stevens | Scotch Thistle | M | 50' | | 2407797.605 | 327683.4185 | 50 |
| 549 | 2017 | Spokane | St. John's Wort | L | 50' | | 2408939.208 | 327008.5013 | 50 |
| 550 | 2017 | Stevens | Rush Skeletonweed | L | 30' | | 2407822.776 | 327750.788 | 30 |
| 551 | 2017 | Stevens | Rush Skeletonweed | M | 50' | up open slopes | 2407844.922 | 327912.134 | 50 |
| 552 | 2017 | Stevens | St. John's Wort | L | 10' | | 2407859.541 | 328161.0421 | 10 |
| 553 | 2017 | Stevens | Scotch Thistle | L | 0' | | 2407874.048 | 328205.1625 | 0 |
| 554 | 2017 | Stevens | Dalmatian Toadflax | M | 30' | | 2407877.101 | 328204.0904 | 30 |
| 555 | 2017 | Spokane | Scotch Thistle | L | 50' | | 2409621.84 | 327329.1018 | 50 |
| 556 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2409712.301 | 327375.0776 | 50 |
| 557 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2409799.25 | 327433.6334 | 50 |
| 558 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2409982.415 | 327590.4258 | 50 |
| 559 | 2017 | Stevens | St. John's Wort | L | 50' | | 2408055.773 | 328936.3361 | 50 |
| 560 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2410149.581 | 327700.5996 | 30 |
| 561 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2410356.977 | 328086.4786 | 50 |
| 562 | 2017 | Spokane | St. John's Wort | L | 30' | | 2410380.36 | 328168.2288 | 30 |
| 563 | 2017 | Spokane | Dalmatian Toadflax | L | 20' | Buf = other | 2410381.47 | 328237.7562 | 20 |
| 564 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2408114.332 | 329159.5985 | 30 |
| 565 | 2017 | Stevens | Spotted Knapweed | L | 10' | | 2408169.229 | 329224.5196 | 10 |
| 566 | 2017 | Stevens | Scotch Thistle | L | 50' | | 2408227.669 | 329440.3888 | 50 |
| 567 | 2017 | Spokane | Purple Loosestrife | L | 30' | | 2410012.551 | 329798.208 | 30 |
| 568 | 2017 | Spokane | Dalmatian Toadflax | L | 20' | Buf = other | 2409931.707 | 329880.376 | 20 |
| 569 | 2017 | Spokane | Purple Loosestrife | M | 50' | | 2409883.837 | 329972.3993 | 50 |
| 570 | 2017 | Spokane | Purple Loosestrife | L | 50' | | 2409848.384 | 330047.2624 | 50 |
| 571 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2409776.608 | 330152.2122 | 50 |
| 572 | 2017 | Spokane | Purple Loosestrife | L | 30' | | 2409681.012 | 330332.1084 | 30 |
| 573 | 2017 | Stevens | St. John's Wort | L | 10' | | 2408228.83 | 329999.9108 | 10 |
| 574 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2409642.459 | 330504.8638 | 30 |
| 575 | 2017 | Spokane | Purple Loosestrife | L | 30' | | 2409640.747 | 330573.2012 | 30 |
| 576 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2409638.057 | 330631.8643 | 50 |
| 577 | 2017 | Spokane | Rush Skeletonweed | L | 50' | | 2409617.137 | 330690.2983 | 50 |
| 578 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2409611.893 | 330775.6702 | 50 |
| 579 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2409595.681 | 330896.7171 | 50 |
| 580 | 2017 | Spokane | Purple Loosestrife | L | 50' | | 2409560.472 | 330964.6381 | 50 |
| 581 | 2017 | Stevens | Scotch Thistle | L | 0' | | 2408197.23 | 330626.138 | 0 |
| 582 | 2017 | Spokane | Purple Loosestrife | L | 50' | | 2409550.015 | 331043.4681 | 50 |
| 583 | 2017 | Stevens | Scotch Thistle | L | 0' | | 2408132.719 | 330699.1555 | 0 |
| 584 | 2017 | Stevens | Scotch Thistle | L | 10' | | 2408031.112 | 330796.2115 | 10 |
| 585 | 2017 | Stevens | St. John's Wort | M | 10' | | 2407981.151 | 330797.251 | 10 |
| 586 | 2017 | Stevens | Rush Skeletonweed | M | 50' | | 2408018.846 | 331210.9266 | 50 |
| 587 | 2017 | Stevens | Scotch Thistle | L | 30' | | 2408061.658 | 331333.6327 | 30 |
| 588 | 2017 | Stevens | Scotch Thistle | L | 0' | | 2408062.602 | 331372.5817 | 0 |
| 589 | 2017 | Stevens | Dalmatian Toadflax | L | 30' | | 2408061.008 | 331388.3156 | 30 |
| 590 | 2017 | Stevens | Rush Skeletonweed | L | 10' | | 2408062.522 | 331388.2843 | 10 |
| 591 | 2017 | Spokane | Purple Loosestrife | L | 50' | | 2409565.475 | 331189.5089 | 50 |
| 592 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2409573.93 | 331241.0812 | 50 |
| 593 | 2017 | Spokane | St. John's Wort | L | 30' | | 2409613.145 | 331363.8774 | 30 |
| 594 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2409591.28 | 331457.4345 | 30 |
| 595 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2409636.828 | 331733.9355 | 50 |
| 596 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2409643.134 | 331924.3368 | 50 |
| 597 | 2017 | Spokane | Scotch Thistle | L | 30' | | 2409695.037 | 332573.445 | 30 |
| 598 | 2017 | Spokane | Dalmatian Toadflax | L | 50' | | 2409668.829 | 332688.8767 | 50 |
| 599 | 2017 | Stevens | Dalmatian Toadflax | L | 10' | | 2408625.163 | 333062.9396 | 10 |
| 600 | 2017 | Spokane | Dalmatian Toadflax | L | 10' | | 2409726.192 | 333326.0304 | 10 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 601 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2409813.877 | 333919.9362 | 30 |
| 602 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2409823.512 | 333979.6187 | 30 |
| 603 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2408821.509 | 335028.7794 | 10 |
| 604 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2408810.047 | 335312.1073 | 0 |
| 605 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2410377.593 | 335146.8358 | 50 |
| 606 | 2017 | Spokane | Scotch Thistle | L | 30' | | 2410412.781 | 335238.0315 | 30 |
| 607 | 2017 | Stevens | Purple Loosestrife | M | 50' | | 2409076.272 | 335984.3655 | 50 |
| 608 | 2017 | Spokane | St. John's Wort | L | 50' | | 2410499.296 | 335426.9901 | 50 |
| 609 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2410566.911 | 335512.2858 | 50 |
| 610 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2409170.674 | 336114.3346 | 0 |
| 611 | 2017 | Spokane | Spotted Knapweed | M | 50' | | 2410611.452 | 335586.993 | 50 |
| 612 | 2017 | Spokane | Dalmatian Toadflax | L | 30' | | 2410681.516 | 335709.3317 | 30 |
| 613 | 2017 | Stevens | Purple Loosestrife | M | 30' | | 2409249.292 | 336280.8293 | 30 |
| 614 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2410724.694 | 335761.5357 | 50 |
| 615 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2409275.137 | 336357.3529 | 10 |
| 616 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2410772.192 | 335886.5989 | 50 |
| 617 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2410949.873 | 336083.5188 | 50 |
| 618 | 2017 | Spokane | Spotted Knapweed | L | 50' | | 2411168.506 | 336361.4391 | 50 |
| 619 | 2017 | Spokane | Spotted Knapweed | L | 30' | | 2411232.284 | 336473.5944 | 30 |
| 620 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2410866.49 | 339209.3923 | 0 |
| 621 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2415955.638 | 341009.3694 | 10 |
| 622 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2415994.483 | 341057.4937 | 10 |
| 623 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2416115.199 | 341307.2138 | 10 |
| 624 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2418576.614 | 341909.5689 | 10 |
| 625 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2418560.112 | 341965.7843 | 0 |
| 626 | 2017 | Stevens | Purple Loosestrife | H | 30' | | 2419266.956 | 338395.1157 | 30 |
| 627 | 2017 | Stevens | Purple Loosestrife | H | 30' | | 2419173.367 | 337990.8638 | 30 |
| 628 | 2017 | Stevens | Purple Loosestrife | H | 30' | | 2419119.6 | 337602.4796 | 30 |
| 629 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2419129.202 | 337488.3684 | 10 |
| 630 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2416953.734 | 337461.9723 | 0 |
| 631 | 2017 | Stevens | Purple Loosestrife | H | 50' | | 2419161.187 | 337155.7251 | 50 |
| 632 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2416976.243 | 337296.3858 | 0 |
| 633 | 2017 | Stevens | Purple Loosestrife | H | 50' | | 2419307.284 | 337087.3673 | 50 |
| 634 | 2017 | Stevens | Purple Loosestrife | H | 50' | | 2419571.472 | 336827.1108 | 50 |
| 635 | 2017 | Stevens | Purple Loosestrife | M | 30' | | 2419589.445 | 336808.3635 | 30 |
| 636 | 2017 | Stevens | Purple Loosestrife | H | 30' | | 2419497.738 | 336798.0541 | 30 |
| 637 | 2017 | Stevens | Purple Loosestrife | H | 30' | | 2419368.496 | 336678.3514 | 30 |
| 638 | 2017 | Spokane | Purple Loosestrife | M | 10' | | 2416948.351 | 336244.8003 | 10 |
| 639 | 2017 | Spokane | Purple Loosestrife | M | 30' | | 2416971.89 | 336139.4961 | 30 |
| 640 | 2017 | Spokane | Purple Loosestrife | M | 0' | | 2416944.24 | 336033.8941 | 0 |
| 641 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2418350.467 | 334171.4517 | 0 |
| 642 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2418315.739 | 334000.3917 | 0 |
| 643 | 2017 | Stevens | Purple Loosestrife | L | 10' | | 2418082.303 | 333490.0785 | 10 |
| 644 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2416799.334 | 332964.5678 | 0 |
| 645 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2416805.273 | 332853.6319 | 0 |
| 646 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2417784.779 | 332467.0339 | 10 |
| 647 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2417885.592 | 331722.0836 | 0 |
| 648 | 2017 | Spokane | Purple Loosestrife | L | 30' | | 2416848.374 | 331516.5012 | 30 |
| 649 | 2017 | Spokane | Purple Loosestrife | M | 0' | | 2416960.535 | 331381.4332 | 0 |
| 650 | 2017 | Spokane | Purple Loosestrife | M | 10' | | 2417056.761 | 331277.5723 | 10 |
| 651 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2417964.386 | 331258.2498 | 10 |
| 652 | 2017 | Spokane | Purple Loosestrife | H | 0' | | 2417081.396 | 330918.1182 | 0 |
| 653 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2417988.783 | 331087.3086 | 10 |
| 654 | 2017 | Spokane | Purple Loosestrife | L | 10' | | 2417000.884 | 330638.9552 | 10 |
| 655 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2418047.757 | 330924.5247 | 0 |
| 656 | 2017 | Spokane | Purple Loosestrife | M | 0' | | 2416936.577 | 330287.6096 | 0 |
| 657 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2418168.77 | 330471.944 | 10 |
| 658 | 2017 | Spokane | Purple Loosestrife | H | 0' | | 2416981.054 | 330054.9448 | 0 |
| 659 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2418313.211 | 330016.3225 | 10 |
| 660 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2417285.642 | 329372.3012 | 0 |
| 661 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2418404.14 | 329536.2847 | 0 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 662 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2418479.635 | 329163.7279 | 10 |
| 663 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2417734.917 | 328765.6787 | 0 |
| 664 | 2017 | Spokane | Purple Loosestrife | H | 30' | | 2417709.696 | 328662.6352 | 30 |
| 665 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2417730.755 | 328535.756 | 0 |
| 666 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2418570.558 | 328580.5037 | 0 |
| 667 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2417741.408 | 328224.7196 | 0 |
| 668 | 2017 | Spokane | Purple Loosestrife | M | 0' | | 2417745.018 | 328096.4761 | 0 |
| 669 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2418721.595 | 328079.3252 | 10 |
| 670 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2417713.28 | 327650.2357 | 0 |
| 671 | 2017 | Stevens | Purple Loosestrife | M | 50' | | 2419150.807 | 327083.1244 | 50 |
| 672 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2419210.522 | 326956.254 | 10 |
| 673 | 2017 | Stevens | Purple Loosestrife | H | 30' | | 2419288.743 | 326775.9233 | 30 |
| 674 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2417852.926 | 326179.7229 | 0 |
| 675 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2419568.059 | 326403.7957 | 10 |
| 676 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2419579.198 | 326310.2858 | 10 |
| 677 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2417931.225 | 325852.7401 | 0 |
| 678 | 2017 | Spokane | Purple Loosestrife | H | 10' | | 2418041.685 | 325435.1126 | 10 |
| 679 | 2017 | Spokane | Purple Loosestrife | M | 10' | | 2418349.176 | 324816.8123 | 10 |
| 680 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2418536.958 | 324389.859 | 0 |
| 681 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2420652.497 | 325334.5471 | 10 |
| 682 | 2017 | Spokane | Purple Loosestrife | H | 0' | | 2418560.261 | 324267.268 | 0 |
| 683 | 2017 | Spokane | Purple Loosestrife | L | 10' | | 2418468.87 | 324169.1771 | 10 |
| 684 | 2017 | Spokane | Purple Loosestrife | H | 0' | | 2418659.74 | 324047.9202 | 0 |
| 685 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2420921.092 | 324980.0958 | 10 |
| 686 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2421186.823 | 324423.4772 | 10 |
| 687 | 2017 | Spokane | Purple Loosestrife | H | 0' | | 2419049.732 | 323250.7822 | 0 |
| 688 | 2017 | Stevens | Purple Loosestrife | H | 30' | | 2421271.216 | 324231.8721 | 30 |
| 689 | 2017 | Spokane | Purple Loosestrife | H | 10' | | 2419118.819 | 323143.9443 | 10 |
| 690 | 2017 | Spokane | Purple Loosestrife | M | 30' | | 2419243.081 | 322932.9719 | 30 |
| 691 | 2017 | Stevens | Purple Loosestrife | H | 50' | | 2421453.543 | 323907.4071 | 50 |
| 692 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2421513.752 | 323771.415 | 10 |
| 693 | 2017 | Spokane | Purple Loosestrife | H | 30' | | 2419567.935 | 322337.5243 | 30 |
| 694 | 2017 | Spokane | Purple Loosestrife | H | 10' | | 2419624.628 | 322216.569 | 10 |
| 695 | 2017 | Spokane | Purple Loosestrife | H | 0' | | 2419691.995 | 322101.3434 | 0 |
| 696 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2420001.524 | 321863.6589 | 0 |
| 697 | 2017 | Stevens | Purple Loosestrife | L | 50' | | 2421387.229 | 322305.8304 | 50 |
| 698 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2421461.069 | 322174.6127 | 10 |
| 699 | 2017 | Stevens | Purple Loosestrife | L | 30' | | 2421618.044 | 321985.8614 | 30 |
| 700 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2420628.551 | 321017.9996 | 0 |
| 701 | 2017 | Stevens | Purple Loosestrife | L | 30' | | 2421704.513 | 321889.1265 | 30 |
| 702 | 2017 | Spokane | Purple Loosestrife | L | 0' | small island | 2420785.938 | 320802.7153 | 0 |
| 703 | 2017 | Stevens | Purple Loosestrife | M | 30' | | 2421927.979 | 321730.6056 | 30 |
| 704 | 2017 | Spokane | Purple Loosestrife | L | 30' | | 2420920.794 | 320648.6346 | 30 |
| 705 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2422063.231 | 321633.6713 | 0 |
| 706 | 2017 | Spokane | Purple Loosestrife | L | 10' | | 2421163.168 | 320098.2189 | 10 |
| 707 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2422182.632 | 321580.1775 | 10 |
| 708 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2422494.692 | 321481.23 | 10 |
| 709 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2423674.119 | 321346.7913 | 0 |
| 710 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2424205.683 | 321450.6661 | 0 |
| 711 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2424709.19 | 321487.6806 | 10 |
| 712 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2425190.834 | 321421.2493 | 0 |
| 713 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2426493.534 | 321310.7179 | 0 |
| 714 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2426730.517 | 321242.4311 | 0 |
| 715 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2426682.228 | 321269.2496 | 0 |
| 716 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2426922.861 | 321164.815 | 0 |
| 717 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2427168.542 | 321003.2204 | 0 |
| 718 | 2017 | Spokane | Purple Loosestrife | M | 30' | | 2426311.843 | 319541.9997 | 30 |
| 719 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2427371.64 | 320784.976 | 10 |
| 720 | 2017 | Spokane | Purple Loosestrife | M | 10' | | 2427545.498 | 319119.4643 | 10 |
| 721 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2428461.003 | 319771.1063 | 0 |
| 722 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2428428.384 | 319663.1696 | 0 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 723 | 2017 | Spokane | Purple Loosestrife | L | 10' | | 2428185.133 | 318573.7879 | 10 |
| 724 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2429400.309 | 318969.0525 | 0 |
| 725 | 2017 | Spokane | Purple Loosestrife | L | 0' | | 2428642.919 | 317971.7344 | 0 |
| 726 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2430929.827 | 317203.443 | 10 |
| 727 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2431126.161 | 316750.4283 | 0 |
| 728 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2431981.527 | 314932.4134 | 0 |
| 729 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2432051.058 | 314815.006 | 0 |
| 730 | 2017 | Stevens | Purple Loosestrife | H | 30' | | 2432127.975 | 314640.867 | 30 |
| 731 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2432207.517 | 314428.404 | 0 |
| 732 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2432308.248 | 314250.9717 | 10 |
| 733 | 2017 | Stevens | Purple Loosestrife | M | 30' | | 2432598.69 | 313754.4462 | 30 |
| 734 | 2017 | Spokane | Purple Loosestrife | M | 10' | | 2431783.849 | 312453.916 | 10 |
| 735 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2434866.596 | 310486.8574 | 10 |
| 736 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2434954.065 | 310328.9556 | 0 |
| 737 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2434973.088 | 310271.1135 | 0 |
| 738 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2434991.145 | 310155.7226 | 0 |
| 739 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2435157.696 | 310083.9604 | 0 |
| 740 | 2017 | Spokane | Purple Loosestrife | M | 30' | | 2436461.891 | 307598.1297 | 30 |
| 741 | 2017 | Spokane | Purple Loosestrife | H | 0' | | 2436576.486 | 307437.1169 | 0 |
| 742 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2437359.9 | 308309.8072 | 0 |
| 743 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2437902.651 | 308000.9104 | 0 |
| 744 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2438301.796 | 307753.3114 | 10 |
| 745 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2438642.738 | 307647.0479 | 0 |
| 746 | 2017 | Spokane | Sulfur Cinquefoil | H | 50' | | 2438228.333 | 306462.9542 | 50 |
| 747 | 2017 | Spokane | Dalmatian Toadflax | M | 30' | | 2438225.964 | 306453.3974 | 30 |
| 748 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2441550.016 | 307836.9735 | 0 |
| 749 | 2017 | Stevens | Purple Loosestrife | M | 30' | | 2441694.312 | 308353.7832 | 30 |
| 750 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2441763.153 | 308462.753 | 0 |
| 751 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2441884.893 | 308656.0884 | 0 |
| 752 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2442005.723 | 308780.1599 | 0 |
| 753 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2441947.148 | 308735.9468 | 10 |
| 754 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2441918.31 | 308707.6496 | 10 |
| 755 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2442231.981 | 308956.4374 | 0 |
| 756 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2442711.66 | 309260.2795 | 0 |
| 757 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2443113.885 | 309491.4135 | 10 |
| 758 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2443261.875 | 309536.5302 | 0 |
| 759 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2443321.573 | 309535.2164 | 10 |
| 760 | 2017 | Stevens | Purple Loosestrife | L | 10' | | 2443363.635 | 309531.2776 | 10 |
| 761 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2443430.619 | 309523.4987 | 0 |
| 762 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2444224.036 | 309693.5223 | 10 |
| 763 | 2017 | Stevens | Purple Loosestrife | H | 50' | | 2444638.497 | 309869.7464 | 50 |
| 764 | 2017 | Stevens | Purple Loosestrife | M | 50' | | 2444862.243 | 309944.182 | 50 |
| 765 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2445001.019 | 309973.5887 | 10 |
| 766 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2445189.811 | 309999.0191 | 0 |
| 767 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2445240.097 | 309995.2979 | 10 |
| 768 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2445775.486 | 310008.878 | 0 |
| 769 | 2017 | Stevens | Purple Loosestrife | L | 10' | | 2446365.158 | 310151.8765 | 10 |
| 770 | 2017 | Stevens | Purple Loosestrife | H | 30' | | 2446507.544 | 310171.2337 | 30 |
| 771 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2447398.049 | 309690.1616 | 0 |
| 772 | 2017 | Stevens | Purple Loosestrife | H | 0' | | 2447486.445 | 309643.7585 | 0 |
| 773 | 2017 | Spokane | Purple Loosestrife | M | 10' | | 2447198.648 | 309168.3834 | 10 |
| 774 | 2017 | Spokane | Purple Loosestrife | L | 10' | | 2447486.688 | 309056.3291 | 10 |
| 775 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2448146.792 | 309205.591 | 0 |
| 776 | 2017 | Stevens | Purple Loosestrife | H | 50' | | 2448493.546 | 308964.7873 | 50 |
| 777 | 2017 | Stevens | Purple Loosestrife | M | 30' | | 2448672.517 | 308900.7514 | 30 |
| 778 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2448758.55 | 308852.2891 | 0 |
| 779 | 2017 | Stevens | Purple Loosestrife | L | 30' | | 2448971.287 | 308790.2548 | 30 |
| 780 | 2017 | Spokane | Purple Loosestrife | L | 30' | | 2448895.613 | 308259.7956 | 30 |
| 781 | 2017 | Stevens | Purple Loosestrife | L | 30' | | 2449463.872 | 308737.8104 | 30 |
| 782 | 2017 | Stevens | Purple Loosestrife | M | 30' | | 2449556.058 | 308680.4208 | 30 |
| 783 | 2017 | Stevens | Purple Loosestrife | H | 50' | | 2449731.826 | 308559.7097 | 50 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 784 | 2017 | Stevens | Purple Loosestrife | H | 50' | | 2449822.327 | 308545.0491 | 50 |
| 785 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2449945.373 | 308522.5366 | 10 |
| 786 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2449970.138 | 308498.9419 | 10 |
| 787 | 2017 | Stevens | Purple Loosestrife | L | 10' | | 2450036.188 | 308511.1777 | 10 |
| 788 | 2017 | Stevens | Purple Loosestrife | M | 0' | | 2450234.644 | 308551.3606 | 0 |
| 789 | 2017 | Stevens | Purple Loosestrife | H | 30' | | 2450283.021 | 308564.6471 | 30 |
| 790 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2450334.261 | 308564.6996 | 10 |
| 791 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2450385.716 | 308551.844 | 10 |
| 792 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2450451.139 | 308501.0991 | 0 |
| 793 | 2017 | Stevens | Purple Loosestrife | L | 30' | | 2450502.266 | 308475.2871 | 30 |
| 794 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2450562.861 | 308423.5658 | 10 |
| 795 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2450578.402 | 308398.0503 | 10 |
| 796 | 2017 | Stevens | Purple Loosestrife | H | 30' | | 2450643.935 | 308339.0188 | 30 |
| 797 | 2017 | Stevens | Purple Loosestrife | M | 10' | | 2450682.536 | 308296.1553 | 10 |
| 798 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2450718.789 | 308251.793 | 10 |
| 799 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2450777.512 | 308192.7202 | 10 |
| 800 | 2017 | Stevens | Purple Loosestrife | H | 10' | | 2450823.653 | 308119.3538 | 10 |
| 801 | 2017 | Stevens | Purple Loosestrife | M | 30' | | 2450924.761 | 307586.755 | 30 |
| 802 | 2017 | Stevens | Purple Loosestrife | L | 0' | | 2450995.393 | 307283.1798 | 0 |
| 803 | 2017 | Spokane | Blueweed | M | 10' | | 2449619.61 | 304174.1553 | 10 |
| 804 | 2012 | Kootenai | St. John's Wort | Medium | | | 2592015.521 | 282774.3854 | 0 |
| 805 | 2012 | Kootenai | Spotted Knapweed | Medium | | | 2592019.687 | 282773.1354 | 0 |
| 806 | 2012 | Kootenai | Dalmatian Toadflax | Low | | | 2592069.565 | 282761.4956 | 0 |
| 807 | 2012 | Kootenai | Spotted Knapweed | High | | | 2592518.018 | 282762.4723 | 0 |
| 808 | 2012 | Kootenai | Scotch Thistle | Medium | | | 2592655.853 | 282816.9401 | 0 |
| 809 | 2012 | Kootenai | Scotch Thistle | Low | | | 2592971.05 | 283272.7886 | 0 |
| 810 | 2012 | Kootenai | Spotted Knapweed | High | | | 2592985.557 | 283297.7981 | 0 |
| 811 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2593082.864 | 283358.0762 | 0 |
| 812 | 2012 | Kootenai | St. John's Wort | Low | | | 2593090.676 | 283363.2845 | 0 |
| 813 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2593229.698 | 283462.0233 | 0 |
| 814 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2593234.916 | 283106.2044 | 0 |
| 815 | 2012 | Kootenai | St. John's Wort | Low | | | 2593269.811 | 283432.1693 | 0 |
| 816 | 2012 | Kootenai | Canada Thistle | Medium | | | 2593294.339 | 283456.1317 | 0 |
| 817 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2593368.466 | 283390.7128 | 0 |
| 818 | 2012 | Kootenai | Cheat Grass | Low | | | 2593371.485 | 282478.9187 | 0 |
| 819 | 2012 | Kootenai | St. John's Wort | Low | | | 2593375.41 | 283382.0322 | 0 |
| 820 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2593387.85 | 283709.9334 | 0 |
| 821 | 2012 | Kootenai | Spotted Knapweed | High | | | 2593433.774 | 283002.6245 | 0 |
| 822 | 2012 | Kootenai | St. John's Wort | Low | | | 2593443.323 | 283002.6245 | 0 |
| 823 | 2012 | Kootenai | Scotch Thistle | Medium | | | 2593498.126 | 282688.6165 | 0 |
| 824 | 2012 | Kootenai | Dalmatian Toadflax | Low | | | 2593500.335 | 282437.1532 | 0 |
| 825 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2593536.364 | 282410.1286 | 0 |
| 826 | 2012 | Kootenai | St. John's Wort | Low | | | 2593594.672 | 282757.1728 | 0 |
| 827 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2593651.623 | 283404.2729 | 0 |
| 828 | 2012 | Kootenai | St. John's Wort | Low | | | 2593672.727 | 283123.1394 | 0 |
| 829 | 2012 | Kootenai | Cheat Grass | Low | | | 2593750.384 | 282096.8813 | 0 |
| 830 | 2012 | Kootenai | Cheat Grass | Low | | | 2593814.493 | 282320.7528 | 0 |
| 831 | 2012 | Kootenai | Spotted Knapweed | Medium | | | 2593874.027 | 283476.6139 | 0 |
| 832 | 2012 | Kootenai | Cheat Grass | Low | | | 2593912.095 | 282292.0099 | 0 |
| 833 | 2012 | Kootenai | Canada Thistle | Low | | | 2593958.953 | 283135.5427 | 0 |
| 834 | 2012 | Kootenai | Scotch Thistle | Medium | | | 2593973.71 | 283132.9385 | 0 |
| 835 | 2012 | Kootenai | St. John's Wort | Low | | | 2593989.317 | 283828.0483 | 0 |
| 836 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2593991.276 | 282876.4227 | 0 |
| 837 | 2012 | Kootenai | St. John's Wort | Low | | | 2594034.11 | 282526.7028 | 0 |
| 838 | 2012 | Kootenai | St. John's Wort | Low | | | 2594049.596 | 280541.6283 | 0 |
| 839 | 2012 | Kootenai | St. John's Wort | Low | | | 2594124.549 | 282766.6375 | 0 |
| 840 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2594143.063 | 282575.1322 | 0 |
| 841 | 2012 | Kootenai | Spotted Knapweed | High | | | 2594144.14 | 283117.5684 | 0 |
| 842 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2594147.723 | 280505.6245 | 0 |
| 843 | 2012 | Kootenai | Cheat Grass | Low | | | 2594162.53 | 281630.9273 | 0 |
| 844 | 2012 | Kootenai | St. John's Wort | Low | | | 2594186.107 | 280474.5662 | 0 |

| WeedNo | Year | County | Weedname | Density | Buffer | Notes | New_X | New_Y | BufDist |
|---|---|---|---|---|---|---|---|---|---|
| 845 | 2012 | Kootenai | St. John's Wort | Medium | | | 2594207.74 | 282530.2599 | 0 |
| 846 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2594208.111 | 280353.0865 | 0 |
| 847 | 2012 | Kootenai | St. John's Wort | Low | | | 2594211.02 | 283735.5396 | 0 |
| 848 | 2012 | Kootenai | Spotted Knapweed | Medium | | | 2594212.323 | 282525.2599 | 0 |
| 849 | 2012 | Kootenai | Cheat Grass | Low | | | 2594242.037 | 281666.4318 | 0 |
| 850 | 2012 | Kootenai | St. John's Wort | Medium | | | 2594270.317 | 283481.0498 | 0 |
| 851 | 2012 | Kootenai | St. John's Wort | Low | | | 2594276.524 | 280346.986 | 0 |
| 852 | 2012 | Kootenai | Spotted Knapweed | Medium | | | 2594314.746 | 282608.0855 | 0 |
| 853 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2594346.331 | 284087.1216 | 0 |
| 854 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2594365.533 | 280321.1052 | 0 |
| 855 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2594388.504 | 283491.5673 | 0 |
| 856 | 2012 | Kootenai | St. John's Wort | Low | | | 2594422.993 | 283407.809 | 0 |
| 857 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2594423.026 | 281587.2392 | 0 |
| 858 | 2012 | Kootenai | St. John's Wort | Low | | | 2594429.276 | 281585.1559 | 0 |
| 859 | 2012 | Kootenai | Dalmatian Toadflax | Low | | | 2594462.814 | 280951.5895 | 0 |
| 860 | 2012 | Kootenai | Dalmatian Toadflax | Low | | | 2594485.848 | 280375.7845 | 0 |
| 861 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2594490.014 | 280379.9512 | 0 |
| 862 | 2012 | Kootenai | St. John's Wort | Low | | | 2594497.04 | 283969.273 | 0 |
| 863 | 2012 | Kootenai | Scotch Thistle | Low | | | 2594515.019 | 281760.5826 | 0 |
| 864 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2594591.165 | 280201.4804 | 0 |
| 865 | 2012 | Kootenai | St. John's Wort | Low | | | 2594623.295 | 280149.1058 | 0 |
| 866 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2594637.268 | 283596.013 | 0 |
| 867 | 2012 | Kootenai | Scotch Thistle | Low | | | 2594681.147 | 281759.4392 | 0 |
| 868 | 2012 | Kootenai | St. John's Wort | Medium | | | 2594706.473 | 283780.279 | 0 |
| 869 | 2012 | Kootenai | Scotch Thistle | Low | | | 2594737.227 | 281823.1799 | 0 |
| 870 | 2012 | Kootenai | St. John's Wort | Low | | | 2594745.327 | 283686.4285 | 0 |
| 871 | 2012 | Kootenai | St. John's Wort | Low | | | 2594793.622 | 281652.1642 | 0 |
| 872 | 2012 | Kootenai | St. John's Wort | Low | | | 2594857.262 | 281576.07 | 0 |
| 873 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2594875.507 | 280674.2826 | 0 |
| 874 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2594953.37 | 283630.5011 | 0 |
| 875 | 2012 | Kootenai | Scotch Thistle | Low | | | 2594953.934 | 281083.2821 | 0 |
| 876 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2595032.235 | 280799.1729 | 0 |
| 877 | 2012 | Kootenai | St. John's Wort | Low | | | 2595074.087 | 281201.7005 | 0 |
| 878 | 2012 | Kootenai | St. John's Wort | Medium | | | 2595074.718 | 283559.3785 | 0 |
| 879 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2595082.162 | 280696.9446 | 0 |
| 880 | 2012 | Kootenai | Scotch Thistle | Low | | | 2595090.568 | 283124.9641 | 0 |
| 881 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2595102.665 | 283064.5592 | 0 |
| 882 | 2012 | Kootenai | Rush Skeletonweed | Low | | | 2595155.023 | 280597.7017 | 0 |
| 883 | 2012 | Kootenai | St. John's Wort | Low | | | 2595167.989 | 281497.3912 | 0 |
| 884 | 2012 | Kootenai | St. John's Wort | Low | | | 2595179.893 | 281216.3399 | 0 |
| 885 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2595200.795 | 282826.5614 | 0 |
| 886 | 2012 | Kootenai | Yellow Hawkweed | Low | | | 2595212.155 | 280521.9607 | 0 |
| 887 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2595255.597 | 280505.543 | 0 |
| 888 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2595274.521 | 282851.791 | 0 |
| 889 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2595309.969 | 283143.0824 | 0 |
| 890 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2595312.579 | 282935.3134 | 0 |
| 891 | 2012 | Kootenai | St. John's Wort | Low | | | 2595312.579 | 282935.3134 | 0 |
| 892 | 2012 | Kootenai | Spotted Knapweed | Medium | | | 2595327.135 | 282793.3663 | 0 |
| 893 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2595375.535 | 283329.3219 | 0 |
| 894 | 2012 | Kootenai | Spotted Knapweed | Low | | | 2595399.676 | 283370.4647 | 0 |

## ATTACHMENT B – PLANT SPECIES FOR REVEGETATION

| Common Name | Scientific Name | Suggested % By Weight |
|---|---|---|
| Common yarrow | *Achillea millefolium* | 2 |
| Arrowleaf balsamroot | *Balsamorhiza sagittata* | 10 |
| Tailcup lupine | *Lupinus caudatus* | 1 |
| Annual ryegrass | *Lolium perenne* | 9 |
| Bluebunch wheatgrass | *Agropyron spicatum* | 19 |
| Idaho fescue | *Festuca idahoensis* | 19 |
| Needle and thread | *Hesperostipa comate* | 20 |
| Sandburg bluegrass | *Poa sandbergii* | 10 |
| Sand dropseed | *Sporobolus cryptandrus* | 10 |
| Total | | 100% |

# APPENDIX C

## Terrestrial Noxious Weed Summary Report

# AVISTA CORPORATION

## TERRESTRIAL NOXIOUS WEED SUMMARY REPORT

LAND USE MANAGEMENT PLAN

SPOKANE RIVER HYDROELECTRIC PROJECT

FERC PROJECT NO. 2545

Prepared By:
Avista Corporation

*May 10, 2021*

# TABLE OF CONTENTS



## FIGURES



## APPENDICES



## TABLES

# 1.0 INTRODUCTION

This Terrestrial Noxious Weed Summary Report (Report) summarizes weed management efforts that Avista Utilities (Avista), implemented from 2016-2020, in compliance with the Spokane River Land Use Management Plan (LUMP). These efforts include site-specific treatment measures to limit the spread and occurrence of noxious weeds on Spokane River Hydroelectric Project lands, annual coordination with the cooperating parties (identified in Section 1.4), and the completion of a noxious weed survey in 2017.

## 1.1 Background

Avista's Spokane River Hydroelectric Project (Project) is licensed by the Federal Energy Regulatory Commission (FERC) as Project Number 2545. The Project consists of five hydroelectric developments (HEDs), including the Post Falls HED in Idaho, and the Upper Falls, Monroe Street, Nine Mile, and Long Lake HEDs in Washington.

The FERC issued Avista a 50-year license on June 18, 2009. Article 419 of the license required Avista to develop the LUMP in order to protect the Project's scenic quality and environmental resources.

## 1.2 License Requirements

In 2010, Avista developed the LUMP in consultation with U.S. Fish and Wildlife Service (USFWS), U.S. Bureau of Land Management (BLM), Washington Department of Fish and Wildlife (WDFW), Washington Department of Natural Resources (WDNR), Washington State Parks and Recreation Commission (WPRC), Idaho Department of Fish and Game (IDFG), Idaho Department of Parks and Recreation (IDPR), and the Coeur d'Alene Tribe (CDA Tribe) (collectively referred to as consulting parties).

Avista submitted the LUMP to FERC for approval, on June 11, 2010. FERC issued an Order Modifying and Approving the Spokane River Land Use Management Plan Pursuant to Article 419, on March 9, 2011. The LUMP was updated and submitted to FERC for approval on March 19, 2016. FERC issued an Order Approving the LUMP on April 19, 2016.

In accordance with the Terrestrial Noxious Weed Program (Weed Program), as described in Section 6.2.2.5 of the LUMP, Avista is required to prepare and submit a five-year noxious weed summary report (Summary Report), to document activities conducted and the overall results that were achieved during the previous five years, and the general nature of activities that will take place over the next five-year period. The Summary Reports will be included in each LUMP, five-year update from the date of FERC's March 9, 2011 Order.

## 1.3 Terrestrial Noxious Weed Program

The goal of the Weed Program is to limit the spread and occurrence of noxious weeds on Project lands. Project lands include 161 acres at the Post Falls HED, 3.5 acres at the Monroe Street and

Upper Falls HEDs, 7.0 acres at the Nine Mile HED, and 804 acres that are associated with the Long Lake HED.

As part of the Weed Program, Avista conducts a weed survey and inventory of Project lands every five years, determines treatment priorities, uses prevention practices, and monitors the effectiveness of treatment measures. Weed Program elements include:

- A survey and inventory of terrestrial noxious weeds.
- Site-specific weed control actions that are based on annual updates of state and county noxious weed control lists and site surveys.
- Monitoring the effectiveness of site-specific weed control actions.
- Annual Summaries that describe terrestrial weed management activities and their effectiveness.

## 1.4 Coordination

Avista works with the cooperating parties, as necessary, depending on the geographic location of the proposed control measures (Washington or Idaho) and holds annual meetings with them and other interested parties each spring, to review proposed site-specific terrestrial weed control measures. The meeting agendas and information associated with the meetings from 2016-2020 are included in Appendix A. As Avista develops the site-specific weed control measures it uses information from the various conservation districts and noxious weed control lists established by the state and county weed boards. These include but are not limited to the Stevens County Conservation District, Stevens County Noxious Weed Control Board, Spokane County Conservation District, Spokane County Noxious Weed Control Board, Lincoln County Weed Control Board, and the Kootenai County Weed Control Board.

# 2.0 2016-2020 WEED PROGRAM IMPLEMENTATION

From 2016 to 2020, Avista completed a survey and inventory of noxious weeds on its Project lands and developed and prioritized site-specific weed control measures using the survey results, in consultation with the cooperating parties.

The Spokane River Project Terrestrial Noxious Weed Control Inventory and Treatment Recommendations Report (Survey Report) (Anderson Environmental Consulting, 2017) identifies noxious weed populations, densities and approximate sizes of infestations. The Survey Report also includes a Five-Year Weed Treatment Plan (Treatment Plan), which is included in Appendix B of the LUMP. Avista identified high priority treatment sites (Table 1), and began implementation activities associated with the Weed Program (Table 2), and the agreed upon measures identified in the Treatment Plan, which was developed in coordination with the cooperating parties.

Current efforts associated with the Weed Program are specific to the Nine Mile and Long Lake HED because the entities that manage Avista's Project lands, under agreement with Avista, at the Monroe Street, Upper Falls and Post Falls HEDs control weeds under their established weed control programs.

In 2012, Avista entered into a Management Agreement with WPRC, to manage Avista's Project lands and recreation sites associated with the Nine Mile and Long Lake HEDs. The Management Agreement included the control of noxious weeds at recreation sites, trailheads, and roads, which have been identified as High Priority Treatment sites in the Treatment Plan. WPRC treated noxious weeds on Project lands, from 2012-2018, through mechanical and chemical control measures in accordance with Washington State Parks Comprehensive Natural Resource Management Policy. The Management Agreement with WPRC was terminated in 2018 at which time Avista began working with weed control contractors to treat high priority treatment sites on an annual basis. Annual High Priority Treatment sites are identified in Figure 1. Since WPRC was responsible for treating the high priority recreation sites from 2016-2018, Avista focused treatment measures on high priority treatments, such as state or county Class A species and new infestations in limited extent where eradication was feasible. Class A species are non-native species with limited distribution, making them the highest priority for treatment, with eradication required by law. The 2017 noxious weed survey identified one Class A species, Yellow hawkweed (Wooly weed) in Lincoln County. Additionally, a new infestation of Leafy spurge and Garden loosestrife were identified and located in Stevens County near the Long Lake Dam. Avista contracted with Lakeland Restoration Services, LLC. in 2016, 2017 and 2018 to treat and monitor the Yellow hawkweed, Leafy spurge and Garden loosestrife (Figure 2.), as well as high priority treatment sites that needed additional control measures besides those offered by WPRC. Additional control measures included shoreline areas infested with Yellow flag iris and Poison ivy as shown in Figure 3. The Lake Spokane Treatment Reports by Lakeland Restoration Services, LLC., include site-specific weed control measures, and are included in Appendix B.

**Table 1. High Priority Treatment Areas**

| Treatment Priority | Category of Area | Treatment Area |
|---|---|---|
| **High** | High use recreation sites with high to medium densities: | • Post Falls HED<br>• Q'emiln Park<br>• Falls Park<br>• Trailer Park Wave<br>• Huntington Park<br>• Nine Mile Recreation Area<br>• Nine Mile Overlook<br>• Nine Mile Dam Take-Out<br>• Long Lake Dam Day Use<br>• Long Lake Dam Overlook<br>• Boat in only campsites |
| **High** | Roads and trails | Roads and trails with high to medium densities |

| Treatment Priority | Category of Area | Treatment Area |
|---|---|---|
| **High** | New infestations in limited extent where eradication is feasible | All Leafy spurge, Japanese knotweed, Garden loosestrife, Tansy ragwort populations and Class A species. |
| **Medium** | Other specific species | Medium to high densities of Purple loosestrife, Blueweed or Bugloss, and other high densities of B designates. |
| **Low** | | Any density of Yellow flag iris, Bull thistle, Canada thistle, and Wild carrot at any density outside of public use areas, low to medium densities of other B state listed, B designates or C species. |

**Table 2. 2016-2020 Implementation Activities**

| Activity Year (s) | Specific Weed Control Activities |
|---|---|
| February 17, 2016 | Annual Meeting |
| March 9, 2016 | Spokane River Land Use Management Plan Submitted to FERC |
| April 19, 2016 | FERC Approval of LUMP |
| 2016 Treatment | On-going monitoring, and chemical and mechanical control of high priority treatment areas including recreation areas, roads and trails at Long Lake HED through Management Agreement with WPRC. Monitoring is carried out during site visits throughout the year.<br><br>Avista treated noxious weeds in high use areas, and infestations near recreations sites, including Yellow flag iris and Poison ivy on shorelines adjacent to the newly developed boat-in-only campsites at Lake Spokane. Treatment reports by Avista contractor, Lakeland Restoration Services are included in Appendix B. Spring and Fall applications were completed. |
| April 4, 2017 | Annual Meeting |
| 2017 Treatment | Treatments included chemical control of high priority treatment areas including recreation areas, roads and trails at Nine Mile and Long Lake HED through Management Agreement with WPRC. Monitoring is carried out during site visits throughout the year. |

| Activity Year (s) | Specific Weed Control Activities |
|---|---|
| June -October, 2017 | Weed Survey of Project Lands<br>by Anderson Environmental Consulting |
| March 8, 2018 | Annual Meeting<br>Review of the Spokane River Terrestrial Noxious Weed Control and Inventory Treatment Recommendations Report (Survey Report), by Avista contractor Anderson Environmental Consulting. The Survey Report includes a Five-Year Treatment Plan for terrestrial noxious weed control and monitoring. |
| 2018 Treatment | • Treatment of high priority treatment areas including recreation areas, roads and trails at Long Lake HED through Management Agreement with WPRC. Monitoring is carried out during site visits throughout the year.<br>• Treatment of new infestations in limited extent where eradication is feasible.<br>• Avista contracted with Lakeland Restoration Services for treatment and monitoring of noxious weeds in high use areas, shoreline infestations, and high to medium density infestations near recreations sites. Spring and Fall applications were completed. Reports are in Appendix B. |
| March 11, 2019 | Annual Meeting |
| 2019 Treatment | On–going monitoring of biological control treatment for Purple loosestrife at Woody Slough, through site visit observations. cooperating parties agreed that biological control treatment for Purple loosestrife should not be supplemented in 2019 and 2020, due to the limited size (low to medium density) of infestations.<br><br>On-going monitoring, and chemical and mechanical control of high priority treatment areas including recreation areas, roads and trails at Nine Mile and Long Lake HED through a contracting agreement with Spokane ProCare services. Monitoring is carried out during site visits throughout the year. |
| January 29, 2020 | Annual Meeting |
| 2020 Treatment | Annual monitoring and chemical control of 15 acres of high priority treatment areas at recreation areas, roads and trails at Nine Mile and Long Lake HED through a contract agreement with Spokane ProCare services. Monitoring is carried out during site visits throughout the year. |

# 3.0 ANTICIPATED NOXIOUS WEED CONTROL MEASURES

## 3.1 Planned Activities for 2021

Avista met with the cooperating parties on January 27, 2021 to discuss weed control activities for 2021. The following tasks will be completed:

- Coordinate with WPRC to implement the treatment of high priority areas that are managed by WPRC, such as the Nine Mile Recreation Area.

- Continue annual treatments at high use recreational facilities with easy access including parks, dam facilities, boat launches, and trails contained medium to high densities of a variety of weed species.

- Conduct monitoring of Purple Loosestrife and follow up on the biological control treatments as necessary.

- Monitor Garden loosestrife, Yellow hawkweed, Leafy spurge, Bull Thistle, and Poison Ivy treatment areas and conduct follow up chemical or biological control treatments as necessary.

## 3.2 Planned Activities for 2022

Avista anticipates the following tasks will be implemented in coordination with cooperating parties in 2022:

- Annual meeting with the Cooperating Parties,
- Coordinate with WPRC to implement the treatment of high priority areas around Lake Spokane,
- Conduct the five-year terrestrial noxious weed survey of Project lands,
- Once the survey is complete, meet with the Cooperating Parties to develop a Five-Year Treatment Plan for Project lands.

## 3.3 Planned Activities 2023 through 2026

- Avista anticipates that the 2022 terrestrial noxious weed survey will help Avista and the Cooperating Parties determine which measures to implement in the future.
- The terrestrial noxious weed survey, five-year treatment plan and summary will be included in the next updated LUMP submittal to cooperating parties and FERC.

## 4.0 FUNDING

Avista anticipates that it will continue to cost between $5,000 and $10,000 annually to implement the Weed Program.

## 5.0 REFERENCES


Anderson Environmental Consultants. 2017. Spokane River Project Terrestrial Noxious Weed Control Inventory and Treatment Recommendations

Lakeland Restoration Service. 2016. Lake Spokane Treatment Report, Appendix B.

Lakeland Restoration Service. 2018. Lake Spokane Treatment Report, Appendix B.

Washington State Parks Comprehensive Natural Resource Management Policy.2010 http://parks.state.wa.us/DocumentCenter/View/1583

**Figure 1. Annual High Priority Treatment Locations**

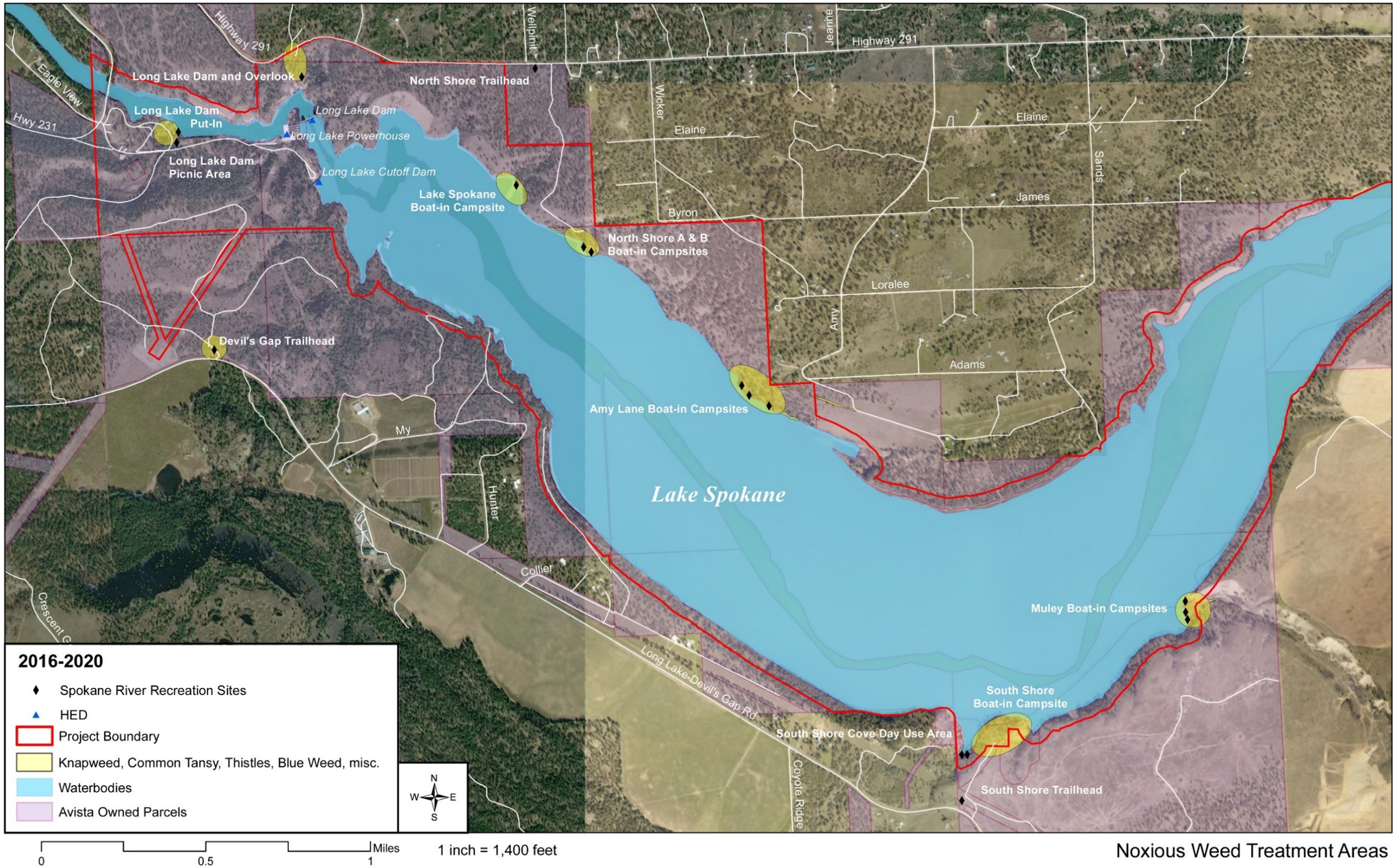


**Figure 2. 2018 Treatment Areas of Garden Loosestrife, Leafy Spurge and Yellow Hawkweed**

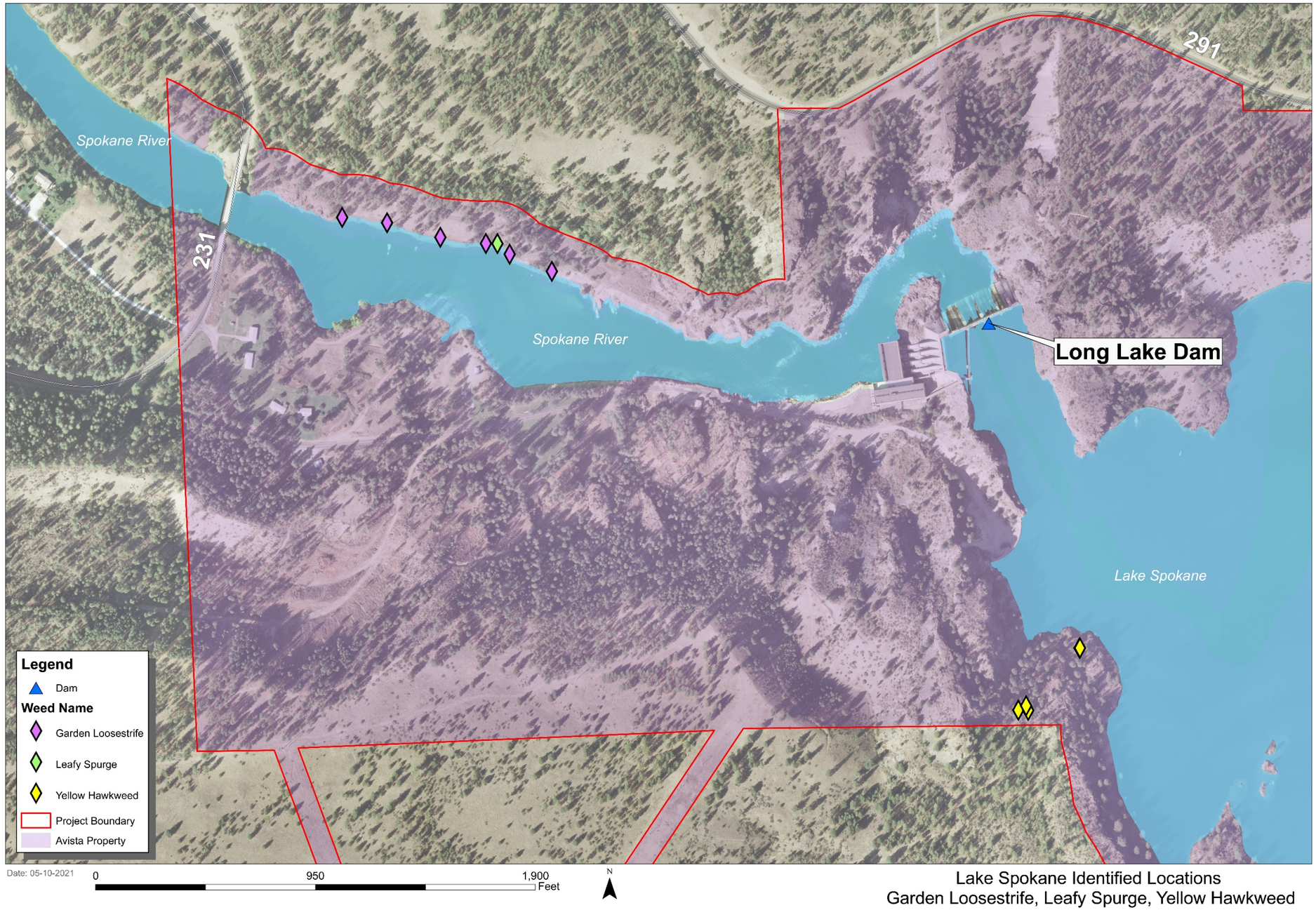
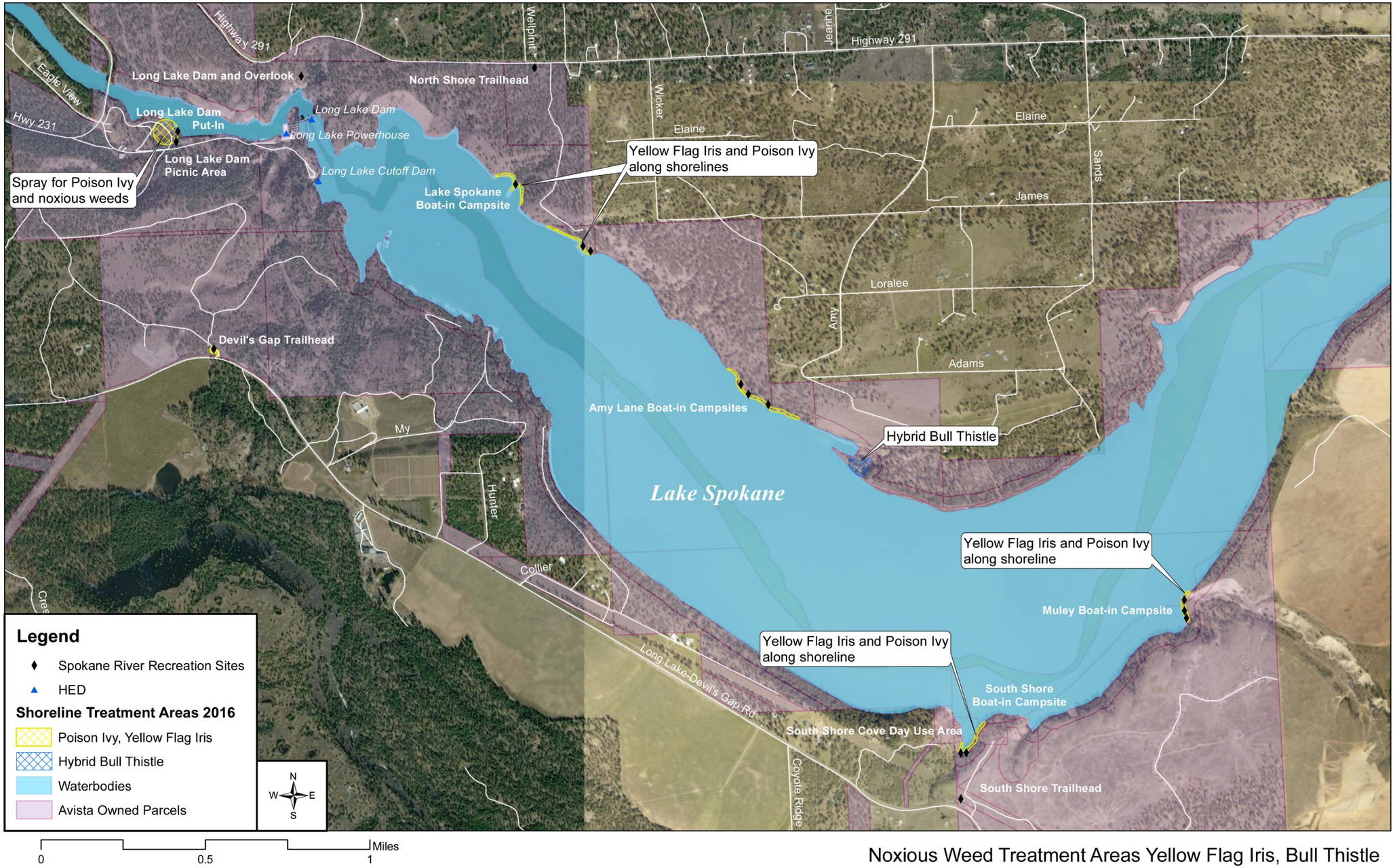


**Figure 3. Shoreline Treatment Areas 2016**




Noxious Weed Treatment Areas Yellow Flag Iris, Bull Thistle

# APPENDIX A

## Annual Meetings

## 2016 ANNUAL MEETING
## Lake Spokane and Nine Mile Reservoir Aquatic Weed Management Program

***Meeting Place:*** Nine Mile Cottage #6
9618 W Old Charles Road
Nine Mile Falls, WA 99026
***Meeting Date & Time: 2/17/2016, 1:00pm-2:00pm***
***Conference Call Information 509-495-4399***
***Password 243743***

**AGENDA**

1. Introductions.
2. Terrestrial Noxious Weed Control Activities, Land Use Management Plan.
3. Avista's Lake Spokane and Nine Mile Aquatic Weed Management Program (AWMP) Purpose and Objectives.
4. Review the 2016 Program Task List.
5. Discuss any planned aquatic weed management activities by cooperating parties.
6. 2015 AWMP activities completed by Avista.

## 2016 ANNUAL MEETING MINTUES

### Spokane River Land Use Management Plan Terrestrial Weed Control & Lake Spokane and Nine Mile Reservoir Aquatic Weed Management Program

***Meeting Place:*** Nine Mile Cottage #6
9618 W Old Charles Road
Nine Mile Falls, WA 99026
***Meeting Date & Time: 2/17/2016, 1:00pm-2:00pm***
***Conference Call Information 509-495-4399***
***Password 243743***

1. The meeting started with introductions.

2. The group discussed the Terrestrial Noxious Weed Control activities for 2016.

    - Land Use Management Plan Update to cooperating parties and FERC.
    - Avista will follow-up chemical and biological treatments, as recommended, and prepare 5-year summary report.
    - WSPRC continues to manage Avista properties in Washington and treat High Priority Treatment sites through mechanical and chemical control measures, in accordance with Washington State Parks Comprehensive Natural Resource Management Policy.
        - High priority sites include
            - Recreation sites
            - Roads
            - Trails
    - Terrestrial Noxious Weed Survey planned for 2017.

3. Avista's Lake Spokane and Nine Mile Aquatic Weed Management Program (AWMP) Purpose and Objectives discussion included the following:

    - Reduce the cover of invasive aquatic weeds at public and community boat access points;
    - Maintain a moderate level of ongoing control of aquatic weeds in areas from 0 to 14 ft in depth through the use of weed control reservoir drawdowns; and
    - Support weed control and facilitate coordination among the entities involved in aquatic weed control on Lake Spokane.

**4.** The group reviewed the 2015 AWMP activities completed by Avista.

- Coordination with the Cooperating Parties to refine the 2015 Program Task List;
- Herbicide treatment of approximately 38.13 acres at ten public and community recreation sites in Lake Spokane, achieving a 76% effectiveness rate;

  *LRS completed another 50-60 additional acres of treatments.*

- Hand pulled approximately 1,583 individual flowering rush plants (utilizing a diver suction device) from the upper end of Lake Spokane,

  *Avista will evaluate the possibility of completing dry ground treatments for flowering rush.*
- Hand pulled approximately 160 flowering rush plants from two locations in Nine Mile Reservoir,
  *Locations of flowering rush plants removed and effectiveness of the overall.*

- Completed weed control pre- and post-drawdown drawdown monitoring.

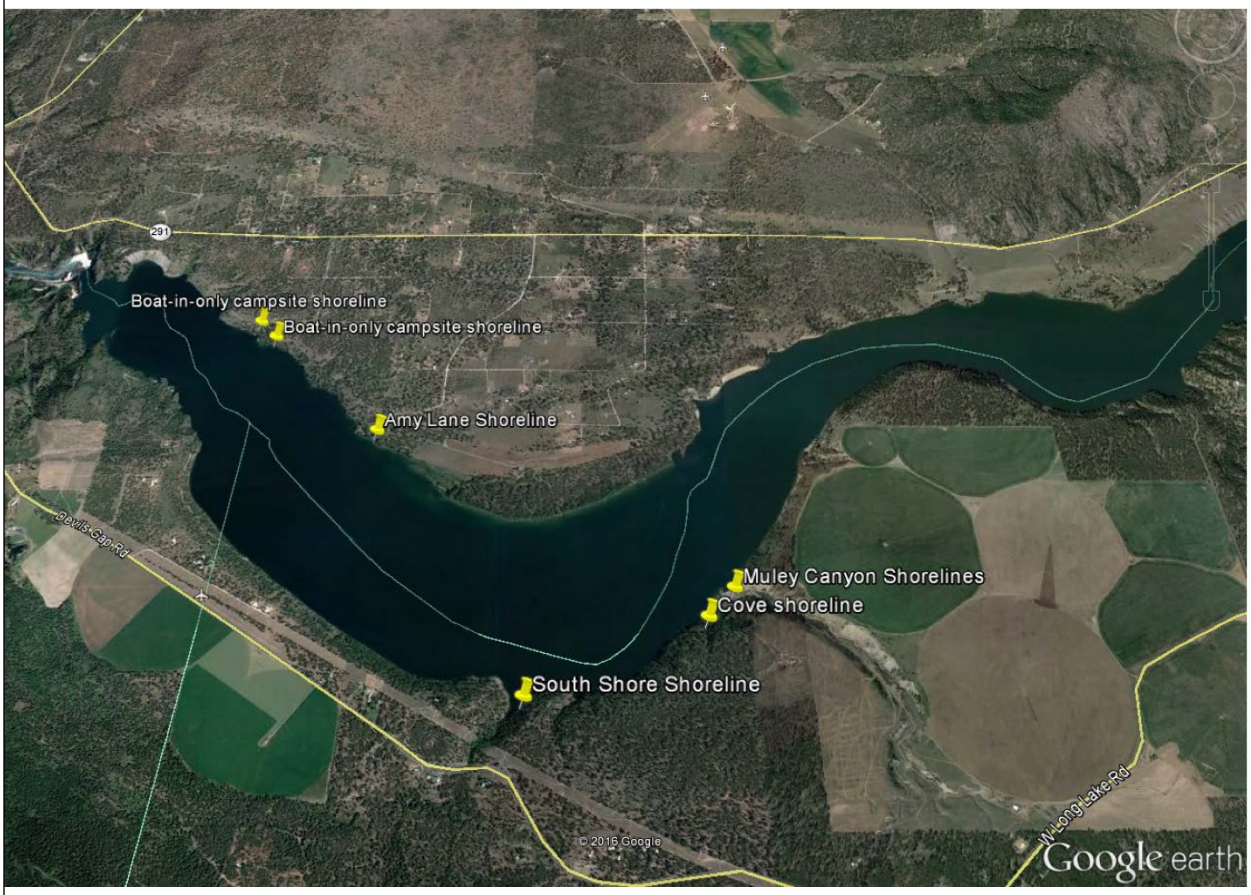
  *LRS is completing six acres of dry ground treatments with Imazypyr.*

**5.** The 2016 Program Task List includes the following:

- Annual Summary Report to FERC prior to March 1st.
- Annual meeting with Cooperating Parties.
- Evaluate the public and community boat launches (and potential areas of Nine Mile Reservoir) for invasive or problematic aquatic weeds, delineate herbicide treatment areas where necessary and conduct pre-treatment surveys.
- Implement up to 20 acres of herbicide treatments.
- Conduct pre/post-drawdown monitoring.
- Flowering rush control work in Lake Spokane.
- Flowering rush monitoring, mapping or control in Nine Mile Reservoir.
- Implement educational activities.
- Submit Annual Summary Report to Ecology, WDFW and WDNR.

**6.** The group discussed the planned aquatic weed management activities by cooperating parties.

## Avista Lake Spokane Treatment Areas for Yellow Flag Iris and Poison Ivy 2016



## 2017 ANNUAL MEETING
## Lake Spokane and Nine Mile Reservoir Aquatic Weed Management Program

***Meeting Place:*** Nine Mile Cottage #6
9618 W Old Charles Road
Nine Mile Falls, WA 99026
***Meeting Date & Time: 4/4/2017, 1:00pm-2:00pm***
***Conference Call Information 509-495-4399***
***Password 243743***

**Attendees:**
David Armes – Avista
Dave Klutz – Lakeland Restoration Services
Jim P. – Lakeland Restoration Services
Greg Weeks – LSA
Galen Buterbaugh - LSA
Pat McGuire – Ecology
Jenifer Parsons –Ecology (conference call)
Karin Divens – WDFW
John Ashley – Parks

**AGENDA**

1. **Introductions.**

2. **Avista's Lake Spokane and Nine Mile Aquatic Weed Management Program (AWMP) Purpose and Objectives.**

   - Reduce the cover of invasive aquatic weeds at public and community boat access points;
   - Maintain a moderate level of ongoing control of aquatic weeds in areas from 0 to 14 ft in depth through the use of weed control reservoir drawdowns; and
   - Support weed control and facilitate coordination among the entities involved in aquatic weed control on Lake Spokane.

3. **Review of 2016 AWMP activities completed by Avista.**

   - Coordination with the Cooperating Parties to refine the 2016 Program Task List;
   - Herbicide treatment of approximately 45.38 acres at ten public and community recreation sites in Lake Spokane, achieving a 72% effectiveness rate;

- Hand pulled approximately 238 individual flowering rush plants (utilizing a diver suction device) from the upper end of Lake Spokane,

- Hand pulled approximately 235 flowering rush plants from two locations in Nine Mile Reservoir,

- Completed weed control pre- and post-drawdown drawdown monitoring

**4. 2017 Program Task List.**

- Annual meeting with Cooperating Parties,

- Evaluate the public and community boat launches (and potential areas of Nine Mile Reservoir) for invasive or problematic aquatic weeds, delineate herbicide treatment areas where necessary and conduct pre-treatment surveys,

- Implement up to 20 acres of herbicide treatments in Lake Spokane and if necessary up to 20 acres in Nine Mile Reservoir,

- Conduct pre/post-drawdown monitoring,

- Flowering rush control work in Lake Spokane,

- Flowering rush monitoring, mapping or control in Nine Mile Reservoir,

- Implement educational activities,

- Submit Annual Summary Report to Ecology, WDFW and WDNR.

**5. Discuss any planned aquatic weed management activities by cooperating parties.**

**6. Terrestrial Noxious Weed Control.**

- 2016 treatments
- 2017 proposed treatments and discussion
- Noxious Weed Survey 2017

**MEETING NOTES:**

- The 2016 Summary Report and activities were discussed and reviewed with the group. Current copies of the Summary Report were emailed to the group. No questions or comments were received on the Summary Report.

- In 2016 Avista treated approximately 45 acres at ten public and community access sites. The overall combined efficacy of the treatments was 72%.

- Greg inquired if pre- and post-treatments were completed for non-treatment areas in order to compare the results to the treatment areas. David informed the group that pre- and post-treatment surveys were completed for both treatment and non-treatment areas. This serves as a control to verify the treatment efficacy is accurate in assessing the weed reduction caused by the herbicide treatments.

- The 2017 Program Task List was reviewed and discussed with the group.

- Jenifer Parsons inquired about the upper end of the flowering rush infestation above Nine Mile Reservoir. The upper end is not known. David and Jenifer discussed meeting to complete surveys in Nine Mile Reservoir, Lake Spokane, and/or above Nine Mile if needed.

- Flowering rush will be surveyed in Nine Mile Reservoir and Lake Spokane in June-August. If necessary, diver hand pulling will be completed in August-September.

- The Lake Spokane and Nine Mile Reservoir Aquatic Weed Management Program (AWMP) requires Avista focuses herbicide weed treatments efforts at public and community access sites. Avista does not treat areas in front of single owner, private property, and non-community private docks.

- Galen asked if the 2017 herbicide treatments in Nine Mile Reservoir would reduce the amount of acres treated in Lake Spokane. David informed the group that treating weeds in Nine Mile Reservoir would not reduce the acreage treated in Lake Spokane.

- Herbicide treatments in Lake Spokane focus on problematic weeds in and around public and community recreation sites. Herbicide treatments in Nine Mile Reservoir will focus primarily on invasive species such as milfoil and curly leaf pondweed.

- The group discussed the upcoming LSA summit meeting on 4/22 with homeowners. Lakeland Restoration Services will be there to discuss their herbicide treatment program available for private home owners.

- David discussed bottom barriers and weed rakes as additional ways to reduce aquatic weeds in front of homes along the lake. Karin inquired if anyone knew how many bottom barriers are in the lake, but no one knew. David mentioned Avista had completed

recent aerial photographs during a drawdown, which could possibly show a portion of bottom barriers in Lake Spokane.

**Terrestrial Noxious Weed Control Measures**

- The group reviewed the 2016 treatment measures by Washington State Parks (WSP). WSP continues to manage Avista properties in Washington and treat High Priority sites through mechanical and chemical control measures in accordance with Washington State Parks Comprehensive Natural Resource Management Policy.

  High priority sites include
  - Recreation sites
  - Roads
  - Trails

- Rene' Wiley was unable to attend the meeting but provided the group with the Terrestrial Noxious Weed Treatment Plan (see attached) for review and discussion. No changes were recommended.

# Terrestrial Weed Treatment Plan 2017

*Spokane River Hydroelectric Project*

Avista has focused weed control measures on high use recreation sites since the initial weed survey conducted in 2012, since weed control at public sites provide benefits, such as enhanced recreation opportunities and experiences, reduced spread, and aesthetics. For this reason, Avista will continue to treat at high use recreation areas and monitor undeveloped project lands for weed infestations that require treatment per the local and state weed control boards.

Avista will continue to treat the following sites around Lake Spokane, in cooperation with Washington State Parks, per a management agreement.

**High Priority Sites:** The following sites will be treated in cooperation with Washington State Parks, per a management agreement.

- Trailheads
- Campgrounds
- Road shoulders
- Boat-in-Only Campsites
- Long Lake Picnic Area
- Nine Mile Dam Take-Out
- Overlooks ( Nine Mile and Long Lake)

High Priority sites to be treated by contractor:

- Newly discovered infestations with high probability of contributing to colonization in previously unaffected habitats within Project lands.
- Currently no sites have been identified for this type of treatment in 2017.

**Additional 2017 Activities:**

- Terrestrial Noxious Weed Survey: In accordance with the Spokane River Land Use Management Plan (2016), a survey will be conducted of Project lands (Washington and Idaho) to develop a noxious weed database. The survey will identify and quantify any noxious weeds that are present, capture GIS locations of infestations, and provide a five year treatment plan.
- The survey should take place this spring with a final report in October.

Please feel free to call René Wiley at (509) 495-2919, if you have any questions.

**2018 Meeting Minutes**

**Lake Spokane and Nine Mile Reservoir Aquatic Weed Management Program and**

**Spokane River Project Terrestrial Noxious Weed Program**

*Spokane River Hydroelectric Project*

**Date:** Thursday, March 8, 2018
10:00 AM – 12:30 PM

**Location:** Nine Mile Cottage No. 6
9618 W. Old Charles Road
Nine Mile Falls, WA 99026
Conference Room

Attendees:
David Klutz, Lakeland Restoration Services
Galen Buterbaugh, Lake Spokane Association
John Ashley, Washington State Parks
Kevin Hupp, Lincoln County Noxious Weed Control Board
Farren Young, Lincoln County Noxious Weed Control Board
Leslie King, Washington Department of Fish and Wildlife
Jeff Lawlor, Washington Department of Fish and Wildlife
Greg Weeks, Lake Spokane Association
Ken Carmichael, Lake Spokane Association
Pat McGuire, Washington Department of Ecology
Jenifer Parsons, Washington Department of Ecology (teleconference)
David Armes, Avista
René Wiley, Avista

## I. Introductions

The meeting participants introduced themselves to the group.

## II. Lake Spokane and Nine Mile Reservoir Aquatic Weed Management Program (AWMP).

The following topics were presented by David Armes then reviewed and discussed by the group:

- **Purpose and Objectives of the AWMP.**

The goals of the AWMP are to: (1) reduce invasive and nuisance aquatic weeds at public and community boat access points, (2) maintain a moderate level of ongoing control of aquatic weeds in areas from 0 to 14 feet in depth through the use of winter drawdowns in Lake Spokane, and

(3) support weed control efforts and facilitate coordination among the entities involved in aquatic weed control on Lake Spokane. Elements of the AWMP include:

- Coordinating aquatic weed management actions with the Cooperating Parties,
- Implementing site-specific aquatic weed control actions at the primary recreation access points on Lake Spokane,
- Implementing a reservoir-wide winter drawdown for the purpose of aquatic weed control on Lake Spokane,
- Monitoring to evaluate the effectiveness of site-specific aquatic weed control actions and reservoir-wide winter drawdowns,
- Periodic monitoring for invasive, non-native aquatic plants in Nine Mile Reservoir, and
- Preparing an annual report summarizing aquatic weed management activities and their effectiveness.

- **Lake Spokane and Nine Mile Reservoir 2017 Aquatic Weed Summary Report and Associated 2017 Activities.**
  - Avista held an annual meeting with the cooperating parties on April 4, 2017.
  - Avista retained Lakeland Restoration Services (Lakeland) to complete the herbicide applications to reduce aquatic weeds at public recreation areas with boat launches, community boat launch sites and associated boating lanes on Lake Spokane. Lakeland applied a total of 37.5 gallons of diquat dibromide, a contact herbicide, along with 35 gallons of Hydrothol 191, and 32.5 gallons of Aquathol on July 17, 2017 to treat a total of 30.74 acres.
  - On August 21, 2017, Lakeland performed a herbicide application to 18 acres of milfoil and other nuisance weeds in Nine Mile Reservoir. A total of 10 gallons of Hydrothol and 17.5 gallons of Diquat were applied to two separate treatment locations, a 6.5 acre treatment area on the north end of the reservoir, and an 11.5 acre treatment area in the southern third of the reservoir.
  - Lake Spokane was drawn down 10 feet or more for 30 consecutive days, between January 12 and February 10, 2017. Avista was not able to maintain a 13-14 foot drawdown, as originally planned, due to warm weather and higher than normal precipitation in the form of rain events. As such, soil temperature monitoring was not completed.
  - Aquatic weed pre- and post-treatment monitoring was completed at ten locations previously established near recreation areas and boat launches, community boat launch areas, and in problematic aquatic weed areas. Monitoring was completed during July-August and consisted of rake throws and visual observations made at each of the ten monitoring locations.
  - Avista attended a Lake Spokane association annual meeting and presented at the Spokane River Forum conference for the purpose of sharing aquatic weed management and how to prevent the spread of invasive weeds.



Following the review of 2017 activities, the group discussed the following:

- **Lake Spokane Herbicide Treatments, Pre- and Post-treatment Surveys and Associated Efficacies.**

Dave Klutz told the group that the herbicides utilized effect pondweeds and milfoil but not elodea. Therefore treatment areas with higher rates of elodea may not show the overall higher amounts of plant reduction in post-treatment surveys.

Ken Carmichael inquired on what makes weeds grow. David Armes replied that weeds grow in the littoral zone, with the majority growing within 0-20 foot depth range. Substrate, nutrients water temperature, water flow and air temperature are all factors that influence aquatic weed growth.

David Armes emphasized the importance of timing, in both surveys and aquatic weed treatments. Too early in the season and the weeds may not be actively growing, so they couldn't absorb the herbicides, and if we treat too late in the season we will not benefit recreation activities.

Galen Buterbaugh stated that Avista is doing a great job on its weed management efforts.

Jenifer Parsons mentioned a pre- and post-treatment control site could be helpful in comparing treatment results. David Armes mentioned that pre- and post-treatment data is gathered both inside treatment areas and outside of the treatment areas. In 2018 a control site will be established that is not associated with any of the treatment locations.

- **Flowering Rush Treatments.**

Jenifer Parsons brought up that if flowering rush patches are too dense for hand removal, bottom barriers could be an option.

Dave Klutz mentioned if the water level is down for several days, dry ground Imazapyr treatments could be an option. Jenifer indicated if this option were pursued, it would need to be completed during the plant's active growing phase.

Jeff Lawlor provided information on permitting requirements for bottom barriers. The Washington Department of Fish and Wildlife (WDFW) has a pamphlet, Aquatic Plants and Fish, Rules for Aquatic Plant Removal and Control (WDFW 2015), which provides provisions and requirements to follow for placement of bottom barriers, as well as any other plant removal and control options. This document is available at the following WDFW link: https://wdfw.wa.gov/publications/01728/wdfw01728.pdf.

Jenifer Parsons indicated the upper end of the flowering rush population has not yet been established, but mentioned Ecology would be completing a survey above Upriver Dam. Jeff Lawlor expressed interest in participating in this survey. David Armes will coordinate with Jenifer and Jeff to figure out logistics of a survey.

- **Proposed Tasks for 2018.**
    - Evaluate the public and community boat launches in Lake Spokane (and potential areas of Nine Mile Reservoir) for invasive or problematic aquatic weeds, delineate herbicide treatment areas where necessary and conduct pre-treatment surveys;

- Implement up to 20 acres of herbicide treatments in Lake Spokane and/or up to 20 acres in Nine Mile Reservoir (Note: acreages may vary depending on the monitoring results);
- Conduct vegetation pre- and post-drawdown monitoring and soil temperature monitoring if feasible;
- Monitor, map and continue to implement control measures for flowering rush in Lake Spokane and Nine Mile Reservoir;
- Distribute educational brochures and outreach materials provided by Avista and the Cooperating Parties;
- Work with the Cooperating Parties to assess the effectiveness of Lake Spokane drawdowns on controlling aquatic weeds;
- Work with Washington Parks and Washington Department of Natural Resource (DNR) to develop a boat wash station at the Lake Spokane Campground in 2018-2019;
- Submit the Annual Summary Report to Washington Department of Ecology, WDFW and WDNR; and
- Submit the Annual Summary Report to FERC following agency review.

Following the review of proposed tasks for 2018, the group discussed the following items:

David Armes and René Wiley discussed the installation of a boat wash station at the DNR's Lake Spokane Campground, which is proposed for installation during 2018 or 2019.

Jenifer Parsons suggested painting "Wash Boat upon Exiting" on the road before the boat wash station. The group discussed updating the signage at the boat wash locations. René Wiley will work with Washington State Parks and WDFW to update signage at the Nine Mile Recreation Area boat wash station, and include signage at the Lake Spokane Campground, once the boat wash is developed.

David Armes mentioned that Avista is looking into revising the AWMP soil temperature monitoring requirements in 2018 and would coordinate with the agencies. During the 2012 and 2014 drawdown periods, no soil temperatures below freezing were observed. Anecdotal observations, during the other five years, indicated that the soil never dropped below freezing temperatures. Avista will continue to attempt to implement a winter drawdown on an annual basis.

**III. Terrestrial Noxious Weed Control Program.**

René Wiley provided a brief history of the Spokane River License and how the Land Use Management Plan includes a requirement to implement a terrestrial noxious weed control program and a terrestrial noxious weed survey every five years. As part of this requirement,

René reviewed Avista's Draft Spokane River Project Terrestrial Noxious Weed Control

Inventory and Treatment Recommendations (Report) prepared by Anderson Environmental Consulting LLC (AEC), dated November 2017. René Wiley provided an overview of Sections 4 and 5 of the Report as discussed below.

- **Section 4. Treatment Priorities and Control Recommendations** (see attached).

The group reviewed the treatment priorities and control recommendations. The high priority sites include the following:

  - High use recreation areas, roads, trails and developed parks with high to medium densities of A and B designates;
  - Infestations in limited extent where eradication is feasible; and
  - All leafy spurge, Garden Loosestrife, Yellow Hawkweed, Kochia and Baby's Breath populations, where they occur.

- **Section 5. 2018 Treatments and 5-Year Implementation Plan** (see attached).
  - The group reviewed the five-year implementation schedule which includes activities for years 2018 through 2022.
  - No concerns were expressed by the group regarding the planned treatment measures.

René Wiley also reviewed the results of a terrestrial noxious weed survey completed in 2017. The results were displayed on a map (Google Earth KMZ file), which captured the species, density, and location of terrestrial noxious weed infestations within the Spokane River Project Boundary. René discussed the newly discovered infestation of Garden Loosestrife near Amy Lane, and Hawk Weed in Lincoln County.

René indicated the Report will be will be distributed to the group in hardcopy and electronic format, once the report is finalized, likely by mid-April.

Kevin Hupp from Lincoln County wanted the group to be aware of two grasses, Medusahead and Ventenata, both Class C weeds, which can outcompete even cheat grass. Medusahead has not been identified in Lincoln County yet, but is in Adams County. The Ventenata has been identified throughout the county and is prominent along the road, shoulders, and ditches.

The meeting was adjourned at 12:30 PM.

*Spokane River Project*

**Lake Spokane and Nine Mile Reservoir**

**Terrestrial and Aquatic Weed Management Meeting**

**Sign In Sheet**

March 8, 2018

| First and Last Name | Affiliation | Contact Information |
|---|---|---|
| 1. David Kluttz | Lakeland Restoration Services LLC | lakeland@lakelandrs.com |
| 2. Galen Buterlaugh | LSA | galenb1@comcast.net |
| 3. John P. Ashley | WA State Parks | john.ashley@parks.wa.gov |
| 4. Kevin Hupp | Lincoln Co. Noxious Weed Control | klhupp@co.lincoln.wa.us |
| 5. Farren Young | Lincoln Co. Noxious Weed Control | fyoung@co.lincoln.wa.us |
| 6. Leslie King | WDFW | Leslie.King@dfw.wa.gov |
| 7. Greg Weeks | LSA | weeksgp@gmail.com |
| 8. Jeff Lawlor | WDFW | Jeffrey.Lawlor@dfw.wa.gov |
| 9. Jennifer Parsons | Dept. of Ecology | jenp461@ECY.WA.GOV |
| 10. Ken Carmichael | LSA | kcarmichael2225@gmail.com |
| 11. Pat McGuire | Dept. of Ecology | PMCG461@ECY.WA.GOV |
| 12. René Wiley | Avista | rene.wiley@avistacorp.com |
| 13. David Armes | Avista | david.armes@avistacorp.com |

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# ATTACHMENT

The following attachment includes information from Sections 4 and 5 of Avista's Draft Spokane River Project Terrestrial Noxious Weed Control Inventory and Treatment Recommendations (Report) prepared by Anderson Environmental Consulting LLC (AEC), dated November 2017.

## SECTION 4
## TREATMENT PRIORITIES AND CONTROL RECOMMENDATIONS

There are three primary categories of treatment recommendations; high, medium and low priorities which are presented Table 3. Treatment Priority Areas.

**Table 3. Treatment Priority Areas**

| Treatment Priority | Area or Species | Treatment Area |
|---|---|---|
| High | High use recreation sites and high access areas such as:<br>Post falls HED Q'emiln Park<br>Falls Park<br>Nine Mile Dam HED Long Lake Dam Day Use Long Lake Dam Overlook<br>Boat in only sites Trailhead and fields near Amy Lane | High to medium densities of A, B and B* designate species. |
| High | Roads and trails | Roads and trails with high to medium densities that are accessible. |
| High | Infestations in limited extent where eradication is feasible | All Leafy spurge, Garden loosestrife, Yellow hawkweed, Kochia and Baby's breath populations where they occur. |
| Medium | B-designates | Medium to high densities of Purple loosestrife, Blueweed, Bugloss, Dalmatian toadflax, Scotch thistle and oxeye daisy where accessible. |
| Medium | B State Listed | High densities of Rush skeletonweed, Spotted knapweed, Diffuse knapweed, and Sulphur cinquefoil where accessible. |
| Low | C listed species | Any density of C-listed Species that are widespread outside of public use areas: Yellow flag iris, St. John's wort, Common tansy, Wild carrot and Canada thistle. |
| Low | B State Listed | Low to medium densities of other B state listed species outside of public use areas such as: Diffuse knapweed, spotted knapweed, rush skeletonweed, hounds tongue, and other species. |

**SECTION 4.4**

**DETAILED CONTROL RECOMMENDATIONS**

The table below provides recommended biological, mechanical, cultural and chemical control of noxious weeds in the project lands. These recommendations were developed in coordination with County Weed Inspectors and recommendations from the County Noxious Weed websites. All herbicides should be applied according to label instructions and according to applicable laws and regulations. Permits may be required for applications near or in water.

**Table 2. Control Recommendations**

| Common Name | Scientific Name | Biological | Mechanical or Cultural | Chemical (Spring and Fall Applications) |
|---|---|---|---|---|
| **Baby's Breath** | *Gypsophil a paniculata* | None | Hand pull if a few plants. Revegetate bare ground. | Aminopyralid (Milestone), dicamba + 2,4-D (Weedmaster) with a methylated seed oil (MSO) surfactant. |
| **Blueweed** | *Echium vulgare* | None | Hand pull if a few plants but use gloves. Revegetate bare ground. | Aminopyralid (Milestone) or chlorosulfuron (Telar) with MSO surfactant. Or glyphosate and 2,4-D in combination with dicamba and/or metsulfuron. |
| **Bugloss** | *Anchusa sp.* | None | Hand pull if a few plants. Revegetate bare ground. | Combination of aminopyralid (Milestone), metsulfuron (Escort), and 2,4-D with MSO surfactant. |
| **Canada thistle** | *Cirsium arvense* | None | Mowing is effective for small patches. Revegetate bare ground. | Clypyrolid with 2,4-D (Curtail) or aminopyralid (Milestone). Use MSO surfactant. Treat at bud or in the fall. |
| **Cheatgrass** | *Bromus tectorum* | None | Revegetate bare ground. | Glyphosate or Selective control using pre-emergent such as Plateau or Pendulum. |
| **Common tansy** | *Tanacetum vulgare* | None | Hand pull if a few plants. Revegetate bare ground. | 2,4-D, metsulfuron (Escort), chlorosulfuron (Telar), or aminopyralid (Milestone). |

| Common Name | Scientific Name | Biological | Mechanical or Cultural | Chemical (Spring and Fall Applications) |
|---|---|---|---|---|
| **Dalmatian toadflax** | *Linaria dalmatica* | *Mecinus janthinus* is a stem boring weevil that feeds on shoots and can kill plants. Highly effective. | Hand pull if a few plants. Revegetate bare ground. | Chlorosulfuron (Telar), with MSO surfactant. Or 2,4-D or aminopyralid (Milestone). Tordon may be used along roads or under transmission lines. |
| **Diffuse knapweed** | *Centaurea diffusa* | *Larinus minutus* is a beetle effective in reducing seed production. Cyphocleonus achates is a weevil that feeds on the roots. | Mowing is ineffective. Hand pull if a few plants. Revegetate bare ground. | 2,4-D, chlorosulfuron (Telar) or aminopyralid (Milestone). Use MSO surfactant. Or dicamba + 2,4-D (Weedmaster), Clypyrolid + 2,4-D (Curtail) or aminopyralid (Milestone). Tordon may be used along roads or under transmission lines. |
| **Garden loosestrife** | *Lysimachi a vulgaris* | *Population is too small for biocontrol.* | Handpulling ineffective. May cover with plastic/tarps. | Imazapyr, Glyphosate + triclopyr but not in water. |
| **Yellow flag iris** | *Iris pseudocorus* | None | None | Rodeo (glyphosate designed for use in water). |
| **Kochia** | *Kochia scoparia* | None | Hand pull if a few plants. Revegetate bare ground. | Glyphosate or dicamba + 2,4-D (Weedmaster). Or Vista with 2,4-D and Milestone. |
| **Leafy spurge** | *Euphorbi a esula* | *Aphthona nigriscutis* and *Aphthona flava* are flea beetles that feed on roots bracts and leaves. | Hand pull if a few plants. Be cautious with toxic sap. Revegetate bare ground. | Chlorosulfuron (Telar) with MSO surfactant. May also use Plateau, Milestone, 2,4-D mix at flowering stage or in the fall. |

| Common Name | Scientific Name | Biological | Mechanical or Cultural | Chemical (Spring and Fall Applications) |
|---|---|---|---|---|
| **Oxeye daisy** | *Leucanthemum vulgare* | None | Add Nitrogen fertilizer. | Aminopyralid (Milestone), 2,4-D, or Clypyrolid + 2,4-D (Curtail). |
| **Perennial sowthistle** | *Sonchus arvensis* | None | Hand pull if a few plants. Revegetate bare ground. | 2,4-D |
| **Poison hemlock** | *Conium maculatum* | None | Hand pull if a few plants but use gloves. Revegetate bare ground. | 2,4-D, glyphosate or aminopyralid (Milestone). |
| **Purple loosestrife** | *Lythrum salicaria* | *Galerucella pusilla* a beetle that affects seed production. | None | Spot spray Rodeo. |
| **Scotch and Plumeless thistle** | *Onopordum acanthium, Carduus acanthoides* | None | Hand pull if a few plants but use gloves. Revegetate bare ground. | Clypyrolid + 2,4-D (Curtail), 2,4-D, dicamba + 2,4-D (Weedmaster), chlorosulfuron (Telar), or aminopyralid (Milestone). |
| **Spotted knapweed** | *Centaurea biebersteinii* | *Larinus minutus* is a beetle effective in reducing seed production. Cyphocleonus achates is a weevil that feeds on roots. | Hand pull if an individual plant. Revegetate bare ground. Mowing is ineffective. | Chlorosulfuron (Telar) or aminopyralid (Milestone). Use surfactant. Or 2,4-D, dicamba + 2,4-D (Weedmaster), Clypyrolid + 2,4-D (Curtail) or Tordon near roads or transmission lines. |
| **St. John's wort** | *Hypericum perforatum* | *Aplocera plagiata* is an inchworm. The larvae feed on leaves and flowers. | Hand pull if an individual plant. Revegetate bare ground. | Dicamba + 2,4-D (Weedmaster), aminopyralid (Milestone) or chlorosulfuron (Telar). |

| Common Name | Scientific Name | Biological | Mechanical or Cultural | Chemical (Spring and Fall Applications) |
|---|---|---|---|---|
| **Sulfur cinquefoil** | *Potentilla recta* | None | Hand pull if an individual plant; revegetate bare ground. | Chlorosulfuron (Telar) or aminopyralid (Milestone). Use surfactant. |
| **Wild carrot** | *Daucus carota* | None | Hand pull if an individual plant; revegetate bare ground. | Aminopyralid (Milestone) or 2,4-D. Or may use metsulfuron with 2,4-D. |
| **Yellow hawkweed** | *Hieracium caespitosum* | None | Hand pull if an individual plant; revegetate bare ground. | Aminopyralid (Milestone). Or 2,4-D dicamba + 2,4-D (Weedmaster), or Clypyrolid + 2,4-D (Curtail). |

## SECTION 5
## WEED CONTROL PROGRAM IMPLEMENTATION

The Spokane River Terrestrial Noxious Weed Control Program is designed to be implemented on a five-year cycle of treatment and monitoring. At the end of each five-year cycle, the program's implementation process will be revised as needed to reflect changes in weed species occurrence and status, management policy, and treatment methods. The goals of the five-year weed control program are to:

- Implement the weed control measures identified in the Federal Energy Regulatory Commission (FERC) approved Land Use Management Plan.
- Limit the abundance and spread of noxious weeds on Project lands.
- Implement site-specific weed control measures in coordination with local weed boards.
- Evaluate the effectiveness of weed control measures.
- Prepare annual reports to summarize terrestrial weed control measures and their effectiveness.

### Implementation Schedule

This Terrestrial Noxious Weed Control Program will be implemented over a five-year period as summarized below.

**2018** Treatment of the high priority areas with chemical treatment should achieve a 70 percent kill rate over time. Bare soils will be reseeded as practicable to minimize weed seed establishment and to help outcompete the weeds. Treated areas will be monitored annually and follow-up treatments will be completed as recommended in the annual report.

**2019** Treat most medium priority sites and follow-up treatments of the high priority sites, as necessary. Biological controls will be released to supplement existing biological controls for purple loosestrife, Dalmatian toadflax, knapweeds and Rush skeletonweed. Other medium priority areas will be treated as indicated in Table 4. Control Recommendations. The chemically controlled areas should achieve a 70 percent kill rate over time. Biological controls will be monitored every other year by noting signs of plant damage or visible establishment of bio-control agents.

**2020** Conduct follow-up treatments based on findings identified in the annual report recommendations. Treat high densities of other B designated species not already treated, and monitor accordingly.

**2021** Conduct follow-up chemical and biological treatments as recommended in the annual reports.

**2022** Conduct follow-up chemical and biological treatments as recommended, and prepare a five-year Summary Report.

*Spokane River Hydroelectric Project*

**2019 Lake Spokane and Nine Mile Reservoir Terrestrial and Aquatic Weed Management Meeting Agenda**

**Date:** Monday, March 11, 2019
10:30 AM – 12:00 PM

**Location:** Nine Mile Cottage No. 6
9618 W. Old Charles Road
Nine Mile Falls, WA 99026
Conference Room

**Call-in:** 1-800-727-9170 ext. 4399; Passcode 243743

1. **Introductions**

2. **Lake Spokane and Nine Mile Reservoir Aquatic Weed Management Program (AWMP)**
   - Purpose and Objective
   - Review Avista's 2018 Activities
   - Discuss Avista's planned 2019 Activities/Task List
     - Herbicide Treatments
     - Flowering Rush Treatment
   - Discuss planned activities by agency partners and the Lake Spokane Association
   - Discuss the use of bottom barriers (Pat McGuire)

3. **Terrestrial Noxious Weed Control Program**
   - Review Avista's 2018 activities
   - Discuss Avista's planned treatments for 2019
     - 5 year treatment plan

**Adjourn 12:00PM**

1

## SECTION 5
## WEED CONTROL PROGRAM IMPLEMENTATION

The Spokane River Terrestrial Noxious Weed Control Program is designed to be implemented on a five-year cycle of treatment and monitoring. At the end of each five-year cycle, the program's implementation process will be revised as needed to reflect changes in weed species occurrence and status, management policy, and treatment methods. The goals of the five-year weed control program are to:

- Implement the weed control measures identified in the Federal Energy Regulatory Commission (FERC) approved Land Use Management Plan.
- Limit the abundance and spread of noxious weeds on Project lands.
- Implement site-specific weed control measures in coordination with local weed boards.
- Evaluate the effectiveness of weed control measures.
- Prepare annual reports to summarize terrestrial weed control measures and their effectiveness.

### Implementation Schedule

This Terrestrial Noxious Weed Control Program will be implemented over a five-year period as summarized below.

**2018** Treatment of the high priority areas with chemical treatment should achieve a 70 percent kill rate over time. Bare soils will be reseeded as practicable to minimize weed seed establishment and to help outcompete the weeds. Treated areas will be monitored annually and follow-up treatments will be completed as recommended in the annual report.

**2019** Treat most medium priority sites and follow-up treatments of the high priority sites, as necessary. Biological controls will be released to supplement existing biological controls for purple loosestrife, Dalmatian toadflax, knapweeds and Rush skeletonweed. Other medium priority areas will be treated as indicated in Table 4. Control Recommendations. The chemically controlled areas should achieve a 70 percent kill rate over time. Biological controls will be monitored every other year by noting signs of plant damage or visible establishment of bio-control agents.

**2020** Conduct follow-up treatments based on findings identified in the annual report recommendations. Treat high densities of other B designated species not already treated, and monitor accordingly.

**2021** Conduct follow-up chemical and biological treatments as recommended in the annual reports.

**2022** Conduct follow-up chemical and biological treatments as recommended, and prepare a five-year Summary Report.

# Proposed Terrestrial Weed Treatment Plan 2019

*Spokane River Hydroelectric Project*

Avista terrestrial weed control measures continue to focus on high use recreation areas since weed control at public sites provide benefits, such as enhanced recreation opportunities and experiences, reduced spread, and aesthetics. For this reason, Avista will continue to treat at high use recreation areas and monitor undeveloped project lands for weed infestations that require treatment per the local and state weed control boards.

**Treatment Priorities:**

High Priority Sites

- Trailheads
- Campgrounds
- Road shoulders
- Boat-in-Only Campsites
- Long Lake Picnic Area
- Nine Mile Dam Take-Out
- Overlooks ( Nine Mile and Long Lake)
- Newly discovered infestations with high probability of contributing to colonization in previously unaffected habitats within Project lands.
- Infestations in limited extent where eradication is feasible.
- All leafy spurge, Garden Loosestrife, Yellow Hawkweed, Kochia and Baby's Breath populations, where they occur.

Additional Proposed Activities:

- Coordinate biological control of Purple Loosestrife by releasing Galerucella Pusilla Root Weevil in site specific locations.
- Monitor every other year by noting signs of plant damage or visual establishment of biological control agents.

*Spokane River Hydroelectric Project*

## 2020 Lake Spokane and Nine Mile Reservoir Terrestrial and Aquatic Weed Management Meeting Agenda

**Date:** Wednesday, January 29, 2020
9:00 AM – 11:00 AM

**Location:** Nine Mile Cottage No. 6
9618 W. Old Charles Road
Nine Mile Falls, WA 99026
Conference Room

**Call-in:** 1-800-727-9170 ext. 4399; Passcode 243743

1. **Introductions**

2. **Lake Spokane and Nine Mile Reservoir Aquatic Weed Management Program (AWMP)**
   - 2019 Management Activities and Results
     - 10 herbicide treatment areas
       - Mean Pre-treatment Biovolume Percent = 45%
       - Mean Post-treatment Biovolume Percent = 19%
       - Mean Efficacy = 53%
     - Drawdown Results
       - 76 days reduced from 1,536' (full pool) to 1,522'
       - Soil temperature monitoring (at 3" depth)
         - Nine Mile Rec. Area – below 32° for 41 straight days
         - Willow Bay Resort – below 32° for 5 straight days
       - Biovolume Percent (monitored since 2016)
         - 45% on July 12, 2019; previous low was 61% in 2018
     - Boat wash station
     - Outreach and education
       - "Wash Boat upon Exiting" signage at boat wash station

   - 2020 Management Prioritization
     - Treatment sites
     - Pre and post treatment surveys

- Flowering rush removal in Lake Spokane
- Outreach and Education – (a) Shoreline and (b) Bottom Barrier PSA's
- Submit the annual summary report to Washington Department of Ecology, WDFW and WDNR; and
- Submit the Annual Summary Report to FERC following agency review.

- Timing of Annual Lake Spokane and Nine Mile Aquatic Weed Meetings
  - January 2021

3. **Terrestrial Noxious Weed Control Program**
   - Review 2019 activities
   - Discuss Avista's planned treatments for 2020
     - 5-year treatment plan

**Adjourn 11:00AM**

*Spokane River Hydroelectric Project*

## 2020 Lake Spokane and Nine Mile Reservoir Terrestrial and Aquatic Weed Management Meeting Summary

**Date:** Wednesday, January 29, 2020
9:00 AM – 11:00 AM

**Location:** Nine Mile Cottage No. 6
9618 W. Old Charles Road
Nine Mile Falls, WA 99026
Conference Room

**Attendees:**
Greg Weeks and Galen Buterbaugh (LSA)
Charlie Kessler (SCCD)
Leslie King (WDFW)
Kevin Hupp (LCNWCB)
John Ashley (WSP)
Rob Stephens and Rene Wiley (Avista)
Todd Palzer (DNR-by phone)
Jenifer Parsons (Ecology-by phone)

**Lake Spokane and Nine Mile Reservoir Aquatic Weed Management Program (Rob Stephens)**

- 2019 Management Activities and Results
    - 10 herbicide treatment areas totaling approximately 29 acres
        - Mean Pre-treatment Biovolume Percent = 45%
        - Mean Post-treatment Biovolume Percent = 19%
        - Mean Efficacy = 53%
    - Drawdown Monitoring: January 4, 2019 – March 19, 2019
        - 76 days reduced from 1,536' (full pool) to 1,522'
        - Soil temperature monitors placed at full pool shoreline and water line at 3", 6", 9" and 12"
        - *During the meeting, Rob didn't accurately report the data describing site locations and freezing soil temperatures. Corrections are presented below.*
        - Nine Mile Recreation Area soil temperature – soil size class was silt/clay/mud
            - Shoreline site: The soil was frozen at the 3" depth for 41 straight days.

- Waterline site: The soil was frozen at the 3" depth for five straight days.

- Willow Bay Resort soil temperature – soil size class was sand/gravel.
  - Shoreline site: The soil frozen down to 12" for 14 days. At the 3" depth, the soil was frozen for 41 days.
  - Waterline site: The soil did not freeze here.
- Biovolume Percent (monitored since 2016) – collected pre-herbicide treatment on July 12, 2019 by Lakeland Restoration with Biobase software.
  - 45%; previous low was 61% in 2018. Possible reasons for the decrease are that (a) the frozen soils during the drawdown caused mortality to exposed roots of aquatic plants, and (b) repeated treatments of the 10 treatment areas could be exhausting the seed bank of aquatic plants present at those sites. Jenifer suggested that if BV% continues to decrease, annual treatments might not be necessary.
  - John and Galen both noticed a decrease in aquatic plants in Lake Spokane in 2019.

- Flowering Rush Monitoring – A survey was conducted in Lake Spokane along the north and south shores from the start of navigable waters (by motor boat) below Nine Mile Dam to Willow Bay. A survey (~10 mile of shoreline) was conducted in Nine Mile Reservoir along both shorelines from Nine Mile Dam to the end of navigable waters (by motor boat) which was about a half mile upstream of Plese Flats.
  - An herbicide treatment was considered for emergent flowering rush but very few plants were observed to have greater than the necessary 12" of emergent vegetation for control to be effective.
- Outreach and Education - "Wash Boat upon Exiting" signage at boat wash station.

- 2020 Management Prioritization
  - Treatment sites – Aquatic weed control will be conducted by Lakeland Restoration again at the 10 sites (~29 acres) treated in previous years.
  - Pre- and post-treatment surveys will be conducted in and adjacent to each of the 10 treatment sites by conducting three rake tosses in both the treatment and a control areas. Control areas will be approximately 100 feet away from the treatment site boundary and at a similar depth and lake bottom substrate.
  - Flowering rush removal by hand pulling in Lake Spokane – This will be conducted by divers hand pulling the flowering rush and capturing all plant fragments with a suction device. The prioritized areas will be the three sites with small infestations located between Willow Bay and Little Sandy Canyon, and then proceed upstream from the lower point of the infestation across from Nine Mile Recreation Area. Leslie mentioned that from June 16 to Aug 31 there are regulations for the use diver suction dredge and we might need to get an HPA. We are uncertain if the tool used when hand pulling the weeds to capture the removed plants should be classified as a "dredge" activity. Leslie will see if this applies to this situation.

- Jenifer asked if it is possible to draw down Lake Spokane 6-10' feet in early April to do a dry ground control with Imazapyr and Imazamox on green shoots similar to what is done in Flathead Lake. The ground would need to stay dry for at least a week post-treatment to be effective. Rob will look into this.
- Todd would like to provide some funding for flowering rush control. His money can be matched by Corp of Engineers. Todd and I need to discuss the details of how this might happen. Jenifer will talk with the Army Corp about getting funds from them too.
- Galen is concerned that Ecology isn't responding to his phone calls/updates about the presence of blue-green algae. The blooms are getting less and less and shorter in term and he thinks it is due to reduction in Phosphorus from water treatment plant. Time of blooms is usually August/September. He would like to have a local contact to talk with. Rene said she schedule a meeting with Ecology to get everyone on same page.
- Outreach and Education
  - Public Service Announcements (soon be to) on Avista's website
    - Natural shorelines
    - Bottom barriers – The video will contain a detailed description and supply list for building a bottom barrier. Leslie suggested we attach a link to WDFW regulations of bottom barriers in Washington. Rob will look into this.
- Submit the annual summary report to Washington Department of Ecology, WDFW and WDNR, and then to FERC following agency review.
- Timing of the next Annual Lake Spokane and Nine Mile Aquatic Weed Meeting
  - January 2021

**Terrestrial Noxious Weed Control Program (Rene Wiley)**

- Review 2019 activities and discuss planned treatments for 2020
  - Treated new infestations of garden loosestrife near Amy Lane and one infestation of leafy spurge and hawk weed in Stevens County
  - Rene provided a copy of the 2020 year plan – Avista only treats terrestrial weeds within the FERC boundary.
  - Purple loosestrife has increased on Avista properties. High densities near Amy Lane will be treated.
  - Biocontrol for rush skeleton weed was released in the past. Rene asked Jennifer Andreas for spotted knapweed and purple loosestrife. Jennifer mentioned that the biocontrol population is probably sufficient in our areas.
  - Garden loosestrife will be sprayed. State Parks used to manage our properties around the lake but now we do and contact it out to Spokane Procare.
  - Kevin mentioned that they used to get biocontrol from Gary Piper WSU but he retired so now dependent on Jenifer Andreas. Rob mentioned Nez Perce Tribe has facility where they raise bio-controls.

# Proposed Terrestrial Weed Treatment Plan 2020

*Spokane River Hydroelectric Project*

Avista terrestrial weed control measures continue to focus on high use recreation areas since weed control at public sites provide benefits, such as enhanced recreation opportunities and experiences, reduced spread, and aesthetics. For this reason, Avista will continue to treat at high use recreation areas and monitor undeveloped project lands for weed infestations that require treatment per the local and state weed control boards.

**Treatment Priorities:**

High Priority Sites

- Trailheads
- Campgrounds
- Road shoulders
- Boat-in-Only Campsites
- Long Lake Picnic Area
- Nine Mile Dam Take-Out
- Overlooks (Nine Mile and Long Lake)
- Newly discovered infestations with high probability of contributing to colonization in previously unaffected habitats within Project lands.
- Infestations in limited extent where eradication is feasible.
- All leafy spurge, Garden Loosestrife, Yellow Hawkweed, Kochia and Baby's Breath populations, where they occur.

Additional Proposed Activities:

- Coordinate biological control of Purple Loosestrife by releasing Galerucella Pusilla Root Weevil in site specific locations.
- Monitor every other year by noting signs of plant damage or visual establishment of biological control agents.

# APPENDIX B

Lakeland Restoration Services LLC Treatment Report 2016

Lakeland Restoration Services LLC Treatment Report 2018

# Lakeland Restoration Services LLC Treatment Report 2016

Lakeland Restoration Services, LLC
78 E River Spur Rd, Priest River, ID 83856
Phone/Fax: (208) 448-2222
www.lakelandrs.com

# Avista Corporation

## Contract R-38885
## "The Sites" Lake Spokane Shorelines

## Noxious Weed Treatment Using Herbicide
## Final Report

## Introduction

In June 2015, Lakeland Restoration Services, LLC (LRS) performed shoreline and riparian herbicide applications on recreational sites and high use areas on Lake Spokane. On August 18, 2016 LRS performed a shoreline and riparian application in a continued effort to control noxious and invasive plants.

All shoreline weed control was performed using an airboat equipped with a 150 gallon sprayer. Water was pumped into the tank from the lake using an air gap filler to ensure no contaminated water was returned to the lake. The products glyphosate, 2,4-D and agridex were applied to control yellow flag iris and poison ivy residing along the water's edge in the project areas. Much of the treatment was performed from the airboat. Where necessary, the boat was beached and a spray gun was used to spray all plants from the opposite direction ensuring thorough coverage. Backpack sprayers were used to treat invasive plants in outlying areas.

A total of five (5) acres were treated using five (5) gallons of 2,4-D and five (5) gallons of glyphosate. A copy of both the pre- treatment and post- treatment notifications submitted to Washington State Department of Ecology are included please see Appendix B. Notifications are inclusive of product and acreage treated for a separate project on Lake Spokane for the Lake Spokane Homeowners.

A WSDA report will be kept on file as required by the WSDA. (Report included please see Appendix c.)

## Conclusion

The second round of herbicide of treatments in 2016 continued to improve the boat in campsites, parks and trails. Areas where Bull Thistle, Teasle and knapweed had been treated saw virtually 100% control using Milestone, MSM 90 and 2,4-D.

Yellow Flag Iris (YFI) was retreated in 2016. The treatment in 2015 reduced the population by 50%. glyphosate at higher rates was applied in 2016. Posion Ivy was retreated using 2,4-D and glyphosate.

Survivability on Alder and Willow plantings appear to be approximately 50%. The release of the plantings by spraying iris and ivy was beneficial in the survivability of the trees.

I would recommend an herbicide treatment in 2017 to continue with YFI and ivy eradication.

Dead Teasle and Bull Thistle in Area 1

Yellow Flag Iris Treatment along the Shoreline of Boat-in Campsites

Yellow Flag Iris Spray

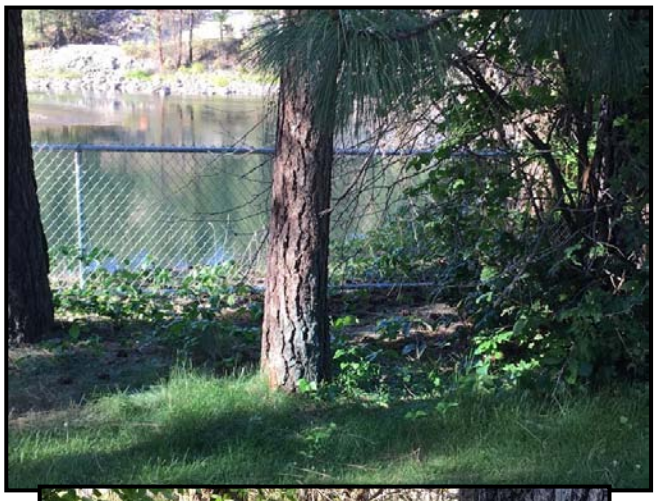
Yellow Flag Iris and Poison Ivy Control

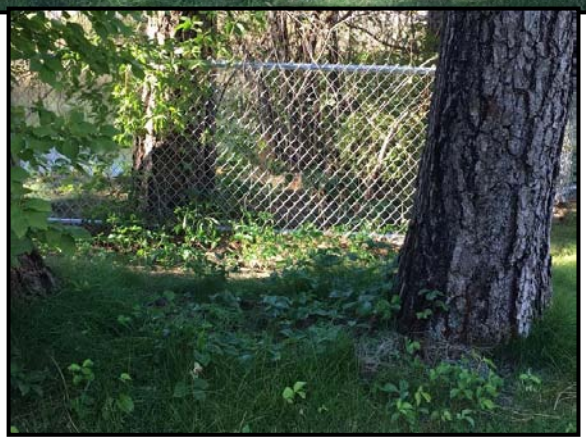
Pictures from August 2016 to reflect:

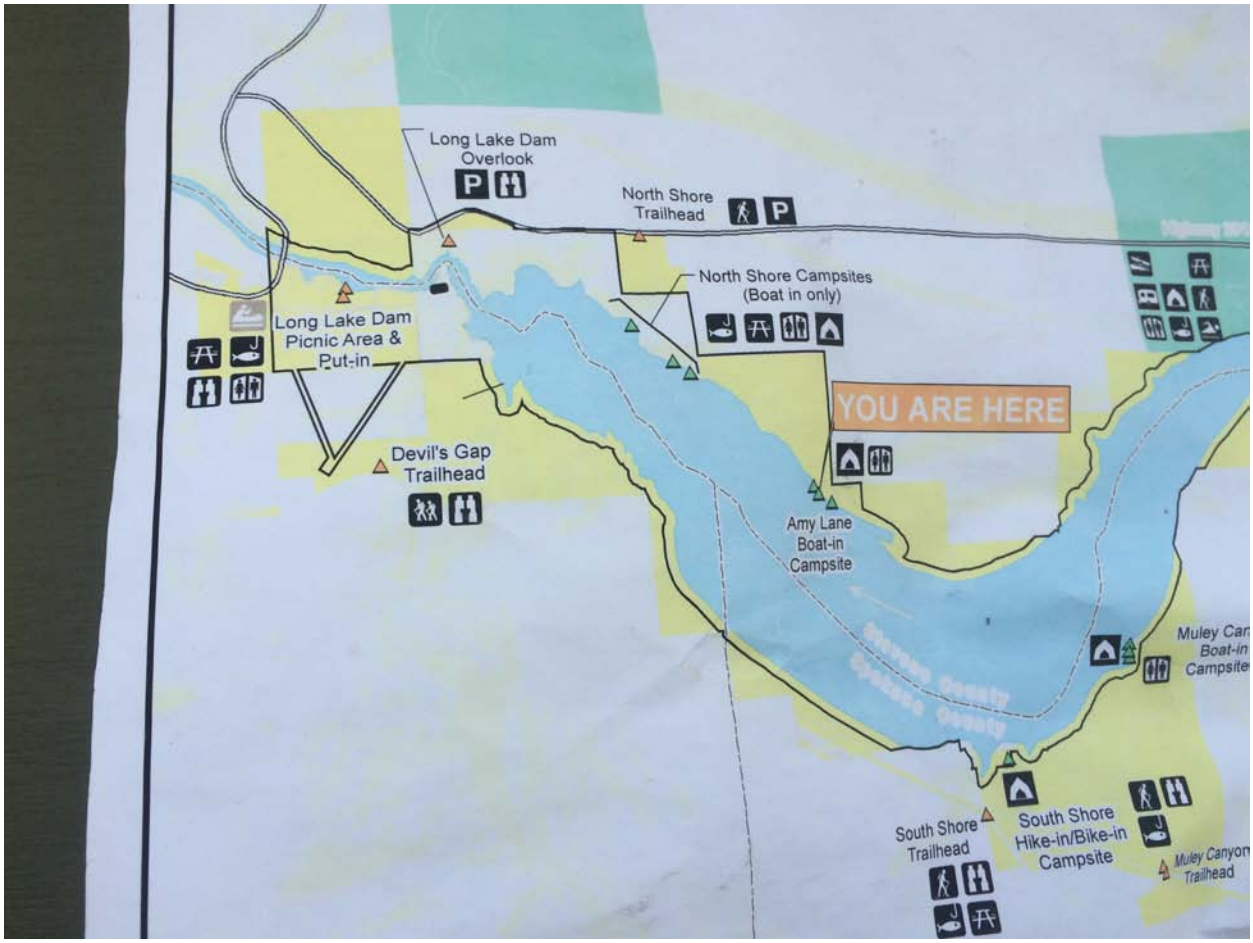
Muley Canyon Knapweed Control from 2015 Treatment


Muley Canyon Area 2016

Dam Area Poison Ivy





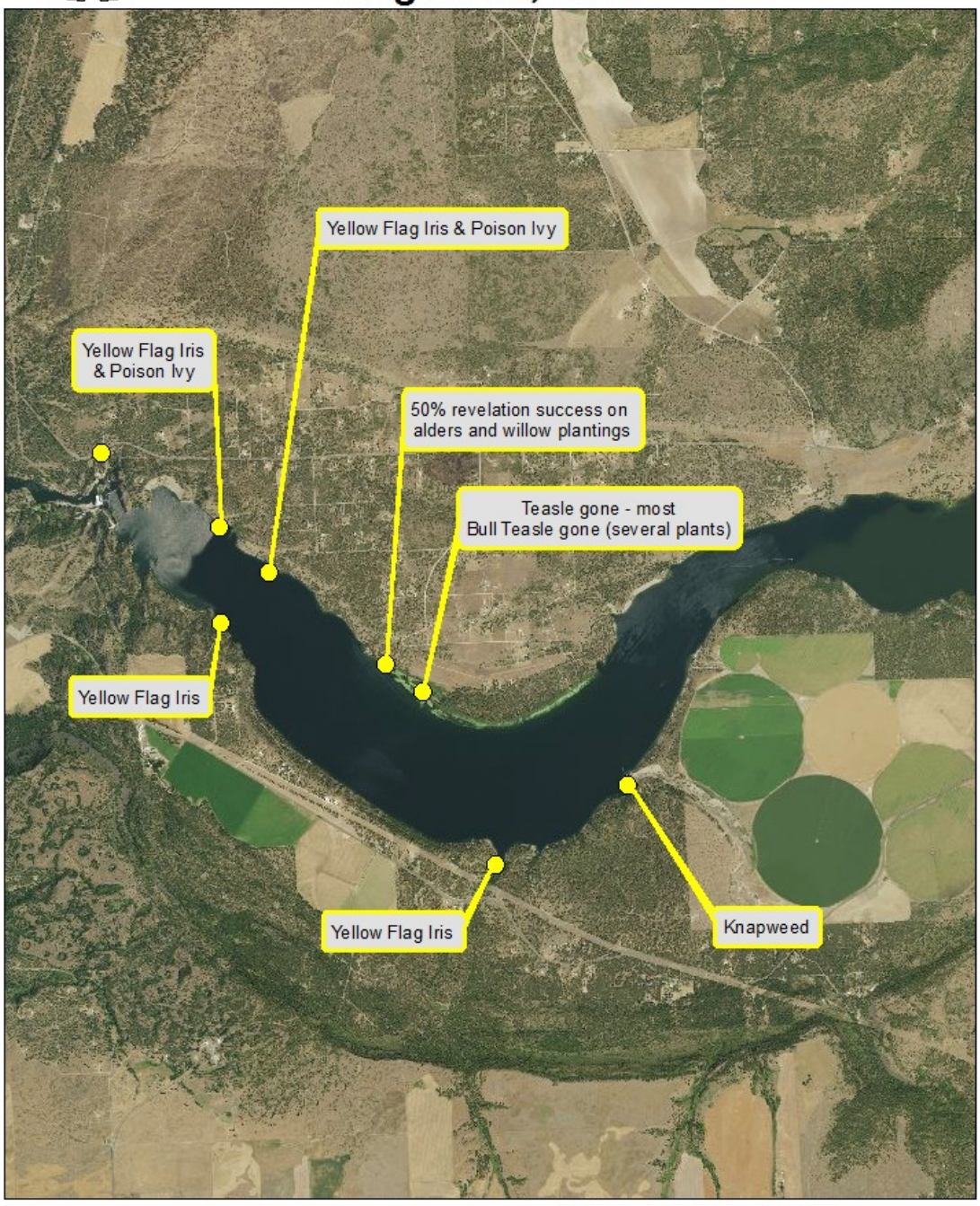



*Overview of treatment area*

# APPENDIX A

# MAP

# Avista Recreation Sites
# Lake Spokane Survey
# August 18, 2016




Lakeland Restoration Services Map Disclaimer
No warranty is made by Lakeland Restoration Services as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data was compiled from various sources.

# Appendix B

# Pre/Post Treatment Notifications

**DEPARTMENT OF ECOLOGY**
**Aquatic Treatment Email Form**
**Email to:** apampreposttreat@ecy.wa.gov

**From: Lakeland Restoration Services, LLC**
**Office Phone No: 208-448-2222**

## Pre-Treatment Notification

**Week of Treatment (date and year): August 15, 2016**

| Water body name | County | Location where treatment will begin | Chemicals/products proposed for use | Targeted plants* & algae | Proposed date & treatment start time |
|---|---|---|---|---|---|
| Lake Spokane | Spokane | TBD | Glyphosate & 2,4-D | Spatterdock, Yellow floating heart, Fragrant | August 17, 2016 8am |
| | | | | | |
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**Post-Treatment Notification apamprepostreat@ecy.wa.gov**

**Week of Treatment: 8/16/2016**

| Water body name | County | Chemicals/products used | Targeted plants* & algae | Acres treated | Amount of product applied (lbs. or gallons) | Date treatment occurred |
|---|---|---|---|---|---|---|
| Lake Spokane | Stevens | 2,4-D | Spatterdock, Yellow floating heart, Fragrant | 30 | 25 gals | 8/17/2016 |
| | | *Glyphosate* | Spatterdock, Yellow floating heart, Fragrant | 30 | 5 gals | 8/17/2016 |
| | | Agridex | N/A | | | 8/17/2016 |
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# APPENDIX C

# WSDA RECORD

# PESTICIDE APPLICATION RECORD (Version 1)

**NOTE:** This form must be completed same day as the application and it must be retained for 7 years (Ref. chapter 17.21 RCW)

*Washington State Department of Agriculture*
*Pesticide Management Division*
*PO Box 42560*
*Olympia WA 98504-2560*
*(877) 301-4555*

1. Date of Application - Year: 2016 Month: August Day: 18 Start Time: 8am
   Stop Time: 5pm
2. Name of person for whom the pesticide was applied: Rene Wiley
   Firm Name (if applicable): Avista Corporation
   Street Address: 1411 Mission Ave City: Spokane State: WA Zip: 99220
3. Licensed Applicator's Name (if different from #2 above): David Kluttz License No.: 66448
   Firm Name (if applicable): Lakeland Restoration Services, LLC Tel No.: 877-273-6674
   Street Address: 78 E River Spur Rd City: Priest River State: ID Zip: 83856
4. Name of person(s) who applied the pesticide (if different from #3 above):
   License No(s). If applicable:
5. Application Crop or Site: Poison Ivy , Yellow Flag Iris
6. Total Area Treated (acre, sq. ft., etc.): 5 acres
7. Was this application made as a result of a WSDA Permit? ☐ No ☒ Yes (If yes, give Permit No.) # WAG994147
8. Pesticide Information (please list all information for each pesticide, including adjuvants (buffer, surfactant, etc.), in the tank mix):

| a) Full Product Name | b) EPA Reg. No. | c) Total Amount of Pesticide Applied in Area Treated | d) Pesticide Applied/Acre (or other measure) | e) Concentration Applied |
|---|---|---|---|---|
| 2,4-D Amine | 81927-38 | 5 gals | / | .25% |
| glyphosate | 81927-8 | 5 gals | / | 4% |
| agridex | na | | / | |
| | | | / | |
| | | | / | |

9. Address ***or exact location*** of application. NOTE: If the application is made to one acre or more of agricultural land, the field location must be shown on the map on page two of this form.

10. Wind direction and estimated velocity (mph) during the application: Less than 7mph
11. Temperature during the application: 62 - 92 degrees Fahrenheit
12. Apparatus license plate number (if applicable): E818
13. ☐ Air ☐ Ground ☐ Chemigation
14. Miscellaneous Information: Pleae see attached map

AGR FORM 640-4226 (R/4/07) Page 1 of 3

# Lakeland Restoration Services LLC Treatment Report 2018

Lakeland Restoration Services, LLC
78 E River Spur Rd, Priest River, ID 83856
Phone: (877) 273-6674
www.lakelandrs.com

Lakeland Reps, Dave Kluttz and Jim Pogue performed an inspection and treatment of invasive and nuisance plants on August 21, 2018.

Project Description

Spot spraying of areas missed during spring application was performed (approximately .25 acres). Also areas under power lines were treated (approximately 1 acre).

The shoreline of the project was surveyed. No invasive plants were found (Please see pictures).

Several infestations of sumac were located (please see Gps map) and treated. Re – treatment will be necessary to completely control the plant.

*Mullen and invasive plants controlled*

*the infestations have been mapped.*

*Sumac present*

*Sumac on hillside*

*Invasive plants controlled under power lines with this application*

*No invasive shoreline plants observed. No evidence of Garden Loosestrife or Leafy Spurge. Native grasses and willows present.*

*Native vegetation along shoreline*

*Native grasses and vegetation*

*Native grasses and vegetation*

*Entrance*

*Road to Overlook*

# Avista
## Lake Spokane Access Road
## August 21, 2018

N


Lakeland Restoration Services Map Disclaimer
No warranty is made by Lakeland Restoration Services as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data was compiled from various sources.

0 50 100 200 Feet

# PESTICIDE APPLICATION RECORD (Version 1)

**NOTE:** This form must be completed same day as the application and it must be retained for 7 years (Ref. chapter 17.21 RCW)

Washington State Department of Agriculture
Pesticide Management Division
PO Box 42560
Olympia WA 98504-2560
(877) 301-4555

1. Date of Application - Year: 2018 Month: August Day: 21 Start Time: 8 am
   Stop Time: 4 pm
2. Name of person for whom the pesticide was applied: Rene Wiley
   Firm Name (if applicable): Avista Corporation
   Street Address: 1411 Mission Ave City: Spokane State: WA Zip: 99220
3. Licensed Applicator's Name (if different from #2 above): David Kluttz License No.: 66448
   Firm Name (if applicable): Lakeland Restoration Services Tel No.: 877-273-6674
   Street Address: 78 E River Spur City: Priest River State: ID Zip: 83856
4. Name of person(s) who applied the pesticide (if different from #3 above):
   License No(s). If applicable:
5. Application Crop or Site:
6. Total Area Treated (acre, sq. ft., etc.): 1.25 acres
7. Was this application made as a result of a WSDA Permit? ☐ No ☐ Yes (If yes, give Permit No.) #
8. Pesticide Information (please list all information for each pesticide, including adjuvants (buffer, surfactant, etc.), in the tank mix):

| a) Full Product Name | b) EPA Reg. No. | c) Total Amount of Pesticide Applied in Area Treated | d) Pesticide Applied/Acre (or other measure) | e) Concentration Applied |
|---|---|---|---|---|
| MSM | 81927-7 | 3 oz | 2.4 oz / acre | |
| Milestone | 627-19-519 | 3 oz | 2.4 oz / acre | |
| Dicamba | 31536 | 1 qt | .8 qt / acre | |
| | | | / | |
| | | | / | |

9. Address ***or exact location*** of application. NOTE: If the application is made to one acre or more of agricultural land, the field location must be shown on the map on page two of this form.

   See attached map.

10. Wind direction and estimated velocity (mph) during the application: Less than 10 mph
11. Temperature during the application: 80 degrees
12. Apparatus license plate number (if applicable):
13. ☐ Air ☐ Ground ☐ Chemigation
14. Miscellaneous Information:

# APPENDIX D
## Consultation Record

## Avista's Letter to the Washington State Parks and Recreation Commission

1411 East Mission Avenue
PO Box 3727
Spokane, WA 99220-3727

May 10, 2021

Ryan Layton
Eastern Region Manager
Washington State Parks and Recreation
270 9th St. N.E, Suite 200
East Wenatchee, WA 98802

**Subject:** **Spokane River Project, FERC Project No. 2545**
**Updated Land Use Management Plan**

Dear Mr. Layton,

On March 9, 2011, the Federal Energy Regulatory Commission (FERC) issued Avista an Order Modifying and Approving the Spokane River Land Use Management Plan Pursuant to Article 419 (Order) of the Spokane River Project License, FERC Project No. 2545. Since that time, Avista has been implementing the Land Use Management Plan (LUMP) in consultation with the U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Washington State Parks and Recreation Commission, Idaho Department of Fish and Game, Idaho Department of Parks and Recreation, and the Coeur d'Alene Tribe. An update and review of the LUMP is required every five years from the date of the Order.

The LUMP was updated in February 2016 and is being updated again in 2021. The Plan continues to guide and direct Avista's land use management decisions for Project lands, and other lands that may be acquired by Avista and included within the Project boundary, over the term of the FERC License. It is intended to be a dynamic document, in the sense that it can be modified and supplemented as appropriate in the future.

Avista has updated the LUMP to include minor editorial revisions, revisions to the Resource Protection Policies in Section 4.1 of the LUMP, as well as a five-year Terrestrial Noxious Weed Control and Inventory Treatment Recommendations Report and Terrestrial Noxious Weed Summary Report.

With this, Avista is submitting the updated LUMP for your review and comment. We would like to receive any comments or recommendations that you may have by **June 8, 2021**, however, an expedited review of the plan would be appreciated.

Feel free to call me if you have any questions or wish to discuss the updated plan. I can be reached at (509) 495-2919.

Sincerely,

Rene' Wiley
Recreation, Land Use and Cultural Resource Specialist

Enclosure (1)

## Washington State Parks and Recreation Commission's Comments

**Wiley, Rene**

**From:** Layton, Ryan (PARKS) <Ryan.Layton@PARKS.WA.GOV>
**Sent:** Friday, June 4, 2021 11:39 AM
**To:** Wiley, Rene
**Cc:** Dupuis, Diana (PARKS); Goloborodko, Yelena
**Subject:** [External] RE: Updated Spokane River Land Use Management Plan

Good morning Rene',

I was able to review the Management Plan and Washington State Parks is in support of the agreement as written and updated with one small edit to suggest, if it seems unnecessary don't bother with this, but the acronym for us should be WSPRC.

Thanks

**Ryan Layton**
*Region Manager,* Washington State Parks & Rec
ryan.layton@parks.wa.gov
(509) 6 13, (509) 668-1051 *cell*

## Avista's Letter to Washington State Parks and Recreation Commission, Riverside Park

1411 East Mission Avenue
PO Box 3727
Spokane, WA 99220-3727

May 10, 2021

Diana Dupuis
Area Manager, Inland Northwest Area
Riverside State Park
9711 W. Charles Rd.
Nine Mile Falls, WA 99026

**Subject:** **Spokane River Project, FERC Project No. 2545**
**Updated Land Use Management Plan**

Dear Ms. Dupuis,

On March 9, 2011, the Federal Energy Regulatory Commission (FERC) issued Avista an Order Modifying and Approving the Spokane River Land Use Management Plan Pursuant to Article 419 (Order) of the Spokane River Project License, FERC Project No. 2545. Since that time, Avista has been implementing the Land Use Management Plan (LUMP) in consultation with the U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Washington State Parks and Recreation Commission, Idaho Department of Fish and Game, Idaho Department of Parks and Recreation, and the Coeur d'Alene Tribe. An update and review of the LUMP is required every five years from the date of the Order.

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Sincerely,

Rene' Wiley
Recreation, Land Use and Cultural Resource Specialist

Enclosure (1)

## Washington State Parks and Recreation Commission, Riverside Park's Response

**From:** Dupuis, Diana (PARKS)
**To:** Layton, Ryan (PARKS); Wiley, Rene
**Cc:** Goloborodko, Yelena; Dupuis, Diana (PARKS)
**Subject:** [External] RE: Updated Spokane River Land Use Management Plan
**Date:** Friday, June 4, 2021 4:06:15 PM
**Attachments:** image001.png
image004.png
image005.png
image006.png

---

Hi René.

I have no issues with the agreement as written and am in support.

Thank you,
Diana

Diana Dupuis, MA | Area Manager, Inland Northwest Area
Washington State Parks and Recreation Commission
**Office** 509-465-6564 **Cell** 509-290-3239 | **Email** diana.dupuis@parks.wa.gov
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## Washington State Parks and Recreation Commission's Comments and Avista's Response

Comment: I was able to review the Management Plan and Washington State Parks is in support of the agreement as written and updated with one small edit to suggest, if it seems unnecessary don't bother with this, but the acronym for us should be WSPRC.

Avista Response: We appreciate WSPRC's review and support of the Plan. Avista has modified the text to incorporate the acronym WSPRC as requested.

## Avista's Letter to the U.S. Fish and Wildlife Service

1411 East Mission Avenue
PO Box 3727
Spokane, WA 99220-3727

May 10, 2021

Cara Christofferson
U.S. Fish & Wildlife Service
3232 W. Nursery Road
Coeur d'Alene ID, 83815

**Subject: Spokane River Project, FERC Project No. 2545**
**Updated Land Use Management Plan**

Dear Ms. Christofferson,

On March 9, 2011, the Federal Energy Regulatory Commission (FERC) issued Avista an Order Modifying and Approving the Spokane River Land Use Management Plan Pursuant to Article 419 (Order) of the Spokane River Project License, FERC Project No. 2545. Since that time, Avista has been implementing the Land Use Management Plan (LUMP) in consultation with the U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Washington State Parks and Recreation Commission, Idaho Department of Fish and Game, Idaho Department of Parks and Recreation, and the Coeur d'Alene Tribe. An update and review of the LUMP is required every five years from the date of the Order.

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With this, Avista is submitting the updated LUMP for your review and comment. We would like to receive any comments or recommendations that you may have by **June 8, 2021**, however, an expedited review of the plan would be appreciated.

Feel free to call me if you have any questions or wish to discuss the updated plan. I can be reached at (509) 495-2919.

Sincerely,

Rene' Wiley
Recreation, Land Use and Cultural Resource Specialist

Enclosure (1)

## U. S. Fish and Wildlife Service's Comment

**Wiley, Rene**

**From:** Christofferson, Cara E <cara_christofferson@fws.gov>
**Sent:** Thursday, June 3, 2021 3:09 PM
**To:** Wiley, Rene
**Cc:** Goloborodko, Yelena
**Subject:** Re: [EXTERNAL] Updated Spokane River Land Use Management Plan

Hi Rene,

Just a couple of questions. It seems the LUMP is largely composed of terrestrial actions. Could you help me understand where habitat improvements for salmonids/aquatic resources come into play? Should I expect anything regarding these actions from a Section 7 standpoint? Other than that, I don't have any concerns or comments with the LUMP as is.

Thank you,

Feel free to give me a call on my cell if you would rather talk on the phone: 515-520-7525

**Cara Christofferson (she/her)**
U.S. Fish and Wildlife Service
Fish and Wildlife Biologist
IFWO-Coeur d'Alene
3232 W. Nursery Road
Coeur d'Alene, ID 83815
Telework: (515) 520-7525

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## Avista's Response to the U.S. Fish and Wildlife Service's Comment

**Wiley, Rene**

**From:** Wiley, Rene
**Sent:** Thursday, June 3, 2021 4:29 PM
**To:** Christofferson, Cara E
**Subject:** RE: [EXTERNAL] Updated Spokane River Land Use Management Plan

Hi Cara,
Thank you for your review of the Land Use Management Plan (LUMP), I really appreciate you taking the time to do that. You are correct that the LUMP focuses mainly on how Avista manages terrestrial resources. Good question about habitat improvements and aquatic resources. Unfortunately I'm not that familiar with Section 7, so I reached out to our Spokane River License Manager, Meghan Lunney and our Fisheries Biologist, Chris Moan. They provided the following information.

- Avista completed Section 7 ESA consultation during relicensing.
- Here's a brief summary from our license preamble related to the Section 7.
    - **THREATENED AND ENDANGERED SPECIES**

        - 132. Under section 7(a)(2) of the Endangered Species Act of 1973,[96] the Commission must ensure, in consultation with the National Marine Fisheries Service or Fish and Wildlife Service, as appropriate, that its licensing actions are not likely to jeopardize the continued existence of federally listed or threatened species, or result in the destruction or adverse modification of their designated critical habitat.

        - 133. There are five federally listed species that occur in the project area: bull trout, water howellia, Ute ladies' tresses, Spalding's catch fly, and gray wolf. In a biologic assessment issued on January 31, 2007, Commission staff concluded that relicensing the project with staff's recommended measures and the agencies' mandatory conditions would have no effect on the water howellia, Ute ladies' tresses, Spalding's catch fly, and gray wolf, and would "not be likely to adversely affect" bull trout and its designated critical habitat.[97] On January 31, 2007, Commission staff requested the Fish and Wild Service's concurrence on its findings on bull trout and bull trout critical habitat.[98] July 31, 2008, the Fish and Wildlife Service concurred with staff's determination that relicensing the project would "not be likely to adversely affect" bull trout or its designated critical habitat, provided that Avista implement a fishery protection and enhancement plan and a targeted non-native predator fish removal program for the Post Falls development.

If you would like me to schedule a meeting to discuss the process Avista went through during relicensing I would be more than happy to set that up. Meghan and Chris have offered to participate, since it's outside of my expertise. Let me know what you think.
Again, thank you.
Rene'

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## Avista's Letter to Idaho Department of Parks and Recreation

1411 East Mission Avenue
PO Box 3727
Spokane, WA 99220-3727

May 10, 2021

David White
Idaho Department of Parks and Recreation
2885 Kathleen Ave., Suite 1
Coeur d'Alene, Idaho 83815

**Subject:** **Spokane River Project, FERC Project No. 2545**
**Updated Land Use Management Plan**

Dear Mr. White,

On March 9, 2011, the Federal Energy Regulatory Commission (FERC) issued Avista an Order Modifying and Approving the Spokane River Land Use Management Plan Pursuant to Article 419 (Order) of the Spokane River Project License, FERC Project No. 2545. Since that time, Avista has been implementing the Land Use Management Plan (LUMP) in consultation with the U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Washington State Parks and Recreation Commission, Idaho Department of Fish and Game, Idaho Department of Parks and Recreation, and the Coeur d'Alene Tribe. An update and review of the LUMP is required every five years from the date of the Order.

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With this, Avista is submitting the updated LUMP for your review and comment. We would like to receive any comments or recommendations that you may have by **June 8, 2021**, however, an expedited review of the plan would be appreciated.

Feel free to call me if you have any questions or wish to discuss the updated plan. I can be reached at (509) 495-2919.

Sincerely,

Rene' Wiley
Recreation, Land Use and Cultural Resource Specialist

Enclosure (1)

## Idaho Department of Parks and Recreation's Response

[External] RE: Updated Spokane River Land Use Management Plan

DW

David White <David.White@idpr.idaho.gov>
To Wiley, Rene
Cc Goloborodko, Yelena

You replied to this message on 5/17/2021 2:34 PM.

Hi Rene,

Looks good. thanks for allowing me to review.

**David E. White**
**North Region Manager**
IDPR North Region Service Center
2885 West Kathleen Avenue, Suite 1 | Coeur d'Alene, ID 83815
tel (208) 769-1511 | mobile (208) 691-6469 | fax (208) 769-1418

website | map | passport

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## Avista's Letter to Idaho Department of Fish and Game

1411 East Mission Avenue
PO Box 3727
Spokane, WA 99220-3727

May 10, 2021

Andy Dux
Idaho Department of Fish and Game
2885 W. Kathleen Ave.
Coeur d'Alene, ID 83815

**Subject:** **Spokane River Project, FERC Project No. 2545**
**Updated Land Use Management Plan**

Dear Mr. Dux,

On March 9, 2011, the Federal Energy Regulatory Commission (FERC) issued Avista an Order Modifying and Approving the Spokane River Land Use Management Plan Pursuant to Article 419 (Order) of the Spokane River Project License, FERC Project No. 2545. Since that time, Avista has been implementing the Land Use Management Plan (LUMP) in consultation with the U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Washington State Parks and Recreation Commission, Idaho Department of Fish and Game, Idaho Department of Parks and Recreation, and the Coeur d'Alene Tribe. An update and review of the LUMP is required every five years from the date of the Order.

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Sincerely,

Rene' Wiley
Recreation, Land Use and Cultural Resource Specialist

Enclosure (1)

## Idaho Department of Fish and Game's Response

**Wiley, Rene**

**From:** Dux,Andy <andy.dux@idfg.idaho.gov>
**Sent:** Monday, May 17, 2021 2:02 PM
**To:** Wiley, Rene
**Subject:** [External] RE: Updated Spokane River Land Use Management Plan

Hi Rene',

I reviewed the LUMP and don't have any suggested edits or comments.

Regards,
Andy

Andy Dux
Regional Fishery Manager
Idaho Department of Fish and Game
2885 W. Kathleen Ave.
Coeur d'Alene, ID 83815
(208)770-3760

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## Avista's Letter to Washington Department of Fish and Wildlife

1411 East Mission Avenue
PO Box 3727
Spokane, WA 99220-3727

May 10, 2021

Leslie King
Washington Department of Fish and Wildlife
2315 N. Discovery Place
Spokane Valley, WA 99260

**Subject:** **Spokane River Project, FERC Project No. 2545**
**Updated Land Use Management Plan**

Dear Mrs. King,

On March 9, 2011, the Federal Energy Regulatory Commission (FERC) issued Avista an Order Modifying and Approving the Spokane River Land Use Management Plan Pursuant to Article 419 (Order) of the Spokane River Project License, FERC Project No. 2545. Since that time, Avista has been implementing the Land Use Management Plan (LUMP) in consultation with the U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Washington State Parks and Recreation Commission, Idaho Department of Fish and Game, Idaho Department of Parks and Recreation, and the Coeur d'Alene Tribe. An update and review of the LUMP is required every five years from the date of the Order.

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Feel free to call me if you have any questions or wish to discuss the updated plan. I can be reached at (509) 495-2919.

Sincerely,

Rene' Wiley
Recreation, Land Use and Cultural Resource Specialist

Enclosure (1)

Washington Department of Fish and Wildlife provided no comments on the Plan.

## Avista's Letter to the Coeur d' Alene Tribe

1411 East Mission Avenue
PO Box 3727
Spokane, WA 99220-3727

May 10, 2021

Phillip Cernera
Coeur d'Alene Tribe
850 A Street PO Box 408
Plummer, ID 83851

**Subject:** **Spokane River Project, FERC Project No. 2545**
**Updated Land Use Management Plan**

Dear Mr. Cernera,

On March 9, 2011, the Federal Energy Regulatory Commission (FERC) issued Avista an Order Modifying and Approving the Spokane River Land Use Management Plan Pursuant to Article 419 (Order) of the Spokane River Project License, FERC Project No. 2545. Since that time, Avista has been implementing the Land Use Management Plan (LUMP) in consultation with the U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Washington State Parks and Recreation Commission, Idaho Department of Fish and Game, Idaho Department of Parks and Recreation, and the Coeur d'Alene Tribe. An update and review of the LUMP is required every five years from the date of the Order.

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Feel free to call me if you have any questions or wish to discuss the updated plan. I can be reached at (509) 495-2919.

Sincerely,

Rene' Wiley
Recreation, Land Use and Cultural Resource Specialist

Enclosure (1)

Coeur d'Alene Tribe provided no comments on the Plan.

## Avista's Letter to Bureau of Land Management

1411 East Mission Avenue
PO Box 3727
Spokane, WA 99220-3727

May 10, 2021

Jake Batchel
Bureau of Land Management
Coeur d'Alene Field Office
3815 Schreiber Way
Coeur d'Alene, ID 83815

**Subject:** **Spokane River Project, FERC Project No. 2545**
**Updated Land Use Management Plan**

Dear Mr. Batchel,

On March 9, 2011, the Federal Energy Regulatory Commission (FERC) issued Avista an Order Modifying and Approving the Spokane River Land Use Management Plan Pursuant to Article 419 (Order) of the Spokane River Project License, FERC Project No. 2545. Since that time, Avista has been implementing the Land Use Management Plan (LUMP) in consultation with the U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Washington State Parks and Recreation Commission, Idaho Department of Fish and Game, Idaho Department of Parks and Recreation, and the Coeur d'Alene Tribe. An update and review of the LUMP is required every five years from the date of the Order.

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Sincerely,

Rene' Wiley
Recreation, Land Use and Cultural Resource Specialist

Enclosure (1)

Bureau of Land Management provided no comments on the Plan.

## Avista's Letter to Washington Department of Natural Resources

1411 East Mission Avenue
PO Box 3727
Spokane, WA 99220-3727

May 10, 2021

Brett Walker
Washington Department of Natural Resources
225 S. Silke Rd.
Colville, WA 99114

**Subject:** **Spokane River Project, FERC Project No. 2545**
**Updated Land Use Management Plan**

Dear Mr. Walker,

On March 9, 2011, the Federal Energy Regulatory Commission (FERC) issued Avista an Order Modifying and Approving the Spokane River Land Use Management Plan Pursuant to Article 419 (Order) of the Spokane River Project License, FERC Project No. 2545. Since that time, Avista has been implementing the Land Use Management Plan (LUMP) in consultation with the U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Washington State Parks and Recreation Commission, Idaho Department of Fish and Game, Idaho Department of Parks and Recreation, and the Coeur d'Alene Tribe. An update and review of the LUMP is required every five years from the date of the Order.

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Sincerely,

Rene' Wiley
Recreation, Land Use and Cultural Resource Specialist

Enclosure (1)

Washington Department of Natural Resources provided no comments on the Plan.