

Draft Vegetation and Weed Management Plan

Wautoma Solar Energy Project

Benton County, Washington

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February 2023

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LIST OF ATTACHMENTS

- Attachment A. 2021 Washington State Noxious Weed List
- Attachment B. 2022 Benton County Noxious Weed List

ACRONYMS AND ABBREVIATIONS

°F	degree Fahrenheit
Applicant	Innergex Renewable Development USA, LLC
ASC	Application for Site Certification
BESS	battery energy storage system
EFSEC or Council	Energy Facility Site Evaluation Council
Kv	kilovolt
MW	megawatt
O&M	operation and maintenance
PCS	power conversion system
Plan	Revegetation and Noxious Weed Management Plan
Project	Wautoma Solar Energy Project
PV	photovoltaic

1 INTRODUCTION

Innergex Renewable Development USA, LLC (the Applicant) is proposing to develop the Wautoma Solar Energy Project (Project) in unincorporated Benton County, Washington approximately 12.5 miles northeast of the city of Sunnyside (Figure 1). All of the parcels in the approximately 5,852-acre Project Lease Boundary are privately owned and actively managed for crop cultivation and livestock grazing; a small portion (approximately 524 acres) of the Lease Boundary is enrolled in the U.S. Department of Agriculture's Conservation Reserve Program. The Applicant is also pursuing easements/crossing/road use agreements with the Bonneville Power Administration (BPA) for Project access roads, collection lines, and transmission interconnection.

The Project Area is a subset of the Project Lease Boundary within which Project facilities may be constructed, in compliance with conditions that may be imposed by the Site Certification Agreement. The Project Area encompasses approximately 4,573 acres; however, as noted in Part 2 of the Application for Site Certification (ASC), a smaller area within the Project Area will be permanently or temporarily disturbed by Project construction.

This Draft Vegetation and Weed Management Plan (Plan) describes methods, success criteria, monitoring, and reporting for revegetation of areas temporarily disturbed during construction of the Project and revegetation of areas within the solar array perimeter fence. This Plan also provides methods, monitoring, and reporting associated with the prevention and control of the introduction and spread of noxious weeds from construction and operation of the Project. This Plan was developed to support the requirements of the Energy Facility Site Evaluation Council (EFSEC, or Council) Application for Site Certification (ASC), of which this is a part.

2 BACKGROUND

2.1 Project Area Existing Conditions

Benton County is located within a rain shadow created by the Cascade Mountains. In this region of Washington, the summers are short, hot, and mostly clear; winters are very cold and partly cloudy; and it is typically dry year-round (average annual precipitation is 7.0 inches). In winter, temperatures in Priest Rapids Dam (the closest monitoring station located approximately 10 miles north of the Project) average a high of 48.4 degrees Fahrenheit (°F) and a low of 28.6°F, with extreme lows below 20°F (Western Regional Climate Center 2021). In summer, temperatures average a high of 88.1°F and a low of 62.5°F, with extreme highs above 95°F.




The Project is located within the Columbia Plateau Ecoregion (Clarke and Bryce 1997), within the big sagebrush (*Artemisia tridentata*)/bluebunch wheatgrass (*Pseudoroegneria spicata* [*Agropyron spicatum*]) vegetation zone (Franklin and Dyrness 1988). The elevation within the Project Area ranges from approximately 960 to 1,240 feet above mean sea level (msl). The topography in the Project Area is defined by a relatively flat bottom area in between two ridges.

Based on information from the Natural Resources Conservation Service, 49 percent of soils within the Project Area are Warden silt loam, 0 to 5 percent slopes and 17 percent are Ritzville silt loam, 0 to 5 percent slopes. In general, the remainder of soils in the Project Area are silt loams, very stony silt loams, fine sandy loams, stony fine sandy loams, and very fine sandy loams, with bedrock or restrictive layer greater than 80 inches (See Table E-1 in Attachment E of the ASC).

Wautoma Solar

Figure 1 Project Location

BENTON AND YAKIMA COUNTIES, WA

-  Project Lease Boundary
-  Project Area
-  County Boundary



INNERGEX

TETRA TECH

Reference Map

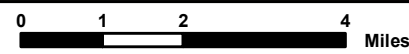


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1:150,000

NAD 1983 StatePlane Washington South FIPS 4602 Feet



NOT FOR CONSTRUCTION

Nine habitat types occur within the Project Area (see Section 4.8.B of the ASC). These include:

- Agricultural land
- Developed/disturbed
- Eastside (interior) grassland
- Irrigated hedgerows
- Non-native grassland and forbland
- Planted grassland
- Rabbitbrush shrubland
- Sagebrush shrub-steppe
- Talus

Native vegetation within the majority of the Project Area has been heavily modified due to historic and current agriculture and grazing activity. Three habitat types, planted grassland, non-native grassland and forbland, and agricultural land, comprise approximately 93 percent of the existing vegetation within the Project Area. The remaining 7 percent of the Project Area consists of the other six habitat types.

2.2 Project Description

The Project would consist of a 470-megawatt (MW) solar photovoltaic (PV) generation facility coupled with a four-hour, 470-MW battery energy storage system (BESS), as well as related interconnection and ancillary support infrastructure. The solar PV system would consist of a series of solar PV panels mounted on a solar tracker racking system and related electrical equipment. The power conversion system (PCS) consists of the BESS, inverters, and transformers. The BESS can either store electricity for future use or, as required based on grid demand, and convert direct current (DC) electricity to alternating current (AC) electricity and send the AC electricity to the Project's collector substation where it is transformed to grid voltage.

The Project also includes the following supporting components: DC and AC electrical collector lines, Project substation, overhead 500-kilovolt (kV) generation-tie transmission line (gen-tie line), operations and maintenance (O&M) building, associated Project access roads, temporary laydowns, and perimeter fencing. Chain-link fencing, enclosing 2,974 acres, would be installed around the perimeter of the solar arrays, Project substation, and O&M building area. The point of interconnection (POI) is the BPA transmission system at the BPA Wautoma Substation, which is located on BPA federal lands surrounded by the Project Area. An approximately 0.25-mile-long overhead 500 kV transmission line would extend from the Project to the POI.

2.3 Description of Project Impacts

Construction and operation of the Project would result in permanent and temporary impacts on vegetation, as well as permanent alterations of vegetation within the solar array's perimeter fence lines. Permanent impacts include locations where Project components would be installed for the operational life of the Project (e.g., solar array panel posts, inverter pads, new permanent access roads, O&M building, Project substation, poles for overhead gen-tie lines). Temporary impacts include work areas located outside the solar array perimeter fence that would be disturbed during construction and revegetated following construction, such as laydown areas and pulling areas for the transmission line, corridors for trenching to install collector lines, and temporary access roads. Altered habitat would occur in areas within the solar array fence lines but outside areas occupied by permanent Project structures. Table 1

presents the anticipated acreages of impact to each habitat type from construction and operation of the Project.

Following completion of construction, temporarily disturbed areas and areas under the solar arrays would be either passively or actively revegetated, as described in Section 3.0. This Plan addresses revegetation of areas temporarily disturbed for construction of Project facilities, including revegetation of low-growing vegetation located underneath the solar arrays.

Table 1. Anticipated Impacts to Habitat Types from the Project

Habitat Type	Temporary Impact (Acres) ¹	Altered Habitat Impact (Acres) ²	Permanent Impact (Acres) ³	Total ⁴
Planted grassland	66.4	1,438.8	80.9	1,586.1
Agricultural land	5.2	729.4	28.9	763.5
Non-native grassland & formland	34.6	563.0	25.7	623.3
Rabbitbrush shrubland	2.7	84.7	4.4	91.8
Developed/disturbed	0.6	9.9	0.7	11.2
Irrigated hedgerow	0.2	7.3	0.9	8.3
Shrub-steppe	2.6	1.6	0.1	4.2
Eastside (interior) grassland	2.3	1.5	0.1	3.9
Total⁴	114.7	2,836.2	141.6	3,092.5

Notes:

Acreages are subject to change following the final Project design, including, but not limited to potential incorporation of green strips and final placement of Project components.

¹ Temporary impacts include: collector lines, temporary access roads, and work areas located outside the solar array perimeter fence lines and laydown and pulling areas associated with the transmission line.

² Altered habitat impacts consist of all lands within the perimeter fence lines, minus any areas occupied by permanent Project features/structures. Following construction, low growing vegetation would be planted under the solar panels; therefore, these impacts would be considered an alteration of habitat versus a temporary or permanent impact.

³ Permanent impacts include solar array panel posts, inverter pads, permanent access roads, substation, O&M building, and poles for transmission line.

⁴ Totals may not sum exactly due to rounding.

2.4 Restoration of Agricultural Lands

Restoration of agricultural lands would occur in consultation with the landowner or farm operator. This Plan focuses on the restoration of non-agricultural lands; therefore, restoration of agricultural lands is not further discussed in this document.

3 REVEGETATION METHODS

Revegetation would consist of either passive, where practicable, or active revegetation. Where necessary, active revegetation would occur as soon as feasible following completion of construction activity and site preparation in the respective area. Seeding would be conducted within the appropriate season to facilitate germination (typically late fall or winter). Site preparation, passive revegetation, active revegetation, seeding techniques, and example seed mixes are described below.

3.1 Site Preparation

The Applicant would restore temporarily disturbed areas by re-establishing slope, surface stability, and drainage features, as needed. The intensity of the construction impact would vary based on the intensity of the construction activity taking place at that location as well as the final intended use of the affected area. In some areas, the impact would be relatively light (e.g., where minimal vegetation clearing and ground disturbance would occur); while in other areas, construction activity would remove all vegetation, remove topsoil, and potentially compact the remaining subsoil. Some areas of temporary disturbance (such as staging areas) would be graveled during construction; these areas would be reclaimed by removing the gravel surface, regrading to match adjacent contours, and reseeding.

In areas where soil is removed during construction, the topsoil would be stockpiled separately from the subsurface soils, where possible. The stockpiled soils would be put back in place following construction and prior to revegetation activities, where applicable. The Applicant may use mulching and other appropriate practices to control erosion and sediment during revegetation work, as required.

3.2 Passive Revegetation

Due to the extremely arid conditions of the Project Area and vicinity (annual rainfall is approximately 7.0 inches per year), successful establishment of native plant seedlings is notoriously difficult. During discussions with representative of the Washington Department of Fish and Wildlife (WDFW) in February of 2022, the WDFW noted that if the Project was able to control for wildfire and grazing in the Project Area, it would provide an opportunity to see what would return to the landscape, with limited active revegetation. The WDFW noted that if ground disturbance is kept to the bare minimum during construction of the solar arrays, active revegetation in these areas may not be required (i.e., following construction, wait and observe what type of vegetation colonizes naturally within the solar arrays once grazing and fire have been removed). However, areas currently under agricultural cultivation are unlikely to contain available native seed bank, and therefore would be at high risk of noxious weed invasion. These areas are considered to be poor candidates for passive revegetation.

Passive revegetation will be implemented in areas that are assessed as good candidates based on the following criteria:

- Existing cover of desirable vegetation (i.e., native grass or forb species) meets or exceeds 50 percent and the area does not require additional final stabilization measures (see Section 5.2);
- Native root structures remain intact in at least 75 percent of the area;
- Soil seed banks are assessed as available; and
- Noxious weed prevalence and risk of introduction are assessed as low.

As noted above, implementation of passive revegetation would involve waiting to see what plant species colonize naturally following construction. If passive revegetation is not successful (i.e., native species fail to colonize and the site is dominated by non-native species, or vegetation cover and weed prevalence success criteria are not met as outlined in Section 5.2.2), active revegetation would then be implemented. If necessary, active revegetation would include revegetating areas under the solar arrays with low-growing vegetation consisting of native species and/or a mix of native and desirable non-native, non-invasive species as described in Section 3.3.

3.3 Active Revegetation

All areas of temporary disturbance (see Table 1) would be actively revegetated. In addition, as noted in Section 3.2, areas without native root structures or available seed banks, or where noxious weeds are anticipated, would receive active revegetation.

Active revegetation would consist of seeding revegetation areas with 1) a mix of native or non-invasive, non-persistent non-native grasses and forbs or 2) a mix of native or non-invasive, non-persistent non-native grasses, forbs, and shrubs. Inclusion of non-native, non-invasive species may be desirable in some instances. For example, some non-native, non-invasive species may provide more rapid soil stabilization and vegetative cover than slower-growing native species. Rapid vegetative cover of these species may also reduce the fuel load created by proliferation of non-native species such as cheatgrass. Final seed mixes will be developed in consultation with EFSEC and the WDFW.

Prior to seeding of revegetation areas, soils would be prepared to facilitate revegetation success. Soil preparation would include standard, commonly used methods, and would take into account relevant site-specific factors, including slope, size of area, and erosion potential. In general, the soil needs to be prepared into a firm, fine-textured seedbed that is relatively free of debris before seeding or planting. Shallow tilling with a disc, followed by a harrow or drag, if necessary and where feasible, can be effective at achieving this. If replaced soil is too soft, then seeds may be buried too deep to properly germinate; therefore, a roller or cultipacker would be used where necessary to pack the soil to the appropriate conditions.

3.3.1 Seeding Methods

Following soil preparation, active revegetation areas would be seeded. The Applicant would choose seeding methods based on site-specific factors such as slope, erosion potential, and the size of the area in need of revegetation. Two common seed application methods that may be used are described below.

3.3.1.1 Broadcast Seeding

Broadcast seeding is the application of seed directly on the ground surface. This method may be chosen for areas with shallow and rocky soils, and the type of broadcast spreader would depend on the size of the area to be seeded as well as the terrain.

In this method, the seed mix would be applied at the application rates specified by the seed supplier for broadcast seeding. Where feasible, half of the total mix would be applied in one direction and the second half of the mix would be applied in the perpendicular direction. A tracking dye may be added to facilitate uniform seed application. Immediately following seed application, certified weed-free straw may be applied at a rate of 2 tons per acre. Straw may be crimped into the ground to a depth of 2 inches using a crimping disc or similar device. As an alternative to crimping, a tackifier may be applied using hydroseed equipment. Prior to mixing the tackifier, the tank would be visually inspected for cleanliness and, if remnants from previous applications exist, the tank would be washed. Broadcast seeding would not be employed if winds exceed 5 miles per hour.

3.3.1.2 Drill Seeding

The drill seeding method may be chosen for larger areas with deeper soils and moderate to gentle terrain to accommodate mechanical equipment. This method provides the advantage of planting the seed at a uniform depth and provides better soil to seed contact.

Using an agricultural or range seed drill, seeds would be sown according to the application rates recommended by the seed supplier. Where feasible, half of the total mix would be applied in one direction

and the second half of mix in the perpendicular direction. If mulch has been previously applied, seed may be drilled through the mulch provided the drill can penetrate the straw resulting in seed-to-soil contact conducive for germination.

3.3.2 Seed Mixes

Four seed mixes are proposed for active revegetation efforts. Tables 2 through 5 present example seed mixes that would be considered for active revegetation. However, the number of seed mixes and composition of the final seed mixes would be determined based on pre-construction conditions and the availability of seed at the time of procurement.

Grassland Seed Mix #1 would be appropriate for use to revegetate all temporarily disturbed areas outside the solar arrays, with the exception of temporarily disturbed rabbitbrush shrubland and shrub-steppe habitat types and areas that would be returned to agricultural production following construction (as noted in Section 2.3). The example grassland seed mix is presented in Table 2 and contains a mixture of native grasses and pollinator-friendly forbs.

Table 2. Example Grassland Seed Mix #1

Growth Habit	Scientific Name	Common Name	Percent of Mix
Grasses	<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass	42
	<i>Poa secunda</i>	Sandberg bluegrass	24
	<i>Elymus elymoides</i>	Bottlebrush squirreltail	15
	<i>Hesperostipa comata</i>	Needle-and-thread grass	10
Forbs	<i>Achillea millefolium</i>	Yarrow	3
	<i>Dieteria (Machaeranthera) canescens</i>	Hoary-aster	2
	<i>Erigeron pumilus</i>	Shaggy fleabane	2
	<i>Linum lewisii</i>	Wild blue flax	2

A second grassland seed mix, Grassland Seed Mix #2, is suggested for active revegetation under the solar arrays, including areas that previously consisted of agricultural lands or areas at high risk of noxious weed invasion (see Section 3.2). The example seed mix presented in Table 3 contains a mixture of low-growing grasses and forbs which would be compatible with desired vegetation conditions under the solar arrays (i.e., species whose mature height would not interfere with or shade the solar array). Forb species for each grassland seed mix were also chosen because they support native pollinators.

Table 3. Example Grassland Seed Mix #2

Growth Habit	Scientific Name	Common Name	Percent of Mix
Grasses	<i>Poa secunda</i>	Sandberg bluegrass	30
	<i>Elymus elymoides</i>	Bottlebrush squirreltail	30
	<i>Koeleria macrantha</i>	Prairie Junegrass	15
	<i>Achnatherum thurberiana</i>	Thurber's needlegrass	15
Forbs	<i>Achillea millefolium</i>	Yarrow	2
	<i>Astragalus</i> spp.	Milkvetch	2

Growth Habit	Scientific Name	Common Name	Percent of Mix
	(<i>A. caricinus</i> , <i>A. purshii</i> , <i>A. spaldingii</i> , or <i>A. succumbens</i>)		
	<i>Erigeron pumilus</i>	Shaggy fleabane	2
	<i>Eriophyllum lanatum</i>	Oregon sunshine	2
	<i>Linum lewisii</i>	Wild blue flax	2

A Rabbitbrush Shrubland Seed Mix is suggested for the revegetation of temporarily disturbed rabbitbrush shrubland. The example seed mix presented in Table 4 contains a mixture of shrub, grass, and forb species currently found within the rabbitbrush shrubland habitat type within the Project Area.

Table 4. Example Rabbitbrush Shrubland Seed Mix

Growth Habit	Scientific Name	Common Name	Percent of Mix
Shrubs	<i>Ericameria nauseosa</i>	Rubber rabbitbrush	30
Grasses	<i>Poa secunda</i>	Sandberg bluegrass	25
	<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass	25
	<i>Elymus elymoides</i>	Bottlebrush squirreltail	12
Forbs	<i>Dieteria (Machaeranthera) canescens</i>	Hoary-aster	2
	<i>Erigeron filifolius</i>	Threadleaf fleabane	2
	<i>Lupinus sulphureus</i> or <i>L. bingenensis</i>	Sulfur or Bingen Lupine	2
	<i>Phlox longifolia</i>	Longleaf phlox	2

A Shrub-steppe Seed Mix is proposed for revegetation of temporarily disturbed sagebrush shrub-steppe habitat. The example seed mix presented in Table 5 contains a mixture of shrub, grass, and forb species currently found within the shrub-steppe habitat type within the Project Area.

Table 5. Example Shrub-steppe Seed Mix

Growth Habit	Scientific Name	Common Name	Percent of Mix
Shrubs	<i>Artemisia tridentata</i>	Big sagebrush	36
	<i>Ericameria nauseosa</i>	Rubber rabbitbrush	5
	<i>Chrysothamnus viscidiflorus</i>	Green rabbitbrush	4
Grasses	<i>Poa secunda</i>	Sandberg bluegrass	20
	<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass	20
	<i>Elymus elymoides</i>	Bottlebrush squirreltail	5
Forbs	<i>Achillea millefolium</i>	Yarrow	2
	<i>Chaenactis douglasii</i>	Douglas' dustymaidens	2
	<i>Dieteria (Machaeranthera) canescens</i>	Hoary-aster	2
	<i>Erigeron filifolius</i>	Threadleaf fleabane	2

Growth Habit	Scientific Name	Common Name	Percent of Mix
	<i>Sphaeralcea munroana</i>	Munro's globemallow	2

4 REVEGETATION DOCUMENTATION

Records would be kept of revegetation efforts and would include the following data:

- Date construction was completed in the area to be revegetated, or date phase of construction was completed if revegetation occurs at interim points during construction;
- Description of the affected area;
- Date revegetation work was initiated;
- Description of the revegetation work implemented; and
- Supporting figures representing the location and acres of each revegetation area.

The Applicant would update these records periodically as revegetation work occurs and would provide EFSEC with copies of these records.

5 REVEGETATION MONITORING

5.1 Monitoring Procedures

Following implementation of revegetation efforts, the Applicant would monitor the revegetation areas as described in this section, unless the landowner has converted the area to a use inconsistent with the success criteria (e.g., converted to agricultural land). Monitoring of the revegetation areas would be conducted by a qualified investigator annually for 5 years, or until all the Success Criteria (Section 5.2) are met, with the first monitoring period to occur during the first growing season following initial seeding.

During the annual monitoring, a representative cross section of the revegetated area would be inspected to determine if the area is meeting and/or on track to meeting the success criteria described in Section 5.2. The investigator would evaluate the following site conditions during annual monitoring:

- Species composition and percent cover of native forbs, grasses and shrubs;
- Species composition and percent cover of non-native forbs and grasses;
- Percent cover of bare soil;
- Degree of erosion;
- Percent cover of noxious weeds; and
- Qualitative assessment of overall vigor of vegetation within revegetated areas.

Following annual monitoring, a monitoring report would be prepared and would include the following:

- The results of annual monitoring;
- The investigator's assessment of whether the revegetated areas have or are trending toward meeting the success criteria;

- Assessment of factors impacting the ability of the revegetated area to trend towards meeting the success criteria;
- Any need to employ active seeding methods in locations where passive revegetation has been occurring; and
- Recommendations of remedial actions, if any.

The Applicant would submit the results of monitoring to EFSEC within 90 days of the annual monitoring inspection.

5.2 Success Criteria

In each monitoring report, the Applicant would include an assessment of whether the revegetated areas are meeting or trending toward meeting the success criteria. Revegetation areas would be deemed successfully revegetated when the success criteria outlined below are met. If the success criteria outlined in the sections below are not met by Year 5, a remedial action strategy as discussed in Section 5.3 would be outlined in the final report and implemented.

Additionally, the success criteria in this plan are intended to support the Project successfully filing for Notice of Termination (NOT) for the construction National Pollutant Discharge Elimination System (NPDES) permit. Eligibility criteria for NOT are provided in the Construction Stormwater General Permit (CSWGP) (Ecology 2020), and require that the site has undergone final stabilization. Final stabilization is defined in the CSWGP as “the completion of all soil disturbing activities at the site and the establishment of permanent vegetative cover, or equivalent permanent stabilization measures (such as pavement, riprap, gabions, or geotextiles) which will prevent erosion,” and refers to the Stormwater Management Manual for Eastern Washington (SWMMEW) (Ecology 2019) for vegetative cover success criteria. The vegetative cover success criteria in the SWMMEW are provided as part of BMP C120E: Temporary and Permanent Seeding, and require that seeded areas establish greater than or equal to 50 percent cover (100 percent cover for areas that receive sheet or concentrated flows) of all seeded areas after 3 months of active growth following germination during the growing season.

5.2.1 Success Criteria for Active Revegetation of Temporarily Disturbed Areas

Success criteria for revegetation of areas temporarily disturbed by construction would be based on the habitat type of the revegetated area prior to construction (See Table 1) and the seed mix used to actively revegetate the area. An area would be deemed successfully revegetated when the following success criteria are met:

- Total cover of desirable¹ vegetation within revegetated areas of eastside (interior) and planted grassland habitat types exceeds 50 percent. In addition, cover of state or county designated noxious weeds (as discussed in Section 6) is less than 5 percent.
- For revegetated areas of non-native grassland & forland and developed/disturbed habitat types, total cover of desirable vegetation exceeds 30 percent and density of state or county designated noxious weeds is equal to or less than the adjacent habitat.
- Total cover of seeded shrub species within revegetated rabbitbrush shrubland and sagebrush shrub-steppe habitat types exceeds 10 percent, cover of desirable grasses and forbs exceeds 25 percent, and cover of state or county designated noxious weeds is less than 5 percent.

¹ Desirable vegetation includes those species included in the seed mix as well as any native species that have established voluntarily.

5.2.2 Success Criteria for Revegetation within the Solar Array Perimeter Fence

Passively revegetated areas within the solar array perimeter fence would be deemed successfully revegetated when the following success criteria are met:

- Total cover of desirable vegetation (i.e., native grass or forb species) within revegetated habitat exceeds 50 percent.
- Total cover of state or county designated noxious weeds is less than 5 percent.

5.3 Remedial Action

Remedial action options would be identified in cases where success criteria are not met by Year 5 of annual monitoring, whether due to wildfire subsequent to Project construction or because of lower-than-expected rates of germination or survival. Remedial actions may include reseeding the affected area, planting container plants, additional noxious weed control, or other measures as needed. In addition, if during annual monitoring prior to Year 5, it is determined that the revegetation area does not appear to be trending toward meeting the success criteria, the investigator would make recommendations for remedial actions. The Applicant would include the investigator’s recommendations for remedial actions and the measures taken in that year’s monitoring report.

6 NOXIOUS WEED PREVENTION AND CONTROL

Noxious weeds are those invasive weed species that are of elevated economic or environmental concern to the State of Washington or local jurisdictions and receive priority during management planning and operations. In Benton County, control of noxious weeds is overseen by the Benton County Noxious Weed Control Board.

Noxious weed species can adversely affect the structure, composition, and success of revegetation efforts. The intent of noxious weed management outlined in this Plan is to provide clear methods to prevent the introduction and spread of designated noxious weeds from the construction and operation of the Project, to control existing populations of noxious weeds within construction and revegetation areas, and to monitor the effectiveness of efforts to prevent and control noxious weeds.

6.1 Noxious Weeds Identified within the Project Area

Eight Washington State and Benton County designated noxious weeds were documented within the Project Area during surveys conducted in 2021 and 2022 (Tetra Tech 2022a, b)². These species and their state and county weed status are presented in Table 6. The current lists of Washington State and Benton County designated noxious weeds are provided in Attachments A and B, respectively.

Table 6. Noxious Weeds Documented within the Project Area

Scientific Name	Common Name	State and County Status ¹	Frequency ²
<i>Aegilops cylindrica</i>	jointed goatgrass	C / C	Observed in one location in the 2021 survey area.

² In addition to the eight species listed in Table 6, one small population of kochia (*Bassia [Kochia] scoparia*) was documented within the Project Lease Boundary, but outside the Project Area, during surveys conducted for the Project.

Scientific Name	Common Name	State and County Status ¹	Frequency ²
<i>Centaurea diffusa</i>	diffuse knapweed	B / B	Abundant in the 2021 survey area and common in the 2022 survey area.
<i>Chondrilla juncea</i>	rush skeletonweed	B / B	Common in the 2021 survey area.
<i>Convolvulus arvensis</i>	morning glory	C / C	Common in the 2021 survey area and observed in two locations in the 2022 survey area.
<i>Elaeagnus angustifolia</i>	Russian olive	C / Not listed	Observed in one location in the 2021 survey area.
<i>Rhaponticum (Acroptilon) repens</i>	Russian thistle	B / B	Observed in one location in the 2021 survey area.
<i>Secale cereale</i>	cereal rye	C / C	Abundant in the 2021 survey area and common in the 2022 survey area.
<i>Taeniatherum caput-medusae</i>	medusahead	C / C	Observed in 2 locations in the 2021 survey area.

¹"Class B" weeds: Non-native species presently limited to portions of the state. Species are designated for required control in regions where they are not yet widespread. Preventing new infestations in these areas is a high priority. In regions where a Class B species is already abundant, control is decided at the local level, with containment as the primary goal.

"Class C" weeds: Noxious weeds that are typically widespread in the state or are of special interest to the state's agricultural industry. These weeds are selected by the County Board of Directors. The Class C status allows county weed boards to require control if locally desired, or they may choose to provide education or technical consultation (BCNWCB 2022; WSNWCB 2021).

² Frequency based on Tetra Tech 2022a, b. Locations of 2021 and 2022 survey areas are provided in Tetra Tech 2022a, b.

6.2 Noxious Weed Management

The Applicant's primary objective for weed management is to prevent the introduction of new noxious weed populations and control the spread of existing noxious weed populations. Early detection and management of small populations of noxious weeds before they expand into larger populations is extremely important for successful control of noxious weeds. Noxious weed prevention and control would occur during both construction and operation of the Project. Prevention and control methods are discussed in more detail below.

6.2.1 Education and Personnel Requirements

Prior to construction, all construction personnel would be instructed on the importance of controlling noxious weeds and would receive training regarding noxious weed identification and management. O&M personnel would be similarly trained. The importance of preventing the spread of noxious weeds in areas not currently infested, as well as controlling the proliferation of noxious weeds already present within or near the Project, would be emphasized. Information regarding noxious weed species would also be provided for reference at the O&M facilities.

6.2.2 Prevention

The following best management practices would be implemented to avoid and minimize the spread of noxious weeds during construction, revegetation efforts, and O&M activities.

- Areas of noxious weed infestations would be flagged, where practical, prior to construction to alert construction personnel to their presence and limit or prevent access to those areas.

- Vehicle access would be limited to designated routes, whether existing roads or newly constructed roads, and the outer limits of constructed-related disturbances.
- Vehicle traffic would be restricted or minimized in noxious weed-infested areas.
- Vehicles would be cleaned after performing work in noxious weed-infested areas.
- Topsoil and other soils that came from noxious weed-infested areas would be identified and placed next to the infested areas, so they are returned to their previous location during reclamation activities.
- Soils from infested areas would be treated with a pre-emergent herbicide prior to initiation of revegetation efforts, depending on site-specific conditions.
- Conditions favorable for noxious weed germination and spread would be minimized by revegetating temporarily disturbed areas as soon as practicable.
- Areas of disturbance would be monitored for noxious weeds after construction, during the normal course of revegetation of temporary workspaces, and control measures would be implemented as appropriate.
- Seed and straw mulch (used for site rehabilitation and revegetation) would be certified free of noxious weed seed and propagules.

6.2.3 Treatment

Noxious weed treatment would focus on control of existing populations of noxious weeds within areas proposed to be disturbed by construction, including revegetation areas. Additionally, if it is determined that noxious weeds have invaded areas immediately adjacent to disturbance areas as a result of construction, the Applicant would contact the landowner and seek approval to treat those noxious weed populations as well. This would help minimize recolonization or spread of noxious weeds from adjacent areas into revegetation areas. New noxious weeds detected in the Project area during post-construction restoration and revegetation would be considered a result of construction or revegetation activities and would also be controlled and treated accordingly.

The Applicant would be responsible for hiring a qualified contractor to implement the treatment of noxious weeds. Treatment of target noxious weeds would differ, depending on the disturbed area, the proximity to biologically sensitive areas (e.g., ephemeral streams), size of infestation, and the specific noxious weed being controlled. Control of noxious weeds would be implemented through manual and mechanical or chemical control measures, which are described further below.

6.2.3.1 Manual and Mechanical Treatment

Manual or mechanical control methods rely on removing plants, removing seed heads, and/or cutting roots with a shovel or other hand tools or equipment that can be used to remove, mow, or disc noxious weed populations. Hand removal of plants is also included under this treatment method. Mechanical methods are useful for smaller, isolated populations of noxious weeds or in areas of sensitive habitats. Additionally, hand removal of small infestations can minimize soil disturbance, allowing desirable species to remain and limiting the development of conditions that are favorable for noxious weeds (e.g., disturbed soils or areas cleared of vegetation).

Some rhizomatous plants can spread when the soil is disced or tilled; therefore, the decision whether to implement discing would be species and site-specific. If such a method is used in areas to be revegetated, subsequent seeding would be conducted to reestablish desirable vegetative cover that would stabilize the soils and reduce the potential for re-invasion of noxious weeds.

6.2.3.2 *Chemical Treatment*

Chemical control can effectively remove noxious weeds through use of selective herbicides. Only herbicides approved by the U.S. Environmental Protection Agency and Washington Department of Agriculture and specific to the noxious weeds being treated would be applied, and appropriate best management practices would be implemented during application. Prior to construction and every fall season during Project operation, the Applicant or its contractor would consult with the Benton County Weed Control website to determine if there have been changes to the county noxious weed list that may require a change to currently approved control methods.

7 NOXIOUS WEED MONITORING AND REPORTING

During construction, periodic monitoring for noxious weeds would be conducted by construction staff within and adjacent to areas disturbed by construction (the timing of these monitoring efforts is described below). Any signs of new noxious weed infestations, or of re-growth of existing noxious weeds in areas where treatment has previously occurred, would be addressed promptly with further herbicide or mechanical treatments or other best management practices.

Once construction has been completed and revegetation efforts have been initiated, a qualified investigator would be employed to assess noxious weed growth and to make recommendations on noxious weed control measures (see Section 5). Monitoring would be conducted annually for 5 years, or until all the Success Criteria (Section 5.2), are met, with the first monitoring period to occur during the first growing season following initial seeding of revegetation areas. Noxious weed monitoring would consist of a site survey, conducted during the growing season, to identify noxious weed species that have established within and adjacent to the revegetation areas, as well as inspections of treated areas to assess the success of previous noxious weed treatments. These inspections would be used to inform ongoing noxious weed control efforts.

The results of the first annual monitoring would be summarized in a monitoring report that details the locations of all noxious weed species observed and identifies treatment protocols for these species. Subsequent monitoring would assess the success of noxious weed treatments and would document any new noxious weed infestations observed. These results would be summarized in short memoranda that describe the treatment success or failure, make recommendations to improve treatment success (if necessary), and note any new noxious weed species or emergence. The annual monitoring report and memorandums would be submitted to EFSEC and the Benton County Noxious Weed Control Board following each annual inspection.

8 WILDFIRE RESTORATION

If a wildlife habitat mitigation area (see Wildlife Habitat Mitigation Plan) is damaged by wildfire during the first five years following project construction, the applicant would work with the landowner to restore the damaged area either through passive revegetation or active seeding generally as described in Section 3.3. The applicant would continue to report on revegetation progress during the remainder of the five-year period.

9 REFERENCES

BCNWCB (Benton County Noxious Weed Control Board). 2022. 2022 Benton County Noxious Weed List. Available online at: <http://www.bentonweedboard.com/> (Accessed January 2023).

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- Ecology (Washington Department of Ecology). 2019. Stormwater Management Manual for Eastern Washington. Publication Number 18-10-044. August. Available online at: <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Stormwater-manuals>
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- Franklin, J.F., and C.T. Dyrness. 1988. Natural Vegetation of Oregon and Washington. Oregon State University Press. Available online at: <http://www.fsl.orst.edu/rna/Documents/publications/Natural%20vegetation%20of%20Oregon%20and%20Washington%201988.pdf>
- Tetra Tech. 2022a. Wautoma Solar Energy Project Botanical Survey Report. Prepared for Innergex Renewable Development USA, LLC. April.
- Tetra Tech. 2022b. Wautoma Solar Project – Botanical Survey Addendum. Prepared for Innergex Renewable Development USA, LLC. August.
- WSNWCB (Washington State Noxious Weed Control Board). 2021. 2021 Washington State Noxious Weed List. Available online at: <https://www.nwcb.wa.gov/printable-noxious-weed-list> (Accessed January 2023).
- Western Regional Climate Center. 2021. Priest Rapids Dam, Washington Climate Summaries. <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?wa6747>. Accessed on February 28, 2022.

**ATTACHMENT A
2021 WASHINGTON STATE
NOXIOUS WEED LIST**

Class C Weeds

<i>Aegilops cylindrica</i>	jointed goatgrass
<i>Ailanthus altissima</i>	tree-of-heaven
<i>Alopecurus myosuroides</i>	blackgrass
<i>Artemisia absinthium</i>	absinth wormwood
<i>Arum italicum</i>	Italian arum
<i>Berberis vulgaris</i>	common barberry
<i>Cenchrus longispinus</i>	longspine sandbur
<i>Centromadia pungens</i>	spikeweed
<i>Cirsium arvense</i>	thistle, Canada
<i>Cirsium vulgare</i>	thistle, bull
<i>Clematis vitalba</i>	old man's beard
<i>Convolvulus arvensis</i>	field bindweed
<i>Cortaderia jubata</i>	jubata grass
<i>Cortaderia selloana</i>	Pampas grass
<i>Crataegus monogyna</i>	English hawthorn
<i>Cuscuta approximata</i>	smoothseed alfalfa dodder
<i>Daucus carota</i>	wild carrot (except where commercially grown)
<i>Dipsacus fullonum</i>	common teasel
<i>Elaeagnus angustifolia</i>	Russian olive
<i>Gypsophila paniculata</i>	babysbreath
<i>Hedera helix</i> 'Baltica', 'Pittsburgh', and 'Star', and <i>H. hibernica</i> 'Hibernica'	English ivy - four cultivars only
<i>Hyoscyamus niger</i>	black henbane
<i>Hypericum perforatum</i>	common St. Johnswort
<i>Hypochaeris radicata</i>	common catsear
<i>Impatiens capensis</i>	spotted jewelweed
<i>Iris pseudacorus</i>	yellow flag iris
<i>Lepidium appelianum</i>	hairy whitetop
<i>Lepidium draba</i>	hoary cress
<i>Leucanthemum vulgare</i>	oxeye daisy
<i>Linaria vulgaris</i>	yellow toadflax
<i>Myriophyllum spicatum</i> x <i>Myriophyllum sibiricum</i>	Eurasian watermilfoil hybrid
<i>Nanozostera japonica</i>	Japanese eelgrass
<i>Nymphaea odorata</i>	fragrant waterlily
<i>Phalaris arundinacea</i>	reed canarygrass
<i>Potamogeton crispus</i>	curlyleaf pondweed
<i>Rorippa austriaca</i>	Austrian fieldcress
<i>Rubus bifrons</i> (<i>Rubus armeniacus</i>)	Himalayan blackberry
<i>Rubus laciniatus</i>	evergreen blackberry
<i>Secale cereale</i>	cereal rye

Class C Weeds continued

<i>Senecio vulgaris</i>	common groundsel
<i>Silene latifolia</i>	white cockle
<i>Solanum rostratum</i>	buffalobur
<i>Soliva sessilis</i>	lawnweed
<i>Sonchus arvensis</i>	perennial sowthistle
<i>Sphaerophysa salsula</i>	Swainsonpea
<i>Taeniatherum caput-medusae</i>	medusahead
<i>Tanacetum vulgare</i>	common tansy
<i>Tripleurospermum inodorum</i>	scentless mayweed
<i>Typha</i> species	nonnative cattail species and hybrids (reminder, does not include the native common cattail, <i>Typha latifolia</i>)
<i>Ventenata dubia</i>	ventenata
<i>Xanthium spinosum</i>	spiny cocklebur

To learn more about noxious weeds and noxious weed control in Washington State, please contact:

WA State Noxious Weed Control Board

P.O. Box 42560
Olympia, WA 98504-2560
(360) 725-5764

Email: noxiousweeds@agr.wa.gov
Website: <http://www.nwcb.wa.gov>

Or

WA State Department of Agriculture
(509) 249-6973

Or

Your County Noxious Weed Control Board

Please help protect Washington's economy and environment from noxious weeds!

Cover photo of Turkish thistle by Mark Porter, Oregon Department of Agriculture

2021

Washington State Noxious Weed List



Turkish thistle, *Carduus cinereus*, is a new Class A noxious weed for 2021. This annual thistle is found close to Washington in northeastern Oregon and the adjacent area in Idaho. Eradication is required of Turkish thistle when found in Washington.

List arranged alphabetically by:

SCIENTIFIC NAME



Class A Weeds: Non-native species whose distribution in Washington is still limited. Preventing new infestations and eradicating existing infestations are the highest priority. **Eradication of all Class A plants is required by law.**

Class B Weeds: Non-native species presently limited to portions of the State. Species are **designated** for required control in regions where they are not yet widespread. Preventing new infestations in these areas is a high priority. In regions where a Class B species is already abundant, control is decided at the local level, with containment as the primary goal. Please contact your County Noxious Weed Control Board to learn which species are designated for control in your area.

Class C Weeds: Noxious weeds that are typically widespread in WA or are of special interest to the state's agricultural industry. The Class C status allows county weed boards to require control if locally desired, or they may choose to provide education or technical consultation.

Class A Weeds
Eradication is required

<i>Alliaria petiolata</i>	garlic mustard
<i>Brachypodium sylvaticum</i>	false brome
<i>Butomus umbellatus</i>	flowering rush
<i>Carduus cinereus</i>	thistle, Turkish
<i>Carduus pycnocephalus</i>	thistle, Italian
<i>Carduus tenuiflorus</i>	thistle, slenderflower
<i>Centaurea calcitrapa</i>	purple starthistle
<i>Centaurea macrocephala</i>	knawweed, bighead
<i>Centaurea nigrescens</i>	knawweed, Vochin
<i>Clematis orientalis</i>	oriental clematis
<i>Crupina vulgaris</i>	common crupina
<i>Euphorbia oblongata</i>	eggleaf spurge
<i>Galega officinalis</i>	goatsrue
<i>Genista monspessulana</i>	French broom
<i>Glyceria maxima</i>	reed sweetgrass
<i>Helianthus ciliaris</i>	Texas blueweed
<i>Heraclium mantegazzianum</i>	giant hogweed
<i>Hydrilla verticillata</i>	hydrilla
<i>Impatiens parviflora</i>	small-flowered jewelweed
<i>Isatis tinctoria</i>	dyer's woad
<i>Limnobiium laevigatum</i>	South American spongeplant
<i>Ludwigia peploides</i>	floating primrose-willow
<i>Mirabilis nyctaginea</i>	wild four-o'clock

<i>Mriophyllum heterophyllum</i>	variable-leaf milfoil
<i>Pueraria montana</i> var. <i>lobata</i>	kudzu
<i>Salvia aethiopsis</i>	sage, Mediterranean
<i>Salvia pratensis</i>	meadow clary
<i>Salvia sclarea</i>	sage, clary
<i>Schoenoplectus mucronatus</i>	ricefield bulrush
<i>Silybum marianum</i>	thistle, milk
<i>Solanum elaeagnifolium</i>	silverleaf nightshade
<i>Sorghum halepense</i>	Johnsongrass
<i>Spartina alterniflora</i>	cordgrass, smooth
<i>Spartina anglica</i>	cordgrass, common
<i>Spartina densiflora</i>	cordgrass, dense-flowered
<i>Spartina patens</i>	cordgrass, saltmeadow
<i>Spartium junceum</i>	Spanish broom
<i>Zygophyllum fabago</i>	Syrian beancaper

Class B Weeds

<i>Abutilon theophrasti</i>	velvetleaf
<i>Alhagi maurorum</i>	camelthorn
<i>Amorpha fruticosa</i>	indigobush
<i>Anchusa officinalis</i>	bugloss, common
<i>Anthriscus sylvestris</i>	wild chervil
<i>Bassia scoparia</i>	kochia
<i>Berteroa incana</i>	hoary alyssum
<i>Bryonia alba</i>	white bryony
<i>Buddleja davidii</i>	butterfly bush
<i>Cabomba caroliniana</i>	fanwort
<i>Carduus acanthoides</i>	thistle, plumeless
<i>Carduus nutans</i>	thistle, musk
<i>Centaurea x gerstlaueri</i>	knawweed, meadow
<i>Centaurea diffusa</i>	knawweed, diffuse
<i>Centaurea jacea</i>	knawweed, brown
<i>Centaurea melitensis</i>	Malta starthistle
<i>Centaurea nigra</i>	knawweed, black
<i>Centaurea solstitialis</i>	yellow starthistle
<i>Centaurea stoebe</i>	knawweed, spotted
<i>Chondrilla juncea</i>	rush skeletonweed
<i>Conium maculatum</i>	poison hemlock
<i>Cynoglossum officinale</i>	houndstongue
<i>Cyperus esculentus</i>	yellow nutsedge
<i>Cytisus scoparius</i>	Scotch broom
<i>Daphne laureola</i>	spurge laurel
<i>Echium vulgare</i>	blueweed
<i>Egeria densa</i>	Brazilian elodea
<i>Epilobium hirsutum</i>	hairy willowherb

<i>Euphorbia myrsinites</i>	spurge, myrtle
<i>Euphorbia virgata</i>	spurge, leafy
<i>Fallopia x bohemica</i>	knotweed, Bohemian
<i>Fallopia japonica</i>	knotweed, Japanese
<i>Fallopia sachalinensis</i>	knotweed, giant
<i>Ficaria verna</i>	lesser celandine
<i>Foeniculum vulgare</i> except <i>F. vulgare</i> var. <i>azoricum</i>)	common fennel, (except bulbing fennel)
<i>Geranium lucidum</i>	shiny geranium
<i>Geranium robertianum</i>	herb-Robert
<i>Hieracium aurantiacum</i>	hawkweed, orange
<i>Hieracium</i> , subgenus <i>Hieracium</i>	hawkweeds: All nonnative species and hybrids of the wall subgenus
<i>Hieracium</i> , subgenus <i>Pilosella</i>	hawkweeds: All nonnative species and hybrids of the meadow subgenus
<i>Impatiens glandulifera</i>	policeman's helmet
<i>Jacobaea vulgaris</i>	tansy ragwort
<i>Lamiastrum galeobdolon</i>	yellow archangel
<i>Lepidium latifolium</i>	perennial pepperweed
<i>Linaria dalmatica</i> ssp. <i>dalmatica</i>	Dalmatian toadflax
<i>Ludwigia hexapetala</i>	water primrose
<i>Lycopsis arvensis</i>	bugloss, annual
<i>Lysimachia vulgaris</i>	loosestrife, garden
<i>Lythrum salicaria</i>	loosestrife, purple
<i>Lythrum virgatum</i>	loosestrife, wand
<i>Mriophyllum aquaticum</i>	parrotfeather
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil
<i>Nymphoides peltata</i>	yellow floatingheart
<i>Onopordum acanthium</i>	thistle, Scotch
<i>Persicaria wallichii</i>	knotweed, Himalayan
<i>Phragmites australis</i>	common reed (nonnative genotypes only)
<i>Picris hieracioides</i>	hawkweed oxtongue
<i>Potentilla recta</i>	sulfur cinquefoil
<i>Rhaponticum repens</i>	knawweed, Russian
<i>Sagittaria graminea</i>	grass-leaved arrowhead
<i>Tamarix ramosissima</i>	saltcedar
<i>Thymelaea passerina</i>	spurge flax
<i>Tribulus terrestris</i>	puncturevine
<i>Tripidium ravennae</i>	Ravenna grass
<i>Tussilago farfara</i>	European coltsfoot
<i>Ulex europaeus</i>	gorse

ATTACHMENT B
2022 BENTON COUNTY NOXIOUS WEED LIST

Benton County Noxious Weed Control Board

Philosophy and Weed Control Policy

The Benton County Noxious Weed Control Board (BCNWCB) was activated in 1991 pursuant to the Revised Code of Washington (RCW) 17010. The Weed Board is funded by the residents of Benton County at a rate of \$5.00 per parcel and \$0.005 per acre.

Philosophy

The Benton County Noxious Weed Control Board shall promote weed control by instituting a program which emphasizes education as a means to assist landowners in the identification of noxious weeds and implementation of appropriate management practices necessary to control or prevent the spread of designated plants on the Benton County Noxious Weed List.

The Board will provide trained field staff to assist the land owners. The Field staff are regulatory inspectors and if needed, will require control of weeds on the control list. The weed board will promote weed control through public seminars, newsletters, displays and regularly scheduled board meetings. Landowners are responsible for the control of noxious weeds on their property.

Weed Control Policy

The policy of the Benton County Noxious Weed Control Board is to work with growers, land owners, local and state agencies to identify noxious weed populations and to develop plans for noxious weed control.

It is Benton County Noxious Weed Control Board's primary objective to educate and encourage landowners to control noxious weeds voluntarily. When BCNWCB staff identifies a weed that is listed on the Noxious Weed Control List they will send the landowner a letter identifying the weed(s), their location, control alternatives and timeline for successful control. If a landowner or entity does not comply with a notice of control the weed board will not hesitate to take enforcement action. Washington State RCW 16.750 allows monetary penalties to be assessed per parcel, per noxious weed species, day after expiration of the notice to control.

With the exception of the test plots it is not the job BCNWCB staff to remove or control noxious weeds from private or public lands. Staff's primary job is to identify and educate landowners and entities on the proper control of noxious weeds. There may be limited cases when the Benton County Noxious Weed Control Board will enter into an MOU with a local or state entity to control listed noxious weed species on a cost reimbursement basis.



**Above -Yellow starthistle with biological control
(Eustenopus villosus)**

**Below -North side of Rattlesnake mountain with
lupin**



2022 Benton County Noxious Weed List



**1841 Terminal Drive
Richland, WA 99354
Phone: 509-943-6005**

**E-mail: bcnwcb@frontier.com
Web: bentonweedboard.com**

Class A Weeds: Non-native species whose distribution in Washington is still limited. Preventing new infestations and eradication is required by law.

flowering rush	<i>Butomus umbellatus</i>
common crupina	<i>Crupina vulgaris</i>
cordgrass, common	<i>Spartina anglica</i>
cordgrass, dense-flowered	<i>Spartina densiflora</i>
cordgrass, saltmeadow	<i>Spartina patens</i>
cordgrass, smooth	<i>Spartina alterniflora</i>
dyer's woad	<i>Isatis tinctoria</i>
eggleaf spurge	<i>Euphorbia oblongata</i>
false-brome	<i>Brachypodium sylvaticum</i>
floating primrose-willow	<i>Ludwigia peploides</i>
French broom	<i>Genista monspessulan</i>
garlic mustard	<i>Alliaria petiolata</i>
giant hogweed	<i>Heracleum mantegazzianum</i>
goatsrue	<i>Galega officinalis</i>
hydrilla	<i>Hydrilla verticillata</i>
Johnsongrass	<i>Sorghum halepense</i>
knapweed, bighead	<i>Centaurea macrocephala</i>
knapweed, Vochin	<i>Centaurea nigrescens</i>
kudzu	<i>Pueraria montana var. lobata</i>
meadow clary	<i>Salvia pratensis</i>
oriental clematis	<i>Clematis orientalis</i>
purple starthistle	<i>Centaurea calcitrapa</i>
reed sweetgrass	<i>Glyceria maxima</i>
ricefield bulrush	<i>Schoenoplectus mucronatus</i>
sage, clary	<i>Salvia sclarea</i>
sage, Mediterranean	<i>Salvia aethiopis</i>
silverleaf nightshade	<i>Solanum elaeagnifolium</i>
Small flower jewelweed	<i>Impatiens parviflora</i>
south American spongeplant	<i>Limnium laevigatum</i>
spanish broom	<i>Spartium junceum</i>
spurge flax	<i>Thymelaea passerina</i>
syrian beancaper	<i>Zygophyllum fabago</i>
tyexas blueweed	<i>Helianthus ciliaris</i>
thistle, Italian	<i>Carduus pycnocephalus</i>
thistle, milk	<i>Silybum marianum</i>
thistle, slenderflower	<i>Carduus tenuiflorus</i>
thistle, Turkish	<i>Carduus cinereus</i>
variable-leaf milfoil	<i>Myriophyllum heterophyllum</i>
wild four-o'clock	<i>Mirabilis nyctaginea</i>

Class B Weeds: Non-native species presently limited to portions of the State. Species are designated for control in regions where they are not yet wide spread. Preventing new infestations in these areas is a high priority.

Class B Weeds Found in Benton County

camelthorn	<i>Alhagi maurorum</i>
common reed (nonnative genotypes)	<i>Phragmites australis</i>
dalmatian toadflax	<i>Linaria dalmatica ssp. dalmatica</i>
eurasian watermilfoil	<i>Myriophyllum spicatum</i>
hairy willowherb	<i>Epilobium hirsutum</i>
Houndstongue	<i>Cynoglossum officinale</i>
indigobush	<i>Amorpha fruticosa</i>
knapweed, diffuse	<i>Centaurea diffusa</i>
knapweed, Russian	<i>Rhaponticum repens</i>
knapweed, spotted	<i>Centaurea stoebe</i>
knotweed, Bohemian	<i>Polygonum x bohemicum</i>
knotweed, Japanese	<i>Fallopia japonica</i>
kochia	<i>Bassia scoparia</i>
loosestrife, purple	<i>Lythrum salicaria</i>
perennial pepperweed	<i>Lepidium latifolium</i>
poison-hemlock	<i>Conium maculatum</i>
puncturevine	<i>Tribulus terrestris</i>
ravenna grass	<i>Tripidium ravennae</i>
rush skeletonweed	<i>Chondrilla juncea</i>
saltcedar	<i>Tamarix ramosissima</i>
spurge, myrtle	<i>Euphorbia myrsinites</i>
thistle, musk	<i>Carduus nutans</i>
thistle, Scotch	<i>Onopordum acanthium</i>
velvetleaf	<i>Abutilon theophrasti</i>
white bryony	<i>Bryonia alba</i>
yellow nutsedge	<i>Cyperus esculentus</i>
yellow starthistle	<i>Centaurea solstitialis</i>

Additional Class B Weeds

blueweed	<i>Echium vulgare</i>
brazilian elodea	<i>Egeria densa</i>
bugloss, annual	<i>Anchusa arvensis</i>
bugloss, common	<i>Anchusa officinalis</i>
butterflybush	<i>Buddleja davidii</i>
common fennel (except bulbing fennel)	<i>Foeniculum vulgare (except F. vulgare var. azoricum)</i>
European coltsfoot	<i>Tussilago farfara</i>
fanwort	<i>Cabomba caroliniana</i>
gorse	<i>Ulex europaeus</i>
grass-leaved arrowhead	<i>Sagittaria graminea</i>
Hanging sedge	<i>Carex peddula</i>
hawkweed oxtongue	<i>Picris hieracioides</i>
hawkweed, orange	<i>Hieracium aurantiacum</i>
Hawkweeds: all non-native species and hybrids	<i>Hieracium, subgenus Pilosella</i>
Hawkweeds: all nonnative species and hybrids	<i>Hieracium subgenus Hieracium</i>
herb-Robert	<i>Geranium robertianum</i>
hoary alyssum	<i>Berteroa incana</i>
knapweed, black	<i>Centaurea nigra</i>
knapweed, brown	<i>Centaurea jacea</i>
knapweed, meadow	<i>Centaurea x moncktonii</i>
knotweed, giant	<i>Polygonum sachalinense</i>
knotweed, Himalayan	<i>Persicaria wallichii</i>
lesser celandine	<i>Ficaria verna</i>
loosestrife, garden	<i>Lysimachia vulgaris</i>
loosestrife, wand	<i>Lythrum virgatum</i>
malta starthistle	<i>Centaurea melitensis</i>
parrotfeather	<i>Myriophyllum aquaticum</i>
policeman's helmet	<i>Impatiens glandulifera</i>
Scotch broom	<i>Cytisus scoparius</i>
Rough chervil	<i>Chaerophyllum temulum</i>
spurge flax	<i>Tymelaea passerina</i>
shiny geranium	<i>Geranium lucidum</i>
spurge laurel	<i>Daphne laureola</i>
spurge, leafy	<i>Euphorbia Euphorbia</i>
sulfur cinquefoil	<i>Potentilla recta</i>
tansy ragwort	<i>Jacobaea vulgaris</i>
thistle, plumeless	<i>Carduus acanthoides</i>
water primrose	<i>Ludwigia hexapetala</i>
wild chervil	<i>Anthriscus sylvestris</i>
Wild basil, Savory basil	<i>Clinopodium vulgare</i>
yellow archangel	<i>Lamiastrum galeobdolon</i>
yellow floatingheart	<i>Nymphoides peltata</i>

Class C Weeds: Are selected by the County Board of Directors. These weeds which are already widespread in WA or are of special interest to the state's agricultural industry.

babysbreath	<i>Gypsophila paniculata</i>
buffalobur	<i>Solanum rostratum</i>
cereal rye	<i>Secale cereale</i>
common St. johnswort	<i>Hypericum perforatum</i>
Common Teasel	<i>Dipsacus fullonum</i>
field bindweed	<i>Convolvulus arvensis</i>
fragrant waterlily	<i>Nymphaea odorata</i>
hairy whitetop	<i>Lepidium appelianum</i>
hoary cress	<i>Lepidium draba</i>
jointed goatgrass	<i>Aegilops cylindrica</i>
longspine sandbur	<i>Cenchrus longispinus</i>
Medusahead	<i>Taeniatherum caput-medusae</i>
pampas grass	<i>Cortaderia selloana</i>
reed canarygrass	<i>Phalaris arundinacea</i>
smoothseed alfalfa dodder	<i>Cuscuta approximata</i>
spikeweed	<i>Hemizonia pungens</i>
spiny cocklebur	<i>Xanthium spinosum</i>
Swansonpea	<i>Spherophysa salsula</i>
thistle, bull	<i>Cirsium vulgare</i>
thistle, Canada	<i>Cirsium arvense</i>
yellowflag iris	<i>Iris pseudacorus</i>

**2022
Benton County
Noxious
Weed List**

**Controlling Noxious
Weeds Is Everyone's
Responsibility!**