Noxious Weed Management Plan

for
PacifiCorp's Bigfork Hydroelectric Project
FERC Project No. 2652

Prepared for:

PACIFICORP

In Consultation with:
US Fish and Wildlife Service
Montana Fish Wildlife and Parks
Flathead County Weed Control District

Prepared by:

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July 16, 2004

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1.0 INTRODUCTION

This document is a Noxious Weed Control Plan (NWCP) for PacifiCorp's Bigfork Hydroelectric Project located in Bigfork, Montana at the mouth of the Swan River. The primary objective of this plan is to prevent noxious weed establishment and/or spread within the FERC project boundary lands in a manner that is consistent with all state laws and Flathead County ordinances that pertain to weed management. Specific goals of the NWCP are to:

1. Protect areas that are currently not infested with weeds.

2. Contain and reduce established weed populations and prevent spread to non-infested sites; and

3. Restore, establish, and/or maintain healthy native plant communities.

1.1 FERC REQUIREMENTS

The Bigfork Project received a new operating license from the Federal Energy Regulatory Commission (FERC) on July 25, 2003. Article 410 of the FERC license requires that PacifiCorp file a noxious weed control plan with FERC within 1 year from the date of the new license, and that the plan include the following elements:

1. Specific goals and objectives;

2. Measures to promote public education and awareness of the threat of noxious weeds;

3. Methods for the prevention and early detection of noxious weed infestations, including how frequent project lands and waters would be inspected;

4. Methods for controlling noxious weed infestations along with an evaluation of the costs and benefits of various treatment methods (mechanical, biological, and chemical);

5. Methods for evaluating the effectiveness of implemented noxious weed control measures;

6. Schedule for all actions contained in the plan and for filing noxious weed monitoring reports with the Commission; and

7. Schedule for periodically reviewing the plan to incorporate new data or changes in weed management practices.

1.2 MONTANA STATE NOXIOUS WEED LAWS

Both state and county laws exist to control noxious weeds in Montana. The state of Montana defines a noxious weed as "any exotic plant species established or that may be introduced into the state which may render land unfit for agriculture, forestry, livestock, wildlife, or other beneficial uses or that may harm native plant communities" (Montana Weed Control Association 2001).

The Montana County Noxious Weed Control Act states that "It is unlawful for any person to permit any noxious weed to propagate or go to seed on the person's land, except that any person who adheres to the noxious weed management program of the person's weed management district or who has entered into and is in compliance with a noxious weed management agreement is considered to be in compliance with this section" (Montana Code Annotated Title 7 Chapter 22 Part 21).

The State of Montana maintains a list of State Noxious Weeds, and for management purposes, has developed the following three categories (MWCA 2001):

Category 1: A noxious weed that is currently established and generally widespread in many counties of the state. These weeds are capable of rapid spread and render land unfit or greatly limit beneficial uses. Management actions for this category include awareness and education, containment and suppression of existing infestations and prevention of new infestations.

Category 2: A noxious weed that has been recently introduced into the state or is rapidly spreading from the current infestation sites. These weeds are capable of rapid spread and invasion of lands, rendering lands unfit for beneficial uses. Management actions for this category are awareness and education, monitoring and containment of known infestations and eradication where possible.

Category 3: A noxious weed that has not been detected in the state or may be found only in small, scattered, localized infestations. These weeds are known pests in nearby states and are capable of rapid spread and render lands unfit for beneficial uses. Management actions for this category are awareness and education, early detection and immediate action to eradicate infestations.

Additionally, Montana keeps a Watch List of noxious weeds, defined as a noxious weed that is known to be a pest in adjacent states and may be capable of rapid spread. Management criteria for this category are awareness and education, early detection, monitoring, and containment of existing infestations. Noxious weeds known to occur in the immediate vicinity of the Bigfork project (and within the FERC boundary), are shown below (Table 1).

Table 1: Montana State Listed Noxious Weeds Known to Occur in Flathead County[1]

Common Name	Scientific Name	Category
Flathead County Noxious Weeds Known to Occur in the Bigfork Project Area		
Canada Thistle	*Cirsium arvense*	1
Diffuse Knapweed	*Centaurea diffusa*	1
Russian Knapweed	*Centaurea repens*	1
Spotted Knapweed	*Centaurea maculosa*	1
St. Johnswort	*Hypericum perforatum*	1
Flathead County Noxious Weeds with the Potential to Occur in the Bigfork Project		
Baby's Breath	*Gypsophila paniculata*	Watch
Common Crupinea	*Chondrilla juncea*	3
Common Tansy	*Tanacetum vulgare*	1
Dalmatian Toadflax	*Linaria damatica*	1
Dyers Woad	*Isatis tinctoria*	2
Field Bindweed	*Convolvulus arvensis*	1
Houndstongue	*Cynogolossum officinale*	1
Leafy Spurge	*Euphorbia esula*	1
Meadow Hawkweed Complex	*Hieracium pretense, H. floribundum, H.*	2
Orange Hawkweed	*Hieracium aruantiacum*	2
Ox-eye Daisy	*Chrysanthemum*	1
Purple loosestrife or	*Isatis tinctoria*	2
Rush Skeletonweed	*Crupina vulgaris*	3
Sulfur (erect) Cincuefoil	*Potentilla recta*	1
Tall Buttercup	*Ranunculs acris*	2
Tamarisk (Salt Cedar)	*Tamarix*	2
Tansy Ragwort	*Senecio jacobea*	2
Yellow Starthistle	*Centaurea solstitialis*	3
Whitetop or Hoary Cress	*Cardaris draba*	1

[1]Source: Flathead County, Montana Weed/Parks Department; Bigfork Hydroelectric Project FERC License, July 25th, 2003.

Photos of most of the state listed weed species that occur in Flathead County are provided in Appendix A.

2.0 PROJECT AREA

2.1 PROJECT LOCATION

The Bigfork Hydroelectric Project is located on the lower Swan River near the town of Bigfork, Montana; approximately 20 miles south of City of Kalispell, in Flathead County. The project powerhouse discharges into the mouth of the Swan River near Flathead Bay, an arm of Flathead Lake.

2.2 PROJECT AREA

The project area includes those lands within the current FERC project boundary (Figure 1). Within the FERC boundary, areas that have frequent soil disturbance, are adjacent to trails, roads, or other areas with frequent human activity, or are highly susceptible to noxious weeds, should be considered high priority areas for noxious weed control. High priority areas in the project area include lands immediately adjacent to the diversion canal, project facilities, river access points, and areas in proximity to the highway, or adjacent to maintenance and access roads.

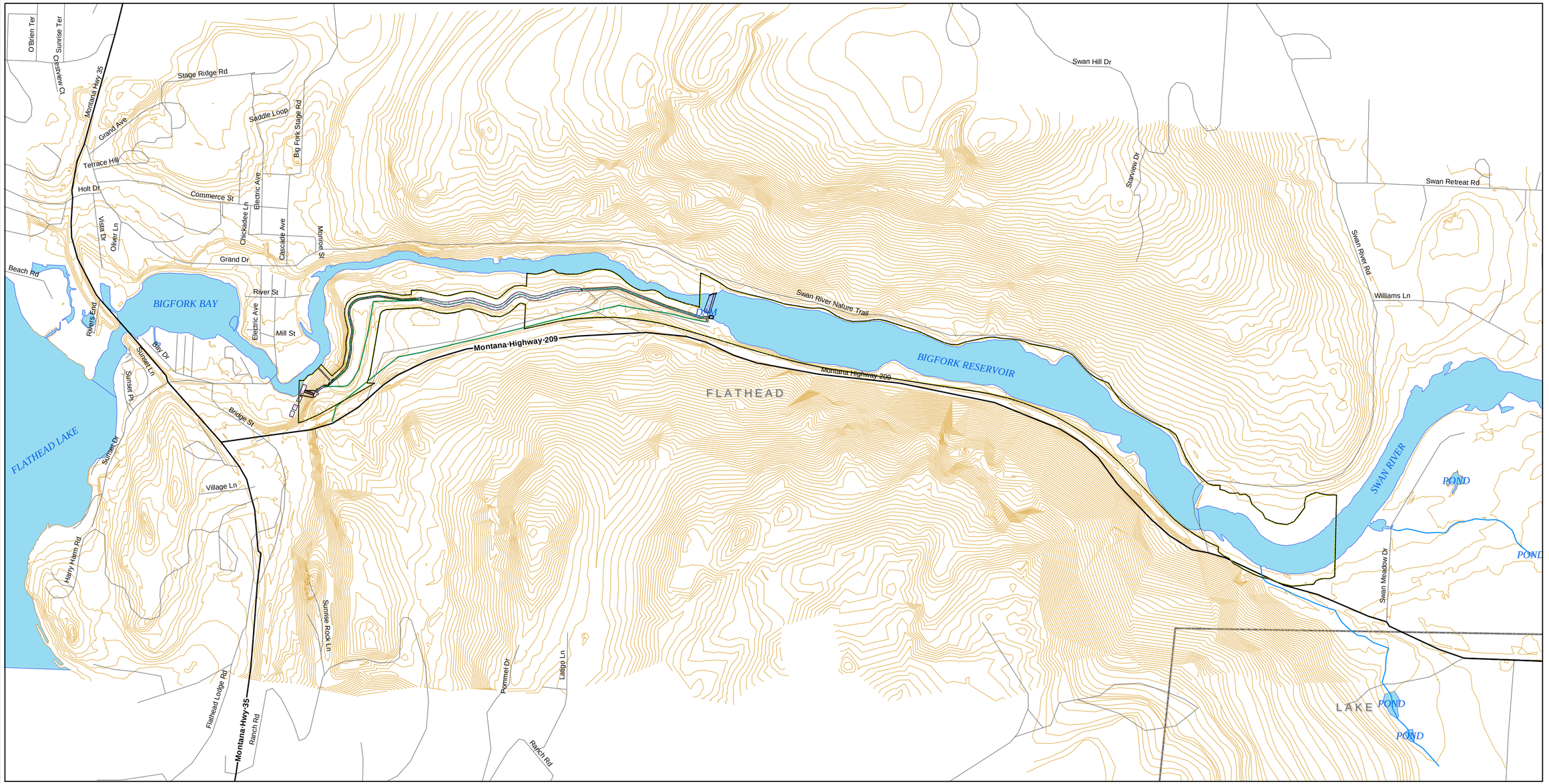
Noxious weeds detected within the project area include spotted knapweed and to a lesser degree St. John's wort and Canada thistle. Photographs of these and other noxious weeds potentially occurring in the project vicinity are included in Appendix A.

3.0 MANAGEMENT STRATEGIES

This plan provides methods for 1) preventing the growth of noxious weeds, 2) monitoring noxious weeds in the project area, and 3) effective control methods and determining the success of such practices. Guidance for each of these management activities is presented below.

3.1 PREVENTION

The easiest and most effective method for noxious weeds control is preventing their establishment. Activities that disturb soils through the removal of native vegetation may result in exposed ground that promotes the establishment of noxious weeds. Noxious weeds will therefore be controlled prior to conducting a soil disturbing activity using methods consistent with Flathead County Weed Department Soil Disturbance Plan Guidelines (Appendix B). Following the completion of such activity, the area will be revegetated with native plants as soon as possible to provide a ground cover. Replanted areas will be regularly monitored to determine the success of the revegetation and to control noxious weeds as soon as they are detected.



PACIFICORP

Geographic Information System

Bigfork Hydro-Electric Project

N
W E
S

0 950 1,900 3,800 5,700 Feet

0 0.25 0.5 1 Miles

FERC Project Boundary
Figure 1

FERC License
Hydro Facilities
Facility Lines

Roads
Highways
Streets
Streams

6/2/04

S:\Property_Management\GIS\Geodatabase\MXD\client\DaveLeonhardt\04-155\BigFork_BaseMap.mxd

3.2 MONITORING

Monitoring for noxious weeds within the project area will provide a baseline of existing noxious weed populations, detect newly established populations, and determine the success of noxious weed control practices. Monitoring will also determine the need for treatment/control, control methods, and evaluation of the success of control practices.

On a biannual basis, PacifiCorp will contract with and direct the effort of a noxious weed control specialist to both inspect for and, if necessary, implement methods to control noxious weeds that occur within the project area. Qualified contractors will be certified as a commercial pesticide applicant and will meet the requirements of the Flathead County Weed Control District.

The noxious weed specialist will inspect the project area twice per year to identify, map, and document noxious weed populations. The first inspection will be conducted in May to detect noxious weeds early in the growing season and to provide time to plan and implement a control method during the appropriate time of the species growth cycle. The second inspection will be conducted between July 15 and August 31. This inspection will be conducted when species are flowering and most conspicuous. Each inspection will be documented on the data form provided in Appendix C, and noxious weed population locations will be marked on a project area map.

3.3 CONTROL METHODS

Control of noxious weeds is a progressive technology and an adaptive process. PacifiCorp will require that the noxious weed specialist is current on the latest control methods for noxious weeds, and of changes in Federal, State and Local laws regarding herbicides or other restrictions.

Recommendations for control methods and a schedule for implementing them will be identified by the contracted noxious weed specialist for each population identified during an inspection. Control methods are categorized as follows (Flathead County Weed/Parks Department 2004):

- Mechanical – methods that require physically removing all the noxious weed by hand pulling, cultivation, hoeing, or mowing.

- Biological – employs the introduction and promotion of native insects, fungi, or disease that attacks a target weed.

- Chemical – the application of herbicides to control noxious weeds. Appendix D is the Flathead County Pesticide Application Form and a list of resources, recommended herbicides, and application times for state noxious weeds. Additionally, PacifiCorp agrees with the USFWS recommendation to use hand spraying techniques when applying chemicals within 25 feet of water and to not

apply chemicals if rain is forecasted within the next 24 hours, due to concerns about runoff into nearby waterways.

While chemical control methods are commonly preferred, a combination of control methods will be considered depending on proximity to water, severity of infestation, and impacts to native vegetation. If the control method results in exposing bare soil, disturbing soils, or killing all vegetation in an area greater than 0.5 acres in size, PacifiCorp will require that the contracted weed specialist revegetate the area with natural vegetation, or reseed it with a native grass seed mix.

3.4 DOCUMENTATION

On an annual basis PacifiCorp will provide a report documenting results of the spring and summer weed surveys, and control methods used on noxious weed populations in the Bigfork Project area and effectiveness of weed management activities. The report will include control methods used (if chemical the rate and amount applied), the cost of the equipment, and the date, time, and weather at the time the control methods were implemented. To determine effectiveness of control methods, sites containing noxious weeds will be inspected the following fall, and again during the following spring and summer over a two-year period. A control method will be determined effective if there is 60 percent or greater mortality in the first season, 80 percent or greater mortality in the second season. To assist in determining effectiveness, the site will be photo-documented.

3.5 PUBLIC EDUCATION AND AWARENESS

PacifiCorp will promote public education and awareness of noxious weeds by installing and maintaining interpretive signs at strategic locations throughout the Project area, as well as at the western entrance of the Swan River Nature Trail. It is anticipated that signage will also be located in Pacific Park, at trailheads, and at the entrance to the powerhouse. These signs will encourage the public to help identify noxious weeds, and to alert PacifiCorp of the presence of noxious weeds in the project area. The signs will provide a schematic or photo identification of the more commonly detected weeds in the project area; knapweed and Canada thistle. The signs will encourage the public to check their vehicle, clothing, and pets for noxious weeds and to avoid driving or walking through noxious weed patches.

The signs will be inspected during the biannual inspections. Areas of chronic knapweed infestation that are open to the public may have a sign installed identifying the area as Noxious Weed Management Area to allow the public to observe noxious weed control effectiveness and prevent them from traveling through the area.

4.0 AGENCY COORDINATION

Noxious weed management is an adaptive process that should be reviewed and evaluated to determine the successes and needed areas of improvement. This review and evaluation

will be in the form of an annual report submitted by December 31 each year to the United States Fish and Wildlife Service (USFWS), Montana Fish and Wildlife and Parks (MFWP), and Flathead County Weed/Parks Department (FCWPD) for review and comment.

The annual report will include:

1. The current year inspection reports;

2. A description of the control methods, operation and maintenance, and success of the control methods conducted that year;

3. An evaluation of the success of the control methods implemented during the previous 3 years (as applicable);

4. Future anticipated soil disturbing activities and noxious weed prevention methods to be conducted;

5. Future expected efforts and a schedule for monitoring the past control methods success; and

6. Compliance with Local and State regulations for weed management activities by including the Flathead County Pesticide Application Forms and other required documentation.

In addition to the above, recommended revisions to the NWCP will be submitted with the annual report. Revisions will be reviewed and approved by the USFWS, MFWP and FCWP and included as an addendum to the NWCP to provide a record of prior methods.

5.0 REFERENCES

Flathead County Weed /Parks Department. March 2004. Weed Management Plan. Information pamphlet sent by mail to Mike Bonoff at Mason, Bruce, & Girard.

Montana Weed Control Association (MWCA). January 2001. The Montana Weed Management Plan. Developed by the Weed Summit Steering Committee and Weed Management Task Force.

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APPENDIX A

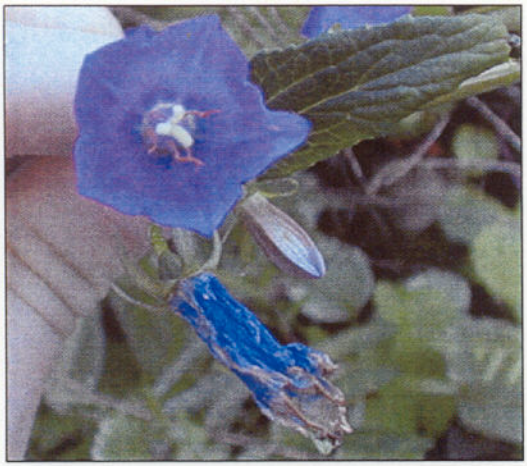
Noxious Weed Photographs and Resources for Identifying Noxious Weeds

Baby's Breath *(Gypsophila paniculata)*

Canada Thistle *(Cirsium avense)*

Common Crupina *(Crupina vulgaris)*

Common Tansy *(Tanacetum vulgare)*



Creeping Bellflower *(Campanula rapunculoides)*

Dalmation Toadflax *(Linaria dalmatica)*

Diffuse Knapweed *(Centaurea diffusa)*

Dyer's Woad *(Isatis tinctoria)*

Field Bindweed (Convolvulus arvensis)

Houndstongue *(Chnoglossum officinale)*

Leafy Spurge *(Euphorbia esula)*

Meadow Hawkweed *(Hieracium pretense)*

Orange Hawkweed *(Hieracium aurantiacum)*

Ox-Eye Daisy *(Chrysanthemum officinale)*

Purple Loosestrife ***(Lythrum salicaria or Lythrum virgatum)***

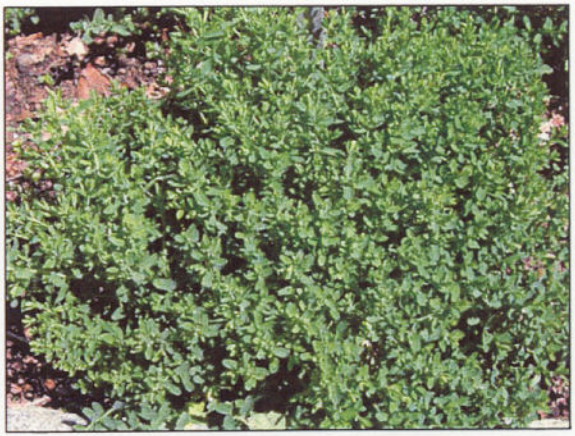
Rush Skeletonweed *(Chondrilla juncea)*

Russian Knapweed *(Acroptilon repens)*

Salt Cedar *(Tamarix ramosissima)*

Scentless Chamomile *(Matricaria perforata)*

Spotted Knapweed *(Centaurea maculosa)*

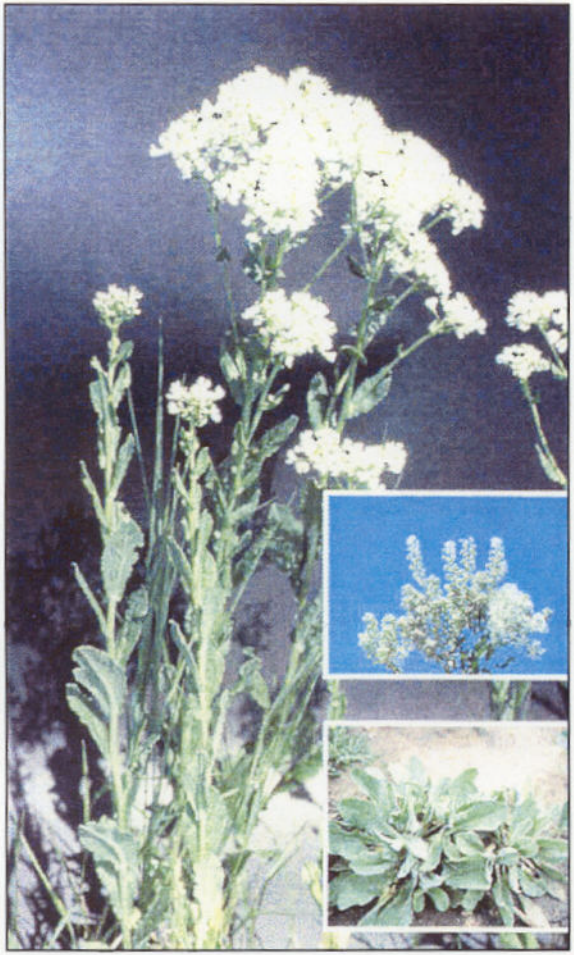


St. Johnswort *(Hypericum perforatum)*

Sulpher Cinquefoil *(Potentilla recta)*

Tall Buttercup *(Ranunculus acris)*

TansyRagwort *(Senecio jacobea)*



Whitetop or Hoarycress *(Cardaria draba)*

Yellow Starthistle *(Centaurea solstiialis)*

Yellow Toadflax *(Linaria vulgaris)*

Sources for Photographs

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Common Crupina:
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Yellow Starthistle:
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APPENDIX B

Flathead County Weed Department
Soil Disturbance Plan Guidelines

Flathead County Weed Department
1257 Willow Glen (Location: 1257 FFA Drive), Kalispell MT 59901
(406) 758-5798 - FAX (406) 758-5888

Soil Disturbance Plan Guidelines

Preventing Noxious Weed Invasion

Soil disturbance is the result of any project that disturbs the native grasses, forbs and shrubs and results in bare ground. This can also include mining and gravel activities, ripping and/or scraping of the soil. Land managers and/or developers must be aware that if the ground is left "bare" - even temporarily - they must incorporate weed prevention and control into their project layout, design and evaluation, as well as all project decisions.

First of all, assessing and analyzing the property to be disturbed for weed risks, i.e., the potential for weed establishment and spread, should be done before any ground disturbing activities begin. Weed identification, inventory and prioritizing weed infestations for treatment should encompass the project operating areas and along the access routes. (Feel free to contact our office to make an appointment with one of our staff to assist you in weed identification or risks).

Ideally, weeds should be managed 3 to 5 years prior to the planned disturbance to minimize weed seeds in the soil. However, should this be impossible, following some of these helpful guidelines should help minimize spread:

BEFORE THE PROJECT BEGINS:

- Again, the first priority should be to analyze the property to be disturbed for weed risks and potential for weed establishment and/or spread.
- Learn to identify desirable plants as well as weeds on the property.....
- Consider how to rebuild or maintain healthy plant communities that will effectively compete with weeds after the disturbance.
- Taking an inventory of weeds and prioritizing weed infestations for treatment in the project operating areas and along access routes should they exist.....

EQUIPMENT AND THE PROJECT

- Identify sites where equipment can be cleaned. Remove mud, dirt, and plant parts from project equipment **before** moving it into a project area. This area should then be monitored for weeds several years following. Seeds and plant parts should be collected and incinerated.
- Equipment should be cleaned before leaving the project site (if operating in areas infested with weeds).....
- Begin project operations in non-infested areas, restricting movement of equipment or machinery from weed contaminated areas to non-contaminated areas....this should include machinery used for construction, recreation, agriculture, forestry, oil and gas exploration and production, utility

companies, mining and tourism.

- Evaluate options to regulate flow of traffic on sites where desired vegetation needs to be established or maintained....

- Avoiding or minimizing travel through weed infested areas, or restricting travel to those periods when spread of seed are least likely, such as prior to seed development....

- Inspect clothing and equipment and remove and properly dispose of weed seeds and plant parts. Proper disposal means bagging the seeds and plant parts and incinerating them.

AFTER DISTURBANCE

- **REVEGETATE** disturbed soil to optimize establishment of desirable plants for that specific site.

- Revegetation may include topsoil replacement, planting, seeding, fertilization, liming and weed-free mulching. Use native material where appropriate and feasible. Use certified weed-free hay or straw.

- Monitor sites where seed, straw, or mulch has been applied. Eradicate weeds before the develop seed. In contracted projects, contract specifications can require that the contractor maintain the site weed-free for a specified time. Ensure contractors do not skip weed control steps to save time on a project.

- Where practical, salvage weed-seed-free topsoil and replace it on disturbed areas such as road embankments or landings. Healthy topsoil contains microorganisms, invertebrates, and living plant propagules that enhance vegetation.

- Maintain stockpiled, non-infested material in a weed-free condition by preventing weed seed contamination with physical barriers and by frequently monitoring and quickly eradicating new weeds prior to seed production.

- Use local seeding guidelines to determine procedures and appropriate seed mixes. Contact your local farm supply store, i.e., Cenex, Ranch & Home Supply or North Valley Ag...

- Inspect and document all ground disturbing operations in noxious weed infested areas for at least three growing seasons following completion of the project. Plan for follow-up treatments based on inspection results.

ROADS AND UTILITIES

- Inspect materials at the source to ensure that they are weed-free before transport and use. If sources of sand, gravel, and fill are infested, eradicate the weeds, then strip and stockpile the contaminated material for several years, if possible, to further deplete the soil seed bank. Check regularly for weed re-emergence.

- Maintain stockpiled, non-infested material in a weed-free condition by preventing weed seed contamination with physical barriers and by frequently monitoring and quickly eradicating new weeds prior to seed production.

- Periodically inspect roads and rights-of-way for noxious weeds. Inventory weed infestations and schedule them for treatment.

- Schedule roadside mowing so weed-free roadsides are mowed after seed maturation, ensuring desirable plants grow unrestricted and produce seed for next year's stand. Weedy roadsides should be treated when the weeds have reached the early flowering stage (well before seed development) to avoid spreading matured weed seed.

- See above under EQUIPMENT AND THE PROJECT

SUBDIVISIONS AND LAND ACQUISITION

- Consider weed treatment being written into a contract as a condition of land purchase or exchange.

- Develop weed management guidelines or a weed prevention plan for the entire subdivision rather than individual lots.

- Minimize bare soil conditions and re-establish vegetation as soon as possible on disturbed or bare ground.

- Include building contractors, utilities and others in requirements to clean equipment and use weed-free materials.

- Develop road maintenance plans that address weed management along roadsides to reduce the spread of weeds throughout the subdivision.

- Develop standards for grazing, landscaping, and revegetation that promise healthy plant communities.

- Encourage the landowner's association to prevent weed problems through education and awareness. Ensure that property owners understand the impacts caused by weeds, including effects on property values.

- Establish person or company who will manage property for weeds until all lots are sold.

APPENDIX C

Noxious Weed Control Plan – Monitoring Form

Bigfork Hydroelectric
FERC No. 1652-007
PacifiCorp

Noxious Weed Control Plan – Monitoring Form

In Compliance with Article 410 of the License

Inspection Date: _____ Inspector Name: _____

Year_____ Circle One: Spring (May 1 – 31) Summer (Jul 15 – Aug 31)

Inventory of Weeds on Project Area

Common Name	Severity of Infestation	Locations that species was detected (Attach maps)
Flathead County Noxious Weeds Known to Occur in the Bigfork Project Area		
Canada Thistle		
Diffuse Knapweed		
Russian Knapweed		
Spotted Knapweed		
St. Johnswort		
Flathead County Noxious Weed that Could Potentially Occur in the Bigfork Project Area		
Baby's Breath		
Common Crupinea		
Common Tansy		
Dalmatian Toadflax		
Dyers Woad		
Field Bindweed		
Houndstongue		
Leafy Spurge		
Meadow Hawkweed Complex		
Orange Hawkweed		
Ox-eye Daisy		
Purple loosestrife or Lynthrum		
Rush Skeletonweed		
Sulfur (erect) Cincuefoil		
Tall Buttercup		
Tamarisk (Salt Cedar)		
Tansy Ragwort		
Yellow Starthistle		
Whitetop or Hoary Cress		
Other:		

Please rate the severity of noxious weeds in the project area in the boxes above as: Not Detected (ND), Low (L) less than 5 percent of the project area is infested with noxious weed species, Moderate (M) between 5 and 25 percent of the project area is infested with noxious weed species, and High (H) greater than 25 percent of the project area is infested with noxious weed species. The location of noxious weed populations should include site numbers, where possible, or general description of noxious weed species detections. Examples of a general description could include west end of bypass canal, along nature trail, or along highway near mile marker.

Weed Management Recommendations

For each noxious weed species population detected within the project area please provide the following information.

Site number: Assign an individual site number for noxious weed populations detected on the Bigfork Project Area. Site will be identified by the last two number of the first year of detection, followed by either a S or N to identify if the noxious weed population is north or south of the Swan River, and then number consecutively increasing from west to east. Example site numbers would be 04S01 denoting the noxious weed population was detected in 2004, the noxious weed site is south of Swan River, and the most west population detected.

Species: Provide the common name of the noxious weed being monitored at the site.

Recommendation: Provide a recommendation for controlling the noxious weed at the site. Examples could include continuing to monitor the site, hand pull individual plants, or apply herbicide.

Anticipated Schedule: Provide anticipated schedule or deadline for conducting control method such as optimum times to treat with herbicide, or deadline for treating.

Comments: Examples of comments would include identifying sensitive resources in proximity to the site such as water resources or potential point source for noxious weeds.

Control Method: Describe control method that was implemented such hand pulled, mowed, or applied herbicide. If an herbicide was applied then an additional Pesticide Application Report will need to be completed within 7 days of the application.

Date: Provide the date(s) the control method was conducted.

Results: If the site has been previously treated with a control method than describe the effectiveness of the control method. For example an herbicide treatment produce an 80 percent mortality of noxious weed at the site.

Follow-up: Provide recommendations for the site restoration or further control methods such as follow up treatments of herbicide, or reseed with native grasses.

Site Number:	**Control Method:**
Species: Recommendation: Anticipated Schedule: Comments:	Date: Result: Follow-up (seeding, planting, etc):

Site Number:	**Control Method:**
Species: Recommendation: Anticipated Schedule: Comments:	Date: Result: Follow-up (seeding, planting, etc):

Site Number:	**Control Method:**
Species: Recommendation: Anticipated Schedule: Comments:	Date: Result: Follow-up (seeding, planting, etc):

Site Number:	**Control Method:**
Species: ecommendation: Anticipated Schedule: Comments:	Date: Result: Follow-up (seeding, planting, etc):

Site Number:	**Control Method:**
Species: Recommendation: Anticipated Schedule: Comments:	Date: Result: Follow-up (seeding, planting, etc):

Site Number:	**Control Method:**
Species: Recommendation: Anticipated Schedule: Comments:	Date: Result: Follow-up (seeding, planting, etc):

Site Number:	**Control Method:**
Species: Recommendation: Anticipated Schedule: Comments:	Date: Result: Follow-up (seeding, planting, etc):

Site Number:	**Control Method:**
Species: Recommendation: Anticipated Schedule: Comments:	Date: Result: Follow-up (seeding, planting, etc):

Site Number:	**Control Method:**
Species: Recommendation: Anticipated Schedule: Comments:	Date: Result: Follow-up (seeding, planting, etc):

APPENDIX D

Flathead County Pesticide Application Form and Chemical Control Methods Preferred Application Time

FLATHEAD COUNTY WEED DISTRICT -1257 Willow Glen Drive – Kalispell, MT 59901 - (406) 758-5798 - FAX (406) 758-5888

Applicator:_____ Equipment #_____ Date of Application:_____

Area of Application: _____

Please check one of the following:

Federal	State	County	Private

Location description (mile markers, etc): _____

_____

_____ Acres treated (#): _____

Hour began:_____ Hour finished: _____ Actual spray time:_____ Total hours:_____

Wind direction: N S E W Wind velocity: 0-3 mph; 4-7 mph; 8-12 mph

Approximate temperature: _____ Significant weather factors:_____

Noxious weeds treated:

_____Spotted knapweed _____Canada thistle _____Leafy Spurge _____St. Johnswort

_____Dalmatian Toadflax _____Common tansy _____Oxeye Daisy _____Orange hawkweed

_____Tansy Ragwort _____Houndstongue _____Tall buttercup OTHER:_____

Chemical(s) applied:

Trade name: (refer to other side)	Quantity used:	Mixture rate:
Trade name: (refer to other side)	Quantity used:	Mixture rate:
Carrier gallons used:	Surfactant total:	

Description:_____

_____

_____

Trade name: (refer to other side)	Trade name: (refer to other side)
Manufacturer # : (refer to other side)	Manufacturer # : (refer to other side)
E.P.A. Registration # :	E.P.A. Registration # :
Active ingredient:	Active ingredient:
Active ingredient:	Active ingredient:

Memo:_____

_____

Special management posting areas: _____

Was application enforcement related? _____

If yes, was application method reviewed with landowners?_____

LANDOWNER SIGNATURE:_____ DATE: _____

Note: All equipment is 20 gallons per acre unless otherwise noted.

OFFICIAL RECORD – DO NOT DESTROY FOR AT LEAST THREE (3) YEARS

ATTACHMENT A

Article 410. Federal Energy and Regulatory Commission Order Issuing New License for the Bigfork Hydroelectric Project (FERC Project No. 2652) (July 25, 2003)

Article 410. Within 1 year from the date of this license, the licensee shall file, for Commission approval, a noxious weed control plan. The plan shall contain measures to control upland, wetland, and aquatic noxious weeds, including knapweed, Canada thistle, common St. John's wort, and other nuisance weeds that may occur on project lands and in project waters.

The plan shall include, at a minimum:

(1) specific goals and objectives;

(2) measures to promote public education and awareness of the threat of noxious weeds;

(3) methods for the prevention and early detection of noxious weed infestations including how frequent project lands and waters would be inspected;

(4) methods for controlling noxious weed infestations along with an evaluation of the costs and benefits of various treatment methods (mechanical, biological, and chemical);

(5) methods for evaluating the effectiveness of implemented noxious weed control measures;

(6) a schedule for all actions contained in the plan and for filing noxious weed monitoring reports with the Commission; and

(7) a schedule for periodically reviewing the plan to incorporate new data or changes in weed management practices.

The licensee shall prepare the plan after consultation with Montana Fish, Wildlife, and Parks, U.S. Fish and Wildlife Service, and the Flathead County Weed Control District. The licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies 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 site-specific information.

The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

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ATTACHMENT B

Agency Consultation

Article 410 of the Bigfork license requires the licensee to prepare a Noxious Weed Control Plan in consultation with Montana Fish, Wildlife, and Parks (MFWP), U.S. Fish and Wildlife Service (USFWS), and the Flathead County Weed Control District (FCWCD). On June 7, 2004, PacifiCorp submitted the draft Noxious Weed Control Plan to the MFWP and FCWCD offices in Kalispell, Montana and to the USFWS office in Helena, Montana. PacifiCorp requested comments and recommendations be returned by July 7, 2004. The USFWS provided the attached comments; MWFP and FCWCD did not provide comments. PacifiCorp agrees with the USFWS comments and has made the appropriate revisions to Section 3.3 of the plan.

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
MONTANA FIELD OFFICE
100 N. PARK, SUITE 320
HELENA, MONTANA 59601
PHONE (406) 449-5225, FAX (406) 449-5339

M.15 FERC
Big Fork Hydroelectric project

Mr. David Leonhardt
Program Manager
PacifiCorp
825 N.E. Multnomah, Suite 1500
Portland, Oregon 97232

June 28, 2004

Subject: Draft Screen Effectiveness Monitoring Plan and Draft Noxious Weed Management Plan (FERC No. 2652).

Dear Mr. Leonhardt:

The U.S. Fish and Wildlife Service (Service) received PacifiCorp's draft Screen Effectiveness Monitoring Plan and draft Noxious Weed Management Plan (collectively, the Plans), on June 14, 2004. These plans were submitted to the Service for review and approval in accordance with the Service's Biological Opinion (BiOp) dated May 28, 2003, regarding the effects to bull trout from the operation and maintenance of PacifiCorp's Big Fork Hydroelectric Dam (FERC No. 2652) located in Big Fork, MT. The screen effectiveness monitoring plan, which requires Service approval, is intended to satisfy the BiOp's Terms and Conditions 2B. To facilitate the approval process, the Service has the following comments on the draft plans.

Screen Effectiveness Monitoring Plan

1. PacifiCorp proposes to remove heavy debris loads from the screen faces by using sweeping velocities, created by reducing the amount of water diverted through the intake, thus increasing the amount going across the screen faces and over the dam. The Service is unsure whether appropriate sweeping velocities will be generated to remove impinged debris from the screen faces. The physical layout of the screen face in relation to the support structures for the screens may not create the anticipated effective sweeping velocities. In fact, the dam itself may present a problem with the generation of sweeping velocities by creating a vortex that impinges debris along the dam face during the lower diversion rates. Therefore, we request further details, clarification, or contingencies about removal of heavy debris loads should the anticipated sweeping velocities fail to adequately remove the debris. Include any increases in the inspection rate, and if considered, a characterization of manual cleaning activities.

2. It is the Service's understanding that PacifiCorp intends to work in conjunction with the Service and the Montana Department of Fish Wildlife and Parks to develop a fish entrainment study. Please include PacifiCorp's agreement to develop an entrainment evaluation in this screen effectiveness monitoring plan along with the anticipated timeline for completion of this study.

3. The plan indicates that a water level sensor will provide notification to PacifiCorp personnel of a water differential between the individual screens. Please clarify what preset threshold for the differential sensor will be programmed to raise an alarm (e.g., 0.5 inches or 1.0 inches etc).

4. The Service's screening criteria uses approach velocities to determine whether fish will be impinged upon the screen face. If the velocity perpendicular to the screen face is greater than 0.8 fps juvenile fish may be impinged. Therefore, the approach velocity should be measured on a vector perpendicular to the screen face. Please modify your plan to show that approach velocities will be measured along the vector perpendicular to the screen face

5. Please develop and describe a method to evaluate approach velocities during a period when ice formation occurs in the impoundment area or on or near the intake screens.

6. Please provide details that address prevention of potential scour at the outlet of the de-watering pipe during periods of canal dewatering into the bypass reach.

7. During maintenance periods when the diversion is not operating fish may congregate in the vicinity of the fish screens. When the diversion is slowly opened the screens may experience increased velocities both instantaneously as well as sustained. This may result in fish being impinged upon the screen face. Please evaluate the approach velocities during the opening of the diversion gates. Additionally, measures should be taken to scare the fish away from the screens immediately prior to resuming diversions.

Noxious Weed Management Plan

1. When applying chemicals within 25 feet of the water, the Service recommends use of hand spraying techniques for a finer application.

2. The Service recommends not applying chemicals if rain is forecasted within the next 24 hours due to concerns over runoff into nearby waterways.

The Service looks forward to working with PacifiCorp in development and final approval of these plans. The point of contact for these comments and the project in general is Paul Hanna (406) 758-6871.

Sincerely,

for R. Mark Wilson
Field Supervisor

Copy to: Kalispell ES, Kalispell, MT
Federal Energy Regulatory Commission (Attn: Bob Fletcher)

MT Dept of Fish, Wildlife and Parks, Kalispell, MT. (Attn: S. Rumsey)
Flathead County Weed Control District (Attn: Jed Fisher)