

# **SEPA ENVIRONMENTAL CHECKLIST**

## ***Purpose of checklist:***

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

## ***Instructions for applicants:***

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

## ***Instructions for Lead Agencies:***

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

## ***Use of checklist for nonproject proposals:***

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the [SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS \(part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

## A. Background

1. Name of proposed project, if applicable:

M2 Barkley Bear Habitat Improvement Project

2. Name of applicant:

Methow Salmon Recovery Foundation (MSRF)

Chris Johnson, Board President

3. Address and phone number of applicant and contact person:

Chris Johnson, MSRF Board President

PO Box 755

Twisp, WA 98856

(509) 429-1232

4. Date checklist prepared:

February 24, 2020

5. Agency requesting checklist:

Okanogan County

6. Proposed timing or schedule (including phasing, if applicable):

Project is scheduled for implementation over five years, beginning in 2020 through 2025.

The preliminary project implementation schedule presented below has been developed based on anticipated 2020 permit and funding approvals. In the event that permitting or funding delays impact the schedule to the point where it conflicts with timed work windows, MSRF will submit a revised work schedule.

- Spring 2020: Initiate site work within areas above OHWM and behind existing barriers from stream flows.
- July 2020: Initiate in-water work below OHWM in Methow River for habitat structures.
- August-November 2020: Complete remaining work above OHWM, includes excavation, wood placements, site restoration, and re-vegetation.
- Spring 2021: Initiate site work within areas above OHWM and behind existing barriers from stream flows.
- July 2021: Complete any remaining in-water work below OHWM in Methow River and continue work in areas above the OHWM.
- August-November 2021: Complete remaining work above OHWM, includes excavation, wood

placements, site restoration, and re-vegetation.

- November 2020 – October 2025: Vegetation maintenance, site monitoring, and adaptive management as needed.

The project has been developed in cooperation with the Bureau of Reclamation (Reclamation) and Bonneville Power Administration (BPA), together referred to as the federal action agencies. The action agencies cooperate on fish and wildlife habitat improvement projects in fulfillment of obligations under the Federal Columbia River Power System Biological Opinion (as supplemented in 2010 and 2014) (2008 BiOp) and ongoing commitments under the 2019 NOAA Fisheries Columbia River System BiOp (2019 CRS BiOp). Methow Salmon Recovery Foundation (MSRF) has entered into agreements with Reclamation and BPA to act as the Project Sponsor for this action. Project funding for planning and project administration has been awarded by BPA and Reclamation. Project engineering and hydraulic modeling has been developed by licensed engineering contractors under contract to Reclamation. Construction funding has been secured for the project from the BPA targeted solicitation process through the Upper Columbia Salmon Recovery Board (UCSRB) with technical review by the UCSRB Regional Technical Team (RTT).

Funding solicitation for this phase of M2 projects was made through the UCSRB Targeted Solicitation process in the winter of 2014-15. The project was presented to the RTT, UCSRB, Reclamation, and BPA for technical review and funding approval.

Permitting review includes National Historic Preservation Act (Cultural Resources) consultation (Section 106) and Endangered Species Act (ESA) compliance (Section 7) with Bonneville Power Administration as Lead Federal Agency. MSRF will complete federal, state, and local environmental permits through the JARPA and WDFW APPS processes.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Yes. The M2 Barkley Bear restoration effort is expected to include both future additional actions and the potential for adaptive management on each element implemented. MSRF will implement the Barkley Bear Habitat project in cooperation with Reclamation and BPA to aid in recovery of listed and threatened species throughout the Methow River Basin. MSRF will include a description of potential adaptive repair actions in the initial permit submittals to seek prior authorization for follow-on work that may be required. MSRF will work with each regulatory entity to review and permit needed adaptive measures as the need arises.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Development of the proposed actions evaluated under this checklist has been coordinated through a multi-disciplinary process including input from Reclamation, BPA, NOAA Fisheries, and US Fish and Wildlife Service (USFWS). Review has been coordinated through the RTT of the UCSRB and BPA's Habitat Implementation Program (HIP) Restoration Review Team.

The following documents have been prepared related to this project:

- 80% Design Specifications and Basis of Design Report for the Barkley Bear Habitat Restoration Project, prepared by Anchor QEA, December 2018

- Final Design Specifications and Basis of Design Report Barkley Bear Habitat Restoration Project, prepared by Anchor QEA, January 2020
- Cultural Resources Survey of the M2 Barkley-Bear Habitat Complexity Project Area, Okanogan County, Washington. Prepared by Cascadia Archaeology, August 2016.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

This M2 project is contingent upon successful permitting and legal easement approvals for work related to the irrigation Point Of Diversion changes being pursued by the Barkley Irrigation Company. These include permit authorizations from FAA and WA DOT for facilities located on the Methow State Airport property. This effort is being managed by Trout Unlimited.

10. List any government approvals or permits that will be needed for your proposal, if known.

The project elements will be reviewed through each of the following:

- BPA Environmental Compliance process:
  - National Environmental Policy Act
  - HIP Programmatic ESA Consultation:
    - Federal ESA Section 7 consultation with NOAA Fisheries,
    - Federal ESA Section 7 consultation with USFWS,
  - Section 106 consultations with the State DAHP and affected tribes,
- WA Department of Fish and Wildlife Hydraulic Project Approval (HPA) application through the online Aquatic Protection Permitting System (APPS),
- Other state, federal, and local environmental permitting and notification will be satisfied through the SEPA and JARPA processes:
  - Section 404 Nationwide permit review by Army Corps of Engineers (Corps),
  - WA Department of Ecology 401 Water Quality Certification or Letter of Verification
  - Okanogan County Shoreline Substantial Development Permit

In addition to the requirements discussed above, land use permits and/or agreements such as a Right of Entry with WA Department of Natural Resources (WDNR) will likely be necessary at some locations where the state agency manages State Owned Aquatic Lands.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The larger M2 Restoration Project is an active restoration effort to restore natural processes and improve and protect habitat for ESA-listed salmonids along the Methow River between the towns of Twisp and Winthrop. The M2 Barkley Bear Habitat Improvement Project, as part of this effort, aims to improve ecological function and instream, off-channel, riverine wetland, and riparian habitats in the M2 reach segment between River Mile (RM) 49-50. The Project will build on efforts by others to change the point of diversion of the water supply for the Barkley Irrigation Company from the existing location to a shared diversion at the site currently managed by the Methow Valley Irrigation District (MVID). This change in diversion location creates the opportunity for a large-scale habitat restoration project at the site of the current Barkley diversion.

The larger M2 Restoration Project proposes to enhance existing habitats in support of the recommendations identified in the Upper Columbia Salmon Recovery Plan (UCSRB, August 2007) and the Middle Methow Reach Assessment (Bureau of Reclamation, August 2010). Previous projects completed by MSRF for this M2 restoration effort include M2 Whitefish Island (2012), M2 River Mile 46 (2012), M2 WDFW Floodplain (2013), M2-3R (2014), M2 Derelict Car Removal (2015), and M2 WDFW Flow Connection (2018). The proposed project is located just upstream of the M2 action at Whitefish Island, implemented by MSRF in 2012, and builds on these previous efforts and expands the area of the M2 project further upstream.

The M2 Barkley Bear habitat project design has been developed through a regionally coordinated, process-based and scientifically-informed restoration approach. This approach included representative members of most permitting agencies, the Upper Columbia Salmon Recovery Board and the federal action agencies funding the recovery efforts. The project has been developed to address ecological concerns and habitat conditions believed to limit fish survival and production within this reach of the Methow River, while balancing community interests and private property rights. The project has been intentionally timed to coincide with efforts being undertaken to relocate the point of diversion for the Barkley Irrigation Company intake. As such, a significant focus of the project will be to remove the anthropogenic features that will no longer be required for delivery of irrigation water. The combined benefits of the two projects will include increased river flows and floodplain connectivity throughout the restored 3+ mile reach. The project will also restore a functional connection between Bear Creek and the Methow River that has been disrupted for more than 100 years.

The project includes the following key elements:

- Construct a new inlet channel paired with an apex logjam to increase the sustainability of the existing and reconnected side channels [\(Left Bank and Main-Stem Methow\)](#)
- Remove the concrete and steel Barkley headgate and conversion of the existing intake canal to a side channel feature to increase floodplain connectivity– this will be built with a perennial connection, but may evolve towards a long seasonal connection. [\(Left Bank\)](#)
- Build 4 engineered logjams to increase channel complexity in the existing island side channel (“1970’s Channel”). [\(Left Bank\)](#)
- Construct multiple small log structures to promote channel development and add help define the island flow path. [\(Left Bank\)](#)
- Restore a perennial connection between Bear Creek and the Methow River by removing the fish screen and associated infrastructure, filling a portion of the Barkley Canal, and constructing a new outlet channel Improve [\(Left Bank and Bear Creek\)](#)
- Build an engineered logjam in the main stem Methow to increase instream complexity near the outlet of Bear Creek. [\(Left Bank and Main Stem Methow\)](#)

- Plant approximately 3 acres of previously cleared areas with native riparian trees and shrubs to restore a functional riparian forest buffer. [\(Left Bank\)](#)
- Remove 650 feet +/- of riprap on the left bank of the Methow River to increase floodplain connectivity. [\(Left Bank\)](#)

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The project area includes lands in and adjacent to the Methow extending from RM 49—50. The project is in Sections 12 and 13, Township 34 N, Range 21 E. The project area includes riparian, floodplain, off-channel, side-channel, and main-channel areas adjacent to and in the Methow River. The project areas include private property and State Owned Aquatic Lands.

Previous design alternatives included actions on the right bank of the Methow River. All actions on the right bank of the Methow River have been removed from the final design (See Site Map).

## **B. Environmental Elements**

### **1. Earth**

a. General description of the site:

(circle one)  Flat  rolling, hilly, steep slopes, mountainous, other \_\_\_\_\_

The overall project site is relatively flat, with some rolling and hilly areas. There are some steep slopes in the project area, but no work is planned for these locations. Project areas are generally confined to the active channel and side channel areas of the Methow River together with associated riparian buffer fringe areas and extended floodplain established on each bank of the subject properties on the Methow River.

b. What is the steepest slope on the site (approximate percent slope)?

The majority of the project site is relatively flat; however, some areas are sloped. The steepest slope is approximately 40%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

Riverwash and loams are the primary soils. No agricultural land of long-term commercial significance will be affected by the project.

The NRCS web soil survey indicates the area soils are 36% Riverwash, 45% Owhi, 7% Winthrop, 6% Newbon; the remainder is Haley and Muckamuck.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

The project includes multiple features with excavation and/or fill. All fill will be reused excavated onsite material. There will be no imported fill. The table below shows the location, area, and type of excavation and/or fill.

Project Element	Location	Footprint	Excavation	Fill	Type of material	Source (for fill) or destination (for excavation)
Side channel inlet excavation	<u>Main Stem, Island, and Left Bank</u>	12,500 sq. ft. [0.28 acres]	1,740 cy	-	Gravels, sands and cobbles	To: Island gravel bar
Gravel bar supplementation	<u>Main Stem, Island gravel bar, and Left Bank</u> - river side	37,000 sq.ft. [0.85 acres]	-	1,740 cy	Gravels, sands and cobbles	From: Side channel inlet excavation
Headgate removal	<u>Left Bank</u> Side channel/ upper canal	2,000 sq. ft. [0.05 acres]	150 cy	-	Concrete	Off-site disposal
Canal spoils removal	Floodplain along upper canal <u>Left bank</u>	31,000 sq.ft. [0.71 acres]	3,600 cy	-	Sands and gravels	To: Upstream spoils area
Upstream spoils disposal area	<u>Left Bank property</u> against hillslope in uplands	33,000 sq.ft [0.76 acres]	-	3,600 cy	Sands and gravels	From: Canal spoils material
Floodplain scallop	<u>Left Bank</u> Floodplain upstream of Bear Creek	37,500 sq.ft. [0.86 acres]	3,560 cy	-	Soils, sands, and gravels	To: Abandon canal, Bear Creek Realignment, Downstream spoils area



Levee/ Riprap removal	<u>Left Bank</u> Methow River upstream of Bear Creek	27,500 sq.ft. [0.63 acres]	3,500 cy	-	Large rock	To: Off-site haul
Levee removal	<u>Left Bank</u> Methow River upstream of Bear Creek	Included above	1,700 cy	1,700	Native gravels, sands, and soils	Native materials reused to rebuild streambank
Abandon lower canal	<u>Left Bank</u> Floodplain near Bear Creek	16,500 sq.ft [0.38 acres]	-	1,500 cy	Sands, gravels, cobbles, and soils	From: Levee removal, floodplain swale, Bear Creek realignment
Bear Creek Realignment	Bear Creek	24,000 sq.ft. [0.55 acres]	2,060 cy	200 cy	Sands, gravels, cobbles, and soils	To: Bear Creek realignment, floodplain swale
Bear Creek Roughness	Bear Creek	2,000 sq.ft. [0.05 acres]	-	-		
"1970's channel" wood features	<u>Left Bank and main-Stem</u> <u>Methow</u> Intermittent channel on island	8,000 sq.ft. [0.18 acres]	No net excavation	No fill		
Channel barb ELJ	<u>Left Bank and Main-Stem</u> Methow River near Bear Creek	1,000 sq.ft [0.02 acres]	20 cy	20 cy		Reuse locally
Island Apex ELJ	Island/ Methow River <u>Main-Stem</u>	1,000 sq.ft [0.02 acres]	Included elsewhere	No fill		
Bank Complexity ELJ's (2)	<u>Left Bank</u> Side channel	2,000 sq.ft. [0.05 acres]	40 cy	40 cy		Reuse locally



Side Channel ELJ's (3)	<u>Left Bank</u> Side channel	3,000 sq.ft. [0.07 acres]	60 cy	60 cy		Reuse locally
Screen facility demolition and rehab	<u>Left bank</u> Floodplain near Bear Creek	3,000 sq.ft. [0.07 acres]	150 cy	Included in abandon canal	Remove concrete, fill with soil from floodplain swale	Off-site haul for concrete
Downstream spoils area	<u>Left Bank</u> Terrace in uplands	21,000 sq.ft. [0.47 acres]	-	3,920 cy	Soils, sands, and gravels.	From: Floodplain swale and Bear Creek Realignment excavation
Redistribute wood material	<u>Main Stem at</u> Island	6,000 sq.ft. [0.14 acres]	-	-	Wood, slash	To: "1970's channel" wood features

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

The erosion risk is not considered to be likely to be increased by any proposed actions. The project elements have been developed by professional engineers to improve riparian health and reduce erosion in the long-term. Short-term erosion controls will be implemented in accordance with the Department of Ecology's Stormwater Management Manual for Eastern Washington and BPA's HIP General Conservation Measures. The project elements are not designed to limit natural channel migration or other channel forming processes and as such will not address natural erosive processes or potential.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

No new impervious surfaces will occur as a result of this project. The project will remove a small amount (~500 sq. ft <1% of site) of impervious surface.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Short-term actions to control the risk of increased erosion or sediment runoff potential through storm-water conveyance will be implemented during construction in areas where natural, or constructed, gradients could result in surface flows entering stream channels or surface waters. Best management practices, including silt fences and straw bales will be employed at all sites where machine excavation is conducted within 100 feet of an active channel. Whenever possible, active separation of work areas from active flows will occur; however, some work will occur within the active channel. Work plans for activities proposed within the active channel will be reviewed with natural resource agencies to determine appropriate management practices that will be protective of fish and wildlife needs. Measures may include timing and flow limitations, coffering of work areas, or limitations on equipment type or size. All

equipment that has the potential to contact live flows will be required to meet WDFW fluid requirements for work in aquatic areas, and HIP General Conservation Measures.

Long-term actions to control erosion impacts will include extensive riparian plantings will be placed by hand or small machine to reduce potential for soil disturbance. Planted areas will be mulched or treated with fabric following plantings to increase moisture retention and reduce erosion.

## **2. Air**

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Air emissions could include dust from construction activities, vehicle emissions during construction and smoke from small slash fires. Although localized and limited in duration, these emissions could occur throughout the construction period. Any emissions would be short-term in nature and not out of character with surrounding agricultural activities.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None known

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Best management practices will be followed related to equipment use, and control of dust

## **3. Water**

- a. Surface Water:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes. All of the proposed projects will occur either within active river channel(s), riparian areas, associated floodplains, or side-channels associated with the Methow River or Bear Creek.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Yes. Activities will include excavation and fill activities related to implementation of LWD revetments, removal of flow barriers, removal of human placed fill and structures, planting of vegetation, seeding of disturbed areas, construction of fencing, and removal of noxious weeds.

Potential adverse impacts to the shoreline environment will be short-term and localized in nature. Adherence to Best Management Practices and individual permit requirements will ensure that adverse impacts are minimized.

Design plans for the project elements are attached.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

No fill or dredge will take place in wetlands. Work occurring within wetland buffers will be addressed through the JARPA permitting process. Impacts to buffers will not negatively impact buffer function.

The volume of fill and dredge material within surface water is described in the table below:

Project Element	Location	Type of material	Source (for fill) or destination (for excavation)	Excavation below OHWM	Area within OHWM	Fill below OHWM
Side channel inlet excavation	Island <u>at Main-Stem</u>	Gravels, sands and cobbles	To: Island gravel bar	80 cy	1,800 sq. ft.	
Gravel bar supplementation	Island gravel bar- river side <u>Left Bank</u>	Gravels, sands and cobbles	From: Side channel inlet excavation		30,000 sq. ft.	1,500 cy
Headgate removal	Side channel/ upper canal <u>Left Bank</u>	Concrete	Off-site disposal	150 cy	2,000 sq. ft.	
Levee/ Riprap removal	Methow River upstream of Bear Creek <u>Left Bank</u>	Large rock	To: Off-site haul	1,500 cy	10,000 sq. ft.	
Bear Creek Realignment	Bear Creek	Sands, gravels, cobbles, and soils	To: Bear Creek realignment, floodplain swale	200 cy	4,000 sq. ft.	100 cy
"1970's channel" wood features	Intermittent channel on island <u>Main Stem Methow</u>				4,000 sq. ft.	
Channel barb ELJ	<u>Left Bank</u> Methow River		Reuse locally	20 cy	1,000 sq. ft.	20 cy

	near Bear Creek					
Island Apex ELJ	Island/ Methow River <u>Main Stem</u>				1,000 sq. ft.	
Bank Complexity ELJ's (2)	Side channel_ <u>Left Bank</u>		Reuse locally	40 cy	2,000 sq. ft.	40 cy
Side Channel ELJ's (3)	Side channel_ <u>Left Bank</u>		Reuse locally	60 cy	3,000 sq. ft.	60 cy

Totals:

Excavation of native gravels, sands, and soils below OHWM: 550 CY

Excavation of large rock (rip-rap/levee material) below OHWM: 2500 CY

Fill of native gravels, sands, and soils below OHWM: 1,720 CY

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

Neither the construction or excavation actions will require additional water withdrawal or diversion. Post-construction re-vegetation efforts will be supported by existing water sources supported either by established irrigation companies or from ground water withdrawals exempt from water right requirements. MSRF will work with WA Department of Ecology to ensure that state laws and requirements are satisfied where irrigation of plantings are desired. Where required, irrigation water use will be limited to the initial establishment period of the plantings. Native vegetation will be employed at all sites to reduce the need for long-term irrigation. No permanent or long-term surface water withdrawals or diversions will result from this project.

During construction, surface water may be temporarily diverted away from instream work areas through placement of gravel cofferdams or, if necessary, pumps. The amount of water to be diverted and the duration of the work area isolation will vary by work area location and river flow at the time of construction. All diverted flows will be directed back to the active channel adjacent to and/or downstream of the work area after settlement of suspended sediment.

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Yes. Work will be completed within and adjacent to the floodplain at each site. No structures for human use will be constructed in the floodplain.

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No

b. Ground Water:

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

Groundwater may be withdrawn for irrigation activities. The project will rely on existing surface and ground water sources for any irrigation needs. No new ground water sources are proposed for this project.

The project will not result in any activities that involve discharges to groundwater.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals \_\_\_\_\_; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

N/A

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Runoff to surface waters comes from a variety of sources, including public and private roads, compacted agricultural soils and historic drainage conveyances channels and ditches.

While the potential for short-term impacts to surface water will be increased during construction, adherence to BMP's and construction timing during summer and early fall will mitigate this risk.

Short-term protection actions designed to increase on-site retention and dissipation of excess storm water will be implemented where possible rather than reliance on construction silt fencing. Methods may include soils roughening to increase infiltration, mulch placement to increase roughness and seeding disturbed areas with fast growing sterile grasses to provide short-term protections during revegetation.

In general, storm water patterns will not be adversely impacted by this project. As plantings mature, this project will likely reduce storm water impacts to surface waters from normal or heavy rainfall events.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

Yes. The Barkley Canal currently intercepts stormwater and conveys it down valley via open canal. This project will result in modifications to the Barkley such that stormwater is returned to the Methow River within the project area. The route for stormwater return has sufficient length to settle any increased sediment caused by project construction.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Best management practices outlined in the Ecology Stormwater manual and HIP General Conservation Measures will be followed related to equipment use, and disturbance of soils to endure adequate protection. Project designs will be modeled after naturally functioning conditions to reduce adverse impacts of surface runoff.

#### 4. **Plants**

a. Check the types of vegetation found on the site:

deciduous tree: alder, maple, aspen, other

evergreen tree: fir, cedar, pine, other

shrubs

grass

pasture

crop or grain

Orchards, vineyards or other permanent crops.

wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other

water plants: water lily, eelgrass, milfoil, other

other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

Non-native, weedy, or listed noxious weeds within treatment areas will be removed as needed to facilitate restoration actions. Plant materials will be removed by mechanical or hand removal methods. Chemical controls are not proposed as part of this project.

Construction will remove 5 established mature trees in the area around the canal headgate, and approximately ½ acre of shrubs and small trees along the existing levee. These areas will be replanted

with native riparian species, and plant density is expected to surpass current levels in the levee area within 5 years.

- c. List threatened and endangered species known to be on or near the site.

Vegetation surveys have been completed for all areas that may be impacted by proposed actions on identified sites. No listed plant species have been observed in, or near proposed work areas.

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

The project does not propose any landscaping in the traditional sense of the term, but approximately 3 acres of native riparian plantings are proposed. Riparian plantings are designed to enhance vegetation on the site and increase density and natural distribution of native riparian species. All areas disturbed during construction will be reseeded and replanted to re-establish vegetation as quickly as possible.

- e. List all noxious weeds and invasive species known to be on or near the site.

Reed canary grass, diffuse knapweed, tansy, Chinese elm, whitetop, Canada thistle

## 5. **Animals**

- a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Birds: hawk, heron, eagle, songbirds, other: All found on or near the sites

Mammals: deer, bear, elk, beaver: All found on or near the sites

Fish: bass, salmon, trout, herring, shellfish, other: The Methow River in the project area supports spring and summer Chinook, steelhead, bull trout, cutthroat trout, rainbow trout, mt. whitefish, sculpin, long-nosed dace, lamprey, and other fish.

- b. List any threatened and endangered species known to be on or near the site.

Upper Columbia River (UCR) Steelhead, UCR Spring Chinook, Columbia River Bull Trout

- c. Is the site part of a migration route? If so, explain.

The flyways along the Methow River are heavily used by bald eagle; mule deer migration corridors are mapped throughout the Methow Valley. Gaps will be incorporated into fences in observed migration and/or heavy use areas to allow continued deer passage.

The Middle Methow River provides migratory habitat for bull trout, Chinook salmon, Coho salmon, steelhead, and lamprey.

- d. Proposed measures to preserve or enhance wildlife, if any:

This project seeks to improve and preserve wildlife habitat by improving riparian complexity.

- e. List any invasive animal species known to be on or near the site.

None known



## 6. **Energy and Natural Resources**

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

N/A

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

N/A

## 7. **Environmental Health**

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

No known health hazards related to processes or human activities. Removal of bank protection and levee structures is designed to increase inundation of the active floodplain. The project has been designed to mitigate potential impacts of flooding in adjacent properties and infrastructure.

Restoration of in-channel complexity structures (LWD and other engineered wood) may increase hazards to recreational users who are not skilled in navigation or are utilizing floating devices not capable of steering (i.e. air mattresses, inner tubes, etc.).

- 1) Describe any known or possible contamination at the site from present or past uses.

None known

- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

None known

- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

None known

- 4) Describe special emergency services that might be required.

N/A

5) Proposed measures to reduce or control environmental health hazards, if any:

N/A

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

The Methow River corridor is extensively developed both for residential, agriculture and commercial uses and as a transportation corridor for ground and air transportation. Noise from these sources may impact target species that this project is designed to benefit.

This project does not consider those sources as limiting the effectiveness of proposed actions

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Short-term noise associated with power tools and/or construction machinery will occur on the treatment properties. Noise levels would be of a nature that is largely consistent with normal agricultural or construction projects on surrounding properties. Short-term noise impacts from heavy machinery may exceed noise levels typically associated with surrounding land uses. These impacts would be of short duration and would occur during normal weekday work hours.

It is possible that noise associated with generators or pumps required for water control may occur outside of these hours. It is not likely that noise levels would exceed allowable standards for agricultural areas. Contractors would be required to locate and shield such equipment to ensure that off-site impacts are kept to the minimum amount necessary for project success.

3) Proposed measures to reduce or control noise impacts, if any:

Construction actions will be limited to daytime hours only. All equipment will be required to comply with BMP for operation in populated areas. Contractors will be required to locate and shield equipment required to operate outside of daytime hours to ensure that off-site impacts are kept to the minimum amount necessary for project success.

## **8. Land and Shoreline Use**

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The current use of the properties affected by the action include a mixture of open-space residential, irrigation conveyance, riverine, and passive recreation/river access. Properties in the general area are typical of those in a rural setting and include mixture of uses including: Agricultural, residential, recreational, and open space. The project will not adversely affect any current land uses - conversion of the irrigation conveyance will occur following abandonment of those facilities.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

Some of the properties in the project area are used for agricultural purposes, but all of these uses are outside of the project footprint. The project will not affect any current land uses.

- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

No

- c. Describe any structures on the site.

Many of the properties have existing structures, including residences, outbuildings, and associated utilities, wells, and septic systems.

- d. Will any structures be demolished? If so, what?

Yes. The Barkley Irrigation Company headworks, fish screen bay, and other related infrastructure will be demolished and/or removed from the site.

- e. What is the current zoning classification of the site?

Zoning for the properties is Methow Review District.

- f. What is the current comprehensive plan designation of the site?

Methow Review District

- g. If applicable, what is the current shoreline master program designation of the site?

Aquatic, Conservancy, Natural, Rural

- h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

Not to our knowledge; however, the area is known to be a migratory flyway for bald eagles and there are three ESA – listed salmonids in the Methow River.

- i. Approximately how many people would reside or work in the completed project?

N/A – Project will not alter any housing or work use plans.

- j. Approximately how many people would the completed project displace?

N/A – Project will not alter any housing or work use plans.

- k. Proposed measures to avoid or reduce displacement impacts, if any:

N/A – Project will not alter any housing or work use plans.

- I. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Proposed project actions will improve natural riparian river functions on properties where landowner access has been secured. All improvements will be reviewed by qualified professionals to ensure that project impacts do not adversely impact adjacent land use opportunities.

Although the projects will involve placement of materials and structures within the mapped 100-year floodplain, modeling and engineering will be completed to ensure that the structures do not increase the risk of flooding.

All work proposed on private lands has been fully reviewed with the affected landowners. Landowner consent for the application process has been secured. Full landowner consent will be secured prior to any construction actions.

- m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

N/A

## **9. Housing**

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

N/A – Project will not result in construction of any housing units.

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

N/A – Project will not result in removal of any housing units.

- c. Proposed measures to reduce or control housing impacts, if any:

N/A – Project will not result in impacts to housing.

## **10. Aesthetics**

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

No structures for human use are being proposed. Construction of in-water or stream bank structures will be completed. Stream restoration structures will be designed to adjacent flood elevations and will generally be no higher than 8-12 feet maximum height above streambed elevation. Most structures will be considerably lower.

- b. What views in the immediate vicinity would be altered or obstructed?

Short-term construction activities will alter existing views by clearing and grading, removal of non-native vegetation, alteration of placed fill staging and stockpiling of equipment and materials, and other construction related impacts.

Long-term alteration of views will occur to the extent that open or disturbed areas will be re-planted with native species to a regionally appropriate density. River and floodplain flow patterns may be altered by removal of placed fill. Placed complexity structures (LWD and rock) may be visible to recreational rafters and adjacent landowners. These structures will be designed to mimic natural conditions and will generally be more appropriate in appearance than existing treatment methods such as riprap or levees. Relocation of the Barkley Irrigation Company's surface source will allow abandonment of roughly 3 miles of open canal. This change may impact riparian vegetation (elimination of seepage) and will alter the visual appearance of each of the properties to the extent that the canal will be obliterated and the existing canal margin vegetation will be removed.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Project elements will be sited with sensitivity for adjacent properties and constructed with natural materials to approximate natural conditions. Landowner willingness is required for placement on private properties.

### **11. Light and Glare**

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

c. What existing off-site sources of light or glare may affect your proposal?

None known

d. Proposed measures to reduce or control light and glare impacts, if any:

N/A

### **12. Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity?

Recreation opportunities abound in the Methow Valley. Designated recreation areas include parks, lakes, rivers, and other public places and commercially established resorts, etc. Walking and skiing trails have been developed throughout the Methow Valley. The Methow River is a major corridor for outdoor recreation, including boating, rafting, and fishing.

b. Would the proposed project displace any existing recreational uses? If so, describe.

This proposal will not displace any existing recreational use of the area. No parks or public river access points will be eliminated by any proposed action. However, river users, including rafters and fishermen, will experience an increase in woody structures in the mainstem river and side channels as a result of the proposed actions. Although these structures are engineered to mimic natural wood accumulations in the river to improve fish habitat, they have also been designed to avoid increasing risk to recreational river users. Visual access to the Methow River will also likely be impacted as replanted areas mature.

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

MSRF will work with local river users and river safety specialists to address concerns regarding the proposal's potential impacts to recreational river use and safety. Additional meetings will be held with/for affected landowners to ensure understanding and support for actions on private lands. Implementation actions will require voluntary landowner consent.

Proposed in-water structures are designed to avoid increasing impacts to recreation. All structures were evaluated to ensure river uses have adequate time and ability to navigate away from any potential hazards. Structures are designed so they do not create any strainers or similar hazards, and are generally located in areas out of primary travel paths.

### **13. Historic and cultural preservation**

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

A portion of the Barkley Irrigation Canal, which is listed in the National Register of Historic Places, is located at the site. Section 106 review has been completed by BPA in consultation with the WA DAHP and the Colville and Yakama Tribes.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

No evidence of Native American or historic use is known, other than the Barkley Irrigation Canal.. Cascadia Archaeology completed a cultural resource survey of the site for the project in 2016. A portion of the Barkley Canal in the project area was also surveyed in 2016 as part of the Barkley Irrigation Project sponsored by Trout Unlimited.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

A cultural resource survey was completed by Cascadia Archaeology, and based on their recommendation BPA made a determination of "no adverse effect" and consulted with WA DAHP and the Colville and Yakama Tribes on February 16, 2018. DAHP concurred with the determination on February 20, 2018; no response was received from either of the affected tribes with whom BPA consults.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

BPA completed Section 106 Consultation for the project in March 2018. A cultural resource survey was completed by Cascadia Archaeology in the fall of 2016 and BPA consulted with WA DAHP and the Colville and Yakama Tribes on February 16, 2018 on its determination of "no adverse effect". DAHP concurred with the determination on February 20, 2018; no response was received from either tribes. During ground disturbing activities, MSRF and its contractors follow an Inadvertent Discovery Plan provided by BPA outlining procedures in the event that historic or cultural resources are discovered during construction.

#### **14. Transportation**

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

Access to each of the sites is provided from existing county or state roads. No new roads will be constructed. Where projects occur immediately adjacent to public access roads, consultation with potentially affected agencies will be completed to ensure that project action are compatible with existing infrastructure or that potential impacts are adequately mitigated.

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

N/A

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

N/A

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

No new roads will be required and no existing roads will be closed.

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What data or transportation models were used to make these estimates?

No changes to vehicle traffic will result from the proposal.

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No

- h. Proposed measures to reduce or control transportation impacts, if any:

N/A

#### **15. Public Services**

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

None anticipated.



b. Proposed measures to reduce or control direct impacts on public services, if any.

None proposed.

**16. Utilities**

a. Circle utilities currently available at the site:

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other \_\_\_\_\_

The properties are served by utilities for existing residences.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No new utilities are proposed.

**C. Signature**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: \_\_\_\_\_  
Name of signee: CHRIS JOHANSEN  
Position and Agency/Organization: PRESIDENT, NISRF  
Date Submitted: 04/20/2020

**D. Supplemental sheet for nonproject actions**

(IT IS NOT NECESSARY to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

- 1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

Proposed measures to avoid or reduce such increases are:

- 2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

- 3. How would the proposal be likely to deplete energy or natural resources?

Proposed measures to protect or conserve energy and natural resources are:

- 4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as wilderness, wild and scenic rivers,

threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed measures to avoid or reduce shoreline and land use impacts are:

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to avoid or reduce shoreline and land use impacts are:

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.