

Environmental Assessment Checklist

Project Name: Missoula Ponderosa Pine Seed Orchard Noxious Weed Spraying

Proposed Implementation Date: June 27, 2019

Proponent: Forest Management Bureau, Montana DNRC

County: Missoula

Type and Purpose of Action

Description of Proposed Action:

The Forest Management Bureau of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Missoula Ponderosa Pine Seed Orchard Noxious Weed Spray Project. The project is located on the DNRC Campus at 2705 Spurgin Road in Missoula (refer to Attachments vicinity map A-1 and project map A-2) and includes the following sections:

Objectives of the project include:

- Control of noxious weeds, including Spotted Knapweed, a Montana Priority 2A noxious weed species, in DNRC's Missoula Ponderosa Pine Seed Orchard.

Proposed activities include:

Action	Quantity
Proposed Forest Improvement Treatment	# Acres
Noxious Weed Spraying	13

Duration of Activities:	1 day
Implementation Period:	June 27, 2019

The lands involved in this proposed project are on a State Administrative Site.

The DNRC would manage lands involved in this project in accordance with:

- The State Forest Land Management Plan (DNRC 1996),
- Administrative Rules for Forest Management (ARM 36.11.401 through 471),
- and all other applicable state and federal laws.

Project Development

SCOPING:

- DATE:
 - June 24, 2019

- **PUBLIC SCOPED:** Signs were placed around the Missoula Ponderosa Pine Seed Orchard on June 24, 2019, notifying public users of the DNRC campus and seed orchard of DNRC's intent to conduct noxious weed spraying activities on June 27, 2019.

DNRC specialists were consulted, including: Jordan Rice, Land Use Specialist, Southwestern Land Office; Dan Rogers, Chief, Forest Management Bureau; Sierra Farmer, MEPA Planner, Forest Management Bureau; Jeff Schmalenberg, Resource Section Supervisor, Forest Management Bureau.

Internal and external issues and concerns were incorporated into project planning and design and will be implemented in associated contracts.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED: *(Conservation Easements, Army Corps of Engineers, road use permits, etc.)*

- **Montana Department of Agriculture-** Commercial and government pesticide applicators are required to comply with the Montana Pesticides Act, which is administered by the Montana Department of Agriculture. The Pesticides Act regulates the use of pesticides in Montana, including licensing of commercial applicators. Although the project area is outside the Missoula city limits, DNRC will comply with Missoula City Ordinance 8.62: Pesticide Notification and Contamination Prevention.
- **Missoula County-** In accordance with State Law (MCA 7-22-2101 through 2154), Missoula County has a noxious weed plan that provides guidance in working with public and private land managers on the management of noxious weeds. Missoula County is also responsible for enforcing compliance with State Law related to noxious weed control.

ALTERNATIVES CONSIDERED:

No-Action Alternative: No noxious weed spraying would occur. Other maintenance activities, such as mowing, watering, and stump removal, would continue as required.

Action Alternative: Broadcast application of Milestone®, a selective systemic herbicide used to control noxious weeds, including spotted knapweed, within the 13-acre ponderosa pine seed orchard. Milestone® will be applied at a rate of 5 oz. per acre.

Impacts on the Physical Environment

Evaluation of the impacts on the No-Action and Action Alternatives including **direct, secondary, and cumulative** impacts on the Physical Environment.

VEGETATION:

Vegetation Existing Conditions: The Missoula Ponderosa Pine Seed Orchard is a cooperative seed orchard established by the Inland Empire Tree Improvement Cooperative (IETIC) that is managed to produce seed for reforestation projects conducted by the DNRC and other IETIC members. The orchard has approximately 400 ponderosa pine trees, with ground cover of grass and herbaceous plants. Spotted knapweed, a Montana Priority 2A noxious weed, is

present throughout the seed orchard, with heavier concentrations in openings where past tree removal has occurred.

Vegetation	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Noxious Weeds	X				X				X					
Action														
Noxious Weeds			X			X				X			No	1

Comments: The intent of the project is to reduce the spotted knapweed population in the seed orchard; therefore, impacts to the amount and distribution of spotted knapweed are expected within the perimeter of the seed orchard. Reduction of knapweed populations within the seed orchard could result in the potential for reduced spread of knapweed beyond the seed orchard. Other noxious weed spraying projects would also be expected to reduce noxious weed populations in the Missoula Valley.

Vegetation Mitigations: Application of the herbicide would be done by a licensed commercial pesticide applicator. Herbicide would be applied at the ground level within the seed orchard via broadcast application using an ATV equipped with a tank and spray boom. During the time of application and until a 12-hour re-entry period has elapsed, the seed orchard would be closed to the public. Signs will be posted at entrances to and around the seed orchard notifying the public that pesticide application has occurred. The following specifications to minimize impacts to the public and non-target species would followed:

1. The applicator will pour, mix, and store the pesticide on impervious surfaces outside of the project area to prevent the possibility of concentrated product from entering into soil and water resources in the case of a spill.
2. The DNRC will post notices around the seed orchard to inform the public of the time frame in which spraying activities will begin.
3. Spray application will occur only under the following conditions:
 - a. Atmospheric conditions with wind speeds under 5 mph and gusts less than 15 mph measured on site.
 - b. Soil moisture will be at or below 20% in the project area.
4. If, during application, conditions are no longer suitable for spraying, operations will be suspended until conditions are favorable for spraying.
5. Spraying will only take place between the hours of 6:30 a.m. and 9:00 p.m.
6. The Applicator will have an emergency spill kit on site along with proper training in the event of a spill during mixing, transport, or application.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions: The soil within the treatment area is described by the Missoula County Area, MT soil survey as Grantsdale loam on 0-2% slopes. This soil unit can be described as a moderately drained loam typical of stream terrace land types. This soil is deep with coarse fragments and gravelly alluvium increasing with depth. Surface duff and organic material is limited and ranges from 0.5 – 1.0”. The pH of the soil typically ranges from 6.1 to 7.3 with increasing alkalinity as depth increases.

Soil Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Physical Disturbance (Compaction and Displacement)	X				X				X					
Erosion	X				X				X					
Nutrient Cycling	X				X				X					
Slope Stability	X				X				X					
Soil Productivity	X				X				X					
Action														
Physical Disturbance (Compaction and Displacement)	X				X				X					
Erosion	X				X				X					
Nutrient Cycling	X				X				X					
Slope Stability	X				X				X					
Soil Productivity	X				X				X					1

Comments: Milestone has a 34.5 day soil half-life, and 90% of Milestone applied at a rate of 7 oz. per acre, which is a higher concentration than the 5 oz. per acre proposed in this project, dissipates within 90 days. In most studies, Milestone remains in the top 6 to 12 inches of the soil profile. (TechLine 2015)

Soil Mitigations:

- Soil Moisture will be at or below 20% to immobilize as best as possible any product accumulated within the soil surface during application.
- Atmospheric conditions with wind speeds under 5 mph to prevent surfactant evaporation and product drift to off-site areas during application.
- All pouring, mixing and storage of the product will be conducted on impervious surfaces to prevent the possibility of concentrated product from entering into soil and water resources in the case of a spill.
- The contractor will have an emergency spill kit on site along with proper training in the event of a spill during mixing, transport or application.

WATER QUALITY AND QUANTITY:

Water Quality and Quantity Existing Conditions: No surface water resources are present within the analysis area and the only potentially affected water resources are groundwater sources. There is an irrigation ditch adjacent to the west side of the seed orchard with seasonal flow between April 15 and October 1. At its nearest point, the ditch is approximately 110 feet from the seed orchard. The ditch is buffered from the seed orchard by a shelterbelt of broadleaf trees and hedgerows and is also upwind of the analysis area in terms of the prevailing wind direction.

The Missoula Aquifer is a stratum of porous sand, gravel, and cobbles 10-70 feet beneath the valley floor that contains extractable groundwater. A layer of clay forms its lower boundary. Porous soil covers the top. An analysis of groundwater wells in the vicinity (0.5 miles) of the treatment area shows an average static water level of 28.0 feet below the ground surface. Flow rates of the Missoula aquifer range from 8-30 ft/day.

Water Quality & Quantity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Water Quality	X				X				X					
Water Quantity	X				X				X					
Action														
Water Quality	X				X				X					1
Water Quantity	X				X				X					

Comments: In most studies, Milestone remains in the top 6 to 12 inches of the soil profile and 90% of the herbicide dissipates in the soil within 90 days (TechLine 2015). Because of this, there are no expected impacts on water quality.

Water Quality & Quantity Mitigations:

- Soil Moisture will be at or below 20% to immobilize as best as possible any product accumulated within the soil surface during application.
- Atmospheric conditions with wind speeds under 5 mph to prevent surfactant evaporation and product drift to off-site areas during application.
- All pouring, mixing and storage of the product will be conducted on impervious surfaces to prevent the possibility of concentrated product from entering into soil and water resources in the case of a spill.
- The contractor will have an emergency spill kit on site along with proper training in the event of a spill during mixing, transport or application.

FISHERIES:

Fisheries Existing Conditions: There are no fisheries within or adjacent to the project area; therefore, there are no anticipated direct, indirect, or cumulative impacts to fisheries as a result of the No-Action or Action Alternatives.

WILDLIFE:

Wildlife Existing Conditions: The seed orchard is currently used by the following types of wildlife: birds, honey bees and other insects, rodents, deer, and other small mammals. The seed orchard is frequently used by people as a place to walk their dogs. No population estimates have been developed for wildlife that uses the seed orchard, nor have any studies on recreational use of the seed orchard by pet owners been conducted. The seed orchard contains no surface water resources, and therefore no aquatic organisms.

No-Action: No direct, indirect, or cumulative effects on wildlife are expected under No-Action.

Action Alternative: In laboratory studies, Milestone has low acute and chronic toxicity to mammals, birds, fish, and aquatic and terrestrial invertebrates, including honeybees and earthworms (TechLine 2015, Dow AgroSciences 2014). Because of this, there are no anticipated direct, indirect, or cumulative effects on those species.

AIR QUALITY:

Air Quality	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Spray Drift	X				X				X					
Odor	X				X				X					
Action														
Spray Drift		X				X			X				Yes	1
Odor		X				X								2

Comments:

1. During application, Milestone may drift from its intended target; however, after settling it remains on-site and will not be carried off-site by air movement (Dow AgroSciences 2014). Milestone is practically non-volatile in the air (TechLine 2015).
2. Milestone has a mild odor (Dow AgroSciences 2011) that may be present in and around the seed orchard after spraying. This odor is expected to dissipate within one week.

Air Quality Mitigations:

- Atmospheric conditions with wind speeds under 5 mph to prevent surfactant evaporation and product drift to off-site areas during application.

ARCHAEOLOGICAL SITES / AESTHETICS / DEMANDS ON ENVIRONMENTAL RESOURCES:

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Historical or Archaeological Sites	X				X				X					
Aesthetics	X				X				X					
Demands on Environmental Resources of Land, Water, or Energy	X				X				X					
Action														
Historical or Archaeological Sites	X				X				X					
Aesthetics	X				X				X					
Demands on Environmental Resources of Land, Water, or Energy	X				X				X					

OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA: None.

Impacts on the Human Population

Evaluation of the impacts on the proposed action including **direct, secondary, and cumulative** impacts on the Human Population.

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Health and Human Safety	X				X				X					
Action														
Health and Human Safety		X				X				X				1

Comments:

The EPA has classified Milestone as a Category IV pesticide for acute oral and dermal toxicity. This is the least toxic rating by the EPA (Dow AgroSciences 2011). Milestone has the following potential health effects (Dow AgroSciences 2014; Dow Agro Sciences 2011):

- It is not likely to be an ingestion or aspiration hazard, and harmful effects are not anticipated from swallowing small amounts.

- No adverse effects are expected from a single exposure to mist.
- It is essentially non-irritating to skin
- Prolonged skin contact is unlikely to result in absorption of harmful amounts
- It is essentially non-irritating to the eyes
- It is not likely to be carcinogenic to humans
- It is non-mutagenic and does not interfere with reproduction and has no adverse neurological effects.

Locally Adopted Environmental Plans and Goals:

The Missoula County Weed District and Extension Office has a County Noxious Weed Management Plan to provide guidance in working with public and private land managers on the management of noxious weeds.

No-Action: Noxious weed populations in the ponderosa pine seed orchard would remain uncontrolled and persist, which is inconsistent with the County Noxious Weed Management Plan and a violation of State Law.

Action: Herbicide application as a part of this project would achieve the goals of the County Noxious Weed Management Plan and comply with State Law.

Other Appropriate Social and Economic Circumstances:

No Action: There are no costs associated with No-Action.

Action: Herbicide application would be conducted by the USDI Bureau of Land Management. The BLM is a member of the Inland Empire Tree Improvement Cooperative and is a cooperator in the Missoula Ponderosa Pine Seed Orchard. The BLM would bear all costs associated with this project.

References

Dow AgroSciences. 2011. Milestone® Material Safety Data Sheet (MSDS). Available online at: http://msdssearch.dow.com/PublishedLiteratureDAS/dh_09a3/0901b803809a39d7.pdf?file_path=/pdfs/noreg/010-22452.pdf&fromPage=GetDoc. Last accessed June 24, 2019.

Dow AgroSciences. 2014. Q&A: What you should know about Milestone® specialty herbicide. Available online at: http://www.arborchem.com/label-sds/qa_Dow_Milestone.pdf. Last accessed June 24, 2019.

TechLine. 2015. Invasive Plant Management with Milestone® and Other Herbicides. Available online at: <https://www.techlinenews.com/management-guide/2015/9-technical-facts-and-answers-to-frequently-asked-questions-about-milestone-herbicide>. Last accessed June 24, 2019.

Does the proposed action involve potential risks or adverse effects that are uncertain but extremely harmful if they were to occur?

No.

Does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant?

No.

Environmental Assessment Checklist Prepared By:

Name: Tim Spoelma
Title: Silviculturist/Forest Ecologist
Date: June 24, 2019

Finding

Alternative Selected

The Action Alternative best meets the objectives of controlling spotted knapweed, and Montana Priority 2A noxious weed, in the Ponderosa Pine Seed Orchard, and complying with both County and State noxious weed control laws and objectives.

Significance of Potential Impacts

Based on an evaluation of the potential impacts of the Action Alternative to the physical and human environment, under MEPA, the Proposed Action does not pose significant effects to the human environment; therefore, an environmental impact statement is not a necessary level of review. The following factors lead to a finding of no significant impacts:

- The project area will be closed to the public during application, reducing the potential for impacts to humans
- The formulation of the chemical used has low toxicity to humans
- Spraying will occur only under conditions with minimal risk of spray drift, reducing the potential for impacts away from the target area
- There is minimal likelihood of transportation of the chemical to groundwater resources, and spraying will only occur when soil conditions are not conducive to transport of the chemical to groundwater resources
- The project involves a one-time application over a short time span, reducing the potential for ongoing or long-term impacts to humans and the environment

Need for Further Environmental Analysis

EIS

More Detailed EA

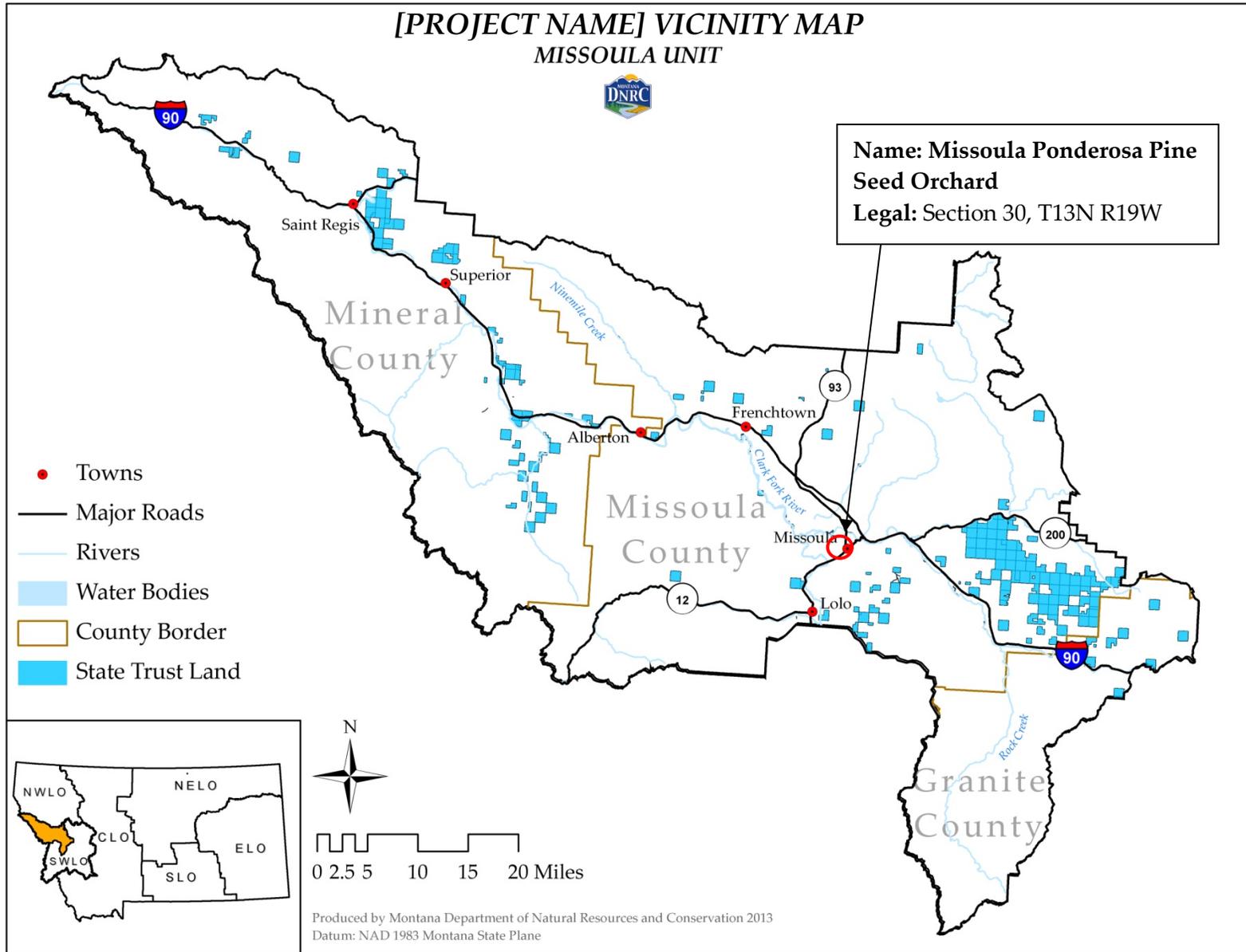
No Further Analysis

Environmental Assessment Checklist Approved By:

Name: Dan Rogers
Title: Chief, Forest Management Bureau
Date: June 24, 2019
Signature: /s/ Dan Rogers

Attachment A- Maps

A-1: Timber Sale Vicinity Map



A-2: Missoula Ponderosa Pine Seed Orchard

