CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name: Sula North Aerial Weed Spraying
Proposed
Implementation Date: June, 2012
Proponent: Hamilton Unit of DNRC
Location: T2N R19W Section 3, 10
County: Ravalli

I. TYPE AND PURPOSE OF ACTION

As part of an Integrated Weed Management Program (IWM) the DNRC, Hamilton Unit is proposing an aerial application of Transline, a clopyralid MEA salt, non-restricted use herbicide, on approximately 218 acres. The parcel is located within the Sula State Forest. The purpose is to treat an infestation of spotted knapweed with the desired outcome of increasing the coverage of native grasses and forbs. This proposed noxious weed treatment includes the proposed herbicide application in 2012.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

Gil Gale, Range Program Manager, Bitterroot National Forest, Kurt Gelderman, Service Forester/Grazing Specialist, DNRC Hamilton Unit Office; Paul Moore, Hamilton Unit Manager, John Thomas, Lessee Sula Peak Ranch.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

None

3. ALTERNATIVES CONSIDERED:

No action alternative – do not use aerial application of weed control chemical.

Action alternative as proposed – do use aerial application of weed control chemical.
Other non-chemical control methods are already being used or are being considered as part of Integrated Weed Management Program (IWM) program to manage weeds. Other methods of spraying are impractical and/or unsafe due to the rugged terrain and large acreage and will not be considered as a selectable alternative.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter “NONE” If no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

The main soil type within the proposed project area is: 31B71—Macmeal-Haughan Sharrott Families, complex, dissected mountain slopes. Slopes on these sites range from 30 to 60 percent. These soils are well drained.

These soils tend to be droughty and do not have high subsoil water tables. With the proposed treatment, no disturbance of surface soils would occur and herbicide would be retained on the surface soils. The reduction of noxious weeds is expected to improve the coverage of native plants and promote grass cover important for long term vegetative stabilization to provide competition with weeds and reduce erosion. There is low risk of direct, in-direct, or cumulative effects to soils with the herbicide application and vegetative cover would improve.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

There are no impaired streams identified in the project area. All watercourses in the spray area will be marked on the maps and flagged on the ground and will have a 100 foot no-spray buffer on either side. All label restrictions applying to water will be followed and monitored. No chemical mixing would be allowed near surface waters and no off-target impacts to water or fish are expected with proper application and buffer areas according to label requirements. DNRC will require the licensed applicator to strictly follow herbicide label requirements and comply with legal regulations on herbicide application, including the Montana Pesticide Act, the Montana Water Quality Act, the Montana Agricultural Chemical Ground Water Protection Act and safety precautions to minimize risk of health or environmental effects. Application rates would be in the (moderate) range of 2/3 of a pint per acre. There is low risk of cumulative effects to water resources based on the application and label requirements.

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

Herbicides sprayed from aircraft will remain suspended in the air for only a short time. Drift control additives will be required to minimize any drift. With additives droplet size is optimized to prevent drift and suspension in the air. Spraying will be conducted when weather conditions are appropriate to minimize drift. The proposed project area is remote with the nearest residence ½ mile to the south. There is low risk of cumulative effects based on the application and label requirements.

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

Native Plant Communities: Noxious weeds have a variety of mechanisms giving them a competitive advantage over native species. Noxious weeds can be alleopathic (contain compounds that suppress other plants), produce abundant seed, establish and spread in a wide range of habitats, have fast growth rates, grow before native species initiate growth, exploit water and nutrients, have no natural enemies, and are often avoided by large herbivores. Once established, non-native plants threaten biological diversity of native plant communities and can alter ecosystem processes.

As mentioned above spotted knapweed is the most wide-spread weed species on the Sula State Forest. It occurs primarily on south-facing bunchgrass and open ponderosa pine forest community types. Invasion of knapweed into disturbed and undisturbed native bunchgrass communities is well documented (Myers and Berube 1983; Tyser and Key 1988; Bedunah and Carpenter 1989; Lacey et al. 1990). As spotted knapweed and other weedy species increase, cover of more desirable but less competitive grasses and forbs is significantly reduced, sometimes as much as 60 to 90 percent (Harris and Cranston 1979; Bucher 1984). There is low risk of direct, in-direct or cumulative effects to desired vegetation with the herbicide application and vegetative cover would improve.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

"**Wildlife Habitat:** The introduction of exotic plants influences wildlife by displacing forage species, modifying habitat structure (such as changing grassland to a forb-dominated community), or changing species interactions within the ecosystem (Belcher and Wilson 1989; Bedunah 1992; Trammell and Butler 1995). Noxious weeds on the Sula State Forest have invaded the important big game winter range, reducing forage quality available for over-wintering animals".
"A study conducted by Thompson (1996) on the Three-Mile Wildlife Management Area suggested that elk are not obligate grazers and may lose foraging efficiency where knapweed dominates native ranges. Although elk can incorporate spotted knapweed into their diets, they have been observed using areas with a low relative abundance of knapweed more frequently than infested areas. Thompson (1996) concluded that management practices affecting vegetation on winter ranges are likely to have profound impacts on ungulate foraging efficiency during the season when energy balance is especially critical."

DNRC's analysis of weed control and effects were tiered to the Montana Statewide Noxious Weed Trust EIS and the Bitterroot Natl Forest Noxious Weed Plan. DNRC has consulted USDA Handbook Number 633, entitled: "Pesticide Background Statements, Volume 1, Herbicides" for its compendium of information on herbicide, including physical and chemical properties, toxicology, bioaccumulation, hazards and other topics. This reference may be viewed at the DNRC Southwestern Land Office in Missoula. No applications are planned near surface waters and there is low risk of direct, in-direct or cumulative effects to wildlife, fish or aquatic life based on applicaton of this EPA approved herbicide according to label directions.

Biological Control

Biological control agents were released in 2010, 2011 on and near the project area. Monitoring of spotted knapweed treatments on other similar sites indicated that released agents appear to be self-sustaining and likely building populations in most release areas, though no quantifiable reductions in knapweed densities have been documented.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

Two species of concern are found near the proposed treatment area, but are not within the proposed project: *Allium parvum and Penstemon lemhiensis.* Known from over three dozen occurrences in southwest Montana, primarily on the Bitterroot National Forest. Many of these occurrences have large numbers of individuals and cover extensive areas. However, many of the sites are also infested with spotted knapweed and/or cheatgrass and continued increases in the density and spread of both invasive weeds are likely, further degrading the habitat occupied by *Allium parvum.* More information on the threats posed by invasive weeds is needed to determine if an S2 or S3 rank is most appropriate for this species.

Threats: Moderate
Short- and Long-Term Trends: Unknown
Intrinsic Vulnerability: Moderate

Penstemon lemhiensis is a regional endemic plant that occurs only in southwest Montana and adjacent Idaho. There are numerous occurrences in Beaverhead and Ravalli Counties with a few additional occurrences located in Deer Lodge and Silver Bow Counties in Montana, but most are small to moderate in size. The number of plants in Montana is estimated at approximately 10,000 individual plants based on recent survey efforts. Plants occur on a mix of federal, state and private ownerships with National Forest lands supporting the majority of the occurrences. The species is primarily sensitive to negative impacts associated with drought conditions and fire suppression, both of which are believed to have played a significant role in the species' decline. Additional impacts to populations are occurring from **noxious weed invasion**, **primarily spotted knapweed in the Bitterroot region**. Heavy livestock grazing also negatively impacts the species. Several occurrences are found adjacent to roadsides and thus may be impacted by activities associated with road construction, maintenance and use.

Both Natural Heritage Program reports on these plant species indicate a major impact is from invasive species, especially knapweed. Herbicide control should help these species of concern if they occupy the site after treatment. Aerial spraying could provide the best coverage and control of spotted knapweed and other invasive species. No wetlands will be aerially sprayed. Aerial application will have no more impact on any species than ground-based application.

There is low risk of direct, indirect or cumulative effects to sensitive plants since they are not known to occur on the project location.

---

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

None identified within the project area.

---

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

The project is located away from populated areas. Hunters traversing the area would see a change in vegetation from noxious weeds to grasses and forbs. Weed control would be applied in spring some helicopter noise would be present for ½ day during application.

---

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

Herbicide spraying has occurred on adjacent private and State-owned lands within the last 5 years with a beneficial cumulative effect to native vegetation.

---

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

USDA Forest Service, Bitterroot National Forest “Forest Integrated Weed Management Plan and Forest Plan”

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter “NONE” If no impacts are identified or the resource is not present.*

---

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

DNRC will require the licensed applicator to strictly comply with legal regulations on herbicide application, including the Montana Pesticide Act, the Montana Water Quality Act, the Montana Agricultural Chemical Ground Water Protection Act and chemical label restrictions will be strictly adhered to.

Human health risks associated with herbicides used for noxious weed control have been documented in "Analysis of Human Health Risks of USDA Forest Service Use of Herbicides to Control Noxious Weeds in the Northern Region" (Monnig 1986)and "Assessing the Safety of Herbicides for Vegetation Management in the Missoula Valley Region, ‚A Question and Answer Guide to Human Health Issues" Report to the Missoula Valley Land Managers 2000, by Allan Felsot, and these are incorporated by reference into this analysis. The report concluded that even when considering mixing errors and a variety of accident scenarios (e.g., spills, leaks, etc.) the "No Observable Effects Levels" for human health are not exceeded. Odors of picloram and other herbicides may linger for several days after application, and are offensive to some people. Some individuals may be especially sensitive and become ill. This problem could be avoided by posting clear and informative warnings at public access points immediately before and following any herbicide application. No negative impacts to human health and safety are expected with this application of an EPA approved herbicide according to label directions.

---

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

Agricultural grazing could occur if the site is treated.

---

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

NA

---

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

NA

---

18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services

NA

---

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

NA

---

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

The Sula State Forest is a popular area for big game hunting in the fall. An improved recreation experience would occur on this parcel as weeds are removed and converted back into grasses and forbs. Nearby parcels were aerially sprayed in 2007 and 2010 showing a remarkable decrease in noxious weeds.

---

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

NA

---

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

NA

---

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

NA

---

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

NA

EA Checklist Prepared By:	**Name:**	Kurtis Gelderman	**Date:**	April 27, 2012
	Title:	Service Forester/Grazing Specialist		

V. FINDING

---

25. ALTERNATIVE SELECTED:

I have selected the action harvest for the following reasons:

No negative impacts to human health and safety are expected with this application of an EPA approved herbicide when applied according to label directions.

A licensed applicator will comply with legal regulations on herbicide application, including the Montana Pesticide Act, the Montana Water Quality Act, and the Montana Agricultural Chemical Ground Water Protection Act

Aerial application will have no more impact on any species than ground-based application. There is low risk of direct, indirect or cumulative effects to sensitive plants since they are not known to occur on the project location.

Aerial spraying on adjacent land in 2007 has shown an increase in grasses and forbs, with little to no negative effects on conifers.

---

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

None

---

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

☐ EIS ☐ More Detailed EA ☒ No Further Analysis

EA Checklist Approved By:	**Name:**	Paul A. Moore		
	Title:	Hamilton Unit Manager		
Signature:	/s/ Paul Moore		**Date:**	5-8-2012

MITIGATION REQUIREMENTS

The herbicides Clopyralid, commonly known by the trade name Transline would be applied on specified locations according to label requirements.

a. All herbicides would be applied by commercial licensed pesticide applicators in accordance with the laws, rules and regulations of the Department of Agriculture, State of Montana and the Ravalli County Weed Board.

b. The Contractor shall have at least 2 years experience with herbicide application as a licensed contractor.

c. Warning signs will be posted on entrance roads to the spray area during the period of operations for two days before and 1 week after application. All buffer areas will be designated on the ground before application begins.

d. All applicators will adhere to the herbicide's specific label directions.
Herbicides will not be applied to areas that may contribute runoff directly into surface water.

e. Applicator will consider climate and wind conditions to limit drift and ensure that no off-target damage will occur. The applicator will shut off the spraying at any time the application of spray could cause damage to areas where spray is unwanted.

f. Applicator is responsible for taking proper safety precautions for herbicide handling and waste disposal. The applicator is required to have a contingency plan and remedial actions in the event of accidental spill or exposure.