APPENDIX A. Integrated Weed Management: Preventing the Spread of Invasive Plants

A. Background

Weeds are identified as a "moderate+" threat to GUSG by the USFWS, with the likelihood of "indefinite increases due to increased human presence and climate change." And much research indicates that ground disturbance caused by construction and maintenance activities, as well as unclean equipment, contributes heavily to the spread of invasives.
Recognizing that many weed prevention and management efforts are underway in the region, and many BMPs are already incorporated into standard operating procedures, nonetheless, the participants to early discussion – listed above – identified room for improvement across the agencies and counties.
Participants recognize that integrated weed prevention and management measures not only contribute to grouse habitat conservation, but contribute to better resource management in general.

B. Best Management Practices: Road Maintenance & Ground Disturbance Operations

In order for a signatory to receive coverage under the CCA and conference opinion, the signatory will apply these best management practices to the extent feasible for work within Gunnison sage-grouse habitat on and through federal lands, including signatories' contractors and right-of-way, easement, and permit holders.

Including but not limited to crown or slope reconstruction; clearing ditches, culverts and catchments; replacement of road surface, roadside mowing operations, and dust abatement.

SCHEDULE & TIMING

1. Plan work from non-infested areas to infested areas, as practicable. Plan work with Basin Weed Coordinator or Agency Weed Specialist, using existing weed inventories along planned route.
2. If heavily infested areas are known along planned routes for grading or mowing, work with Basin Weed Coordinator/Agency Weed Specialist to identify sections where it may be appropriate and practical to lift grader's blade or mower deck.
3. Minimize operations of equipment during conditions when mud can accumulate on equipment. Generally, these types of conditions exist when damage to the road resource can occur.

4. When scheduling allows, schedule activity when seeds or propagules are least likely to be viable and to be spread or when grading/blading/mowing could reduce the vigor of the weed infestation.
    - Contact Basin Weed Coordinator or Agency Weed Specialist and refer to Gunnison Basin Weed Inventory GIS database (to be developed).
    - Generally grade roads early in the spring before grasses develop seed heads or late in the season after grasses have set seed and become dormant.

MOBILIZING EQUIPMENT: EQUIPMENT CLEANING

1. Clean all heavy equipment and mobilizing equipment[1] before entering Gunnison County and West Saguache County.
2. Power-washing is the most effective method of cleaning.
3. Equipment shall be considered free of soil, seeds, vegetation, and other such debris when a visual inspection by operator or staff does not disclose such material on the undercarriage, cross members, frame, skid plates, belly pans, wheels, treads, tracks, suspension, bumpers, wheel wells, radiator grills, and the ledges on the inside of rear and front bumpers. *Disassembly of equipment components or specialized inspection tools is not required.*

BETWEEN-SITE OPERATIONS: EQUIPMENT CLEANING

1. Clean all heavy equipment <u>before entering each project</u> area if:
    - Equipment is covered with mud, plants, or other foreign materials and/or
    - Previous operation site was infested with invasive plant species.
2. Power-washing is the most effective method of cleaning, when available. Mechanical removal via "brooming" may be appropriate when in the field.
    - *Ideally, equipment should be washed between each route within Gunnison sage-grouse habitat and/or in between infested areas and non-infested areas.*
    - *Yet the infrastructure – portable power-washing stations—is not yet available in the region.*
    - *Cleaning equipment arriving from outside of the Basin is a good step but not sufficient.*
    - *A practical compromise is that equipment should be cleaned via following methods:*
        - *Commercially washed whenever movement between sites takes operators through towns with commercial facilities;*
        - *Hose-washing in staging area/area with drain may suffice;*
        - *In the field: mechanical removal may be appropriate in the field.*

3. Equipment shall be considered free of soil, seeds, vegetation, and other such debris when a visual inspection by operator or staff does not disclose such material on the undercarriage, cross members, frame, skid plates, belly pans, wheels, treads, tracks, suspension, bumpers, wheel wells, radiator grills, and the ledges on the inside of rear and front bumpers. *Disassembly of equipment components or specialized inspection tools is*

[1] earth-moving equipment; does not include pickup trucks and personal vehicles.

not required.

ON-SITE OPERATIONS & OPERATOR EDUCATION

1. Locate and use weed-free project staging areas.
2. Avoid acquiring water for road dust abatement where access to the water is through weed-infested sites.
3. Only use gravel, chip seal, soil, sand or other types of imported road/fill materials from sites that have no weed infestations.
    - For agency/County work, these sites should be identified or inspected by the Gunnison Basin Weed Coordinator or Agency Weed Specialist prior to mobilization.
    - For contracted work, a list of agency or County-recommended sources will be provided and recommended to contractor.
    - In the future, should a state or local weed-free certification program for road/fill materials be initiated, participating entities in the CCA will adopt the certification standards and require use of certified weed-free road/fill materials for their own and contracted work.
4. Only grade the road or mow the shoulder when necessary for resource protection, safety, or function.
5. As practicable, keep the grader's blade 1 to 2 inches above the road surface when the primary goal is to remove rocks that have fallen onto the road.
6. Annually, train operations and maintenance staff in the identification of invasive plant species and relevant weed BMPs.

RESEEDING & RECLAMATION

1. During the same growing season that the ground disturbance takes place/within 30 days following completion of construction, revegetated the newly disturbed sites with approved seed mixes.
    - Identify party responsible for revegetation work if work is contracted.
    - If ground disturbance occurs after late August/average date of first frost, generally delay reseeding until October 1/average date of consistent frost to ensure seedlings remain dormant and viable until following growing season (NRCS guidance, Scott pers comm). *Date may vary depending upon elevation.*
    - Consult Agency Weed Specialist, Botanist, or Ecologist for approved seed mixes. The agencies and/or the Weed Commission will work together to provide suitable seed mixes.
    - For surfaces that are annually graded and cleaned, including the road prism[2] and water bars, revegetation would not be appropriate.
    - Culvert installation and lead-out ditch construction should be revegetated.
    - Seeding shall be repeated if a satisfactory stand is not obtained as determined by the agency representative upon evaluation after the second growing season.

[2] Road prism is area from the top of the cut to the bottom of the fill.

2. Use only weed-free (certified when available) erosion control devices, such as coir logs, erosion control blankets, straw, topsoil, and soil amendments. Wattles, jute mats, and rice straw are examples of weed- free products.

3. Following ground-disturbing activities, treat infested areas with herbicides, hand pulling, or biological controls as deemed necessary by Basin Weed Coordinator or Agency Weed Specialist.
    - Unless otherwise agreed, surfaces that are annually graded and cleaned, including the road prism and water bars, do not require treatments.
    - Culvert installation and lead-out ditch construction areas should be treated.

INVENTORY & MONITOR

1. Agencies and Counties should inventory areas for invasive plants prior to their own/contracted road maintenance activities and ground-disturbing construction and flag these areas for avoidance or post-project treatment *(see Treatments section, above*). Inventories should include the following information:
    - Road number and mile markers
    - UTM's
    - Infestation type, i.e. existing infestations
    - Infestation size
    - Cover class
    - Type(s) of species observed
2. Update Gunnison Basin Weed Inventory GIS database at minimum once a year.
    - Gunnison Basin Weed Coordinator will annually coordinate with agencies to collect, compile, and make available most updated weed inventory information.
3. Monitor sites between two and three years following all treatments, as practicable. Prioritize monitoring in priority grouse habitat.
    - Unless the Weed Commission can absorb the work load, the agency will be responsible for monitoring.

C. Terms and Conditions for Contractors, Rights-of-Way & Easement Holders

In order for a federal signatory to receive coverage under the CCA and conference opinion, federal signatories will incorporate these terms and conditions into new and renewed individual right-of-way authorizations, easements and permits on federal lands within GUSG habitat.
In order for non-federal and federal signatories to receive coverage under the CCA and conference opinion, signatories will apply these terms and conditions to both internal and contracted work to maintain and construct infrastructure within Gunnison sage-grouse habitat on federal lands.
Unless otherwise agreed, to prevent the introduction of the seeds of noxious and invasive weeds onto lands within occupied Gunnison sage-grouse habitat on federal lands:

CLEANING

Contractor, utility, or individual operator shall ensure all heavy equipment moved onto lands is free of soil, seeds, vegetative matter, or other debris that could contain or hold seeds.

1. Equipment shall be considered free of soil, seeds, vegetation, and other such debris when a visual inspection by operator or staff does not disclose any such material on the undercarriage, cross members, frame, skid plates, belly pans, wheels, treads, tracks, suspension, bumpers, wheel wells, radiator grills, and the ledges on the inside of rear and front bumpers.
2. For equipment arriving from outside Gunnison County and West Saguache County, operator shall clean all heavy equipment and mobilizing equipment[3] before entering Gunnison County and West Saguache County.
3. Although power-washing is the most effective method, prior to moving between sites *in the field*, operator shall employ **whatever cleaning methods necessary** to ensure compliance with the terms of this provision.
4. Movement between field sites that *requires travel through or return to Gunnison/urban center* shall be accompanied by power-washing at a commercial washing station, **if one is available**.
5. Disassembly of equipment components or specialized inspection tools is not required.

NOTIFICATION

Contractor, utility, or individual operator shall notify agency representative prior to moving each piece of heavy equipment onto such agency-administered lands, unless otherwise agreed.

1. If the agency representative requests an inspection, arrangements will be made to inspect equipment prior to it being moved onto agency lands.
2. Use of contractors by individual private ROW/easement holder would require agency notification, with the following exceptions:
    - Private land access ROWs/easement holders operating own equipment are excepted from this measure, unless otherwise agreed.
    - Does not apply to snow removal equipment.

SOURCING/STAGING

When the agency/County specifically provides the necessary information, contractor/utility/individual operator shall:

1. Use identified/mapped weed-free project staging areas.
2. Use identified/mapped access routes and water sources for road dust abatement.
3. Use only gravel, chip seal, soil, or other types of imported road materials from agency-approved or inspected sources.
4. Use identified/mapped turn-around locations.

[3] earth-moving equipment; does not include pickup trucks and personal vehicles.

APPLICABLE ONLY TO RIGHT-OF-WAY/EASEMENT HOLDERS

1. The holder shall be responsible for weed control within the limits of the right-of-way. The holder shall be responsible for consultation with the appropriate agency representative for acceptable weed control methods.

1. The holder shall revegetate all disturbed areas using a seed mixture specified by the agency representative within 30 days following completion of any construction.

- If ground disturbance occurs after late August/average date of first frost, generally delay reseeding until October 1/average date of consistent frost to ensure seedlings remain dormant and viable until following growing season (NRCS guidance, Scott pers comm). Reseeding shall be completed prior to the following growing season.
- Consult Agency Weed Specialist, Botanist, or Ecologist for approved seed mixes.
- Seed shall be **certified** weed-free seed; exceptions to this requirement must be approved in writing by the agency representative.
- The seed mixture container shall be tagged in accordance with State law(s) and the tag(s) submitted for inspection by the agency representative at least 14 days before the date of proposed seeding.
- The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)/acre.
- For surfaces that are annually graded and cleaned, including the road prism[4] and water bars, revegetation would not be appropriate.
- Culvert installation and lead-out ditch construction areas shall be revegetated.
- Seeding shall be repeated if a satisfactory stand is not obtained, as determined by the agency representative upon evaluation after the second growing season.

[4] Road prism is area from the top of the cut to the bottom of the fill.