



Natural Resources Conservation Service
CONSERVATION PRACTICE STANDARD
HERBACEOUS WEED TREATMENT
CODE 315
(ac)

DEFINITION

The removal or control of herbaceous weeds including invasive, noxious, prohibited, or undesirable plants.

PURPOSE

This practice is used to accomplish one or more of the following purposes:

- Enhance accessibility, quantity, and/or quality of forage and/or browse
- Restore or release native or desired plant communities for wildlife habitat
- Protect soils and control erosion
- Reduce fine fuel loads and wildfire hazard
- Control pervasive plant species to a desired level of treatment

CONDITIONS WHERE PRACTICE APPLIES

This practice applies on all lands except active cropland where removal, reduction, or manipulation of herbaceous vegetation is desired.

This practice does not apply to removal of herbaceous vegetation for a land use change or by prescribed fire. Refer to NRCS Conservation Practice Standards (CPSs) Land Clearing (Code 460) or Prescribed Burning (Code 338), respectively.

CRITERIA

General Criteria Applicable to All Purposes

Apply herbaceous weed treatment to achieve the desired control of the target species and protection or enhancement of desired species. Desired species contribute positively to land use objectives and site potential. Use mechanical, chemical, or biological methods either alone or in combination.

Control pervasive and undesirable herbaceous vegetation to the desired level of treatment that contributes to the desired state of an ecological site.

NRCS will not develop insect biological control recommendations or chemical treatment recommendations.

NRCS can provide clients with acceptable biological and/or chemical control references to achieve desired management objectives.

NRCS can provide recommendations for biological control to manage herbaceous weeds utilizing grazing animals. Use NRCS CPS Prescribed Grazing (Code 528) to ensure desired results are achieved and maintained.

Nonchemical weed management techniques such as mowing, manually removing, or spot-flaming infestations can be effective.

When using herbicides, follow all environmental hazards and site-specific application criteria listed on herbicide labels and contained in extension service and other approved pest management references. Access the most recent herbicide labels at the Greenbook Web site (<http://www.greenbook.net>).

Include post-treatment measures to achieve resource management objectives.

Control livestock and human access based on management methods applied and restrictions listed on the herbicide labels.

Manage and/or dispose of treated weed species that prevents the spread of herbaceous weeds to new sites.

When the herbaceous weed treatment of undesirable species results in the need to reestablish desired herbaceous species, follow details in the appropriate vegetation establishment practices such as NRCS CPSs Pasture and Hay Planting (Code 512), Cover Crop (Code 340), Conservation Cover (Code 327), Range Planting (Code 550), Critical Area Planting (Code 342), Tree /Shrub Establishment (Code 612), or Wildlife Habitat Planting (Code 420).

Incorporate weed prevention strategies that include—

- Minimizing soil disturbance.
- Minimizing movement of equipment through weed infested areas.
- Inspecting and cleaning equipment to prevent spread of undesired vegetation.

Apply treatments during periods of the year when weed species are most vulnerable and when restoration of the native or desired plant communities have the best chance of recovery.

Adjacent land uses must be considered before chemicals are used. Also consider the residual effects of chemical use. Follow label and State guidelines on setbacks and other precautions from sensitive areas and surface water bodies or karst topography.

Additional Criteria to Enhance Accessibility, Quantity, and Quality of Forage and/or Browse

Apply herbaceous weed treatments that minimize negative impacts to forages and/or other nontargeted plants. Plan timing and sequence of treatment in coordination with specifications developed for NRCS CPS Prescribed Grazing (Code 528) or Forage Harvest Management (Code 511).

Additional Criteria to Restore or Release Native or Desired Plant Communities for Wildlife Habitat

Apply herbaceous weed treatments that protect the health and vigor of native or desired plant species to preserve and enhance habitat for pollinator insects and wildlife. Time treatments to periods of the year that accommodate reproduction and other life cycle requirements of target wildlife and pollinator species. Select treatments that maintain or enhance plant community composition and structure to meet the requirements of target wildlife and pollinator species.

Use applicable ecological site description (ESD) state and transition models, or other suitable information, to develop specifications that are ecologically sound and defensible. Treatments must be congruent with dynamics of the ecological site(s) and keyed to states and plant community phases that have the potential and capability to support the desired plant community. If an ESD is not available, base specifications on the best approximation of the desired plant community composition, structure, and function.

Use native vegetation to preserve and enhance pollinator insects as well as wildlife.

Additional Criteria to Protect Soils and Control Erosion

Herbaceous weed species shade out desired plants exposing more soil for potential erosion. Use caution when applying herbaceous weed treatments to minimize soil disturbance and soil erosion.

Apply additional treatments to protect soils and prevent erosion.

Additional Criteria to Reduce Fine Fuel Loads and Wildfire Hazard

Treat weed species to create a native or desired plant community that reduces the potential for accumulating excessive fuel loads and wildfire hazards.

Apply treatment methods that minimize the potential for unintended impacts to air resources (e.g., dust, chemical drift, etc.) that could also damage or kill plants, thereby contributing to wildfire hazard.

Additional Criteria to Control Pervasive Plant Species to a Desired Level of Treatment

When specific pervasive plant species cannot be controlled with one treatment, plan and apply additional treatments to achieve effective control through reapplication which may be more than once per growing season or multiple years.

Additional Criteria for Control of Invasive Plants

Control of invasive plants may include eradicating, reducing, or managing invasive species populations and preventing their spread. Control also includes restoration of native species and habitats to reduce the effects of invasive species and to prevent further invasions.

Preventing the initial establishment of invasive plants should be a major component of any Invasive Plant Species Control Plan. Early detection and control is a more efficient and effective strategy than waiting until an area is infested.

Control of noxious or invasive plants may be accomplished by mechanical, chemical, biological, prescribed burning, or a combination of all of these methods. The control method(s) used will be designed to protect the soil from erosion and to avoid the degradation of soil quality. Control methods will be designed to protect and encourage the growth of desirable native plant species. When using chemical control, spot treatment methods will be used whenever feasible. Minimum control is 90% reduction of existing invasive plants on site after application.

If using biological controls, release of the control agent will be in compliance with taxa-specific release standards only after securing any required Federal, State or local permits.

Areas where control measures have been used may require active re-vegetation methods to reestablish desirable plant species. Vegetative plantings and site preparation will follow the Conservation Practice Standards and vegetative establishment in the NRCS Field Office Technical Guide for applicable planting standards such as: Tree/Shrub Site Preparation (490), Tree/Shrub Planting (612), Riparian Forest Buffer (391), Conservation Cover (327), Wildlife Habitat Planting (420), Critical Area Planting (342).

Use vegetation adapted to the site conditions that will accomplish the desired purpose. Federal or state listed noxious or invasive plant species shall not be planted.

Where necessary, disposal of noxious or invasive plant species from the site treated will be by appropriate methods (e.g., burned, hung off ground, placed on tarps, bagged, etc.) to lessen the potential for the plants to repopulate the site or spread to new areas. Bagged plants will be properly disposed of off-site. After plants are dead and dried, properly dispose of or remove tarp.

Where herbicides will be applied, Vermont Agency of Agriculture, Food and Markets (VAAFM) certified pesticide applicators must be used. Commercial applicators must also have Category 2 – Forest Pests certification.

Any invasive plant control plan using herbicides within a Vermont State Significant Wetland or regulated buffer zone area must follow the NRCS Statewide Control Plan approved by Vermont Department of Environmental Conservation Wetlands Division.

CONSIDERATIONS

Consider using NRCS CPS Pest Management Conservation System (Code 595) in support of herbaceous weed treatment.

Consider soil erosion potential and difficulty of vegetation establishment when choosing a method of control that causes soil disturbance.

Consider the appropriate time period for treatment. Some herbaceous weed treatment activities can be effective when applied within a single year; others may require multiple years of treatments to achieve desired objectives.

Consider impacts to wildlife species. In general, weed treatments that create a mosaic pattern may be the most desirable. Leaving native grasses, forbs, and woody vegetation encourages a higher variety of wildlife and pollinators. When using selective herbicides, leaving other desired plant species also benefits wildlife and pollinators.

Consider impacts to wildlife food supplies, space, and cover availability when planning the method and amount of herbaceous weed treatment. ***Control should be applied outside the primary nesting season of April 15-August 1 if possible. Where target plants are also a food source for bees or other pollinators, consider controlling plants outside the flowering periods.***

Plant materials native to the State or local area should be used if possible.

State-issued licenses may be required when using chemical pesticide treatments.

For air quality purposes, consider using chemical methods of herbaceous weed treatment that minimize chemical drift and excessive chemical usage. Consider mechanical methods of herbaceous weed treatment that minimize the entrainment of particulate matter.

Design and execute a plan using adaptive management to apply knowledge gained from earlier treatment applications.

PLANS AND SPECIFICATIONS

Prepare plans and specifications for each field or treatment unit according to the criteria included in this standard. ***Prepare herbaceous weed treatment plans and specifications that conform to all applicable Federal, State, and local laws. Use VT NRCS job sheets or implementation requirements as available. For invasive plant control, use the Vermont NRCS control plan template to develop the Invasive Plant Control Plan.*** At a minimum, the herbaceous weed treatment management practice plan shall include—

- Goals and objectives statement.
- ***Site description.***
- Plan map and soil map for the site.
- Pretreatment cover or density of the target plants and the planned post-treatment cover or density.
- Maps, drawings, and/or narratives detailing or identifying areas to be treated, pattern of treatment (if applicable), and areas that will not be disturbed.
- A monitoring plan that identifies what shall be measured (including timing and frequency) and the changes in the plant community (compare with objectives) that occur.
- Appropriate revegetation conservation practice standard(s) needed following treatment (if applicable).

- For mechanical treatment methods, the first **six** bulleted items above, plus—
 - Type of equipment to use for management.
 - Dates of treatment for effective management.
 - Operating instructions (if applicable).
 - Techniques and procedures to be followed.
- ***For chemical treatment methods: The Invasive Plant Control Plan will be written or reviewed and signed by NRCS or NRCS Partner who is a Certified Pesticide Applicator with Category 2 and 10. In addition, include the 315 General Info sheet, applicable Species Info Sheets and Landowner Acknowledgment Form. Following herbicide use, the selected contractor must complete the Contractor Record and Certification Sheet which will be submitted to NRCS. Follow the Vermont NRCS Invasive Plant Control Checklist in development of the Plan and Maps.*** For chemical treatment methods, the first **six** bulleted items above, plus—
 - Acceptable chemical treatment references for containment and management of target species.
 - Documented techniques to be used, planned dates, and rates of application.
 - Evaluation and interpretation narrative of herbicide risks associated with the selected treatment(s) using Windows Pesticide Screening Tool (WIN-PST) or other approved tools.
 - Consideration of any special mitigation, timing, or other factors (such as soil texture, distance to water, and organic matter content) to ensure the safest, most effective application of the herbicide.
 - Reference product label instructions.
- For biological treatments methods, the first **six** bulleted items above, plus—
 - Acceptable biological treatment references for the selected biological control livestock used to contain and manage the target species.
 - Documentation of release date, kind, and number of livestock.
 - Timing, frequency, duration, and intensity of grazing or browsing.
 - Desired degree of grazing or browsing use for effective management of target species.
 - Maximum allowable degree of use on desirable nontarget species.
 - Special mitigation, precautions, or requirements associated with the selected treatment(s).

OPERATION AND MAINTENANCE

Operation

Herbaceous weed treatment methods shall be applied using approved materials and procedures. Operations will comply with all local, State, Tribal, and Federal laws and ordinances. The landowner is responsible for obtaining any permits prior to practice implementation. Observe State and Federal restricted-use pesticides and certified pesticide applicator's license requirements.

Develop a safety plan for individuals exposed to chemicals, including telephone numbers and addresses of emergency treatment centers and the telephone number for the nearest poison control center.

The National Pesticide Information Center (NPIC) telephone number in Corvallis, OR, may also be given for nonemergency information: 1-800-858-7384, Monday to Friday, 6:30 a.m. to 4:30 p.m., Pacific Time. The national Chemical Transportation Emergency Center (CHEMTRAC) telephone number is: 1-800-424-9300.

- Follow label requirements for mixing/loading setbacks from wells, intermittent streams and rivers, natural or impounded ponds and lakes, and reservoirs.
- Post signs according to label directions and/or Federal, State, Tribal, and local laws, around fields

that have been treated. Follow restricted entry intervals.

- Dispose of herbicide and herbicide containers in accordance with label directions and adhere to Federal, State, Tribal, and local regulations.
- Read and follow label directions and maintain appropriate safety data sheets. Safety data sheets and herbicide labels can be accessed at the Greenbook Web site (<http://www.greenbook.net>).
- Calibrate application equipment according to recommendations before each seasonal use and with each major chemical and site change.
- Replace worn nozzle tips, cracked hoses, and faulty gauges on spray equipment.
- Maintain records of plant management for at least 2 years. Herbicide application records shall be in accordance with USDA Agricultural Marketing Service's Pesticide Recordkeeping Program and State-specific requirements.

Maintenance

Success of the practice shall be determined by evaluating regrowth or reoccurrence of target and desired species after sufficient time has passed to monitor the vegetation and gather reliable data. Length of evaluation periods depend on the herbaceous weed species being monitored, proximity of propagules (seeds, plant materials, and roots) to the site, transport mode of seeds (wind or animals), and methods and materials used.

Following initial application, regrowth, resprouting, or reoccurrence of herbaceous weeds can be expected. Complete spot treatments of individual plants or areas needing retreatment when weed vegetation is most vulnerable to desired treatment procedures.

Review and update the herbaceous weed treatment plan periodically to—

- Incorporate new integrated pest management technology,
- Respond to grazing management and complex weed population changes, and
- Follow cooperative extension service guidance to avoid the development of weed resistance to herbicide chemicals.

REFERENCES

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