

NATURAL RESOURCES CONSERVATION SERVICE CONSTRUCTION SPECIFICATIONS

BRUSH MANAGEMENT

1. Needs and Priorities

The percent canopy cover of brush species present and the land use objectives govern the method of brush management. Canopy cover is defined as the area of ground covered by the vertical projection of the outmost perimeter of the natural spread of plant foliage. The percent canopy cover shall be determined and documented using an appropriate method.

Where increased forage production is the primary objective, use Table 1 to determine when brush management is needed and feasible.

- “High infestation” indicates that the target species is of sufficient canopy coverage to significantly suppress the production of herbaceous vegetation. Failure to implement brush management control practices in a timely manner could result in the ecological site passing through a transition threshold. Some ecological sites may require reclamation efforts to correct.
- “Medium infestation” indicates the target species is of sufficient canopy coverage to suppress the production of herbaceous vegetation and would eventually move to a high infestation level if not treated. Below the medium infestation level, specific brush treatment is not recommended beyond that which is achieved through other applied maintenance or management practices.

Where wildlife habitat improvement is the primary objective, use Table 2 to determine when brush management is needed and feasible. Table 2 provides the minimum percent canopy cover level that negatively impacts upland wildlife habitat.

2. Treatment

See Tables 1 and 2 for plant species and approved methods of control.

Mechanical

Mechanical operations should be timed so as to prevent exposure of bare soil for undue periods of time to reduce wind and water erosion.

Cut-stump treatment (sawing, clipping, or shearing) is the severing of the trunk below the lowest growth point and removing all green growth. All visible stumps and frills of sprouting brush species will be treated per label directions with a cut-stump herbicide application immediately after the stump is severed. This is the most preferred method of mechanical brush control.

Mowing or brush hogging is not considered a cut-stump treatment method. Mowing creates numerous cut ends that are impractical to properly apply herbicides to. Mowing also removes the foliar growth making broadcast herbicide application ineffective. Following mowing, herbicides should not be applied for at least two years following the treatment. Mowing should be delayed for at least 90 days following a herbicide treatment.

Bulldozing is not allowed for species that will re-sprout such as honey locust or hedge. Bulldozing should be done in such a manner as to not disturb the soil surface by scraping with the blade. This may be accomplished by hitting the trunk of the plant above the ground line to break it over and out of the ground. Next, back the tractor and come forward with the blade against the bottom of the root system to push the plant free of the soil uprooting the plant below the bud zone.

Chemical

Reference the latest edition of *Chemical Weed Control for Field Crops, Pastures, Rangeland, and*

Non-cropland and MF-1021 Rangeland Brush Management, provided by Kansas State University Agricultural Experiment Station and Cooperative Extension Service, for selected species and recommended methods, herbicide(s), rates, and application time(s).

Follow all label directions and heed all precautions on the herbicide container label.

Follow all United States Department of Agriculture (USDA) pesticide registrations and policies.

Follow all state and county herbicide and pesticide regulations.

To reduce the possibility of pollution and to increase the effectiveness of the herbicide, chemical control methods should not be used during periods of unstable weather where there is a possibility of rain within five hours after application of the chemical.

Biological

Biological agents are not approved at this time.

Prescribed Burning

Species controlled by prescribed burning are generally more effectively and economically controlled prior to reaching the medium infestation level (Refer to Tables 1 and 2) and five feet in height.

Successive annual prescribed burn treatments may be necessary to achieve desired level of control.

In areas of dense woody growth, it may be necessary to use herbicides to defoliate brush the year prior to burning to create fuel levels conducive to effective burns. In addition, grazing management should be adjusted to ensure adequate herbaceous fuel levels are present.

Piling of brush prior to burning is usually not cost effective and may result in bare areas after piles are burned. The ash and heat associated with burning these brush piles results in soil attributes undesirable for rapid establishment of herbaceous vegetation. These areas are often initially invaded by smooth sumac.

Table I ^{1/}

Species	High Infestation	Medium Infestation	Mechanical	Burning	Herbicides
Blackberry	>15% ^{2/}	5-15%	--	M-A	F-R
Blackjack oak	>50%	25-50%	CU	CN-A	F,S,B
Buckbrush (coralberry)	>20%	5-20%	M-R	CN-A	F-R,S
Eastern persimmon	>15%	5-15%	CU	--	F-R
Eastern red cedar	>15%	5-15%	C	CN	S
Honey locust	>15%	5-15%	CU	R,A	F,S,B
Indigo bush	>15%	5-15%	--	M-A	--
Multiflora rose	>15%	5-15%	--	M-A	F,S
Osage orange (hedge)	>15%	5-15%	CU	R-A	F,S,B
Post oak	>50%	25-50%	CU	CN-A	F,S,B
Pricklypear cactus	>20%	10-20%	--	R-A	F
Rough-leaved dogwood	>15%	5-15%	--	M-A	S,F-R
Russian olive	>15%	1-15%	CU	R-A	S,F-R,B
Sand plum	>20%	10-20%	--	R,CN-A	F,S
Sand sagebrush (sandhill sage)	>40%	20-40%	--	R	F
Elm, Siberian	>15%	5-15%	CU	R	F,S,B
Smooth sumac	>30%	10-30%	--	IP	F,S
Tamarisk (salt cedar)	>15%	5-15%	--	--	--
Yucca (small soapweed)	>20%	10-20%	--	--	S

^{1/} Adapted from *Chemical Weed Control for Field Crops, Pastures, Rangeland, and Non-cropland*, Kansas State University.

^{2/} Percent Canopy Cover

LEGEND

Mechanical

CU = Cut and treat cut surface
M = Mow
C = Cut below green growth
R = Repeat treatments needed
-- = No recommendation

Burning

A = With 2 or more yearly treatments
CN = Controls
IP = Increases population
M = Maintains population
R = Reduces population
-- = No recommendation

Herbicides

R = Repeat treatments needed
F = Foliar treatment
B = Basal bark treatment
S = Soil treatment
-- = No recommendation

Table 2 ^{1/}

Species	High Infestation	Medium Infestation	Low Infestation	Mechanical	Burning	Herbicides
Blackberry	>15% ^{2/}	5-15%		--	M-A	F-R
Blackjack oak	>40%	11-40%	1-10%	CU	CN-A	F,S,B
Buckbrush (coralberry)	>20%	5-20%		M-R	CN-A	F-R,S
Eastern persimmon	>15%	6-15%	1-5%	CU	--	F-R
Eastern red cedar	>15%	6-15%	1-5%	C	CN	S
Honey locust	>15%	6-15%	1-5%	CU	R,A	F,S,B
Indigo bush	>15%	5-15%		--	M-A	--
Multiflora rose	>15%	6-15%	1-5%	--	M-A	F,S
Osage orange (hedge)	>15%	6-15%	1-5%	CU	R-A	F,S,B
Post oak	>40%	11-40%	1-10%	CU	CN-A	F,S,B
Pricklypear cactus	>20%	10-20%		--	R-A	F
Rough-leaved dogwood	>15%	6-15%	1-5%	--	M-A	S,F-R
Russian olive	>15%	6-15%	1-5%	CU	R-A	S,F-R,B
Sand plum	>20%	10-20%		--	R,CN-A	F,S
Sand sagebrush (sandhill sage)	>30%	20-30%		--	R	F
Elm, Siberian	>15%	6-15%	1-5%	CU	R	F,S,B
Smooth sumac	>20%	10-20%		--	IP	F,S
Tamarisk (salt cedar)	>15%	6-15%	1-5%	--	--	--
Yucca (small soapweed)	>20%	10-20%		--	--	S

^{1/} For Prairie Obligate Upland Wildlife Bird Habitat Planning Only.

^{2/} Percent Canopy Cover

LEGEND

Mechanical

CU = Cut and treat cut surface
M = Mow
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Burning

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CN = Controls
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