

BIGHORN NATIONAL FOREST

INVASIVE SPECIES ACTION PLAN

May 16, 2005

Yellow toadflax



Spotted knapweed



Leafy spurge



Oxeye daisy



Whitetop



Approved By: /s/ *William L. Bass*
William L. Bass, Forest Supervisor

Date: May 16, 2005

I. Priority Species and Populations across the Forest.

A. The following species have been identified as the top five priority species for treatment on the Forest:

1. Yellow toadflax - *Linaria vulgaris*
2. Spotted knapweed – *Centaurea stoebi* (formerly *maculosa*)
3. Leafy spurge – *Euphorbia esula*
4. Oxeye daisy – *Chrysanthemum leucanthemum*
5. Whitetop – *Cardaria draba*

	Priority Invasive Species	Treated in 2004	Treated in 2000
1	Yellow toadflax - <i>Linaria vulgaris</i>	4.0 Acres	4.5
2	Spotted knapweed – <i>Centaurea maculosa</i>	32.5 Acres	6.1
3	Leafy spurge – <i>Euphorbia esula</i>	22.1 Acres	0.1
4	Oxeye daisy – <i>Chrysanthemum leucanthemum</i>	12.2 Acres	0.1
5	Whitetop – <i>Cardaria draba</i>	2.5 Acres	0.1

The increase in acres shown between 2000 and 2004 is primarily a factor of finding new populations and not an increase in previously treated populations.

Cheatgrass (*Bromus tectorum*) is an increasing threat at the lower elevations on the Forest and needs to be monitored closely.

White pine blister rust is one of the most damaging invasive species we have on the Forest. While there isn't much that can be done to stop it we are collecting phenotypic resistant seed when present and planting to replace those trees that have succumbed to the disease.

Canada thistle (*Cirsium arvense*) has been treated annually on the Forest with little affect. The plants tend to invade disturbed areas and then decrease in density as native vegetation increases. Based on these characteristics, treating infestations with chemicals is a much lower priority than other more aggressive species. In the future the Forest will decrease the emphasis on chemical treatment of Canada thistle and rely primarily on biological controls.

B. Management objective maps are shown in appendix A.

II. Forest Priority Monitoring and Treatment Areas.

Priority areas are monitored by a variety of people on the Forest. While roads are the greatest source of invasive species transport, we have a variety of transport methods affecting the Forest including trails (both motorized and non-motorized), hunting, outfitter camps and camp sites (both developed and dispersed). In order to detect and monitor infestations the Forest strives to make all our employees aware of the threat of invasive species during our annual orientation training and provides Weed Pocket Guides to everyone that is interested. The problem we've found with this portion of our program is that not everyone is interested in plants. Those employees that aren't interested in plants will not take the time to identify and report suspicious plants they notice. We currently know where the majority of the treatment areas are but not necessarily the extent of the area needing treatment.

1. Roadways:

- a. Roads are a primary source of weed invasion and thus one of the highest priorities for monitoring and treatment. Monitoring is a joint effort between Forest personnel, County Weed & Pest Districts and Wyoming Department of Game and Fish.¹

2. Monitoring Frequency by Road Class:

Road Class	Miles on Forest	Priority	Proposed Monitoring Frequency
I	535 miles	5	Every 5 years
II	761 miles	4	Every 5 years
III	161 miles	3	Every 3 years
IV	90 miles	1	Every 3 years
V	1 mile	2	Annually

3. Motorized and non-motorized trails:

- a. Trails are primary vectors for spreading invasive species across the Forest. These areas are also the most difficult to monitor and require the most time and energy. Monitoring will be a joint effort between Forest personnel, County Weed & Pest Districts, Back County Horseman, and local ATV clubs and tied into treatment of existing infestation in many areas. While working with these partners is extremely important to the Forest to accomplish our invasive species management job it takes time and effort by the Forest specialists to inform and educate these groups on weed identification, Forest priorities and the economic impacts of transport and treatment of weeds.²

Trail Class	Miles on Forest	Priority	Monitoring Frequency
Motorized	796 miles	1	Every 3 years
Non-motorized	404 miles	2	Every 5 years
Snow Trials	317 Miles	*	Not a know vector for invasive species

4. Administrative Sites:

- a. The Forest has 11 **administrative sites**. With the associated vehicle traffic and horse use these sites are being monitored annually for invasive species. Monitoring is completed by Forest personnel while they are stationed at the site or Rangeland Management Specialists working in the area or pasturing horses. Certified weed free hay and feed is required at all administrative sites so vehicles along entrance roadways and wildlife are the primary vectors for weed seeds at these locations.

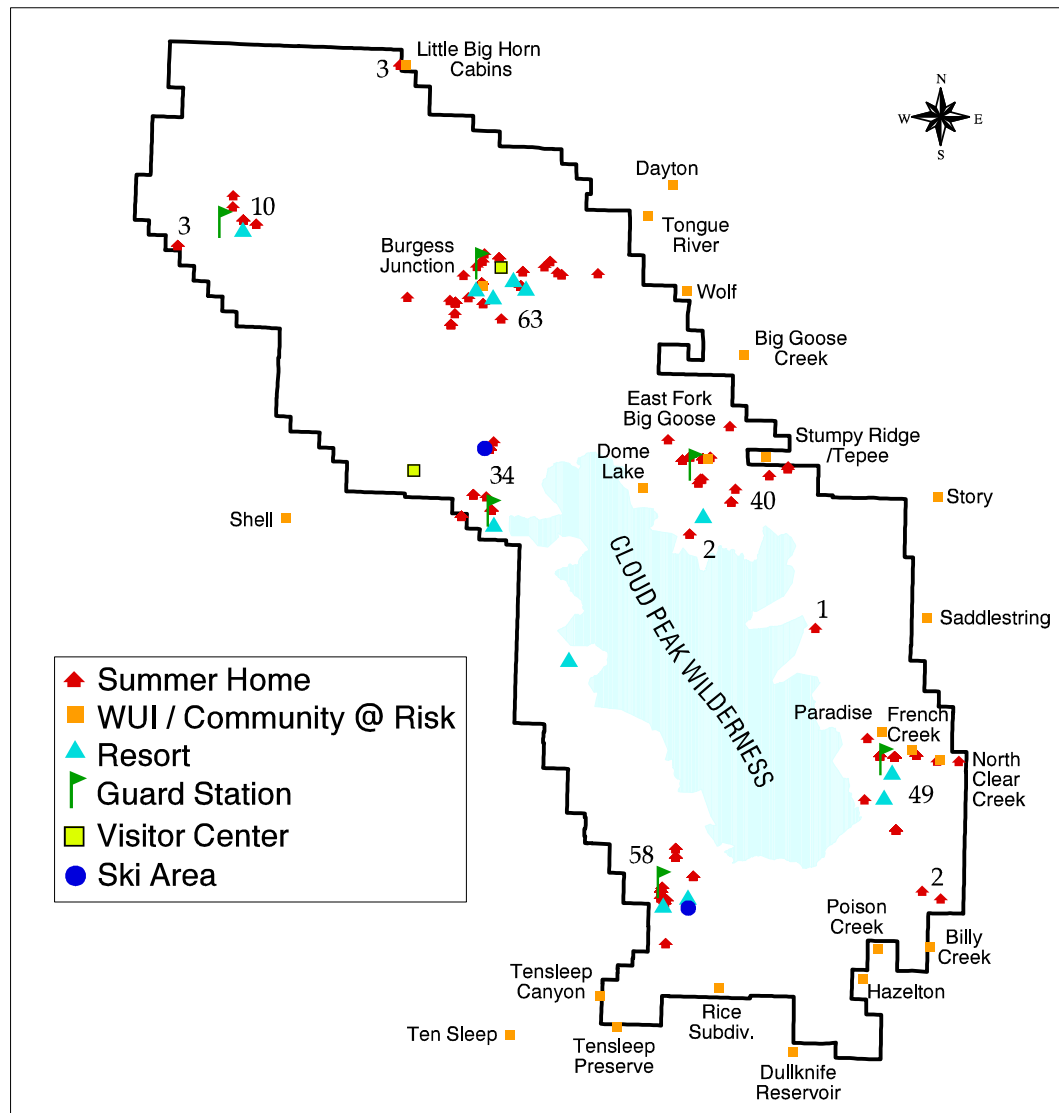
¹ The schedule shown is the recommended monitoring timeframe. The intensity of monitoring will be based on priority areas. The highest priority areas will be identified and monitored based on risk of invasion.

² The schedule shown is the recommended monitoring timeframe. With the miles of trails, especially motorized trails, to be monitored priority areas will be identified and survey intensities will be heavier on the high priority areas.

5. Administrative Sites by District

	Administrative Site	District	Acreage
1	Tyrell Work Center	Powder River	80
2	Hunter Work Center	Powder River	160
3	Shell Work Center	Medicine Wheel/Paintrock	160
4	Paintrock Guard Station	Medicine Wheel/Paintrock	80
5	Porcupine Guard Station	Medicine Wheel/Paintrock	160
6	Burgess Work Center	Tongue	220
7	Big Goose Work Center	Tongue	40
8	Sheridan Work Center	Tongue	217
9	Black Mountain	Tongue	20
10	Woodrock	Tongue	80
11	Penrose Guard Station	Tongue	40

6. Forest Development Map³



³ Map numbers refer to the number of summer homes or buildings in each group (e.g. Burgess Junction = 63 developments in this general location).

7. Special Projects:

a. Wildfire, timber sales and other special projects require vehicles and other equipment used on the project to be thoroughly washed and cleaned of debris to minimize the risk of transporting invasive species seeds into the project area.

III. Current Invasive Species Inventories.

The Forest currently relies heavily on Bighorn, Johnson & Washakie County Weed & Pest Districts for our inventory and mapping. The counties are currently providing point data on infestations. The Bureau of Land Management, Worland Office, as part of the Exotic Plant Steering Committee, has kept GPS data on weed locations for all ownerships in the Bighorn Basin for the past 12-15 years. We have the point data they compiled for the Forest.

The Forest has not formally identified priority areas but since approximately 1994 has relied on the County Weed & Pest Supervisors to maintain the maps and knowledge of priority areas and implement treatment under Partnership Agreements.

The highest priority on the Forest, after treating existing infestations and new infestations of priority species, is to update our inventory and mapping effort. This will require additional effort by both the Forest specialists and the County Weed & Pest Districts. The effort will be to complete an accurate inventory and map base for all our invasive species. Additional time and energy will be needed to maintain the database and keep it current once the original is up to date.

All Forest Rangeland Management Specialists have personal data recorders with GPS software but additional training is necessary to utilize the full potential of this tool.

IV. Coordinated Weed Management Areas.

The Forest has worked for the past 10+ years with the Bighorn Basin Exotic Plant Steering Committee which involved the Bureau of Land Management, County Weed & Pest Districts from Park, Bighorn, Washakie, Johnson and Fremont counties, Wyoming Department of Game & Fish, Bighorn Canyon National Recreation Area, Shoshone National Forest and the Bighorn National Forest. This cooperative effort focused on a joint weed management effort through education and cooperation within the working group. The BLM maintained the digital database for the group. The group is currently initiating a Bighorn Basin Coordinated Weed Management Area within the same area previously covered by the Exotic Plant committee.

The Powder River District is working with local 4H groups and using other opportunities to educate the public with regards to the impacts of invasive species. The Forest also has Partnership Agreements with Bighorn, Johnson and Washakie County Weed & Pest Districts to map and control invasive species. We cooperate with Sheridan County Weed & Pest District but not on a formal basis due to their increased workload within the county.

With the current funding and energy being placed in the existing program I don't see the opportunity or need to try and develop a new Coordinated Weed Management Area annually.

V. Administrative Site Management.

Forest Administrative Sites are occupied by Forest personnel throughout the field season. Depending on the site occupancy is either continuous throughout the field season or intermittent. All sites with the

exception of Black Mountain and Woodrock have horses pastured for at least part of virtually every summer. Rangeland Management Specialists monitor the sites closely for invasive species. Certified weed free hay and feed is used at these sites. At this time the monitoring effort expended at these sites appears adequate.

VI. Funding Sources.

- a. The Forest uses a variety of funding sources to manage our weed program. The primary source of funding is NFVW and KV funding associated with timber sales. When NFVW funding is short the Forest has supplemented with RBRB funding.
- b. Funding is currently channeled into Partnership Agreements with Bighorn, Washakie and Johnson County Weed & Pest Districts. Sheridan County Weed & Pest District has worked with us at the Sheridan Work Center but when their county workload increased they were not able to continue with the partnership agreement. The Tongue District program is currently managed by the District Wildlife Biologist with assistance from the 3 District Rangeland Management Specialists.
- c. Stewardship funds will also be used to treat weeds, either as part of the contract, or with retained receipts to use force account or contract with County Weed & Pest Districts.

Year ⁴	Weed & Pest District	Funding NF \$	Funding I & DC \$	Estimated County Contribution*
2002	Bighorn County Weed & Pest	\$25,000	0	\$5,000
	Washakie County Weed & Pest	\$15,000	0	\$2,500
	Johnson county Weed & Pest	\$5,000	0	\$500
2003	Bighorn County Weed & Pest	\$25,000	\$8,000	\$5,000
	Washakie County Weed & Pest	\$15,000	\$8,000	\$2,500
	Johnson county Weed & Pest	\$8,000	0	\$500
	Tongue Ranger District	\$1,000	0	
2004	Bighorn County Weed & Pest	\$25,000	\$15,000	\$5,000
	Washakie County Weed & Pest	\$15,000	\$14,000	\$2,500
	Johnson county Weed & Pest	\$8,000	0	\$500
	Tongue Ranger District	\$1,500	0	
	Contract (Centennial Funding)	\$15,000 coming in 05	0	0

* Estimated contribution in training, equipment and time.

⁴ Partnership agreements have been in effect since the early 1990's, starting with Washakie County Weed and Pest and since 1994 including Bighorn and Johnson County Weed & Pest Districts.

VII. Funding Needs:

The Forest has committed as much funding from the National Forest Vegetation and Watershed (NFVW) and Range Betterment (RBRB) fund sources as budgets will allow and still maintain viable programs in those areas. If additional funding becomes available above the Forest’s constrained funding level we could increase the intensity of the invasive program with contracting. The following estimates are based on funding above current levels.

Over the next 3 years the Forest could apply an additional \$15,000/year towards increased detection and mapping efforts. This would be done through additional county weed & pest funding and/or adding additional seasonal employees. At the end of the three year period we would have a much better idea of the level that the Forest program should be funded at and where we need to focus our efforts if different than our current focus.

Funding also needs to be increased to the counties to allow them the time and equipment to provide us with the data for maintaining our weed inventory in our electronic format. Currently the County Weed & Pest Districts focus is on weed control and not inventory and mapping other than what they currently have in their heads and on paper maps.

Time and training is also needed for the counties to assure that the data they furnish us is usable with our Tara database.

VIII. Training Needs:

- a. The Forest will maintain one certified pesticide applicator on each district. These individuals will monitor and provide over site to the program on the ground and supervise County Weed & Pest partnership agreements.
- b. Training will be provided for seasonal applicators and County Weed & Pest employees as necessary to recognize and monitor chemical applications in the vicinity of Threatened, Endangered or Sensitive plants.

IX. Monitoring Plan and Three year Summary:

Three Year Treatment Summary:

Year	Acres Treated	Chemical lbs. a.i./acre*
2004	594.17 Acres	634.34 lbs. a.i.
2003	455.78 Acres	194.69 lbs. a.i.
2002	555.20 Acres	318.80 lbs.a.i.

* Based on annual pesticide use reports for 2002 through 2004.

APPENDIX

A. Bighorn National Forest Invasive Species Maps. Five priority species
(5/12/2005):

1. North Half Map with five (5) priority species, forest roads, trails and streams.
2. South Half Map with five (5) priority species, forest roads, trails and streams.

B. Bighorn National Forest Invasive Species Maps. Invasive species not identified separately (5/12/2005):

1. North Half Map with all invasive species, forest roads, trails and streams.
2. South Half Map with all invasive species, forest roads, trails and streams.