



Bridger-Teton National Forest

The Jackson and Buffalo Ranger Districts of the Bridger-Teton National Forest make up 52% of the land within the Jackson Hole Weed management Association (JHWMA). For the most part, weed infestations begin along roads, trails, and river corridors and spread into the forest from there. Noxious weeds on the National Forest tend to be thickest near the boundaries of lands of other jurisdictions and at the periphery of the Jackson Valley.

In 2006, the effort against noxious weeds was made on two fronts. First, the Bridger-Teton National Forest invested in updating noxious weed inventories while simultaneously implementing an Early Detection – Rapid Response (EDRR) program. We adapted the new Forest Service’s Natural Resources Inventory System INFRA-Terra protocols. Totaled gross mapped acres for the Jackson and Buffalo Ranger Districts is now at 6,957 acres. This figure should be viewed as acres affected by noxious weeds and not continuous acres of weeds. Emphasis for Early Detection-Rapid Response searches was on 15 species of new invaders. One emphasis area for EDRR was the Teton Wilderness. We hired a pack horse contractor with extensive experience in the Teton Wilderness to map and treat all listed species of noxious weeds within the Wilderness. This is the first broad effort to confront noxious weeds within the Teton Wilderness. Funding for this project was a joint effort between the Forest Service and the Rocky Mountain Elk Foundation.

The second effort was control of noxious weeds. Control work occurred with Teton County Weed and Pest Crews and two pack-horse contractors. Ron and Ronda were dedicated to Forest Service lands for the entire season. They were assisted by other Teton County Weed and Pest Crews in heavily infested areas such as the Snake River Canyon and Togwotee Pass corridors. A total gross acres treated came to 2197 acres. This estimate is based on the Forest Services new required FACTS reporting system. We hope to improve the reporting system by having treatment crews record treated stands with field recorders on a daily basis.

The emphasis in 2007 and beyond should be increasing control efforts by adding an additional spray crew, field recorders to all crews, and continuing a coordinated EDRR program.

National Elk Refuge

This was the sixth year that the refuge provided funding to the Teton County Weed and Pest Department under a cooperative agreement. These funds and GYCC grant funds were used to fund 2 full time summer employees that worked almost exclusively on NER weed control. Jordan Day and Tom Holton began work in late May and ended in mid-August. Both Jordan and Tom did an excellent job this season and cooperated well with refuge staff to accomplish their work. This was Jordan’s second season working on the refuge, and his knowledge of the refuge made weed control particularly effective this season. Records indicate that they treated 37.22 acres with herbicide, but because they were spot spraying this is an underestimate of the acreage that they treated.

Efficiency of weed control efforts in 2006 was enhanced by invasive species mapping conducted cooperatively by the refuge and TCWP in 2005. Weed locations from the GIS map were transferred to hand held GPS units and these were used by staff to treat existing infestations.

Milestone herbicide was used for the first time this season. Test plots suggest that it is very effective for control of spotted knapweed and Canada thistle, and it can be applied on gravelly soils with high water tables.

There were several weed treatment focus areas on the refuge in 2006:

- This was the eighth year that volunteers and staff were used to chop extensive acreages of musk thistle. Over a five day period thousands of musk thistle plants were chopped on approximately 450 acres.
- Intensive effort was placed on controlling spotted knapweed in the Gros Ventre River riparian area on both the refuge and Grand Teton National Park.
- The Jackson Hole Weed Management association sponsored a cooperative “Gros Ventre River Spray Days” on July 1 and 2. Grand Teton National Park, National Elk Refuge, Bridger Teton National Forest and Teton County Weed and Pest donated equipment, herbicide and crews to this project.
- The USFWS Region 6 Invasive Species Strike team from Great Falls, MT, provided a crew of 5 people with ATV sprayers from 7/28-7/31. The Strike Team also focused on weed treatment on the refuge side of the Gros Ventre River. They focused on spotted knapweed and Canada thistle and treated 56 acres with Milestone. Much of the acreage was broadcast treatment using ATVs on large acreages of Canada thistle.
- Diffuse Knapweed remains a significant problem in the upper Chambers irrigated fields despite 3 years of mechanical removal. Refuge and TCWP pulled mature plants in August, 2006, but the high density of rosettes required broadcast spraying in addition to pulling.
- TCWP provided additional staff for late-season spray work on Canada thistle in September.

Teton County Weed and Pest

TCWP kept busy this summer and had a very successful weed spraying season. TCWP was able to move forward on financing and plans for a new facility to be located at 7575 S. Hwy 89 in Jackson. While we are behind our original schedule, we are looking forward to moving hopefully in the fall/winter of 2007.

The following weeds are targeted for eradication, reduction or prevention and were diligently worked on this summer: dyers woad, plumeless thistle, St. Johnswort, leafy spurge, perennial pepperweed, saltcedar, rush skeletonweed, yellow starthistle, scotch thistle, diffuse & Russian knapweed. We also focused JHWMA spray days on the Spotted knapweed along the Gros Ventre River corridor for the second year in a row.

Our mapping data continues to increase our efficiency during treatments. We hired a seasonal mapping crew to cover areas such as South Park Feedground, Gun Club, Transfer Station, Alta BLM, Snake River islands, Rafter J, and the levees. Many of these were mapped in 1999/2000 and new data will be compared to old as we review our strategy.

Two different insects were released on over 30 Canada thistle sites, *Mecinus janthinus* were released on 6 sites of Dalmatian toadflax, *Trichosirocalus horridus* was released on 6 areas of Musk thistle infestations; and *Larinus minutus* and *Cyphocleonus achates* were released on 10 Spotted knapweed sites. Biocontrol monitoring was successful with confirmed establishment of both *Mecinus janthinus* (Dalmatian toadflax) and *Chrysolina quadrigemina* (St.johnswort). These two species were previously suspected to have not been established do to environmental reasons, but have since given TCWP significant encouragement. *C. litura* is still establishing well, but not showing tremendous reduction of Canada thistle. The spotted knapweed and musk thistle insects are established, but after five plus years do not seem to be showing significant signs of weed reductions. However; spotted knapweed plants infected with *C. achates* appear smaller and have deformed roots.



This season was the beginning of the end of the Teton County, Idaho hay certification program performed by TCWP staff. Idaho Dept. of Agriculture has taken over this program. TCWP continues to service growers within Teton County, Wyoming. Approximately 1,954 acres were certified. Up 300 acres from 2005.

Over 200 noxious weed consultations were done for private landowners through our partnership with the Teton Conservation District on their Noxious Weed Cost Share Program. In addition, our Education coordinator and our education seasonal visited 117 properties and spoke with 46 landowners.



A special Thank you to the following JHWMA contributors:

- Old Bill’s Fun Run
- National Fish and Wildlife Foundation
- USDA, Private Land Forestry
- Teton Conservation District
- Rocky Mountain Elk Foundation

All photos courtesy of Amy Lerch, Rachel Markko, and Aaron Foster.

For more information on the JHWMA or for a copy of the brochure, please call Amy Lerch at (307) 733-8419



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Jackson Hole Weed Management Association (JHWMA)

This report is a summary of JHWMA member agency accomplishments in 2006.

The JHWMA is a collaboration of various federal, state, local, and private organizations that was formed in 1997. Its primary purpose is to prevent, control, and eventually stabilize the ecosystem from further spread of noxious weed invasions.

The area of the JHWMA is approximately three million acres consisting mostly of Forest Service and National Park lands.

The Annual Weed

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Teton Conservation District

The Teton Conservation District’s (TCD) cost-share program had another successful season (May 1st - October 31st 2006) of cost-sharing up to 50% with private landowners for the treatment of noxious weeds on their property. Landowners are eligible for reimbursement by following a few simple requirements which include being a landowner in Teton County, Wyoming, treating specific noxious weeds recognized by Teton County, having a Teton County Weed and Pest approved Integrated Weed Management Plan for the area’s to be treated, an agreement for a follow-up visit when treatment is complete, and submission of proper cost documentation.

TCD hired Wendi Bell as the Natural Resource Intern for this year’s program. Wendi stated, “The noxious weed cost-share program was a tremendous boost for the homeowners to learn about weeds and apply that knowledge to treatment of their properties. Many participants mentioned that the cost-share portion of the program motivated them to increase treatment as they were not as limited by budget. Overall, I feel the program was designed very well and ran efficiently. This year it approximately doubled in size but not acreage as the larger parcels were enrolled the first year. We did communicate with a lot of people who recognized the need to involve surrounding properties which makes me feel the program will again increase significantly next year.”

This season boasted 255 applicants, 22,398 acres treated, 50 comment sheets submitted and about \$140,000 reimbursed. When responding to a comment sheet sent out with reimbursement checks, one private landowner said, “Please continue the program, it encourages us to have an aggressive approach to weed control.” and another said, “Just excellent! Easy to understand and successful in controlling noxious weeds on my property.”

TCD is very happy to provide a program that helps many people improve the flora and fauna of Teton County. Improvements for next season include mapping properties in the program to achieve a more accurate assessment and improved reimbursement guidelines so all may benefit from fair compensation. We would like to state that the ability to run this program relies on the integrity and honesty of all participants. Without this important cooperation we would not be able to run such a valuable program.

TCD is currently assisting this property owner in Wilson, WY with erosion control problems following an intensive Yellow Toadflax removal.



Teton Science School

The Conservation Research Center continued its aggressive weed control program on the Kelly Campus and Jackson Campus of Teton Science Schools. Weed control efforts still focused on Canada thistle, musk thistle, and houndstongue. Mechanical methods (i.e., pulling, mowing) were also used for weed control.

Staff spent over 300 hours controlling weeds around Teton Science Schools' property. Monitoring will determine control efficacy occurred between 2 and 30 days post-treatment.

Young houndstongue were treated chemically; houndstongue in flower was generally treated manually. Musk thistle were pulled manually or treated chemically. Canada thistle was treated chemically. Dalmatian toadflax was identified in 5 spots on the property. These sites were treated with 2 grams/gallon of Escort™. Plants that went to seed also had their seed heads removed and destroyed.

The Conservation Research Center also participated in the noxious weed cost-share program sponsored by the Teton Conservation District and the Weed Extravaganza hosted by Teton County Weed and Pest at the Teton County Fair. *Contact Person: Brenda Younkin, Land Manager. 307-734-8725 x 112 or brenda.younkin@tetonscience.org*



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Resource Management staff was responsible for the Exotic Vegetation Program which included preventing, monitoring, and controlling non-native plants. An aggressive effort continued involving park staff, more than 100 volunteers and a total of nearly 12,000 person hours. In 2006, approximately 4,000 acres were surveyed with a majority of control efforts occurring along roadways and in developed areas and the remainder occurring in the park's backcountry. Forty species were treated at nearly 2000 park locations totaling 828.11 acres and an additional 134.6 acres of areas treated on multiple occasions. An integrated weed management approach was used including mechanical and chemical controls. The majority of control efforts were directed at twenty-three priority 1 and 2 species including spotted knapweed, toadflaxes, thistle species, ox-eye daisy, houndstongue, St. Johnswort, and field bindweed. Early detection and eradication efforts continued on leafy spurge, diffuse knapweed, sulfur cinquefoil, tansy aster, plumeless thistle, black henbane, scentless chamomile, and bladder

Wyoming Game and Fish

The Wyoming Game and Fish Department continues to work in cooperation with the Teton County Weed and Pest (TCWP) on noxious weed management issues in Teton County. The department purchases certified weed free hay for our 22 state feedgrounds. The department has a contract with TCWP (\$7,400/year) for noxious weed control on South Park, Camp Creek, and Horse Creek Wildlife Habitat Management Areas (WHMAs), in addition to Teton Public Access Area (PAA). TCWP also completed monitoring on the three Gros Ventre Feedgrounds. In all, 28.2 acres of Department land were treated by TCWP. This included the treatment of twelve different types of noxious weeds on the WHMAs and feedgrounds. TCWP also completed noxious weed mapping of the South Park WHMA this year. Horse Creek, Camp Creek, and the Gros Ventre were all mapped in 2005. The Department also had a contracted individual (\$233.34/year) who worked on three Game and Fish horse pastures at South Park. The forth was sprayed by Wyoming Game and Fish Department employees.

Wyoming Game & Fish Dept. and Teton County Weed and Pest personnel monitored the effects of bio-releases for Canada thistle at the South Park Wildlife Habitat Management Area (WHMA). A total of 600 adult *Ceutorhynchus litura*, a Canada thistle stem borer, were released at site TET 0049 on 6/2/200, 8/25/2000, and 8/25/2001. *C. litura* were also released at two other near by sites on the South Park WHMA during a similar time frame. A nested frequency sampling protocol transect was installed at the site on 6/23/00. The site was resampled for the first time on 6/26/06. The total nested frequency values for 2000 and 2006 were 297 and 213, respectively, indicating a 28% reduction in Canada thistle plant frequency. A Chi Squared test was used to detect a statistical difference in the above values. The scores are statistically different at the 95% confidence level, indicating a significant difference between the two values and reduction in plant frequency. Additionally, the presence/absence of *C. litura* was monitored by sampling the stems of 50 randomly selected plants at two meter intervals along the baseline of the nested frequency transect. Plants sampled were 1-2 feet tall and size was not discriminated against during sampling. Thirty two (32) of the stems were infested for a 64% infestation rate. Of the plants not infested, most were of a smaller stem diameter and furthest from the release location. In summary, *C. litura* are well established at the site and there has been a statistically significant reduction in Canada thistle frequency. The site is also considered to be "collectable" for *C. litura*.

The Wyoming Game and Fish Department continues to work in cooperation with the TCWP on educational efforts that are made throughout the year. Educational talks were given on elk migrations and feedgrounds and their impacts on noxious weed management during the annual Noxious Weed Extravaganza and 4th Grade Wildlife Expo. Recently, field trips have been scheduled with the Wildlife and Habitat 4-H Group to take them into the field with habitat biologists, to discuss wildlife diseases, feedgrounds, and noxious weeds.

Jackson Hole Land Trust

The Jackson Hole Land Trust (JHLT) was an active participant in the Weed Management Association's 2006 field trip program, we walk conservation easement protected properties totaling over 16,000 acres controlled by 94 landowners. We keep tabs on noxious weed distribution, threats to those properties, and coach landowners to participate in the Teton Conservation District's weed control cost-share program.

In 2006, virtually every conservation property conducts weed control and several notable properties are moving toward weed free status or have virtually eliminated one or two noxious weed species on their property. A few of these successful, multiple year efforts are visible from public roads such as the control of ox-eyed daisy on the Hardeman North and Hardeman Barns property along Highway 22, or knapweed north of the C-V school along the Moose-Wilson Road.

Every year for the past 5 years, the students Land Trust, Teton County Weed and/or Pest and the Conservation District gathered to pull knapweed from the school's northern property. This has then been followed with an early summer and fall chemical treatment by a dedicated contractor. Knapweed is now sparse on the treated areas and our focus is shifting to the more difficult Dalmatian Toadflax. The Conservation District's cost-share program has allowed the Jackson Hole Land Trust to expand our control efforts on more of the parcels that the Land Trust actually owns. Such projects focused on the historically thick musk and bull thistle occurrence at the old rock quarry north of the Spring Creek Ranch Development.

We offer a special thanks to the Teton County Weed and Pest Department for joining the Land Trust in a grant application to the Wyoming Natural Resources and Wildlife Trust Fund to map and offer an additional incentive to conservation property owners with designated big game winter ranges on or adjacent to the properties. While the grant application was not successful we continue to search for the appropriate funding mechanism in coordination with the Wyoming game and Fish Department and the new Wyoming Comprehensive Wildlife Action Plan.

Our Board of Directors understands that noxious and invasive weeds can take away the conservation values of the nearly 100 conservation-minded landowners. These landowners have legally protected and continue to support the Stewardship Department's partnership actions to assist conservation property owners with their weed control efforts.



Grand Teton National Park

During the 2006 field season, crews in Grand Teton National Park chemically treated 1103 acres of noxious weeds over an area of about 2824 acres. They also covered 453 acres mechanically treating 48 acres of weeds. A total of 3597 person hours were spent accomplishing these tasks in 2006. Volunteers ranging from 8 to 80 years of age assisted with mechanical treatment and revegetation projects in several areas of the park.

A total of 671 acres of musk thistle were treated using a contracted boom sprayer in the Kelly Hayfields as has been done the past several years – the degree of infestation on these acres is greatly reduced – control within the next 3 years is likely. Large areas of musk thistle were also boom sprayed around the Elk Ranch, Hunter Ranch, and near Jackson Lake Dam.

The Snake River was inventoried between Moose and Wilson and revealed 31 new infestations of perennial pepperweed in 2006. This is in addition to the 26 infestations discovered in 2005 that were treated mechanically with no success. In 2006, all perennial pepperweed infestations were treated chemically using small hand sprayers that were easy to safely transport along the river. It is expected that these treatments will be more effective for eradicating perennial pepperweed than the mechanical treatments conducted in 2005.

Extensive work was also done along the Gros Ventre River riparian corridor treating spotted knapweed. A total of 36 acres of spotted knapweed were treated along the corridor in 2006. Some of this work was conducted during our JHWMA Gros Ventre Spray Days and was successful in treating a very large area in a short amount of time. We hope to be able to conduct these types of treatments in the future as they are vital in trying to keep spotted knapweed under control in this area.

Caribou-Targhee National Forest

Teton Basin Ranger District treated 2390 acres of noxious weeds with chemical and biological control in Idaho and Wyoming on the Caribou-Targhee National Forest. In Wyoming alone Teton Basin Ranger District treated 1050 acres of noxious weeds. We have a 2 person crew and a 1 ton truck with a 200 gallon spray unit on it. We also used back pack sprayers, ATV mounted sprayers, and a horse and mule pack sprayer. The mule pack sprayer works well in remote areas, with one person spraying and the other person freighting chemical to the sprayer using a couple of pack animals.

The Teton Basin Ranger District helped with the Fish Creek Spray Day on the Palisades Ranger District. The Upper Snake River CWMA put together 21 people with spray equipment to treat leafy spurge, musk thistle, Canada thistle, houndstongue and St. Johnswort. We took part in another large spray project, which the Upper Snake River CWMA sponsored. The Hi-Way 33 project treats the hi-way right of way from INL to the Wyoming line and most of the main roads that connect to hi-way 33. The Teton Basin and Palisades Districts have a large spray project on Pine Creek Pass treating spotted knapweed as well.

Education and Landscaper Subcommittees

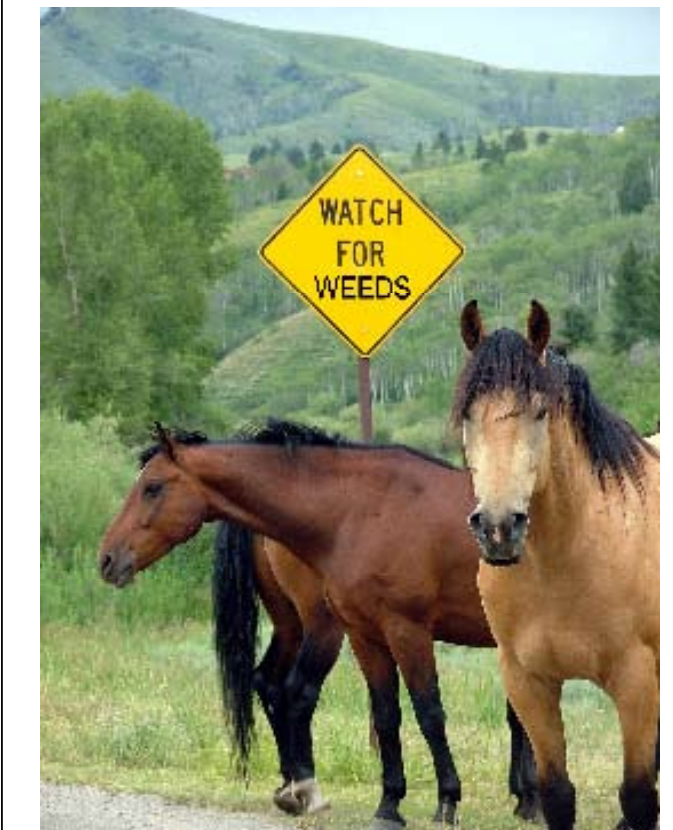
The 3rd Annual JHWMA Wildlife Expo tipped off the summer education program with 75 students in attendance. In addition, we held the 5th annual poster contest and weed pull, we also held 5 weed pulls with Grand Teton National Park, one with Exum guides and one with Camp Jackson kids.

The JHWMA Noxious Weed Extravaganza was our biggest event of the season. The main draw at this event was a free lunch and a dunk tank. When people turned in a bag of noxious weeds, they received a ticket to dunk their favorite JHWMA agency member. Attendees also participated in weed walks and a native vs. noxious balloon toss. Attendance was again low this year however, those who showed up and pulled weeds learned a lot and won some really great prizes. Donations included hotel stays, dinners for two, ski passes, toys for kids, lunch and much more. The businesses in Jackson really pull through to make this an event to remember.

September 9th was the Old Bill's Fun Run where the JHWMA participated once again. We spoke with over 40 people at this event about noxious weeds. Much time was also spent preparing and teaching the real estate course to over 20 real estate agents. The class was four hours and participants gained 4 continuing education credits for taking the class.

Since last reported the JHWMA landscape/custom applicator committee was successful in getting the language of the county LDR's and the town ordinance changed. Thanks to Amy Lerch's hard work and persistence with these objectives the LDR's now represent the noxious weed law as state mandated and tighten up the wording to imply importance. The town ordinance update gives TCWP authorization to notify land owners to remove noxious weeds. It empowers TCWP to remove the weeds at the owner's expense if the owners do not comply with the notice and also represents noxious weeds and there control at the state level rather than only at the town level.

More recently the landscaper/custom applicator committee has been working to bring commercial pesticide applicator training specific to licenses the industry utilizes to Jackson. One of the largest objects during this time has been to gain attention from the landscape and custom applicator community in an effort to increase involvement within the committee. The committee meetings have also enabled the Teton Conservation District to keep applicators updated and informed on the noxious weed cost share program.



Pinto Ranch

The Pinto Ranch concentrated on spot spraying projects this year. We focused on Musk and Canadian Thistle, Spotted Knapweed, Oxeye Daisy, and some Yellow Toadflax around the peripheral areas of the hayfields. Many of the target areas were very small due to the completion of the whole ranch spray program on the hayfields during the spring of 2006. The Spotted Knapweed, Oxeye Daisy and Yellow Toadflax are down to only one or two locations of control and we have seen great success in eradication of these problem weeds. We also tried some grass control in some irrigation ditches to help increase water flow rates to the hayfields and will continue to monitor the effectiveness of this program during the following irrigation seasons. We also took a look at addressing some areas containing "Foxtail Barley" and trying to control the spread of this grass into the hayfields. In 2007, the ranch is planning to do some test plots on the control of Canadian Thistle with "Milestone" and monitor this new products results and effectiveness. We will continue to address any of the above mentioned weeds and treat the remaining areas. The ranch may also investigate having a ranch survey done on what additional weeds we may have present and adopt a management plan, especially with the current highway construction project adjacent to the ranch hayfields.