

## Grand Teton National Park

Noxious weed control work in Grand Teton National Park in 2004 focused primarily on riparian corridors and new invaders. A total of 2013 hours were spent treating 154.36 acres of noxious weeds throughout the Park. Thanks to money received from the Snake River Fund and Teton Conservation District we were able to purchase a boat and fund a crew to inventory the Snake River corridor and remove any saltcedar plants found. A total of 18 new infestations were found and removed in 2004. The great news is that out of 34 infestations found in 2003 by Teton County Weed and Pest, only 2 were rediscovered in 2004. This helps prove that early detection and eradication efforts are paying off.

Along the Gros Ventre River, crews were able to spend more time along the riparian corridor since the Gros Ventre Campground and town of Kelly are closer to maintenance levels. In July, an interagency crew was put together to treat spotted knapweed in the riparian corridor below the old Kelly gravel pit. A total of 205.5 person-hours were spent treating 3.96 acres of spotted knapweed along the Gros Ventre River in 2004. Cottonwood Creek also received a concentrated effort in 2004. A total of 308.5 person-hours were spent hand pulling or removing seed heads from houndstongue and musk thistle along the entire riparian corridor.

One new patch of orange hawkweed was discovered on the JY Ranch surrounding footprints of buildings that were being removed and the adjacent shoreline of Phelps Lake. This new patch represents half of the known patches in Teton County (the other patch is on Bradley Lake). The area was treated immediately by our crew along with members of the Northern Rocky Mountain Exotic Plant Management Team. This site will need to be monitored closely in the future to ensure that it doesn't take over the newly created disturbance and spread further along the lakeshore. In addition to orange hawkweed, the following new invaders were treated in hopes of eradication: leafy spurge, dyer's woad, yellow hawkweed, and sulfur cinquefoil. Perennial pepperweed and russian knapweed were not found in 2004 and are presumed to be eradicated, although future monitoring will need to be conducted to confirm this.



## National Elk Refuge

This was the fourth year that the refuge provided funding to the Teton County Weed and Pest Department under a cooperative agreement to hire one full time summer employee to work exclusively on the refuge for weed management. The refuge supplied housing, a vehicle, and an ATV with spray tank attached. This employee started in mid-May and finished in late August.

This is the sixth year that about 700 acres on both sides of the refuge road from East Broadway to the Twin Creek Corner (about 1/3 mile on each side of the road) was searched for musk thistle. Virtually thousands of musk thistle plants were chopped during the early flowering stage. The irrigated lands still seem to have high densities of plants while the more arid areas seem to be reducing in numbers. This method does seem to keep the majority of the plants from going to seed. This mechanical control was accomplished with a youth volunteer program over a two day period.

Intensive effort was again placed on controlling spotted knapweed in the Gros Ventre River bottom. This was the third year that a contractor from Colorado was hired to chemically spray the river bottom using horse and mules. This year 4.4 acres of spotted knapweed was treated by horse/mule over a 5 day period. Funding for this project was provided in a grant by the Teton Conservation District. Additional acres were sprayed using the ATV. Spotted knapweed seems to continue to be spreading up and down the river corridor in the gravelly islands and banks. We are concentrating our effort to keep the plants from spreading to the adjacent uplands and thus far we have been reasonably successful.

This summer was a wetter than normal summer which made chemical treatment difficult during rainy days. More time was spent mechanically treating (hand chopping or pulling) weeds this year.

There did seem to be a large increase in scattered, low density plants of yellow toadflax throughout the refuge this year. We believe that this may be an invasive plant that will become a serious threat in future years. We also noticed a huge increase in the infestation of diffuse knapweed in the Chambers irrigated fields on the eastern edge of the refuge. This plant showed up about 4 years ago in this area and has been chemically treated extensively each year and yet the infestation seems to have increased dramatically. Chemical control this year was used on a total of 20 acres.



## Teton County Weed and Pest

The 2004 season was an excellent one for Teton County Weed and Pest. Even with the challenge of having more than a dozen days either rained or snowed out, we had a wonderful summer crew that went out of their way to make every sunny day count. This year's crew consisted of 13 seasonal workers. Two of the crew members were dedicated to the Bridger Teton National Forest and one was on the National Elk Refuge. Thanks to funding from the Teton Conservation District, TCWP was once again able to devote time to work in critical areas that are not funded through the regular budget.

This year TCWP continued to focus on the Snake River Project. TCWP crews treated nearly 50 acres along the Snake River levee system. Through regularly scheduled as well as volunteer float days, many new infestations were found. For example, saltcedar and perennial pepperweed continued to pop up from Jackson Lake all of the way through the Snake River Canyon. Thanks to cooperation between Grand Teton National Park, the Snake River Fund, and the Teton Conservation District a drift boat was purchased and personnel were hired to treat infestations throughout the Snake River corridor.

One of the more critical projects the Teton Conservation District funded was the use of horseback sprayers. As June began to wear on, dalmatian toadflax began showing up in extremely difficult areas to treat throughout the town of Jackson. Five new toadflax locations on some of the steepest hillsides in the area were successfully treated in July.

Furthermore, for the third year in a row, spotted knapweed along the Gros Ventre River was treated. One contractor was also utilized in the backcountry to treat musk thistle and Canada thistle in very remote areas. All together, two different contract sprayers were utilized for a total of 17 days of treatments. The continuation of this program will be key in the success of the Jackson Hole Weed Management Association's (JHWMA) management program.

On the Wyoming Highway system, TCWP crews treated 70 acres. Twenty-seven acres were treated on the County road system and 34 acres on the Community Pathways. In addition, critical areas such as the leafy spurge on Munger Mountain, spotted knapweed in the Snake River and Hoback canyons, as well as dyer's woad in the Snake River Canyon and on the Village Road continued to be of the highest priority. Leafy spurge monitoring and treatments continued. Leafy spurge infestations continue to be treated and monitored as there are now 40 known infestations to date.



Thanks to the Pulling Together Initiative grant from the National Fish and Wildlife Foundation, TCWP was able to assist landowners whose property borders Federal or State lands with their noxious weed control. This grant allowed for more than \$50,000 of spray work and bio-control releases on private land in Teton County to be completed, offering assistance to many landowners participating in weed control for the first time.

Education efforts continued to be successful with the hiring of a new Education Coordinator in April. Guest ranch education programs, newspaper and radio advertising, weed pulls, and brochure distribution were all part of the efforts to raise awareness of noxious weeds within the JHWMA. Thanks to education efforts, residents continued to report new infestations, one of which was yellow starthistle located at a local equestrian center.

The partnerships within the JHWMA are critical to the success of weed management programs in Teton County. TCWP would like to extend our sincerest gratitude to all of our partners and contributors who have worked to make this program a success. An extra special "thank you" goes to the Teton Conservation District for their continued support of JHWMA programs. Without the members of their staff and Board, many of the special programs that allow this organization go above and beyond the call of duty would not be possible.



# The Annual Weed

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## Jackson Hole Weed Management Association (JHWMA)

The JHWMA is a collaboration of various federal, state, local, and private organizations that was formed in 1998. 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 1.8 million acres consisting mostly of Forest Service and National Park lands.

This report is a summary of member agency accomplishments in 2004.

## Teton

### Conservation District

The Teton Conservation District's participation in the activities of the Jackson Hole Weed Management Association is a priority for TCD's board of supervisors. The District provided partial funding and office space for the JHWMA summer intern Rachel Markko. Rachel made numerous presentations, under the supervision of Amy Lerch (Teton County Weed & Pest's Education Coordinator), to local groups and students. She assembled a noxious weed portfolio of pressed weeds that will serve to show an actual example of noxious weeds to people at education and outreach events.



The Teton Conservation District is very supportive of the Teton County Weed & Pest's Snake River Project. A grant of \$5000 was provided to this project in the 2004 fiscal year. TCD helped fund Teton County Weed & Pest's Front Line Assistance Program, which provides landowners adjacent to public lands with noxious weed control assistance. TCD also provided funding to noxious weed control in critical game range and on the Gros Ventre River. TCD partially funded bio-control measures for St. Johnswort, Toadflax, and Musk Thistle. In addition, TCD provided financial assistance for the development of noxious weed education curriculum development.

TCD hopes to continue its role in assisting the JHWMA with projects and its relationship with the vast group of cooperating agencies that make up the Jackson Hole Weed Management Association.

### Caribou-Targhee National Forest

Teton Dasin Ranger District treated 1100 acres of noxious weeds with chemical and biological control in Idaho and Wyoming on the Caribou-Targhee National Forest. We have a 2 person crew and a 1 ton truck with a 200 gallon spray unit on it. They also used back pack sprayers, ATV mounted sprayers, and horse and mule pack sprayer. The mule pack sprayer works well in the remote areas, with one person spraying and one person with a couple of pack animals freighting chemical to the sprayer.

We also took part in a large spray project which the Upper Snake Cooperative Weed Management Association sponsored. The Hi-Way 33 project treats the hi-way right of way from INEEL to the Wyoming line and most of the 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.

## Teton Science School

The TSS focus on weeds was intense in 2004. In conjunction with the National Park Service and Teton County Weed and Pest, TSS staff members completed a vegetation inventory and reclamation plan for the Kelly Campus. Kelly Campus staff and graduate student class pulled over 1300 pounds of houndstongue and several hundred pounds of musk thistle in one weed pull. Additionally, weeds were targeted around buildings and trails using backpack sprayers.

Many thanks to Teton County Weed and Pest for spraying a thistle/houndstongue area adjacent to the campus. Numerous TSS Residential Education participants, Teton County Weed and Pest, the Jackson Hole Land Trust, and TSS staff members assisted with weed control on the recently-purchased Boyle's Hill property. Weed control efforts were focused on trails, irrigation ditches, and previously disturbed sites. A weed management plan is under development to guide future weed control efforts.



## Yellowstone National Park

Resource Management staff was again responsible for the Exotic Vegetation Program which included preventing, monitoring, and controlling non-native plants. An aggressive effort continued involving over 100 park staff and 175 volunteers and a total of 7,380.71 person hours. In 2004, approximately 3,500 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. Thirty seven species were treated at nearly 2000 park locations totaling 718.35 acres. An integrated weed management approach was used including mechanical (39%) and chemical (57%) controls.

The majority of control efforts were directed at twenty-three priority 1 and 2 species including spotted knapweed, toadflax, 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 campion. Overall, it was another successful year of weed control despite an extended growing season and more moisture than in the past few years.

## Wyoming Game and Fish

The Wyoming Game and Fish Department continues to work in cooperation with the Teton County Weed and Pest (TCWP) on educational efforts that are made throughout the year in wildlife habitat talks, passing out of weed pocket books, and stocking the office with various Weed and Pest brochures. Since the Teton County wildlife-feeding ban has been implemented, we have offered advice to landowners in landscaping for wildlife. Employees from Wyoming Game and Fish Department sat on the JHWMA subcommittee for education and assisted with activities.

Due to extensive amounts of hay purchased for the elk feedgrounds, the potential for noxious weed spread is extensive due to elk movements. The WGFD is aware of the potential of the feedgrounds as a noxious weed source and vector. Therefore, the department continues to purchase certified weed free hay for our 22 state feedgrounds however, it's not always clean. The department has a contracted individual (\$1,250/yr.), who works at the South Park feedground pulling henbane, houndstongue, and spotted knapweed and takes care of other maintenance activities.

In addition, the WGFD contracts with the TCWP (\$1,900/yr) for noxious weed control on South Park, Camp Creek and Horse Creek. Teton County Weed and Pest employees donated an additional 16 people-days of mechanical control on the South Park when weather conditions prevented chemical treatment elsewhere in the county. Weed pulls took place at the South Park feedground through the summer Camp Jackson program. The WGFD is sincerely appreciative of the additional efforts. The department would like to utilize South Park feedground for future weed pull events because of its location and weed infestations. TCWP alerted the WGFD of noxious weed presence within horse pastures on the South Park and additional efforts were made by Department employees to address the infestations. Department employees monitored and removed noxious weeds at the South Park, Patrol Cabin, Fish Creek, Alkali, Dell Creek, and Greys River feedgrounds. Biologists also look for weeds and GPS their location when working in the field.

WGFD personal is responsible for maintenance of several horse pastures that have had problems with noxious weed infestations in the past. WGFD purchased a weed sprayer setup for 4-wheelers to treat those pastures from TCWP.

The WGFD solicits funding for the JHWMA. Our successes are through grants from the Rocky Mountain Elk Foundation and a WGFD Trust Fund. This money is distributed throughout the county to fund healthy crucial wildlife winter ranges.



## Jackson Hole Land Trust

The Jackson Hole Land Trust (JHLT) has continued to select weed management priorities based on a 2002 noxious weed audit of all the conservation and fee simple properties for which we are responsible. In 2004, the JHLT once again hired Barb Trumpeter (The Caretaker), to spray for weeds on the Hardeman North and de Beixedon fee simple properties as well as the C-V easement property.

The JHLT sponsored two "weed pulls" on our conservation easement protected properties. The first was at the C-V Ranch, where we pulled knapweed along the highway for the second year in a row. The second was at Indian Springs South, where we pulled houndstongue out of an elk movement corridor.

In addition, JHLT treated the islands in the Wilson Centennial Ponds for thistle and oxeye daisy. We monitored Poison Creek trailhead and trail with Forest Service employee Jim Ozenberger, and dug the few thistle plants that were observed. We distributed free weed control chemicals to landowners at the Crescent H subdivision and Trail Creek Ranch.

In summary, 125 conservation easement properties were monitored for noxious weed occurrence and landowners were encouraged to continue to be active in noxious weed control. Through active management and good landowner stewardship one of our easement protected properties, which used to have a significant noxious weed problem, is now virtually weed free. The JHLT, in cooperation with private land conservation easement donors is focusing on increasing the number of protected properties that are virtually weed free.

## Bridger-Teton National Forest

Like the rest of the JHWMA, the Bridger-Teton National Forest saw an increase in noxious weeds due to favorable growing season conditions. This presented a momentous challenge for control crews. Expansion in the acreage of musk thistle and dalmatian toadflax occurred during the summer of 2004. This occurred primarily due to the wetter and cooler summer which provided good growing conditions for weeds. New infestations of dalmatian toadflax were discovered and treated on dry, southern slopes near Cache Creek, above the transfer station and on the Wilson faces. Seed sources of dalmatian toadflax have become common on the valley floor of Jackson Hole and have now expanded to the National Forest. Musk thistle expanded from previous locations and gave their greatest growth in late summer.

Through coordination with Teton County, the BTNF added a horseback spray unit contractor to its arsenal. This helped initial work on the dalmatian toadflax invasions and on the musk thistle problems in the Grizzly Lake area and Horsetail Creek. Musk thistle took a significant expansion within Game Creek which past treatments were minimized to allow biological control agents to become an established insectory. Late in the season, the Forest and County decided to begin flanking Game Creek thistle from its upstream extent back towards the trail head. We are still waiting for biological control agents to become effective on musk thistle.

There did not seem to be a significant increase in other noxious weed species such as spotted knapweed, houndstongue, russian knapweed, perennial pepperweed, whitetop, klamath weed and dyers woad. Chemical control efforts in the past five years seem to be effective on these infestations. In addition, we did not see an increase in the new invaders such as leafy spurge and saltcedar due to ongoing control efforts.

Teton County Weed and Pest District performed all noxious weed treatments on the Teton Division in 2004. They spent a total of 597 person hours on mechanical and chemical treatments. No biological agents were released in 2004 due to the high amounts released in previous years. A total of 476 acres were treated in 2004. Acres treated chemically were calculated based on active ingredients. Acres treated chemically does not reflect the actual acres covered. All treated acreage were spot treated and no acres were applied by boom sprayer methods.

In summary, the summer proved that a net increase in the extent of noxious weed spread is occurring on the BTNF and was largely due to favorable growing conditions for the weeds. We are not yet reaping the benefits from past ambitious releases of biological control efforts. The Forest and County is re-evaluating its strategies and tactics this winter for 2005 and beyond. Additional funding would allow for additional crews and efforts towards reversing the spread of noxious weeds.

## Education and Landscaper Subcommittees

In 2004, the JHWMA subcommittees covered a lot of ground. The education subcommittee began the summer season with a 1st annual Wildlife Expo for valley 4th graders. It was a huge success with 180 students and help from many of the JHWMA agency members. The activity book "Outlaw Plants of the West" completed by Erika Wells and Emily Hagadorn, made its debut and was given out to all the kids. Activities continued throughout the summer with Elkfest, the 3rd annual Poster Contest, Teton County Fair, and Old Bills Fun Run.

Weed Pulls were successful this summer as well. We had 5 sponsored by Grand Teton National Park, 1 by the JH Conservation Alliance, 2 by Camp Jackson through the Teton County Recreation Center, 2 by the JH Land Trust, 1 by Grand Teton Lodge Company and the poster contest weed pull. TCWP Education Coordinator, Amy Lerch visited 5 guest ranches and one rafting company to spread the word to outdoor employees. Nine classrooms were also visited with various activities including a weed walk to the noxious weed plot at the Community Garden.

This year the landscaper subcommittee took a huge step in requesting the county planning department to add a noxious weed bill to the Land Development Regulations (LDR's). We have completed a plan asking all permit holders to voluntarily call Weed and Pest for a free consultation before they break ground and when the job is completed. This will become a regulation if and when the bill is adopted to the LDR's. We are now working on the next step for this committee. A special thanks to the County Planning Department, Terra Firma, Rainmaker, JH Landscaping, Budge Lawn Care, and Green Turf for helping to make this happen.



## Pinto Ranch

Pinto Ranch started the 2004 weed control season by hiring Simplot to come to the ranch with a large "Gator" spray rig to apply Redeem to 320 acres of hayfields and pastures. This spring application appeared to provide better control of weed species than last years fall application and cost \$4300.00. Hay production during 2004 experienced a good recover from the previous year of disturbing drought, grasshoppers, and competing weeds.

The spotted knapweed problem near the lower ranch entrance seems to be disappearing altogether this year with only a few plants found along the highway. Some road construction was completed last fall which could have impacted this year's growth. This area will be closely monitored next season for new emerging plants.

Yellow toadflax patches have had a dramatic reduction to only 2 to 3 very small areas and should be totally eliminated within the next few years. The oxeye daisy patches are also following the same trend as the yellow toadflax and should be eradicated soon.

The wet and cool summer provided ideal conditions for the resurgence of various musk thistle patches around the ranch. Many patches were treated but others had to be ignored due to labor and time shortages. A majority of the plants seemed to be affected by the biological agent- *T. horridus* and later in the fall many of the flowers did not mature past the blossom stage. Common Mullein was also treated along the highway corridor as the growing season contributed to new emerging plants.

After 10 years of being involved with the Pinto Ranch and a progressive weed control program, we easily see the benefits of our efforts ranch-wide. Overall, the ranch has experienced a 75% reduction (approximate) in the total weeds present from the control program. We have experienced a significant improvement in the quality of our hay product and general grazing pastures. The ranch will continue to improve on the remaining 25% of weeds. We realize that the battle will never be over but we can reduce the amount of effort it takes by being persistent with our control program.