

Tamarisk and Russian Olive Tree Eradication on the South Platte River and Tributaries in Weld County

Final Report



Prepared for: Colorado Water Conservation Board

Attn: Chris Strum

June 29, 2018

Weld County Weed Division and Weld County Accounting Department

Grant Amount: \$195,000

Prepared by: Tina Booton



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Introduction

This project was created to comply with the Colorado State Noxious Weed Act for addressing Russian olive and tamarisk trees in riparian areas along the river corridors. The local Water Conservation District initiated the formation of a group that included the soil conservation district, weed division, commodity groups, and municipalities. This group looked at the situation of the trees along the rivers and drainage areas including their impact on water resources to determine if a project was feasible. It was determined to be a viable project.

This project is part of several projects occurring over the years to address Russian olive and tamarisk trees along the numerous rivers in Weld County. In 2010 the majority of the Cache la Poudre River in Weld County was treated. In 2014, a project was conducted along the St. Vrain River in Weld County to address the Russian olive and tamarisk trees after the 2013 flood and all of the ground disturbance. Then this project went on to address the Little and Big Thompson Rivers along with a portion of the South Platte River.

The goal is to remove the Russian olive and tamarisk trees along the tributaries so that the South Platte River can be addressed in a more effective manner as time and funding is available.

The Weld County Weed Division office took lead role of the project based on our working directives from the State Noxious Weed Act that deems Russian olive and tamarisk trees to be invasive, non-native species that negatively impact the environment by wastefully consuming water, displacing native and more desirable vegetation and changing the nutrient profile of the soils in the riparian corridor. The target eradication dates in weld County for Russian olive trees is 2022 and the targeted eradication date for tamarisk trees is 2021.

Background

In 2010, the counties of Denver, Adams, Boulder, Larimer, Logan, Morgan, Sedgwick, Washington and Weld along with various entities within each county entered into the South Platte River Watershed Management Area Agreement and created the Platte Invasives Endeavor Plan or PIE Plan. This plan can be referenced at www.weldweeds.org. The PIE Plan outlines the need for control of the phreatophyte species within the overall South Platte Watershed including the smaller drainages, such as on the Little Thompson and Big Thompson Rivers. The plan also covers the best management practices that will be used to treat tamarisk and Russian olive trees based on the Tamarisk Coalition's recommendations.

The partners agreed to and outlined, in the PIE Plan, that the tributaries would be addressed first before the main channel of the South Platte River. This would provide the ability to have a strong support system in place for the removal of the Russian olive

and tamarisk trees in smaller, more manageable stretches within each of the counties before the South Platte River was addressed. Lastly, there would be less re-infestation of the South Platte River if the tributaries are free of Russian olive and tamarisk trees before work was begun on the middle stretches of the South Platte River.

These steps have been accomplished in Weld County. In 2010 the Cache La Poudre River was addressed and is finishing the five years of maintenance. In 2014 the St. Vrain River was addressed and is beginning its first of five years of maintenance. The Big and Little Thompson rivers have had work done on them in 2011/2012. Mop-up work on these rivers is needed.

The main objective of the project was to eradicate Russian olive and tamarisk trees from the Little Thompson, Big Thompson and South Platte Rivers. The best method to achieve this was to utilize a cut stump treatment. This practice also had the least impact on the surrounding native vegetation and wildlife.

In the cut stump treatment process the trees are limbed with the tree trunks cut as close to the soil surface as possible. Chemical was applied to the cut stump within a minute of the final cut being made. The cut material was chipped. The chips were spread out in a thin layer on the site in which the trees were removed.

Long-term goals of this project included improving the riparian revegetation. By removing the invasive phreatophyte trees, the grant partners were able to see what the underlying vegetation was and determine how much work was needed to return the area to a more native situation. By ensuring a healthy ecosystem of native riparian vegetation, the grant partners will be able to stabilize the shoreline with vegetation and better compete against other noxious weeds throughout the upcoming years.

The second half of the long-term goals is habitat improvement. By addressing the invasive phreatophytes, the grant partners will be able to return the riparian corridor to a more natural state that encourages and supports wildlife in the area. Lastly this project will help enhance recreational opportunities in a number of ways. There will be an increase in wildlife numbers for viewing. There will potentially be an increase in water flows for enhanced fishing and kayaking opportunities, as well as creating easier access to the river's shoreline at public access points.

Methods

Each of the project tasks were implemented to achieve the desired results. The specific pieces to the tasks are outlined below.

TASK 1: Map the South Platte River for Tamarisk and Russian Olive Trees

Description: Using a mapping device with Map It Fast software, we mapped the South Platte River for tamarisk, Russian olive and other noxious weed movement after the 2013 flood. Through this task we also offered cost-share moneys for the treatment of

the terrestrial noxious weeds while landowners are reclaiming their properties immediately after the flood.

Method/Procedure: Each landowner along the South Platte River was contacted about letting us map their properties. During the visits we provided education about the spread of the noxious weed species after the 2013 flood along with control options. Focus in this project included mapping the tamarisk and Russian olive trees so that a project for their removal could be done in the future.

Funding: Funding for this task was provided by Weld County Weed Division as well as the Colorado Department of Ag – Noxious Weed Fund.

TASK 2: Russian Olive and Tamarisk Tree Removal

Description: Using the Weld County Youth Conservation Corps Russian olive and tamarisk trees were cut down, the stumps treated with a chemical, and the cut material chipped. The chipped material was left on-site and spread in a thin layer to decompose.

Method/Procedure: The trees were cut down with either chainsaws or tracked skid-steer equipped with grapples and shear attachments. All treatments were made May through November. All material was chipped on-site. The chips were distributed in a thin layer to decompose on site. In one location the logs were placed into an old silage pit for use as fire wood or to be burned later by the landowner. Through the project we tried to see if there was an option to utilize the chips as mulch in local landscaping or as a soil treatment for newly seeded areas. This option did not pan out. The chemical selected for the cut stump treatments was Imitator; a generic aquatic labeled glyphosate. The solution was mixed at 50% glyphosate, 46% water and 4% surfactant and dye. The spray solution was applied within a minute of the final cut being made.

Funding: Funding for this task was provided by CWCB, Weld County, The Weld County Youth Conservation Corp and all cash match from the partners. All cash funding covered the Weld County Youth Conservation Corp labor costs. The Weld County Weed Division supplied the chemical for the project as part of the in-kind match.

TASK 3: Mapping the Little and Big Thompson Rivers

Description: The mapping focused on Russian olive and tamarisk trees, as well as any other List A and Watch List species that migrated into Weld County after the 2013 flood. This was conducted by Weld County staff.

Method/Procedure: Samsung tablets with Map It Fast software was used to map the weed infestations on properties prior to the removal of the Russian olive and tamarisk trees. Spot checking for noxious weed invasions after the removal of the Russian olive and tamarisk trees was also done throughout the project. Any serious noxious weed infestations were addressed using landowner compliance staff and other cost-share incentive programs.

As the sites were mapped for Russian olive and tamarisk removal the Weld County Weed Division evaluated the sites for any listed noxious weeds. If any of the weed species were identified, corrective steps were taken to reduce and/or eliminate the infestations so that the native vegetation planted or still existing would have the best opportunity to establish. These corrective steps included mowing and the use of herbicide applied in a timely manner.

Funding: Funding for this task was provided by Weld County for the staff and cost-share program as part of the in-kind match; along with the private landowners matching the costs for herbicide treatments.

TASK 4: Establish Native Vegetation

Description: The West Greeley Conservation District, and the Weld County NRCS helped in determining which sites need assistance with revegetation of native plant materials to limit erosion and offer competition against other noxious weeds. The materials used included tree seedlings of cottonwood, willow, and other native shrubs, along with a native grass mix for the area.

Method/Procedure: As sites were mapped and treated, Weld County staff made the initial decision if the site needed to be evaluated for revegetation practices. If it was believed that the site could benefit from revegetation, the West Greeley Conservation District with Weld County NRCS were called in to fully evaluate the site and make the final determination. A plan for implementation was then created and carried out. This may include dormant season drill seeding or broadcast seeding as well as tree planting in the spring of 2017 or 2018.

250 seedling trees were planted on lands owned by: Nelson, Koolstra, Varra, Mountain Properties and Boedecker in April of 2018. The tree mix included cottonwoods, golden willow, peach leaf willow, Nanking cherry and chokecherry.

In the original project proposal, the plan was to buy grass seed and let the landowners seed their properties with broadcast seeding. The West Greeley Conservation District decided to carry out the seeding with their staff and equipment. As a result, 40 acres was drill seeded with native grass mixes.

Funding: Funding for this task was supplied by the West Greeley Conservation District.

TASK 5: Create Educational Posters

Description: West Greeley Conservation District, along with Weld County staff designed the content and layout of the educational posters. The West Greeley Conservation District printed and distribute the posters around the local communities in which the project occurred.

Method/Procedure: Weld County Weed Division staff and West Greeley Conservation District staff created a poster based similarly to what was used on the St. Vrain River project in 2014. These posters were then distributed around the local communities bordering the project to draw awareness to the issues of noxious weeds, and specifically Russian olive and tamarisk trees.

Funding: Funding was supplied by Weld County Weed Division in the design and content while West Greeley Conservation District aided in editing, printing and distribution of the posters.

TASK 6: Newsletter Promotion

Description: Newsletters for West Greeley Conservation District, Central Colorado Water Conservancy District and Colorado Corn Administrative Committee each ran an article on the project throughout the length of the program. These newsletters were mailed to large audiences in Weld County.

Method/Procedure: Weld County Weed Division drafted some article content along with the verbiage from the posters about the grant project and progress being made throughout the project window. The articles were provided to the partners to include in their newsletters, face book posts and any other opportunities that they had to spread the word about the project. Two of the three partners included information on the grant project in their newsletters.

Funding: Funding for this task was provided by West Greeley Conservation District, Central Colorado Water Conservancy District and Colorado Corn Administrative Committee to include the material in their newsletters.

TASK 7: Speaking at Various Groups and Other Educational Outreach

Description: The Weld County Weed Division Supervisor sought out speaking opportunities to promote the project and raise awareness of the impact of invasive species, especially the Russian olive and tamarisk trees. Educational materials were provided at all educational opportunities and booths that occurred during the grant project.

Method/Procedure: At the educational outreach opportunities whether a scheduled presentation or a booth at an event, noxious weed identification and control along with the impact they have on the environment was presented and discussed. When appropriate, specific updated information on this project was presented. Booths and presentations were held at various events throughout 2016, 2017 and 2018. See Appendix 5 – Education Outreach Events.

Funding: Funding for this task was provided by Weld County Weed Division.

Results

This project was able to accomplish the following pieces:

Weld County Weed Division staff contacted 86 landowners in the project area. They effectively worked with 83 landowners.

3,601 acres along the Big and Little Thompson Rivers did not have any Russian olive or tamarisk trees.

10,010 Russian olive and tamarisk trees on 3,478 acres were removed along the Big and Little Thompson Rivers and a small portion of the South Platte River.

We have permission to remove approximately another 640 Russian olive and tamarisk trees on an additional 1,275 acres.

3 landowners on 500 acres have approximately 4200 trees that will have to be addressed in some fashion in the future.

Approximately 7 miles of the South Platte River were not addressed. This stretch was part of the original project goal.

250 seedlings trees were planted and 40 acres were seeded with a native grass mix.

Conclusions and Discussion

The cut-stump eradication treatments of Russian olive and tamarisk trees objective was met at 80% success. Of the properties treated, 100% eradication was achieved. The problem is that not all properties within the project area were addressed during the time frame of the project. Of the properties treated, the riparian vegetation and habitat was also improved with the removal of the Russian olive and tamarisk trees, noxious weed control, and revegetation with grasses and trees.

Maintenance and Monitoring: All work conducted through this grant will be maintained for five years following the completion of the grant. This maintenance work will begin in July of 2018 and run through July 2023. The long-term monitoring will continue twice a year for five years. During this time frame, visual inspections will be made on treated lands, based on the site mapping that was completed during the project, to determine that there is no re-growth of the treated invasive phreatophyte Russian olive and tamarisk trees; that no secondary noxious weed species have invaded; and that any completed restoration activities are filling in and establishing during these two visual inspections each year. If there is a failure of any one of these items, follow-up will be scheduled with the landowner and corrective steps will be implemented in a timely manner to resolve the situation.

Areas not addressed during this grant project will slowly be addressed during the monitoring and maintenance phase with in-kind time and resources. Additional grants will be sought to continue the work and fill in the missed properties as well during these next five years.

The inspections will be done by the Weld County Weed Division Supervisor and staff. Reports will be filed with the Colorado Water Conservation Board and the partners of the project yearly.

Actual Expense Budget

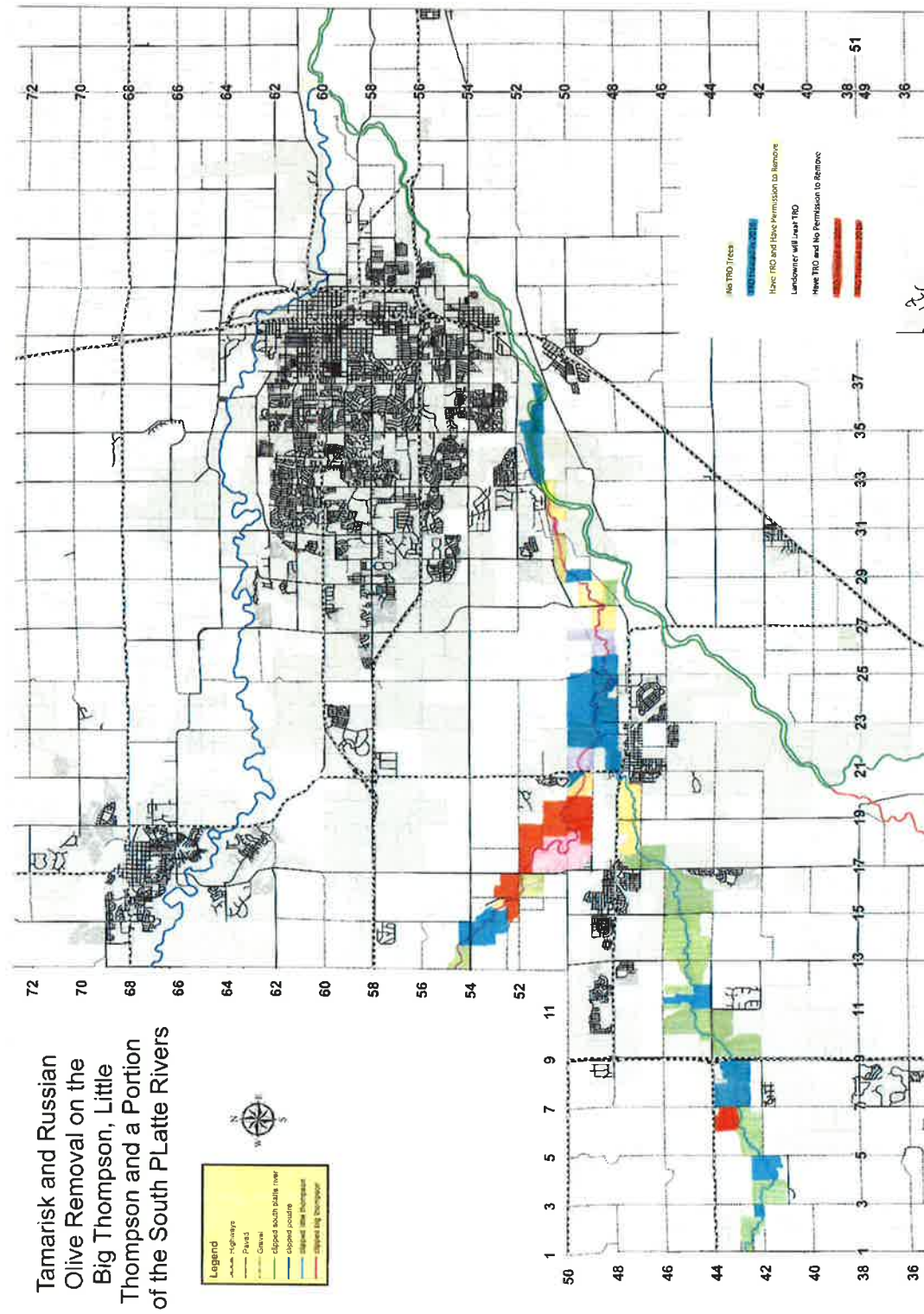
Russian Olive and Tamarisk Eradication Along The Little Thompson and Big Thompson Rivers and the South Platte River Budget & Timeline Table - Actual

Task Description	Target Start Date	Target Completion Date	Cost per unit	CWCB Funds	Other Funding Cash* Weld County	Other Funding Cash* all 7 partners	Other Funding Agriculture Dept of	Other Funding In-Kind* Weld County	City of Greeley	Weld County Youth Conservat ion Corps	West Greeley Conserv. District	Central Colorado Water Conservancy District	Colorado Corn Administrative Committee	Total
1. Weld County Staff to map TRO on South Platte	6/1/2015	11/13/2015	\$18/hour					\$8,650						32,756.00
2. Weld County Supervision of the project 120 hours	4/1/2016	3/31/2018	\$50/hour					\$5,750						5,750.00
2. Weld County Staff for 15 months - part time	6/1/2016	5/31/2018	\$20/hour					\$15,000						15,000.00
2. City of Greeley removal on other properties	8/15/2016	3/31/2018							\$2,500					2,500.00
2. 29.3 weeks of tree removal and chipping	6/15/2016	3/31/2018	\$7500/week	\$195,000	\$10,000	\$24,250				\$30,000				259,250.00
2. Chemical for cut stump treatments	6/15/2016	3/31/2018	14.95/gallon					\$990						990.44
2. 40 hours of a skidster and operator	6/15/2016	3/31/2018	\$99/hour								\$3,960			3,960.00
3. Purchase up to 10 bundles seedling trees for re-ve	10/1/2016	3/15/2018	\$25/bundle								\$250			250.00
3. Reseeding 40 acres took 19 hours	11/1/2016	5/1/2018	\$80/hour								\$1,520			1,520.00
4. Printing of 100 posters	6/1/2016	8/1/2016	\$2.50/each								\$250			250.00
5. 4 newsletter mailings	6/1/2016	6/1/2018						\$250			\$2,000	\$5,080		7,080.00
6. Weld County Supervisor for presentations 5 hours	6/1/2016	6/1/2018	\$50/hour					\$5,000						5,000.00
7. Monitoring and Maintenance for 5 years	6/30/2018	6/30/2023	\$5000/year	\$195,000	\$10,000	\$24,250	\$24,106	\$35,640	\$2,500	\$45,000	\$4,020	\$9,040	\$0	349,556.44
TOTALS														

Other Cash Partners Include:

1. West Greeley Conservation District	1500
2. Central CO Water Conservancy District	6000
3. Northern CO Water Conservancy District	1000
4. CO Corn Administrative Committee	3250
5. City of Evans	5000
6. City of Greeley	2500
7. Town of Milliken	5000
TOTALS	\$24,250.00

Appendix 1 – Maps





Mapped Russian olive and tamarisk trees in the fall of 2015 for a rough idea on how many we had to deal with. North stretch of the Big Thompson River.



Mapped Russian olive and tamarisk trees in the fall of 2015 for a rough idea on how many we had to deal with. South stretch of the Little Thompson River.



Mapped Russian olive and tamarisk trees in the fall of 2015 for a rough idea on how many we had to deal with. Confluence of the Little and Big Thompson Rivers along with the South Platte River.

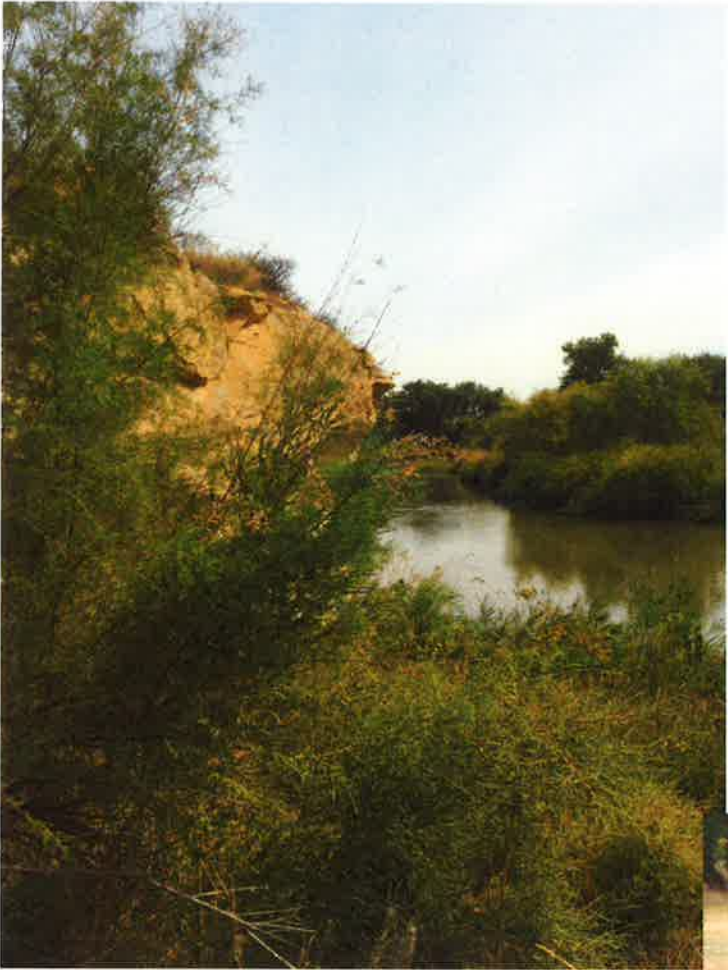


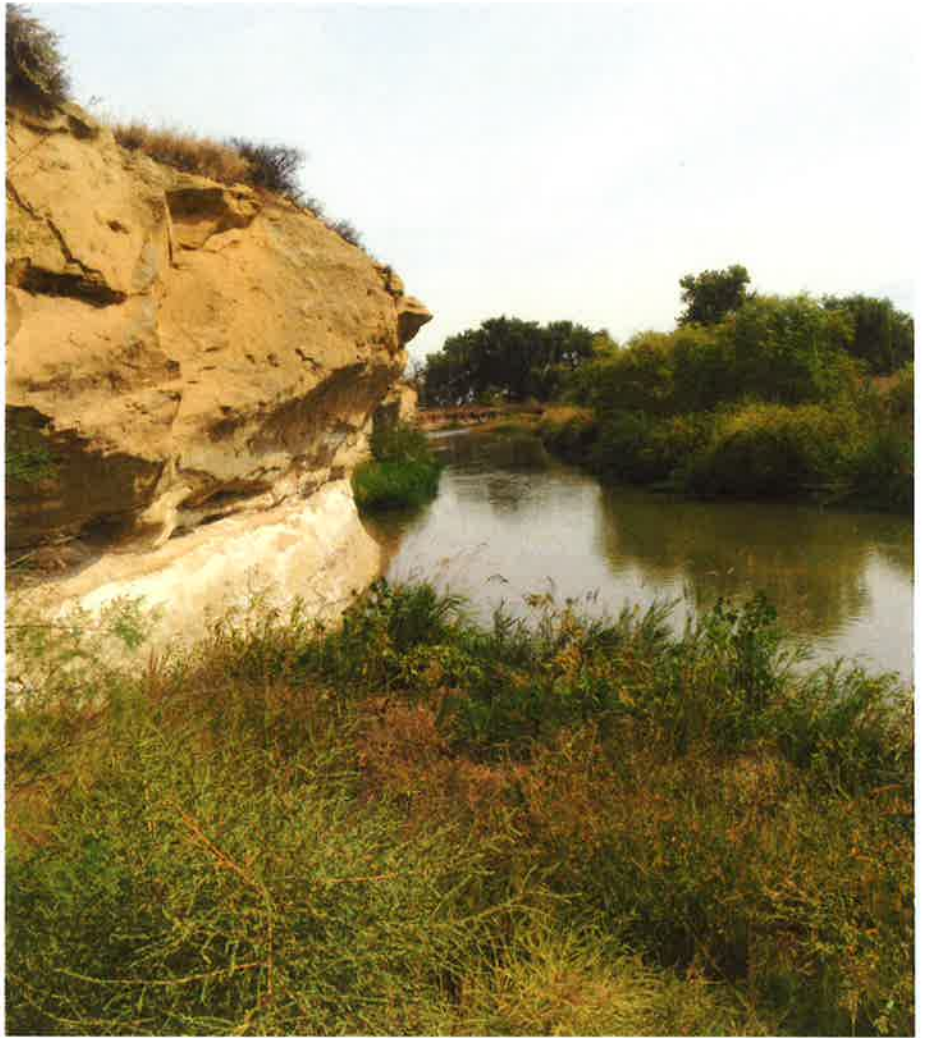
Mapped Russian olive and tamarisk trees in the fall of 2015 for a rough idea on how many we had to deal with. Along the South Platte River that the project was able to address.

Appendix 2 – Pictures



Bernhardt Dairy

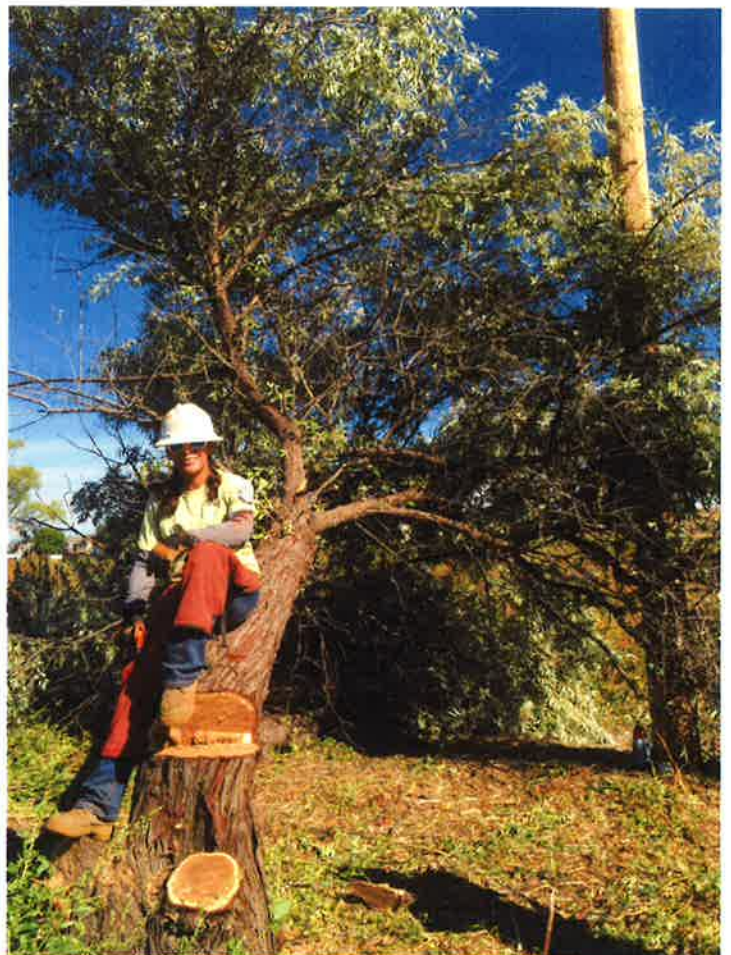






Ehrich or Mad Russian

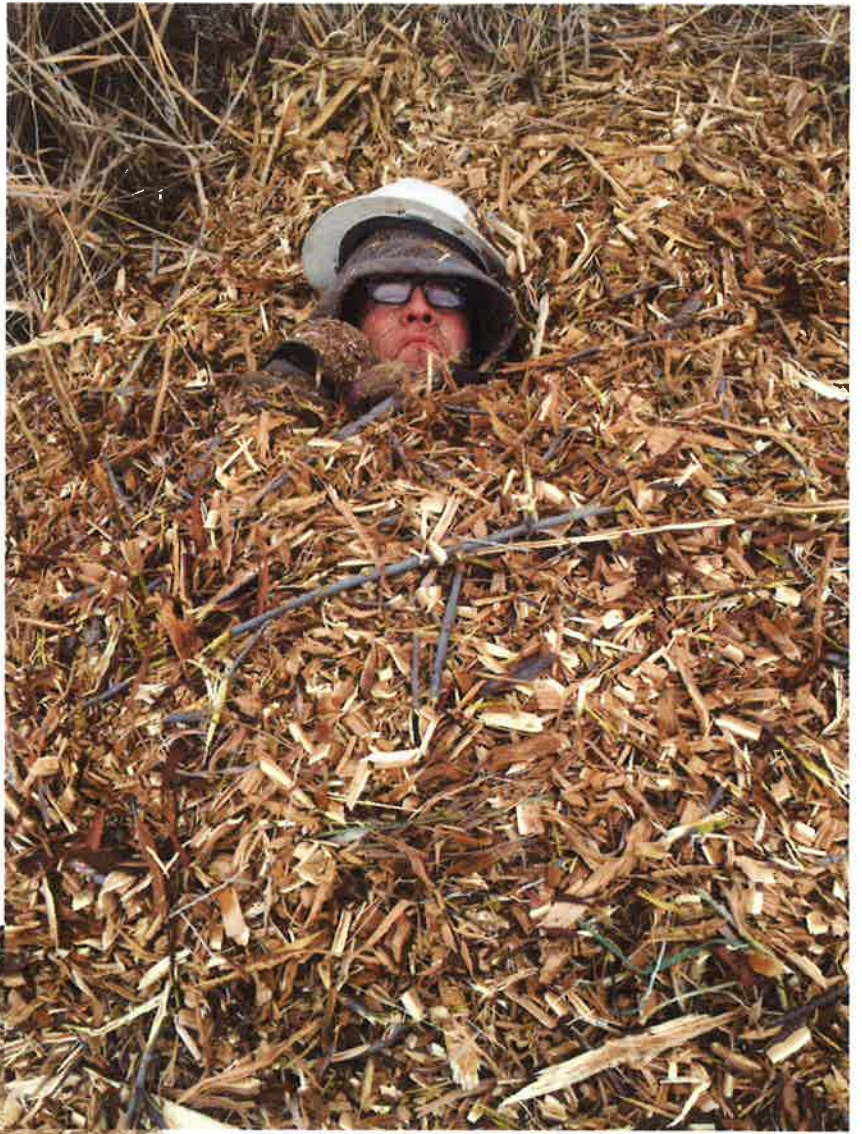






Mountain Home Properties





Nelson Property







Schank Property











Western Trucking Property





Westroc Property

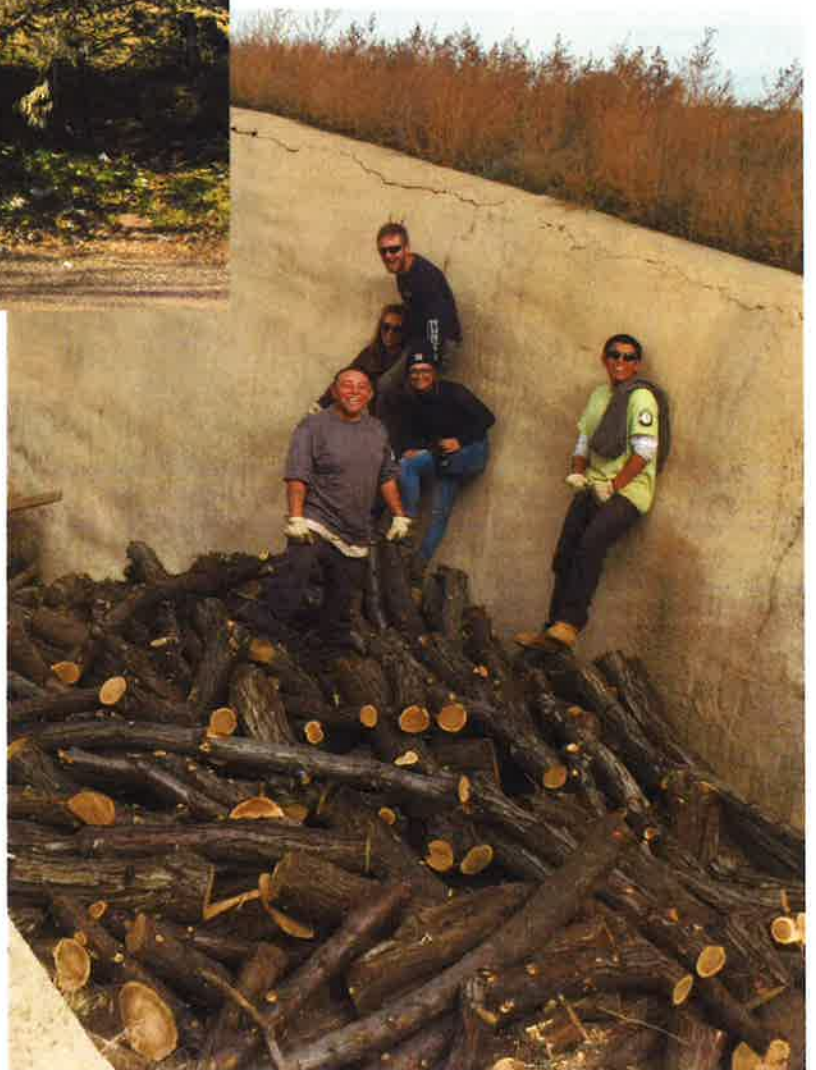


Kammerzell Property

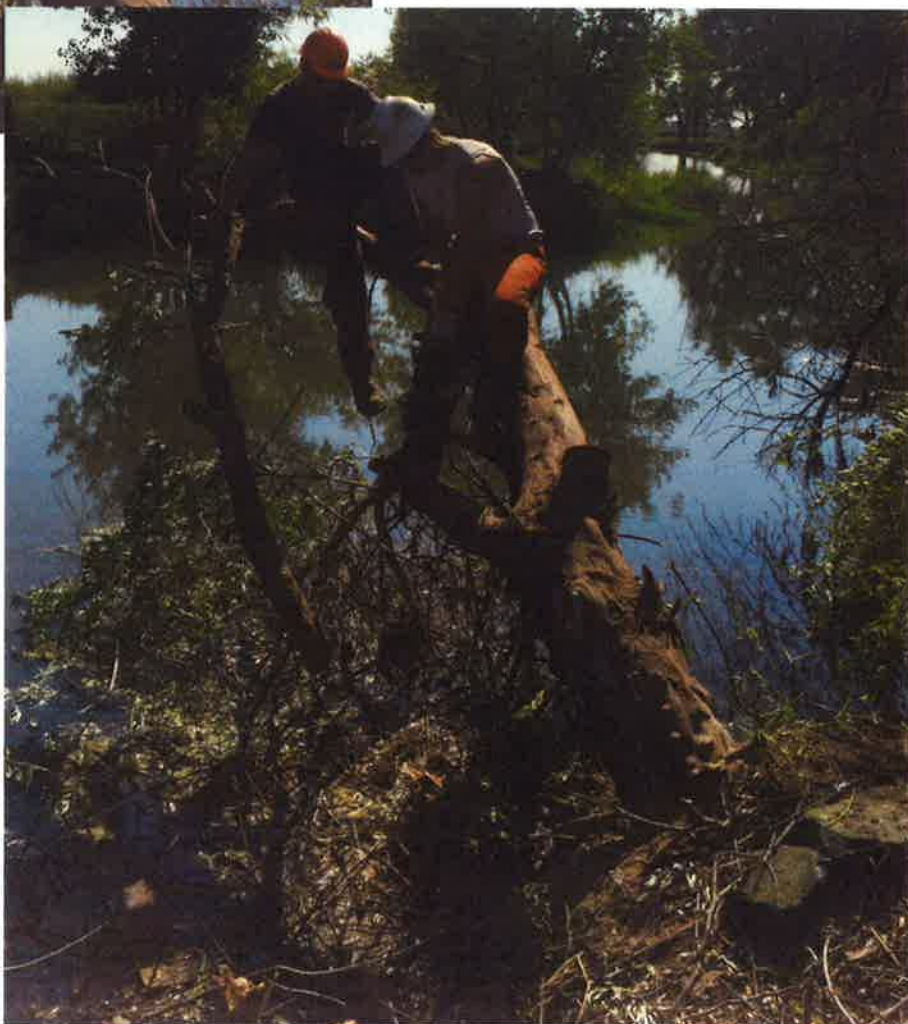


Koolstra
Property





Boedecker Property



Enhancing the Big and Little Thompson Rivers in Weld County

Weld County rivers are getting a little help to improve their health and wildlife habitat.

This project is a partnership of:

Weld County
Weld County Youth Conservation Corp.
West Greeley Conservation District
Central Water Conservancy District
Northern Water
Colorado Corn Administrative Committee
City of Greeley
City of Evans
Town of Milliken
Consolidated Mutual Ditches
Colorado Water Conservation Board—Invasive Phreatophyte Control Program

Project Contact:

Weld County Weed Division,
Tina Booton 970-400-3770
tbooton@weldgov.com

WHAT: A team of local and state agencies are working with private landowners to map and eradicate Tamarisk and Russian olive trees along the Big Thompson, Little Thompson and a portion of the South Platte rivers in Weld County for 55 linear miles. Each of the partners are funding this work.

WHY: Tamarisk and Russian olive trees are foreign, invasive plants. They simplify the habitat by displacing and eliminating native plants. They increase soil salinity and other nutrients as well as pose a fire risk. Tamarisk and Russian olive trees cause problems for the local ecology. Along with forming monocultures in riparian areas; they invade irrigation ditches and pastures causing problems for farmers, ranchers, and other property managers.

HOW: The Tamarisk and Russian olive trees are being mapped along the rivers. After identified trees are cut down with chainsaws; they can either be placed for use as wildlife habitat, used in homes as firewood or chipped on site. To prevent a tree from growing back, an environmentally safe chemical is applied to the cut stumps. Following tree removal, assessments are made to determine which sites will benefit from revegetation with native plants. Revegetation will include grasses, forbs, shrubs and trees that are historically native to the site.

WHEN: This project is taking place from June 2016 through May 2018.



Appendix 4 – Newsletters

Central Water Conservation District Newsletter February 2017

CCWCD Feb 2017.pdf - Adobe Acrobat Pro DC
File Edit View Window Help
Home Tools Document

SAVE OUR RIVERS

By: Kathy Parker

Invasive, water hogging trees have become a problem along the rivers and streams in Northern Colorado. Russian Olives, Salt Cedar and Tamarisk consume 40% as much water as all the cities on the Front Range. In a study of the South Platte basin conducted by the Colorado Water Institute, data proved that phreatophytes (deep rooted plants that take water from the water table) have been increasing, with non-beneficial consumptive water use at as much as 250,000 acre feet per year, or 80 billion gallons. All the municipalities in the basin combined consume 600,000 acre feet

In 2016, CCWCD became a partner in an Invasive Phreatophyte Control Program sponsored by the Weld County Weed Division. Weld County has designated tamarisk as an eradication species. Approximately 25 acres of tamarisk has been eradicated across Weld County. Russian olive has been designated for both eradication and suppression. The program is funded partially through a grant from the Colorado Water Conservation Board, with matching funds provided by CCWCD, Weld County Master Gardeners, Weld County Weed Division, Northern Water, West Greeley Conservation District, Colorado Corn Administrative Committee, City of Evans, City of Greeley, Town of Milliken, and City of Fort Lupton

The majority of labor is being provided by the Weld County Youth Conservation Corps. The process involves cutting the trees to stumps, treating the stumps with chemicals, chipping and revegetating with beneficial tree seedlings and grass. CCWCD is providing the use of a skid steer and a staff member to operate it, in addition to a donation of \$6,000.

As of August 2016, approximately 3500 trees have been removed. Work is planned to continue into November or early December of 2016 and will resume again in 2017. The estimated completion date for 200 acres of eradication over an area of 12,000 total acres is June, 2018.

DID YOU KNOW

West Greeley Conservation District Newsletter Summer 2015 – Article 1

SUMMER 2015
WEST GREELEY CONSERVATION DISTRICT



South Platte River Mapping Project in Weld County

Tina Booten

The Weld County Weed Division has received a special grant to evaluate the noxious weeds on the South Platte River. These funds came from a unique grant program that the Colorado Department of Agriculture created after all of the natural disasters that Colorado has had in the recent years. The state is trying to provide additional assistance in the recovery from these disasters.

The Weld County project has several

goals to aid in the recovery along the riparian corridor. The primary goal of the grant project is to determine which noxious weeds might have moved into Weld County from the 2013 flood. A second goal is to have a better understanding and count for the Russian olive and tamarisk trees that currently infest the riparian zone of the South Platte River. Additional funding will be sought in the future to address these noxious weed trees. The third goal of the project is

to identify any other noxious weeds slated for eradication or suppression that are infesting the riparian zone.

By state law and county code, A list species are set for mandatory eradication. Known species that may be on the South Platte River from the A list include: purple loosestrife, orange hawkweed, Mediterranean sage, and the knotweeds. Other A list species may exist and will be addressed if identified. There are

allowances in the grant to work with landowners if any of these species are identified.

B List species are set for suppression to eradication depending on the species. Species from the B list that currently infest the riparian zone include: Canada, musk and Scotch thistles, moth mullein, yellow toadflax, the chamomiles, perennial pepperweed, hoary cress, teasel, and diffuse and Russian knapweeds. If any of the eradication species are identified during the mapping of this project, allowances have been built

into the grant to work with landowners to address these species.

Species from the C list include: poison hemlock, and common burdock. It is encouraged that these species be addressed, as the poison hemlock is toxic to livestock and the common burdock reduces forage value.

With landowner permission, Weld County Weed Division staff will map parcels bordering the South Platte River. If any of the noxious weeds are identified,

staff will work with landowners to develop a management plan that is practical and feasible for the landowners to implement. Once the management plan is created, landowners qualify for a special cost-share assistance program for the purchase of herbicides. This program may cover up to 100% of the cost of the herbicides.

For more information on noxious weeds, go to www.weldweeds.org or call 970-304-6496 ext. 3705 to schedule an appointment and to learn more about the cost-share program.

West Greeley Conservation District Newsletter June 2016 – Article 2

June 2016



**WEST GREELEY CONSERVATION DISTRICT
SPRING 2016**

**Weld County in the news... Working hard
for river recovery**

*Enhancing the Big and Little Thompson Rivers in Weld
County*

Weld County rivers are getting a little help to improve their health and
wildlife habitat.

WHAT: A team of local and state agencies are working with private
landowners to map and eradicate Tamarisk and Russian olive trees
along the Big Thompson, Little Thompson and a portion of the South
Platte rivers in Weld County for 55 linear miles. Each partner is
providing funding for this work. This project is a partnership of: Weld
County, the Weld County Youth Conservation Corp., the West
Greeley Conservation District, the Central Water Conservancy
District, Northern Water, the Colorado Corn Administrative
Committee, the City of Greeley, the City of Evans, the Town of
Milliken, Consolidated Mutual Ditches, and the Colorado Water
Conservation Board's—Invasive Plant/Phytotype Control Program.

WHY: Tamarisk and Russian olive trees are foreign, invasive plants.
They simplify the habitat by displacing and eliminating native plants.
They increase soil salinity and other nutrients as well as pose a fire
risk. Tamarisk and Russian olive trees cause problems for the local
ecology. They invade irrigation ditches and pastures causing problems
for farmers, ranchers, and other property managers.

HOW: The Tamarisk and Russian olive trees are being mapped
along the rivers. After identified trees are cut down with chainsaws,
they can either be placed for use in wildlife habitat, used in homes as
firewood or chipped on site. To prevent the trees from growing back,
an environmentally safe chemical is applied to the cut stumps.
Following tree removal, assessments are made to determine which
sites will benefit from revegetation with native plants. Revegetation
will include grasses, forbs, shrubs and trees that are historically native
to the site.

WHEN: This project is taking place from June 2016 through May
2018.

Bonus New article coverage:



Weld County Receives Grant For Noxious Tree Removal

08/09/2016



(<http://www.50plusmarketplacenews.com/slt3/wp-content/uploads/2016/08/Russian-olive-tree-and-tamarisk.jpg>)

Recently, the Weld County Board of Commissioners approved a grant agreement with the Colorado Water Conservation Board for \$195,000 to be used for the removal of phreatophytes. Tamarisk and Russian Olive Trees will be removed from approximately 26 linear miles along the Big Thompson River, Little Thompson River and South Platte River.

"The tamarisk and Russian olive tree removal project is a continuation of work that began in 2003 and 2004," said Commissioner Chair Mike Freeman. "This continuation assists with improving the overall value of the South Platte River Watershed."

Weld County provides a cash match of \$10,000 and an in-kind donation of \$28,000 for supervision of the project, chemicals, travel, maintenance, monitoring of the project and a 15 month seasonal staff member. Many other organizations are providing cash matches totaling \$35,250 and in kind donations totaling \$110,386.

"By removing these phreatophytes, native vegetation can start to grow, wildlife habitats is improved and the water quality is better," said Commissioner Barbara Kirkmeyer, Commissioner Coordinator for the Department of Public Works. "These noxious trees use more water than native plants and can rapidly dry up irrigation ditches."

To eradicate the tamarisk and Russian olive trees, the cut-stump method will be used as it has the least amount of impact to the surrounding native vegetation and wildlife. In the cut-stump process, the trees are limbed with the tree trunks cut as close to the soil surface as possible then chemical is applied to the stump after the final cut is made. The cut material is chipped and spread on site.

The project continues through June 1, 2018. Long-term monitoring continues twice a year for five years after the completion of the grant.

For more information, visit www.weldweeds.org

(<http://www.co.weld.co.us/Departments/PublicWorks/WeedManagement/>).

<http://www.50plusmarketplacenews.com/7628/weld-county-latest-news/weld-county-receives-grant-noxious-tree-removal>

Appendix 5 – Education Outreach Events

2016 Weed Division Program

Events

Jan. 26-28: Farm Show: manned booth
Feb. 24 & 25: Boulder County Youth Festival: Weed info hands-on. Approx. 500 youth participated
Feb. 24: Event open to the public in the evening. Approx. 45 adults
April 27: Children's Water Festival - Approx. 150 students
April 28 & 29: Mead Middle School 7th grade science class: Same presentation 4 times: approx 150 students
May 5: Skyview Elementary School Water Festival. 100 to 150 students and adults
May 26: TRO workshop with Tamarisk Coalition – approx 45 participants
June 13: Coal Bank Dam Inspection
June 14: Weed walking tour w/WGCD – 3 participants
June 18: Weed Pull: Town of Windsor, CWMA, CHL, Larimer County, Adams County
June 24: Met with City of Greeley Code Enforcement Staff education – 6 participants
July 11: Float St. Vrain River to identify noxious weeds with CPW & City of Longmont Staff
July 27 – 31: Weld County 4-H Fair
Aug. 10 & 12: Purple Loosestrife week – 22 plants (Veteran's park to S. side of power plant)
Aug. 18: worked with City of Greeley spray staff on plant ID/chemical questions/confirmation

2017 Weed Division Program

Events

Jan. 12 – STEM presentation. Approx. 12 kids
Jan. 24-26: Farm Show: manned booth
Feb. 11 – Native Plant Workshop – hosted a weed ID booth.
Feb. 15 City of Greeley Homeowner weed control workshop Approx. 75 people
Feb. 22 & 23: Boulder County Youth Festival: Weed info hands-on. Approx. 500 youth participated
Feb. 22: Event open to the public in the evening. Approx. 20 adults
March 7. CALCP presentation. Approx. 400 people
March 9: CPCA presentation. 6 people
March 18: Small acreage landowner workshop. Booth & Presentation. Approx. 50 people
April 12: Weed presentation to Aims Ag Department. 9 students and teacher.
April 13: STEM work day at the Firestone Library planting. Approx. 20 youth and adults

April 20: STEM presentation. 10 participants.
April 26: Children's Water Festival - Approx. 150 students
12: Coal Bank Dam Inspection – Looks good
June 24: Booth at Farmers Market with City of Greeley Open Space about pollinators and weeds
July 26 – 30: Weld County 4-H Fair
July 27 – City of Greeley follow-up homeowner presentation – 35 people
Aug 11 – WGCD - BBQ at Houston Gardens - booth
Aug. 14-19: Purple Loosestrife week - 135 plus plants – 2 large nurseries populations identified as well as checking on Russian olive and tamarisk infestations along the South Platte River.
Sept. 23: SE Weld CD – presentation 19 participants
Sept 27: Sky View Ag Day – 4th Graders – 150 youth

2018 Weed Division Program

Events

Jan. 23-25: Farm Show: manned booth
Feb. 21-23: Boulder County Youth Festival: Weed info hands-on. Approx. 500 youth participated
March 14 & 15: West Greeley Conservation District Soil and Water Conference – approx. 150 participants
April 23: Weed presentation to Aims Ag Department. 9 students and teacher.
April 25: Children's Water Festival - Approx. 150 students
April 28: Erie Earth Day – supplied handouts about noxious weeds and what people can do to help.
May 5: Frederick DYI – booth to ID weeds, chemical options and sprayer calibration. 12 youth and 10 adults
June 11: Coal Bank Dam Inspection

Appendix 6 – Landowner Names, Acres and Number of Trees

Landowners Refused Assistance

Landowner Name	Acres	Est. trees
Big Thompson Valley Farm	305.605	2700
Williams Farm Trust	179	1500
Tammy Sue Camenisch	14.86	15
3	499.465	4215
	acres	est. trees

Landowners will address TRO

Landowner Name	Acres	Est. trees
Vern & Carolyn Kammerzell	101.249	250
Doug Kammerzell	147	250
Wagner Farms LLC	155.07	75
4	403.319	575
	acres	trees

Landowners and acre still to remove TRO

Landowner Name	Acres	Est. trees
Parish LLC	23.85	10
Colorado Sweet Gold	159.65	50
Binder Family Farms LLC	247.58	2
Harold Daniels	337.5	250
Loveland Ready Mix	99.23	100
Gosney	38.73	3
JDLB	146	15
Varra Companies	79	100
Joyce Allely	130.67	100
Sorin Natural Resources	13.15	10
10	1275.36	640
		est. trees
		to
	acres	remove

Landowner and Acres with TRO Removed

Landowner Name	Acres	# Trees Removed
Gene Pizzato	34.742	10
Boedeker	18.08	20
Mountain Properties	62.303	50
Jennie Koolstra	153.821	30
MLD Equities LLC	317.247	5
M&C Real Estate LLC	87.28	10
FDR Farms LLLP	118.572	3
Kevin & Dina McCarty	61.37	20
Westroc Rentals	22.214	250
Sobeski etal	11	5
Michael Witman	30.767	9
Western Equipment & Trucking	251.29	100
Sharon & John Kielian	76.87	150
Bernhardt Farms LLC	417.823	800
Ehrlich LLC	31.36	800
Richard Coulson	280	2350
Nelson Family LLC	485.84	2760
Jacob Kammerzill	71.07	1000
Christensen	17.49	3
Lakota Lakes Ranch HOA	41.95	9
Emanuel Betz	114	7
Croissant Family Farm LLC	144.5	11
Art Garcia	23	5
Rex & Julie Hopkins	56	3
Esther Schank	135.524	600
City of Evans	120.28	815
Chuck Sylvester	73.76	55
Piel etal	33	20
Front Range Oil & Gas Water Services LLC	148.72	85
Rolling T Livestock	38	25

30

3477.87

10010

Trees
removed

Acres with no TRO

Landowner Name	Acres
Marcia & Carey Bond	19.43
Berthoud Gun Club	5.38
Town of Berthoud	35.16
Schaal, etal	105.39
Lawerence & Jacquelyn Bebo	105.14
Schaal etal	138.92
Rockwell etal	86.88
Miriam & Steven Smith	34.85
JRC	67.79
Laurilla & Richard Mann	5.5
Margaret Urban	42.83
James Burch	26.76
Thomas Darwin	35.82
Front Range Investment Holdings LLC	433.93
GBU Enterprises LLC	1.92
FDR Farms LLLP	111.29
Larson Front Range Farms LLC	190.01
Albert & Lorraine Michall	46.33
Anadarko	69.42
Wade & Brenda Dones	75.76
Lynda & Kieth Russell	111.25
James Wright	29.56
Virginia Starck	218.96
Ronald & Robert Starck	77
Massey Farms LLP	95.4
Sauer South LLC	123.03
Ken D'Amato	15
Richard Carlson	4.99
Arlene & Frank Wind	314.05
Seele etal	170
Keith Hayden	5.47
Richard & Linda Thomas	3
TF Johnstown Farms LP	161
Parish LLC	11.11
Boulder Scientific Mining Corp	85.9
Katherine Schwalm	180.97
Rite-A-way Industries LLC	154.56
Coulson Excavating CO Inc	117.75
Aggregator LLC	83.43
39	3600.94 Acres