

**Turner and Lone Cabin Ditch**  
**Salinity Control Project (R20AC00018)**  
**Habitat Replacement Plan at**  
**Town of Paonia Water Treatment Plant**  
**March 21, 2022**



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## Certification and Approval of Turner Ditch Company Habitat Project

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This habitat replacement project will be maintained to achieve the objectives of this plan for 50 years from the approval of this plan.

Disclaimer: Reclamation's acceptance of the Habitat Replacement Plan does not constitute technical approval of the design. This habitat replacement project is projected to create 120.3 habitat units. This scoring is an estimated projection and is not a guarantee or a statement of habitat units available to the Turner Ditch Company. Any deviations from the plan need to be reviewed by the landowners and Reclamation. All "as-built" information will be provided to Reclamation.

## Table of Contents

Table of Contents.....	3
Introduction and Background.....	5
Existing Conditions.....	6
Habitat Type, Vegetation, and Wildlife Use.....	6
Hydrology.....	7
Topography & Soils .....	7
Photo Points.....	7
Turner Ditch Habitat Site Photos.....	8
Desired Conditions.....	12
Implementation.....	13
Access.....	14
Irrigation System.....	14
Tree and Shrub Planting.....	15
Seeding.....	16
Weed Control.....	17
Maintenance and Monitoring.....	18
Habitat Units.....	19

Appendix A. Turner Ditch Company Agreement with Town of Paonia.

Appendix B. Turner Ditch Company Agreement with Delicious Orchards, LLC.....

Appendix C. Map Figures.....  
 Figure 1. Location map.....  
 Figure 2. Entire Overview of Turner Habitat Site.....

Appendix D. Habitat Scoring and Justification Tables.....

Appendix E. Tree and Shrub Planting Guides.....  
 \*CSFS Nursery Planting Guide 2015  
 \*CSFS Seedling Container Sizes  
 \*Seedling Tree Planting Guide  
 \*Weed Barrier for Trees and Shrubs  
 \* Methods for Planting Cottonwoods and Willows  
 \*Layout of 8’ Game Damage Yard

Appendix F. Noxious Weed ID and Control Methods.....  
 \*Russian olive Control from USDA  
 \*Salt Cedar Control from USDA  
 \*Invasive species ID and Control

Appendix G. Performance Report Example and Form.....

Appendix H. Tree and Shrub Planting Numbers and Species.....

Appendix I. Turner Ditch HP Timeline.....

## Introduction and Background

In 2020, the Turner Ditch Company and Lone Cabin Ditch and Reservoir Company entered into a cooperative agreement (R20AC00018) with the United States Bureau of Reclamation (BOR) to construct a combined salinity reduction irrigation project. The project will also include the unincorporated Sweezy-Turner Ditch, in which its water users have agreed to join the Turner Ditch Company (TDC). TDC is the designated entity representing all three ditches. The proposed project will decommission 9.5 miles of open earthen ditch and replace 15.5 miles of existing open ditch with HDPE or PVC pipe. The Turner Ditch Piping Project is being funded by the Basinwide Salinity Control Program (BSCP), which was authorized by the Salinity Control Act (Act) (43 U.S.C. 1571-1599). The Act requires that fish and wildlife values foregone as a result of implementing salinity control projects be replaced by improving habitat value through habitat replacement projects. TDC hired Wildlife and Natural Resource Concepts and Solutions, LLC. (WNRCS) to assess the expected habitat loss caused by the piping project and find a site for a habitat improvement project. WNRCS findings are reported in the *Turner and Lone Cabin Ditch-Salinity Reduction Project Habitat Loss Assessment Report, January 3, 2022*. WNRCS determined that 117.8 habitat units are expected to be lost when the piping project is constructed and need to be replaced.

The Pilot Rock Ditch Company (PRDC) also entered into a cooperative agreement with the BOR to construct a salinity reduction irrigation project. PRDC's habitat project will be located adjacent to TDC's habitat project. Although PRDC's project will be implemented concurrently with TDC's project, it is a separate habitat replacement project.

TDC is working with the Town of Paonia and Delicious Orchards LLC (DOL) to build its habitat replacement project. The habitat site is on a 42-acre parcel containing the Town of Paonia's sewage treatment plant, approximately 1.5 miles west of Paonia and located next to DOL (See Map Figure 1 in Appendix A). TDC is entering into a third-party agreement with the Town of Paonia and DOL to construct the habitat replacement project (Appendix B). The habitat improvement area will occupy 28.3 of the 42 acres in this parcel. The project site is bounded on the north and east sides by property owned by Delicious Orchards LLC. (a.k.a. Big B's Orchards), on the south by the Gunnison River and to the west by property owned by Paonia Marsh Partners LLC and Lagniappe Properties West. WNRCS designed the habitat improvement project based on criteria from *Basinwide Salinity Control Program: Procedures for Habitat Replacement*, written by the Bureau of Reclamation and U.S. Fish and Wildlife Service, 2018.

## Existing Conditions

### Habitat Type, Vegetation, and Wildlife Use

The habitat project is divided into three habitat sections with distinctive vegetation in each (See Map Figure 2 in Appendix C). Section A contains 16.56 acres of irrigated pasture land (consisting of grasses and a few forbs) heavily grazed by livestock, with a few deer and elk using it in the wintertime. The field contains a small spring, and Monitor Ditch flows along the north side of the field (See Photo Pt. 1). An underground tile line delivers water from the spring to a narrow drainage ditch extending along the pasture's south side (See Photo Pt. 2 Facing SW). The ditches provide a small amount of riparian vegetation for songbirds, small mammals, amphibians, and waterfowl. The vegetation includes cattails, willows, reeds, sedges, orchard grass, and weed species such as Canada thistle and Russian knapweed. Wildlife use is minimal in this area.

Section B contains 8.48 acres of riparian habitat with a dense canopy of mature Fremont cottonwoods (averaging 20 to 40 feet in height). The understory is crowded with smaller Russian olive tree regrowth (8 to 15 feet tall), with a limited amount of native shrubs and forbs (See Photo Pts. 3, 5, and 6). Several years ago, Western Slope Conservation Center crews cut down the Russian olive in this area and treated the stumps with herbicide, but the regrowth has not been retreated since then. The understory also contains several native plant species such as wild rose, sumac, cattails, reeds, mullein, and assorted grasses. The water table in this area is close to the surface and creates a few scattered fens during spring flooding. Many types of wildlife use the site in summer and winter, including deer, elk, songbirds, raptors, small mammals, amphibians, and reptiles. It has also been used for livestock grazing. The project site is in an area listed as critical habitat for the threatened Yellow-billed Cuckoo, which prefers dense cottonwoods thickets but will nest in the Russian olive.

Section C consists of 3.26 acres of stressed riparian habitat, with the health of the vegetation declining after the construction of the water treatment ponds. Before the water treatment plant was built, seep water from the irrigated field, and Monitor Ditch recharged the water table in Section C. During the construction of the water treatment ponds, an underground leach line was installed around the ponds to remove excess water from below the pond liners. The leach line keeps the liners from floating, and the water is discharged at an outlet on the southwest side of the water treatment plant and into the top of Section B (See Map Figure 2). The leach line around the ponds has effectively eliminated seep water from entering Section C and causing it to dry out. Many cottonwood trees in Section C have died or are highly stressed. The riparian vegetation in the area is slowly being displaced with upland plant species (See Photo Pt. 4 Facing S and SE). Various wildlife still use the site, but much less than the riparian area in Section B. Nesting songbirds are moving to other areas that provide denser tree canopy or ground cover for hiding their nests. Berry producing shrubs like golden currant are dying, leaving fewer sources for food. The falling dead cottonwood trees make it more difficult for larger mammals to move around and provide less cover for their young.

## Hydrology

The Turner Ditch Habitat Site has several sources of water that will be used to improve and enhance riparian vegetation at the site. The Town of Paonia owns two shares of the North Fork Farmer's Ditch and has a joint headgate with Delicious Orchards LLC. The water is diverted from Farmer's Ditch on the north side of CO Highway 133, flows into an irrigation line under the road, and is split between the two landowners (See Map Figure 2 in Appendix C). Monitor Ditch also flows between the two properties, but neither landowner owns shares in it. Seep water from this ditch does keep the water table in Section A close to the surface. Seep water around the water treatment ponds is captured in a leach line and funneled to the southwest corner of Section A and disbursed in Section B. All tailwaters from Delicious Orchards irrigation are currently diverted into Monitor Ditch. There is also about 0.5 cfs. of treated water from treatment ponds that flows year-round and is released into the Gunnison River via an underground pipe.

## Topography and Soils

The habitat improvement site is on a reasonably flat river bottom area on the north side of the Gunnison River. The soil in Section A is predominately Glenton fine sandy loam with 0 to 3 percent slope. Soils in Sections B and C are Aquic Natragrids (which are saline), and the elevation of the project area is approximately 5,500 feet.

## Photo Points

Six permanent photo points were established, marked with aluminum posts, and their location coordinates recorded with GPS. The locations are shown in Map Figure 2, and the GPS coordinates are listed in Table 1.

**Table 1. Coordinates of Turner Habitat Project Photo Points**

<u>Photo Pt.</u>	<u>Easting</u>	<u>Northing</u>
Photo Pt. 1	792462.76	4306395.42
Photo Pt. 2	792684.40	4306390.61
Photo Pt. 3	792496.04	4306169.66
Photo Pt. 4	792761.57	4306278.07
Photo Pt. 5	792645.23	4306182.73
Photo Pt. 6	792645.68	4306097.82

Recorded in Coordinate System – NAD 1983 UTM Zone 13N

**Turner Ditch Habitat Site Photos**



Photo Pt. 1 Facing NE - Irrigated pasture land in Section A next to Monitor Ditch.



Photo Pt. 2 Facing North - Irrigated pasture land in Section A.



Photo Pt. 2 Facing SW – Looking towards ditch from spring drain line in Section A.



Photo Pt. 3 Facing SE - Cottonwood riparian habitat in NW corner of Section B.



Photo Pt. 4 Facing S – Dead cottonwoods in the stressed riparian area of Section C.



Photo Pt. 4 Facing SE – Stressed riparian habitat below treatment ponds in Section C.



Photo Pt. 5 Facing West – Riparian habitat with Russian olive understory in Section B.



Photo Pt. 6 Facing NW – Riparian habitat with Russian olive understory in Section B.

## Desired Conditions

The three main goals of this habitat improvement project are to improve vegetation structure and diversity, restore water to areas impacted by the water treatment plant's construction, and control noxious weeds. Table 2 summarizes the expected scoring of the habitat improvement project after it is complete. Appendix D provides the justification for the habitat scores.

Table 2						
Turner Ditch Company						
Habitat Quality Scoring at						
Town of Paonia Water Treatment Plant Habitat Improvement Site						
3/15/2022						
Habitat Scoring Overview						
Habitat Type	Habitat Section A Shelterbelt Area		Habitat Section B Riparian Area		Habitat Section C Stressed Riparian	
	Before	After	Before	After	Before	After
Vegetation Diversity *	2	9	6	8	3	8
Stratification	2	10	10	10	7	10
Noxious Weeds	6	9	0	6	0	6
Overall Vegetative Condition	0	10	10	10	0	10
Interspersion of open water	1	1	1	3	0	3
Connectivity	3	8	5	8	5	8
Wildlife Use	4	10	8	10	5	10
Uniqueness or Abundance	1	8	6	10	2	9
Water Supply	3	6	4	8	0	8
Alteration	0	2	9	9	9	9
Raw Scores	22	73	59	82	31	81
Habitat Quality Score (HQS)	<b>2.2</b>	<b>7.3</b>	<b>5.9</b>	<b>8.2</b>	<b>3.1</b>	<b>8.1</b>
Mapped Acres	16.56		8.48		3.26	
Habitat Score Difference	5.10		2.30		5.00	
Habitat Units Gained	<b>84.5</b>		<b>19.5</b>		<b>16.3</b>	
Total Habitat Units Needed for TDC Piping Project	<b>117.8</b>					
Total Habitat Units Generated with Completed Habitat Project	<b>120.3</b>					
Habitat Units Available for Future Piping Projects When Fully Implemented.	<b>2.5</b>					
*Several Fields Can be higher						

### Increase Plant Structure and Diversity

Crews will plant trees and shrubs in the 16.56-acre in Section, and along the new irrigation ditches in Sections B and C. Cottonwood and willow pole plantings will also be placed in other areas around the site that might sustain riparian plantings. TDC will plant at least seven different native shrubs and tree species. The shrubs species will include buffaloberry, chokecherry, golden currant, native plum, New Mexico privet, three-leaf sumac, and wild rose. Tree species will consist of Fremont and narrowleaf cottonwood, hackberry, golden willow, thinleaf alder, boxelder, and Rocky Mountain maple. The habitat objectives require 66% of the shrubs consisting of at least five species and 50% of the trees with at least four species to be established in the habitat site. Tree and shrub plantings are listed in Appendix H. The increase in abundance and diversity of native trees and shrubs will provide better food and cover for many songbirds, raptors, large and small mammals, and other wildlife.

### Restore water to areas impacted by the water treatment plant construction.

Four new shallow ditches will be constructed across Habitat Sections B and C to help restore water to the area (See light green lines on Map Figure 2). Water for the ditches in Section C will come from a new outlet to be added onto the leach line on the southeast corner of the water treatment ponds, along with tailwaters from Delicious Orchards. Additional tailwaters from the Delicious Orchard pond north of Habitat Section A will be piped down to Section B.

### Reduce and Control Noxious Weeds

This goal is to reduce overall invasive plant species cover to less than 5% in habitat Section A and less than 10% in Sections B and C. The current amount of weed cover is estimated to be 25% or more in Sections B and C, and 10% in Section A.

## **Implementation**

TDC will hire a contractor specializing in Russian olive removal to complete the habitat improvement work and a certified pesticide applicator to treat noxious weed species with herbicide. Crews from the Western Slope Conservation Center and Delicious Orchards will probably be used to plant the trees and shrubs and aid with the watering and maintenance of the project. The site is in an area listed as critical habitat for the threatened Yellow-billed cuckoo. In order to avoid the cuckoo breeding season, no construction work will not be allowed from the second week in May thru the end of July in Sections B or C. Section A is irrigated farm ground, so this restriction would not apply to it. Crews will remove Russian olives in late winter to early spring (November-February). This time frame will have the least impact on nesting birds, and removal equipment is less likely to disturb surface soils. Herbicide applied to Russian olive stumps after mulching the main trees will be more effective because it will be translocated down to the plant's roots. Impacts on cuckoos should be minimal because most of the Russian olive is much shorter than the large mature cottonwoods. The tall cottonwood overstory will remain while the brushy Russian olive is removed. More light will be able to filter down to the understory and will allow more native vegetation to fill in. Additional water to the areas, along with the planting of native trees and shrubs, will also aid in the restoration of the riparian habitat. A general summary of project tasks is listed below, with a detailed schedule in Appendix I.

## Schedule

Task	Date of Completion
*Install new outlet structure in NF Farmers Ditch and water delivery line to Delicious Orchards and habitat project on Town of Paonia property. *Treat/remove tamarisk and Russian olive trees *Dig new ditches in Sections B and C *Order trees and shrubs for spring *File on water rights	<b>Fall of 2022 or January of 2023</b>
*Put in pole plantings *Prepare field in Section A for planting *Install game damage fence *Reseed disturbed areas *Plant trees and shrubs. *Retreat Russian knapweed, Canada thistle, and other noxious weeds with herbicide.	<b>Spring and Early Summer 2023</b>
*Follow-up treatment of noxious weeds and regrowth of tamarisk and Russian olive, as needed. *Annual inspection* & photos of habitat site.	<b>Fall 2023</b>
*Inspect and conduct follow-up treatments of noxious weeds and tamarisk and Russian olive during the fall, as needed. *Plant additional trees and shrubs as needed. *Annual inspection & photos of habitat site.	<b>2024-2072</b>

\*Annual monitoring for the first five years with BOR; if habitat objectives are met, monitor reporting will be submitted yearly with additional site visits conducted every three years.

## Access

The access to the project site is a side road off Highway 133 that leads to the Town of Paonia water treatment plant. Paths for the new irrigation ditches in Sections B and C will be cleared of Russian olive by crews using a mulching attachment on a tracked skid steer. Dead cottonwoods or other native trees species can be removed with a small trackhoe with a thumb and moved to the PRCD habitat replacement site for log dam construction.

## Irrigation System

A new diversion box on North Fork Farmer's Ditch will be built to accommodate the new underground, pressurized water line to the TDC habitat project and Delicious Orchards. The town water will be piped to Section A and plumbed into an underground drip system with a splitter box providing water for Delicious Orchards. A by-pass line will also be built to drain the pipe into Section C. The drip line for the planting areas in Section A will be buried in the middle of the planting rows, and individual drip lines will tee off the main supply line to provide water for individual trees and shrubs.

A splitter box will be placed in Big B's Pond outlet, allowing the tailwater to be routed to ditches in Section B on the habitat project or put back into Monitor Ditch. Currently, irrigation tailwater from Big B's Orchards is collected on the southwest side of the orchards and dumped into the Monitor Ditch. TDC will install a tee in the existing wastewater pipeline and add a section of pipe that will bring the tailwater to the new ditches in Section C. Slide gates will be installed in the wastewater lines so that orchard tailwaters can either be dumped back into Monitor Ditch or switched to feed the new ditches to be built in Section C. Additional water can be directed to Section C from the drain line on the new pressurized system for Section A and from a new outlet on the leach line around the treatment ponds. The existing leach line also allows water to be diverted to Section B. Springwater captured in the tile line eventually makes its way to Section B.

### **Tree and Shrub Plantings**

Planting crews will be supervised by a qualified professional that has experience planting native trees and shrubs. Western Slope Conservation Center crews or those from Big B's Orchards may be assisting in planting, watering, and maintenance for the project. Trees and shrubs used for the planting will be of good quality and purchased from reliable vendors. Crews will plant new trees and shrubs using guidelines provided in Appendix E.

An eight-foot-tall game damage fence will be built around the habitat plantings in Habitat Section A, with four large gates to allow equipment access for planting and maintenance. A guide for fence construction is included in Appendix E. Planting rows will be spaced at least 18' to 20' apart to allow the periodic spreading of the dried tailings from the water treatment ponds. Existing grasses should grow back through this material and be mowed to keep the lanes accessible. The Town of Paonia will be responsible for the mowing.

The planting areas in Section A will be prepared in early spring and will be mowed if tall vegetation interferes with the layout of the drip irrigation system. In late March or early April, the planting rows will be rototilled with a three-point tiller behind a tractor or a front-mounted tiller on a skid steer. The planting rows will be about six feet wide and laid out in a design similar to the one depicted in Map Figure 2. It is essential that the trees and shrubs are planted at the correct depth and that no air pockets are left around the roots. Planting holes should be at least as deep as the roots are long and four inches wider than the root system is in its natural form. Root ends should not curl upwards but spread naturally. The root ball should be slightly below the soil surface and completely covered with dirt.

Additional plants will be planted close to the wetted areas around irrigation ditches but not so close that the roots are saturated with water (See Map Figure 2). The plants will be watered immediately after being placed in the ground. A drip system will be designed to provide the proper amount of water to trees and shrubs in Section A. TDC will ensure plantings outside the drip system will be watered once or twice a week throughout the growing seasons or until the trees and shrubs are established. TDC will probably contract out watering duties to the Western Slope Conservation Center crews. WNRCS will help determine the amount of water needed once planting sites and vegetation types are determined. A water tank mounted on or pulled behind an ATV is used to water plants in most projects.

Plants in containers are preferred over bare-root stock. Plastic seedling protectors will be placed around all trees and shrubs planted outside the game damage enclosure to protect them from rodents and other wildlife. All plants will also have good quality weed barrier fabric placed around their bases to reduce competition with invasive weed species and held in place by long fabric staples. Three-foot by three-foot fabric squares are used for individual plants scattered in Sections B and C. Four-foot-wide rolls of fabric with one foot of overlap will be used in Section A. Slits can be cut in the weed barrier to allow them to be wrapped around the base of the trees and shrubs. Woven wire and steel t-posts (or rebar) will be used to protect larger tree plantings outside the fenced enclosure. If plant survival rates do not meet the success criteria, more trees and shrubs will be replanted again in early spring or later in the fall of the following year. Replanting will continue until the plant survival rates meet the success criteria.

The planting will be conducted in the spring to take advantage of early precipitation before hot summer temperatures or in the fall after the plants have gone dormant. The estimated numbers and types of trees and shrubs to be planted are described in Appendix E. These numbers and species may change depending on availability and the soil conditions of the planting area. The cottonwood pole plantings may be supplemented or replaced with rooted cottonwood trees if they are available. Guidelines and procedures for planting these were obtained from USDA/NRCS - Hoag, 2007. Pole plantings will be harvested from well-established willow, and cottonwood stands at nearby sites. WNRCS will provide a planting schematic after tree and shrub orders have been finalized.

### Seeding

Areas disturbed by the installation of the new water system will be reseeded in the fall with an assortment of grasses and forbs. If possible, planting will be done using a seed drill or by broadcast seeding if not. An anticipated seeding mix is listed in Table 3. Traditionally, habitat projects require that the area disturbed by Russian olive and tamarisk removal be reseeded. Reseeding may not be necessary when using the proper equipment and mulching head. The trimmings are fine and spread out, so existing vegetation can generally grow through the mulch. Any large patches of bare soil exposed after mulching will be reseeded with the grass/forb mixture.

Table 3.							
Seeding Recommendation for Turner Ditch Habitat Project							
For Section A							
By Michael Zeman - Wildlife and Natural Resource Concepts and Solutions, LLC.							
2/3/2022							
Species	Variety	Required PLS rates	% of Species	PLS seeding rate	Planned	To Plant With A Drill	To Broadcast Seed
		per acre (100%)	in mixture	per species/Acre Drilled		Acres	Total PLS lbs/ species planned
Western wheatgrass	Barton, Arrib	8.00	25	2.00	3	6.00	12.00
Sideoats grama		5.00	25	1.25	3	3.75	7.50
Smooth brome	Manchar	6.50	20	1.30	3	3.90	7.80
Blue grama	Alma	1.50	15	0.23	3	0.68	1.35
Thickspike wheatgrass		6.00	15	0.90	3	2.70	5.40
Birdsfoot Trefoil		1.25		1.25	3	3.75	7.50
American vetch		0.50		0.50	3	1.50	3.00
		<b>Total</b>	<b>100</b>	<b>Total Pounds</b>		<b>22.28</b>	<b>44.55</b>

Areas over the new water pipeline and delivery system will be seeded to help prevent weeds from invading the area.

## Weed Control

Control methods will include herbicides, mechanical removal, and biological control agents. Appendix G contains control methods, recommended herbicides and application rates, and additional information about biological control. Russian olive, tamarisk, Russian knapweed, and Canada thistle are the most abundant noxious weeds in the habitat areas, and control efforts will focus on these weed species. Weed cover was visually estimated by locating weed species, evaluating the plant density, and then calculating the percentage of the habitat site occupied by weeds. Crews will remove tamarisk and Russian olive with rubber-tracked equipment to help reduce the amount of soil disturbance. The machine used is typically a rubber-tracked skid steer with a mulching head. It grinds the material into a fine mulch and is spread over the existing understory. Hand crews with chainsaws or a rubber-tracked trackhoe with a thumb will remove larger trees. Dead cottonwoods may be hauled to the PRDC habitat site for use in constructing the log dams, which are a component of their habitat replacement project.

Crews will follow proper procedures in applying herbicide and ensure that native species are avoided and protected. Appendix F describes various mechanical and chemical control methods, herbicide application rates, and weed identification. Most mechanical control of Russian olive and tamarisk will be performed late in the fall/winter/early spring when the site is drier, and mobility is easier. The stumps will be treated with a mixture of Garlon 4 Ultra and Modified Vegetable Oil (or other acceptable herbicides) after they have been cut. Regrowth of Russian olive and tamarisk shoots will require follow-up herbicide treatments.

WNRCS will work with the Colorado Department of Agriculture Insectary in Palisade (at 750 37 8/10 Road, Palisade, CO) to obtain biological control agents for Russian knapweed and Canada thistle. These control agents will augment the chemical control methods for noxious weeds and are described in Appendix F. The first control method involves the release of gall midges (*Jaapiella ivannikovi*) which feeds on Russian knapweed. Its larvae feed on the knapweed, which induces a gall formation at the top of the plant. This stunts stem/branch growth, which reduces stem length and plant biomass. It also prevents the plant from flowering. The midges will not eradicate the plant, but they can help slow down the spreading of the noxious weed. The staff at the insectary recommend this as a good tool to use in conjunction with herbicide treatments. The other biological agents they recommended include the Canada thistle gall-fly (*Urophora cardui*) and the rust fungus (*Puccinia punctiformis*). Both agents attack Canada thistle. The gall-fly has had limited effect on thistle but can stress the plant. The host-specific pathogenic rust fungus (*Puccinia punctiformis*) can be an excellent agent to control Canada thistle. In past field trials conducted by the insectary, the worst results were only a 45% reduction in thistle over five years, while the best case was a 100% reduction after 18 months. Chemical control of Russian knapweed and Canada thistle will be used at the Turner Ditch Habitat Site during the initial years of the project, but the biological agents may help with long-term weed control.

Weed species on Colorado's A and B Weed List found in the project area (includes Russian olive, Canada thistle, tamarisk, houndstongue, and hoary cress) will be treated with herbicide. A certified

herbicide applicator will oversee crews applying herbicide. Treatments will include backpack sprayers or sprayers mounted on an ATV. A mixture of the Milestone herbicide with a surfactant is the recommended method for treating most weedy invasives on the site. Recommended herbicides and application rates are listed in Appendix F - Table 1. Invasive species will be treated twice a year until levels are reduced to less than 5% in habitat Section A and less than 10% in Sections B and C. The herbicide applicators will follow the best management practices described in Appendix F and the manufacturer's label instructions. The best time for treatment is early summer and then later in the fall.

## Maintenance and Monitoring

Appendix G provides an example of a monitoring report, a blank form, and instructions on what to include, whom to send the report to, and where. A timeline of actions for the habitat project is listed in Appendix I. TDC will monitor the habitat site to ensure the project meets the success criteria, as described in the table below.

### Success Criteria

Project Component	Success Criteria	Additional Work Trigger
Increase plant structure and diversity	<ul style="list-style-type: none"> <li>The herbaceous, shrub, and tree layers are all present and functioning.</li> <li>66% (or 780) of the shrubs consisting of at least five species and 50% (or 180) of the trees with at least four species are established.</li> </ul>	<ul style="list-style-type: none"> <li>If one of the three layers is not present or not functioning, TDC will evaluate existing plantings and introduce different species that might be better suited to the area.</li> <li>If the number of shrubs or trees established is less than those indicated for success, replanting will occur until the number of plantings meets the listed success criteria.</li> </ul>
Restore water to habitat sections A, B, and C	<ul style="list-style-type: none"> <li>The irrigation has been installed and is functioning as intended. Water is being delivered to habitat Sections A, B, and C.</li> </ul>	<ul style="list-style-type: none"> <li>If the irrigation system is installed and not functioning as intended, TDC will work with contractors to find a solution.</li> <li>If water is not being delivered to habitat Sections A, B, and C, TDC will evaluate the problem and work to achieve a solution.</li> </ul>
Reduce and control noxious weeds	<ul style="list-style-type: none"> <li>Reduce overall noxious weeds species cover to less than 5% of the area in habitat Section A and less than 10% of the area in Sections B and C.</li> </ul>	<ul style="list-style-type: none"> <li>If noxious weeds species cover rises above 5% of the area in habitat Section A or more than 10% of the area in Sections B and C, additional chemical or mechanical weed control methods will be implemented until the sections meet the listed success criteria.</li> </ul>

TDC and BOR will monitor the habitat project during the scheduled site visits listed in the timeline. The landowner will notify TDC if weed problems or other issues arise between site visits. TDC will be responsible for arranging the appropriate corrective actions to ensure the habitat project meets its success criteria. If the corrective actions are not considered successful, BOR and TDC will work together to plan a course of action. If the habitat scoring for the project drops to a level that no longer mitigates the habitat loss associated with the TDC's Salinity Control Project, TDC will take steps to bring the habitat project back into compliance. TDC recognizes that under the terms of the cooperative agreement, it maintains responsibility for the maintenance and success of the habitat replacement areas, including any weed control or planting requirements. Construction, including all labor, materials, equipment, maintenance, and other costs associated with the habitat improvement project, shall be at the expense of TDC.

For the first five years of the project following implementation of this plan, TDC, BOR, and the U.S. Fish and Wildlife Service (if available) will conduct a joint, annual inspection to determine if the habitat improvements are successful or progressing toward success. TDC will provide monitoring reports to the BOR field office in Grand Junction, Colorado, every three years for the remaining 45 years of the agreement or as directed by BOR. The report will contain photographs from each of the photo point locations, the numbers and species of trees and shrubs surviving from plantings, and estimates on the percent cover and types of weeds.

### **Habitat Units**

TDC needs to replace 117.8 habitat units to offset projected habitat losses resulting from the Turner Ditch Piping Project. The Turner Ditch Habitat Improvement Project will generate 120.3 habitat units when fully implemented, and it has met the success criteria established in the habitat plan. The remaining habitat units created by the project (2.5) will be available for future use by the TDC.