COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

MINERALS PROGRAM INSPECTION REPORT
PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

MINE NAME: RBK Pit No. 30	**MINE/PROSPECTING ID#:** M-1990-106	**MINERAL:** Gravel	**COUNTY:** Pueblo
INSPECTION TYPE: Monitoring	**INSPECTOR(S):** Patrick Lennberg	**INSP. DATE:** October 26, 2021	**INSP. TIME:** 11:00
OPERATOR: RBK Construction, Inc.	**OPERATOR REPRESENTATIVE:** Guy Baxter	**TYPE OF OPERATION:** 110c - Construction Limited Impact	

REASON FOR INSPECTION: Normal I&E Program	**BOND CALCULATION TYPE:** Complete Bond	**BOND AMOUNT:** $14,530.00
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
WEATHER: Clear	**INSPECTOR'S SIGNATURE:** Patrick LJ	**SIGNATURE DATE:** November 3, 2021

The following inspection topics were identified as having Problems or Possible Violations. OPERATORS SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF THE PERMIT AND APPLICABLE RULES AND REGULATIONS. If a Possible Violation is indicated, you will be notified under separate cover as to when the Mined Land Reclamation Board will consider possible enforcement action.

INSPECTION TOPIC: Revegetation

PROBLEM: Tamarisk (salt cedar) trees are present within or have volunteered into the permit area and are becoming established. This is a problem for failure to employ weed control methods for a state listed noxious weed species within the permitted area, and to reduce the spread of weeds to nearby areas as required by Section 3.1.10 (6) of the rule.

CORRECTIVE ACTIONS: The operator shall either implement the existing weed control plan, develop a weed control and management plan in accordance with Section 3.1.10 (6) of the Rule, or remove the weeds from the site. This plan should be developed in consultation with the county extension agency, or weed control district office and should include specific control measures to be applied, a schedule for when control measures will be applied and a post-treatment monitoring plan. This weed control plan shall be submitted to the Division as a Technical Revision to the approved plan with the appropriate Technical Revision fee of $216.00 by the corrective action date. Photographic documentation of the removal of the weeds will also suffice.
CORRECTIVE ACTION DUE DATE: 12/20/21

INSPECTION TOPIC: Signs & Markers

PROBLEM/POSSIBLE VIOLATION: Problem: The affected area boundary markers are missing or incorrectly placed. This is a problem for failure to maintain boundary markers around the affected area as required by Section 3.1.12(2) of the rule.

CORRECTIVE ACTIONS: The operator shall conduct a survey and replace the boundary markers in the correct location(s). The operator shall provide proof to the Division that this has been done by the corrective action date. Proof shall be in the form of a map that shows the permit boundary, coordinates of each corner, and the extent of the affected area.
CORRECTIVE ACTION DUE DATE: 12/20/21

OBSERVATIONS

The RBK Pit No. 30 (RBK Pit) was inspected by Patrick Lennberg with the Division of Reclamation, Mining and Safety (Division/DRMS). The inspection was completed as part of the Division's routine monitoring inspection program. The site was previously inspected by the Division on September 6, 2018 as part of the routine monitoring program. Guy Baxter was onsite during the inspection. The weather was clear and windy.

The RBK Pit is a 110c Construction Materials Operation and is permitted 9.9 acres. The pit is located on land owned by Kirkland Property Holdings LLC and James and Mary Kirkland. The site is located approximately 4 miles east of Pueblo in Pueblo County and the mine entrance is on the east side of Baxter Road, 0.8 miles south of the intersection of Hwy 50 and Baxter Rd (CO 233). Affected lands will be reclaimed to support a post-mining land use of wildlife habitat. A mine sign was posted at the mine entrance as required by Rule 3.1.12.

At the last inspection the Operators representative stated the pit was in final reclamation this statement was also made during 2013 inspection. During this inspection the permit area had been mined, as recently as earlier this year and it appears all 9.9 acres have been mined. The site was not active at the time of inspection. The pond that was in the northwestern area of the permit has been filled in and now there is a pond area in the southeastern corner. Additionally, there is a shallow trench that extends along the southern border of the permit where the pit has not yet been backfilled. The area of the trench and pond together is estimated to be 1.5 acres. The site does have a permanent augmentation plan for 4 acres of exposed groundwater from a 2016 water court case No. 2007CW129.

During the inspection the permit boundary markers could not be located and this is being cited as a problem pursuant to Rule 3.1.12(2) which states the boundaries of the affected area will be marked by monuments or other markers that are clearly visible and adequate to delineate such boundaries. After the inspection during the file review it was determined the map that has been submitted since 2014 for the annual report is incorrect. The map shows the permit boundary to be a rectangle that is 1,300 feet by 700 feet (attachment 1). The area shown on the map is approximately 21 acres in size. The permit is only for 9.9 acres. As part of the problem resolution the Division requires the Operator to provide an accurate map that shows the permit boundary for the 9.9 acre site, the affected area, and provide the coordinates of each boundary corner.

The pit area does have Saltcedar, or Tamarisk (Tamarix spp.), and a Russian-olive trees growing along and in the pit area, these were also noted in the previous two inspection reports. Saltcedar and Russian olive trees are List B Noxious Weeds in Colorado. Having state-listed noxious weeds growing at the site is being cited as a problem in this report. The Operator must begin mitigation efforts to control these in order to assist in future reclamation efforts.

There appears to sufficient topsoil stockpiled at the site to complete reclamation. Additionally there is a stockpile of shale material mixed with reject material. It is unclear where this material came from but it is believed to have come from the bottom of the pit area.

The financial warranty was recalculated as part of this inspection and it was determined that the current bond amount held is inadequate. A copy of the Division's estimate is attached for review. The operator will have two weeks from the signature date of this report to review the cost estimate before the Division issues a

surety increase for the site.

Photographs taken during the inspection are attached.

Please contact Patrick Lennberg (303)866-3567 ext. 8114 or email at patrick.lennberg@state.co.us if you have any questions regarding this report.

Inspection Contact Address
Ronda Neumeister
RBK Construction, Inc.
P.O. Box 387
Rye, CO 81069

Attachments: 2021 Annual Report Map
Saltcedar Fact Sheet
Russian-olive Tree Fact Sheet
Financial Warranty Cost Estimate

cc: Jared Ebert, DRMS

ec: Brooke Boisvert, Kirkland Construction, brooke@kirklandconstruction.us

PHOTOGRAPHS

Photo 1: Mine sign at mine entrance location

Photo 2: Pond in the southeastern portion of permit area

Photo 3: Looking from the main gate towards the northwestern corner of permit area

Photo 4: Russian olive trees along the northwestern corner of permit area

Photo 5: Saltcedar and Russian olive trees along western border of permit area

Photo 6: Overburden stockpile, center of picture, topsoil stockpile to the right

Photo 7: Looking east from the southwestern corner area along the southern permit boundary

Photo 8: Looking east from the top of the overburden stockpile

Photo 9: Looking west along the southern boundary of the permit

Photo 10: Google Earth Image dated from March 2021

GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each

(AR) RECORDS---------- Y	(FN) FINANCIAL WARRANTY-------- Y	(RD) ROADS---------- Y
(HB) HYDROLOGIC BALANCE---------- Y	(BG) BACKFILL & GRADING---------- Y	(EX) EXPLOSIVES--------- N
(PW) PROCESSING WASTE/TAILING---- N	(SF) PROCESSING FACILITIES------- N	(TS) TOPSOIL---------- Y
(MP) GENL MINE PLAN COMPLIANCE- Y	(FW) FISH & WILDLIFE---------- N	(RV) REVEGETATION---- PB
(SM) SIGNS AND MARKERS---------- PB	(SP) STORM WATER MGT PLAN---- N	(RS) RECL PLAN/COMP-- N
(ES) OVERBURDEN/DEV. WASTE--------- N	(SC) EROSION/SEDIMENTATION--- Y	(ST) STIPULATIONS------- N
(AT) ACID OR TOXIC MATERIALS------- N	(OD) OFF-SITE DAMAGE----------N	

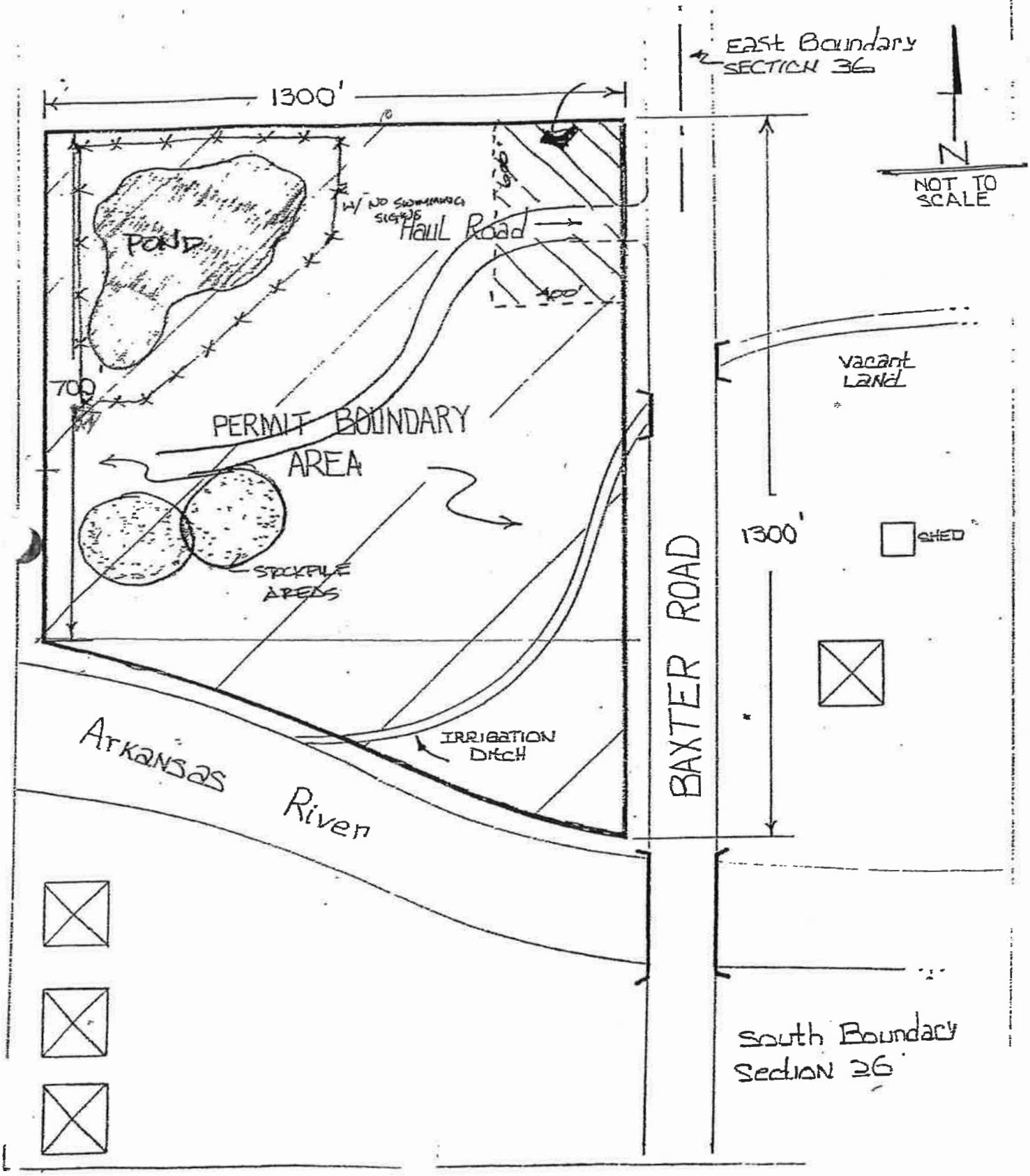
Y = Inspected / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

Attachments

RBK Pit #30 Map.

M-1990-106

10/01/21



Saltcedar

Tamarix spp.

Colorado Department of Agriculture

305 Interlocken Pkwy
Broomfield, CO 80021

(303) 869-9030
weeds@state.co.us

Saltcedar Identification and Management

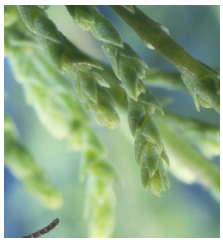
Identification and Impacts

Saltcedar, or tamarisk (*Tamarix spp.*), is a non-native deciduous evergreen shrub or small tree that grows from 5 to 20 feet tall. The bark on saplings and stems is reddish-brown. The leaves are small, scale-like and bluish-green in color. Tiny pink to white flowers have five petals and grow on slender racemes. Saltcedar reproduces by seeds as well as vegetatively. A mature plant can produce up to 600,000 seeds per year. Seeds are viable for up to 45 days under ideal conditions. Saltcedar buds break dormancy in February or March. Flowering occurs anytime between April and August. Ideal conditions for saltcedar seedling survival are saturated soil during the first few weeks of life, a high water table, and open sunny ground with little competition from other plants.

Saltcedar was introduced from central Asia, northern Africa, and southern Europe for ornamental purposes and for stream bank stabilization. It is now widespread in the United States. Saltcedar crowds out native stands of riparian and wetland vegetation. Saltcedar increases salinity of surface soil, rendering the soil inhospitable to native plant species. Saltcedar can be found along floodplains, riverbanks, streambanks, marshes, and irrigation ditches. It's heavy use of water has contributed to the intensity of the drought.

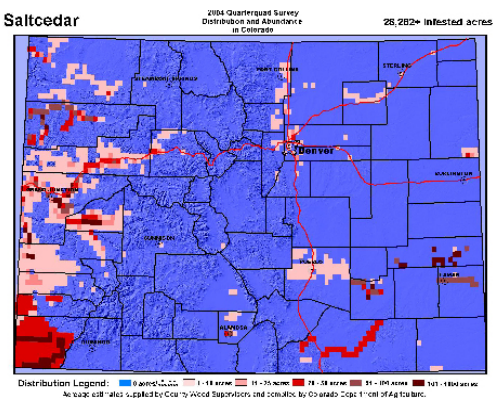
The most effective method of control for saltcedar is to prevent its establishment through proper land management. Monitor susceptible areas for new infestations. An integrated weed management approach has proven to be an effective control when dealing with saltcedar. Details on the back of this sheet can help to create a management plan compatible with your site ecology.

Saltcedar is designated as a "List B" species on the Colorado Noxious Weed Act. It is required to be either eradicated, contained, or suppressed depending on the local infestations. For more information, please visit www.colorado.gov/ag/csd and click on the Noxious Weed Program link. Or call the State Weed Coordinator of the Colorado Department of Agriculture, Conservation Services Division, 303-239-4100.



Key ID Points

1. Saltcedar is a tall shrub or small tree that has white to pink flowers in clusters called racimes.
2. Leaves are small and scaly.



Plant and flower photos © Kelly Uhing. Leaf photo © USDA Aphis PPQ. Infestation photo above, © Steve Dewey, Invasive.org. Tamarisk branch © Stevens County, WA Noxious Weed Control Board

Updated on:
07/2015

Management Recomendations

CULTURAL
After a saltcedar infestation is managed, revegetation is necessary in order to protect the soil resource and reduce the threat of reinvasion. Seeded grasses, willow stakes, and cottonwood cuttings can reduce the chances of saltcedar reinvading managed sites.

BIOLOGICAL
The saltcedar leaf beetle (*Diorhabda elongata*) larvae and adults feed on foliage. This causes stem dieback and potential death of the plant if defoliation is consistent. The leaf beetle should be available for limited distribution. For more information, contact the Palisade Insectary of the Colorado Department of Agriculture, 970-464-7916.

MECHANICAL
A bulldozer or prescribed fire can be used to open up large stands of saltcedar. These methods must be followed up with a herbicide treatment of the resprouts when they are 1 to 2 meters tall. Chainsaws, or loppers for smaller plants, are effective for cut-stump treatments to smaller infestations or in environmentally-sensitive management areas.

Integrated Weed Management:

Select the appropriate control method based on the size of the area and other environmental or cultural considerations. Re-seed controlled areas with desirable species to protect the soil resource and to prevent or slow saltcedar reinvasion. Follow up control efforts the same growing season and for several years afterwards.

Saltcedar

HERBICIDES: The following are recommendations for herbicides that can be applied to range and pasturelands. Rates are approximate and based on hand-held equipment with an output of 30 gallons per acre. Always read, understand, and follow the label directions. **The herbicide label is the LAW!**

Herbicide	Rate	Application Timing
Triclopyr (Garlon 4, Remedy)	20-30% solution in basal bark oil. The herbicide Pathfinder comes pre-mixed in oil and does not require dilution.	Cut-Stump Treatment: Apply to the cambial layer of the tree immediately after the cut-stump treatment and to roots above soil surface. (Summer to fall) Basal Bark Treatment: Spray till wet but not dripping; the roots above soil surface, root collar, and lower trunk to a height of 12-15 inches above ground (Summer to fall)
Glyphosate* (Rodeo - approved aquatic label)	Undiluted (100% solution) or 50% solution in basil bark oil	Cut-Stump Treatment: Apply to the cambial layer of the tree immediately after the cut-stump treatment and to roots above soil surface. Diluted solutions requires regular agitation. (Summer to fall)
Triclopyr (Garlon 4, Remedy) + Aminopyralid (Milestone)	3 qts. Garlon 4/acre + 7 oz. Milestone/acre + 0.25% v/v non-ionic surfactant	Broadcast foliar treatment: Apply when plants are growing rapidly. (May to September)
Note: *These products are non-selective and will kill any vegetation contacted.		
Additional herbicide recommendations for other species can be found at: **goo.gl/TvWnv9**		

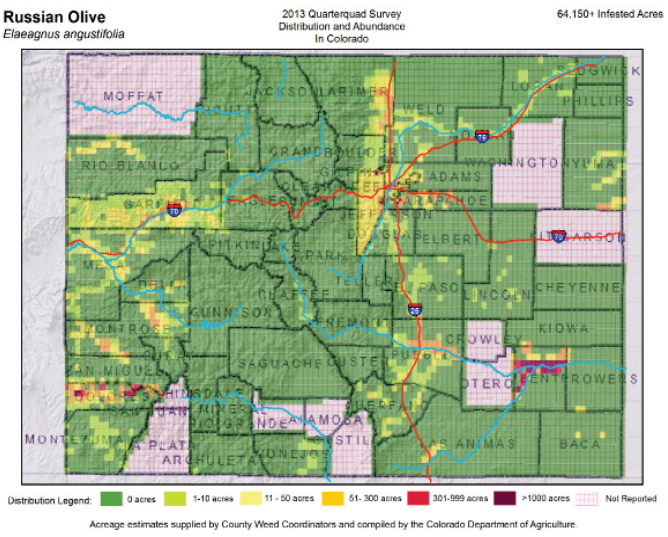
Russian Olive Identification and Management

List B

Russian olive (*Elaeagnus angustifoilia*) is a perennial tree or shrub that is native in Europe and Asia. The plant has olive-shaped fruits, silver color at first then becoming yellow-red when mature. Russian olive can reproduce by seed or root suckers. Seeds are readily spread by birds and can remain viable for up to 3 years. Spring moisture and slightly alkaline soil tend to favor seedling growth. The plant's extensive root system sprouts root suckers frequently. The tree can reach up to 30 feet in height with branches that have 1 to 2 inch thorns. Leaves are 2 to 3 inches long, alternate, narrow, and have simple blades with smooth edges. The leaf's lower surface is silvery white, while the upper surface is light green in color. Flowers are 4 small sepals in light yellow clusters, fragrant, and appear May through June. Fruits mature from September to November. Russian olive twigs are flexible, reddish, and have surfaces coated with gray and scaly pubescence, becoming smooth.

Once thought to be a beneficial windbreak tree, it since has been deemed detrimental to the environment. Russian olive can grow in a variety of soil and moisture conditions, but prefers open, moist, riparian zones. It is shade tolerant and can be found along streams, floodplains, fields and open areas up to approximately 8,000 feet in elevation. Russian-olive can outcompete native plants, interfere with natural plant succession and nutrient cycling, and tax water reserves. Because Russian olive is capable of fixing nitrogen in its roots, it can grow on bare, mineral substrates and dominate riparian vegetation. Although Russian olive provides a plentiful source of edible fruits for birds, ecologists have found that bird species richness is actually higher in riparian areas dominated by native vegetation.

The key to effective control of Russian olive is preventing establishment of the trees or shrubs. If plants are already present, control options include cut-stump treatments and mechanical mowing. These treatments depend on size and location of the plant. Details on the back of this sheet can help you create a management plan compatible with your site ecology.



Russian olive is designated as a "List B" species in the Colorado Noxious Weed Act. It is required to be either eradicated, contained, or suppressed depending on the local infestations. For more information visit www.colorado.gov/ag/weeds and click on the Noxious Weed Management Program. Or call the State Weed Coordinator at the Colorado Department of Agriculture, Conservation Services Division, 303-239-4100.

© Patrick Breen, OSU

© Patrick Breen, OSU

Key ID Points

1. Leaves are silvery white.
2. Branches have 1 to 2 inch thorns.
3. Yellow-red fruits on mature plants.
4. Mature trees have shedding, reddish-brown bark.

Russian olive

Elaeagnus angustifoilia

List B

Integrated Weed Management Recommendations

Integrated weed management offers the most effective combination of control efforts through the "cut stump" treatment. Trees are cut down with a hatchet or chainsaw, then immediately treated with an approved herbicide on the surface of the cut stump. The most effective timing is late summer/early fall for herbicide transfer into the roots.

Russian olive

Elaeagnus angustifolia

© John Randall, TNC

© James Miller, USFS

© Chris Ness, Adams County

© Scott Peterson, USDA

CULTURAL

Replace Russian olives with native trees. Prevent establishment of new trees by removing seedlings and saplings before they mature. Contact your local Natural Resources Conservation Service for recommendations of other possible trees or shrubs.

BIOLOGICAL

Tubercularia canker is an unapproved biocontrol. However, it overwinters on infected stems and spreads via rain-splash, animals, or pruning implements to open wounds in the bark. Infected tissue becomes discolored or sunken. Entire stems may be girdled and killed, and the disease can deform or kill stressed plants over time.

MECHANICAL

Saplings can be pulled with a weed-wrench or cut with brush-cutters. Trees can be girdled or cut with chainsaws. However, stump sprouting commonly occurs after cutting down the tree; and stump excavation without removing all parts of the roots can result in root sprouting. Treating cut-stumps with an herbicide can eliminate sprouting. Stump burning is practical when conditions support a long, hot fire and most effective in summer or early fall. Saplings are most sensitive to mechanical treatment.

CHEMICAL

The table below includes recommendations for herbicides that can be applied to range and pasturelands. Always read, understand, and follow the label directions. The herbicide label is the LAW!

Herbicide	Rate	Application Timing
Triclopyr (Garlon 4, Remedy)	20-30% solution in basal bark oil. The herbicide Pathfinder comes pre-mixed in oil and does not require dilution.	Cut-Stump Treatment: Apply to the cambial layer of the tree immediately after the cut-stump treatment and to roots above soil surface. (Summer to fall; fall treatments showed fewer re-growth) Basal Bark Treatment: Spray till wet but not dripping; the roots above soil surface, root collar, and lower trunk to a height of 12-15 inches above ground (Late summer to fall)
Glyphosate* (Rodeo - approved aquatic label)	Undiluted (100% solution) or 50% solution in basil bark oil	Cut-Stump Treatment: Apply to the cambial layer of the tree immediately after the cut-stump treatment and to roots above soil surface. Diluted solutions requires regular agitation. Treat summer to fall; fall treatments showed fewer re-growth.
Note: *These products are non-selective and will kill any vegetation contacted.		
Additional herbicide recommendations for this and other species can be found at: **goo.gl/TvWnv9**		

Colorado Department of Agriculture - Conservation Services
305 Interlocken Parkway
Broomfield, CO 80021
303-869-9030
www.colorado.gov/ag/weeds

Colorado State University

Updated:
07/2015

COST SUMMARY WORK

Task description: **Cost Summary**

Site: **RBK Pit No. 30** Permit Action: 2021 Insp Permit/Job#: M1990106

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 11/3/2021 County: Pueblo Filename: M106-000
User: JPL

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Spread Reject Stockpile Material	DOZERGRADER	1	4.00	$1,001
002	Rip Permit Area	RIPPER	1	14.33	$3,731
003	SpreadTopsoil 6" over 9.9 acres	DOZER	1	34.22	$8,567
004	Revegetate the Site	REVEGE	1	10.00	$12,483
005	Mob/Demob	MOBILIZE	1	2.29	$3,117
		SUBTOTALS:		**64.84**	**$28,899**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$584
Performance bond:	1.05	Total =	$303
Job superintendent:	30.00	Total =	$2,161
Profit:	10.00	Total =	$2,890
		TOTAL O & P =	$5,938
		CONTRACT AMOUNT (direct + O & P) =	$34,837

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	$500	Total =	$500
Engineering work and/or contract/bid preparation:	4.25	Total =	$1,481
Reclamation management and/or administration:	5.00		$1,742
CONTINGENCY:	0.00	Total =	$0
		TOTAL INDIRECT COST =	$9,660
		TOTAL BOND AMOUNT (direct + indirect) =	**$38,559**

DOZERGRADER WORK

Task description: **Spread Reject Stockpile Material**

Site: **RBK Pit No. 30** Permit Action: 2021 Insp Permit/Job#: M1990106

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 11/3/2021 County: Pueblo Filename: M106-001
User: JPL

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU
Horsepower:
Blade Type:
Attachment: 3-shank ripper
Shift Basis: 1 per day
Data Source:

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$97.46	NA
Operating Cost/Hour:	$97.63	100
Ripper own. Cost/Hour:	$15.19	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $250.32
Total Fleet Cost/Hour: **$250.32**

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $250.32/LCY

Total job time: **4.00** Hours
Total job cost: **$1,001**

BULLDOZER RIPPING WORK

Task description: **Rip Permit Area**

Site: **RBK Pit No. 30** Permit Action: 2021 Insp Permit/Job#: M1990106

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 11/3/2021 County: Pueblo Filename: M106-002
User: JPL

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$97.46	NA
Operating Cost/Hour:	$97.63	100
Ripper Ownership Cost/Hour:	$15.19	NA
Ripper Operating Cost/Hour:	$9.94	100
Operator Cost/Hour:	$40.04	NA
Total Unit Cost/Hour:	$260.26	
Total Fleet Cost/Hour:	**$260.26**	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 9.90 acres Rip Depth (ft): 0.50 Volume: 7,986 BCY or CCY

Source of estimated quantity: Original Permit File Reclamation Plan

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	2.56	feet/pass
Average Ripping Width:	7.08	feet/pass
Average Ripping Length:	700.00	feet/pass
Average Dozer Speed:	88.00	feet/minute
Average Maneuver Time:	0.25	minutes/pass
Production per unit area:	0.832	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.832 Acres/hr

Site Altitude:	4,600	feet
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier

Adjusted Hourly Unit Production: 0.69 Acres/hr
Adjusted Hourly Fleet Production: **0.69** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **14.34** Hours

Unit cost: $376.868 Per acre Total job cost: **$3,731**

BULLDOZER WORK

Task description: **SpreadTopsoil 6" over 9.9 acres**

Site: **RBK Pit No. 30** Permit Action: 2021 Insp Permit/Job#: M1990106

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 11/3/2021 County: Pueblo Filename: 003
User: JPL

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU
Horsepower: 310
Blade Type: Semi-Universal
Attachment: 3-shank ripper
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$97.46	NA
Operating Cost/Hour:	$97.63	100
Ripper own. Cost/Hour:	$15.19	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $250.32
Total Fleet Cost/Hour: **$250.32**

MATERIAL QUANTITIES

Initial Volume: 8,000
Swell factor: 1.000
Loose volume: **8,000** LCY

Source of estimated volume: Reclamation Plan
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 260 feet
Unadjusted hourly production: 357.2 LCY/hr

Materials consistency description: Loose stockpile 1.2

Average push gradient: 0 %
Average site altitude: 4,600 feet

Material weight: 2,100 lbs/LCY

Weight description: Earth - Loam

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)

Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6544

Adjusted unit production: 233.75 LCY/hr

Adjusted fleet production: **233.75** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $1.071/LCY

Total job time: **34.22** Hours
Total job cost: **$8,567**

REVEGETATION WORK

Task description: **Revegetate the Site**

Site: **RBK Pit No. 30** Permit Action: 2021 Insp Permit/Job#: M1990106

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 11/3/2021 County: Pueblo Filename: 004
User: JPL

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			$	$
			Total Fertilizer Materials Cost/Acre	**$0.00**

Application

Description	Cost /Acre
	$
Total Fertilizer Application Cost/Acre	**$0.00**

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	$96.50
Total Tilling Cost/Acre	**$96.50**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.30	11.71	$8.54
Sand Dropseed	0.10	11.94	$0.98
Sideoats Grama - Vaughn	2.70	8.86	$22.61
Yellow Sweet Clover - Madrid	0.70	4.18	$1.98
Western Wheatgrass - Arriba	4.80	12.12	$31.20
Totals Seed Mix	8.60	48.81	**$65.31**

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	$232.00
Total Seed Application Cost/Acre	**$232.00**

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	$307.02	$614.04
Total Mulch Materials Cost/Acre				**$614.04**

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	$71.57
Total Mulch Application Cost/Acre	**$71.57**

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					$
Totals Nursery Stock Cost / Acre					**$0.00**

JOB TIME AND COST

No. of Acres: 9.9
Estimated Failure Rate: 15%
*Selected Replanting Work Items: SEEDING

Cost /Acre: $1,079.42
Cost /Acre*: $297.31

Initial Job Cost: **$10,686.26**
Reseeding Job Cost: **$441.51**
Total Job Cost: **$11,128**
Job Hours: **10.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mob/Demob**

Site: **RBK Pit No. 30** Permit Action: 2021 Insp Permit/Job#: M1990106

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 11/3/2021 County: Pueblo Filename: 005
User: JPL

Agency or organization name: DRMS

EQUIPMENT TRANSPORT RIG COST

Shift basis: 1 per day
Cost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	$21.28	$37.94	$47.67
Operating Cost/Hour:	$26.55	$50.48	$56.21
Operator Cost/Hour:	$20.54	$20.54	$20.54
Helper Cost/Hour:	$0.00	$23.53	$23.53
Total Unit Cost/Hour:	$68.37	$132.49	$147.95

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D8T - 8SU	53.08	$112.65	$147.95	1	$260.60	$147.95	$250.00
Drill/Broadcast Seeder with Tractor	25.00	$7.98	$68.37	2	$152.70	$136.74	$500.00
Power Mulcher (Bowie LD-90)	6.00	$14.98	$68.37	1	$83.35	$68.37	$250.00
Subtotals:					**$496.65**	**$353.06**	**$1,000.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Subtotals:			**$0.00**	**$0.00**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	PUEBLO	
Total one-way travel distance:	4.00	miles
Average Travel Speed:	55.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$3,116.89
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$0.00

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.07	0.07
Return Time (Hours):	0.07	0.07
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.15	0.15

JOB TIME AND COST

Total job time:	**2.29**	Hours
Total job cost:	**$3,117**	