CITY OF COLORADO SPRINGS / CRYSTAL PIT / M 1989116 P1/3

DT STAMP REPORT DATE
FEB 5, 2021

INTRODUCTION

Habitat Management, Inc. (Habitat Management) performed noxious weed management along the highway at Pikes Peak America's Mountain during the 2020 growing season, during which time two herbicide treatment sessions were implemented. Herbicides were applied to identified noxious weed species along sections of the highway: starting at the entrance gate and ending at mile marker 11, including the maintenance facility, the Crystal Reservoir gravel pits, and the eight-mile sediment basin. The noxious weed species treated along the highway during 2020 are included in Table 1: Noxious Weeds Treated in 2020.

Table 1: Noxious Weeds Treated in 2020

Common Name (Scientific Name)	State Listing
Myrtle spurge (*Euphorbia myrsinites*)	A
Orange hawkweed (*Hieracium aurantiacum*)	A
Canada thistle (*Cirsium arvense*)	B
Diffuse knapweed (*Centaurea diffusa*)	B
Musk thistle (*Carduus nutans*)	B
Oxeye daisy (*Leucanthemum vulgare*)	B
Yellow toadflax (*Linaria vulgaris*)	B
Common mullein (*Verbascum thapsus*)	C

PERMITTING AND REGULATIONS

Habitat Management maintains compliance with the Colorado Water Quality Control Act and the Colorado Discharge Permit System (CDPS) for herbicide applications made near waters of the U.S. Habitat Management complies with the applicator responsibilities outlined in the CDPS Pesticide General Permit (PGP) and meets the requirements for record keeping and annual reporting. Habitat Management keeps records of actual linear feet sprayed to aquatic areas as defined by the PGP and keeps the total linear feet on file for annual threshold determination and reporting.

Habitat Management conducted weed control treatments under the state of Colorado Qualified Supervisor Applicator ID #32504 held by Mark Ray. Weed species were treated by technicians trained in plant species identification and pesticide safety.

Under the Endangered Species Act, applicators are required to check monthly for herbicide application restrictions for counties that they operate within prior to commencing applications. There were no herbicide restrictions in place by El Paso County or Teller County at the time of both applications in 2020.

OVERVIEW OF INTEGRATED WEED MANAGEMENT ACTIVITIES

Two treatment sessions were scheduled during the 2020 growing season to target noxious weed species at Pikes Peak America's Mountain. Herbicides were spot applied using a calibrated UTV-mounted spray rig with GPS Dataloggers equipped to track spraying locations. The UTV is calibrated to spot spray herbicide at a rate of 50 Gallons/acre. Backpack sprayers with GPS Dataloggers were used in areas that were not accessible by the UTV. The backpack sprayers are calibrated to apply herbicide at 30 Gallons/acre. Only broadleaf selective herbicides were applied

to disturbed and native areas. Broadleaf selective herbicides have a very low potential for injury to surrounding desirable grass species. Herbicides with different active ingredients (AI) were combined to improve the effectiveness of herbicide activity within the plant. A surfactant was used during all applications to increase leaf adhesion and absorption in dusty or wet conditions. Hi-Light Blue Indicator Dye was added as a visual aid for tracking field applications and serves to prevent under or over application to targeted areas. This dye is inert, temporary, and typically disappears over time. The amount of time this takes is contingent upon on the soil types and environmental conditions following application.

A summary of herbicides applied, active ingredients, and the total number of acres treated is included in Table 2: 2020 Herbicide Applications at Pikes Peak . The first herbicide treatment solution treated a cumulative area of 1 acre, and the second treatment solution treated a cumulative area of 1.5 acres. A total of 2.5 acres was treated during the 2020 growing season. Habitat Management's applications were made along road corridors, rangeland, drainage ways, areas of disturbance, and gravel stockpiles used by the highway. Note, no herbicides were applied directly to water or to noxious weeds submersed in water. Herbicide application records have been provided to the highway upon completion of each treatment session.

Table 2: 2020 Herbicide Applications at Pikes Peak America's Mountain

Herbicides Applied	Application Rate	Species Targetted	Cumulative Areas Treated (acres)
First Treatment Session: 6/29/2020 - 6/30/2020			
Weedar 64	32 fl oz/acre	Canada thistle, Common mullein, Diffuse knapweed, Musk thistle, Myrtle spurge, Oxeye daisy, Yellow toadflax	1
Milestone	6 fl oz/acre		
Induce	12 fl oz/acre		
Hi-Light Blue Dye	12 fl oz/acre		
Second Treatment Session: 8/6/2020 - 8/7/2020			
Freelexx	32 fl oz/acre	Canada thistle, Common mullein, Diffuse knapweed, Musk thistle, Myrtle spurge, Oxeye daisy, Orange hawkweed Yellow toadflax	1.5
Telar XP	1.25 weight oz/acre		
MSO	16 fl oz/acre		
Hi-Light Blue Dye	12 fl oz/acre		
Total Area Treated (acres)			2.5

First Treatment Session

The first 2020 treatment session was implemented on June 29, 2020 and finished on June 30, 2020. The first day of the treatment session encompassed the highway from the front entrance parking lot to Crystal Reservoir. Habitat Management inspected the Crystal Reservoir overlook for bouncingbet; no individuals were identified at this time. Common mullein and diffuse knapweed were the most common noxious weed on the shoulder of the roads. Canada thistle was more prevalent on the downhill side of the road in areas that were more shaded and near the creek that runs adjacent to the road. Yellow toadflax and common mullein were more frequent on the uphill side of the road on the dry, rocky slopes.

The noxious weeds at the Crowe Gulch picnic area were identified and treated. Oxeye daisy was treated in the willows near the parking area. Oxeye daisy was first identified in this area in 2018 and the area continues to be inspected and treated, as necessary. With oxeye daisy only being known to inhabit this area of the highway, it is important to continue treating it to prevent its spread throughout the property. Canada thistle and yellow toadflax were treated in the picnic area.

The maintenance facility and storage yards were inspected, and noxious weeds were mainly treated around the maintenance storage area. With the bus parking in the upper area it is important to continue to inspect this area to ensure that populations do not establish there, and the pedestrians and vehicles could spread the noxious weeds throughout the highway corridor.

The treatment on June 20, 2019 focused on the highway from Crystal Reservoir to the halfway picnic area, gravel pits, and the eight-mile sediment basin. Due to the colder weather in the spring, the number of weeds identified above the starting area for the hill climb was much lower than previous year's treatments. Myrtle spurge was treated in the southern gravel pit at its historical location.

Second Treatment Session

The second treatment session of the 2020 growing season, was implemented on August 6, 2020, and ended on August 7, 2020. On August 6, 2020 treatments covered the highway from Crystal Reservoir to mile marker 11, including the 8-mile sediment basin. Habitat Management planned to stop treatments at the halfway picnic ground, a Pikes Peak ranger requested the weed spraying crew to inspect for noxious weeds higher up the road. Yellow toadflax and Canada thistle were treated from the halfway picnic area to mile marker 11.

Eight-mile sediment basin was inspected, and orange hawkweed was identified and treated in its historical location. The population size of the orange hawkweed and the other noxious weeds that have been identified in the sediment basin has shown a regression in the density of the population.

The tree cleared area, that was first treated in 2018 was inspected and noxious weeds were treated, as necessary. The noxious weed density of the regular treatment area has decreased, and native vegetation is beginning to establish. With this area showing less noxious weeds Habitat Management was able to treat farther down the hill than in previous growing seasons.

The treatment on August 7, 2020 covered the highway from the front gate to Crystal Reservoir, the maintenance area, and the gravel pits. The bouncingbet population located at the Crystal Reservoir overlook was inspected, and no herbicide treatments were necessary. A small population of oxeye daisy was identified and treated in the willows at Crowe Gulch. The oxeye daisy was flowered at the time of treatment. This makes it easier to identify and allows the applicator to spray the plants before they have gone to seed. Lower elevation parts of the highway were inspected and treated for diffuse knapweed and common mullein. Both noxious weeds were in their flowering stage of growth with a few plants in the rosette stage.

The Crystal Reservoir gravel pits were inspected, and noxious weeds were treated when identified. A small population of mayweed chamomile was identified in the gravel pits in 2019. This same area was inspected, and no mayweed chamomile individuals were identified in 2020. The myrtle spurge population was inspected and any individuals that survived the first treatment or have sprouted since the first treatment were identified and treated.

DATA ANALYSIS

Habitat Management was able to record the species of the noxious weeds that were identified and treated with herbicide along the highway. Figure 1: Species Composition illustrates the