



STATE OF
COLORADO

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Larimer County - Weed Control Activities - 2020

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Wed, Jan 20, 2021 at 9:26 AM

Hi Amy,

Attached for you files is the 2020 Larimer County Weed Control Activity Report for the Boettcher Limestone Quarry -
DRMS Permit #M1977-348
Boettcher Gypsum Quarry - DRMS Permit #1977-346
Slab Canyon Quarry - DRMS Permit #1977-347

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2020 Summary Report-Vegetation Management on HOLCIM (US) Inc. Quarries in Larimer County, Colorado

January 19, 2021

Prepared by Bill Pawleshyn

Summary: Larimer County staff conducted vegetation assessments and noxious weed management on Holcim (US) Inc. quarries in Larimer County. Our primary focus are 3 quarries, Slab Canyon quarry, Goodwin Gypsum quarry, and Boettcher Limestone quarry. Statewide droughts played a significant role in our management goals for 2020 and our treatments at the optimal time were delayed due to weather and plant maturity. While state listed noxious weeds persist on-site results of our treatments will not be able to be determined until we get crews on the ground in 2021. Below is a site-specific summary, pictures, and a breakdown of methods of control used throughout the season.

Inventory: Currently, the site(s) are a mix of troublesome annual forbs, noxious weeds, invasive exotic annual grasses, desirable perennial grass species and forbs. Below is a list of all state listed noxious weeds present on the sites but may not be present at all sites.

Canada thistle (*Cirsium arvense*)
Musk thistle (*Carduus nutans*)
Scotch thistle (*Onopordum acanthium*)
Bull thistle (*Cirsium vulgare*)
Leafy spurge (*Euphorbia esula*)
Dalmatian toadflax (*Linaria dalmatica*)
Common mullein (*Verbascum thapsus*)
Russian knapweed (*Acroptilon repens*)
Diffuse knapweed (*Centaurea diffusa*)
Houndstongue (*Cynoglossum officinale*)
Downy brome (Cheatgrass) (*Bromus tectorum*)
Chicory (*Cichorium intybus*)

Boettcher Limestone Quarry

- Primary focus throughout season and where greatest populations of state listed noxious weeds persist.
- L. spurge, C. thistle, M. thistle, C. mullein and D. toadflax dominant species.
- Secondary infestations consist of B. thistle, S. thistle, Chicory and D. knapweed and Cheatgrass.
- E. side of property primary infestations consisting of D. toadflax, C. thistle and C. mullein.
- E. side of property showing favorable control from previous treatments but fluctuates based on season.
- W. side of property primary infestations consisting of L. spurge, M. thistle, C. mullein, C. thistle, S. thistle.
- W. side of property prioritized over past 3 years due to proximity to adjacent private lands, more diversity of noxious weed species in greater populations and infestations.



- Aggressive treatments on west of property producing favorable results in some areas, while other areas still causing issues.
- S. thistle plant of concern
- 2 pits adjacent to the road infested with L. spurge along slope. Backpack application is only way to access pits but showing decrease in population size over past 3 years.
- Treatments performed in Spring, summer and fall follow up.
- 31.75 acres treat on property in 2020.
- Recommend continued treatments of property to assure optimal control.

Goodwin Gypsum Quarry

- 2018 first year requested we manage noxious weeds on this parcel.
- C. thistle, M. thistle, C. mullein, houndstongue and D. toadflax primary species
- Control very favorable
- L. spurge species of concern observed growing at secondary test site uphill from main quarry.
- Control fair to favorable
- Cheatgrass priority at revegetation on test drill site uphill. Roughly 50% cheatgrass in reveg area
- Treated Cheatgrass in reveg. site in October 2019 to minimize impact to surround plant community.
- Treated in Summer and follow up in Fall 2020.
- Re-treating with Rejuvra in 2021
- 2.1 acres treated in 2020.
- Recommend monitoring and treating accordingly each fall.
- Recommend continued treatments of property to assure optimal control.

Slab Canyon Quarry

- 2018 first year requested we manage noxious weeds on this parcel.
- C. thistle, M. thistle, C. mullein, R. knapweed and D. toadflax dominant species
- R. knapweed species of concern along roadside and bottom section of pit
- Control favorable.
- Treated in Summer.
- 3 acres treated in 2020.
- Recommend continued treatments of property to assure optimal control.

Based on our #'s from this year, compared to last, we have seen a slight increase in the overall number of acres we treated on Holcim properties, but this was to be expected. With the inaccessibility issues in 2019 at the Boettcher quarry area that was fenced off for grazing and the high moisture year, we assumed we would temporarily lose some ground. But I believe our aggressive approach we have taken these past few years, the use of only the most effective herbicides, and the newest management practices should allow us to continue bringing the infestation densities back to manageable levels. I still recommend continued monitoring of the quarries in 2021 and treating the re-growth accordingly due to "hot spots" we still have concerns with on all 3 quarries.

I have also attached a summary of the total hours our crew worked on the properties broken down into equipment, as well as total acres treated, and herbicide(s) used. Several pictures of the site are attached below, but if it is necessary to see more, please do not hesitate to ask and I can email more.

Summary Breakdown:

Total Technician hours: 177 hrs.
ATV application hours: 45 hrs.
John deer Gator + 50' hose reel: 67 hrs.
General Labor (loppers, stump treatments): 0 hrs.
Backpack applicator hours: 15 hrs.

Herbicide Usage:

Quinstar: 921.25 total ounces
Telar: 36.85 total ounces
Milestone: 257.95 total ounces
MSO (Methylated Seed Oil adjuvant): 589.60 total ounces
Compadre (drift deposition): 26 total ounces

Total acres treated during the 2020 spray season: 36.85 acres.
(20.38 acres in 2019)



Leafy spurge Boettcher quarry-berms



Scotch thistle-Boettcher quarry-west side



Upper Test drill site-Goodwin Gypsum-Cheatgrass and Leafy spurge