



STAFF REPORT

Report To: Open Space Advisory Committee and Parks and Recreation Commission

Meeting Date: June 17, 2019

Staff Contact: Lyndsey Boyer, Senior Natural Resource Specialist

Agenda Title: For Discussion Only: Presentation by the Carson City Weed Coalition.

Staff Summary: Led by Carson City, the Carson City Weed Coalition (CCWC) includes representatives from private landowners to various public land management agencies. The overall goal of the CCWC is to provide outreach and education to the public, as well as assistance with weed management efforts throughout the City. The purpose of this presentation is to provide an update to the Open Space Advisory Committee and the Parks and Recreation Commission regarding the CCWC and these efforts.

Agenda Action: Other/Presentation

Time Requested: 10 minutes

In March of 2018, Marena Disbro became the Coordinator for the Carson City Weed Coalition. In the fourteen months since then, the Coalition has made numerous enhancements in terms of surveyed acres, outreach to the public, and the creation of a programmatic management plan.

During the 2018 treatment season, the Carson City Weed Coalition surveyed and implemented treatment on over 750 acres of public and privately owned land in addition to enhancing public awareness of noxious and invasive weeds through outreach and educational events. The Coalition also implemented an exciting biological control experiment targeting the noxious weed Canada thistle using a rust fungus known as *Puccinia punctiformis*. This method of control will contribute to the Carson City Weed Coalition's Integrated Pest Management strategy in which multiple methods of control are used to treat noxious weeds for best results.

In 2019, with assistance from the Open Space Division's Natural Resource Management Intern, the CCWC expects to enhance survey efforts for Category A noxious weeds (Eurasian watermilfoil, for example) that are of the highest priority for the Nevada Department of Agriculture. The CCWC will also implement a two-step approach for weed abatements involving a combination of mechanical and chemical treatments where appropriate for enhanced results.

The part-time position is primarily funded through a grant awarded by the Carson Water Subconservancy District, but it is also partially funded by the Open Space Division. Project-specific grant funding is currently awarded through the National Fish and Wildlife Foundation.



2018 & 2019 UPDATES

Lyndsey Boyer
Acting Carson City Weed Coalition Coordinator

Who is the CCWC?

- Comprised of federal, state, and local agencies, along with private citizens and landowners, all concerned with the spread of noxious and invasive weeds in Carson City, and the Carson River Watershed.



Topics:

- Why is noxious weed control important?
- 2018/2019 treatments
- 2018/2019 outreach
- Ongoing projects



Why is noxious weed control important?

Noxious weeds result in:

- Less profit for agriculture industries
- Reductions in native habitat
- Biodiversity of native vegetation loss
- Alterations of hydrological conditions
- Increased fire frequency/intensity



2018 Treatments

- Ambrose Carson River Natural Area
- Carson City Fairgrounds
- East Silver Saddle Ranch
- Fulstone Wetlands
- Horsecreek Ranch
- JohnD Winters Centennial Park
- Linear Ditch Trail
- Mexican Dam Open Space
- Morgan Mill Preserve Open Space
- Old Buzzy's Ranch
- Riverview Park
- Vidler – donated property



**CCWC has surveyed
and implemented
treatment on nearly
750 acres**

Biological Control Experiment

- Targeting Canada thistle with a rust fungus called *Puccinia punctiformis*



2019 Treatments

- Phenologically appropriate treatments
- Two-step approach for enhanced effectiveness
 - ▣ Mechanical + chemical



2018 Outreach



- Carson High School lesson
- Farm Days
- Carson River Workday
- Two guided hikes
- Washoe Tribe Earth Day
- Arbor Day
- Library display
- Newspaper article
- Two community thistle digs
- Community Weeds Workshop
- Bring Your Own Noxious Weeds event
- Progressive Agriculture Safety Day
- House calls



2019 Outreach

- Capitol City Farm Days
- Two Carson River Workdays
- Library display
- Two community noxious weed removal events

UPCOMING:

- Progressive Agriculture Safety Day
- House calls

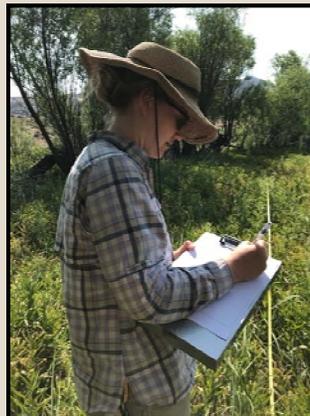


Educational / Outreach Materials Development

<p>NOXIOUS WEED WRANGLERS</p> <p>Created by the Carson City Weed Coalition and Carson City Parks, Recreation & Open Space</p> <p>What are weeds?</p> <p>We control but without plants humans may make the oxygen we breathe and food we eat. But some plants can cause problems.</p> <p>A plant is called a "weed" when it grows where it is not wanted. There are three groups of weeds.</p> <p>Native weeds can be useful or medicinal and may be beautiful but aren't harmful.</p> <p>Invasive weeds are non-native and are very harmful to the environment but very difficult to control.</p> <p>Noxious weeds can be native or non-native and are very harmful to humans, animals, or the environment. Noxious weeds can harm to health and must be removed by all landowners. Infestations of noxious weeds make it hard for farmers to grow food, for native plants to survive, and for wildlife to find food and shelter. Noxious weeds can also hurt our natural resources like lakes and rivers.</p> <p>Use the broom to sweep them to spot noxious weeds and help to not spread them to new areas!</p>	<p>Puncturevine</p> <p>Puncturevine, <i>Tribulus terrestris</i>, grows only on the ground with green leaves, brown stems, and yellow flowers. The seeds, not named "spine heads" are very prickly and hurt when you step on them.</p> <p>How do they spread?</p> <p>Wind Wind can pick up seeds and move them to a new area.</p> <p>Animals Seeds can grow inside fruits, which animals eat and are transported in animal waste. Seeds also get stuck to animal fur.</p> <p>Water Seeds and roots can fall into water and drift down stream to a new area.</p> <p>Stitchhills Some seeds have hooks or barbs on them. They can hang onto socks, shoes, bike tires, and animal fur.</p> <p>How can you stop stitchhills?</p>	<p>During an inspection in your area, it was noted that there are noxious weeds growing on your property. Carson City Municipal Code 8.08.060 & 8.08.070 and Nevada Revised Statutes 555.150 require that land owners treat noxious weeds on their property.</p> <p>Noxious weeds outcompete desirable plants and infest pastures, croplands, and wildlife habitat. Controlling weeds is crucial to the health of these systems.</p> <p>Please refer inside for information on the noxious weeds present on your property.</p>	<p>Noxious weed profile:</p> <p>Yellow Starthistle (<i>Arenaria solstitialis</i>)</p> <p>Yellow starthistle is a Class A noxious weed in Nevada and is highly toxic to horses.</p> <p>Noxious weeds are extremely detrimental to ecosystems, we treasure and can be harmful to humans and animals.</p> <p>Carson City Municipal Code 8.08.060 & 8.08.070 and Nevada Revised Statutes 555.150 require that land owners treat noxious weeds on their property.</p> <p>Refer inside for information on yellow starthistle and what YOU can do to help prevent it's spread.</p>	<p>Noxious weed profile:</p> <p>Puncturevine (<i>Tribulus terrestris</i>)</p> <p>Puncturevine, commonly referred to as "spineheads", is a class C noxious weed. This plant is notorious for popping bicycle tires and getting stuck in shoes and paws.</p> <p>Noxious weeds are extremely detrimental to ecosystems we treasure and can be harmful to humans and animals.</p> <p>Carson City Municipal Code 8.08.060 & 8.08.070 and Nevada Revised Statutes 555.150 require that land owners treat noxious weeds on their property.</p> <p>Refer inside for information on puncturevine and what YOU can do to help prevent it's spread.</p>
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Ongoing Projects

- Fall treatments
- Restoration of treated sites
- Continued surveying efforts
- Outreach to landowners
- Noxious weed management plan
- Community workshops
- Grant applications



Collaboration is key

- Treating invasive and noxious weeds is a group effort!



Questions?

Thank you!



Lyndsey Boyer
Senior Natural Resource Specialist
3303 Butti Way Bldg. #9
Carson City, NV 89701
775-283-7035



Carson City Weed Coalition 2018 Annual Report

The Carson City Weed Coalition (CCWC) consists of federal, state, and local agencies, along with private citizens and landowners, all concerned with the introduction and spread of noxious and invasive weeds in the Carson River Watershed.

2018 was a busy and exciting year for the Carson City Weed Coalition! In March we welcomed Mareanna Disbro as the new Coordinator. Mareanna, along with Lyndsey Boyer the Senior Natural Resource Specialist for the Carson City Parks, Recreation & Open Space Department, manage and coordinate the Carson City Weed Coalition.

This report will include information on the following:

- Acknowledgements
- Grant Funding
- Weed Abatement Treatments
- Outreach Events
- Development of Education / Outreach Materials
- 2019 Outlook



Left: Lyndsey Boyer, Right: Mareanna Disbro

Acknowledgements

The Carson City Weed Coalition would like to thank the following organizations and individuals for their continued support and assistance: Carson City Parks, Recreation, & Open Space Department; Carson Water Subconservancy District; Nevada Department of Agriculture; River Wranglers; Dayton Valley Conservation District; Washoe Tribe of Nevada and California; University of Nevada Cooperative Extension, and private landowners for their cooperation in following noxious weed law.

Grant Funding

Summary: The Carson City Weed Coalition is largely supported through grant funding. With this assistance, the Coalition is able to fund the program, a part-time Coordinator position, weed abatement treatments on both public and private land and develop community education materials and events. The Coordinator position is funded with monies from the Carson Water Subconservancy District. Securing grant funding is critical to accomplishing our goals.

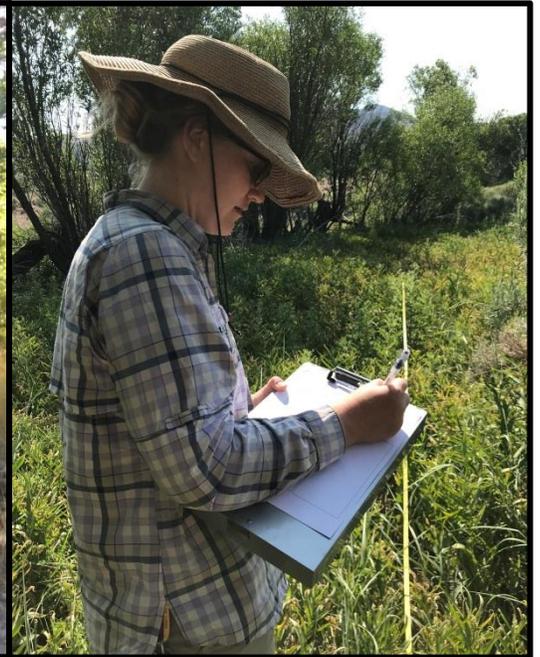
2018 Grant Funding			
Grantor	Grant Award	Allocation	Period
Carson Water Subconservancy District	\$15,000	Carson City Weed Coalition Coordinator position; education & outreach materials	2018-2019
National Fish and Wildlife Foundation	\$10,200	Weed abatement, education & outreach materials	2017-2019
Nevada Department of Agriculture – Yellow Starthistle Grant	\$4,500	Weed abatement, education & outreach materials	2018

Weed Abatement Treatments

Summary: The Coalition surveyed nearly 750 acres of public and private property in Carson City and treated approximately 25 total acres. We would especially like to thank our partnerships with Carson City Parks, Recreation & Open Space Department, Dayton Valley Conservation District, and Hughes Weed Control for their assistance with weed abatement treatments.

Volunteer abatement activities included hand-pulling bull thistle at Horsecreek Ranch in collaboration with the non-profit Muscle Powered. We also collaborated with the Nevada Department of Agriculture to hand-pull Eurasian watermilfoil from the Mexican Ditch at Silver Saddle Ranch. Volunteers are a critical component to the weed abatement work we do. We look forward to similar activities in 2019.

2018 Weed Abatement Treatments				
Site	Funding Source	Species	Method	Treatment Acres
Quill Canyon	NDA – YST	Russian knapweed, Canada thistle, bull thistle	Herbicide application	0.46
Lompa & Fulstone Wetlands	NDA – YST	Yellow starthistle, perennial pepperweed, Canada thistle	Hand-pulling, herbicide application	3.67
Ambrose Carson River Natural Area	NDA – YST	Perennial pepperweed, hoary cress	Herbicide application	2.29
“Vidler” Open Space	NDA – YST & CWSD	Perennial pepperweed, hoary cress, poison hemlock, Canada thistle, bull thistle	Herbicide application	0.92
Riverview Park	NDA – YST & CWSD	Yellow starthistle, perennial pepperweed, hoary cress, poison hemlock, Canada thistle, bull thistle	Hand-pulling & herbicide application	1.84
Morgan Mill Preserve Open Space	CWSD & Open Space Dept.	Perennial pepperweed, hoary cress, poison hemlock, Canada thistle, bull thistle	Herbicide application	1.7
Private Property near Hells Bells Rd.	NFWF; cost-share	Perennial pepperweed, hoary cress, poison hemlock, bull thistle	Herbicide application	10
E. 5 th St. Trailhead	Open Space Dept.	Perennial pepperweed, hoary cress	Herbicide application	0.07
Centennial Park	Open Space Dept.	Perennial pepperweed	Herbicide application	0.69
East Silver Saddle Ranch	Open Space Dept.	Hoary cress, Canada thistle	Herbicide application	0.28
Fuji Park	CWSD	Poison hemlock, bull thistle	Hand-pulling	0.4
Moffat Open Space	CWSD & Open Space Dept.	Poison hemlock, bull thistle	Hand-pulling	0.2
Horsecreek Ranch	CWSD & Open Space Dept.	Bull thistle	Hand-pulling	2.0
Old Buzzy’s Ranch	CWSD & Open Space Dept.	Bull thistle	Hand-pulling	0.6
Mexican Ditch	CWSD, Open Space Dept., Nevada Department of Agriculture	Eurasian watermilfoil	Hand-pulling	0.1
				Total: 25.22



Top left: Members from the CCWC and the NDA prepping for hand-pulling Eurasian watermilfoil; top right: Marena Disbro recording noxious weed data; middle left: members from the CCWC and the NDA hand-pulling Eurasian watermilfoil; middle right: dug-up bull thistle at Horsecreek Ranch; bottom left: volunteers from Muscle Powered carrying bags full of bull-thistle at Horsecreek Ranch; bottom right: summer intern, Joey, and CCWC mascot, Braun, assisting with hand-pulling bull thistle.

Biological Control Experiment

Summary: In collaboration with the Nevada and Colorado Departments of Agriculture, the CCWC began working with a rust fungus (*Puccinia punctiformis*) to target the noxious weed Canada thistle. Once established, the fungus prevents successful reproduction and spread of the plant and will hopefully result in declines in the population size. This rust fungus naturally evolved with Canada thistle in Europe and has been extensively tested by the Colorado Department of Agriculture to make sure that this particular fungus cannot infect other plant species. Once introduced into a population of Canada thistle plants, the fungus should reproduce and spread to other surrounding Canada thistles.

The CCWC has two sites for this biological control experiment, 1) Morgan Mill Preserve Open Space and 2) Mexican Dam Open Space. Each site is relatively small and will not hinder recreation or wildlife. The fungus was introduced to both sites in October and November and will be monitored annually. It can take several years to see positive results, so continued monitoring in subsequent years will allow us to decide if the treatment was effective. The CCWC hopes to include Carson City students with monitoring in future years.



Top: Canada thistle at Morgan Mill Preserve & Open Space; bottom: Chelsea Kincheloe, Parks and Recreation Volunteer Coordinator assisting with fungus introduction; right: Mareanna Disbro introducing the rust fungus to a young Canada thistle plant.

Outreach

Summary: Getting the word out about invasive and noxious plants is an essential component for the Carson City Weed Coalition. An aware and engaged community is crucial for helping us accomplish our primary goals of early detection of noxious weeds and rapid response in terms of removal or treatment of those plants. The Coalition strives to reach the broadest array of audiences through various events and media developments ranging from formal talks and educational videos to tabling events at community venues. We are especially proud of the outreach we have done this year and look forward to getting more involved with the community in 2019!

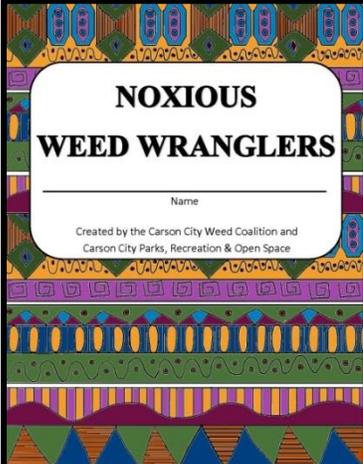
2018 Outreach Events			
Date	Name / Location	Type	Topics / Summary
April 18	Carson High School	Presentation	Introduction, spread, and management of nuisance, invasive, and noxious plants
April 19 & 20	Carson City Farm Days	Table	Introduction, spread, and management of nuisance, invasive, and noxious plants
April 28	Weeds Walk at Riverview Park	Community Walk	Noxious plant ID and management principles
May 12	Washoe Tribe Earth Day	Table	Introduction, spread, and management of nuisance, invasive, and noxious plants
Month of June	Carson City Library	Display	Invasive Species Awareness Month displaying invasive plants and CCWC info
June 5	Nevada Appeal	Article	"Carson City starts weed abatement"
June 8	CCWC	Video	"Public service announcement: Poison Hemlock"
June 9	Thistle Pull at Horsecreek Ranch	Volunteer Event	In collaboration with non-profit Muscle Powered and several volunteers, pulled nearly 20 garbage bags full of bull thistle
June 14	Weeds Walk at Morgan Mill Preserve Open Space	Community Walk	Noxious plant ID and management principles
June 19	Noxious Weeds Community Workshop	Presentation	Introduction, spread, and management of nuisance, invasive, and noxious plants as well as ID
June 25	Bring Your Own Noxious Weeds at Shoetree Brewing Co.	Community Education	Members from the community visited with the CCWC and talked about unknown plants
June 29	Safety Day	Table	Plant ID, poisonous plants, safe pesticide use
August 22	CCWC	Video	"What is the Carson City Weed Coalition?"
August 24	CCWC	Video	"What is a noxious weed?"
August 25	CCWC	Video	"How do you get rid of noxious weeds?"
August 27	CCWC	Video	"What can you do to prevent the spread of noxious weeds?"
September 6	Board of Supervisors Update	Presentation	Invasive plant impact in Carson City and activities of the CCWC
October 10	Nevada Appeal	Article	"Weed Eaters"
October 12	CWSD: Get on the Bus Tour	Informal Talk	Invasive plants in and around the Carson River Watershed
October 16	CCWC	Video	"Bio-control of noxious weed Canada thistle"
<i>Pending publication</i>	KNVC Radio	Interview	CCWC and noxious weed info



Top left: Muscle Powered volunteers at the Thistle Dig at Horsecreek Ranch; top right: Marena with a community member at the Bring Your Own Noxious Weeds community education event at Shoetree Brewing Co.; bottom left: Weeds Walk at Morgan Mill Preserve Open Space; bottom right: table set-up at Safety Day.

Education / Outreach Materials Development

Summary: This year the Coalition created numerous educational materials to support our outreach efforts. In collaboration with the Parks, Recreation & Open Space Department we created a coloring and activity book called “Noxious Weed Wranglers” that we hope will encourage children to learn about invasive plants. We have also created Noxious Weed Profile pamphlets containing detailed information on individual noxious weeds. Look for these pamphlets around Carson City in 2019! One of our proudest accomplishments of 2018 was enhancing our collaboration with Carson City Code Enforcement to ensure that private property owners comply with noxious weed law. The Coalition created door hangers that will be given out with Code Enforcement citations listing the noxious weeds found on the property in question.



**NOXIOUS
WEED WRANGLERS**

Name _____

Created by the Carson City Weed Coalition and
Carson City Parks, Recreation & Open Space

What are weeds?

We cannot live without plants because they make the oxygen we breathe and food we eat. But some plants can cause problems.

A plant is called a “weed” when it grows where it is not wanted. There are three groups of weeds.

Nuisance weeds can be native or non-native and may be frustrating but aren’t harmful.

Invasive weeds are non-native and are very harmful to the environment but very difficult to control.

Noxious weeds can be native or non-native and are very harmful to humans, animals, or the environment. Noxious weeds are listed in Nevada law and must be removed by *all* landowners. Infestations of noxious weeds make it hard for farmers to grow food, for native plants to survive, and for wildlife to find food and shelter. Noxious weeds can also hurt our natural waterways like lakes and rivers.

Use this booklet to learn how to spot noxious weeds and help to not spread them to new areas!

How do they spread?

Wind
Wind can pick up seeds and move them to a new area.

Animals
Seeds can grow inside fruits, which animals eat and are transported in animal poop. Seeds also get stuck to animal fur.

Water
Seeds and roots can fall into water and drift down-stream to a new area.

Hitchhike
Some seeds have stickers or barbs on them. They can hang onto socks, shoes, bike or car tires, and animal hair.

How can you stop hitchhikers?



Noxious weed profile:

Yellow Starthistle

(*Centaurea solstitialis*)



Yellow starthistle is a **Class A noxious weed** in Nevada and is highly toxic to horses.

Noxious weeds are extremely detrimental to ecosystems we treasure and can be harmful to humans and animals.

Carson City Municipal Code 8.08.060 & 8.08.070 and Nevada Revised Statutes 555.150 require that land owners treat noxious weeds on their property.

Refer inside for information on yellow starthistle and what **YOU** can do to help prevent it’s spread.



Noxious weed profile:

Puncturevine

(*Tribulus terrestris*)

Puncturevine, commonly referred to as “goatheads,” is a **class C noxious weed**. This plant is notorious for popping bicycle tires and getting stuck in shoes and paws.

Noxious weeds are extremely detrimental to ecosystems we treasure and can be harmful to humans and animals.

Carson City Municipal Code 8.08.060 & 8.08.070 and Nevada Revised Statutes 555.150 require that land owners treat noxious weeds on their property.

Refer inside for information on puncturevine and what **YOU** can do to help prevent it’s spread.



**CARSON CITY
Weed Coalition**

During an inspection in your area, it was noted that there are noxious weeds growing on your property. **Carson City Municipal Code 8.08.060 & 8.08.070 and Nevada Revised Statutes 555.150** require that land owners treat noxious weeds on their property.



Noxious weeds outcompete desirable plants and infest pastures, croplands, and wildlife habitat. Controlling weeds is crucial to the health of these systems.

Please refer inside for information on the noxious weeds present on your property.

Top: Noxious Weed Warriors booklet front cover, page 6, and page 7; bottom left: Noxious Weed Door Hanger front flap; bottom middle: yellow starthistle pamphlet; bottom right: puncturevine pamphlet.

2019 Outlook

Summary: The Carson City Weed Coalition looks forward to conducting the aforementioned activities in 2019 as well as completing several other projects.

- Developing a Carson City Weed Coalition Management Plan including but not limited to detailed site prescriptions, pertinent noxious weed phenological information, methods for enhanced collaboration with City-wide partnerships, and an Integrated Pest Management Strategy.
- Curriculum development in accordance with Nevada Academic Content Standards for Science.
- Continued Early Detection & Rapid Response (EDRR) of Category A noxious weeds.

1. Yellow starthistle (YST)

YST has been identified and removed at a few locations in Carson City and we plan on continuing to thoroughly survey, map, and treat all newly identified populations in 2019.



2. Eurasian watermilfoil (EWMF)

EWMF has been found in the Carson River and the Mexican Ditch. In 2018 we attempted to hand-pull the plant from the Mexican Ditch, which proved to be quite cumbersome! We are currently searching for treatment funding so that we can thoroughly and extensively remove this plant in 2019 before it consumes these and other connected waterways.



Contact

This annual report was compiled by Marena Disbro and Lyndsey Boyer. If you are interested in obtaining more information about the Carson City Weed Coalition or would like to get more involved, please contact us at the information below. Thank you!



Marena Disbro
3303 Butti Way Bldg. #9
Carson City, NV 89701
MDisbro@carson.org
775-283-7035
Facebook: CCWeeds



Lyndsey Boyer
3303 Butti Way Bldg. #9
Carson City, NV 89701
LBoyer@carson.org
775-283-7341
Facebook: Carson City Parks,
Recreation, & Open Space Dept.