



Early Detection in UCBN Parks

A Crucial Benefit of UCBN Monitoring in Your Parks

**Presented by Melissa Nicolli
& Jeff Lonneker**

National Park Service Upper Columbia Basin Network



While UCBN crews are doing field work in parks, they often monitor places that park staff don't always see. This boots on the ground approach allows for rapid detection of new and important discoveries!



Invasive species detection

- Most common early detection is of non-native plant species
- UCBN perform incidental weed observation while monitoring
- Observation form in Survey 123
- Previous method of taking GPS point for individual or central area of infestation & sending to park staff



UCBN Incidental Noxious Weed Observation Form

Survey Date *

Thursday, October 29, 2020

Observer Name *

Stevie Nicks

Park *

Which park was the observation in?

Nez Perce

Location of observation *

If your device is GPS enabled it will capture the location automatically, if not please use the map to pin point the infestation. Or, open the map and double-tap on the lat/long to manually enter values.

46.530°N 117.195°W



Species observed *

Select the species you have observed.

Dalmatian Toadflax



☐ Cheatgrass



☐ Common Tansy



☒ Dalmatian Toadflax

Estimate extent of infestation

Extent Selection *



Noxious weed observation form



UCBN Invasive Weed Observations

For more information contact jeff_lonneker@nps.gov

About

- From the Attribute Table at the bottom, select the 'Options' dropdown menu and 'Export all to CSV'. This will export the data you have filtered to a CSV file on your local machine.

Options Filter by map extent

Show selected records

Show related records

Filter

Show/Hide columns

Export all to CSV

Filter

UCBN Incidental Noxious Weed Observation Form

Park Filter

Select your park

John Day

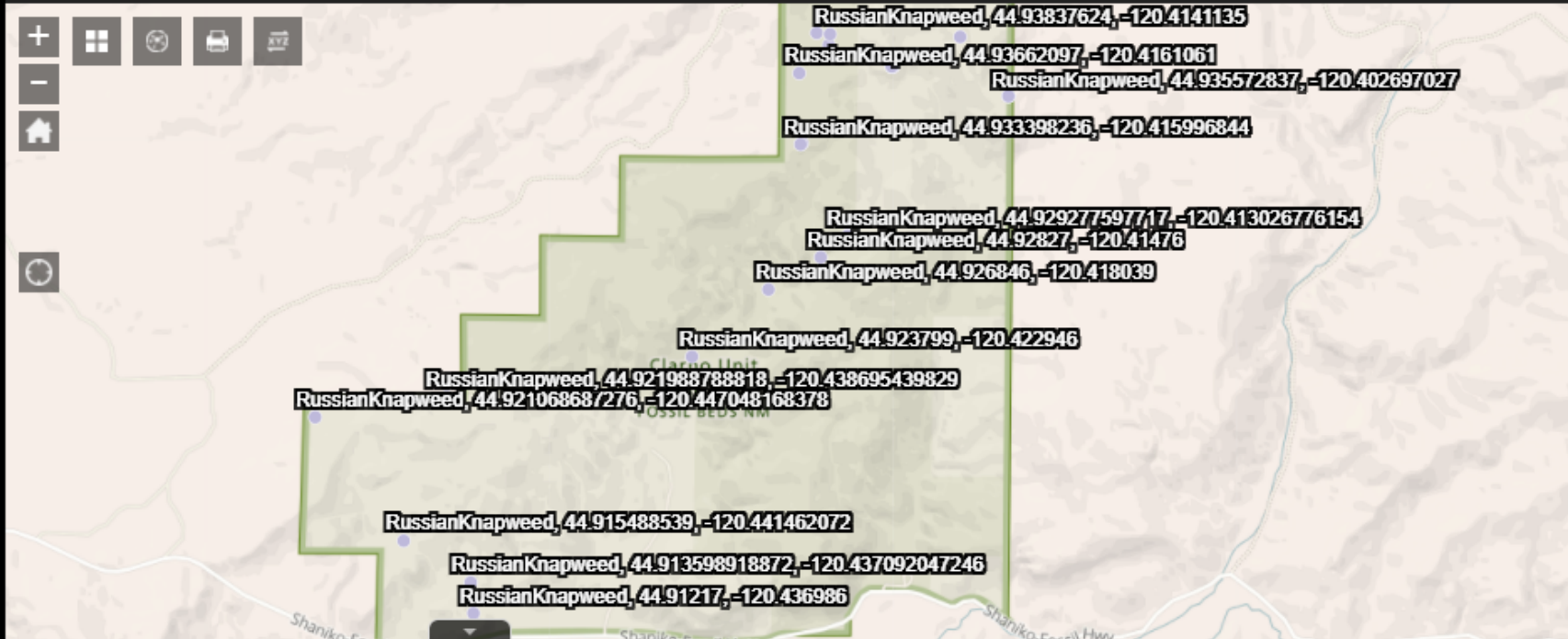
Species observed is

Russian Knapweed

UCBN Incidental Noxious Weed Observation Form

Options Filter by map extent Zoom to Clear selection Refresh

Survey Date	Observer Name	Park	Name of other park	Species observed	dbl_Latitude	dbl_Longitude	dbl_HorAccMeter	Extent Selection	Flowering	Seeds	Are there access issues to the site?	Is there water near the infestation?	How far away is the water from the infestation (in meters)?	Briefly describe the type of water near the infestation.	Add notes or comments	Ob Type
6/1/2014	Devin Stucki	John Day		Russian Knapweed	44.928270	-120.414760		50 to 200	No	No	No	No			2 m x 2 m	
6/8/2020	Devin Stucki	John Day		Russian Knapweed	44.922690	-120.411840		More than 200	No	No	No	No			5 m x 10 m	
6/1/2014	Devin Stucki	John Day		Russian Knapweed	44.936940	-120.410110		More than 200	No	No	No	No			5 m x 12 m	
6/1/2014	Devin Stucki	John Day		Russian Knapweed	44.935600	-120.402690		More than 200	No	No	No	No			7 m x 7 m	
6/1/2014	Devin Stucki	John Day		Russian	44.938242	-120.405818	0.00	More than 200	No	No	No	No			8 m x 15 m	





National Park Service

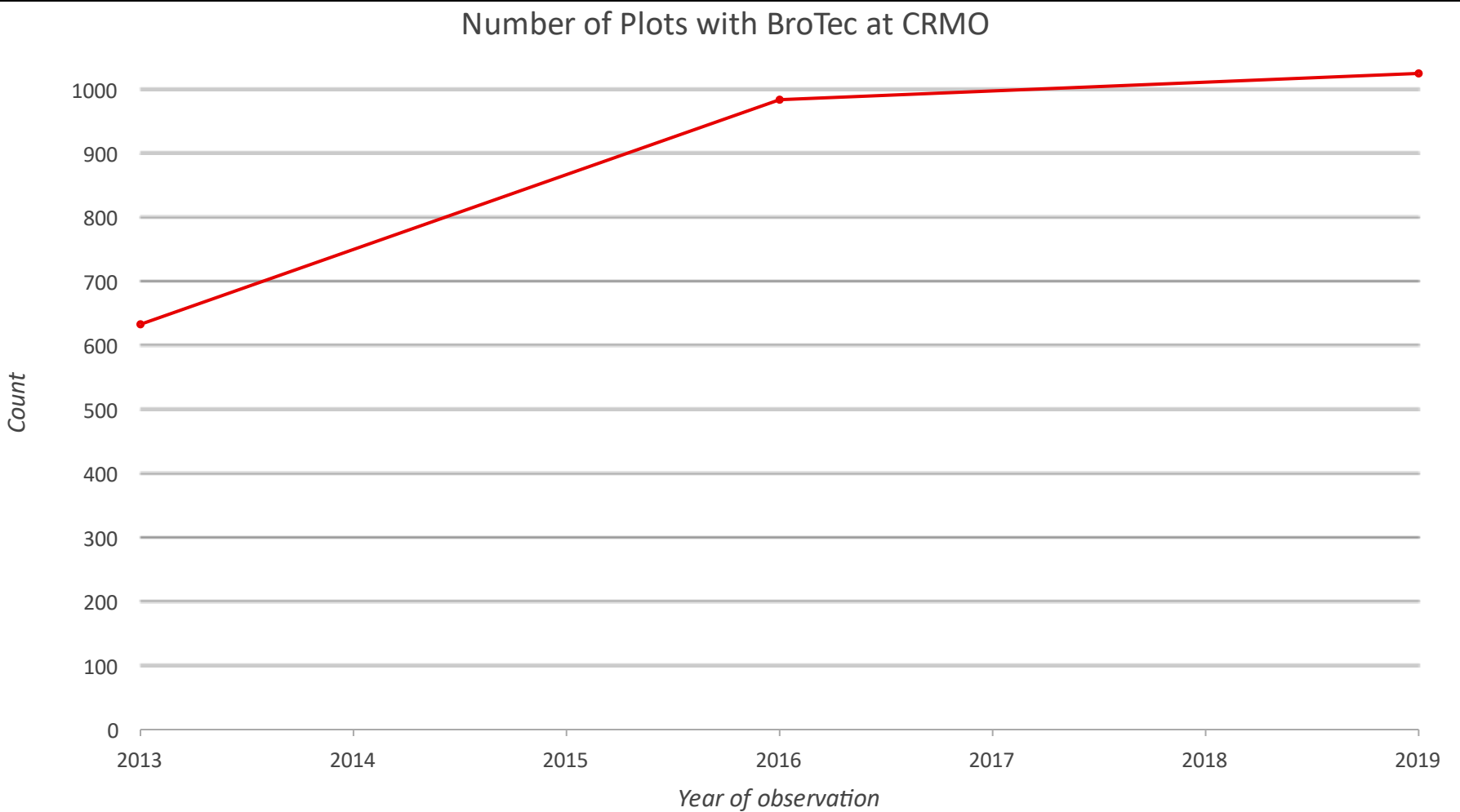
Upper Columbia Basin Network



Sample_Fra	Loc_Year	Loc_Name	Loc_Number	X_Coord	Y_Coord	UTM_Zone	ProtoVersi	Start_Date	Event_Note	SppGroup	SpName	CoverClass	CovCls_Des	SppCov_Not	txt_park	dbl_Latitu	dbl_Longit	Sample_F_1	Loc_Year_1	Loc_
CRMO_29	2010	CRMO_29_2010_1360	1360	312770.79	4804588.47	12N	SAGE_1_1	7/9/2010		NonNatv inv grasses	Bromus tectorum	1	1 to 5 percent		CRMO	5368586.4264	-12613720.2844	CRMO_29	2010	CRMO
CRMO_29	2010	CRMO_29_2010_1361	1361	312726.38	4804635.25	12N	SAGE_1_1	7/9/2010	ERIMIC 3	NonNatv inv grasses	Bromus tectorum	2	>5 to 25 percent		CRMO	5368649.1844	-12613783.0359	CRMO_29	2010	CRMO
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CRMO_29	2010	CRMO_29_2010_1364	1364	312804.05	4804586.59	12N	SAGE_1_1	7/9/2010		NonNatv inv grasses	Bromus tectorum	1	1 to 5 percent		CRMO	5368585.106	-12613674.5497	CRMO_29	2010	CRMO
CRMO_29	2010	CRMO_29_2010_1365	1365	312816.23	4804776.26	12N	SAGE_1_1	7/9/2010		NonNatv inv grasses	Bromus tectorum	1	1 to 5 percent		CRMO	5368846.903	-12613665.0427	CRMO_29	2010	CRMO
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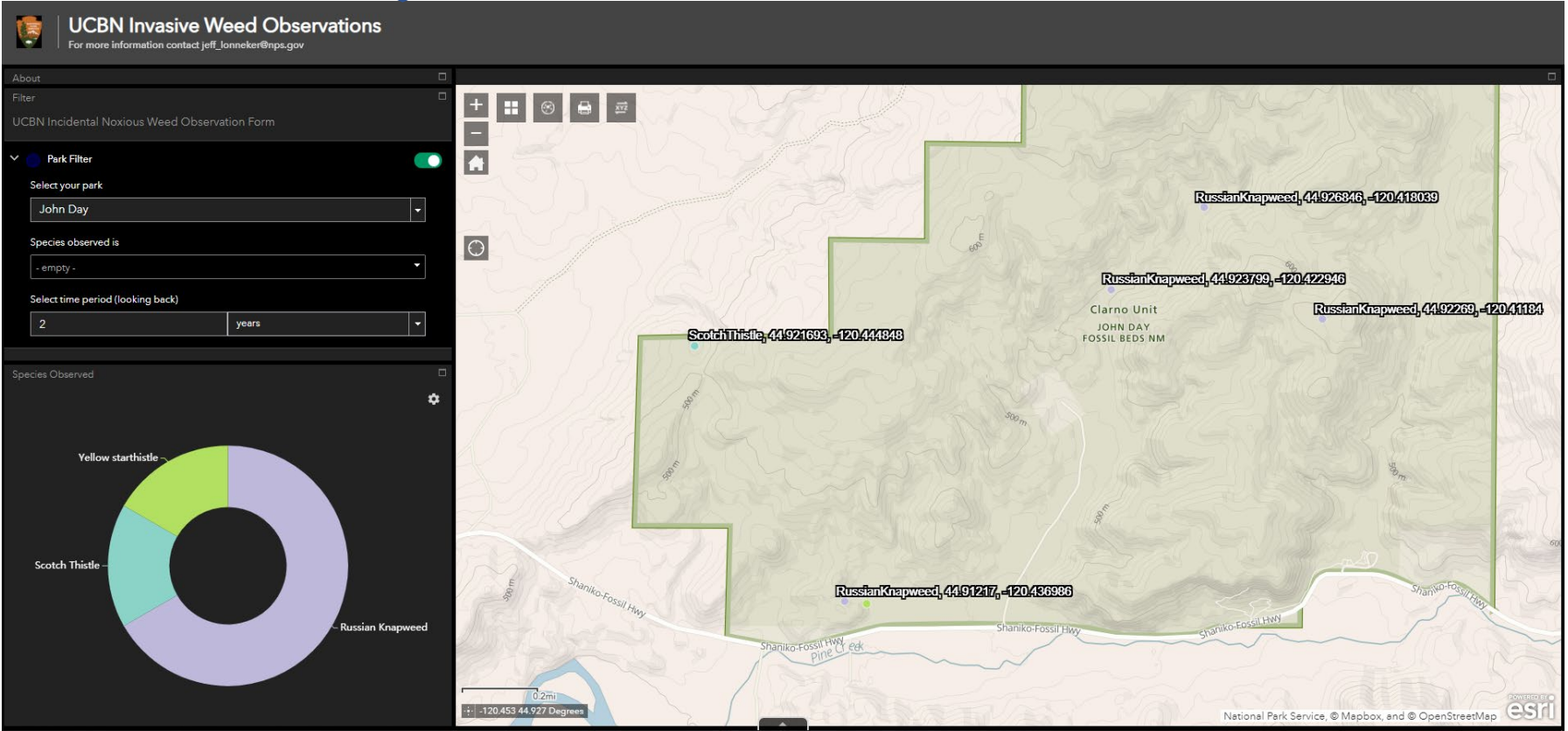
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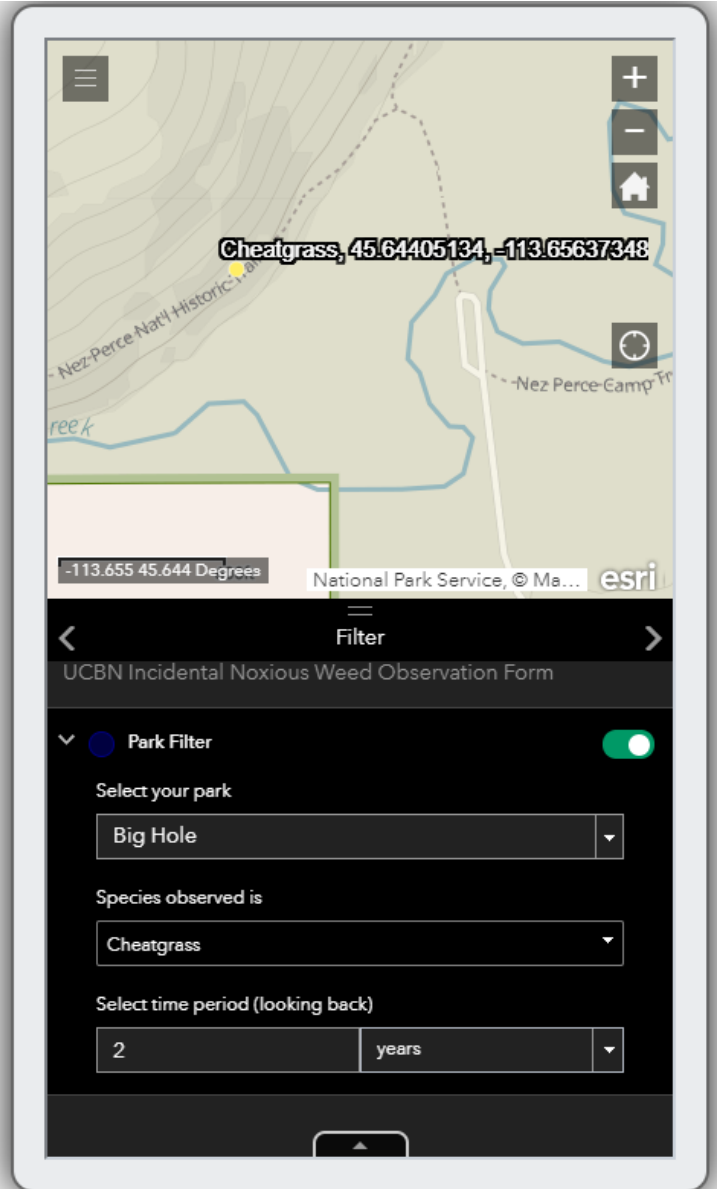
National Park Service Upper Columbia Basin Network



In the office



In the field



National Park Service

Upper Columbia Basin Network



UCBN Incidental Noxious Weed Observation Form

Submitted By: ucbn1_nps
Submitted Time: 06/27/2019 5:24 AM

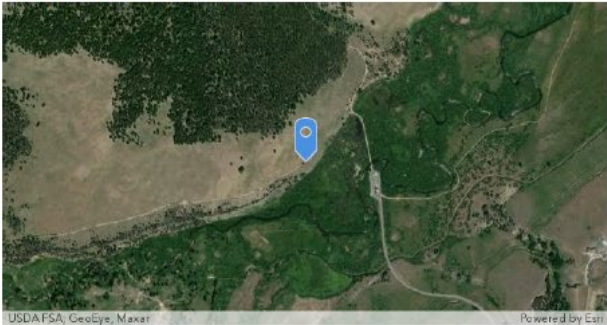
Survey Date
June 24, 2019

Observer Name
Jeff Lonneker

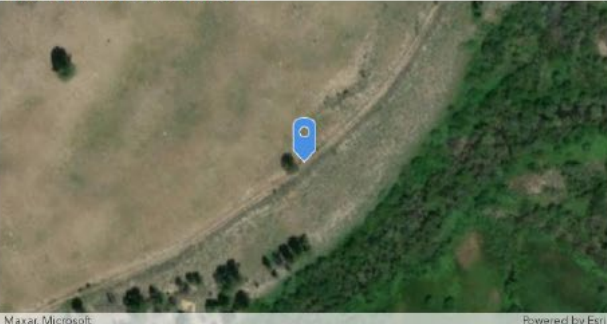
Park
Big Hole

Species observed
Cheatgrass

Location of observation



Location of observation



Latitude
45.64405134

Add notes or
comments

Longitude
-113.65637348

Estimate extent of infestation

Extent Selection
More than 200

Phenologic stage of infestation

Flowering
No

Seeds
Yes

Are there access issues to the site?
No

Is there water near the infestation?
No

Photo of infestation



Assisting resource managers with early detection and continued monitoring



Information about the species habit in their park

Where certain species is and isn't

Prioritization of triage areas

Provide resources to assist in a plan for eradication and management

Sagebrush Steppe Conservation

Resource Brief – September 2020

National Park Service
U.S. Department of the Interior

DOI Unified Regions 8,9,10,12



Sagebrush Steppe Focused Condition Assessment

DOI Unified Regions 8,9,10 (Pacific West) – BIHO, CIRO, CRMO, GRBA, HAFO, JODA, LABE, LARO, PARA

Importance: Resilience of A Threatened Ecosystem

Sagebrush steppe is one of the most threatened ecosystems in the Intermountain West and not well represented within the parks and protected-area systems of the US. Substantial portions of sagebrush steppe have been converted to agriculture and heavily grazed rangeland, and remaining steppe is being invaded by weeds and altered by increasingly frequent large fires. This focused condition assessment supports strategic steppe conservation decision-making across NPS by assembling park geodatabases with the necessary information from previous park inventories, monitoring, and assessments for sagebrush steppe mapping. These maps are developed within the framework of ecosystem resilience to fire and resistance to annual grass invasion. Approaching park steppe conservation through the lens of resilience and resistance allows for intuitive prioritization of park landscapes and facilitates collaboration within NPS and among its partner organizations such as the Bureau of Land Management which manages sagebrush steppe adjacent to NPS lands.

Assessment Objectives

Our goal is to facilitate collaborative sagebrush steppe conservation across park lands and with neighbors across larger steppe landscapes with geographic mapping tools and a supporting scientific framework that makes NPS decision-making easier and more effective.



View from Bath Rock-City of Rocks National Reserve, Idaho. Sagebrush steppe makes up about 70% of the land within City of Rocks National Reserve (CIRO) and plays a major ecological role in supporting native plant species diversity and providing habitat for wildlife and scenic vistas.

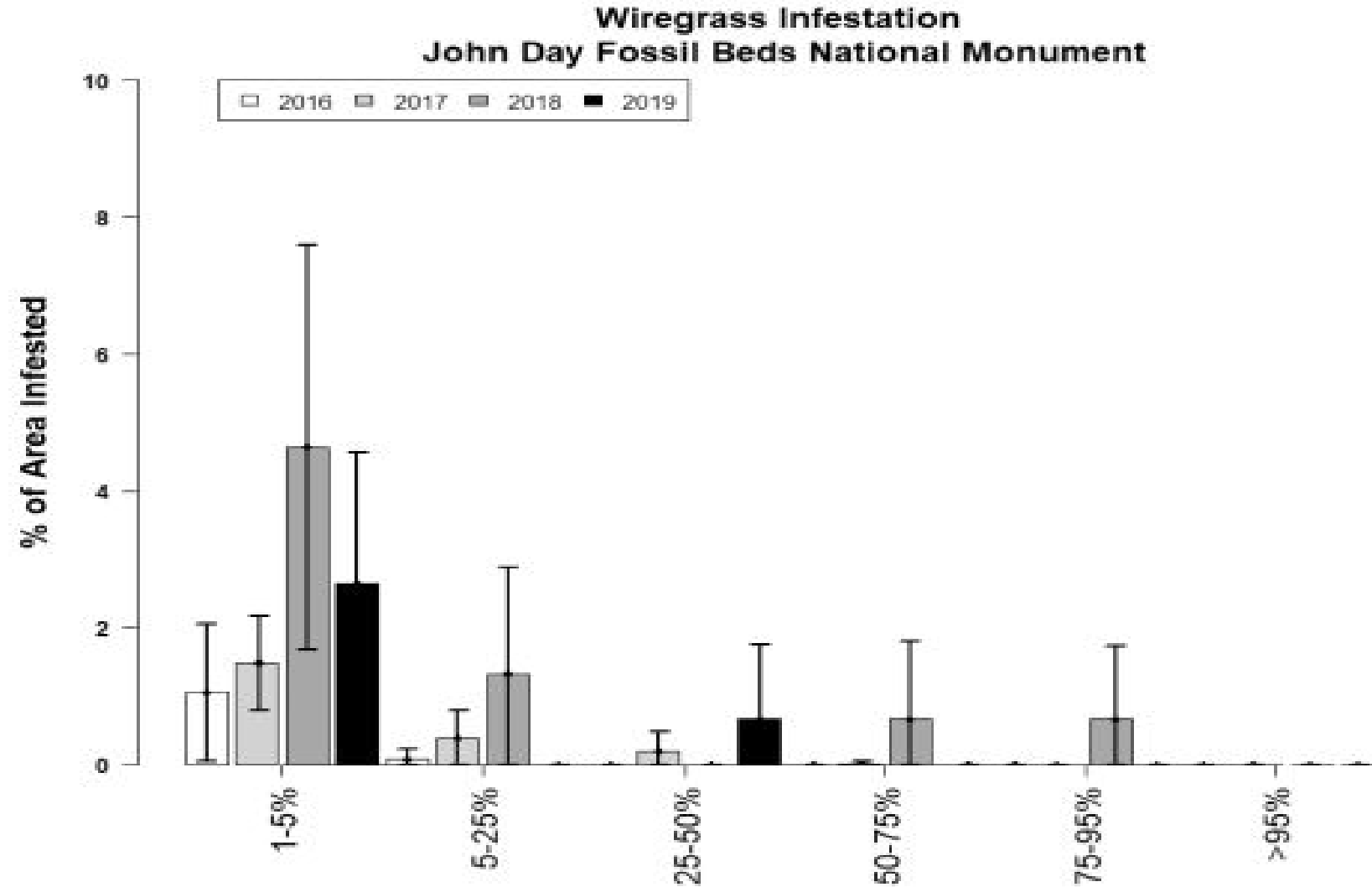


Wire grass
(*Ventenata dubia*)
discovery at JODA

Ventenata grass invasion to the JODA xeric steppe?

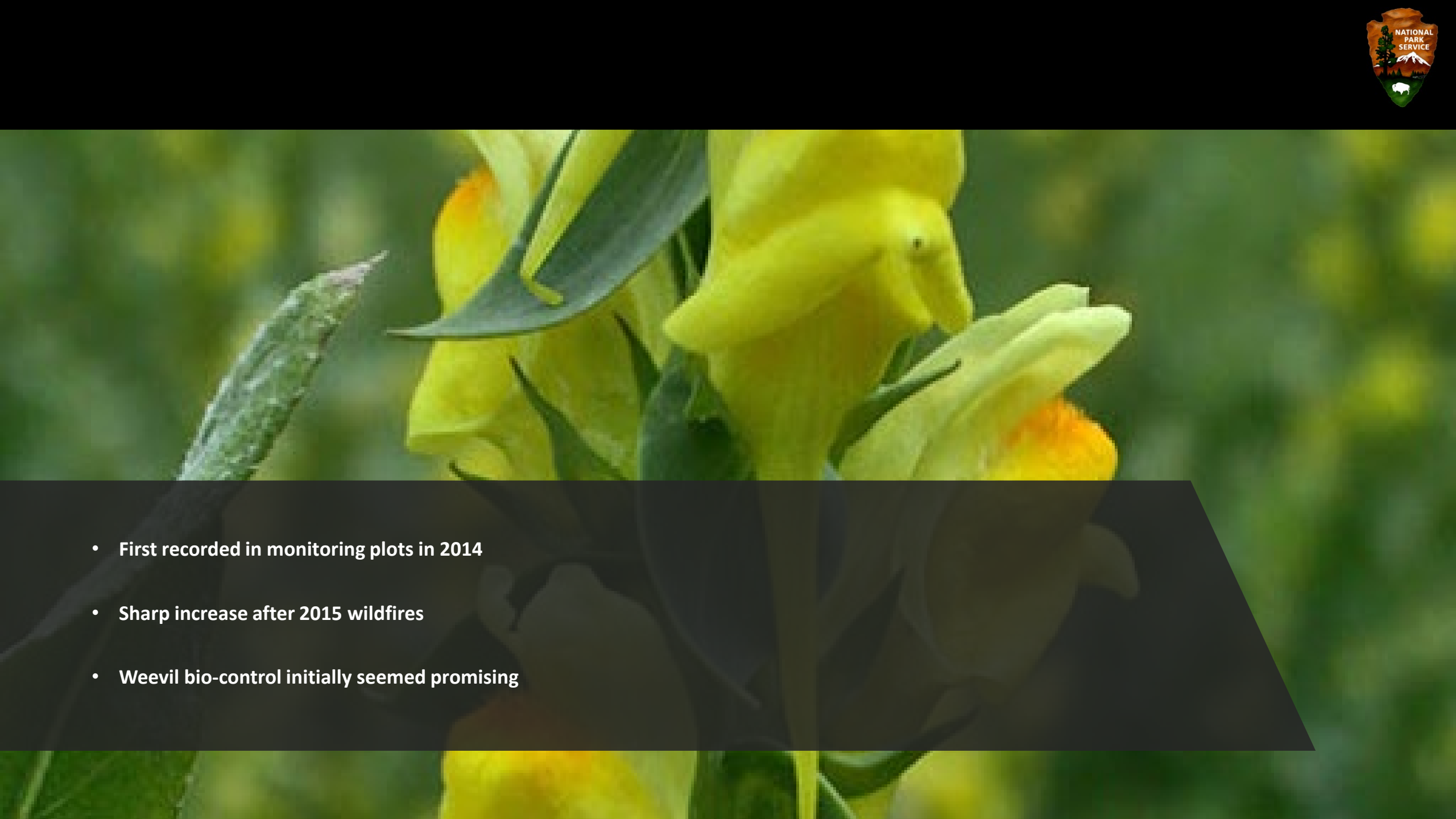
- Winter annual grass
- Origins in S Europe and N Africa
- Intro to PNW in Washington 1952
- Invading agricultural grasslands
- First documented in JODA in 2014
- Formal monitoring in 2016
- **Rapid expansion** at JODA

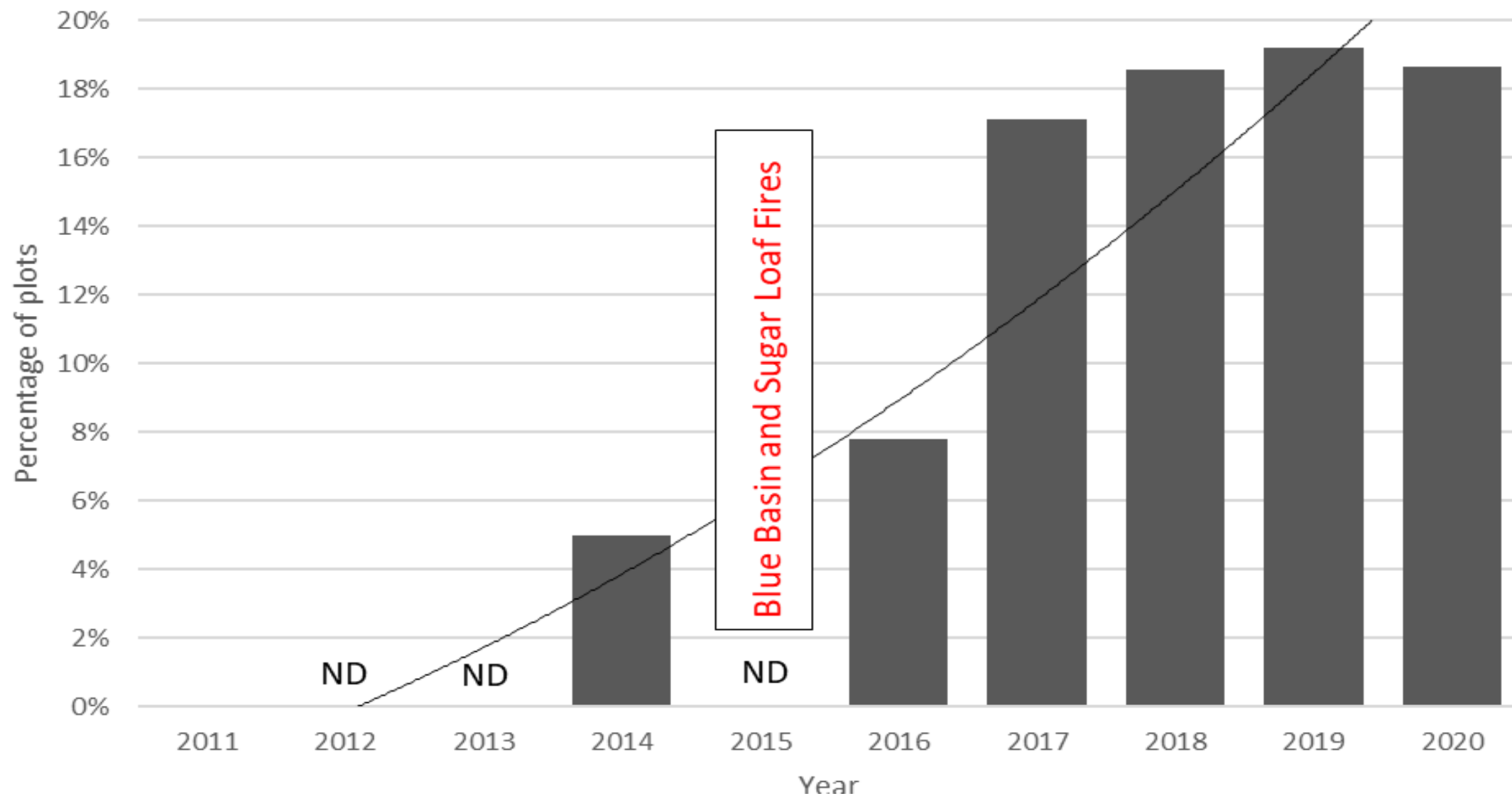
Ventenata (wiregrass) increase over 4 years





Dalmatian toadflax
(*Linaria dalmatica*)
at JODA

- 
- A close-up photograph of yellow flowers, likely lupines, with green leaves and stems. The background is blurred green foliage.
- First recorded in monitoring plots in 2014
 - Sharp increase after 2015 wildfires
 - Weevil bio-control initially seemed promising



Graph courtesy of Stucki 2020



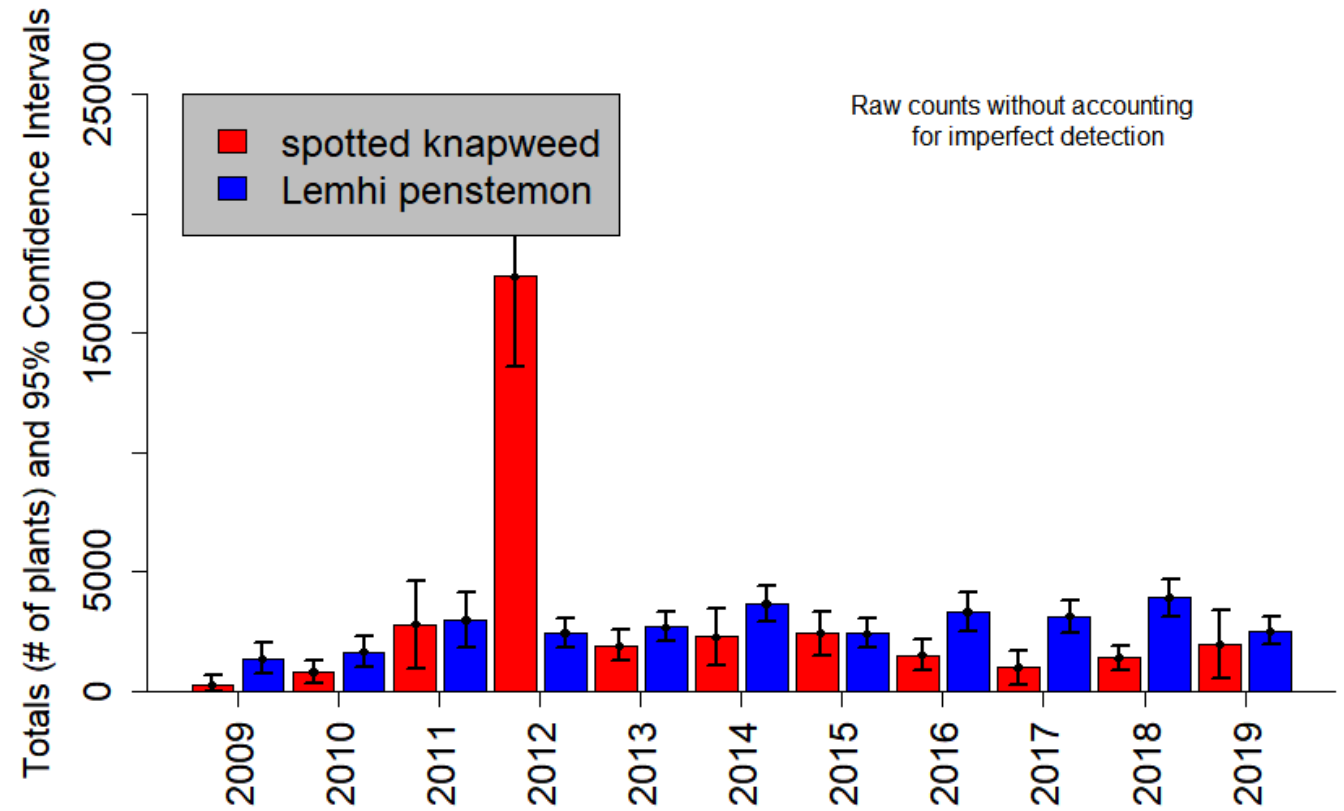


Spotted knapweed
(*Centaurea stoebe*)
at BIHO



- During monitoring Lemhi penstemon, spotted knapweed was discovered.
- Populations were monitored, with large spike in 2012.
- Implementation of control strategy with UCBN, park staff, and volunteers.
- Spot spraying with Roundup
- Species of concern, but have kept populations down

Treatment effectiveness since 2012 spike



Cheatgrass at BIHO

- Cheatgrass infestation discovered 2019
- Continues to spread during 2020
- Quick action on the part of volunteers, the patch was removed
- Proposal submitted for cyclic maintenance funding to further treat cheatgrass and knapweed in the park.
- Great example of early detection leading to direct action and possible funding!





Standard Operating Procedure (SOP) X: Documenting Noxious Weeds

Version X, October 2012|

Change History

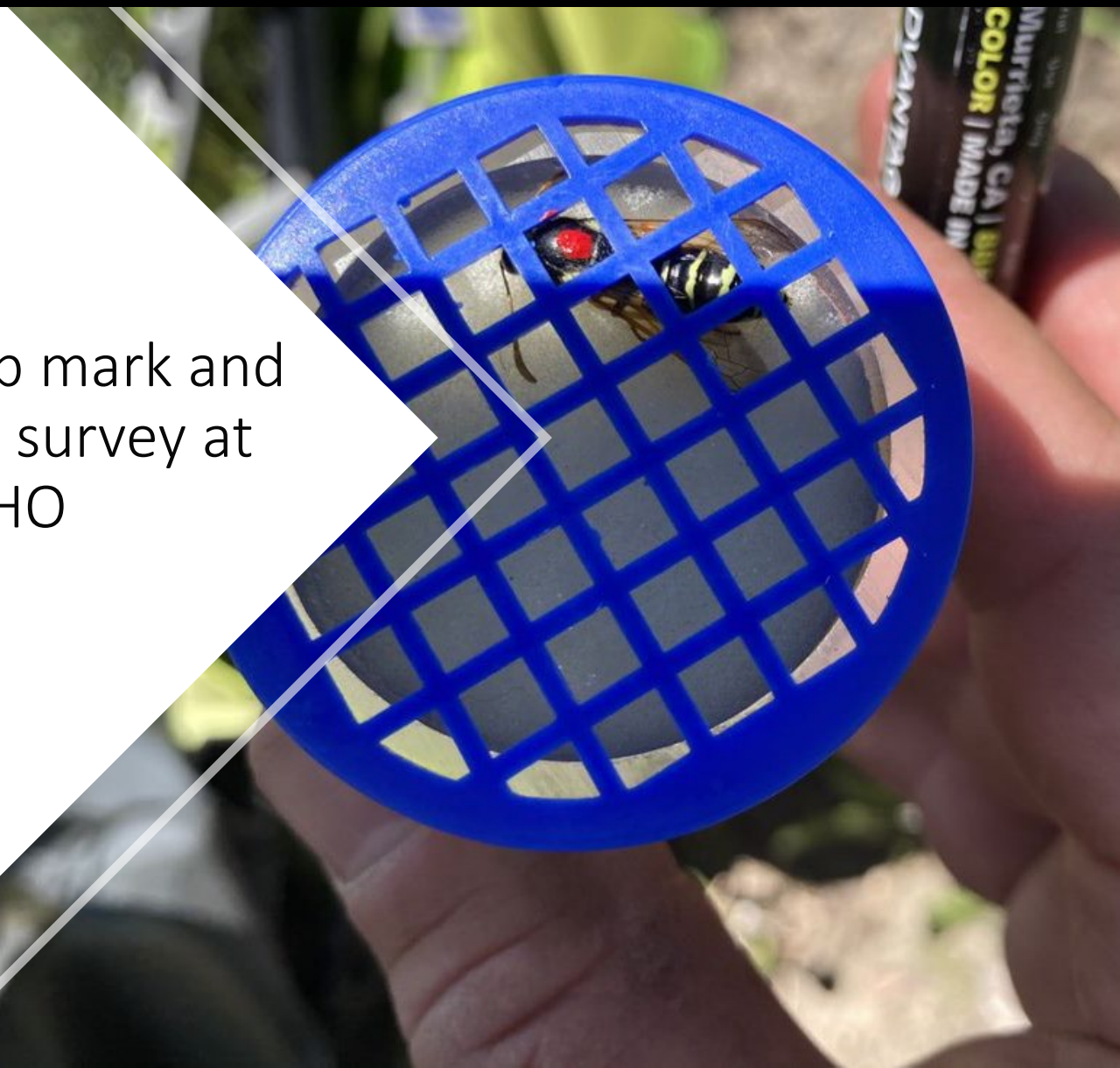
Original Version #	Date of Revision	Revised By	Changes	Justification	Page #'s affected	New Version #

- 1) Obtain prioritized list of noxious weeds that park staff are concerned with prior to beginning of field season. Arrange to have a briefing with park resource management upon arrival, possibly during initial check-in or safety briefing. Discuss the current noxious plant situation, problem areas within the park, and park prevention measures that may already be in place. ~~All crew members should be trained on the identification of these plants.~~ Identification materials, including a park specific weed list, should be provided. **Always ensure that vehicles, boots, and clothing are free of weed seeds before traveling to a new area of the park.**
- 2) Careful identification should be made of any suspected invasive plant within the park. Record the plant name and ~~a make an estimate of the number of individual plants in the infestation.~~ Recording the size of the affected area in square meters may be helpful if infestations are widespread or particularly dense.
- 3) Record precise GPS coordinates, in either UTM's or lat/long, for the plant or the center of

A wide-angle landscape photograph showing a volcanic field. In the foreground, there is a reddish-brown, rocky slope with sparse green shrubs and small trees. The middle ground is a vast, dark, flat expanse of cooled lava flows. In the background, a range of brown, rolling mountains stretches across the horizon under a clear blue sky. A large, semi-transparent circular overlay is positioned on the right side of the image, containing the text "Other interesting discoveries" and a horizontal line.

Other interesting
discoveries

Pollen wasp mark and
recapture survey at
BIHO





During limber pine monitoring in 2017, UCBN field staff discovered an outbreak of Douglas fir tussock moths on the trees in parts of the park.

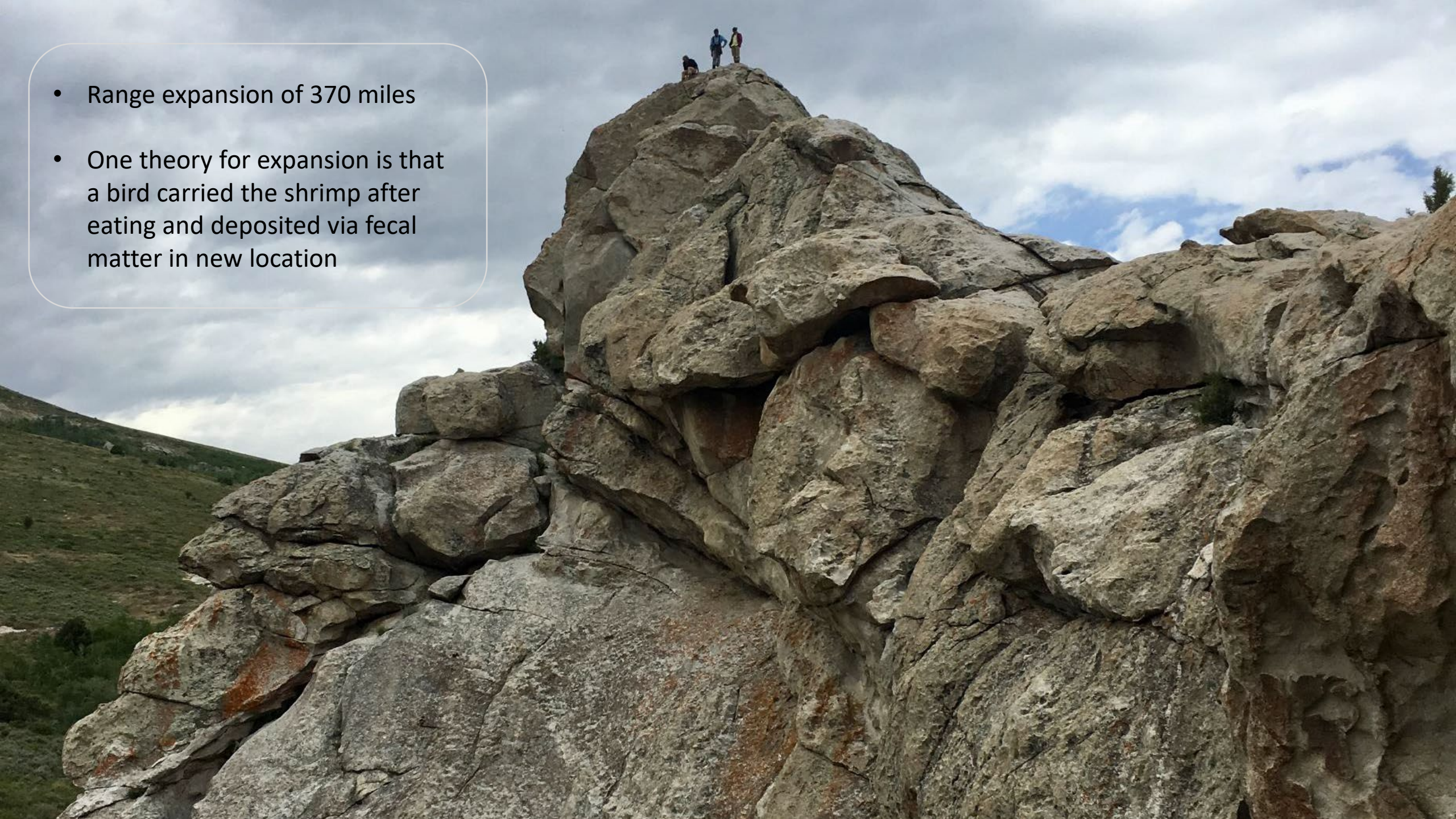


- UCBN and CRMO quickly developed a survey that can be used to quantify defoliation of trees during and following an outbreak year
- Network and park resource management establish monitoring plots
- These plots will be revisited to assess DFTM presence and outbreak severity.



Branchinecta
constricta
(species of
fairy shrimp)
was discovered
in a tinaja at
CIRO in 2008

- Range expansion of 370 miles
- One theory for expansion is that a bird carried the shrimp after eating and deposited via fecal matter in new location





- In 2016, a Pseudoscorpion was discovered at CRMO
- Members of this family, Cheliferidae, had never been found in the park
- Specimen collected and sent to Australia

Questions?



THANK YOU!



Melissa Nicolli
Melissa_Nicolli@nps.gov
National Park Service
U.S. Department of the Interior

EXPERIENCE YOUR AMERICA