

Sage Grouse Habitat Conservation Through Prisons



Institute
for
Applied
Ecology

Purpose

Improve habitat for Greater Sage-Grouse by engaging state prison systems in production of sagebrush for habitat restoration on BLM lands

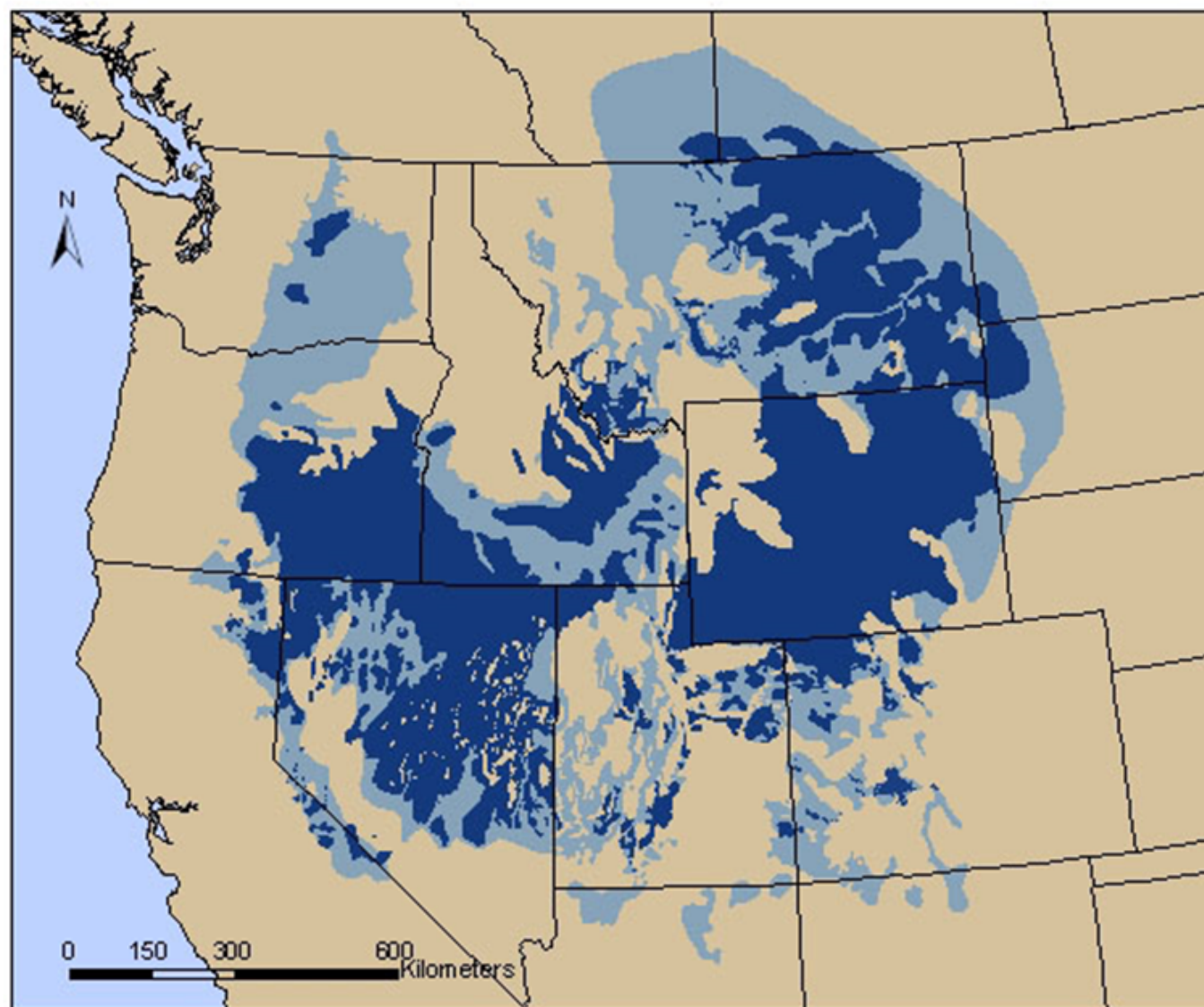


Photo by Maegan Murray

Greater Sage-Grouse



www.yellowstonegate.com



- Pre-Settlement Distribution of Potential Habitat
- Current Sage-Grouse Range
- State / Province Boundaries









Threats to Sagebrush Steppe

- Wildfire
- Annual Grasses and Noxious Weeds
- Juniper Trees
- Conversion to other land uses (agriculture and developments)



Wildfire



Annual Grasses and Noxious Weeds



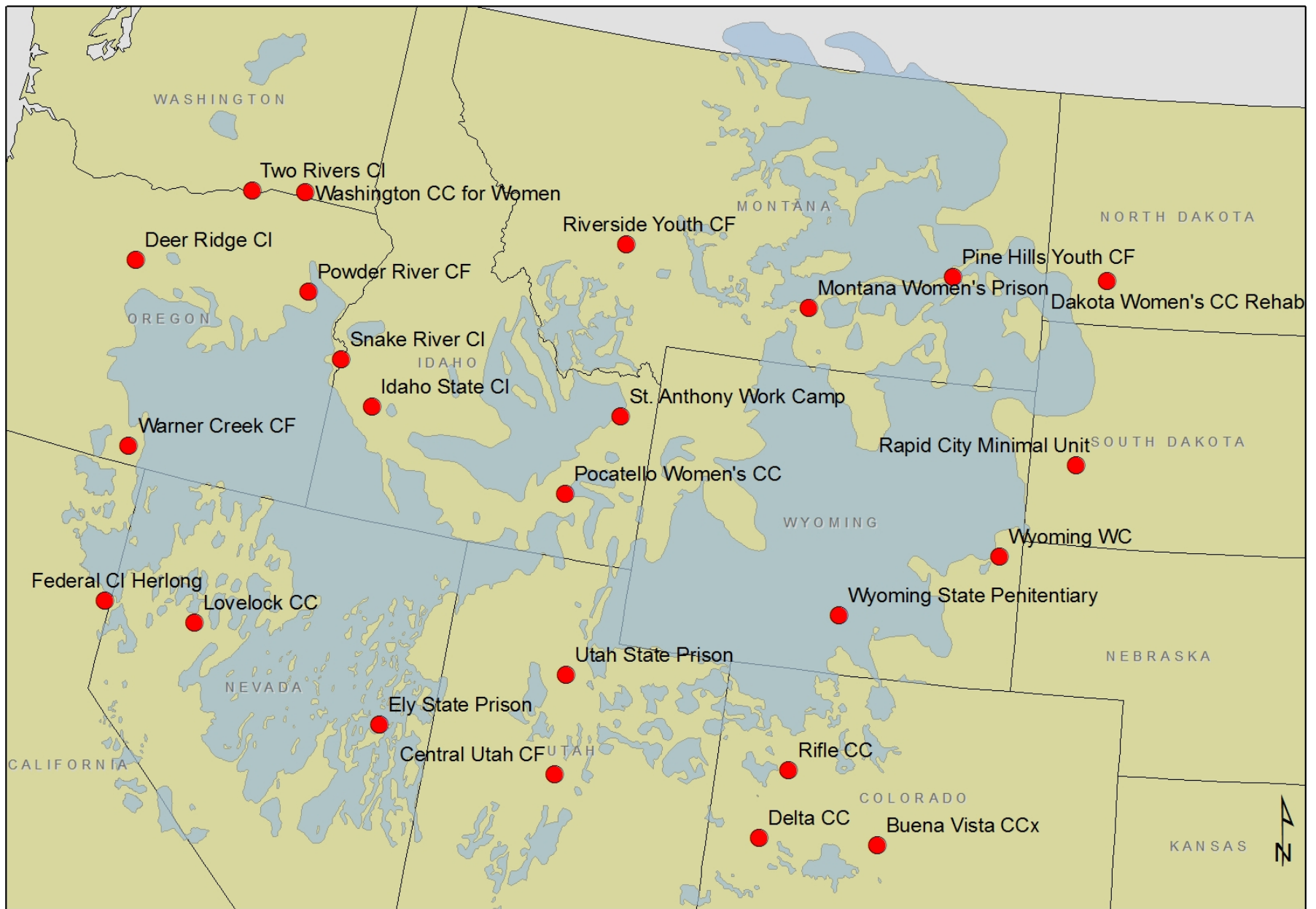
Juniper Trees

1890



1989

Sustainability in Prisons Project: Overlay of Sagegrouse habitat and prison facilities



0 45 90 180 270 360 Miles
 CC=Correctional Center, CCx=Correctional Complex, CI=Correctional Institution, CF=Correctional Facility, WC=Women's Center

USGS SAGEMAP

Benefits of working with inmates.....

- Provide high quality, detailed work
- Help reduce idleness and behavior problems within prison
- Gives inmates valuable skills
- Provides good image to the public
- Restorative justice



Sagebrush Activity Log

Please note plant activity each day. Let Stacy Moore know of any concerns or questions by giving your comments to the officer who will pass them on to Stacy Moore.

Date	Comments: (dates plants germinate, watered, thinned, weeded, fertilizer, pests, things of note)
PM 7/4/2015	-water all plants * pair of Western Kingbirds nesting in sagebrush area (2 fledglings) - Mother is very protective, which is good! -thinning * pair of Killdeer w/ 3 babies living in sagebrush area also American Robins w/ young using area along with English sparrows and Brewster's Blackbirds. "If you plant it, they will come!"
	-lots of small insects using sagebrush as food including many spiders and their webs. How amazing that by planting a little sagebrush, you create a little ecosystem. Gunnell and Kitts Wildlife Preserve and habitat restoration!
AM 7/6/2015	-thinning containers still wet - will water in the afternoon. Band: 97.25 germ
PM 7/6/2015	-sort all of Band trays - 2.75 trays non-germ/lost - RESEED 2.75 trays -water all tables - sort all non-germ Weldon trays - 21.25 trays NG overall
PM 7/7/2015	-thinning (91°) Band: 2.75 trays NG 97.25 Weldon: 21.25 NG 96.1° overall
AM 7/7/2015	-light water - sort non-germ tables -thinning Band: 2.75 trays NG 97.25 Weldon: 18 NG 96.5° overall
PM 7/7/2015	-water all tables (95°)
AM 7/8/2015	-thinning - sort non-germ table -water all tables Band 2.25 trays NG 97.15° Weldon 15.5 NG 97.0° overall 97.1°
PM 7/8/2015	-thinning (88°)
AM 7/9/2015	-fertilize / 1st water/rinses (heavy rain overnight) overall: -thinning sort 11 NG/Weldon Band: 97.8° Weldon: 97.2° 97.3°
PM 7/9/2015	-water all (88°)
AM 7/10/2015	-thinning -sort non-germ trays Weldon 2.25 trays 13 NG 97.4° Band: 97.8° overall 97.5°
PM 7/10/2015	-water all tables -thinning - sort Band trays 0.1 of non-germ 99.9° overall 97.7°
PM 7/11/2015	-water all tables (rain/cloudy 85°)
PM 7/12/2015	-water all tables (partly cldy - 85°)
AM 7/13/2015	-thinning (cloudy/cool) very wet from rain -thinning - report all recent germ 11-NG (reseed) 9-NG (reseed) Weldon 96.1° overall 96.7°
PM 7/13/2015	-thinning (cones still wet) All NG trays have recently been reseeded as of today 87°

Germination as of 6/2/2015 Overall: 90.8° - Band: 98° non-germ trays 2 out of 100 - Regular: 89.4° non-germ trays 54 out of 509	Germination as of 6/19/2015 Overall: 93.6° - Band: 99° non-germ trays 1 of 100 - Weldon: 92.5° non-germ trays 38 of 509	Resort all new germ/ recent res trays 7/2/15 additional 8.5 trays non-germ Germination as of 7/2/15 Overall: 95.1° Band: 99.9° non-germ trays 1 of 100 Weldon: 94.9° non-germ trays 30 of 509
Germination as of 6/3/2015 Overall: 91.6° - Band: 99° non-germ trays 1 out of 100 - Regular: 90.2° non-germ trays 50 out of 509	Germination as of 6/17/2015 Overall: 94.6° - Band: 99.9° non-germ trays 0.1 of 100 - Weldon: 93.5° non-germ trays 33 of 509	Germination as of 7/6/15 Overall: 96.1° Band: 97.3° non-germ trays 2.75 of 100 Weldon: 95.7° non-germ trays 21.75 of 509
Germination as of 6/4/2015 Overall: 92.2° - Band: 99.2° non-germ trays 0.8 of 100 - Regular: 90.9° non-germ trays 46.5 of 509	Germination as of 6/13/2015 Overall: 95.7° - Band: 99.9° non-germ trays 0.1 of 100 - Weldon: 94.9° non-germ trays 26 of 509	Germination as of 7/7/2015 Overall: 96.6° Band: 97.3° 2.75 of 100 Weldon: 96.5° 18 of 509
Germination as of 6/5/2015 Overall: 92.8° (reseeded all trays) - Band: 99.4° non-germ trays 2.6 of 100 - Regular: 91.6° non-germ trays 43 of 509	Germination as of 6/19/2015 Overall: 96.7° - Band: 99.9° non-germ trays 0.1 of 100 - Weldon: 96.1° non-germ trays 20 of 509	Germination as of 7/8/2015 Overall: 97.1° Band: 97.8° 2.25 of 100 Weldon: 97.0° 15.5 of 509
Germination as of 6/8/2015 Overall: 94.3° - Band: 99° non-germ trays 1 of 100 (reseed) - Regular: 93.4° non-germ trays 33.46 of 509	Germination as of 6/21/15 Overall: 97.4° - Band: 99.9° non-germ trays 0.1 of 100 - Weldon: 96.9° non-germ trays 16 of 509	Germination as of 7/9/2015 Overall: 97.3° Band: 97.8° 2.25 of 100 Weldon: 97.2° 14 of 509
Germination as of 6/9/2015 Overall: 93.8° High Temp 90° - Band: 99° non-germ trays 1 of 100 - Regular: 92.7° non-germ trays 37 of 509	Germination as of 6/26/15 Overall: 98.2° - Band: 99.9° non-germ trays 0.1 of 100 - Weldon: 97.8° non-germ trays 11 of 509	Germination as of 7/10/2015 Overall: 97.7° Band: 99.9° 0.1 of 100 Weldon: 97.4° 13 of 509
RESEED on 6/12/2015 38 Idaho-Weldon trays 1 - Band tray	Resort all tables (Weldon) 21.5 trays non-germ/lost RESEED on 7/1/2015	
Germination as of 7/1/2015 Overall: 96.5° - Band: 99.9° 0.1 trays of 100 - Weldon: 95.8° 0.1 trays of 509		

Partnerships



BLM



Contractors

Photo: Maegan Murray

Interns





Sept	Meet staff and see facilities
Nov/Dec	BLM collects sagebrush seed
Feb/March	Lectures
April	Preparation of conetainers
May	Lectures
Mid June	Plants moved out of greenhouse
Oct/Nov	Fall planting at restoration site



Implementation

Funding by BLM Washington D.C.

In 2014, started working with Snake River Correctional Institution in Ontario, OR







Tasks:
daily watering,
thinning,
fertilizing



Sagebrush planted at BLM restoration sites near Vale, OR







2015 Expanded program

- Idaho State Correctional Center: growing 55,566 plants
- Boise and Prineville BLM to receive plants





South Boise Women's Correctional Center: 10,976 plants
Correctional Alternative Placement Program: 12,740 plants



Snake River Correctional Institution: 25,333 plants



Coyote Ridge Corrections Center, Connell, WA: 20,000 BLM Wenatchee Field Office



Photos by Meagan Murray

What is working.....

- High quality plants
- Quantity of plants
- Education to staff and inmates
- Assisting BLM with habitat improvement
- Benefits to inmates well being
- Positive media coverage



Lessons learned.....

- Unforeseen challenges
- Communication
- Weather
- Inmates leaving program/prison
- Viability of seed
- Need inmates interested in horticulture



Photo: Maegan Murray



Photo: Gary Kramer

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