

*Curriculum Vitae*  
**MARISA MANCILLAS**

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## EDUCATION

**Bachelors of Science in Ecological Restoration** 2016  
**Minor in Biology**  
*University of Montana, College of Forestry & Conservation. Missoula, MT*  
 • Cumulative GPA of 3.5  
**Associate Degree in Environmental Science** 2014  
*Santa Rosa Junior College, Santa Rosa, CA*

## PERSONAL STATEMENT

I am a field botanist interested in the ecology of rangelands and prairie ecosystems. My research goal is to investigate the underlying processes that determine plant community resilience rangelands. Specifically, how plant-soil feedbacks, biological soil crusts, soil biota, and plant interactions influence biological diversity.

## WORK EXPERIENCE

**Restoration Technician** 2018 -  
**Watershed Restoration Group** Present  
**Location:** Troy, MT; Metaline, WA; Elko, NV; Black Mesa, AZ; Missoula, MT  
**Dates:** 9/20/18 – 12/01/18 - Present. Fulltime permanent seasonal appointment.  
**Supervisor:** Elizabeth James: ejames@watershed-restoration.com (724) 977-8451.  
 May contact.

- Participate in restoration, reclamation and seed collection projects in multiple ecoregions including the Pacific Northwest, Southwest, and Intermountain West
- Plant trees, shrubs, and forbs with hoedads employing knowledge of plant species' growth form, ecological niche, functional group, habitat preferences, and plant associations
- Identify plants to species level using dichotomous keys
- Harvest propagation material including willow stakes; fern rhizomes; and seeds from shrubs, trees, and graminoids
- Identify safety hazards and follow MSHA and OSHA safety regulations at all times including use of proper personal protective equipment
- Walk and hike over very steep, muddy, rocky surfaces; bending, 4,000+ times a day to plant plugs. Work long hours in inclement weather in backcountry setting

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**South West Oregon Steward  
The Nature Conservancy**

2019

**Location:** Ashland, OR

**Dates:** 3/11/18 – 7/26/19. Fulltime seasonal appointment.

**Supervisor:** Molly Morison: mmorison@tnc.org (541) 941-8579.

May contact.

- Supervised private contractors, volunteers, and corrections crews on nature preserves and mitigation sites, upholding project objectives, safety standards, and productivity
- Led and conducted endangered plant and endangered fairy shrimp monitoring using census and subsampling protocols
- Led and conducted percent cover sampling on wetland mitigation sites to evaluate restoration success in vernal pool ecosystems
- Conducted pedestrian surveys for invasive species using ArcMap on Juno handheld data collectors, compiled and edited mapping data to create finished maps with ArcGIS
- Independently conducted botanical surveys, identifying plants to subspecies level using dichotomous keys, focusing on members of Cyperaceae, Juncaceae, and Poaceae plant families
- Wrote reports and management recommendations for private landowners

**Field Technician**

2018

**Ecosystem Research Group**

**Location:** Saint Maries, ID; Missoula, MT

**Dates:** 7/24/18 - 8/15/18. Fulltime, short-term appointment

**Supervisor:** Tyler Andrews: Tylerstuart.andrews@gmail.com (406) 546-4351.

May contact.

- Documented sensitive, threatened, or endangered plant species in the Idaho Panhandle National Forest for a Biological Assessment
- Classified forest stand type and habitat quality using measurements of horizontal cover, percent canopy closure, primary and secondary canopy composition, diameter at breast height, and plant community composition
- Identified plants to species level using standard floras including *Botrychium*, Bryophyte, lichen, and fern species
- Mapped riparian areas using Avenza Maps, commented on ecological condition and habitat suitability

**Botany Crew Lead**

2018

**Institute for Applied Ecology****Location:** Corvallis, OR**Dates:** 4/30/18 – 7/20/18. Fulltime seasonal appointment.**Supervisor:** Matt Bahm: mattab@appliedeco.org (509) 869-2249.

May contact.

- Led field surveys of all known populations of endangered species, *Erigeron decumbens*, across the Willamette Valley of western Oregon
  - Trained crew members in standard sampling protocols for surveying *E. decumbens*, including using botanical keys, identifying graminoid species, estimating percent cover, and censusing and subsampling populations
  - Led survey of *E. decumbens* habitat including randomly sampling vegetation using cover estimates, commenting on species' distribution, estimating overall invasive species cover, and commenting on habitat quality
  - Collected mapping data with ArcPad10 software on Nautiz and Juno data collectors. Used ArcGIS to make maps and edit mapping data.
  - Managed, inventoried, and uploaded data according to quality control/assurance protocols, identified and corrected data anomalies prior to uploading data
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**Field Manager**

2017

**Ecosystem Research Group****Location:** Pine Ridge Reservation, SD; Missoula, MT**Dates:** 1/15/17 – 12/01/17. Fulltime seasonal appointment.**Supervisor:** Tyler Andrews: Tylerstuart.andrews@gmail.com (406) 546-4351.

May contact.

- Led vegetation inventory of the Pine Ridge Reservation on over on million acres of mixed-grass prairie for the Oglala Sioux Tribal Land Committees' cattle ranching program
  - Coordinated rangeland inspections with the field crew, ranchers, and Oglala Sioux Tribal Land director. Met with ranchers and landowners regularly to explain survey methods and discuss management recommendations.
  - Trained field crew in field botany and the Natural Resource Conservation Service standard range and pasture sampling methods for biomass (double) sampling, state and transition modeling, and similarity indices
  - Developed safety protocol and regularly identified hazards for the crew
  - Managed, inventoried, and entered data according to quality assurance protocols. Contributed to final report, synthesizing and interpreting data into management recommendations for each Range Unit.
  - Developed and maintained cultural awareness of ceremonies within sampling area by coordinating with the Oglala Sioux Land Director and cultivating heightened attention to surroundings
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**Field Botanist**

2016

**Ecosystem Research Group****Location:** Pine Ridge Reservation, SD; Missoula, MT**Dates:** 6/05/16 – 9/15/16. Fulltime seasonal appointment.**Supervisor:** Tyler Andrews. Tylerstuart.andrews@gmail.com (406) 546-4351

May contact.

- Conducted range inspections across the Pine Ridge Reservation for the Oglala Sioux Tribal Land Committees' cattle ranching program
- Collected biomass (double) sampling data, assigned ecological states using state and transition modeling, took ocular estimates of plant biomass using unit weights, and generated species lists
- Used GPS, land features, areal photos, and topographic maps to navigate to data points and plot locations on rough roads or off-road using 4-wheel drive trucks and ATVs
- Entered, inventoried, and synthesized data for final report

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**Invasive Species Technician**

2015-2017

**Ecosystem Research Group****Location:** Missoula, MT**Dates:** 2015 – 2017. Sporadic seasonal, temporary appointment (depending on weed phenology and weather).**Supervisor:** Cindy Unrau: cunrau@ecosystemrg.com (406) 880-7772

May contact.

- Managed invasive species by identifying and treating target species with herbicide
- Calculated correct spray concentration and volume according to chemical formula, label, target specie phenology, safety regulations, and acreage treated
- Documented occurrence and distribution of invasive and rare plant species
- Hiked on steep uneven or rocky surfaces for 12+ hours in inclement weather carrying 30+ lbs of herbicide, bending repetitively
- Adhered to safety regulations including wearing personal protective equipment and considering wind drift, non-target effects, and co-worker safety at all times. Obtained herbicide license.

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**Inventory Specialist**

2013-2014

**Jesse Peter Anthropology Museum****Location:** Santa Rosa, CA**Dates:** 1/01/13 – 1/1/14. 30+ hours/week, part time appointment.**Supervisor:** Theresa Molino: tmolino@santarosa.edu (510) 712-0817

May contact.

- Inventoried a collection of over 4,500 cultural artifacts. Located, reorganized, and catalogued artifacts using FilemakerPro computer software. Supervised and directed volunteers

**RESEARCH ASSISTANT EXPERIENCE****Biological Soil Crust Research Assistant**

2015-2018

**University of Montana****Location:** Missoula, MT**Dates:** 1/2015 – 1/2018. Part time volunteer internship**Mentor:** Mandy Slate. slatemandy@gmail.com (503) 960-6346. May contact.

- Assisted on a number of experiments related to how biological soil crusts affect the establishment of native and exotic plants as well as worked independently on two separate experiments.
  - Used dissecting and compound microscopes to make cross sections of moss leaves then photographed cells across the leaf area
  - Developed, conducted, analyzed data from, and reported on an experiment investigating acetic acid as an alternative to conventional herbicide to control invasive species, *Potentilla recta*. Used ANOVA statistical test, made figures, interpreted data, and shared findings.
  - Established an experiment investigating seedling physiology and germination traits between functional groups. Collected, analyzed, and interpreted data. Took detailed measurements on germination traits daily. Learned how to use and interpret data from ANOVA statistical tests and Principle Component Analyses.
  - Analyzed moss leaf area using ImageJ processing program
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**Soil Biota Research Assistant**

2018

**University of Montana****Location:** Missoula, MT**Dates:** 10/18- 3/19. Part time volunteer internship**Contact:** Phil Hahn: phil.hahn@mso.umt.edu (920) 422-0101. May contact.

- Assisted with greenhouse experiment by taking measurements, re-potting plants, and harvesting plants. Mounted root cuttings on microscope slides to be analyzed for arbuscular mycorrhizae colonization.
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**Ethnobotany Research Assistant**

2013-2014

**Santa Rosa Junior College****Location:** Santa Rosa, CA**Dates:** 10/2013 – 5/2014. Part time volunteer internship**Contact:** Theresa Molino: tmolino@santarosa.edu (510) 712-0817. May Contact

- Identified lithic, bone, and seed fragments to genus level. Developed microscope proficiency. Organized, inventoried, and catalogued research specimens.
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