Curriculum Vitae

MARISA MANCILLAS

401 E. Front St. Missoula MT, 59802, (707) 569-4816, marisa.e.mancillas@gmail.com

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

PERSONAL STATEMENT

I am a field botanist interested in the ecology of rangelands and prairie ecosystems. My research goal is to investigate underlying processes that shape plant communities and how they respond climate change. Specifically, how plant-soil feedbacks, biological soil crusts, and soil biota influence plant communities in drought.

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
- Identify safety hazards and follow MSHA and OSHA safety regulations at all times including use of 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

South West Oregon Steward *2019*
The Nature Conservancy
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 subsecies 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
- 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 Avensa 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

---

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 field 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

---

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

---

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.

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 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 analyze and interpret data from ANOVA statistical tests and Principle Component Analyses.
- Analyzed leaf area using ImageJ processing program

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.

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.
