

Vanessa M. Petro

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Academic Background

August 2013	<i>M.S. Forest Science, Oregon State University</i>	Corvallis, Oregon
May 2006	<i>B.A. Conservation Ecology, Sterling College</i>	Craftsbury, Vermont
May 2004	<i>A.A. Natural Resource Mgt., Sterling College</i>	Craftsbury, Vermont

Professional Experience

October 2013-Present. **Senior Faculty Research Assistant**, Oregon State University, Corvallis, Oregon.

Administrative Supervisor: Dr. Troy Hall, Direct Supervisor: Dr. Jimmy Taylor

- This position supports the National Wildlife Research Center's (NWRC) Oregon Field Station and is responsible for investigating the ecology, behavior and environmental impact of animals on forests and related agricultural activities.
 - Assists project scientist(s) in designing and conducting field research on a variety of wildlife species, with emphasis on beaver (*Castor canadensis* and *Aplodontia rufa*) black bear (*Ursus americanus*), black-tailed deer (*Odocoileus hemionus*), and Roosevelt elk (*Cervus canadensis roosevelti*).
 - Assists with live capture and handling of wildlife in the field.
 - Participates in the overall planning of studies including literature review, suggestions for study methodology, and permit acquisition.
 - Prepares research protocols and pilot studies to collect data on fauna behavior, and flora and fauna population dynamics and other information pertinent to developing means to reduce depredation of forest resources.
 - Prepares contracts to implement projects on public and private ownerships.
 - Coordinates field data collection and trapping schedules with public and private landowners.
 - Hires, trains, and supervises field crews.
 - Collects data following accepted standards as described in study protocols.
 - Reviews, organizes and tabulates research data.
 - Conducts statistical analyses of data.
 - Collaborates with project scientist(s) and cooperators in preparing research reports and publishable manuscripts.
 - Presents research results at scientific meetings.

October 2010- September 2013. **Graduate Research Assistant**, Oregon State University, Corvallis, Oregon.

Supervisors: Dr. Jimmy Taylor and Dr. Dana Sanchez

- Completed a master's of science thesis that evaluated the ability of relocated "nuisance" American beaver to enhance degraded Coho salmon (*Oncorhynchus kisutch*) rearing habitat in the Alsea Basin of the central Oregon Coast Range.
 - Responsible for live capture and handling of nuisance beavers in the field.
 - Prepared research protocol to collect data and other information pertinent to evaluating beaver responses to relocation efforts.
 - Coordinated field data collection and trapping schedules with public and private landowners.
 - Hired, trained, and supervised field crews.
 - Collected data following accepted standards as described in study protocols.
 - Reviewed, organized and tabulated research data.
 - Conducted statistical analyses of field collected data.
 - Collaborated with project scientist(s) in preparing research reports and publishable manuscripts.

- Presented research results at scientific meetings.

February 2009-September 2010. **Wildlife Biologist**, Plum Creek Timber Company, Toledo, Oregon.

Supervisor: Jeff Light

- Monitored Northern Spotted Owl (*Strix occidentalis*), Marbled Murrelet (*Brachyramphus marmoratus*), and various salmonid populations to insure company compliance with legal regulations.
 - Surveyed endangered and threatened species following strict agency permits and protocols.
 - Field verified potential Marbled Murrelet habitat and identified potential nest platforms.
 - Electro-shocked streams to determine fish distributions and conducted fish population surveys.
 - Performed stream habitat surveys and temperature monitoring for conservation easement based ownership.
 - Hired, trained, and supervised field crews.

September 2008-February 2009. **Seasonal Wildlife Biologist**, University of Arizona, Tucson, Arizona.

Supervisor: Dr. Melissa Merrick

- Monitored endangered Mount Graham red squirrel (*Tamiasciurus hudsonicus grahamensis*) populations in Arizona sky island habitat.
 - Tracked study subjects using radio telemetry in montane winter environments.
 - Trapped, ear tagged, weighed, sexed, and determined reproductive status of captured individuals.
 - Conducted behavior studies of marked and unmarked red squirrels.
 - Measured cavity nesting and mortality site habitat using circular plot sampling.
 - Performed routine telemetry data entry and checking of error ellipses in LOAS program.
 - Produced bi-weekly data collection reports.
 - Worked with endangered species following strict agency permits.

April-August 2008. **Field Technician**, U.S. Geological Survey, Northern Prairie Wildlife Research Center, Yankton, South Dakota.

Supervisor: Brandi Skone

- Monitored productivity of Least Tern (*Sterna antillarum athalassos*) and Piping Plover (*Charadrius melodus*) populations along the Missouri River.
 - Captured and banded Piping Plover chicks.
 - Entered coded field data.
 - Performed weekly shorebird censuses and band re-sighting surveys.
 - Sampled tern prey populations with fish trawls.
 - Operated, hauled, and maintained motorized boat craft.

May - September 2007. **Biological Science Technician**, U.S. Forest Service, Fish and Aquatic Ecology Unit, Ukiah, Oregon.

Supervisor: Annie Bernie

- Assessed the effectiveness of aquatic conservation strategies to restore riparian and aquatic function and processes throughout the Upper Columbia River Basin.
 - Conducted macro-invertebrate sampling using a Surber sampler.
 - Identified first flat depositional zones and channel habitat units.
 - Determined bankfull width-to-depth and entrenchment ratios.
 - Measured straight length (valley length) and thalweg length of survey reaches.
 - Tallied number and sizes of large woody debris present within a reach.
 - Collected conductivity and alkalinity measurements.
 - Measured stream gradient with a survey level, tripod, and stadia rod.

- Quantified length and frequency of pool habitats and measured percent surface fines on pool tails.
- Collected bank angle, bank stability, undercut depth, bank type, and bank material measurements.
- Conducted Wolman pebble counts.

January - May 2007. **Biological Science Technician**, U.S. Forest Service Savannah River Site, Aiken, South Carolina.
Supervisor: Dr. John Kilgo

- Examined white-tailed deer (*Odocoileus virginianus*) fawn survival and identified cause-specific sources of mortality.
 - Captured adult deer using rocket nets and CO₂ cartridge dart guns.
 - Handled and fitted pregnant does with ear tags, radio collars, and Vaginally Inserted Transmitters (VIT).
 - Tracked pregnant does using radio telemetry and de-coded VIT signal to determine time of fawn's birth.
 - Fitted newly born fawns with expandable radio collars.
 - Recovered deceased collared fawns and performed necropsies.
 - Conducted soft mast counts of wild plum trees (*Prunus americana*).
 - Collected coyote (*Canis latrans*) scat to identify evidence of fawn depredation.
 - Conducted routine telemetry data entry and checking of error ellipses in LOAS program.

May - August 2006. **Field Research Technician**, Utah State University, Logan, Utah.
Supervisor: Dr. Craig Faulhaber

- Monitored small mammal populations to examine effects of restoration efforts implemented in shrub-steppe ecosystems.
 - Monitored small mammal populations using mark recapture methods including Sherman, pitfall, and Tomahawk traps, in addition to track-tube stations.
 - Trapped, ear tagged, weighed, sexed, and determined reproductive status of captured individuals.
 - Conducted vegetative habitat sampling using circular plot sampling methods.
 - Performed routine data entry.

December 2005. **Seasonal Wildlife Biologist**, Arrow-wood Environmental, Inc., Waterbury, Vermont.
Supervisor: Jeff Parsons

- Inventoried American beech (*Fagus grandifolia*) stands used by black bears on ski resort property.
 - Collected DBH measurements and aged bear use of trees.
 - Noted presence of beech bark disease within stands.

June - August 2003-2005. **Biological Science Technician**, U.S. Forest Service Sequoia National Forest, Porterville, California.

Supervisor: Dr. Rick Truex

- Monitored carnivore populations, specifically fisher (*Martes pennanti*) and American marten (*Martes americana*), for the Sierra Nevada Forest Carnivore Monitoring Program.
 - Collected and identified wildlife tracks deposited on track plates.
 - Collected DNA samples at hair snare stations.
 - Set up and maintained camera sensor stations.
 - Geo-referenced site placements.
 - Conducted routine habitat sampling and plant identification.

Technical Skills

- Spatial Analysis
 - ArcMap, ArcCatalog, ArcView, and LOAS.

- Statistical Analysis
 - Program R, SPSS, PC-ORD, and Hyperniche.
- Survival Analysis
 - Program Mark, Notepad++, and Micromort.
- Wildlife Tracking Equipment/Programs
 - Lotek, Sirtrack, Advanced Telemetry Systems, Telonics, Vetronic Aerospace, Reconyx, and Communications Specialists.
- Field navigation using Trimble, GPS, PDA, and map/compass.
- Microsoft Office software (Access, Excel, Word, PowerPoint, etc.)
- CB radio communication on logging roads.
- Field driving experience with 4X4 and standard transmission.
- Thermograph software including BoxCar and Hoboware.
- Operation and maintenance of motorized boat craft.

Professional Honors and Awards

<i>USDA Forest Service Safety Award</i>	2005
<i>USDA Forest Service Certificate of Appreciation for Outstanding Work</i>	2004, 2005
<i>Sterling College Dean's List</i>	2002-2006

Memberships

<i>ODFW Beaver Work Group</i>	2010- Present
<i>The Wildlife Society, Oregon Chapter</i>	2010- Present
<i>Alsea Watershed Council (Board Member)</i>	2011- Present
<i>The Wildlife Society, National Chapter</i>	2012- Present
<i>Society for Northwestern Vertebrate Biology</i>	2013- Present
<i>Umpqua Basin Beaver Working Group</i>	2015- Present
<i>National Audubon Society</i>	2015- 2018
<i>Western Bat Working Group</i>	2016- Present
<i>Women in the Woods, OSU College of Forestry</i>	2016- Present

Presentations

Invited Oral Presentations (*) denotes presenter

1. Petro, V*. American beaver research in Oregon: Past, Present, and Future. Siuslaw Watershed Council Meeting, Mapleton, OR. 30 April 2014.
2. Petro, V*. Coast Range American Beaver Genetics. Alsea Watershed Council Meeting, Alsea, OR. 16 April 2015.
3. Petro, V*. Beaver Damage Mitigation Devices. Alsea Watershed Council Meeting, Alsea, OR. 16 April 2015.
4. Petro, V*. Understanding beaver in Oregon: Known knowns, known unknowns, and unknown unknowns. Umpqua Basin Beaver Working Group, Roseburg, OR. 09 December 2015.

5. Taylor, J., and V. Petro*. National Wildlife Research Center black bear study. 2016 Cascade Animal Damage Co-op Meeting, Cascade Timber Annex Building, Sweet Home, OR. 4 March 2016.
6. Taylor, J., and V. Petro*. National Wildlife Research Center black bear study. 2016 North Curry Co-op Meeting, Lions Club, Langlois, OR. 29 March 2016.
7. Taylor, J., and V. Petro*. National Wildlife Research Center black bear study. 2016 Northwestern Oregon Animal Damage Co-op Meeting, Oregon Dept. of Forestry, Philomath, OR. 21 April 2016.
8. Taylor, J.*, and V. Petro. Understanding beaver. Coquille Watershed Association Meeting, Coquille, OR. 16 November 2016.
9. Petro, V*. American beaver and forestry. 2017 State of the Beaver Conference, Canyonville, OR. 23 February 2017.
10. Taylor, J., and V. Petro*. National Wildlife Research Center black bear study update. 2017 Cascade Animal Damage Co-op Meeting, Cascade Timber Annex Building, Sweet Home, OR. 28 March 2017.
11. Taylor, J., and V. Petro*. National Wildlife Research Center black bear study update. 2017 North Curry Co-op Meeting, Lions Club, Langlois, OR. 11 April 2017.
12. Taylor, J., and V. Petro*. National Wildlife Research Center black bear study update. 2017 Northwestern Oregon Animal Damage Co-op Meeting, Oregon Dept. of Forestry, Philomath, OR. 5 May 2017.
13. Petro, V*. Beavers: Understanding nature's architects. Coast Fork Willamette River Watershed Council Meeting, Cottage Grove, OR. 22 August 2017.
14. Taylor, J.*, and V. Petro. National Wildlife Research Center black bear study update. Annual program planning meeting of the National Council for Air and Stream Improvement. Vancouver, WA. 30 October 2017.
15. Taylor, J., V. Petro*, C. Epps, T. Creech, and R. Crowhurst. Landscape genetics of American beaver within coastal Oregon Basins. Oregon Dept. Fish and Wildlife Beaver Work Group Meeting, Salem, OR. 6 December 2017.
16. Petro, V*. Understanding beaver in Oregon: A research update. Klamath Basin Research and Extension Center, Klamath Community College, Klamath Falls, Oregon. 9 March 2018.
17. Taylor, J., and V. Petro*. National Wildlife Research Center black bear study update. 2018 Cascade Animal Damage Co-op Meeting, Cascade Timber Annex Building, Sweet Home, OR. 5 April 2018
18. Taylor, J., and V. Petro*. National Wildlife Research Center black bear study update. 2018 Northwestern Oregon Animal Damage Co-op Meeting, Oregon Dept. of Forestry, Philomath, OR. 3 May 2018.

19. Taylor, J., V. Petro*, and J. Stevenson. Fall beaver survey results for West Fork Cow Creek. Umpqua Basin Beaver Working Group, Roseburg, OR. 30 May 2018.
20. Taylor, J., and V. Petro*. National Wildlife Research Center black bear study. Interagency Bio-meeting, Roseburg, OR. 13 June 2018.
21. Taylor, J., and V. Petro*. National Wildlife Research Center black bear study. Salem Chapter of the Oregon Hunters Association, Salem, OR. 24 July 2018.
22. Taylor, J.*, K. Kline, A. Morzillo, and V. Petro. Quantifying black bear damage to western conifers. Society of American Foresters 2018 National Convention, Portland, OR. 4 October 2018.
23. Petro, V. Forest Ecosystems and Society Coffee: Vanessa Petro: Faculty Research Assistant. Corvallis, OR. 8 October 2018.
24. Petro, V. How busy are beavers in Oregon? Eugene Natural History Society, Eugene, OR. 17 May 2019.
25. Taylor, J., and V. Petro*. National Wildlife Research Center black bear study. Yamhill Chapter of the Oregon Hunters Association, McMinnville, OR. 13 June 2019.

Volunteered Oral Presentations

1. Taylor, J., V. Petro*, C. Epps, T. Creech, and R. Crowhurst. Landscape genetics of American beaver within coastal Oregon Basins. Oregon Chapter of the Wildlife Society 2017 Annual Meeting, Pendleton, OR. 9 February 2017.
2. Taylor, J., V. Petro*, C. Epps, T. Creech, and R. Crowhurst. Landscape genetics of American beaver within coastal Oregon Basins. 2017 State of the Beaver Conference, Canyonville, OR. 24 February 2017.
3. Taylor, J.*, V. Petro, C. Epps, T. Creech, and R. Crowhurst. Landscape genetics of American beaver within coastal Oregon Basins. National Chapter of the Wildlife Society 2017 Annual Meeting, Albuquerque, NM. 26 September 2017.
4. Taylor, J., and V. Petro*. Understanding black bear denning ecology in intensively managed forests. Joint Annual Meeting of the Oregon Chapter of the Wildlife Society, Washington Chapter of the Wildlife Society, Society for Northwestern Vertebrate Biology, and Northwest Partners in Amphibian and Reptile Conservation, Portland, Oregon. 15 February 2018.
5. Petro, V. American beaver activity inventory protocol. Oregon Chapter of The Wildlife Society Annual Meeting, Bend, OR. 28 February 2019.

Volunteered Poster Presentations

1. Taylor, J., V. Petro*, C. Epps, T. Creech, and R. Crowhurst. Landscape genetics of American beaver within coastal Oregon Basins. Oregon Chapter of the Wildlife Society and the Oregon Society of American Foresters Joint Annual Meeting, Eugene, OR. 29 April 2015.

2. Petro, V.*, J. Taylor, and D. Sanchez. To relocate or not relocate, that is the restoration question. Beaver Tales: A Celebration of Beaver Art, Exhibit Opening, Oregon State University, Corvallis, OR. 9 February 2017.
3. Taylor, J., V. Petro*, C. Epps, T. Creech, and R. Crowhurst. Landscape genetics of American beaver within coastal Oregon Basins. Beaver Tales: A Celebration of Beaver Art, Exhibit Opening, Oregon State University, Corvallis, OR. 9 February 2017.
4. Taylor, J.*, and V. Petro. Developing risk models to predict American black bear (*Ursus americanus*) damage in intensively managed forests. 25th International Association for Bear Research and Management, Quito, Ecuador. 12 November 2017.
5. Taylor, J., J. Dunham, V. Petro, J. Stevenson, J. Payne*, and A. Smith*. How castor can-a-dam-it in West Fork Cow Creek. Joint Annual Meeting of the Oregon Chapter of the Wildlife Society, Washington Chapter of the Wildlife Society, Society for Northwestern Vertebrate Biology, and Northwest Partners in Amphibian and Reptile Conservation, Portland, Oregon. 15 February 2018.
6. Felbeck, T., and V. Petro. American beaver dam ecology in the Upper Alsea River Sub-Basin. Oregon Chapter of The Wildlife Society Annual Meeting, Bend, OR. 27 February 2019.

Publications

Refereed Publications

1. Petro, V., J. Taylor, and D. Sanchez. 2015. Evaluating landowner-based beaver relocation as a tool to restore salmon habitat. *Global Ecology and Conservation* 3:477-486.
2. Francis, R. A., J. Taylor, E. Dibble, B. Strickland, V. Petro, C. Eastwood, and G. Wang. 2017. Restricted cross-scale habitat selection by American beaver in winter and spring. *Current Zoology* 63:703-710.
3. Petro, V., J. Taylor, K. Burnett, and D. Sanchez. 2018. Methods to predict beaver dam occurrence in coastal Oregon. *Northwest Science* 92:278-289.

Refereed Publications (in review)

1. None at this time.

Refereed Publications (in preparation)

1. Taylor, J., and V. Petro. Evaluating the effects of mountain beaver (*Aplodonita rufa*) trapping on conifer stocking in western Oregon. *Crop Protection*.
2. Taylor, J., V. Petro, C. Epps, T. Creech, and R. Crowhurst. Dispersal and landscape genetics of American beaver within coastal Oregon Basins. *Journal of Wildlife Management*.

Non-Refereed Publications

1. Petro, V. M. 2013. Evaluating “nuisance” beaver relocation as a tool to increase coho salmon habitat in the Alsea Basin of the central Oregon Coast Range. Thesis, Oregon State University, Corvallis, USA.
2. Cafferata-Coe, F., V. Petro, and J. Taylor. 2016. Wildlife in Managed Forests: The American Beaver. Oregon Forest Resources Institute, Portland, Oregon. 28 p.
3. Petro, V. 2016. National Wildlife Research Center black bear study immobilization and handling protocol. Prepared for the National Wildlife Research Center. 22 p.
4. Petro, V. 2017. American beaver activity inventory protocol. Prepared for the National Wildlife Research Center. 14 p
5. Petro, V., J. Stevenson, and J. Taylor. 2018. West Fork Cow Creek Beaver Project: Fall 2017 report. 45 p.
6. Petro, V. and T. Felbeck. 2018. Little Lobster Creek American Beaver Activity: Summer 2018 Report. 14 p.

Trainings and Workshops

- January 2011. Animal Handler Safety Training, Oregon State University Occupational Health Services, Corvallis OR.
- 18 November 2014. Wildlife in Managed Forests: Early Seral Habitat, Songbirds and Managed Forests. Oregon Forest Resources Institute, Salem, OR.
- 23 January 2016. 12th Annual Nonprofit Organization Board Training. Center for Non-Profit Stewardship, Corvallis, OR.
- 24 March 2016. (Instructor) National Wildlife Research Center: Black Bear Immobilization and Handling Training. Oregon State University, Corvallis, OR.
- 31 May 2016. Trapping Matters Workshop. Oregon Chapter of The Wildlife Society, Deschutes National Forest Office, Bend, OR.
- 23 June 2016. (Instructor) Living with Beavers Training Day. Umpqua Basin Beaver Working Group, Roseburg District Bureau of Land Management, Roseburg, OR.
- 10 February 2017. Wildlife Habitat Planning Workshop with the National Wildlife Federation. Oregon Chapter of the Wildlife Society 2017 Annual Meeting, Pendleton, OR.
- 8-10 March 2017. Wildlife Services National Training Academy Immobilization and Euthanasia Recertification Course. Mississippi State University, Starkville, MS.
- 20 April 2017. (Instructor) National Wildlife Research Center: Black Bear Immobilization and Handling Training. Oregon State University, Corvallis, OR.
- 16 February 2018. Confident and Clear Science Communication Workshop. Joint Oregon and Washington state chapters Wildlife Society 2018 Annual Meeting, Portland, OR.
- 23-25 May 2018. Resource Selection Function Workshop. Oregon Chapter of the Wildlife Society, Adair Village, OR.
- 1 March 2019. Practical Data Science for Biologists. Oregon Chapter of the Wildlife Society, Bend, OR.

Volunteer Work

Membership Activities

Alsea Watershed Council

Alsea, OR

2011- Present

- Active board member and Social Media Coordinator.
- Assist with monitoring salmon use at LWD placement and culvert replacement project areas.
- Participate in monthly meetings and hosted events.

Fish Population Sampling

U.S. Fish and Wildlife Service

Douglas, AZ

October 2008

- Sampled endangered Yaqui chub (*Gila purpurea*) and Yaqui topminnow (*Poeciliopsis occidentalis sonoriensis*) populations using minnow traps and electro shocking methods at the San Bernardino National Wildlife Refuge.

Herpetology Specimen Collecting

University of Arizona

Caborca, Mexico

September 2008

- Assisted with collection of biological (blood and tissue) samples for genetic analysis of reptile populations that inhabit the Sonoran Desert.

References

Available upon request.