

Oregon Spotted Frog

Created: April 2025

Updated: April 2026

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Abreu, P. 2015. Restoring hydrological and ecological functions of wetlands invaded with reed canary grass (*Phalaris arundinacea*) for potential Oregon spotted frog (*Rana pretiosa*) oviposition recovery at Joint Base Lewis-McChord, Fort Lewis, WA. Master's thesis. The Evergreen State College, Olympia, Washington. Not available online.

Master's thesis on control of reed canary grass and how this can improve oviposition recovery for Oregon spotted frogs.

Adams, M. J., C. A. Pearl, B. McCreary, and S. Galvan. 2014. Short-term occupancy and abundance dynamics of the Oregon spotted frog (*Rana pretiosa*) across its core range. USGS Open-File Report 2014-1230. <https://doi.org/10.3133/ofr20141230>

Surveys 93 sites in a rotating frame design (2010–13) in the Klamath and Deschutes basins to assess the declines in abundance and probability of site occupancy of Oregon spotted frogs.

Barnett, H. K., and J. S. Richardson. 2002. Predation risk and competition effects on the life-history characteristics of larval Oregon spotted frog and larval red-legged frog. *Oecologia* 132(3):436–444. <https://doi.org/10.1007/s00442-002-0981-x>

Artificial pond experiment to test hypotheses about the effects of competition and non-lethal predator cues on metamorphic characteristics of sympatric Oregon spotted frogs and red-legged frogs in southwestern British Columbia.

Blaustein, A. R., J. B. Hays, P. D. Hoffman, D. P. Chivers, J. M. Kiesecker, W. P. Leonard, A. Marco, D. H. Olson, J. K. Reaser, and R. G. Anthony. 1999. DNA repair and resistance to UV-B radiation in western spotted frogs. *Ecological Applications* 9(3):1100-1105. [https://doi.org/10.1890/1051-0761\(1999\)009\[1100:DRARTU\]2.0.CO;2](https://doi.org/10.1890/1051-0761(1999)009[1100:DRARTU]2.0.CO;2)

Assesses DNA repair and resistance to solar radiation in eggs of members of the western spotted frog complex.

Blessing, B. J. 2014. Wetland ratios, soil types and geologic history at Oregon spotted frog wetlands in Thurston County. Master's thesis. The Evergreen State College, Olympia, Washington. <https://collections.evergreen.edu/s/archives/item/2472>

Analyzes land area in Thurston County, Washington, to identify areas with likely distributions of Oregon spotted frogs based on land type, habitat availability and geomorphology.

Blouin, M. S., I. C. Phillipsen, and K. J. Monsen. 2010. Population structure and conservation genetics of the Oregon spotted frog, *Rana pretiosa*. *Conservation Genetics* 11(6):2179–2194. <https://doi.org/10.1007/s10592-010-0104-x>

Genetic analysis of 23 remaining Oregon spotted frog populations, aiming to identify genetic diversity within populations, major genetic groups within the species, levels of genetic differentiation and gene flow among populations within each major group and compare the pattern of differentiation among Oregon spotted frogs with Cascades frogs.

Bohannon, J. 2016. Discovery of the Oregon spotted frog in the northern Puget Sound basin, Washington State. *Northwestern Naturalist* 97(2):82-97. <https://doi.org/10.1898/NWN15-19.1>

Surveys the northern Puget Sound basin of Washington State to determine whether any additional populations of Oregon spotted frogs existed across 2011-2013.

Borek, A. 2019. Amphibian head start programs: comparisons of dermal microbiomes of Oregon spotted frogs (*Rana pretiosa*) reared under traditional and "mesocosm" conditions. Master's thesis. Hofstra University, Hempstead, New York.

<https://www.proquest.com/dissertations-theses/amphibian-head-start-programs-comparisons-dermal/docview/2211092422/se-2>

Compares dermal microbiomes between Oregon spotted frogs reared in traditional “zoo sterile” environments, more naturalistic mesocosm environments, frogs reared at a correctional facility, as well as wild caught frogs.

Bowerman, J. 2010. Submerged calling by Oregon spotted frogs (*Rana pretiosa*) remote from breeding aggregations. *Reptiles & Amphibians* 17(2):84–87.

<https://doi.org/10.17161/randa.v17i2.16085>

Reports on observations that the Oregon spotted frog calls actively from submerged locations tens to hundreds of meters away from and several days prior to the formation of breeding aggregations.

Bowerman, J., and C. A. Pearl. 2010. Ability of Oregon spotted frog (*Rana pretiosa*) embryos from central Oregon to tolerate low temperatures. *Northwestern Naturalist* 91(2):198–202.

<https://doi.org/10.1898/NWN09-22.1>

Assesses the ability of Oregon spotted frog embryos to tolerate low temperatures.

Bowerman, J., and C. A. Pearl. 2020. Oregon spotted frog (*Rana pretiosa*) migration from an aquatic overwintering site: timing, duration, and potential environmental cues. *The American Midland Naturalist* 184(1):87-97. <https://doi.org/10.1674/0003-0031-184.1.87>

Investigates timing, duration, and potential cues for Oregon spotted frog migrations from a wintering lake near the Cascade Mountains in central Oregon.

Bowerman, J., and C. Rombough. 2025. How low can you go: severe winter conditions favor Oregon spotted frogs over bullfrogs. *Northwestern Naturalist* 105(2):73-82.

<https://www.proquest.com/scholarly-journals/how-low-can-you-go-severe-winter-conditions-favor/docview/3223675984/se-2> (not available on publishers website)

Compares the respective tolerance of Oregon spotted frogs and American bullfrogs to cold hypoxic conditions, revealing that Oregon spotted frogs can tolerate cold hypoxic conditions better than bullfrogs.

Chelgren, N. D., C. A. Pearl, M. J. Adams, and J. Bowerman. 2008. Demography and movement in a relocated population of Oregon spotted frogs (*Rana pretiosa*): influence of season and gender. *Copeia* 2008(4):742–751.
<https://doi.org/10.1643/CH-07-142>

Assesses seasonal survival, movement, and growth of Oregon Spotted Frogs relocated into created ponds at Dilman Meadow in Oregon.

Chelgren, N. D., C. A. Pearl, J. Bowerman, and M. J. Adams. Oregon spotted frog (*Rana pretiosa*) movement and demography at Dilman Meadow: implications for future monitoring. USGS Open-File Report 2007-1016.
<https://doi.org/10.3133/ofr20071016>

Studies the demography and seasonal movement of Oregon spotted frogs translocated into created ponds in Dilman Meadow in central Oregon.

Committee on the Status of Endangered Wildlife in Canada. 2011. COSEWIC assessment and update status report on the Oregon spotted frog, *Rana pretiosa*, in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa.
http://publications.gc.ca/collections/collection_2012/ec/CW69-14-94-2011-eng.pdf

Reports on the distribution and status of Oregon spotted frogs in Canada, where it has a range within the Fraser River Basin in British Columbia and occurs at four sites.

Conlon, J. M., M. Mechkarska, E. Ahmed, L. Coquet, T. Jouenne, J. Leprince, H. Vaudry, M. P. Hayes, and G. Padgett-Flohr. 2011. Host defense peptides in skin secretions of the Oregon spotted frog *Rana pretiosa*: implications for species resistance to chytridiomycosis. *Developmental & Comparative Immunology* 35(6):644-649.
<https://doi.org/10.1016/j.dci.2011.01.017>

Analyzes norepinephrine-stimulated skin secretions from Oregon spotted frogs infected with the causative agent *Batrachochytrium dendrobatidis* but were proven to be resistant to chytridiomycosis.

Conlon, J. M., L. K. Reinert, M. Mechkarska, M. Prajeep, M. A. Meetani, L. Coquet, T. Jouenne, M. P. Hayes, G. Padgett-Flohr, and L. A. Rollins-Smith. 2013. Evaluation of the skin peptide defenses of the Oregon spotted frog *Rana pretiosa* against infection by the chytrid fungus *Batrachochytrium dendrobatidis*. *Journal of Chemical Ecology* 39(6):797–805. <https://doi.org/10.1007/s10886-013-0294-z>

Provides support for the hypothesis that the multiplicity and diversity of the antimicrobial peptide repertoire in Oregon spotted frogs and the high growth-inhibitory potency of certain peptides against *Batrachochytrium dendrobatidis* are important in conferring a measure of resistance to fatal chytridiomycosis.

Duarte, A., C. A. Pearl, M. J. Adams, and J. T. Peterson. 2017. A new parameterization for integrated population models to document amphibian reintroductions. *Ecological Applications* 27(6):1761-1775. <https://doi.org/10.1002/eap.1564>

Develops a new parameterization for integrated population models to match the ecology of amphibians and capitalize on relatively inexpensive monitoring data to document amphibian reintroductions.

Duarte, A., J. T. Peterson, C. A. Pearl, J. C. Rowe, B. McCreary, S. K. Galvan, and M. J. Adams. 2020. Estimation of metademographic rates and landscape connectivity for a conservation-reliant anuran. *Landscape Ecology* 35:1459–1479. <https://doi.org/10.1007/s10980-020-01030-8>

Quantifies local persistence, colonization, and recruitment in relation to habitat attributes, evaluates the influence of the spatial arrangement of patches on landscape-scale population dynamics, and estimates the scale at which metapopulation dynamics are occurring for Oregon spotted frog.

Environment Canada. 2015. Recovery strategy for the Oregon spotted frog (*Rana pretiosa*) in Canada. Environment Canada, Ottawa. https://publications.gc.ca/collections/collection_2016/ecccc/En3-4-201-2015-eng.pdf

Reports on the status of the Oregon spotted frog in Canada and efforts to prevent the extirpation of the remaining four populations in British Columbia.

Feischl, C. 2018. Using 10-years of population monitoring data to assess breeding productivity of the Oregon spotted frog (*Rana pretiosa*). Master's thesis. Simon Fraser University, Burnaby, British Columbia, Canada.
<https://summit.sfu.ca/item/19140>

Examines associations between temperature and precipitation and Oregon spotted frog population trends using a 10-year data set from two breeding populations in the lower mainland of British Columbia.

Funk, C. W., C. A. Pearl, H. M. Draheim, M. J. Adams, T. D. Mullins, and S. M. Haig. 2008. Range-wide phylogeographic analysis of the spotted frog complex (*Rana luteiventris* and *Rana pretiosa*) in northwestern North America. *Molecular Phylogenetics and Evolution* 49(1):198-210. <https://doi.org/10.1016/j.ympev.2008.05.037>

Conducts a range-wide phylogeographic analysis of the spotted frog complex across its range in northwestern North America to understand its evolutionary history and the distribution of clades to inform conservation.

Germaine, S. S., and B. L. Cosentino. 2004. Screening model for determining likelihood of site occupancy by Oregon spotted frogs (*Rana pretiosa*) in Washington State. Washington Department of Fish and Wildlife, Olympia.
<https://depts.washington.edu/trac/bulkdisk/pdf/585.1.pdf>

Presents a wetland screening model to evaluate wetland sites and determine whether they contain habitat characteristics that make them potentially suitable for supporting an established and successfully reproducing population of Oregon spotted frogs.

Green, D. M. 1985. Natural hybrids between the frogs *Rana cascadae* and *Rana pretiosa* (Anura: *Ranidae*). *Herpetologica* 41(3):262-67. <http://www.jstor.org/stable/3892272>

Reports on the discovery of two adult male hybrids of Cascade frogs and Oregon spotted frogs, neither showed pairing of homologous chromosomes in meiosis, indicating a considerable degree of genetic divergence between the two species.

Green, D. M., H. Kaiser, T. F. Sharbel, J. Kearsley, and K. R. McAllister. 1997. Cryptic species of spotted frogs, *Rana pretiosa* complex, in western North America. *Copeia* 1997(1):1-8. <https://doi.org/10.2307/1447833>

Morphometric study of 20 characters using multiple discriminant function analysis which identified populations of Oregon spotted frogs in southern British Columbia and differentiated populations of Columbia spotted frogs.

Green, D. M., T. F. Sharbel, J. Kearsley, and H. Kaiser. 1996. Postglacial range fluctuation, genetic subdivision and speciation in the western North American spotted frog complex, *Rana pretiosa*. *Evolution* 50(1):374-390. <https://doi.org/10.1111/j.1558-5646.1996.tb04500.x>

Analyzes difference in allozyme variation in 21 populations of spotted frogs in southwest Washington State and the Cascades Mountains of Oregon.

Griffing, A. H., J. Bowerman, and S. K. Sessions. 2017. Histology reveals testicular oocytes and trematode cysts in the threatened Oregon spotted frog (*Rana pretiosa*). *Northwestern Naturalist* 98(1):24–32. <https://doi.org/10.1898/NWN16-13.1>

Tests the hypothesis that reproductive or physiological stress and parasitic disease may be contributing to the decline of Oregon spotted frogs.

Griffing, A., and S. Sessions. 2014. Endocrine disruption in endangered Oregon spotted frogs (*Rana pretiosa*). *The FASEB Journal* 28(51):911.9. https://doi.org/10.1096/fasebj.28.1_supplement.911.9

Tests whether Oregon spotted frog populations may be declining due to disruption of sex determination via endocrine disruption and/or parasite infection.

Groff, L. A. 2011. A species distribution model for guiding Oregon spotted frog (*Rana pretiosa*) surveys near the southern extent of its geographic range. Master's thesis. Humboldt State University, Arcata, California. <http://hdl.handle.net/2148/698>

Develops a series of Species Distribution Models to identify suitable habitat and predict the distribution of Oregon spotted frogs toward the southern extent of its geographic range.

Groff, L. A., S. B. Marks, and M. P. Hayes. 2014. Using ecological niche models to direct rare amphibian survey: a case study using the Oregon spotted frog (*Rana pretiosa*). *Herpetological Conservation and Biology* 9(2):354–368.
https://www.herpconbio.org/Volume_9/Issue_2/Groff_etal_2014.pdf

Develops ecological niche models to guide surveys across the southern extent of the species' geographic distribution and assess the species' presence in California.

Hayes, Marc P. 1994. The spotted frog in western Oregon. Oregon Department of Fish and Wildlife Technical Report 94-1-01, Portland.
<https://digitalcollections.library.oregon.gov/nodes/view/125864>

Documents the historic distribution of the spotted frog in western Oregon and its decline.

Hayes, M P. 1997. Status of the Oregon spotted frog (*Rana pretiosa* sensu stricto) in the Deschutes Basin and selected other systems in Oregon and northeastern California with a rangewide synopsis of the species' status: final report. Report to The Nature Conservancy and U.S. Fish and Wildlife Service.
<https://docs.cbfwl.org/biblio42151.pdf>

Reports on surveys throughout Oregon and Northern California to assess the status of Oregon spotted frogs in their historical range.

Hayes, M. P, J. D. Engler, S. Van Leuven, D. C. Friesz, T. Quinn, and D. J. Pierce. 2001. Overwintering of the Oregon Spotted Frog (*Rana pretiosa*) at Conboy Lake National Wildlife Refuge, Klickitat County, Washington, 2000-2001. Washington Department of Fish and Wildlife, Olympia.
<https://wdfw.wa.gov/sites/default/files/publications/00852/wdfw00852.pdf>

Studies overwintering behavior in the Oregon spotted frog at Conboy Lake National Wildlife Refuge over the 22-week interval from 21 September 2000 to 17 February 2001.

Hayes, M. P., E. Materna, J. Engler, and C. Rombough. 2005. Exploratory evaluation of nutrient enrichment and frog response at Conboy Lake National Wildlife Refuge. <https://hdl.handle.net/1794/9418>

Reports on the results of a study on the effects of nutrient enrichment on the Oregon spotted frog in the Conboy Lake National Wildlife Refuge.

Hayes, M. P., C. J. Rombough, G. E. Padgett-Flohr, L. A. Hallock, J. E. Johnson, R. S. Wagner, and J. D. Engler. 2009. Amphibian chytridiomycosis in the Oregon spotted frog (*Rana pretiosa*) in Washington State, USA. *Northwestern Naturalist* 90(2):148–151. <https://doi.org/10.1898/NWN08-28.1>

Reports on the impacts of amphibian chytridiomycosis on Oregon spotted frogs.

Hallock, Lisa. 2013. Draft State of Washington Oregon spotted frog recovery plan. Washington Department of Fish and Wildlife, Olympia. <https://digitalarchives.wa.gov/do/DFE8388F5B2F1A8ECC71227C9527A97F.pdf>

Recovery plan for the Oregon spotted frog in Washington, focused on the Puget Trough ecoregion and the southern portion of the East Cascades ecoregions, with the aim of monitoring other known Oregon spotted frog sites.

Howell L. G., R. Frankham, J. C. Rodger, R. R. Witt, S. Clulow, R. M. O. Upton, and J. Clulow. 2021. Integrating biobanking minimises inbreeding and produces significant cost benefits for a threatened frog captive breeding programme. *Conservation Letters* 14(2):e12776. <https://doi.org/10.1111/conl.12776>

Presents a model system of the cost and genetic benefits achieved by incorporating biobanking into captive breeding of Oregon spotted frogs.

Hunter, B. 2023. Assessments of genetic and reproductive health in Canada's endangered Oregon spotted frog (*Rana pretiosa*). Master's Thesis. Laurentian University, Sudbury, Ontario, Canada. <https://laurentian.scholaris.ca/handle/10219/4103>

Evaluates the genetic health of both zoo and wild populations of Oregon spotted frogs in Canada and investigates some potential causes of the ongoing ex situ reproductive failures associated with egg binding.

Hunter, B., A. L. Ferchaud, E. Normandeau, K. Morgan, A. Mooers, G. Mastromonaco, and D. Lesbarrères. 2025. Continued collaboration of ex situ and in situ programs is critical for the genetic sustainability of the endangered *Rana pretiosa*. Scientific Reports 15:17835. <https://doi.org/10.1038/s41598-025-01483-4>

Analyzes genetic samples from both wild and zoo populations of Oregon spotted frog to compare genetic diversity, inbreeding coefficients, effective population sizes and population structure using single-nucleotide polymorphisms.

Kapust, H. Q., K. R. M. McAllister, M. P. Hayes. 2012. Oregon spotted frog (*Rana pretiosa*) response to enhancement of oviposition habitat degraded by invasive reed canary grass (*Phalaris arundinacea*). Herpetological Conservation and Biology 7(3):358-366. https://herpconbio.org/Volume_7/Issue_3/Kapust_etal_2012.pdf

Examines probability of oviposition and thermal attributes in 32 pairs of mowed and unmowed plots of reed canary grass.

Kissel, A. M., W. J. Palen, and P. Govindarajulu. 2017. A decision-theory approach to cost-effective population supplementation for imperiled species. Ecological Economics 142:194-202. <https://doi.org/10.1016/j.ecolecon.2017.06.028>

Evaluates tradeoffs between recovery actions to reduce extinction risk and financial cost for the imperiled Oregon spotted frog.

Kissel, A. M., W. J. Palen, P. Govindarajulu, and C. A. Bishop. 2014. Quantifying ecological life support: the biological efficacy of alternative supplementation strategies for imperiled amphibian populations. Conservation Letters 7(5):441-450. <https://doi.org/10.1111/conl.12093>

Simulates population supplementation via captive breeding or head-starting, and releasing offspring into the wild as larvae or young of the year.

Korchonoff, N. 2021. Hydrology, restoration techniques and emergent vegetative mats: effects on native vegetation and reed canary grass at three western Washington Oregon spotted frog sites. Master's thesis. The Evergreen State College, Olympia, Washington. <https://collections.evergreen.edu/s/archives/item/8165>

Evaluates the effects of pre-vegetated emergent vegetative mats installed at different water depths using three different restoration techniques to assess methods to control reed canary grass in Oregon spotted frog sites.

Leonard, W. P., K. R. McAllister, and L. A. Hallock. 1997. Autumn vocalizations by the red-legged frog (*Rana aurora*) and the Oregon spotted frog (*Rana pretiosa*). *Northwestern Naturalist* 78(2):73–74. <https://doi.org/10.2307/3536850>

Reports on the vocalizations of red-legged frogs and Oregon spotted frogs.

Licht, L. E. 1969. Comparative breeding behavior of the red-legged frog (*Rana Aurora Aurora*) and the western spotted frog (*Rana pretiosa pretiosa*) in southwestern British Columbia. *Canadian Journal of Zoology* 47(6):1287–1299. <https://doi.org/10.1139/z69-202>

Compares the breeding behavior of *Rana aurora aurora* and *R. pretiosa pretiosa* from an area of sympatry in southwestern British Columbia.

Licht, L. E. 1971. Breeding habits and embryonic thermal requirements of the frogs, *Rana Aurora Aurora* and *Rana pretiosa pretiosa*, in the Pacific Northwest. *Ecology* 52(1):116–124. <https://doi.org/10.2307/1934742>

Compares the thermal requirements and tolerance of *Rana aurora aurora* and *R. pretiosa pretiosa*.

Licht, L. E. 1974. Survival of embryos, tadpoles, and adults of the frogs *Rana Aurora Aurora* and *Rana pretiosa pretiosa* sympatric in southwestern British Columbia. *Canadian Journal of Zoology* 52(5):613–627. <https://doi.org/10.1139/z74-079>

Studies and compares field survival of embryos, tadpoles, and adults of *Rana aurora* and *Rana pretiosa* sympatric in wetland areas near Vancouver, British Columbia.

Licht, L. E. 1986. Comparative escape behavior of sympatric *Rana aurora* and *Rana pretiosa*. *American Midland Naturalist* 115(2):239. <https://doi.org/10.2307/2425860>

Compares escape behavior of *Rana aurora* and *R. pretiosa* from sympatric populations in British Columbia.

Licht, L. E. 1986. Food and feeding behavior of sympatric red-legged frogs, *Rana aurora*, and spotted frogs, *Rana pretiosa*, in southwestern British Columbia. *Canadian Field Naturalist* 100:22-31.
<https://www.biodiversitylibrary.org/page/28072097#page/32/mode/1up>

Compares feeding behavior of *Rana aurora* and *R. pretiosa* from sympatric populations in British Columbia.

McAllister, K. R. and W. P. Leonard. 1997. Washington State status report for the Oregon spotted frog. Washington Department of Fish and Wildlife, Olympia.
<https://wdfw.wa.gov/publications/00382>

Status report on the Oregon spotted frog in Washington and calls for the listing of the Oregon spotted frog as a state endangered species.

McAllister, K. R., W. P. Leonard, and R. t M. Storm. 1993. Spotted frog (*Rana pretiosa*) surveys in the Puget Trough of Washington, 1989-1991. *Northwestern Naturalist* 74(1):10-15. <https://doi.org/10.2307/3536575>

Surveys the Puget Trough in the historical range of Oregon spotted frogs and charts their decline.

McAllister, K. R., J. W. Watson, K. Risenhoover, T. McBride. 2004. Marking and radiotelemetry of Oregon spotted frogs (*Rana pretiosa*). *Northwestern Naturalist* 85(1):20-25. [https://doi.org/10.1898/1051-1733\(2004\)085%3C0020:MAROOS%3E2.0.CO;2](https://doi.org/10.1898/1051-1733(2004)085%3C0020:MAROOS%3E2.0.CO;2)

Evaluates marking and radiotelemetry techniques of Oregon spotted frogs from October 1996, through December 2000, at Dempsey Creek, Thurston County, Washington.

McAllister, K. R., and H.Q. White. 2001. Oviposition ecology of the Oregon spotted frog at Beaver Creek, Washington. Washington Department of Fish and Wildlife, Olympia.
<https://wdfw.wa.gov/publications/00384>

Characterizes oviposition sites in the floodplain of Beaver Creek, a Thurston County tributary to the Black River, Washington.

McKibbin, R., W. T. Dushenko, G. vanAggelen, and C. A. Bishop. 2008. The influence of water quality on the embryonic survivorship of the Oregon spotted frog (*Rana pretiosa*) in British Columbia, Canada. Science of The Total Environment 395(1):28-40. <https://doi.org/10.1016/j.scitotenv.2008.01.050>

Assesses embryonic survivorship in two populations of Oregon spotted frogs from 2002–2005 in British Columbia.

Morningred, B. L. 2015. My other home is a mesocosm: a water quality analysis of three different rearing treatments for *Rana pretiosa*. Master's thesis. The Evergreen State College, Olympia, Washington.
<https://collections.evergreen.edu/s/repository/item/2519>

Reports on attempts to raise frogs in a Mesocosm environment in an attempt to lower human contact during captive rearing.

Murtagh, P. 2021. Oregon spotted frog (*Rana pretiosa*) absence in the Chehalis River basin: an analysis of habitat, climate and invasive species. Master's thesis. The Evergreen State College, Olympia, Washington.
<https://collections.evergreen.edu/s/repository/item/8169>

Assesses the extent of suitable habitat for Oregon spotted frogs in the Chehalis River basin and the presence of invasive species.

Padgett-Flohre, G. E., and M. P. Hayes. 2011. Assessment of the vulnerability of the Oregon spotted frog (*Rana pretiosa*) to the amphibian chytrid fungus (*Batrachochytrium dendrobatidis*). Herpetological Conservation and Biology 6(2):99–106.
https://www.herpconbio.org/Volume_6/Issue_1/Padgett-Flohr_Hayes_2011.pdf

Experimental study on the sensitivity of Oregon spotted frogs to *Batrachochytrium dendrobatidis*. While all frogs were infected, no frogs died or showed behavioral or morphological manifestations of disease.

Pearl, C. A., M. J. Adams, R. B. Bury, and B. McCreary. 2004. Asymmetrical effects of introduced bullfrogs (*Rana catesbeiana*) on native ranid frogs in Oregon. *Copeia* 2004(1):11-20. <https://doi.org/10.1643/CE-03-010R2>

Investigates whether microhabitat and behavioral differences that facilitate sympatric coexistence of the natives predict which species, either red-legged frogs, or Oregon spotted frogs, is more susceptible to predation by introduced bull frogs.

Pearl, C. A., M. J. Adams, and N. Leuthold. 2009. Breeding habitat and local population size of the Oregon spotted frog (*Rana pretiosa*) in Oregon, USA. *Northwestern Naturalist* 90(2):136–147. <https://doi.org/10.1898/NWN08-23.1>

Utilizes egg mass counts to study Oregon spotted frogs habitat relationships at oviposition sites and breeding ponds.

Pearl, C. A., J. Bowerman, M. J. Adams, and N. D. Chelgren. 2009b. Widespread occurrence of the chytrid fungus *Batrachochytrium dendrobatidis* on Oregon spotted frogs (*Rana pretiosa*). *EcoHealth* 6(2):209–218. <https://doi.org/10.1007/s10393-009-0237-x>

Investigates *Batrachochytrium dendrobatidis* prevalence in Oregon spotted frog, finding it to be prevalent within populations.

Pearl, C. A., J. Bowerman, D. Knight. 2005. Feeding behavior and aquatic habitat use by Oregon spotted frogs (*Rana pretiosa*) in central Oregon. *Northwestern Naturalist* 86(1):36-38. [https://doi.org/10.1898/1051-1733\(2005\)086\[0036:FBAAHU\]2.0.CO;2](https://doi.org/10.1898/1051-1733(2005)086[0036:FBAAHU]2.0.CO;2)

Studies feeding behavior and vegetated microhabitat use by Oregon spotted frogs in Deschutes County, Oregon.

Pearl, C. A., D. Clayton, and L. Turner. 2010. Surveys for presence of Oregon spotted frog (*Rana pretiosa*): background information and field methods. USGS Forest and

Rangeland Ecosystem Science Center, Corvallis, Oregon.

<https://www.usgs.gov/publications/surveys-presence-oregon-spotted-frog-rana-pretiosa-background-information-and-field>

Summarizes information to improve the efficiency of field surveys and increase chances of detection if frogs are present, including historical and extant ranges of Oregon spotted frogs.

Pearl, C. A., and M. P. Hayes. 2002. Predation by Oregon spotted frogs (*Rana pretiosa*) on western toads (*Bufo boreas*) in Oregon. The American Midland Naturalist 147(1):145-152. [https://doi.org/10.1674/0003-0031\(2002\)147\[0145:PBOSFR\]2.0.CO;2](https://doi.org/10.1674/0003-0031(2002)147[0145:PBOSFR]2.0.CO;2)

Report on field observations from four different localities demonstrating that Oregon spotted frogs readily consume juvenile western toads at breeding sites in Oregon.

Pearl, C. A., and M. P. Hayes. 2004. Habitat associations of the Oregon spotted frog (*Rana pretiosa*): a literature review. Washington Department of Fish and Wildlife, Olympia. <https://wdfw.wa.gov/publications/00386>

Literature review on habitat use by Oregon spotted frogs, profiles likely habitats for Oregon spotted frogs and gaps in contemporary research.

Pearl, C. A., B. McCreary, J. C. Rowe, and M. J. Adams. 2018. Late-season movement and habitat use by Oregon spotted frog (*Rana pretiosa*) in Oregon, USA. Copeia 106(3):539–549. <https://doi.org/10.1643/CH-18-031>

Uses radio-telemetry to study late-season movement and habitat use by Oregon spotted frog at nine sites from four populations in the Cascade Mountains in Oregon.

Pearl, C. A., J. C. Rowe, B. McCreary, and M. J. Adams. 2022. Late-season movement and habitat use by Oregon spotted frog (*Rana pretiosa*) in a large reservoir in Oregon, USA. Journal of Herpetology 56(1):8-17. <https://doi.org/10.1670/20-060>

Compares fall movement and habitat use by the Oregon spotted frog in the reservoir pool with nearby river and pond habitats at Crane Prairie Reservoir in central Oregon.

Peterson, H. K. 2001. Effects of nonlethal predation and competition on life-history characteristics and behavior of larval Oregon spotted frog (*Rana pretiosa*) and larval red-legged frog (*Rana aurora*). Master's thesis. University of British Columbia, Vancouver, Canada. <http://hdl.handle.net/2429/11943>

Examines the effects of inter- and intraspecific competition and nonlethal predation on metamorphic characteristics between Oregon spotted frogs and red-legged frogs.

Phillipsen, I. C., J. Bowerman, and M. Blouin. 2009. Effective number of breeding adults in Oregon spotted frogs (*Rana pretiosa*): genetic estimates at two life stages. Conservation Genetics 11(3):737–745. <https://doi.org/10.1007/s10592-009-9862-8>

Utilizes genetic methods to estimate the effective number of breeders in a population of Oregon spotted frogs.

Plomski, L. M. 2011. Inter-institutional evaluation of captive rearing for the Oregon spotted frog (*Rana pretiosa*). Master's thesis. The Evergreen State College, Olympia, Washington. <https://collections.evergreen.edu/s/archives/item/2386>

Identifies the factors that might influence the variability observed in Oregon spotted frogs survivorship during captive rearing.

Popescu, V. D., A. M. Kissel, M. Pearson, W. J. Palen, P. Govindarajulu, and C. A. Bishop. 2013. Defining conservation-relevant habitat selection by the highly imperiled Oregon spotted frog, *Rana pretiosa*. Herpetological Conservation and Biology 8(3):688–706. https://www.herpconbio.org/Volume_8/Issue_3/Popescue_etal_2013.pdf

Tests the degree of habitat selection at two spatial scales by captive-raised Oregon spotted frog individuals released at two sites in British Columbia to inform translocation and habitat-based recovery actions.

Ramsdell, K. D. 2013. Diel breeding patterns of the Oregon spotted frog (*Rana pretiosa*) observed by camera traps. Master's thesis. The Evergreen State College, Olympia, Washington. https://bcreptilesandamphibians.ca/wp-content/uploads/2024/02/Ramsdell_2013.pdf

Studies oviposition behavior of Oregon spotted frogs to better delineate conditions associated with oviposition.

Richardson, J. 2011. Movement, habitat use, and dispersal of juvenile Oregon spotted frogs (*Rana pretiosa*) on Joint Base Lewis McChord. Master's Thesis. The Evergreen State College, Olympia, Washington. <https://collections.evergreen.edu/s/archives/item/2387>

Assesses the dispersal, habitat use and movements of juvenile Oregon spotted frogs on Joint Base Lewis McChord.

Risenhoover, K. L., T. C. McBride, K. R. McAllister, and M. Golliet. 2001. Oviposition behavior of the Oregon spotted frog (*Rana pretiosa*) along Dempsey Creek, Thurston County, Washington. Report to Washington Department of Transportation. Not available online.

Reports on oviposition behavior of Oregon spotted frogs observed along Dempsey Creek, Thurston County, Washington.

River Design Group and HDR. 2017. Oregon spotted frog and Deschutes redband trout habitat modeling and riparian analysis at two sites on the upper Deschutes River. Report to Deschutes Basin Board of Control on behalf of the Basin Study Work Group, Redmond, Oregon. <https://www.usbr.gov/pn/studies/deschutes/drecologicalassessment.pdf>

Analyzes existing and potential habitat conditions for Oregon spotted frog and Deschutes redband trout downstream from Wickiup Dam.

Robertson, J. M., M. A. Murphy, C. A. Pearl CA, M. J. Adams, M. I. Páez-Vacas, S. M. Haig, D. S. Pilliod, A. Storfer, and W. C. Funk. 2018. Regional variation in drivers of connectivity for two frog species (*Rana pretiosa* and *R. luteiventris*) from the U.S.

Pacific Northwest. *Molecular Ecology* 27(16):3242–3256.
<https://doi.org/10.1111/mec.14798>

Provides evidence from a landscape genetics study of two sister taxa of frogs, the Oregon spotted frog and the Columbia spotted frog in Oregon and Idaho.

Rombough, C., and J. Bowerman. 2021. The structure of spotted frog (*Rana luteiventris* and *Rana pretiosa*) eggs: a physical description and historical perspective. *Northwestern Naturalist* 102(1):1-8. <https://doi.org/10.1898/1051-1733-102.1.1>

Finds discrepancies between accounts of spotted frog eggs and observed spotted frog eggs.

Rosenberg, D. K. 2013. Status of and potential recovery options for Oregon spotted frogs in the Willamette Valley, Oregon. Oregon Wildlife Institute, Corvallis, Oregon.
<https://www.oregonwildlife.org/wp-content/uploads/2013/08/Spotted-Frog-Willamette-Valley-Conservation-Assessment-OWI-August-20132.pdf>

Calls for surveys of Oregon spotted frog potential sites in the Willamette Valley, Oregon, where Oregon spotted frogs are generally thought to be extirpated.

Rowe, J. C., A. Duarte, C. A. Pearl, B. McCreary, P. K. Haggerty, J. W. Jones, and M. J. Adams. 2021. Demography of the Oregon spotted frog along a hydrologically modified river. *Ecosphere* 12(6):e03634. <https://doi.org/10.1002/ecs2.3634>

Identifies population effects of seasonally limited water and highlights conservation potential of enhancing survival of particularly influential life stages of Oregon spotted frogs.

Rowe, J. C., C. A. Pearl, A. Duarte, B. McCreary, and M. J. Adams. 2024. Population dynamics of the threatened Oregon spotted frog before and after drought mitigation. *Journal of Wildlife Management* 88(1):e22496.
<https://doi.org/10.1002/jwmg.22496>

Evaluates the effects of drought mitigation on relationships between local and regional water availability, inactive legacy beaver dams, and Oregon spotted frog population dynamics in the Jack Creek, Oregon, system.

Rowe, J. C., L. Wilson-Romine, and J. Romine. 2021. Active season and pre-overwintering microhabitat use by Oregon spotted frogs (*Rana pretiosa*) and American bullfrogs (*Lithobates catesbeianus* [*Rana catesbeiana*]) at Conboy Lake National Wildlife Refuge, Washington. *Northwestern Naturalist* 102(1):55-75.
<https://doi.org/10.1898/1051-1733-102.1.55>

Uses radiotelemetry to characterize Oregon spotted frog and bullfrog active-season and pre-overwintering habitat in the human-engineered ditch system at Conboy Lake National Wildlife Refuge.

Sardari, P. 2024. Hormone profile monitoring and reintroduction site water quality assessment to support conservation of the Oregon spotted frog (*Rana pretiosa*). Master's thesis. Simon Fraser University, Burnaby, British Columbia, Canada.
<https://summit.sfu.ca/item/38710>

Assesses sensitivities of Oregon spotted frog in early life stages to various water quality changes to enhance captive rearing methodologies.

Shovlain, A. M. 2005. Oregon spotted frog (*Rana pretiosa*) habitat use and herbage (or biomass) removal from grazing at Jack Creek, Klamath County, Oregon. Master's thesis. Oregon State University, Corvallis, Oregon.
https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/gh93h2324

Evaluates the effects of herbage removal from livestock grazing on Oregon spotted frog habitat use by monitoring frog locations in grazed and matched ungrazed treatments across a range of grazing intensities at Jack Creek, Oregon.

Stenberg, P. L., and W. J. Bowerman. 2008. Hemoparasites in Oregon spotted frogs (*Rana pretiosa*) from Central Oregon, USA. *Journal of Wildlife Diseases* 44(2):464–468.
<https://doi.org/10.7589/0090-3558-44.2.464>

Reports on screenings for blood parasites in Oregon spotted frogs from 2001-2003.

Stenberg, P. L., and W. J. Bowerman. 2010. First Report of Hepatozoon sp. in the Oregon spotted frog, *Rana pretiosa*. Journal of Wildlife Diseases 46(3):956–960.
<https://doi.org/10.7589/0090-3558-46.3.956>

Reports on newly found blood parasites in Oregon spotted frogs during screening from 2005 to 2008.

Svihla, A. 1935. Notes on the western spotted frog, *Rana pretiosa pretiosa*. Copeia 3:119-122. <https://doi.org/10.2307/1436545>

Discusses the distribution of western spotted frogs, which included Oregon spotted frogs as they were then considered a subspecies.

Tidwell, K. S. 2017. Quantifying the Impacts of a novel predator: the distinctive case of the Oregon spotted frog (*Rana pretiosa*) and the invasive American bullfrog (*Rana (Aquarana) catesbeiana*). Doctoral dissertation. Portland State University, Portland, Oregon. <https://doi.org/10.15760/etd.5388>

Examines the behavioral ecology of Oregon spotted frogs and American bullfrogs to better understand the potential for bullfrog-mediated Oregon spotted frog extirpation.

Tidwell, K. S., and M. P. Hayes. 2013. Difference in flight initiation distance between recently metamorphosed Oregon spotted frogs (*Rana pretiosa*) and American bullfrogs (*Lithobates catesbeianus*). Herpetological Conservation and Biology 8(2):426–434.
https://www.herpconbio.org/Volume_8/Issue_2/Tidwell_Hayes_2013.pdf

Compares American bullfrog and Oregon spotted frog escape behaviors, finding that Oregon spotted frogs allowed a very close approach and even sometimes a touch before escaping.

Tidwell, K. S., D. J. Shepherdson, and M. P. Hayes. 2013. Interpopulation variability in evasive behavior in the Oregon spotted frog (*Rana pretiosa*). Journal of Herpetology 47(1):93–96. <https://doi.org/10.1670/11-163>

Quantifies the evasive response of juvenile Oregon spotted frogs from two populations.

Turner, F. B. 1957. The ecology and morphology of *Rana pretiosa pretiosa* in Yellowstone Park, Wyoming. Doctoral dissertation. University of California, Berkeley. Not available online.

Dissertation on the ecology and morphology of Western spotted frogs in Yellowstone Park, Wyoming.

U.S. Fish and Wildlife Service. 2022. Oregon spotted frog (*Rana pretiosa*) species biological report, version 1.

https://ecos.fws.gov/docs/recovery_plan/Draft_OregonSpottedFrog_SBR.pdf

Provides an overview of the biology and natural history of the Oregon spotted frog and assesses its current viability in terms of resiliency, representation, and redundancy.

U.S. Fish and Wildlife Service. 2024. Recovery plan for the Oregon spotted frog (*Rana pretiosa*). U.S. Fish and Wildlife Service, Portland, Oregon.

https://ecos.fws.gov/docs/recovery_plan/SIGNED_Oregon_Spotted_Frog_FinalRP_20240719.pdf

Provides a recovery plan for the Oregon spotted frog across the 16 US subbasins of its extant range.

Waddell, C. D. 2015. The Oregon spotted frog (*Rana pretiosa*) in lowland western Washington, USA: a population, parentage, & non-breeding habitat analysis. Master's thesis. The Evergreen State College, Olympia, Washington.

<https://collections.evergreen.edu/s/archives/item/2529>

Investigates the spatial relationship between breeding and non-breeding habitat utilization patterns of adult Oregon spotted frogs by using genetic sampling for one small population.

Watson, J. R., K. R. McAllister, and D. J. Pierce. 2003. Home ranges, movements, and habitat selection of Oregon spotted frogs (*Rana pretiosa*). Journal of Herpetology 37(2):292-300. [https://doi.org/10.1670/0022-1511\(2003\)037\[0292:HRMAHS\]2.0.CO;2](https://doi.org/10.1670/0022-1511(2003)037[0292:HRMAHS]2.0.CO;2)

Studies one of four known populations of Oregon spotted frogs in Washington State to investigate patterns of range use, movements, and habitat selection.

Watson, J. R., K. R. McAllister, D. J. Pierce, and A. Alverado. 2000. Ecology of a remnant population of Oregon spotted frogs (*Rana pretiosa*) in Thurston County, Washington. Washington Department of Fish and Wildlife, Olympia.
<https://wdfw.wa.gov/sites/default/files/publications/00383/wdfw00383.pdf>

Reports on studies of the Oregon spotted frog population in Dempsey Creek, Thurston County, Washington.

Whitaker, Jr., J. O., S. P. Cross, J. M. Skovlin, and C. Maser. 1983. Food habits of the spotted frog (*Rana pretiosa*) from managed sites in Grant County, Oregon. Northwest Science 57(2):147-154. <https://hdl.handle.net/2376/1909>

Assesses the food habits of Oregon spotted frogs at four sites in Grant County, Oregon.

White, H. Q. 2002. Oviposition habitat enhancement and population estimates of Oregon spotted frogs (*Rana pretiosa*) at Beaver Creek, Washington. Master's thesis. The Evergreen State College, Olympia, Washington. Not available online.

Thesis studying oviposition behavior and habitat preferences of Oregon spotted frogs in Beaver Creek, Washington.

Wishard, L. 1977. Larval growth in *Rana pretiosa*: ecological and genetic factors. Master's thesis. University of Montana, Missoula. <https://scholarworks.umt.edu/etd/6972>

Thesis assessing larval growth rates of Western spotted frogs in Western Montana.

Yahnke, A.E., C. E. Grue, M. P. Hayes, and A. T. Troiano. 2013. Effects of the herbicide imazapyr on juvenile Oregon spotted frogs. Environmental Toxicology and Chemistry 32(1):228-235. <https://doi.org/10.1002/etc.2048>

Laboratory experiment exposing juvenile Oregon spotted frogs to tank mixes of the herbicide imazapyr, a surfactant, and a marker dye in a 96-h static-renewal test.