

CURRICULUM VITAE

Ryan O'Dell

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Education

M.Sc. Soils and Biogeochemistry (2005)

'Revegetation of subgrade substrates: I. Barren serpentine substrates. II. Cu and Zn minespoil'

University of California, Davis

Major Advisor: Victor P. Claassen

B.S. Plant Biology (2002)

University of California, Davis

Professional Experience

- **Bureau of Land Management**, Central Coast Field Office, Marina, CA. **Natural Resource Specialist GS-12 – Botany/Soils/Paleontology. 2007 – Present**
Applied ecology, land management practices, environmental compliance, NEPA, ESA. NEPA document drafting including Environmental Assessments (EA), Biological Assessments (BA), and Resource Management Plans (RMP). Science Strategy for Cotoni-Coast Dairies, an Onshore Unit of the California Coastal National Monument, including Indigenous Traditional Ecological Knowledge (ITEK). General plant survey and mapping (Calflora ObserverPro). Long-term plant population monitoring data collection and trend analysis (Excel, SigmaPlot). Federally listed plant species conservation and recovery actions including monitoring and survey, seed increases, population introductions, habitat restoration. Plant ecological research including response to disturbance and soil seed bank quantification. Federally listed serpentine endemic San Benito evening primrose (*Camissonia benitensis*) and San Joaquin Desert endemic San Joaquin woolly threads (*Monolopia congdonii*). Drafted the Post-Delisting Monitoring Plan, in coordination with USFWS. USFWS Recovery Permit ES163671. Drafting of annual monitoring reports to USFWS. Research and formal description of newly discovered plant species. Control of invasive plant species including yellow starthistle (*Centaurea solstitialis*) and tamarisk (*Tamarix parviflora*) using manual, mechanical, herbicide, and prescribed fire methods. Weed eater, brush mower, UTV with spray boom. Fuels reduction with manual, mechanical, and prescribed fire methods. Prescribed livestock grazing to manage fine fuel load (residual dry matter) and annual plant species cover and composition. Rangeland Health Assessments of grasslands and Proper Functioning Condition Assessments of

riparian zones. Vegetative cover and composition data collection by point intercept method and quadrat method. Rangeland long-term study plot data collection. BLM Certified Pesticide Applicator. San Benito County Weed Management Area partner and former chair. California native plant seed collection, processing, and conservation seed banking. Plant propagation in a horticultural setting and planting for restoration. Research studies of soil physical and chemical properties and climate as related to plant ecology and ecological restoration, with a special emphasis on extreme soils including serpentine and vertic clay. Research collaboration with academic institutions, Federal and State agency partners, and private non-profit organizations. Cal Poly San Luis Obispo. University of California, Davis. University of California, Berkeley. Rocky Mountain Elk Foundation. Soil sampling and interpretation of soil physical and chemical properties analytical results. Soil classification. GIS mapping of geology, soil, and vegetation type based on high-resolution satellite imagery. Paleontological survey and monitoring.

- **HT Harvey and Associates**, Sacramento Office, Sacramento, CA. **Associate Ecologist. 2005**. Environmental compliance, CEQA, CESA. Rare, threatened and endangered plant species survey. Mitigation monitoring.
- **University of California, Davis, CA. Graduate Research Assistant. 2002 - 2007**. Revegetation of subgrade substrates including barren serpentine, minespoils, and alkaline/saline alluvium. PI: Victor P. Claassen.
- **University of California, Davis, CA. Post-Graduate Researcher/Assistant. 2002**. Revegetation of Owens Dry Lake playa including planting, watering, project maintenance, and data collection. PI: James H. Richards.
- **US Forest Service**, Fremont-Winema National Forest, Chemult Ranger District, Chemult, OR. **Seasonal Botanist. Summer 2001**. Rare, threatened and endangered plant species survey.

Peer-Reviewed Journal Publications

- Egger JM and **RE O'Dell**. 2026. *Castilleja benitoensis* (Orobanchaceae), a new serpentinite endemic from San Benito Mountain, California. *Phytoneuron* 2026-12: 1–75. ISSN 2153 733X
- Fryer ER, **O'Dell R**, Grossenbacher DL, Shon A, McKinnon S, and N Rajakaruna. 2026. Soil, competition, and niche shifts shape the floral mosaic of an annual plant diversity hotspot. *American Journal of Botany* DOI: [10.1002/ajb2.70171](https://doi.org/10.1002/ajb2.70171)
- Grossenbacher DL, Lo MS, Waddington ME, **O'Dell R**, and KM Kay. 2026. Soil and climate contribute to maintenance of a flower color polymorphism. *American Journal of Botany* 113(1):e70018. DOI: [10.1002/ajb2.70018](https://doi.org/10.1002/ajb2.70018)
- Fryer ER, Bales N, Shon A, Huntley H, McKinnon SN, **O'Dell R**, and N Rajakaruna. 2025. Clay affinity and endemism in California's flora. *Madroño* 72:126-156. DOI: [10.3120/0024-9637-250016](https://doi.org/10.3120/0024-9637-250016)
- Jones SF, Milano E, **O'Dell RE**, Ferrell M, Vandergast A, and KM Thorne. 2024. Bay Miwok evening primrose: A new subspecies of *Oenothera deltoides* (Onagraceae) endemic to California. *Madroño* 71:84-104. DOI: [10.3120/0024-9637-71.2.84](https://doi.org/10.3120/0024-9637-71.2.84)

- O'Dell RE**, Erwin DM, Holroyd P, Rankin BD, and M. Ibraheem El-Faramawi. 2017. Flora and fauna of the Holocene Oil Canyon oil-sands from the poorly understood San Joaquin Desert Biozone. *In*: RE Reynolds (Ed.). ECSZ Does It: Revisiting the Eastern California Shear Zone. California State University Desert Studies Center. 2017 Desert Symposium Field Guide and Proceedings. April 2017. <https://escholarship.org/uc/item/5bb950wz>
- Curtis MJ, Rider DE, Lorenzato S, **O'Dell RE**, Fristensky A and V Claassen. 2015. Rainfall infiltration of soils under annual versus perennial grasses in California. *Grasslands* 25:9-12
- Dick CA, Herman JA, **O'Dell RE**, Lopez-Villalobos A, Eckert C, and JB Whittall. 2014. Cryptic genetic subdivision in the San Benito evening primrose (*Camissonia benitensis*). *Conservation Genetics* 15:165-175. DOI: [10.1007/s10592-013-0533-4](https://doi.org/10.1007/s10592-013-0533-4)
- O'Dell R**. 2014. Noteworthy collection. *Astragalus rattanii* var. *jepsonianus*. *Madroño* 61:250. DOI: [10.3120/0024-9637-61.2.250](https://doi.org/10.3120/0024-9637-61.2.250)
- Rajakaruna N, Knudsen K, Fryday AM, **O'Dell RE**, Pope N, Olday FC, and S Woolhouse. 2012. Investigation of the importance of rock chemistry for saxicolous lichen communities of the New Idria serpentinite mass, San Benito County, California, USA. *Lichenologist* 44:695-714. DOI: [10.1017/S0024282912000205](https://doi.org/10.1017/S0024282912000205)
- Lazarus BE, Richards JH, Claassen VP, **O'Dell RE** and MA Ferrell. 2011. Species specific plant-soil interactions influence plant distribution on serpentine soils. *Plant and Soil* 342:327–344. DOI: [10.1007/s11104-010-0698-2](https://doi.org/10.1007/s11104-010-0698-2)
- O'Dell RE** and VP Claassen. 2009. Serpentine revegetation: A review. *Northeastern Naturalist* 16:253-271. DOI: [10.1656/045.016.0519](https://doi.org/10.1656/045.016.0519)
- O'Dell RE**, Young SL and VP Claassen. 2007. Native roadside perennial grasses persist a decade after planting in the Sacramento Valley. *California Agriculture* 61:79-84. DOI: [10.3733/ca.v061n02p79](https://doi.org/10.3733/ca.v061n02p79)
- Rider DE, **O'Dell RE**, and VP Claassen. 2007. Release of non-exchangeable $^{15}\text{NH}_4^+$ from subgrade, decomposed granite substrates and uptake by non-mycorrhizal and mycorrhizal California native annual grass, *Vulpia microstachys*. *Plant and Soil* 300:83-94. DOI: [10.1007/s11104-007-9390-6](https://doi.org/10.1007/s11104-007-9390-6)
- O'Dell R**, Silk W, Green P and V Claassen. 2007. Compost amendment of Cu-Zn minespoil reduces toxic bioavailable heavy metal concentration and promotes establishment and biomass production of *Bromus carinatus* (Hook and Arn.) *Environmental Pollution* 148:115-124. DOI: [10.1016/j.envpol.2006.10.037](https://doi.org/10.1016/j.envpol.2006.10.037)
- Silk WK, Bambic DG, **O'Dell RE** and PG Green. 2006. Seasonal and spatial patterns of metals at a restored copper mine site. II. Copper in riparian soils and *Bromus carinatus* shoots. *Environmental Pollution* 144:783-789. DOI: [10.1016/j.envpol.2006.02.018](https://doi.org/10.1016/j.envpol.2006.02.018)
- O'Dell RE** and V Claassen. 2006. Relative performance of native and exotic grass species in response to amendment of drastically disturbed serpentine substrates. *Journal of Applied Ecology* 43:898-908. DOI: [10.1111/j.1365-2664.2006.01193.x](https://doi.org/10.1111/j.1365-2664.2006.01193.x)
- O'Dell RE** and VP Claassen. 2006. Vertical distribution of organic amendment influences the rooting depth of revegetation species on barren, subgrade serpentine substrate. *Plant and Soil* 285:19-29. DOI: [10.1007/s11104-005-8361-z](https://doi.org/10.1007/s11104-005-8361-z)

O'Dell RE and VP Claassen. 2006. Serpentine and nonserpentine *Achillea millefolium* accessions differ in serpentine substrate tolerance and response to organic and inorganic amendments. *Plant and Soil* 279: 253-269.

DOI: [10.1007/s11104-005-2360-y](https://doi.org/10.1007/s11104-005-2360-y)

O'Dell RE, James JJ and JH Richards. 2006. Congeneric serpentine and nonserpentine shrubs differ more in leaf Ca:Mg than in tolerance of low N, low P, or heavy metals. *Plant and Soil* 280: 49-64. DOI: [10.1007/s11104-005-3502-y](https://doi.org/10.1007/s11104-005-3502-y)

Peer-Reviewed Book Chapter Publications

Buck-Diaz J, **O'Dell RE**, Coleman M, and CJ Lortie. 2021. Painting the scene; Natural plant communities as palettes for restoration on retired farmlands. *In*: Butterfield HS, Kelsey TR, and AK Hart (Eds.) *Rewilding Agricultural Landscapes: A California Study in Rebalancing the Needs of People and Nature*. Island Press. 273 pp.

<https://islandpress.org/books/rewilding-agricultural-landscapes#desc>

O'Dell RE. 2014. Conservation and restoration of chemically extreme edaphic endemic flora. *In*: Rajakaruna N, Boyd RS, and Harris TB (Eds.) *Plant ecology and evolution in harsh environments*. Nova Science Publishers, Inc., New York, USA. 426 pp.

<https://novapublishers.com/shop/plant-ecology-and-evolution-in-harsh-environments/>

O'Dell RE and Rajakaruna N. 2011. Intraspecific variation, adaptation, and evolution. *In*: Harrison S and Rajakaruna N (Eds.) *Serpentine: The evolution and ecology of a model system*. University of California Press, Berkeley, California, USA. 446 pp.

<https://www.ucpress.edu/book/9780520268357/serpentine>

O'Dell RE and Claassen VP. 2011. Restoration and revegetation of harsh soils. *In*: Harrison S and Rajakaruna N (Eds.) *Serpentine. The evolution and ecology of a model system*. University of California Press, Berkeley, California, USA. 446 pp.

<https://www.ucpress.edu/book/9780520268357/serpentine>

Conference and Meeting Presentations

O'Dell RE. 2021. California Native Plant Society. Santa Clara Chapter. April 21, 2021. *Oral Presentation*: Flora of the San Joaquin Desert.

O'Dell RE. 2019. Central Coast Invasive Weed Symposium (Carmel, CA, USA). November 14, 2019. *Oral Presentation*: Control of yellow starthistle using prescribed fire and clopyralid in the recovery of Federally listed San Benito evening primrose.

O'Dell RE. 2018. California Native Plant Society Conservation Conference (Los Angeles, CA, USA) February 1-3, 2018. *Oral Presentation*: Approaches and methods for the quantification of soil seed banks: Overcoming seed blindness.

O'Dell RE. 2017. BOTANY 2017 Conference (Ft. Worth, TX, USA) June 24-28, 2017. *Oral Presentation:* Strict vertic clay endemic flora of the Inner South Coast Ranges, California.

O'Dell RE. 2017. Northern California Botanical Society (Chico, CA, USA). January 9-10, 2017. Organizer and chair of session on Soil Seed Banks of California Native Plant Species and *Oral Presentation:* Soil seed banks of a federally listed threatened annual plant *Camissonia benitensis* (Onagraceae).

Academic Affiliation

[Research Associate.](#) [Geoecology Lab.](#) Biological Sciences Department. Cal Poly San Luis Obispo. Graduate Thesis Committee Member, Advisor and field support to Graduate Students at Cal Poly SLO.