

**Julian David Olden**

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**Expertise**

Dr. Julian Olden is an Associate Professor at the University of Washington whose research explores the ecology of freshwater ecosystems with a focus on species interactions, ecohydrology, climate change and invasive species. Dr. Olden has an international record of publication excellence represented by 140+ scientific papers in the peer-reviewed literature, which have collectively received 4,500 citations+ and reflected in an h-index of 37 (a bibliometric measure of productivity based on a scientist's publication activity and citation impacts). Dr. Olden is actively involved in the development of regional, national, and international research focusing on native species responses to invasive species and global climate change, with regular conference and workshop participation and presentations. His expertise on invasive species ecology lead Dr. Olden to be an invited member of the esteemed Independent Scientific Advisory Board which recently published a report on non-native species impacts in the Columbia River Basin. In addition, he recently participated in a working group "Assessing gaps and needs for invasive species management in a changing climate" (funded by the EPA and hosted by the Environmental Law Institute, Washington, DC). As a member of the Global River Sustainability Project, Dr. Olden has been heavily involved in a series of international workshops in the United States and Australia seeking to identify and model critical hydrological parameters for river basins across the globe. In addition, he is leading an expert working group examining the success of large-scale experiment flows for riverine restoration at the National Centre for Ecological Analysis and Synthesis. Dr. Olden was a former David H. Smith Conservation Science Fellow supported by the Society for Conservation Biology and the TNC.

**Current Position**

Associate Professor, School of Aquatic & Fishery Sciences, University of Washington (2011-present)

**Education**

Ph.D. in Ecology, Colorado State University (2000-2004). Dissertation title "Fish fauna homogenization of the United States, life-history correlates of native extinctions and non-native invasions in the American Southwest, and the bi-directional impacts of dams in the American Southeast"

M.Sc. in Zoology, University of Toronto (1998-2000). Thesis title "Predictive models for freshwater fish community composition"

B.Sc. in Zoology, University of Toronto (1994-1998)

**Recent Positions**

Assistant Professor, School of Aquatic & Fishery Sciences, University of Washington (2006- 2011)

Adjunct Research Fellow, Australian Rivers Institute, Griffith University (2006-)

David H. Smith Postdoctoral Conservation Fellowship, Center for Limnology, University of Wisconsin (2005-2006). Title "Conservation planning and prioritization for invasive species: Forecasting invasions and their impacts in freshwater systems using process-based modeling"

## Publications

### *Published*

#### 2013 (and in press)

- Olden, J.D., C. Konrad, T. Melis, M. Kennard, M. Freeman, M. Mims, E. Bray, K. Gido, N. Hemphill, D. Lytle, L. McMullen, M. Pyron, C. Robinson, J. Schmidt and J. Williams. In press. Are large-scale flow experiments informing the science and management of freshwater ecosystems? *Frontiers in Ecology and the Environment*.
- Gibson, P.R. and J.D. Olden. In press. Ecology, management, and conservation implications of North American beaver (*Castor canadensis*) in dryland streams. *Aquatic Conservation*.
- Pool, T.K., and J.D. Olden. Accepted. Assessing the long-term influence of an impoundment on the biogeography of an arid river basin's fish fauna. *Ecology of Freshwater Fish*.
- Marr, S.M., J.D. Olden, F. Leprieur, I. Arismendi, M. Cáleta, D.L. Morgan, A. Nocita, R. Šanda, A.S. Tarkan, and E. García-Berthou. In press. A global assessment of freshwater fish introductions in Mediterranean-climate regions. *Hydrobiologia*.
- Ibáñez, I., Diez, J.M., Miller, L.P., Olden, J.D., Sorte, C.J.B., Blumenthal, Bradley, B.A., D.M., D'Antonio, C.M., Dukes, J.S., Early, R.I., Grosholz, E.D., and J.J. Lawler. Integrated assessment of biological invasions. *Ecological Applications*.
- Tamayo, M. and J.D. Olden. In press. Forecasting the vulnerability of lakes to aquatic plant invasions. *Plant Invasive Species Management*.
- Twardochleb, L.A., Olden, J.D., E.R. Larson. In press. A global meta-analysis of the ecological impacts of non-native crayfish. *Freshwater Science*.
- Lawrence, D.J., Stewart-Koster, B., Olden, J.D., Ruesch, A.S., Torgersen, C.E., Lawler, J.J., Butcher, D.P., and J.K. Crown. In press. The interactive effects of climate change, riparian management, and a non-native predator on stream-rearing salmon. *Ecological Applications* 00:000-000.
- Thomsen, M.S., Byers, J.E., Schiel, D.R., Bruno, J.F., Olden, J.D., Wernberg, T. and B.R. Silliman. In press. Impacts of marine invaders on local communities depend on relative trophic position and functional similarity. *Marine Ecology Progress Series*.
- VanBlaricom, G.R., Price, J.L. Olden, J.D., and P.S. MacDonald. In press. Ecological effects of the harvest phase of geoduck clam (*Panopea generosa* Gould, 1850) aquaculture on infaunal communities in southern Puget Sound, Washington USA. *Journal of Shellfish Research*.
- Hansen, G.J.A., Vander Zanden, M.J., Blum, M.J., Clayton, M.K., Hain, E.F., Hauxwell, J., Izzo, M., Kornis, M.S., McIntyre, P.B., Mikulyuk, A., Nilsson, E., Olden, J.D., Papeş, M., Sharma, S. 2013. Commonly rare and rarely common: comparing population abundance of invasive and native aquatic species. *PLoS One*. 8(10): e77415. doi:10.1371/journal.pone.0077415.
- Lawler, J.J., Ruesch, A., Olden, J.D., and B. McRae. 2013. Projected faunal migration routes for a changing climate. *Ecology Letters* 16:1014-1022.
- Capinha, C., Larson, E.R., Tricarico, E., Olden, J.D., and F. Gherardi. 2013. Climate change, species invasions, and diseases threaten European native crayfishes. *Conservation Biology* 27:731-740.
- Gido, K.B., Propst, D.L., Olden, J.D., and K.R. Bestgen. 2013. Multidecadal responses of native and introduced fishes to natural and altered flow regimes in the American Southwest. *Canadian Journal of Aquatic and Fishery Sciences* 70: 554–564

- Kuehne, L.M., Padgham, B.L., and J.D. Olden. 2013. The soundscapes of lakes across an urbanization gradient. *PLoS One* 8(2): e55661. doi:10.1371/journal.pone.0055661
- Mims, M.C., and J.D. Olden. 2013. Fish assemblages respond to altered flow regimes via ecological filtering of life history strategies. *Freshwater Biology* 58:50-62.
- Larson, E.R. and J.D. Olden. 2013. Crayfish occupancy and abundance in lakes of the Pacific Northwest. *Freshwater Science* 32: 94-107.
- Sorte, C.J.B., Ibáñez, I., Blumenthal, D.M., Molinari, N., Miller, L.P., Grosholz, E.D., Diez, J.M., D'Antonio, C.M., Olden, J.D., Jones, S.J., and J.S. Dukes. 2013 Poised to prosper: a cross-system comparison of climate change impacts on native and non-native species performance. *Ecology Letters* 16: 261-270.
- Pool, T.K., Strecker, A.L., and J.D. Olden. 2013. Identifying preservation and restoration priority areas for desert fishes in an increasingly invaded world. *Environmental Management* 51: 631-641.
- Stewart-Koster, B., Boone, E.L., Kennard, M.J., Sheldon, F., Bunn, S.E. and J.D. Olden. 2013. Incorporating ecological principles into statistical models for the prediction of species' distribution and abundance. *Ecography* 36: 342-353.
- Lawler, J.J., B. Spencer, J.D. Olden, S.-H. Kim, C. Lowe, S. Bolton. B.M. Beamon, L. Thompson, and J.G. Voss. 2013. Mitigation and adaptation strategies. Pages 315-335 in: R. Pielke, Sr., K. Suding, and T. Seastedt, Editors. *Climate Vulnerability: Understanding and Addressing Threats to Essential Resources, Volume 5, Ecosystem Function*. Elsevier, Inc., Academic Press
- Pool, T.K., Luis, S., and J.D. Olden. 2013. Assessing the lethal dissolved oxygen tolerance for the invasive tunicate *Ciona savignyi* in the Puget Sound. *Northwest Science* 87: 103-113.

## 2012

- Jaeger, K, and J.D. Olden. 2012. Electrical resistance sensor arrays as a means to quantify longitudinal connectivity of rivers. *River Research and Applications* 28: 1843-1852.
- McDonald, R.I., Olden, J.D., Opperman, J.J., Miller, W.M., Fargione, J., Revenga, C, Higgins, J.V., and J. Powell. 2012. Energy, water and fish: Biodiversity impacts of energy-sector water demand in the United States depend on efficiency and policy measures. *PLoS One* 7(11): e50219. doi:10.1371/journal.pone.0050219.
- Baiser, B., Olden, J.D., Record, S., Lockwood, J.L., and M.L. McKinney. 2012. Pattern and process of biotic homogenization in the New Pangaea. *Proceedings of the Royal Society B: Biological Sciences* 279: 4772-4777.
- Schlaepfer, M.A., Sax, D.F. and J.D. Olden. 2012. Toward a more balanced view of non-native species. *Conservation Biology* 26: 1156-1158.
- Reidy Liermann, C.A. Olden, J.D., Beechie, T.J., Kennard, M.J., Skidmore, P.B., Konrad, C.P. and H. Imaki. 2012. Hydrogeomorphic classification of Washington State rivers to support emerging environmental flow management strategies. *River Research and Applications* 28: 1340-1358.
- Ruesch, A.S., Torgersen, C.E., Lawler, J.J., Olden, J.D., Peterson, E.E., Volk, C.J., and D.J. Lawrence. 2012. Projected climate-induced habitat loss for salmonids based on a network model of stream temperature. *Conservation Biology* 5:873-882.
- Kuehne, L.M., Olden, J.D., and J.J. Duda. 2012. Costs of living for juvenile Chinook salmon in an increasingly warming and invaded world. *Canadian Journal of Fisheries and Aquatic Sciences* 69: 1621-1630.
- Larson, E.R., and J.D. Olden. 2012. Using avatar species to model the potential distribution of emerging invaders. *Global Ecology and Biogeography* 21: 1114-1125.

- Linke, S., Kennard, M.J., Hermoso, V., Olden, J.D., Stein, J. and B.J. Pusey. 2012. Merging connectivity rules and large-scale condition assessment improves conservation adequacy in river systems. *Journal of Applied Ecology* 49: 1036-1045.
- Carey, M.P., Sanderson, B.L., Barnas, K.A. and J.D. Olden. 2012. Native invaders create novel challenges for science, management, society and policy. *Frontiers in Ecology and the Environment* 10: 373-381.
- Olden, J.D., Kennard, M.J. and B.J. Pusey. 2012. A framework for hydrologic classification with a review of methodologies and applications in ecohydrology. *Ecohydrology* 5: 503-518.
- Lawrence, D.J., Olden, J.D., and C.E. Torgersen. 2012. Spatiotemporal patterns and habitat associations of smallmouth bass (*Micropterus dolomieu*) invading salmon-rearing habitat. *Freshwater Biology* 57: 1929-1946.
- Larson, E.R., Abbott, C.L., Usio, N., Azuma, N., Wood, K.A., Herborg, L-M., and J.D. Olden. 2012. The signal crayfish is not a single species: cryptic diversity and invasions in the Pacific Northwest range of *Pacifastacus*. *Freshwater Biology* 57: 1823-1838.
- Diez, J.M., D'Antonio, C.M., Dukes, J.S., Grosholz, E.D., Olden, J.D., Sorte, C.J.B., Blumenthal, D.M., Bradley, B.A., Early, R., Ibáñez, I., Jones, S.J., Lawler, J.J., and L.P. Miller. 2012. Will extreme climatic events facilitate biological invasions? *Frontiers in Ecology and the Environment* 10: 249-257.
- Kuehne, L.M., and J.D. Olden. 2012. Prey naivety in the behavioural responses of juvenile Chinook (*Oncorhynchus tshawytscha*) salmon to an invasive predator. *Freshwater Biology* 57: 1126-1137.
- Mims, M.C., and J.D. Olden. 2012. Life history theory predicts streamflow effects on fish assemblage response to hydrologic regimes. *Ecology* 93:35-45.
- Erös, T., Olden, J.D., Schick, R.S., Schmera, D., and Fortin, M-J. 2012. Characterizing connectivity relationships in freshwaters using patch-based graphs. *Landscape Ecology* 27:303-317.
- Poff, N.L., Olden, J.D., and D.L. Strayer. 2012. Climate change and freshwater fauna extinction risk. Pages 309-336 in *Saving a Million Species: Extinction Risk from Climate Change*, ed. L. Hannah.
- Bradley, B.A., Blumenthal, D.M., Early, R.I., Grosholz, E.D., Lawler, J.J., Miller, L.P., Sorte, C.J.B., D'Antonio, C.M., Diez, J.M., Dukes, J.S., Ibanez, I. and J.D. Olden. 2012. Global change, global trade, and the next wave of plant invasions. *Frontiers in Ecology and the Environment* 10: 20-28.
- Pool, T.K., and J.D. Olden. 2012. Taxonomic and functional homogenization of a globally endemic desert fish fauna. *Diversity and Distributions* 18:366-376.
- Wenger, S.J., and J.D. Olden. 2012. Assessing transferability of ecological models: an underappreciated aspect of statistical validation. *Methods in Ecology and Evolution* 3: 260-267.
- Cucherousset, J., Blanchet, S. and J.D. Olden. 2012. Non-native species promote the trophic dispersion of food webs. *Frontiers in Ecology and the Environment* 10: 406-407.

## 2011

- Strecker, A.L., Olden, J.D., Whittier, J.B., and C.P. Paukert. 2011. Defining conservation priorities for freshwater fishes according to taxonomic, functional, and phylogenetic diversity. *Ecological Applications* 21: 3002-3013.
- Stewart-Koster, B., Olden, J.D., Kennard, M.K., Pusey, B.J. Boone, E.L., Douglas, M. and S. Jackson. 2011. Fish response to the temporal hierarchy of the natural flow regime in the Daly River, northern Australia. *Journal of Fish Biology* 79: 1525-1544.
- Konrad, C.P., Olden, J.D., Gido, K.B., Hemphill, N.P., Kennard, M.J., Lytle, D.A., Melis, T.S., Robinson, C.T., Schmidt, J.C., Bray, E.N., Freeman, M.C., McMullen, L.E., Mims, M.C., Pyron, M., and J.G. Williams. 2011. Large-scale flow experiments for managing rivers. *BioScience* 61: 948-959.
- Olden, J.D., Vander Zanden, M.J., and P.T.J. Johnson. 2011. Assessing ecosystem vulnerability to invasive rusty crayfish (*Orconectes rusticus*). *Ecological Applications* 21: 2587-2599.

- Lawler, J.J. and J.D. Olden. 2011. Reframing the debate over managed relocation. *Frontiers in Ecology and the Environment* 9: 569-574.
- Lawrence, D.J., Larson, E.R., Reidy Liermann, C.A., Mims, M.C., Pool, T.K., and J.D. Olden. 2011. National parks as protected areas for U.S. freshwater fish diversity. *Conservation Letters* 4: 364-371.
- Thomsen, M.S., Olden, J.D., Wernberg, T., Griffin, J.N. and B.R. Silliman. 2011. A broad framework to organize and compare ecological invasion impacts. *Environmental Research* 111:899-908.
- Kostyack, J., Lawler, J.J., Goble, D.D., Olden, J.D., and J.M. Scott. 2011. Beyond reserves and corridors: policy solutions to facilitate the movement of plants and animals in a changing climate. *BioScience* 61: 713-719.
- Carey, M.P., Sanderson, B.L., Friesen, T.A., Barnas, K.A. and J.D. Olden. 2011. Smallmouth bass in the Pacific Northwest: A threat to native species; a benefit for anglers. *Reviews in Fisheries Science* 19:305-315.
- Biggs, C.R. and J.D. Olden. 2011. Multi-scale habitat occupancy of invasive lionfish (*Pterois volitans*) in coral reef environments of Roatan, Honduras. *Aquatic Invasions* 6:447-453.
- Maranto, C.J., Parrish, J.K., Herman, D.P., Punt, A.E., Olden, J.D., Brett, M.T. and D. D. Roby. 2011. Use of fatty acid analysis to determine dispersal of Caspian terns in the Columbia River Basin, U.S.A. *Conservation Biology* 25:736-746.
- Larson, E.R., Olden, J.D., N. Usio. 2011. Shoreline urbanization interrupts the relative contribution of allochthonous subsidies to a benthic consumer over a gradient of lake size. *Biology Letters* 7:551-554.
- Cucherousset, J. and J.D. Olden. 2011. Ecological impacts of non-native freshwater fishes. *Fisheries* 36:215-230.
- Schlaepfer, M.A., Sax, D.F. and J. D. Olden. 2011. The potential conservation value of non-native species. *Conservation Biology* 25:428-437.
- Thomsen, M.S., Wernberg, T., Olden, J.D., Griffin, J.N. and B.R. Silliman. 2011. A framework to study the context-dependent impacts of marine invasions. *Journal of Experimental Marine Biology and Ecology* 400: 322-327.
- Olden, J.D., Lockwood, J.L. and C.L. Parr. 2011. Species invasions and the biotic homogenization of faunas and floras. Pages 224-243 in *Conservation Biogeography*, ed. Whittaker, R.J. and R.J. Ladle. Wiley-Blackwell.
- Olden, J.D., Kennard, M.K., Lawler, J.J., and N.L. Poff. 2011. Challenges and opportunities for implementing managed relocation of species for freshwater conservation. *Conservation Biology* 25: 40-47.
- Larson, E.R. and J.D. Olden. 2011. The state of crayfish in the Pacific Northwest. *Fisheries* 36:60-73.
- Strecker, A.L., Campbell, P.M. and J. D. Olden. 2011. The aquarium trade as an invasion pathway in the Pacific Northwest. *Fisheries* 36:74-85.
- Paukert, C.P., Pitts, K. L., Whittier, J.B. and J.D. Olden. 2011. Development and assessment of a landscape-scale ecological threat index for the Lower Colorado River Basin. *Ecological Indicators* 11:304-310.

## 2010

- Larson, E. R., Olden, J.D., and N. Usio. 2010. Decoupled conservatism of Grinnellian and Eltonian niches in an invasive arthropod. *Ecosphere* 1(6):art16. doi:10.1890/ES10-00053.1
- Pool, T.P., Olden, J.D., Whittier, J.B. and C. P. Paukert. 2010. Environmental drivers of fish functional diversity and composition in the Lower Colorado River Basin. *Canadian Journal of Fisheries and Aquatic Sciences* 67: 1791-1807.

- Olden, J.D. and M.J. Kennard. 2010. Intercontinental comparison of fish life-history strategies along a gradient of hydrologic variability. *Community Ecology of Stream Fishes: Concepts, Approaches, and Techniques* (Ed. Gido, K. B. and D. A. Jackson). American Fisheries Society Symposium 73: 83-107.
- Mims, M.C., Olden, J.D., Shattuck, Z.R., and N.L. Poff. 2010. Life history trait diversity of native freshwater fishes in North America. *Ecology of Freshwater Fish* 19:390-400.
- Arthington, A.H., Olden, J.D., Balcombe, S.R., and M.C. Thoms. 2010. Multi-scale environmental factors explain fish losses and refuge quality in drying waterholes of Cooper Creek, an Australian arid-zone river. *Marine and Freshwater Research* 61:842-856.
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- Olden, J.D. and R.J. Naiman. 2010. Incorporating thermal regimes into environmental flows assessments: modifying dam operations to restore freshwater ecosystem integrity. *Freshwater Biology* 55: 86-107.
- Neff, B.D. and J.D. Olden. 2010. Not so fast: Inflation in impact factors contributes to apparent improvements in journal quality. *BioScience* 60: 455-459.
- Solomon, C.T., Olden, J.D., Johnson, P.T.J., Dillon, R.T., and M.J. Vander Zanden. 2010. Distribution and community-level effects of the Chinese mystery snail (*Bellamya chinensis*) in northern Wisconsin lakes. *Biological Invasions* 12:1591-1605.
- Beechie, T.J., Sear, D.A., Olden, J.D., Pess, G.R., Buffington, J.M., Moir, H., Roni, P., and M.M. Pollock. 2010. Process-based principles for restoring river ecosystems. *BioScience* 60: 209-22.
- Kennard, M.J., Pusey, B.J., Olden, J.D., Mackay, S.J., Stein, J.L., and N. Marsh. 2010. Ecohydrological classification of natural flow regimes to support environmental flow assessments: an Australian case study. *Freshwater Biology* 55: 171-193.
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- Olden, J.D., Larson, E.R. and M.C. Mims. 2009. Home-field advantage: native signal crayfish (*Pacifastacus leniusculus*) out consume newly introduced crayfishes for invasive Chinese mystery snail (*Bellamyia chinensis*). *Aquatic Ecology* 43: 1073-1084.
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## 2008

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## 2007

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- Olden, J.D. 2007. How do ecological journals stack-up? Ranking of scientific quality according to the *h* index. *Écoscience* 14:370-376.
- Olden, J.D., Hogan, Z.S., and M.J. Vander Zanden. 2007. Small fish, big fish, red fish, blue fish: size-biased extinction risk of the world's freshwater and marine fishes. *Global Ecology and Biogeography* 16:694-701.
- Poff, N.L., Olden, J.D., Merritt, D.M., and D.M. Pepin. 2007. Homogenization of regional river dynamics by dams and global biodiversity implications. *Proceedings of the National Academy of Sciences, U.S.A.* 104: 5732-5737.
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- Kennard, M.J., Olden, J.D., Arthington, A.H., Pusey, B.J., and N.L. Poff. 2007. Multi-scale effects of flow regime and habitat and their interaction on fish assemblage structure in eastern Australia. *Canadian Journal of Fisheries and Aquatic Sciences* 64: 1346-1359.
- Rooney, T.P., Olden, J.D., Rogers, D.A., and M.K. Leach. 2007. Biotic homogenization and conservation prioritization. *Biological Conservation* 134: 447-450.
- Grant, J.B., Olden, J.D., Lawler, J.J., Nelson, C.R. and B.R. Silliman. 2007. Academic institutions in the United States and Canada ranked according to research productivity in the field of Conservation Biology. *Conservation Biology* 21: 1139-1144.
- Halpern, B.S., Silliman, B.R., Olden, J.D., Bruno, J.P., and M.D. Bertness. 2007. Incorporating positive interactions in aquatic restoration and conservation. *Frontiers in Ecology and the Environment* 5: 153-160.
- Cassey, P., Lockwood, J.L., Blackburn, T.M., and J.D. Olden. 2007. Spatial scale and evolutionary history determine the degree of taxonomic homogenization across island bird assemblages. *Diversity and Distributions* 13: 458-466.

## 2006

- Olden, J.D. 2006. Biotic homogenization: A new research agenda for conservation biogeography. *Journal of Biogeography* 33:2027-2039.

- Olden, J.D., Poff, N.L., and K.R. Bestgen. 2006. Life-history strategies predict fish invasions and extirpations in the Colorado River Basin. *Ecological Monographs* 76:25-40.
- Olden, J.D., Joy, M.K., and R.G. Death. 2006. Rediscovering the species in community-wide modeling. *Ecological Applications* 16:1449-1460.
- Olden, J.D. and T.P. Rooney. 2006. On defining and quantifying biotic homogenization. *Global Ecology and Biogeography* 15:113-120.
- Olden, J.D., Poff, N.L. and M.L. McKinney. 2006. Forecasting faunal and floral homogenization associated with human population geography in North America. *Biological Conservation* 127:261-271.
- Olden, J.D., Jensen, O.P. and M.J. Vander Zanden. 2006. Implications of long-term dynamics of fish and zooplankton communities for among-lake comparisons. *Canadian Journal of Fisheries and Aquatic Sciences* 63: 1812-1821.
- Olden, J.D., Poff, N.L. and B.P. Bledsoe. 2006. Incorporating ecological knowledge into ecoinformatics: An example of modeling hierarchically structured aquatic communities with neural networks. *Ecological Informatics* 1:33-42.
- Olden, J.D., McCarthy, J.M., Maxted, J.T., Fetzer, W.W., and M.J. Vander Zanden. 2006. The rapid spread of rusty crayfish (*Orconectes rusticus*) with observations on native crayfish declines in Wisconsin (U.S.A.) over the past 130 years. *Biological Invasions* 8: 1621-1628.
- Mercado-Silva, N., Olden, J.D., Maxted, J.T., Hrabik, T.R., and M.J. Vander Zanden. 2006. Forecasting the spread of invasive rainbow smelt (*Osmerus mordax*) in the Laurentian Great Lakes region of North America. *Conservation Biology* 20:1740-1749.
- Neff, B.D., and J.D. Olden. 2006. Is peer review a game of chance? *Bioscience* 56: 333-340.
- Poff, N.L., Olden, J.D., Pepin, D.M., and B.P. Bledsoe. 2006. Placing global streamflow variability in geographic and geomorphic contexts. *River Research and Applications* 22:149-166.
- Vander Zanden, M.J., Olden, J.D., and C. Gratton. 2006. Food-web approaches in restoration ecology. Pages 165-189 in *Foundations of Restoration Ecology* (Falk, D, Palmer, M. and J. Zedler, editors).
- Poff, N.L., Olden, J.D., Vieira, N.K.M., Finn, D.S., Simmons, M.P. and B.C. Kondratieff. 2006. Functional trait niches of North American lotic insects: traits-based ecological applications in light of phylogenetic relationships. *Journal of the North American Benthological Society* 25: 730-755.
- Hoffman, A.L., Olden, J.D., Monroe, J.B., Poff, N.L., Wellnitz, T.A, and J.A. Wiens. 2006. Current velocity and habitat patchiness shape stream herbivore movement. *Oikos* 115: 358-368.
- McCarthy, J.M., Hein, C.L., Olden, J.D., and M. J. Vander Zanden. 2006. Coupling long-term studies with meta-analysis to investigate impacts of non-native crayfish on zoobenthic communities. *Freshwater Biology* 51: 224-235.
- Cucherousset, J., Paillisson, J.-M., Carpentier, A., Eybert, M.-C., and J.D. Olden. 2006. Habitat use of an artificial wetland by the invasive catfish *Ameiurus melas*. *Ecology of Freshwater Fish* 15: 589-596.
- Lawler, J.J., Aukema, J.E., Grant, J., Halpern, B., Kareiva, P., Nelson, C.R., Ohleth, K., Olden, J.D., Schlaepfer, M.A., Silliman, B., and P. Zaradic. 2006. Conservation science: a 20-year report card. *Frontiers in Ecology and the Environment* 4:473-480.

## 2005

- Olden, J.D., and N.L. Poff. 2005. Long-term trends in native and non-native fish faunas of the American Southwest. *Animal Biodiversity and Conservation* 28:75-89.
- Olden, J.D., Douglas, M.E., and M.R. Douglas. 2005. The human dimensions of biotic homogenization. *Conservation Biology* 19:2036-2038.

Stoltz, J.A., Neff, B.D., and J.D. Olden. 2005. Allometric growth and sperm competition in fishes. *Journal of Fish Biology* 67:470-480.

Oakes, R.M. Gido, K.B., Falke, J.A., Olden, J.D., and B.L Brock. 2005. Modelling of stream fishes in the Great Plains, USA. *Ecology of Freshwater Fish* 14:361-374.

#### 2004

Olden, J.D., Schooley, R.L., Monroe, J.B., and N.L. Poff. 2004. Context-dependent perceptual ranges and their relevance to animal movements in landscapes. *Journal of Animal Ecology* 73:1190-1194.

Olden, J.D., Hoffman, A.L., Monroe, J.B., and N.L. Poff. 2004. Movement behaviour and dynamics of an aquatic insect larva in a stream landscape. *Canadian Journal of Zoology* 82:1135-1146.

Olden, J.D., and N.L. Poff. 2004. Ecological mechanisms driving biotic homogenization: Testing of a mechanistic model using fish faunas. *Ecology* 85:1867-1875.

Olden, J.D., Joy, M.K., and R.G. Death. 2004. An accurate comparison of methods for quantifying variable importance in artificial neural networks using simulated data. *Ecological Modelling* 178:389-397.

Olden, J.D., Poff, N.L., Douglas, M.R., Douglas, M.E., and K.D. Fausch. 2004. Ecological and evolutionary consequences of biotic homogenization. *Trends in Ecology and Evolution* 19:18-24.

Olden, J.D. and N.L. Poff. 2004. Clarifying biotic homogenization. *Trends in Ecology and Evolution* 19:283.

Vander Zanden, M.J., Olden, J.D., Thorne, J.H., and N.E. Mandrak. 2004. Predicting the occurrence and impact of bass introductions on temperate lake food webs. *Ecological Applications* 14: 132-148.

#### 2003

Olden, J.D. and N.L. Poff. 2003. Toward a mechanistic understanding and prediction of biotic homogenization. *American Naturalist* 162:442-460.

Olden, J.D. 2003. A species-specific approach to modeling biological communities and its potential for conservation. *Conservation Biology* 17:854-863.

Olden, J.D. and N.L. Poff. 2003. Redundancy and the choice of hydrologic indices for characterizing streamflow regimes. *River Research and Applications* 19:101-121.

#### 2002

Olden, J.D. and D.A. Jackson. 2002. A comparison of statistical approaches for modeling fish species distributions. *Freshwater Biology* 47:1976-1995.

Olden, J.D. and D.A. Jackson. 2002. Illuminating the "black box": Understanding variable contributions in artificial neural networks. *Ecological Modelling* 154:135-150.

Olden, J.D., Jackson, D.A., and P.R. Peres-Neto. 2002. Predictive models of fish species distributions: A comment on proper validation and chance predictions. *Transactions of the American Fisheries Society* 131:329-336.

#### 2001

Olden, J.D. and D.A. Jackson. 2001. Fish-habitat relationships in lakes: Gaining predictive and explanatory insight using artificial neural networks. *Transactions of the American Fisheries Society* 130:878-897.

- Olden, J.D. and B.D. Neff. 2001. Cross correlation bias in lag analysis of aquatic time series. *Marine Biology* 138:1063-1070.
- Olden, J.D., Jackson, D.A., and P.R. Peres-Neto. 2001. Spatial isolation and fish communities in drainage lakes. *Oecologia* 127:572-585.
- Peres-Neto, P.R., Olden, J.D., and D.A Jackson. 2001. Environmentally constrained null models: Site suitability as occupancy criterion. *Oikos* 93:110-120.
- Peres-Neto, P.R. and J.D. Olden. 2001. Assessing the robustness of randomization tests: Examples from behavioural studies. *Animal Behaviour* 61:79-86.
- Jackson, D.A., Peres-Neto, P.R., and J.D. Olden. 2001. What controls who is where in freshwater fish communities: The roles of biotic, abiotic and spatial factors? *Canadian Journal of Fisheries and Aquatic Science* 58:157-170.

## 2000

- Olden, J.D. 2000. An artificial neural network approach for studying phytoplankton succession. *Hydrobiologia* 436:131-143.
- Olden, J.D. and D.A. Jackson. 2000. Torturing the data for the sake of generality: How valid are our regression models? *Écoscience* 7:501-510.

## *Reports*

- Olden, J.D., Reidy Liermann, C.A., Pusey, B.J., and M.J. Kennard. 2009. Protocols for hydrologic classification and a review of Australian applications. Chapter 2 in *Ecohydrological regionalisation of Australia: a tool for management and science*. 28 pages. Technical Report PN22591, Land and Water Australia. Online: <http://lwa.gov.au/products/pn22591>.
- Steward, B. and 25 other contributors. 2009. Evolving hazards and emerging opportunities. Chapter 12 in *The 3rd United Nations World Water Development Report: Water in a Changing World (WWDR-3)*. 15 pages. Online: <http://www.unesco.org/water/wwap/wwdr/wwdr3/>.

## *Non-refereed publications*

- Schlaepfer, M., Aukema, J.E., Grant, J., Halpern, B., Hoekstra, J., Kareiva, P., Lawler, J., Manolis, J.C., Nelson, C.R., Olden, J.D., Silliman, B., Stephens, S., Wiens, J. and P. Zaradic. 2005. Re-wilding: A bold plan that needs native megafauna. *Nature* 437:951-951.
- Olden, J.D. 2003. Colorado State University Student Subunit. *Fisheries* 28:28.

## **Presentations (first author only)**

- Invasive species: Envisioning alternative global futures in the New Pangaea. 2012. Portland State University. [*Keynote*]
- Climate change and invasive species in hot pursuit of Pacific salmon. 2012. Annual meeting of the Wildlife Society. Portland, OR. [*invited*]
- Invasive species in hot pursuit of Pacific salmon. 2012. Congress of the Iberian Association of Limnology, Guimarães, Portugal. [*Keynote*]
- Invasive species: Exonerating crimes to envision a new global future. 2011. University of Washington Dean's Lecture. Seattle, Washington. [*Keynote*]
- Invasive species and alternative global futures for freshwater ecosystems. 2011. Fishery Society of the British Isles conference, Bournemouth, UK. [*Keynote*]

Invasive species and alternative global futures for freshwater ecosystems. 2011. Canadian Conference for Fisheries Research, Toronto, Canada. [*Keynote*]

Freshwater protected areas and defining a conservation blueprint for desert fishes. 2011. University of British Columbia, Vancouver, Canada. [*invited*]

Invasive species and alternative global futures for freshwater ecosystems. 2011. Canadian Aquatic Invasive Species Network, Quebec City, Canada. [*Keynote*]

Latent extinction risk of freshwater fishes: a traits-based approach to inform conservation ranking schemes. 2010. Society for Conservation Biology, Edmonton, Alberta. [*invited*]

Freshwaters in the public eye: understanding the role of science and image media in aquatic conservation. 2010. Utah State University. UT (Ecology Center Seminar). [*invited*]

Perceptions and realities of aquatic invasive species. 2010. Utah State University. UT (Ecology Center Seminar). [*invited*]

Species invasions, environmental change and the future biogeography of freshwater fishes. 2009. The 10<sup>th</sup> International Congress of Ecology. Brisbane, Australia. [*invited*]

The biogeography of nowhere: Species invasions and the fading antiquity of globe fish faunas. 2009. The 10<sup>th</sup> International Congress of Ecology. Brisbane, Australia. [*invited*]

Turning dreams into reality: challenges to developing flow-ecological relationships to support streamflow management. 2009. North American Benthological Society, Grand Rapids, MI. [*invited*]

Emerging pathways for crayfish invasions in Washington: Recommendations for new regulations. 2008. Washington State Aquatic Nuisance Species Committee, Olympia, WA.

Vulnerability of lake ecosystems to species invasions in Washington. 2008. Washington State Lake Protection Association, WA.

Life history strategies and patterns of fish invasions and extirpations in Lower Colorado River Basin. 2008. Texas State University, San Marcos, TX. [*invited*]

Developing regional environmental flow standards for Washington State. 2008. American Fisheries Society (Western Division), Portland, OR.

Riverine thermal regimes: an integral component of environmental flows. 2007. 3rd International Symposium on Riverine Landscapes (TISORL), Queensland, Australia. [*invited*]

Smart prevention of invasive species in aquatic ecosystems. 2007. Oregon State University, Corvallis, OR. [*invited*]

Smart prevention of invasive species in aquatic ecosystems. 2007. NOAA Northwest Fisheries Science Center, Seattle, WA. [*invited*]

The biogeography of nowhere: Global fish invasions and the re-shuffling of freshwater life. 2006. Macroecological Tools for Global Change Research, Potsdam, Germany. [*invited*]

Life-history strategies predict fish invasions and extirpations in the Colorado River Basin. 2006. Kansas State University, Manhattan, KS. [*invited*]

Global pathways of freshwater fish introductions. 2006. American Fisheries Society, Lake Placid, NY.

Living on the edge: trait synergies and the rarity, extirpation, and extinction of endemic desert fishes. 2005. Ecological Society of America, Quebec, Canada.

Comparative life-history strategies of native and non-native fishes in the Colorado River Basin: Using species traits to understand rates of invasions and extirpations over the past century. 2005. North American Benthological Society, New Orleans, LA. [*invited*]

Biotic homogenization – Patterns, processes and the importance of variety in the spice of human life. 2005. International Biogeography Society, West Virginia, USA. [invited]

Spatial recovery of warmwater fish assemblages to multiple disturbance gradients caused by river regulation in the eastern United States. 2005. Griffith University, Brisbane, Australia. [invited]

Upstream and downstream recovery of fish assemblages to multiple dam disturbance gradients. 2005. American Fisheries Society, Madison, WI.

Forecasting current and future patterns of biotic homogenization in response to urbanization. 2005. Society for Conservation Biology, New York, NY. [invited]

A hierarchical understanding and prediction of fish species distributions in Canada. 2004. Massey University, Palmerston North, New Zealand. [invited]

Impacts of altered riverine thermal regimes on warmwater fish assemblages – the establishment of productive tailwater trout fisheries, but at what cost? 2004. American Fisheries Society (Southern Division), Oklahoma City, OK.

A hierarchical understanding and prediction of fish species distributions in Ontario. 2003. Canadian Conference for Fisheries Research, Toronto, Ontario, Canada.

Movement mechanics and behaviour of an herbivorous insect larva across complex benthiscapes. 2002. North American Benthological Society, Pittsburg, PE.

Artificial neural networks and the development of predictive models for temperate fish communities. 2001. Canadian Conference for Fisheries Research, Toronto, Ontario, Canada.

Artificial neural networks: New insight in modeling fish-habitat relationships. 2001. International Association for Great Lakes Research, Trois-Riviere, Ontario, Canada.

The use of regression trees and neural networks to model freshwater fish assemblages. 1999. Ecological Society of America, Spokane, WA

Spatial isolation in drainage lakes: Implications for community ecology of fishes. 1998. American Society of Ichthyologists and Herpetologists, Guelph, Ontario, Canada.

### Grants and Fellowships

Department of Defense. <i>Predicting, measuring, and monitoring aquatic invertebrate biodiversity on dryland military bases.</i> (2012-2016). Co-PI	\$1,560,000
Department of Defense. <i>Hydroecology of intermittent and ephemeral streams: will landscape connectivity sustain aquatic organisms in a changing climate?</i> (2010-2014). Lead-PI	\$1,478,000
U.S. Geological Survey (Aquatic GAP Program). <i>Conservation planning for fishes in the Upper Colorado River Basin</i> (2010-2013). Co-PI	\$780,000
U.S. Geological Survey (National Fish Habitat Action Plan). <i>Managing the Nations fish habitat at multiple spatial scales in a rapidly changing climate</i> (2010-2012). Co-PI	\$2,418,000
U.S. Geological Survey (National Fish Habitat Initiative). <i>Assessing the threats to freshwater fishes in the Lower Colorado River Basin</i> (2009-2011). Co-PI	\$379,000
Oregon Zoo. <i>Forecasting the potential spread and impacts of invasive crayfish in the northwestern United States</i> (2009). Co-PI	\$4,300
Washington State Department of Ecology. <i>Prioritizing management efforts for aquatic nuisance species in Washington</i> (2009-2010). Lead PI	\$40,900
U.S. Environmental Protection Agency - STAR Program. <i>Integrating future climate change and riparian land-use to forecast the effects of stream</i>	\$587,000

<i>warming on species invasions and their impacts on native salmonids</i> (2008-2011). Lead-PI	
U.S. Geological Survey (Aquatic GAP Program). <i>Forecasting fish species invasions in the Lower Colorado River Basin</i> (2007-2010). Lead-PI	\$165,000
National Oceanic and Atmospheric Administration. <i>Non-native species impacts on threatened and endangered salmonids</i> (2008-2009). Co-PI	\$18,000
National Oceanic and Atmospheric Administration. <i>Developing tools for estimating salmon population benefits of restoring environmental flows to regulated or diverted tributaries</i> (2008-2009). Co-PI	\$87,000
National Oceanic and Atmospheric Administration. <i>Ecologically sustainable water management in Washington State: Developing flow management tools for watershed planning</i> (2007-2008). Co-PI	\$84,000
The Nature Conservancy David H. Smith Conservation Postdoctoral Fellowship (2004).	\$155,000
National Science Foundation – Dissertation Improvement Grant (2004).	\$11,600
Natural Sciences and Engineering Research Council of Canada – Graduate Fellowship PGS B (2001).	\$38,200
Natural Sciences and Engineering Research Council of Canada – Graduate Fellowship PGS A (1999).	\$34,600

## **Awards**

Ecological Society of America – Early Career Fellow (2013)  
Canadian Conference for Fisheries Research, Stevenson Award (2011)  
UW College of the Environment, Outstanding Researcher Award (2010)  
Society for Conservation Biology, Early Career Conservationist Award (2010)  
American Fisheries Society, Skinner Memorial Award (2004)  
Society for Conservation Biology, Annual Student Travel Award (2004)  
American Fisheries Society, Jimmie Pigg Memorial Outstanding Student Achievement Award (2004)  
American Fisheries Society, Colorado State University Outstanding Contribution Award (2003)  
American Museum of Natural History, Theodore Roosevelt Memorial Scholarship (2003)  
American Fisheries Society Western Division, William Trachtenberg Scholarship (2003)  
Cowpasture River Preservation Association, Janice LaRue Grant (2003)  
Canadian Conference for Fisheries Research, Clemens, Rigler Travel Award (2003)  
Ocean Journal Research Scholarship (2002)  
Colorado State University, Ecology Research Grant (2002)  
Transactions of the American Fisheries Society, Robert L. Kendall Best Paper Award (2001)  
International Association for Great Lakes Research, Presentation Award Honorable Mention (2001)  
University of Toronto, Frederick P. Ide Graduate Award (2001)  
Outstanding Teaching Assistant Award, University of Toronto (2000)  
Outstanding Teaching Assistant Award, University of Toronto (1999)  
University of Toronto, Edna Margaret Robertson Scholarship (1999)  
University of Toronto Open Fellowship (1998)

## Synergistic Activities

Ecological Society of America - Rapid Response Team, 2012 - present

University of Washington Climate Change and Global Health Joint Initiative: Adaptive Solutions for Human Health and the Environment. Faculty Fellow. 2010-present.

International Congress of Ecology, Symposium *Species invasions, environmental change and the future biogeography of freshwater fishes*. Brisbane, Australia. 2009. Organizer.

American Fisheries Society Hutton Scholar Mentor (High School students). Seattle, WA. 2009 & 2011.

Ecological Society of America, First Millennium Conference – Water-Ecosystem Services, Drought, and Environmental Justice (Workshop). Athens, GA. 2009. Participant.

Canadian Aquatic Invasive Species Network (Workshop) – Environmental niche modeling to match invasion habitats between North America and Europe. Halifax, NS. 2008. Participant.

Regional-scale streamflow-ecology relationships (Workshop), TNC/USGS, Seattle, WA. 2008. Participant.

Global Water System Project (Workshop). University of New Hampshire. 2007. Participant.

National Center for Ecological Analysis and Synthesis (Workshop), *Machine Learning for the Environment*. Santa Barbara, CA. 2006. Participant.

Upper Gila River Science Forum for the New Mexico Interstate Stream Commission. New Mexico. 2006. Panel Expert.

Environmental Law Institute (Workshop) – Assessing Gaps and Needs for Invasive Species Management in a Changing Climate. Washington, D.C. 2006. Participant.

National Center for Ecological Analysis and Synthesis (Workshop), *Assessing the Future Research Needs for the USGS Aquatic GAP Program*. Santa Barbara, CA. 2006. Participant.

Global River Sustainability Project (Workshop). Estes Park, CO. 2005. Participant.

Global River Sustainability Project (Workshop). Brisbane, Australia. 2004. Participant.

## University Service

### Mentorship

#### Graduate Students

Polly Gibson, MS (2011-present)  
David Lawrence, PhD (2009-present)  
Lauren Kuehne, MS (2009-2012)  
Eric Larson, PhD (2008-2011)  
Meryl Mims, MS (2009-2010), PhD (2011-present)  
Thomas Pool, PhD (2008-2011)  
Laura Twardochleb, MS (2011-present)

#### Undergraduate Students

Phillip Campbell (2008)\*  
Ben Clemence (2008)  
Jared Waltz (2009)  
Hannah Darrin (2010)  
Chris Biggs (2010)\*  
Kimberly Wood (2011)\*  
Sean Luiz (2011)\*

#### Post-doctoral Researchers

Kristin Jaeger (2010-2012)  
Cathy Reidy Liermann (2008-2010)  
Angela Strecker (2009-2011)  
Ben Stewart-Koster (2011-present)

\* author on publication

#### Research Staff

Mariana Tamayo (2009-2011)

*Committee Member (past and present)*

20 graduate students (University of Washington, Rutgers University, Kansas State University)

*School and University Committees*

Recruiting and Admission School Committee (2008 -)  
Quantitative Committee, Ad Hoc member (2009)  
Young Investigator Seminar Series, Co-organizer (2008)

**Other service**

WISC Baseline Assessment of Priority Puget Sound Basin Invasive Species, Participant (2013)

**Scholarly and Professional Activities**

*Professional*

Ecological Applications (2013 - )  
Frontiers in Ecology and the Environment, Editorial Board (2010 -)  
Ideas in Ecology and Evolution, Editorial Board (2008 -)  
Conservation Biology, Editorial Board (2010 - 2012)  
Global Ecology and Biogeography, Editorial Board (2006 - 2010)  
Freshwater Illustrated, Board of Directors (2007 -)

*Manuscript Referee for:*

American Naturalist	Ecology	NA J. of Fisheries Management
Aquatic Invasions	Ecology Letters	Northwest Science
Archiv für Hydrobiologie	Ecological Applications	Phil. Trans. R. Soc. London
Biological Conservation	Global Ecol. and Biogeography	Proc. Nat. Academy of Sciences
Biological Invasions	Hydrobiologia	River Research & Applications
Canadian J. Fish & Aquatic Sci.	Journal of Applied Ecology	Science
Copeia	Journal of Biogeography	Trans. American Fisheries Soc.
Conservation Biology	Landscape Ecology	Western NA Naturalist.
Diversity and Distributions	Nature	

*Referee for Granting Agencies*

National Science Foundation  
National Science and Engineering Research Council  
National Fish and Wildlife Foundation  
New York Sea Grant  
Great Lakes Fisheries Commission