

Wetland Ecosystem Team
School of Aquatic and Fishery Sciences
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Jason D. Toft

Vita

Research Expertise

Ecology of aquatic estuarine and nearshore habitats; biological monitoring of restored wetlands; juvenile salmonid abundance and prey resource dynamics; effects of non-indigenous species on native communities; taxonomy of aquatic invertebrates; Multivariate data analysis.

Professional experience 2000 - current UW School of Aquatic and Fishery Sciences Seattle, WA
Research Ecologist with the Wetland Ecosystem Team

- Lead scientist of invertebrate, fish, and vegetation sampling at nearshore habitats and restored wetlands along the West Coast of North America. Microscope identification of sampled organisms. Multivariate analysis of assemblage datasets.

1994-97 Smithsonian Environmental Research Center Edgewater, MD
Research Technician in Estuarine Biological Invasions

- Field sampling of the Chesapeake Bay and surrounding territory. Sampling of ballast water, microscope identification of benthic and planktonic invertebrates. Crab survey of the coasts of Portugal and Spain, and ballast water study of naval vessels traveling from Spain to USA.

1994 Smithsonian Environmental Research Center Edgewater, MD
Intern in Community Structure of Fish and Invertebrates

- Experimental measurements of predation rates on juvenile fish and crustaceans in the nearshore zone. Shoreline seines, cage trapping, coring, and openwater trawls for capture and census of organisms. Tank maintenance and care of live fish and invertebrates.

1993-94 Brown University Providence, RI
Teaching Assistant in Ecology; Tutor in Genetics

1993 Bent-Nail Construction Long Lake, WI
Carpenter

1991 Mayo Clinic Rochester, MN
Laboratory Assistant in Ophthalmology

Education 1997-2000 UW School of Fisheries Seattle, WA
M.S. with Charles Simenstad/David Armstrong

- Masters Thesis: Community Effects of the Non-Indigenous Aquatic Plant Water Hyacinth (*Eichhornia crassipes*) in the Sacramento/San Joaquin Delta.
- Research Assistantship: Predicting the Evolution of Ecological Functions of Restored Diked Wetlands in the Sacramento-San Joaquin Delta.
- Coursework (GPA 3.81): Classical Literature of Fisheries Science and

Aquaculture, Statistical Inference in Applied Research, Applied Linear Regression, Ecological Modeling, Ecological Consequences of Alterations to Freshwater Systems, Scientific Method, Limnology, GIS Planning and Analysis.

- Skills Gained: Field crew leader of invertebrate, fish, and vegetation sampling at restored wetlands in the Sacramento/San Joaquin Delta, California. Microscope identification of benthic, epibenthic, and planktonic invertebrates. GIS analysis of aerial photographs.

1990-94 Brown University Providence, RI

B.A. in Biology

- GPA within Concentration: 3.7; GPA of last 2 years: 3.92
- Coursework: Invertebrate Zoology, Ecology, Marine Biology, Tropical Ecology, Global Change and Biodiversity, Vertebrate Zoology, Genetics, Cell Biology, Physiology, Calculus, Inorganic Chemistry, Organic Chemistry.
- Independent Research Project: Flow environment and the distribution of reef fishes. Research project in Belize with Steve Gaines, Mark Bertness, and David Carrier. Design of experiments quantifying the relationship of fish body structure and function to different flow environments.
- Independent Research Project: Tensional and torsional stresses in bat wing bones. Independent study with Dr. Sharon Swartz. Dissection of bat wing bones and monitoring of stress forces on small bones.
- Independent Research Project: Affect of the fucoid canopy on barnacle settlement patterns. Preliminary work during a Marine Biology course with Dr. Mark Bertness.

Autumn 1992 Boston University Woods Hole, MA

Sea Semester Program

- Coursework: Oceanography, Nautical Science, Maritime History
- Independent Research Project: Sampling and analysis of Sargassum weed and it's epibionts in transit from Massachusetts to the Caribbean. Microscope identification of invertebrates. Oceanographic ship handling, navigation, and deployment of nets and sediment sampling gear.

Publications

Toft, J.D. 2009. Benthic macroinvertebrate monitoring at Seahurst Park 2008, year 3 post-restoration of seawall removal. Technical report SAFS-UW-0903, School of Aquatic and Fishery Sciences, University of Washington. Prepared for the City of Burien. 22 pp.

Toft, J., S. Heerhartz, J. Cordell, E. Armbrust, A. Ogston, and E. Flemer. 2009. Olympic Sculpture Park: Year 2 Fish, Epibenthos, and Physical Monitoring Including Additional Beaches. Technical report SAFS-UW-0902, School of Aquatic and Fishery Sciences, University of Washington. Prepared for Seattle Public Utilities, City of Seattle. 51 pp.

J.R. Cordell, J. Toft, and E. Armbrust. 2008. 2007 Invertebrate Monitoring at Duwamish Waterway Restoration Sites: Hamm Creek, Herring's House, Northwind's Weir, and Kenco Marine. Prepared for the United States Fish and Wildlife Service. 32 pp.

J.R. Cordell, J. Toft, and E. Armbrust. 2008. Fish and Invertebrates at a Wetland Restoration Site in the Duwamish River Estuary, Seattle, Washington. Prepared for the Port of Seattle. 53 pp.

E. Armbrust, J.R. Cordell, A. Cummins, and J. Toft. 2008. Inspection of Corps of Engineers Ecological Restoration Projects in the Puget Sound Region, 2008. Prepared for USACE. 112 pp.

- Toft, J., J. Cordell, S. Heerhartz, E. Armbrust, A. Ogston, and E. Flemer. 2008. Olympic Sculpture Park: Results from Year 1 Post-construction Monitoring of Shoreline Habitats. Technical Report SAFS-UW-0801, School of Aquatic and Fishery Sciences, University of Washington. Prepared for Seattle Public Utilities, City of Seattle. 113 pp.
- Simenstad, C.A., R.J. Garono, T. Labbe, A.C. Mortimer, R. Robinson, C. Weller, S. Todd, J. Toft, J. Burke, D. Finlayson, J. Coyle, M. Logsdon, and C. Russell. 2008. Assessment of Intertidal Eelgrass Habitat Landscapes for Threatened Salmon in the Hood Canal and Eastern Strait of Juan de Fuca, Washington State. Technical Report 08-01, Point No Point Treaty Council, 7999 N.E. Salish Lane, Kingston, WA 98346. 152 pp.
- Cordell, J.R., J. Toft, E. Armbrust, and S. Heerhartz. 2007. 2006 fish and invertebrate monitoring at Turning Basin Number Three. Technical report prepared for Port of Seattle. 43 pp.
- Toft, J.D., J.R. Cordell, C.A. Simenstad, and L.A. Stamatiou. 2007. Fish distribution, abundance, and behavior along city shoreline types in Puget Sound. *North American Journal of Fisheries Management* 27:465-480.
- Toft, J.D. 2007. Benthic macroinvertebrate monitoring at Seahurst Park 2006, post-construction of seawall removal. Technical Report SAFS-UW-0702, School of Aquatic and Fishery Sciences, University of Washington. Prepared for City of Burien. 40 pp.
- Cordell, J.R., J. Toft, S. Heerhartz, E. Armbrust, and M. Cooksey. 2007. 2004 and 2005 fish and invertebrate monitoring at Turning Basin Number Three. Technical report prepared for Port of Seattle. 52 pp.
- Cordell, J.R., J. Toft, S. Heerhartz, and E. Armbrust. 2006. 2005 invertebrate monitoring at Duwamish Waterway restoration sites: Hamm Creek, Herring's House, and Northwind's Weir. Technical report prepared for United States Fish and Wildlife Service. 52 pp.
- Tomikawa, K., H. Morino, J. Toft, and S.F. Mawatari. 2006. A revision of *Eogammarus* Birstein, 1933 (Crustacea, Amphipoda, Anisogammaridae), with a description of a new species. *Journal of Natural History* 40: 1083-1148.
- Southard, S.L., R.M. Thom, G.D. Williams, J.D. Toft, C.W. May, G.A. McMichael, J.A. Vucelick, J.T. Newell, and J.A. Southard. 2006. Impacts of ferry terminals on juvenile salmon movement along Puget Sound shorelines. Battelle Memorial Institute technical report prepared for WSDOT. 84 pp.
- Toft, J.D., and J. Cordell. 2006. Olympic Sculpture Park: results from pre-construction biological monitoring of shoreline habitats. Technical Report SAFS-UW-0601, School of Aquatic and Fishery Sciences, University of Washington. Prepared for Seattle Public Utilities, City of Seattle. 36 pp.
- Cordell, J., J. Toft, M. Cooksey, and A. Gray. 2006. 2005 Juvenile Chinook Duwamish River Studies, Study 2: fish assemblages and patterns of Chinook salmon abundance, diet, and growth at restored sites in the Duwamish River. Technical report prepared for WRIA9. 53 pp.
- Toft, J.D., J. Cordell, and B. Starkhouse. 2005. Salmon Bay Natural Area pre-restoration monitoring 2004. Technical Report SAFS-UW-0503, School of Aquatic and Fishery Sciences, University of Washington. Prepared for Seattle Public Utilities, City of Seattle. 29 pp.
- Toft, J.D. 2005. Benthic macroinvertebrate monitoring at Seahurst Park 2004, pre-construction of seawall removal. Technical Report SAFS-UW-0502, School of Aquatic and Fishery Sciences, University of Washington. Prepared for City of Burien. 18 pp.
- Toft, J.D., C. Simenstad, J. Cordell, and L. Stamatiou. 2004. Fish distribution, abundance, and behavior at nearshore habitats along City of Seattle marine shorelines, with an emphasis on juvenile salmonids. Technical Report SAFS-UW-0401, School of Aquatic and Fishery Sciences, University of

- Washington. Prepared for Seattle Public Utilities, City of Seattle. 51 pp.
- Toft, J.D., C.A. Simenstad, J.R. Cordell, and L.F. Grimaldo. 2003. The effects of introduced water hyacinth on habitat structure, invertebrate assemblages, and fish diets. *Estuaries* 26: 746-758.
- Toft, J.D., C. Simenstad, C. Young, and L. Stamatiou. 2003. Inventory and mapping of City of Seattle shorelines along Lake Washington, the Ship Canal, and Shilshole Bay. Technical Report SAFS-UW-0302, School of Aquatic and Fishery Sciences, University of Washington, Seattle, Washington. Prepared for Seattle Public Utilities, City of Seattle. 33 pp.
- Toft, J. D., C. Simenstad, J. Cordell, C. Young, and L. Stamatiou. 2003. Analysis of methods for sampling juvenile salmonids along City of Seattle marine shorelines. Technical Report SAFS-UW-0301, School of Aquatic and Fishery Sciences, University of Washington, Seattle, Washington. Prepared for Seattle Public Utilities, City of Seattle. 35 pp.
- Simenstad, C., J. Toft, M. Haas, M. Koehler, J. Cordell, and K. Fresh. 2003. Lake Washington Ship Canal – Hiram Chittenden Locks – Shilshole Bay: Investigations of juvenile salmon passage and habitat utilization. Technical report to U.S. Army Corps of Engineers, Seattle district. 45 pp.
- Toft, J. D., J. R. Cordell, and W. C. Fields. 2002. New records of crustaceans (amphipoda, isopoda) in the Sacramento/San Joaquin Delta, California, and application of criteria for introduced species. *Journal of Crustacean Biology* 22:190-200.
- Beeton A.M., Carlton, J.T., Holohan, B.A., Wheless, G.H., Valle-Levinson, A., Drake, L.A., Ruiz, G., McCann, L., Walton, W., Frese, A., Fofonoff, P., Godwin, S., Toft, J., Hartman, L., and Von Holle, E.. 2002. Ballast Exchange Study: Consideration of Back-Up Exchange Zones and Environmental Effects of Ballast Exchange and Ballast Release. A Project of the Cooperative Institute for Limnology and Ecosystems Research (CILER) Ann Arbor, Michigan. A Report to the National Sea Grant Program, National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA), Washington, D.C., 239 pp. (Executive Summary and Introduction, 12 pp., Chapter 1, 200 pp., Chapter 2, 25 pp.).
- Toft, J. D. 2001. Shoreline and dock modifications in Lake Washington. Technical Report SAFS-UW-0106, School of Aquatic and Fishery Sciences, University of Washington, Seattle, Washington. 21 pp.
- Magniez, G., and J. Toft. 2000. Présence d'un Asellide épigé originaire d'Extrême-Orient en Californie. *Bulletin mensuel de la Société Linnéenne de Lyon* 69:127-132.
- K. Wasson, B. Von Holle, J. Toft, and G. Ruiz. 2000. Detecting invasions of marine organisms: kamptozoon case histories. *Biological Invasions* 2:59-74.
- Ruiz, G., S. Godwin, J. Toft, D. Smith, A. Hines, and J. Carlton. 1999. Ballast water transfer and management by U.S. navy vessels. Technical report to U.S. Department of Defense.
- Simenstad, C., J. Toft, H. Higgins, J. Cordell, M. Orr, P. Williams, L. Grimaldo, Z. Hymanson, and D. Reed. 1999. Preliminary results from the Sacramento-San Joaquin Delta breached levee wetland study (BREACH). *IEP Newsletter* 12:15-21.
- Cohen, A., C. Mills, H. Berry, M. Wohnam, B. Bingham, B. Bookheim, J. Carlton, J. Chapman, J. Cordell, L. Harris, T. Klinger, A. Kohn, C. Lambert, G. Lambert, K. Li, D. Secord, and J. Toft. 1998. Puget Sound expedition: a rapid assessment survey of non-indigenous species in the shallow waters of Puget Sound. DNR Technical Report.
- Toft, J.D., Hines, A.H., and G.M. Ruiz. 1995. Docks as shallow water refuge for juvenile blue crabs. *Proceedings of the Second Annual Marine and Estuarine Shallow Water Science and Management Conference*.

Professional
Presentations
and Honors

Session Organizer/Chair: *Puget Sound/Georgia Basin Conference*, 2009 Seattle, WA: Salmon in the Nearshore; *American Fisheries Society (AFS)*, 2007, San Francisco, CA: Estuarine Portraits: lessons learned about fish, habitats, and people; *Estuarine Research Federation (ERF)*, 2005, Norfolk, VA: Innovative techniques for assessing fish and invertebrate habitat linkages in estuaries and coastal systems. *Ecological Society of America (ESA)*, 1999, Spokane, WA: Modeling aquatic communities.

Invited Speaker: Puget Sound Shorelines and the Impacts of Armoring, 2009, Union, WA.

Seattle City Council, 2009, Seattle, WA.

Salmon Recovery Funding Board, 2009, Shelton, WA.

Washington Shoreline and Coastal Planners Group, 2008, Seattle, WA.

Guest lecturer in Kari Stile's course on Ecological Design and Planning, UW College of Architecture and Urban Planning, 2008.

Shannon Point Marine Center, 2008, Anacortes, WA.

Seattle Art Museum, 2007 and 2008, Seattle, WA.

Waterfront Ecology Forum, 2006, Seattle, WA.

Guest lecturer in Prof. Kristina Hill's course on Ecological Design and Planning, UW College of Architecture and Urban Planning, 2005.

Greater Lake Washington Chinook Workshop, 2004, Seattle, WA.

The American Society of Limnology and Oceanography, 2003, Salt Lake City, Utah. Session: Ecology and management of the riparian habitat of lakes.

Conference Field Trip Organizer: The Estuarine Research Federation (ERF), 2003, Seattle, WA. Field trip on the Lake Washington Ship Canal.

Conference Presentations: *Puget Sound/Georgia Basin Conference* – 2009 Seattle, WA; *American Fisheries Society (AFS)*, 2007 San Francisco, CA.; *Puget Sound/Georgia Basin Conference* – 2007 Vancouver, BC; *Estuarine Research Federation (ERF)* – 2005 Norfolk, VA, 2003 Seattle, WA, 2001 St. Pete Beach, FL, 1999 New Orleans, LA; *Pacific Estuarine Research Society (PERS)* – 2004 Port Townsend, WA, 2002 Portland, OR, 2001 Tacoma, WA, 2000 Ft. Casey, WA; *Estuarine and Coastal Sciences Association (ECSA)* – 2004 Ballina, Australia; *CALFED Science Conference* – 2006, 2004, 2003, 2001 Sacramento, CA; *Restore America's Estuaries (RAE)* – 2004 Seattle, WA; *American Society of Limnology and Oceanography (ASLO)* – 2003 Salt Lake City, UT; *Ecological Society of America (ESA)* – 1999 Spokane, WA; *Benthic Ecology Meeting* – 1997 Portland, ME; *Shallow Water Conference* – 1995 Atlantic City, NJ.

Thesis Committee: Current MS thesis committees: Sarah Heerhartz, Kotaro Ono, and Errin Kramer-Wilt; Completed MS committee: Emily Howe, received 2006.

Invited Participant: Collector of Crustaceans in Sakhalin Island, Russia, 2002.

Manuscript and Grant Review: *Manuscripts* - Marine Environmental Research; Ecological Research; Aquatic Ecology; California Fish and Game. *Grants* - NOAA/CSCOR; CALFED Ecosystem Restoration; Coastal Restoration and Enhancement through Science and Technology (CREST).

Certificates: NAUI Openwater I Scuba, Red Cross First Aid and CPR, DNR Boat Operation and Boating Safety.

Volunteer: Salmon in the Classroom, playing in music groups for various benefits.