

GREGORY J. Ettl, CURRICULUM VITAE

Associate Professor and Director, Center for Sustainable Forestry at Pack Forest

University of Washington, School of Environmental and Forest Sciences

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PROFESSIONAL PREPARATION

Ph.D. Ecosystem Analysis, 1995, University of Washington, Seattle

M.A.T. Biology Teaching, 1989, University of Washington, Seattle

B.S. Double Major Zoology/Secondary Education, 1987, University of Wisconsin, Madison

ACADEMIC APPOINTMENTS

2012-present	Associate Professor, University of Washington, Seattle, WA
2006-2011	Associate Professor, WOT, University of Washington, Seattle, WA
2003-2006	Professor, Warren Wilson College, Asheville, NC
1995-2003	Assistant/Associate Professor, St. Joseph's University, Philadelphia, PA

UNIVERSITY OF WASHINGTON ADMINISTRATION APPOINTMENTS

2006-present	Director, Center for Sustainable Forestry at Pack Forest
2013-2015	Associate Director, School of Environmental and Forest Sciences
2012-2015	Director, Stand Management Cooperative
2012-2013	Director, Precision Forestry Cooperative
2011	Interim Research Director, Olympic Natural Resources Center

ADMINISTRATIVE RESPONSIBILITIES

DIRECTOR, CENTER FOR SUSTAINABLE FORESTRY AT PACK FOREST

- Direct research mission, forest management and harvest activities for 4300-acre Pack Forest,
- Leadership and direct supervision of 4 professional staff, 32 total staff
- Budget development and management, \$1.65 million annually
- Led creation, planning and now oversight of Mount Rainier Institute environmental education center, and associated conference center facilities and programs
- Fundraising: meeting with prospective donors, alumni, and foundations
- Interact with University of Washington senior administrative staff: real estate, budget and accounting, facility services, planning, and Attorney General's office
- Coordinate teaching and research opportunities at Pack Forest: UW-Seattle, UW-Tacoma, and UW-Bothell Campuses
- Oversight of 160-acre Lee Memorial Forest
- Chair, Outreach and Lands Committee
- Community outreach, organization and demonstration of best practices in sustainable forestry: meet with local groups: Nisqually River Council, environmental NGOs, WA Department of Natural Resources, Mt. Rainier National Park, Town of Eatonville

ASSOCIATE DIRECTOR, SCHOOL OF ENVIRONMENTAL AND FOREST SCIENCES

- Oversight and performance evaluation of: Director of Student Academic Services, Director of Information Technology, and Research Administrator
- Review and approval of research grant proposals; 90 awards annually total \$15 million
- Work closely with School Administrator to coordinate staff, help with decisions, mediate staff issues and conflicts

- Leadership role on committees: IT Committee, Curriculum Committee, Scholarship and Fellowship, Strategic Planning Committee, Director's Council, Visiting Committee (outside guiding committee)
- Meet with alumni, friend groups, and potential donors; with Director as a second representative of the School
- Led School Strategic Planning Retreats: setting goals, objectives, deliverables, and team building activities
- Serve as Interim School Director as needed

DIRECTOR, STAND MANAGEMENT COOPERATIVE

- Coordinate and oversight of research program: Silviculture, Forest Nutrition, Forest Growth Modeling, and Wood Quality
- Coordinated faculty research efforts and reporting from: University of Washington, Oregon State University, and University of British Columbia
- Managed 4 staff, responsible for collection of forestry data, database management, and membership due and budget management
- Budget development and management of \$650,000 annually
- Oversight of large network of Douglas-fir and western hemlock long-term permanent plots across WA, OR, and BC; monitored since the 1980s and compiled in a large database
- Managed relationships, support for collaborative research, and organization of 23 forestry partners including: USFS, BLM, WADNR, BC Ministry of Forests, Oregon Department of Forestry, FP Innovations FORINTECK, and 18 Forest Industry companies in western WA, OR, and BC
- National Science Foundation-IUCRC University of Washington lead; coordinated UW research proposals and reporting; North Carolina State University led effort to coordinate forestry research among universities, agencies, and industry partners
- Run semi-annual research and membership meetings and banquets
- Annual and quarterly reporting

DIRECTOR PRECISION FORESTRY COOPERATIVE

- Coordinate oversight of research program of state funding in support of remote sensing, forest optimization, and GIS
- Budget oversight \$280,000 annual budget
- Facilitate annual research and guiding committee meetings and banquet

INTERIM RESEARCH DIRECTOR, OLYMPIC NATURAL RESOURCES CENTER

- Coordinated research staff and guided research progress and priorities following the retirement of Director John Calhoun
- Managed 2 research staff stationed in Forks, WA, and 4 projects on the Olympic Peninsula
- Worked with Forks Advisory Board to help guide future direction of ONRC

AWARDS AND HONORS

2017	School of Environmental and Forest Sciences Faculty Member of the Year
2012-2017	Corkery Family Endowed Chair
2015	UW-Ljubljana University Faculty Exchange Fellowship,
2013	School of Environmental and Forest Sciences, Director's Award
2011	School of Environmental and Forest Sciences, Indirect Cost Recovery Award
2008-2011	James Ridgeway Endowed Chair
2008	School of Forest Resources Graduate Student Support Award

RESEARCH INTERESTS

My research interests are broad and interdisciplinary, reflecting my academic interests and administrative duties. Many of my students work on projects that draw from multiple disciplines but in general fit within two categories:

1. Forest Ecology. The largest emphasis of my previous research has been related to forest responses to either the physical environment or disturbance. My current research in this area uses several approaches to study forest responses to environmental stress including: dendrochronology, population modeling, and ecophysiology. All of this work starts with field-based observations and data collection.
2. Forest Management and Silviculture. I manage the UW's 4300 acre experimental forest (www.packforest.org), with active projects examining seedling growth and mortality, wildlife habitat and carbon sequestration associated with varying management practices. I am interested in sustainable forest management at multiple levels and through my students my efforts in this area have expanded internationally: coastal rainforest of south-central Chile, community-managed firewood harvest in the pine-oak forests of Chiapas, Mexico; mixed conifer-hardwood forests of northeast China, long-term forest plot network in Venezuela, sustainable cocoa production in Ghana.

PEER-REVIEWED PUBLICATIONS

1. Aghai, M.M., Khan, Z., Stoda, A.M., Sher, A.W., Ettl, G.J. and Doty, S.L., 2019. The Effect of Microbial Endophyte Consortia on *Pseudotsuga menziesii* and *Thuja plicata* Survival, Growth, and Physiology Across Edaphic Gradients. *Frontiers in Microbiology*, 10, p.1353.
2. Ameyaw, L., Ettl, G., Leissle, K., & Anim-Kwapong, G. (2018). Cocoa and Climate Change: Insights from Smallholder Cocoa Producers in Ghana Regarding Challenges in Implementing Climate Change Mitigation Strategies. *Forests*, 9(12), 742.
3. Vilanova, E, H. Ramírez-Angulo, A. Torres Lezama, G. Aymard, L. Gámez, C. Durán, L. Hernández, R. Herrera, J. Lloyd, G. van der Heijden, O.L. Phillips, GJ Ettl. 2018. Tree turnover, aboveground biomass and woody productivity across Venezuelan tropical forests: insights from permanent sample plots. *PLOS ONE* <https://doi.org/10.1371/journal.pone.0198489>
4. Diaz, D.D., Loreno, S., Ettl, G.J. and Davies, B. 2018. Tradeoffs in Timber, Carbon, and Cash Flow under Alternative Management Systems for Douglas-Fir in the Pacific Northwest. *Forests* 9(8): 447; <https://doi.org/10.3390/f9080447>
5. McBurney, K.G., Cline, E.T., Bakker, J.D. and Ettl, G.J. 2017. Ectomycorrhizal community composition and structure of a mature red alder (*Alnus rubra*) stand. *Fungal Ecology* 27:47-58.
6. Fischer, P.W., Cullen, A.C. and Ettl, G.J., 2017. The Effect of Forest Management Strategy on Carbon Storage and Revenue in Western Washington: A Probabilistic Simulation of Tradeoffs. *Risk Analysis* 37:173-192.
7. Schroder, S.A.K., Tóth, S.F., Deal, R.L. and Ettl, G.J., 2016. Multi-objective optimization to evaluate tradeoffs among forest ecosystem services following fire hazard reduction in the Deschutes National Forest, USA. *Ecosystem Services* 22: 328–347.
8. Roesch-McNally, G.E., Rabotyagov, S., Tyndall, J.C., Ettl, G. and Tóth, S.F. 2016. Auctioning the Forest: A Qualitative Approach to Exploring Stakeholder Responses to Bidding on Forest Ecosystem Services. *Small-scale Forestry*, 15:321-333. DOI 10.1007/s11842-016-9327-0
9. Khan, Z., Kandel, S. L., Ramos, D. N., Ettl, G. J., Kim, S. H., & Doty, S. L. 2015. Increased Biomass of Nursery-Grown Douglas-Fir Seedlings upon Inoculation with Diazotrophic Endophytic Consortia. *Forests*, 6(10), 3582-3593.
10. Marcinkowski, Kailey, David L. Peterson, and Gregory J. Ettl. 2015. "Nonstationary temporal response of mountain hemlock growth to climatic variability in the North Cascade Range, Washington, USA." *Canadian Journal of Forest Research* 45: 676-688.

11. Knoth, J. L., S.-H. Kim, G.J. Ettl and S.L. Doty. 2014. "Biological nitrogen fixation and biomass accumulation within poplar clones as a result of inoculations with diazotrophic endophyte consortia." *New Phytologist* 201(2): 599-609.
12. Tóth, S. F., G. J. Ettl, N. Könnnyü, S. S. Rabotyagov, L. W. Rogers, J. M. Comnick. 2013. ECOSEL: Multi-objective optimization to sell forest ecosystem services. *Forest Policy and Economics* 35:73-82. (<http://dx.doi.org/10.1016/j.forpol.2013.06.011>)
13. Knoth, J. L. Kim, S-H. Ettl, G.J., and Doty S. L. 2013. Effects of Cross Host Species Inoculation of Nitrogen Fixing Endophytes on Growth and Leaf Physiology of Maize. *GCB Bioenergy* 5:408-416.
14. Rabotyagov, S. S., S. Toth, F., G.J. Ettl. 2013. Testing the Design Variables of ECOSEL: A Market Mechanism for Forest Ecosystem Services. *Forest Science* 59(3): 303-321.
15. Cross, Jason C., Eric C. Turnblom, and Gregory J. Ettl. 2013 Biomass production on the Olympic and Kitsap Peninsulas, Washington: updated logging residue ratios, slash pile volume-to-weight ratios, and supply curves for selected locations. General Technical Report-Pacific Northwest Research Station, USDA Forest Service PNW-GTR-872.
16. Gou, X., F. Zhang, Y. Deng, G.J. Ettl, M. Yang, L. Gao, and K. Fang. 2012. Patterns and dynamics of tree-line response to climate change in the eastern Qilian Mountains, northwestern China. *Dendrochronologia* 30:121-126.
17. Tóth, S.F., G.J. Ettl, and S.S. Rabotyagov. 2010. ECOSEL: An Auction Mechanism for Forest Ecosystem Services. *Mathematical and Computational Forestry & Natural-Resource Sciences*. 2:99-116.
18. Ettl, G.J. 2010. The Deniable Truth of Sustainable Forestry. *Northwest Science* 84:307-309.
19. Shu, Y., Feng, X., Gazis, C., Anderson, D., Faiia, A.M., Tang, K., and G.J. Ettl. 2005. Relative Humidity recorded in tree rings: A study along a precipitation gradient in the Olympic Mountains, Washington, USA. *Geochimica et Cosmochimica Acta* 69:791-799.
20. Ettl, G.J., and N. Cottone. 2004. Whitebark pine *Pinus albicaulis* in Mt. Rainier National Park, USA: Response to blister rust infection. In H. R. Akçakaya, M. A. Burgman, O. Kindvall, C. C. Wood, P. Sjögren-Gulve, J. S. Hatfield, and M. A. McCarthy (editors), *Species Conservation and Management: Case Studies*, Pp. 36-47. Oxford University Press, New York, N.Y.
21. Kusnierczyk, E. and G.J. Ettl. 2002. Dendroecology of Ponderosa pine (*Pinus ponderosa*) in the Okanogan National Forest, WA. *Ecoscience* 9:545-552.
22. Peterson, D.W., D L. Peterson, and G.J. Ettl. 2002. Growth responses of subalpine fir (*Abies lasiocarpa*) to climatic variability in the Pacific Northwest. *Canadian Journal of Forest Research* 32:1503-1517.
23. Ettl, G.J., and D.L. Peterson. 2001. Genetic variation of subalpine fir (*Abies lasiocarpa*) in Olympic National Park, WA, USA: Differentiation in response to an elevation gradient. *Silvae Genetica* 50:145-153.
24. Cottone, N. and G.J. Ettl. 2001. Using aerial photographs to estimate whitebark pine (*Pinus albicaulis*) populations in Mt. Rainier National Park. *Northwest Science* 75:397-406.
25. Tang, K., Feng, X., and G.J. Ettl. 2000. Variations in dD of tree rings and the implications for climatic reconstruction. *Geochimica et Cosmochimica Acta* 64:1663-1673.
26. Ettl, G.J., and D.L. Peterson 1995. Extreme climate and variation in tree growth: individualistic growth response in subalpine fir (*Abies lasiocarpa*). *Global Change Biology* 1:231-241.
27. Ettl, G.J., and D.L. Peterson 1995. Growth response of subalpine fir (*Abies lasiocarpa*) to climate in the Olympic Mountains, Washington, USA. *Global Change Biology* 1:213-230.
28. Ettl, G.J. 1993. A management model for urban Canada goose populations. *The Northwest Environmental Journal* 9:73-84.
29. Ettl, G.J., and D.L. Peterson. 1991. Growth and genetic response of subalpine fir (*Abies lasiocarpa*) in a changing environment. *The Northwest Environmental Journal* 7:357-359.

EXTERNAL COMPETITIVE GRANTS (\$2,830,103)

- 2019-2022 Ganguly, I., Wheeler, K., Farrell, M., Ettl, G.J. Maple Syrup Production from Big Leaf Maple Trees in the Riparian Zones of Washington's Forests. USDA Acer Access and Development Program. \$499,709.
- 2015-2019 Ettl, G.J., Harrison, R., Turnblom, E., Moskal, L.M., and Toth, S.F. IUCRC/Center for Advanced Forestry: Phase II. National Science Foundation. \$325,000.
- 2009-2015 Ettl, G.J. (took lead from Briggs, D. in 2012), Harrison, R., Turnblom, E., Moskal, L.M., and Toth, S.F. IUCRC/Center for Advanced Forestry. National Science Foundation. \$151,893.
- 2009 Tóth, S. and G.J. Ettl. Multi-objective Optimization to Evaluate and Sell Forest Ecosystem Services USDA National Institute of Food and Agriculture Competitive Grants Program (Managed Ecosystems). \$499,986
- 2009 Doty, S.L., Kim, S-H, Ettl, G.J., and R. Bura. Nitrogen Fixation in Poplar: Increased Efficiency of Bioenergy Crop Production NSF # 0930909. \$350,000
- 2008 Tóth, S. and G.J. Ettl. The Feasibility and Expected Performance of the ECOSEL Auction Mechanism to Evaluate and Sell Forest Ecosystem Services. USDA National Research Initiative Competitive Grants Program (Managed Ecosystems). \$50,000.
- 2006-2013 Ettl, G.J. and D.L. Peterson. The Western Mountain Initiative: Variability and Adaptation to Climate Change in Western Ecosystems. With supplements and extension. USGS. \$953,515.

EXTERNAL CONTRACTS (\$4,094,512)

- 2018-2021 Ettl, G.J. and D.L. Peterson. Climate Implementation in National Forests. USFS. \$264,468.
- 2018-2020 Ettl, G.J. and Peterson, D.L. Intergovernmental Personnel Agreement for Jessica Halofsky. USFS. \$122,768.
- 2012-2018 Ettl, G.J. and D.L. Peterson. The Western Mountain Initiative: Vulnerability and Adaptation to Climate Change in Western Ecosystems. With multiple supplements and Extension. USGS. \$528,013.
- 2014-2019 Ettl, G.J. and D.L. Peterson. Climate Applications in National Forests. Supplements and extensions. USFS. \$718,637
- 2012-2014 Ettl, G.J. (Director) Stand Management Cooperative membership dues collected \$1,840,000 (including member voted 10% increase in 2014)
- 2011 Tóth, S.F. and G.J. Ettl Integrating Carbon and Other Ecosystem Services into a Framework for Forest Management. Deschutes National Forest, USFS. \$120,000. (8/1/2010-7/31/2012)
- 2010 Kim, S-H and G.J. Ettl. Modeling forest ecosystem responses to climate change in Korea. National Center for Agro-Meteorology, Korea, \$72,000
- 2009-2012 Ettl, G.J. (from J. Calhoun). Forest Tax Policy Assessment. USFS PNW Research Station. \$89,527.
- 2010 Tóth, S.F., G.J. Ettl, S.S. Rabotyagov. *ECOSEL* Experimental Auctions in New Zealand. Scion, New Zealand. Rotorua, New Zealand. \$31,194
- 2009-2012 Ettl, G.J. (from J. Calhoun.) A web-based Interface for Forest Management. USFS PNW Research Station, \$230,295.

- 2009-2011 Ettl, G.J. (from J. Calhoun). Biomass Assessment, Washington State University Energy Award. \$50,000.
- 2009-2011 Ettl, G.J. (from J. Calhoun). Biomass Supply Curves, USFS-PNW Research Station. \$27,610.

EXTERNAL FOREST STEWARDSHIP CONTRACTS (\$487,592)

- 2019 Ettl, G.J. Forest stewardship planning for the Bremerton Watershed. \$6057
- 2017- 2018 Ettl, G.J., Linked land assessment, MFR and Undergraduate Capstones. Teaching support for Applied Forest Ecology Course (ESRM 490, SEFS 521 Spring 2018), student field work and writing of Forest Stewardship Plans. King County Parks, \$75,658.
- 2015/16 Ettl, GJ and Churchill D. Stewardship planning in King County Parks (Applied Forest Ecology Course, \$79,032.
- 2014 Ettl, G.J., and Churchill, D. Linked land assessment, MFR and capstones, and Applied Forest Ecology Course (ESRM 490, SEFS 521 Spring 2014). King County Parks \$4,915.
- 2010-2015 Ettl, GJ Washington State Parks Forest Health and CSF-PF Joint Forest Management Funding. \$226,667
- 2009 Ettl, G.J. Forest Health Management Plans for Lake Isabella and Seaquest State Parks. Washington State Parks and Recreation Commission. \$42,844
- 2009 Ettl, G.J. Forest Inventory of Brooks Memorial and Squilchuck State Parks. Washington State Parks and Recreation Commission. \$33,983.
- 2007 Ettl, G.J. (PI) Nisqually Mashel State Park, WA Forest Health Analysis and Management Plan. Washington State Parks and Recreation Commission. \$18,436.

MOUNT RAINIER INSTITUTE GIFTS AND GRANTS (\$369,504)

- 2020 Ettl, GJ and J. Hayes. Russell Family Foundation COVID-19 response. \$7,500
- 2020 Ettl, G.J. and J. Hayes. Lewis and Clark Outdoor Recreation Leaders. \$8,253
- 2018 Ettl, GJ and J. Hayes. Washington State Recreation and Conservation Office. No Child Left Inside. Mount Rainier Institute Outdoor School for All. \$37,481.
- 2017 Ettl, GJ and J. Hayes. Garneau-Nicon Family Foundation. \$15,000.
- 2017 Ettl, GJ and J. Hayes. Mount Rainier Institute. Russell Family Foundation. \$80,000
- 2015 Ettl, G.J. and J. Hayes. Mount Rainier Institute. Russell Family Foundation. \$40,000
- 2015 Ettl, G.J. and J. Hayes. Mount Rainier Institute. National Park Foundation. \$8,000
- 2015 Ettl, G.J. and J. Hayes. Forest Foundation. \$15,000
- 2014 Ettl, G.J. and J. Hayes. Mount Rainier Institute. Russell Family Foundation. \$75,000
- 2012 Ettl, G.J. Establishing the Mount Rainier Institute at the Center for Sustainable Forestry at Pack Forest. Mount Rainier National Park. \$83,270. (2012-2014)

INTERNAL COMPETITIVE GRANTS (\$357,055)

- 2020-21 Tobin, P and G.J. Ettl. Climate warming and forest insect outbreak dynamics in the Pacific Northwest. NIFA McIntire-Stennis; USDA National Institute of Food and Agriculture. \$48,676
- 2019 Ettl, G.J. SEFS Collaborative Research Initiative: Building Carbon-related Research Capacity. NIFA McIntire-Stennis; USDA National Institute of Food and Agriculture. \$62,904
- 2016-18 Tobin, P. and G.J. Ettl. Big-leaf maple decline in western Washington. NIFA McIntire-Stennis; USDA National Institute of Food and Agriculture. \$40,126.
- 2016 Ettl, G.J., Aghai, M., Brown, S. and Gersonde, R. Growth and Physiological Response of Native Washington Tree Species to Light and Drought: Informing Sustainable Timber

- Production. NIFA McIntire-Stennis; USDA National Institute of Food and Agriculture. \$17,004.
- 2011 Ettl, G.J. and S. Asah. Student Engagement in Forest Management, and Community Outreach at Pack Forest's Center for Sustainable Forestry. McIntire-Stennis Funding. \$19,400.
- 2011 Doty, S.L., S.H. Kim, G. J. Ettl, and S. Brown. Endophytes for ecological restoration, climate change mitigation, and improved forest productivity. McIntire-Stennis Funding. \$118,415.
- 2010 Ettl, G.J., Turnblom, E., Wirsing, A., and S. F. Tóth. Assessing the role of harvest intensity in improving forest health and providing biodiversity as an ecosystem service: A comparison of western and eastern Cascade forests. McIntire-Stennis Funding, \$10,110.
- 2009 Toth, S. F., S.S. Rabotyagov and G.J. Ettl, Providing forest ecosystem services with ECOSEL auction mechanism in experimental settings. McIntire-Stennis Funding. \$32,420.
- 1997 Ettl, G.J. Howard Hughes Medical Institute. Summer undergraduate research, \$4000.
- 1996 Ettl, G. J. Howard Hughes Medical Institute. Summer undergraduate research, \$4000.

INVITED PRESENTATIONS

- Ettl, G.J. 2020. Syrup production from bigleaf maple in the Pacific Northwest. Washington Tree Farm Program. Washington State Extension. Zoom online. 9-9-2020.
- Ettl, G.J. 2018. Alternative silviculture practices for small forest landowners. Pack Forest, Eatonville, WA. 9-22-2018
- Ettl, G.J. 2016. Silviculture treatments to reduce drought stress and increase forest resilience to climate change. International Climate Change Adaptation Symposium, Seoul, Republic of Korea. (6-21-2016).
- Ettl G.J. 2016. A comparison of silvicultural options for Douglas-fir (*Pseudotsuga menziesii*) dominated forests in western Washington, USA. Opportunities and Challenges for Silvicultural Systems in North America. FAO North American Forest Commission Workshop, Durango, Mexico. (6-10-2016)
- Ettl, G.J. 2015. The Ecology and Management of Forest in the Pacific Northwestern USA. University of Ljubljana, October 22, 2015, Ljubljana, Slovenia.
- Ettl, G.J. Paul Fischer, Sándor Tóth, Nóra Könnnyű, Jeffrey Comnick, Kevin Ceder, Sergey Rabotyagov, Aaron Wirsing, Luke Rogers. 2014. Carbon Storage and Potential Green House Gas Emission Offset Potential from Pack Forest? University of Washington Greenhouse Gas Offsets Workshop. (1-28-2014)
- Ettl, G.J Carbon Sequestration in Forests: Science and Strategy. National Funder Briefing. Consultative Group on Biological Diversity. November 5, 2014.
- Ettl, G. J. and D.L. Peterson. 2011. The Growth Response of Conifers to Past Climate and Potential for Adaptation to Climatic Change in the Pacific Northwest, USA. *Strategy of Development on Forest Genetic Resources against Climate Change*, International Symposium, Suwon, Korea, (6-1-2011).
- Ettl, G.J. 2011. The decline of whitebark pine (*Pinus albicaulis*) in response to the introduced fungal pathogen white pine blister rust (*Cronartium ribicola*), with considerations of mountain pine beetle (*Dendroctonus ponderosae*) and climate change in the Pacific Northwest. *Strategy of Development on Forest Genetic Resources against Climate Change*, International Symposium, Suwon, Korea, (6-2-2011).
- Ettl, G.J. Action Ecology, Ecology in Action, Ecological Society of America SEEDS Leadership Conference, Pack Forest, WA (3-4-2011).

- Ettl, G.J., L. Wetzstein. The natural places we love: outdoor education to inspire ecology's next generation, Ecological Society of America, SEEDS Leadership Meeting, Pack Forest, WA (3-5-2011).
- Ettl, G.J. Alternative silviculture for Douglas-fir/western hemlock forests. Pacific Lutheran University, Tacoma, WA (10-4-2010).
- Ettl, G.J. Regeneration of mixed Douglas-fir and western redcedar forests. Northeast Forestry University, Harbin, China (8-20-2010).
- Ettl, G.J. Sustainable Forestry, Forest Ecology and Silviculture studies at the University of Washington. Public Lecture at Northeast Forestry University, Harbin, China. (8-19-2010).
- Ettl, G.J. The Montreal protocol and Sustainable Forest Management., Hongshi, China. (8-12-2010)
- Ettl, G.J. Korean Pine Silviculture. Hongshi, China (8-12-2010).
- Ettl, G.J. Sustainable Forest Management, Jilin Forest Enterprises. Hongshi, China. (8-11-2011).
- Ettl, G.J. Maintaining Long-term Productivity in Douglas-fir Forests of the Pacific Northwest USA, Hongshi, China (8-11-2010).
- Ettl, G.J. The Costs and Benefits of FSC Certification. SAF Annual Meeting, Opportunities and Challenges in Uncertain Times. LaConner, WA (5/13/2010).
- Ettl, G.J., S.S. Rabotyagov, and S.F. Tóth. ECOSEL: An Auction Mechanism for Forest Ecosystem Services. Invited Seminar at the Catholic University of Chile, Santiago, Chile (3/22/2010).
- Ettl, G.J. Is Forest Certification or Government Regulation Better for Managing Forests for Multiple Purposes. Denman Forestry Series, Seattle, WA (5/14/2009)
- Ettl, G.J. Moderator, Regional Economic Summit. Eatonville, WA (1/23/2009).
- Tóth, S.F., G.J. Ettl and S.S. Rabotyagov: ECOSEL: Selling Forest Ecosystem Services – A Workshop and Mock Auction. The USDA Forest Service Northwest Research Station, Corvallis, Oregon (1/21/2009).
- Tóth, S.F., G.J. Ettl and S.S. Rabotyagov. An Auction-Based Funding Mechanism for Recreational Services in Washington State Forestlands. Invited Seminar at a Washington State Department of Natural Resources Advisory Meeting. Snoqualmie, Washington (11/13/2008).
- Ettl, G.J. Ecology of whitebark pine, Invited Presentation for the Washington Native Plant Society, Olympia, WA (2-11-08).
- Tóth, S.F., G.J. Ettl and S.S. Rabotyagov: How Much Would You Pay to Produce Forest Ecosystem Services? – An Auction. The 2008 Northwest Environmental Forum. Blaine, Washington (10/30/2008).
- Tóth, S.F. and G.J. Ettl. An Auction Mechanism to Sell Forest Ecosystem Services. Invited Seminar at the October 17, 2008 Nisqually River Council Meeting. Longmire, Washington (10/17/2008).
- Ettl, G.J. Introduction to the role of non-timber forest products in sustainable forest management. Big Huckleberry Summit, Pack Forest University of Washington (6/21/2007)
- Ettl, G.J. The Center for Sustainable Forestry at Pack Forest. Twentieth Annual Western Research Forest Manager's Meeting. Pack Forest, Eatonville, WA. October, 2006.
- Ettl, G.J. Pack Forest Tour and Silviculture, Danish Forestry Professionals, Eatonville, WA (9/2006)

- Ettl, G.J. An Introduction to Pack Forest. College of Forest Resources New Faculty Bus Tour, Eatonville, WA (9/2006)
- Ettl, G.J. Subalpine Ecosystems of the Olympic Peninsula, Taiwanese student Tour, Hurricane Ridge, WA (8/2006)
- Ettl, G.J. Ecology of whitebark pine in the Pacific Northwest. Keynote Address. Whitebark Pine: A Pacific Coast Perspective. (August, 2006).
- Ettl, G.J. The potential impacts of climatic change and blister rust on whitebark pine communities in Mount Rainier National Park. Fordham University, (April 2006).
- Ettl, G.J. Decline of whitebark pine in Crater Lake National Park. Earthwatch Festival of Science and Culture, Harvard University. (11/18/2000).
- Ettl, G.J. Decline of whitebark pine in the North Cascades Ecosystem. Earthwatch Festival of Science and Culture, Harvard University. (11/13/1999).
- Ettl, G.J., and D.L. Peterson. Tree growth and regeneration at tree-line sites in the Pacific Northwest of the U.S.A. Inter-American Institute for Global Change workshop on the assessment of present, past and future climate variability in the Americas from tree-line environments, Jasper, Alberta, Canada. (October 1996).
- Ettl, G.J., and D.L. Peterson. Growth response of subalpine fir (*Abies lasiocarpa*) to climate and genetic variation: potential responses and management implications for warmer and drier climatic conditions. Invited Presentation, Olympic National Park, Port Angeles, WA. (May 1995).

TEACHING EXPERIENCE

University of Washington

ESRM 428 Principles of Silviculture
 ESRM 490 Applied Forest Ecology—Field Forestry Course (w/ Derek Churchill)
 CFR 501 Community Forest Ecology
 CFR 526 Advanced Silviculture
 CFR 521 Carbon Accounting and Modeling (w/ Soo-Hyung Kim)
 CFR 500 Graduate Student Orientation

Warren Wilson College

Forest Biology
 Silviculture
 Introduction to Forest Management
 Ecology
 Conservation and Wildlife Biology

Saint Joseph's University

Plant Ecology and Conservation
 Applied Population Ecology
 Organismal Biology
 The Environment (non-majors course)
 Mathematical Models in Environmental Science (Interdisciplinary Honors course)
 Graduate Research Techniques (statistics and library research)
 Graduate Seminars
 Cell Biology Laboratory
 Genetics Laboratory

Completed PhD Students Chaired:

- Ameyaw, Lord (PhD) 2019. Sustainable Cocoa production in Ghana.
- Lee, Kiwoong (PhD) 2019. Ecophysiological response of Douglas-fir plantations to drought stress.
- Vilanova, Emilio (PhD) 2019. Productivity, mortality, and community changes in Venezuelan forests from a long-term permanent plot network.

Completed Master of Science Chaired:

- Becker, Kendall (MS). 2014. [w/ Jim Lutz] Effects of Fire on Carbon Sequestration in Yosemite and Sequoia Kings Canyon National Parks (Co-advisor, Jim Lutz)
- Fox, Rhiannon (MS). 2014. The physiological response of western redcedar to environmental stress: seasonal variation in photosynthesis, sap flow, and growth.
- Fisher, Paul (MS). 2013. Potential carbon accreditation from improved forest management practices under three forest carbon offset accounting methodologies in Douglas-fir second growth forests in western Washington.
- Baroody, Julie (MS). 2013. Strategies for Scientific and Strategic Forest Carbon Project Decision-Making in the Tropics.
- Galligan, Kate (MS). 2012. Influence of soil moisture on *Alnus rubra* ectomycorrhizal fungal community distribution throughout a growing season.
- Walter, Trevor 2011. Optimization modeling applied to the restoration of native temperate Chilean forests (Co-advisor, Sandor Tóth).
- Daneshgar, Pedram. 2003. Growth response of whitebark pine to climate in the Pacific Northwest. St. Joseph's University, Philadelphia, PA
- Cottone, Nicholas. 2001. Modeling whitebark pine infected with blister rust in Mt. Rainier National Park. St. Joseph's University, Philadelphia, PA
- Kusnierczyk, Elizabeth. 2001. The effects of climate on growth, seedling establishment, and mortality of ponderosa pine (*Pinus ponderosa*) in eastern Washington: species response to predicted climatic change. St. Joseph's University, Philadelphia, PA
- DelPrato, Paul. 1999. The effects of blister rust on whitebark pine in Mt. Rainier National Park. St. Joseph's University, Philadelphia, PA

Completed Master of Forest Resources Chaired:

- Sam Castro 2019. King County Three Forks Stewardship Plan.
- Luke Semler 2019. Forest stewardship plan for the Bremerton Watershed.
- Marcia Rosenquist 2018. Forest Stewardship Plan for Tolt River Natural Area.
- Cockle, Andrew 2015. Survival and Growth of Western Redcedar and Douglas-fir planted in a Variable-retention Harvest Unit the Western Cascades, Washington State.
- Snoozy, Eric 2015. Timber cruise and harvest plan for Cow East management unit.
- Rahkonen, Katri (MFR). 2013. Silvicultural thinning of a young Douglas-fir plantation for purposes of conversion to a multi-species, multi-cohort stand.
- Decker, Hunter (MFR). 2013. A mixed species Nelder spacing trial for western redcedar and western white pine at Pack Forest.
- Coleman, Jared (MFR). 2013. Implementation of a restoration prescription for Seaquest State Park: using an Iron Horse to demonstrate low-impact logging.
- Gregg Zimmerman (MFR) 2012. Blowdown risk assessment for Pack Forest.
- Cibicki, Michael. 2011. Restoration thinning prescription Stand 21, Nisqually State Park.
- Misenar, Joshua. 2007. Regeneration prescription for Lower Murphy, Pack Forest.
- Sakuma, Daisuke. 2007. A comparison of forest practice regulations in California and Washington.

Current Graduate Students Chaired:

- Aghai, Matthew (PhD). The effects of light and drought stress on 10 seedling of 10 Washington tree species. On leave as Director of Science for DroneSeed.
- Diaz, David (PhD). Mining public data to enhance forest assessment, monitoring, and modelling.
- Sarah Harrison (MS). Influence of salvage logging on understory, soil microclimates and regeneration on the Stickpin fire.
- Meike Buhaly (MS). Douglas-fir, western redcedar, western hemlock, grand fir, and red alder response to variable gap size, light, and water availability.
- A.Nick Braun. (MS). Bigleaf maple syrup production: sap flow in response to temperature, tree size, health, and vacuum extraction.

INTERNS MENTORED

- >50 Pack Forest Spring Break planting interns, led 1-week programs
- >30 Summer Internships, led 11-week programs
- Eric Cudjoe, Erasmus Mundus Scholar, University Valladolid, Spain (6/2018-9-2018)
- Larsen-Sorenson, Rachel. International Intern, University of Copenhagen. (9/2011-7/2012)

REFERENCES:

- Tom DeLuca, Dean, College of Forestry, Oregon State University, tom.deluca@oregonstate.edu
- Tom Hinckley, Professor Emeritus, University of Washington, hinckley@uw.edu
- David L. Peterson, Professor Emeritus, University of Washington, wild@uw.edu