

TOBIAS SCHWÖRER

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CONTACT INFORMATION

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CURRENT POSITION

University of Alaska Anchorage

2009 – present: Senior Research Professional, Institute of Social and Economic Research

PREVIOUS POSITIONS

McDowell Group, Juneau and Anchorage, Alaska, USA

2007 – 2009: Economist and Consultant

Simon Fraser University, School of Resources and Environmental Management, Burnaby, British Columbia, Canada

2004 – 2007: Research Assistant, School of Resource and Environmental Management

2005 – 2006: Teaching Assistant for Ecological Economics and Development Economics, School of Resource and Environmental Management

University of Alaska Anchorage, Alaska, USA

2003 – 2004: Research Associate, Institute of Social and Economic Research

2001 – 2003: Research Assistant, Institute of Social and Economic Research

Kadus Haarkosmetik, Lenzkirch, Germany

1999: Logistics assistant

German Federal Armed Forces, German Cross-country Skiing National Team, Germany

1995 – 1999: Staff Sergeant (Stabsunteroffizier)

1994 – 1995: Private first class (Gefreiter)

EDUCATION

Ph.D. ABD (exp. 08/16), University of Alaska Fairbanks, Fairbanks, Alaska, USA

Interdisciplinary Sciences with emphasis in bioeconomics and decision analysis

Thesis title: *A risk and decision analysis for managing Elodea spp.: An applied integrated bioeconomic approach for estimating risk to salmon in Alaska.*

M.S., Simon Fraser University, Burnaby, B.C., Canada

Resource Management with emphasis on ecological economics

Thesis title: *The economic value of gray whales to local communities: A case study of the whale watching industry in two communities in Baja, Mexico*

B.A., University of Alaska Anchorage, Anchorage, Alaska, USA

Economics, Environmental Studies minor

AWARDS, GRANTS, AND CONTRACTS

2016 National Center for Ecological Analysis and Synthesis / Gordon and Betty Moore Foundation: State of Alaska Salmon and People (SASAP) Synthesis

2016 Alaska Department of Fish and Game: Analysis and data collection related to the potential distribution of aquatic invasive species via floatplanes across Alaska

2016 Cook Inlet Aquaculture Association: Incentive payments for questionnaire of private floatplane pilots regarding distribution of invasive species

2014 Alaska SeaGrant: Coastal Resilience Research – An Expert and Community-supported Decision Tool for Managing Marine Invasive Species

2014 The Nature Conservancy: Economic Geography of Salmon in the Mat-Su

2014 Alaska Sustainable Salmon Fund: A Decision Analysis for Management of Elodea in Alaska

2014 Intelligent Energy Services: Economic evaluation of electric thermal storage devices in wind-diesel hybrid systems in rural Alaska: Utility cost structure survey, Analysis of cost and benefits of battery storage

2013 Intelligent Energy Services: Development of an economic simulation dispatch model for wind-diesel hybrid systems

2013 The Nature Conservancy: Contingent valuation of ecosystem services in the Mat-Su Borough: Peer review of benefit transfer approach

2012 The Nature Conservancy: Contingent valuation of ecosystem services in the Mat-Su Borough: Contingent valuation survey

2011 The Nature Conservancy: Contingent valuation of ecosystem services in the Mat-Su Borough: Focus groups for questionnaire design

2011 Alaska SeaLife Center: Economic analysis of invasive species in Alaska

2011 Environmental Protection Agency (NatureServe): Economic significance analysis of healthy ecosystems in the Bristol Bay

RESEARCH: PAPERS AND PUBLICATIONS
JOURNAL ARTICLES

Schwoerer, T. and Little, J. in progress. A Bayesian decision analysis for managing invasive aquatic plants threatening livelihoods in salmon-dependent communities: The case of *Elodea spp.* in the Copper River watershed, Alaska.

Schwoerer, T. and Little, J. in progress. Expert probability elicitation through adaptive choice: The risk of *Elodea spp.* for salmonid persistence in Alaska.

Schwoerer, T. and Little, J. in progress. A bioeconomic simulation model of managing invasion risk: Spreading aquatic invasive plants in salmon-dependent communities.

Schwoerer, T.; Schmidt, J.; Holen, D. in progress. Gasoline demand in communities dependent on the harvesting of wild foods: Empirical evidence from Interior Alaska.

Schwoerer, T.; Knowler, D.; Garcia-Martinez, S. 2016. The value of whale watching to local communities in Baja, Mexico: A case study using applied economic rent theory, *Ecological Economics* 127: 90-101.

Schwoerer, T.; Federer, R.; Ferren II, H. 2014. Invasive species management programs in Alaska: A survey of statewide expenditures, 2007-11, *Arctic* 67(1): 20-27.

Knowler, D.; Ansuategi, A.; Schworer, T.; Garcia-Martinez, S. in progress. Local Fishing Communities and Nature Based Tourism: Shrimp Fisheries and Whale Watching in Baja, Mexico.

BOOK CHAPTERS

Schwörer, T. forthcoming. Uncertainty, economics, and invasive species management. In: (Eds.) Hayward, G.D.; Colt, S.; McTeague, M.L.; Hollingsworth, T. Climate change vulnerability assessment for the Chugach National Forest and the Kenai Peninsula. USDA Forest Service, Pacific Northwest Research Station, General Technical Report.

Schwörer, T.; Fay, V.; Meiners, D. 2011. The Chaninik Wind Group, In: *The Cool 100 Book*, Haselip, J. and Pointing, D. Eds.
<http://www.iser.uaa.alaska.edu/Publications/TheCool100Book.pdf>.

REPORTS, AND WORKING PAPERS

Schwörer, T.; Holen, D.; Jones, B.; Tanaka, C.; Albert, D. in press. The Economic Geography of Salmon: A conceptual framework and preliminary characterization of the spatial distribution of economic values associated with salmon in the Mat-Su Basin. *Alaska Department of Fish and Game Special Publication*.

Schwörer, T. 2014. Attitudes towards land use and development in the Mat-Su: Empirical evidence on economic values of ecosystem services. *UAA Institute of Social and Economic Research Working Paper*. http://iser.uaa.alaska.edu/Publications/2014_04_25-SchworerMat-Su2040FuturesSurvey.pdf.

Duffield, J.; Neher, C.; Patterson, D.; Knapp, G.; Schwörer, T., Fay, V.; Goldsmith, O.S. 2014. Bristol Bay Wild Salmon Ecosystem: Baseline Levels of Economic Activity and Values. Prepared for Environmental Protection Agency, http://www.epa.gov/ncea/pdfs/bristolbay/bristol_bay_assessment_final_2014_vol3.pdf.

Schwörer, T. 2013. The Mat-Su Borough in 2040: What Would Residents Like to See? Research Summary No. 76. UAA Institute of Social and Economic Research, http://iser.uaa.alaska.edu/Publications/2014_04-MatSu2040_ResearchSummary.pdf.

Fay, V.; Villalobos Melendez, A.; Schwörer, T, West, C. 2013. Alaska Energy Statistics 1960-2011. UAA Institute of Social and Economic Research.

Fay, V. Schwörer, T., Guettabi, M., Armagost, J. 2013. Analysis of Alaska Transportation Sectors to Assess Energy Use and Impacts of Price Shocks and Climate Change Legislation, UAA Institute of Social and Economic Research, http://www.iser.uaa.alaska.edu/Publications/2013_04-AnalysisAKTransportationSectorsAssessEnergyUse.pdf.

Information Insights. 2013. The economic impact of closing Flint Hills' Northpole refinery. Report prepared in collaboration with Information Insights, Fairbanks, AK, for Flint Hills Resources, Fairbanks, AK.

Schwörer, T.; Federer, R.; Ferren II, H. 2012. Managing invasive species: How much do we spend? ISER Research Summary. UAA Institute of Social and Economic Research, http://www.iser.uaa.alaska.edu/Publications/2012_07-InvasiveSpecies.pdf.

Information Insights. 2012. The economic impact of Interior-based Alaska Native Organizations. Report prepared in collaboration with Information Insights, Fairbanks, AK, for Doyon Limited, Fairbanks, AK, <http://irha.org/PDF/Alaska%20Native%20Economic%20Impact%20Study.pdf>

Fay, V.; Villalobos Melendez, A.; Schwörer, T. 2012. Power Cost Equalization Funding Formula Review. *UAA Institute of Social and Economic Research Technical Report*, http://www.iser.uaa.alaska.edu/Publications/2012_03_14-NREL_PCEfinal.pdf.

Information Insights. 2011. The economic impact of public transportation in Alaska. Report prepared in collaboration with Information Insights, Anchorage, AK, for Alaska Mobility Coalition, Anchorage, AK.

Fay, V.; Saylor, B.; Schwörer, T. 2011. Alaska fuel price projections 2011-2030. UAA Institute of Social and Economic Research, http://www.iser.uaa.alaska.edu/Publications/Fuel_price_projection_2011-2030_final_01252011.pdf.

Holdmann, G., Fay, G., Witmer, D., Williams, F., Schwörer, T., Pride, D. Stevens, R., 2011. Executive Summary: Small Scale Modular Nuclear Power: an option for Alaska? Alaska Center for Energy and Power, <http://www.uaf.edu/files/acep/Executive-Summary-3-2-11.pdf>.

Haley, S., Szymoniak, N., Klick, M., Crow, A., and Schwörer, T. 2011. Social Indicators for Arctic Mining. *UAA Institute of Social and Economic Research Working Paper 2011.2.*
<http://iser.uaa.alaska.edu/Publications/mining-indicators.pdf>.

Schwörer, T. and Fay, V. 2010. Economic feasibility of North Slope propane production and distribution to select Alaska communities. UAA Institute of Social and Economic Research,
http://www.iser.uaa.alaska.edu/Publications/Schworer_ay2010propane_phase2final.pdf.

Goldsmith, O.S. and Schwörer, T. 2010. The Foraker Group Report on the Alaska non-profit economy: 2010 update. UAA Institute of Social and Economic Research,
http://www.iser.uaa.alaska.edu/Publications/2010_11-NonprofitReport.pdf.

Fay, V.; Keith, K.; Schwörer, T. 2010. Alaska isolated wind-diesel systems performance and economic analysis. UAA Institute of Social and Economic Research,
http://www.iser.uaa.alaska.edu/Publications/wind_diesel10022010.pdf.

Colt, S. and Schwörer, T. 2010. Socioeconomic impacts of potential Wishbone Hill coal mining activity. UAA Institute of Social and Economic Research,
http://www.iser.uaa.alaska.edu/Publications/wishbone_hill_impacts_final.pdf.

Goldsmith, O.S. and Schwörer, T. 2010. Benefit cost analysis TIGER II Grant Application Port of Anchorage barge berths and rail extension project. Report prepared for the Port of Anchorage. UAA Institute of Social and Economic Research,
<http://iser.uaa.alaska.edu/Publications/Port%20of%20Anchorage%20TIGER%20II%20BCA%20Writeup%20final%20v1.docx>.

Helvoigt, T.; Schwörer, T.; Charlton, D. 2010. Economic Analysis of the Chuitna watershed and Cook Inlet, Report prepared in collaboration with Eco-Northwest, Eugene, OR, for Cook Inletkeeper, Homer, AK.

Goldsmith, O.S. and Schwörer, T. 2009. Anchorage Port Intermodal Expansion Program (PIEP) benefit cost analysis of proposed TIGER discretionary grant funds. Report prepared for the Port of Anchorage. UAA Institute of Social and Economic Research,
http://www.iser.uaa.alaska.edu/Publications/POA_Benefit_Cost_Analysis_v12sept92009.pdf

Colt, S. and Schwörer, T. 2009. Economic importance of sportfishing in the Matanuska-Susitna Borough. UAA Institute of Social and Economic Research,
http://www.iser.uaa.alaska.edu/Publications/matsu_sportfish_final_31aug2009.pdf

Lister, C., Calvin, J., Rogers, B., Schwörer, T., Arriaga, I., Logan, D., Modrow, S., and Pierce, J. 2008. The role of the oil and gas industry in Alaska's economy. Report prepared for the Alaska Oil and Gas Association, Anchorage, AK, <http://www.aoga.org/wp-content/uploads/2010/06/report2008.pdf>.

McDowell Group. 2009 Q1. The AEDC Anchorage Quarterly Economic Indicators Report. Report prepared for Anchorage Economic Development Corporation, Anchorage, AK.

McDowell Group. 2008. Financial assessment of inflation proofing for Klukwan endowment fund. Report prepared for Klukwan Inc., Juneau, AK.

McDowell Group. 2008. Economic Impact of Alaska's cruise ship industry. Report prepared for the Alaska Cruise Association, Juneau, AK.

McDowell Group. 2008. Anchorage Economic Forecast. Report prepared for Anchorage Economic Development Corporation, Anchorage, AK.

McDowell Group. 2008 Q1 – Q4. The AEDC Anchorage Quarterly Economic Indicators Report. Report prepared for Anchorage Economic Development Corporation, Anchorage, AK.

McDowell Group. 2007. Potential economic impact of the Kensington Mine. Report prepared for Coeur Mining, Inc., Juneau, AK.

Fay, V.; Colt, S.; Schwörer, T. 2005. Sustainable economic development for the Prince William Sound Region. Report prepared for the National Wildlife Federation, Alaska Office. UAA Institute of Social and Economic Research http://www.iser.uaa.alaska.edu/Publications/2005_09-SustainableEconomicDevelopmentForPWS.pdf

RESEARCH: PRESENTATIONS

2015

Alaska SeaGrant Advisory Committee Meeting, Anchorage

An expert and community supported decision tool for managing invasive species: The risk of Elodea spp. to salmon-dependent communities.

8th Annual Mat-Su Salmon Science & Conservation Symposium, Palmer

Conference of the Committee on Noxious and Invasive Plants Management in Alaska, Juneau

Expert probability elicitation through adaptive choice: The risk of Elodea spp. for salmon persistence in Alaska.

Elodea workshop, Cordova

Human dimensions of invasive species management.

2014

Matanuska-Susitna Business Alliance Monthly Lunch Forum, Wasilla

16th Annual Alaska Forum on the Environment, Anchorage

Ecosystem Services: How much do mat-Su residents value them? Evidence from a household survey and analysis of property values in the Matanuska-Susitna Borough.

2013

6th Annual Mat-Su Salmon Science & Conservation Symposium, Palmer

Preliminary results from a contingent valuation of Mat-Su residents' preferences and values for: population growth, job sectors, recreation, and conservation.

American Planning Association, Alaska Chapter Conference, Anchorage

Preliminary results from a contingent valuation of Mat-Su residents' preferences and values for: population growth, job sectors, recreation, and conservation.

American Association of Energy Economists, Anchorage

Harnessing Wind Resources to Achieve Energy Independence and Economic Development in Isolated Rural Communities: A Financial Simulation Model

Alaska Forum on the Environment, Anchorage

Applied Bioeconomics for Invasive Species Management

Alaska Rural Energy Conference, Anchorage

Personal Transportation in Rural Alaska: Results from Two Questionnaires

College of Business and Public Policy Poster Session, Anchorage

Decisions under Uncertainty: How Bioeconomics Can Inform Invasive Species Management

2012

Prince William Sound Regional Citizen's Advisory Council, Anchorage: *Opportunities for Economic Analysis within Invasive Species Management*

Conference of the Committee on Noxious and Invasive Plants Management in Alaska, Kodiak: *Investments in Statewide Invasive Species Management Programs in Alaska, Decisions under Uncertainty: A Bioeconomic Approach to Managing Invasive Species in Alaska: the Case of Elodea in Chena Slough, Fairbanks*

American Fisheries Society Alaska Chapter, Kodiak, Alaska & Alaska SeaLife Center Science Colloquium, Seward: *Elodea in Alaska – Is it worth taking action and if so how much action is needed?: A bioeconomic risk assessment*

Arctic Frontiers Conference, Tromsø, Norway: *Harnessing wind: Opportunities for Sustainability in isolated Arctic communities*

Arctic Frontiers Young Scientist Forum, Tromsø, Norway: *Harnessing wind: Opportunities for Sustainability in isolated Arctic communities*

2011

Western Alaska Science Conference, Bethel: *Potential Economics of Nuclear Small Modular Reactor Technology for Alaska*

2010

Conference of the Committee on Noxious and Invasive Plants Management in Alaska, Fairbanks: *Assessing the Potential Economic Benefits and Costs of Invasive Species Coordination in Alaska: A Proposal*

PROFESSIONAL SERVICE

PEER REVIEW

Aquaculture Economics and Management, Conservation Biology

TEACHING AND GUEST LECTURES

Substitute teacher / guest lecturer: Fairbanks Fisheries Division Seminar, Natural Resource Economics (ECON 435) at University of Alaska Anchorage, Environmental Economics and Policy (ECON 210) at University of Alaska Anchorage

Teaching assistant: Ecological Economics (REM 621) at Simon Fraser University

ANALYTICAL AND SOFTWARE SKILLS

QUANTITATIVE METHODS

Discrete choice modeling (design and analysis of mail and online surveys): Sawtooth, NLOGIT, Matlab, Qualtrics

Applied statistical computing: R, STATA

Bayesian statistical computing: R, WINBUGS

Risk and decision analysis / Monte Carlo simulation: R, Palisade Decision Suite

Regional economic modeling: IMPLAN, ISER Input-Output model

ArcGIS

QUALITATIVE METHODS

Key informant interviews, focus groups, participatory appraisal

COMPUTER MODELS

IRECOS: Isolated Renewable Energy Economic Simulator, a simplified energy dispatch model with an hourly time step that simulates the economics of integrating high penetration renewables into isolated village utility systems. Particularly emphasis is given to modeling dispatchable loads such as individual household's heating demand.

ManTerPla: Management Model for Invasive Terrestrial Plants, a logistic growth model in discrete time that keeps track of the early, undetected, and detected portions of an invasion depending on effort related to detection, spread/damage prevention, and eradication.

BOARDS

UAF Hammond Center for Salmon and Society, 2015

SIGNIFICANT VOLUNTEER ACTIVITY

Vice-President: Arctic Orienteering Club, 2011-2013

Instructor: Crosscountry Alaska Coaches Clinic, 2008-2013

Volunteer coach: KidsRunning summer program, 2004