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EDUCATION

- Ph.D. Fisheries Oceanography, 2004, University of Alaska Fairbanks, Fairbanks AK
M.S. Statistics, 2003, University of Alaska Fairbanks, Fairbanks AK
B.S. Biology and Chemistry, 1993, Valparaiso University, Valparaiso IN
Interdisciplinary degree in the Honors College for liberal arts, 1993, Valparaiso University, Valparaiso, IN

PROFESSIONAL EXPERIENCE

- 2012-present Statewide Herring Fisheries Scientist, Alaska Department of Fish and Game, Division of Commercial Fisheries, Headquarters. Provides statewide oversight on Pacific herring stock assessments, survey design, harvest strategies, and research. Represents the Department on state, national, and international committees and oversight groups.
- 2008-2012 Biometrics Supervisor, Alaska Department of Fish and Game, Division of Commercial Fisheries, Region I. Led and supervised herring and groundfish stock assessments and biometrics. Supervised salmon, shellfish, and dive fishery stock assessments and biometrics.
- 2004-2007 Biometrician (herring and groundfish), Alaska Department of Fish and Game, Division of Commercial Fisheries, Region I. Conducted herring and groundfish stock assessments and biometrics.
- 2003-2004 Graduate student (Fisheries Oceanography and Statistics), University of Alaska Fairbanks.
- 2001-2002 Thesis Completion Fellow, Institute of Marine Science, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks. Doctoral research fellowship awarded for academic achievements and prior timely progress in graduate coursework and research.
- 1997-2001 Rasmuson Research Fellow, Institute of Marine Science, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks. Doctoral research fellowship awarded for academic achievement by the Rasmuson Fisheries Research Center.
- 1994-1997 Research Assistant, Institute of Marine Science, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks. Doctoral research with Dr. Brenda Norcross to develop a habitat-based survey design and analysis methods for monitoring interannual changes in juvenile flatfish abundance near Kodiak Island, Alaska.
- 1997-1998 Graduate Intern, Alaska Department of Fish and Game, Sportfish Division (Fairbanks, Alaska). Designed and conducted computer simulations (Splus programming language) of Chinook salmon tower-count escapement data to determine optimum sampling and analysis strategies.

PROFESSIONAL MEMBERSHIPS, WORKGROUPS, AND ASSOCIATIONS

- 2012-present North Pacific Fisheries Management Council, Scientific and Statistical Committee member (2020-present Co-chair, 2017-2019 Vice Chair)
- 2012-present Exxon Valdez Oil Spill Trustee Council, Oversight Committee member for the Herring Research and Monitoring Program
- 2018-present Alaska Department of Fish and Game Dive Safety Board
- 2015-2017 National Center for Ecological Analysis and Synthesis, Gulf of Alaska Portfolio Effects working group

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| 2016-2017 | Ocean Modeling Forum, Pacific Herring working group |
| 1994-2009 | American Fisheries Society |
| 2002-2007 | American Statistical Association, Alaska Chapter |
| 1992-1993 | Phi Lambda Upsilon National Honor Society in Chemistry, Valparaiso University |
| 1992-1993 | Mortar Board Honor Society, Valparaiso University |

SELECTED WORKSHOPS AND STEERING COMMITTEES

- Simulation Approaches of Forage Fish Populations for Management Strategy Evaluations [Workshop]. 2017. Victoria, BC.
- Methods and Techniques for Sampling and Assessing Small Pelagic Fish Populations [Workshop]. 2017. Victoria, BC.
- 31st Wakefield Symposium: Impacts of a Changing Environment on the Dynamics of High-latitude Fish and Fisheries [Steering Committee and Scientific Editor]. 2017. Anchorage, AK.
- Climate Vulnerability Assessment for groundfish, crabs, and salmon in the Eastern Bering Sea [Partner]. 2016-2017. Seattle, WA.
- State of Alaska Herring Modeling Workshop [Host]. 2016. Juneau, Alaska.
- Alaska Statewide herring meeting [Lead]. 2013. Juneau, Alaska.

AWARDS

- Rasmuson Fisheries Research Fellowship, University of Alaska Fairbanks 2000/1, 1999/0, 1998/9, 1997/8
- American Fisheries Society 2000 J. Francis Allen Scholarship runner-up for outstanding early career development
- Arts and Sciences Lumina Award for academic excellence, Valparaiso University
- President's Scholarship, Valparaiso University

SELECTED PUBLICATIONS

- Litzow, M. A., M. E. Hunsicker, E. J. Ward, S. C. Anderson, J. Gao, S. G. Zador, S. Batten, **S. C. Dressel**, J. Duffy-Anderson, E. Fergusson, R. R. Hopcroft, B. J. Laurel, and R. O'Mally. 2020. Evaluating ecosystem change as Gulf of Alaska temperature exceeds the limits of preindustrial variability. *Progress in Oceanography*, 186, doi.org/10.1016/j.pcean.2020.102393.
- Okamoto, D. K., M. R. Poe, T. B. Francis, A. E. Punt, P. S. Levin, A. O. Shelton, D. R. Armitage, J. S. Cleary, **S. C. Dressel**, R. Jones, H. Kitka, L.C. Lee, A. D. MacCall, J. A. McIsaac, S. Reifensstuhl, J. J. Silver, J. O. Schmidt, T. F. Thornton, R. Voss, and J. Woodruff. 2020. Attending to spatial social-ecological sensitivities to improve trade-off analysis in natural resource management. *Fish and Fisheries*, 21: 1-12, doi.org/10.1111/faf.12409.
- Siddon, E., and S. Zador [Eds.] 2019. (**S. Dressel** was contributor for the Togiak Herring Population Trends section). *Ecosystem Status Report 2019: Eastern Bering Sea*. Technical report, North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage, AK 99301.
- Zador, S., and E. Yasumiishi [Eds.] 2019. (**S. Dressel** was contributor for the southeast Alaska herring section). *Ecosystem Status Report 2019: Gulf of Alaska*. Technical report, North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage, AK 99301.
- Hulson, P. -J. F., S. E. Miller, **S. C. Dressel**, T. J. Quinn II, and K. Van Kirk. 2018. Time-dependent parameterization of natural mortality, maturity and fishing selectivity: A case study using the Pacific Decadal Oscillation for Pacific herring (*Clupea pallasii*) in Sitka Sound, Alaska. In: F. J. Mueter, M. R. Baker, S. C. Dressel, and A. B. Hollowed (eds.), *Impacts of a Changing Environment on the Dynamics of High-latitude Fish and Fisheries*. Alaska Sea Grant, University of Alaska Fairbanks, doi.org/10.4027/icedhlf.2018.03.

- MacCall, A.D., T. B. Francis, A. E., Punt, M. C. Siple, D. R. Armitage, J. S. Cleary, **S.C. Dressel**, R. R. Jones, H. Kitka, L. C. Lee, P. S. Levin, J. McIsaac, D. K. Okamoto, M. Poe, S. Reifenhohl, J. O. Schmidt, A. O. Shelton, J. J. Silver, T. F. Thornton, R. Voss, and J. A. Woodruff. 2018. A heuristic model of socially learned migration behavior exhibits distinctive spatial and reproductive dynamics. – *ICES Journal of Marine Science*, 76(2): 598-608, doi:10.1093/icesjms/fsy091.
- Punt, A. E., D. K. Okamoto, A. D. MacCall, A. O. Shelton, D. R. Armitage, J. S. Cleary, I. P. Davies, **S. C. Dressel**, T. B. Francis, P. S. Levin, R. R. Jones, H. Kitka, L. C. Lee, J. A. McIsaac, M. R. Poe, S. Reifenhohl, J. J. Silver, J. O. Schmidt, T. F. Thornton, R. Voss, and J. Woodruff. 2018. When are estimates of spawning stock biomass for small pelagic fishes improved by taking spatial structure into account? *Fisheries Research* 206: 65-78, doi.org/10.1016/j.fishres.2018.04.017.
- Voss, R., M. R. Quaaas, J. O. Schmidt, M. T. Stoeven, T. B. Francis, P. S. Levin, D. R. Armitage, J. S. Cleary, R. R. Jones, L. C. Lee, D. K. Okamoto, J. J. Silver, T. F. Thornton, **S. C. Dressel**, A. D. MacCall, and A. E. Punt. 2018. Quantifying the benefits of spatial fisheries management – An ecological-economic optimization approach. *Ecological Modelling* 385: 165-172, doi.org/10.1016/j.ecolmodel.2018.07.012.
- Ward, E.J., M. Adkison, J. Couture, **S.C. Dressel**, M. A. Litzow, S. Moffitt, T.H. Neher, J. Trochta, and R. Brenner. 2018. Correction: Evaluating signals of oil spill impacts, climate, and species interactions in Pacific herring and Pacific salmon populations in Prince William Sound and Copper River, Alaska. *PLoS ONE* 13(5): e0197873. doi.org/10.1371/journal.pone.0197873.
- Ward, E.J., M. Adkison, J. Couture, **S.C. Dressel**, M. A. Litzow, S. Moffitt, T.H. Neher, J. Trochta, and R. Brenner. 2017. Evaluating signals of oil spill impacts, climate, and species interactions in Pacific herring and Pacific salmon populations in Prince William Sound and Copper River, Alaska. *PLoS ONE* 12(3): e0172898. doi:10.1371/journal.pone.0172898.
- Hanselman, D.H., J. Heifetz, K.B. Echave, **S.C. Dressel**. 2015. Move it or lose it: movement and mortality of sablefish tagged in Alaska. *Can. J. Fish. Aquat. Sci.* 72(2): 238-251.
- S.C. Dressel** and K.P. Hebert. 2014. Underwater calibration sampling to correct for bias in visual estimates of Pacific herring egg abundance on macroalgae by scuba divers in Southeast Alaska, pp. 85-94. *In*, Eckert, G.L. S. Keller, and S.L. Tamone [Eds.]. *Diving for Science 2014: Proceedings of the AAUS 33rd Scientific Symposium*, September 9-13, 2014, Sitka, AK. Dauphin Island, AL: American Academy of Underwater Sciences.
- Kelley, S., D. Hart, S. Heinl, **S. Dressel**, W. Davidson, and G. Oliver. 2011. A program for improving management and research of fisheries in the Southeast Region—Southeast/Yakutat salmon fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 1J11-14, Douglas.
- Mundy, P.R., Allen, D.M., Boldt, J.L., Bond, N.A., **Dressel, S.**, Farley Jr., E.V., Hanselman, D.H., Heifetz, J., Hopcroft, R.R., Janout, M.A., Ladd, C., Lam, R.C., Livingston, P.A., Lunsford, C.R., Mathis, J.T., Mueter, F.J., Rooper, C.N., Sarkar, N., Shotwell, S.A.K., Sturdevant, M.V., Thomas, A.C., Weingartner, T.J., Woodby, D. 2010. Status and trends of the Alaska Current Region, 2003-2008, pp. 142-195. *In*, S.M. McKinnell and M.J. Dagg [Eds.] *Marine Ecosystems of the North Pacific Ocean, 2003-2008*. PICES Special Publication 4, 393 p.
- Dressel, S.C.** 2009. 2006 Northern Southeast Inside sablefish stock assessment and 2007 forecast and quota. Alaska Department of Fish and Game, Fishery Data Series No. 09-50, Anchorage.
- Dressel, S.C.** and B.L. Norcross. 2005. Using poststratification to improve abundance estimates from multispecies surveys: a study of juvenile flatfishes. *Fish. Bull.* 103:469-488.

SELECTED PRESENTATIONS (*presenter)

- Dressel*, S.C. 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2007. “Stock assessment and forecast for Sitka Sound herring”. Sitka Sound herring pre-fishery public meetings. Sitka, AK.
- Dressel*, S. C. 2018. “Pacific herring as a lens to life: the questions you ask matter”. Undergraduate Biology Seminar Series, University of Alaska Southeast. Juneau, AK.

- Dressel*, S.C. and J. Cleary. 2017. "Assessment of Pacific herring (*Clupea pallasii*) populations in the northeast Pacific Ocean". ICES/PICES International Symposium: Drivers of Dynamics of Small Pelagic Fishes. Victoria, BC.
- Hulson, P. -J. F., S. C. Dressel*, S. E. Miller, T. J. Quinn II, and K. Van Kirk. 2017. "Reinventing life as a parameter: Freedom to change like the weather". 31st Wakefield Symposium: Impacts of a Changing Environment on the Dynamics of High-latitude Fish and Fisheries. Anchorage, AK.
- Dressel*, S.C. 2015. "Pacific herring in Alaska: population surveys, stock assessments, and commercial harvest strategies". Pacific Herring Summit, Ocean Modeling Forum. Richmond, BC.
- Dressel*, S.C. 2015. "Pacific herring in Alaska: past, present, and future". Fisheries Division Seminar Series, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks. Juneau, AK.
- Dressel*, S.C. 2015. "Stock assessment of Sitka Sound herring and preliminary guideline harvest level for the 2015 Sitka Sound sac roe herring fishery". Federal Subsistence Board Meeting. Anchorage, Alaska
- Dressel, S.C.* and K.P. Hebert. 2014. "Underwater calibration sampling to correct estimates of Pacific herring (*Clupea pallasii*) egg deposition in southeastern Alaska". American Academy of Underwater Sciences 2014 Annual Meeting. Sitka, AK.
- Dressel, S.C.* 2013. "Herring stock assessments in Southeast Alaska (Region I)". Alaska Department of Fish and Game statewide herring meeting. Anchorage, AK.
- Green*, K. and S. Dressel*. 2012. "2012 Sablefish stock status and fishery meeting". Southeast Inside sablefish stakeholder public meeting. Sitka, AK.
- Quinn*, T.J., II, P.-J.F. Hulson, and S.C. Dressel. 2011. "Time variation in natural mortality, gear selectivity, and maturity in Sitka Sound Pacific herring". American Fisheries Society 141st Annual Meeting – New Frontiers in Fisheries Management and Ecology: Leading the Way in a Changing World. Seattle, WA.
- Schweigert*, J., J. Boldt, S. Dressel, R. Watanabe, P. Olesiuk, and L. Flostrand. 2010. "Differing response of herring stocks to ecosystem forcing in the California and Gulf of Alaska Current systems. Climate Change Effects on Fish and Fisheries: Forecasting Impacts, Assessing Ecosystem Responses, and Evaluating Management Strategies. Sendai, Japan.
- Dressel*, S.C. 2008. "Stock Assessment of Pacific herring (*Clupea pallasii*) in Sitka Sound, Alaska", International Herring Symposium. Galway, Ireland.
- Dressel*, S.C. and C. Brylinsky. 2008. "Sablefish Stock assessment in Chatham Strait, Alaska", Western Groundfish Conference. Santa Cruz, CA.
- Dressel*, S.C. 2007. "Surveys and stock assessments for herring populations in Southeast Alaska", Fisheries Division Seminar Series, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks. Juneau, AK.
- Dressel*, S.C. and B.L. Norcross. 2001 [Invited speaker]. "Using poststratification to incorporate habitat information into abundance estimates from multispecies surveys". The Joint meeting of the Statistical Society of Canada and the Western North American Region of the Biometrics Society, Burnaby, BC.
- Dressel*, S.C. and B.L. Norcross. 1999. "Using habitat to improve estimates of interannual variability from multispecies trawl surveys". Fourth International Flatfish Symposium, Atlantic City, NC.
- Dressel*, S.C. and B.L. Norcross. 1996. "Summer variations in year-class strength of juvenile Pleuronectids near Kodiak Island, Alaska". 9th Western Groundfish Conference, Newport, OR.

INVITED REVIEWS

- Kronlund A.R., Forrest R.E., Cleary J.S., and Grinnell M.H. 2017 [Invited reviewer]. The Selection and Role of Limit Reference Points for Pacific Herring (*Clupea pallasii*) in British Columbia, Canada. Fisheries and Oceans Canada's Centre for Science Advice Pacific (CSAP) Regional Advisory Process (RAP). Department of Fisheries and Oceans, Nanaimo, BC.

Cox, S.P., A.J. Benson, and J.S. Cleary. 2015 [Invited reviewer]. Candidate limit reference points as a basis for choosing among alternative harvest control rules for Pacific herring (*Clupea pallasii*) in British Columbia. Fisheries and Oceans Canada's Centre for Science Advice Pacific (CSAP) Regional Advisory Process (RAP). Department of Fisheries and Oceans, Nanaimo, BC.

Hay, D.E., C. Fort, J.F. Schweigert, L. Hamer and P.B. Carter. 2010 [Invited reviewer]. Factors influencing the variability in Pacific herring egg layers and considerations to stock assessment. Fisheries and Oceans Canada's Centre for Science Advice Pacific (CSAP) Regional Advisory Process (RAP). Department of Fisheries and Oceans, Nanaimo, BC.

Pacific Herring Stock Assessment Model Review, 2010 [Invited participant]. Department of Fisheries and Oceans, Nanaimo, BC.

SELECTED FIELD EXPERIENCE

- 2005-2017 Scientific diver, southeast Alaska, R/V *Kestrel*. Line-transect scuba survey for estimating egg deposition of southeast Alaska herring stocks.
- 2006-2014, 2016, 2017 Scientist, Sitka Sound, AK, R/V *Kestrel*. Assist with management of the Sitka Sound commercial herring sac roe fishery.
- 2010, 2014, 2016 Scientist, Sitka Sound, AK, Cessna aircraft. Aerial survey for documenting linear mileage of herring spawn.
- 2007-2015 Scientific diver, southeast Alaska, R/V *Kestrel*. Line-transect scuba survey for estimating sea cucumber biomass.
- 2010, 2007 Scientist, Chatham Strait, AK, R/V *Zolotoi*. ADF&G longline pot survey to mark sablefish as the basis of the NSEI sablefish stock assessment.
- 2010 Scientist, southeast Alaska, R/V *Medeia*. ADF&G pot survey for red king crab catch per unit effort, shell condition, and carapace width.
- 2008 Scientist, Hobart Bay, AK, R/V *Medeia*. Assist with management of the Hobart Bay commercial herring gill net fishery.
- 2006-2007 Scientific diver, southeast Alaska, R/V *Kestrel*. Line-transect scuba survey for estimating geoduck abundance.
- 2006 Scientist, Sitka Sound, AK, R/V *Kestrel*. Sampling of Sitka herring for disease analysis.
- 2005 Scientist, Sitka Sound, AK, R/V *Kestrel*. ADF&G fecundity sampling of herring.
- 2005 Scientist, SSEO management area - eastern Gulf of Alaska, R/V *Velero IV*. ADF&G submersible survey for demersal shelf rockfish.
- 2005 Scientist, Hoonah Sound, AK, R/V *Kittiwake*. Assist with management of the Hoonah Sound commercial spawn-on-kelp fishery.
- 2004 Scientist, lower Chatham Strait, AK, F/V *Masonic*. ADF&G longline survey for CPUE, and biological sampling. Biological information is used for the NSEI sablefish $F_{40\%}$ harvest rate calculation.
- 1996 Chief Scientist, Kodiak Island, AK, Boston whaler. Bottom trawl for nearshore fish and crabs, sediment samples, CTD and underwater camera.
- 1996 Scientist, Lower Cook Inlet, AK, F/V *Bering Explorer*. Bottom trawl for nearshore fish, sediment samples, CTD and underwater camera.
- 1996 Scientist, Chena River, AK, river sampling with screw trap. Mark and recapture for chum smolt and Chinook fingerlings to determine condition factor.
- 1996 Scientist, Chena River, AK, river electroshock fishing. Grayling stomach content analysis to determine predation on chum smolt and Chinook fingerlings.

- 1995 Scientist, Shelikof Straight, AK, F/V *Big Valley*. Bottom trawl for nearshore fish, sediment samples, CTD and TOV.
- 1995 Scientist, Aleutian Islands to Homer, AK, R/V *Tiglax*. Bottom trawl for nearshore fish, midwater trawl, long line, acoustic surveys, sediment samples.

CERTIFICATIONS AND TRAINING

- 2005-2020 Oxygen First Aid for Scuba Diving Injuries, DAN
- 2005-2020 Primary & Secondary Care – CPR/First Aid/AED, Emergency First Response Corporation
- 2007 Cold Water Safety & Survival Training, Alaska Marine Safety Education Association (AMSEA)
- 2005 Scientific Diver, ADF&G
- 2005 Rescue Diver, PADI
- 2005 Enriched Air Diver – Enriched Air Nitrox Max 40% O₂, PADI
- 2005 Specialty Diver - Dry Suit Diver, PADI
- 2005 Advanced Open Water Diver, PADI
- 2001 Open Water Diver, PADI