

Andrea Drauch Schreier

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EDUCATION

PhD, Ecology (Conservation AOE), University of California Davis	2012
MS, Wildlife Genetics , Purdue University	2006
BS, Biology (Chemistry Minor), Hillsdale College	2003

PROFESSIONAL EXPERIENCE

Adjunct Assistant Professor, Director of Genomic Variation Laboratory Dept. Animal Science, University of California Davis	2014-present
Assistant Project Scientist Dept. Animal Science, University of California Davis	2013-2014
Postdoctoral Researcher Dept. Animal Science, University of California Davis	2012-2013
Adjunct Assistant Professor American River College Instructor of NATR 305: Fisheries Ecology and Management	2012

PEER REVIEWED PUBLICATIONS (*mentored student)

Leal, M. J., Clark, B. E., Van Eenennaam, J., **Schreier, A. D.**, Todgham, A. 2018. The effects of warm temperature acclimation on basal stress, immunity, and metabolism in white sturgeon (*Acipenser transmontanus*) of different ploidies. *Comparative Biochemistry and Physiology A: Molecular and Integrative Physiology*. *In press*

Kirsch, J. E., R. F. Feeny, A. Goodbla, C. Hart, Z. J. Jackson, **A. Schreier**, and R. Smith. 2018. The first record of the Large-scale Loach *Paramisgurnus dabryanus* (Cobitidae) in the United States. *Journal of Fish and Wildlife Management* 9(1):246-254.

Gille, D. A.*, J. P. Van Eenennaam, T. R. Famula, **A. D. Schreier**, K. Beer, P. Struffenegger, B. Renschler, S. Bishop, and S. I. Doroshov. 2017. Finishing diet, genetics, and other culture conditions affect ovarian adiposity and caviar yield in cultured white sturgeon (*Acipenser transmontanus*). *Aquaculture* 474:121-129.

Clark, Lindsay V. and **A. Drauch Schreier**. 2017. Resolving microsatellite genotype ambiguity in populations of allopolyploid and diploidized autopolyploid organisms using negative correlations between alleles. *Molecular Ecology Resources* 17(5):1090-1103.

- Hildebrand, L. R., **A. Drauch Schreier**, K. Lepla, S. O. McAdam, J. McLellan, M. J. Parsley, and V. L. Paragamian. 2016. Status of White Sturgeon (*Acipenser transmontanus*) throughout the species range, threats to survival, and prognosis for the future. *Journal of Applied Ichthyology* 32(Suppl 1):261-312.
- Schreier, A.**, O. Langness, J. A. Israel, and E. Van Dyke. 2016. Further investigation of green sturgeon (*Acipenser medirostris*) Distinct Population Segment composition in non-natal estuaries and preliminary evidence of Columbia River spawning. *Environmental Biology of Fishes*. 99(12):1021-1032.
- Klimley, A., E. Chapman, J. Cech, D. Cocherell, N. Fangue, M. Gingras, Z. Jackson, E. Miller, J. Poletto, **A. Schreier**, A. Seesholtz, K. Sulak, M. Thomas, D. Woodbury, M. Wyman. 2015. Sturgeon in the Sacramento-San Joaquin watershed: new insights to support conservation and management. *San Francisco Estuary and Watershed Sciences* 13(4).
- Schreier, A.**, S. Stephenson, P. Rust, and S. Young. 2015. The case of the endangered Kootenai River white sturgeon (*Acipenser transmontanus*) highlights and importance of post-release genetic monitoring in captive and supportive breeding programs. *Biological Conservation* 192:74-81.
- Gille, D. A.*, T. Famula, B. May, and **A. Schreier**. 2015. Evidence for a maternal origin of spontaneous autopolyploidy in cultured white sturgeon (*Acipenser transmontanus*). *Aquaculture* 435:467-474.
- Schreier, A. D.**, B. May, and D. A. Gille*. 2013. Incidence of spontaneous autopolyploidy in cultured populations of white sturgeon, *Acipenser transmontanus*. *Aquaculture* 416-417:141-145
- Drauch Schreier, A.**, B. Mahardja*, and B. May. 2013. Variable patterns of population structure revealed across the range of the ancient octoploid white sturgeon, *Acipenser transmontanus*. *Transactions of the American Fisheries Society* 142(5):1273-1286.
- Nelson, T. C., P. Doukakis, S. T. Lindley, **A. Drauch Schreier**, J. E. Hightower, L. R. Hildebrand, R. E. Whitlock, and M. A. H. Webb. 2013. Research tools to investigate movements, migrations, and life history of sturgeons (Acipenseridae), with an emphasis on marine-oriented populations. *PLoS ONE* 8(8): e71552.
- Drauch Schreier, A.**, B. Mahardja*, and B. May. 2012. Hierarchical patterns of population structure in the endangered Fraser River white sturgeon, *Acipenser transmontanus*, and implications for conservation. *Canadian Journal of Fisheries and Aquatic Sciences* 69:1968-1980.
- Drauch Schreier, A.**, J. Rodzen, S. Ireland, and B. May. 2012. Genetic techniques inform conservation aquaculture of the endangered Kootenai River white sturgeon, *Acipenser transmontanus*. *Endangered Species Research* 16:65-75.
- Drauch Schreier, A.**, D. A. Gille*, B. Mahardja*, and B. May. 2011. Neutral markers confirm the octoploid origin and reveal spontaneous polyploidy in white sturgeon, *Acipenser transmontanus*. *Journal of Applied Ichthyology* 27(Suppl 2): 24-33.
- Anders, P., **A. Drauch Schreier**, J. Rodzen, M. Powell, and S. Narum. 2011. A review of genetic evaluation tools for conservation and management of sturgeons: Roles, benefits, and limitations. *Journal of Applied Ichthyology* 27(Suppl 2): 3-11.
- Drauch, A. M.**, B. E. Fisher, E. K. Latch, J. A. Fike, and O. E. Rhodes, Jr. 2008. Evaluation of a remnant lake sturgeon population's utility as a source for reintroductions in the Ohio River system. *Conservation Genetics* 9:1195-1209.
- Börk, K., **A. Drauch**, J. A. Israel, J. Pedroia, J. Rodzen, and B. May. 2008. Development of new microsatellite DNA primers for green and white sturgeon. *Conservation Genetics* 9:973-979.

Fike, J. A., **A. M. Drauch**, J. C. Beasley, G. Dharmarajan, and O. E. Rhodes, Jr. 2007. Development of fourteen multiplexed microsatellite loci for raccoons (*Procyon lotor*). *Molecular Ecology Notes* 7: 525-527.

Drauch, A. M. and O. E. Rhodes, Jr. 2007. Genetic evaluation of the lake sturgeon reintroduction program in the Mississippi and Missouri Rivers. *North American Journal of Fisheries Management* 27(2): 434-442.

MANUSCRIPTS SUBMITTED OR IN REVISION

Thorstensen, M.*, P. Bates, K. Lepla, **A. Schreier**. To breed or not to breed? Maintaining genetic diversity in white sturgeon supplementation programs. *Submitted to Conservation Genetics*

Lessard, J., B. Cavallo, P. Anders, T. Sommer, B. Schreier, D. Gille, **A. Schreier**, A. Finger, T. Hung, J. Hobbs, B. May, A. Schultz, O. Burgess, and R. Clarke. Considerations for the use of captive-reared Delta Smelt for species recovery and research. *Submitted to San Francisco Estuary and Watershed Sciences*.

GRANTS AND CONTRACTS

California Department of Water Resources, PI, 2018-2121 Development of eDNA protocol to detect pre-smolt Chinook salmon in Upper San Francisco Estuary marsh habitat	\$234,113
Sterling Caviar, LLC, PI, 2018 Gift to support white sturgeon genetic studies	\$48,000
California Department of Water Resources, PI, 2017-2021 Development of SHERLOCK technology for Chinook salmon run typing and detection of current and potential Delta nuisance species	\$497,905
Idaho Power Company, PI, 2017-2018 Determining the number of spawners in the Hells Canyon white sturgeon population	\$88,000
UC Davis Academic Federation Innovative Development Award, PI, 2017-2019 Assembling a complex polyploid genome using a novel sequencing technology to study vertebrate whole genome duplication	\$12,558
Idaho Power Company, PI, 2017-2020 Continuation of Snake River white sturgeon conservation genetic research	\$354,247
California Department of Fish and Wildlife, PI, 2017-2018 Population genetics of Sacramento Perch to inform a genetic management program	\$59,286
Center for Natural Lands Management, PI, 2016-2019 SNP Marker Development and Population Genetic Analysis of the San Fernando Valley Spineflower	\$84,285
California Department of Water Resources, co-PI, 2016-2019 Development of an adaptive reintroduction plan for delta smelt.	\$773,974
Idaho Power Company, PI, 2016-2018 Ploidy Screening and Genetic Analysis of Snake River White Sturgeon Conservation Aquaculture Programs	\$91,350

National Center for Sustainable Transportation, PI, 2015-2017 Using noninvasive genetics to compare how a California freeway affects gene flow in a disturbance averse vs. a disturbance tolerant species	\$79,292
Western Regional Aquaculture Center, PI, 2015-2019 Determining causes, costs, and benefits of triploidization to improve sturgeon caviar production.	\$412,263
US Fish and Wildlife Service, PI, 2015-2018 Using fecal DNA survey protocols to optimize traditional exit hole surveys and increase detection rates for VELB - Phases I-III	\$223,774
US Fish and Wildlife Service, PI, 2015 Continued Analysis of Variance in Apparent Survival among Families from the Kootenai River White Sturgeon Conservation Aquaculture Program	\$24,995
National Center for Sustainable Transportation, PI, 2014-2015 Do California highways act as barriers to gene flow for ground-dwelling mammals?	\$78,395
Kootenai Tribe of Idaho, PI, 2014-2019 Genetic and genomic monitoring of Kootenai River white sturgeon conservation aquaculture	\$479,885
Washington Department of Fish and Wildlife, PI, 2013-2014 Mixed stock analysis of Washington coastal aggregations of acoustically tagged green sturgeons	\$60,819
US Fish and Wildlife Service, PI, 2013 Variance in family survival in hatchery-reared Kootenai River white sturgeon	\$24,932
Idaho Power Corporation, Co-PI, 2012-2013 Snake River white sturgeon genetic management plan.	\$173,718
Kootenai Tribe of Idaho, Co-PI, 2007-2013 Marker development and genetic monitoring of the Kootenai River white sturgeon conservation aquaculture program	\$416,544
Spokane Tribe of Indians, Co-PI, 2011-2012 Continued genetic monitoring of the Upper Columbia River conservation aquaculture program	\$70,300
California Sea Grant, PI, 2010-2011 Validation of parentage analysis accuracy in a farmed population of white sturgeon for future application of heritability studies	\$29,792
Spokane Tribe of Indians, Co-PI, 2010-2011 Genetic monitoring of the Upper Columbia River conservation aquaculture program	\$68,000
Spokane Tribe of Indians, Co-PI, 2009-2010 Investigation of white sturgeon population structure in the Transboundary Reach of the Columbia River using polysomic microsatellite markers	\$65,260
Idaho Power Corporation, Co-PI, 2008-2011 White sturgeon genetics study	\$300,712
Oregon Department of Fish and Wildlife, Co-PI, 2008 Estimation of effective population size in white sturgeon	\$19,988

California Department of Fish and Game, Principal Writer, 2007-2010 \$143,202
 Genetic investigation of California white sturgeon: resolving critical uncertainties

TEACHING EXPERIENCE

Instructor

UC Davis, ANG 198: The Science of Captive Breeding and Reintroduction	Spring Q
UC Davis, ECL 290: Conservation Genomics	Spring Q 17
UC Davis, ECL 290: Writing Science for Ecologists	Fall Q odd yrs
American River College NATR 305: Fisheries Ecology and Management	2012

Selected Guest Lectures

UC Davis, ECL 200A Population genetics and microevolution (5 hours of lecture)	Winter Q
UC Davis, Guardian Scholars Faculty Panel Seminar teaching undergrads how to engage with researchers on campus	2016
UC Davis, WFC154: Conservation Biology Conservation Genetics	2014, 2016
UC Davis ANB 290 Graduate Seminar Series Work/Life Balance Panel	2013
American River College, NATR 305: Fisheries Ecology and Management Biology and Conservation of Sturgeons	2013
UC Davis Integrated Seminar for Freshman Molecular Ecology Research in the Genomic Variation Lab	2012
American River College, NATR 305: Fisheries Ecology and Management Chondrosteii: Bichirs, Sturgeons, and Paddlefishes	2011
UC Davis, ANS 199: Molecular Methods in Conservation Genetics Capillary Electrophoresis and Fragment Analysis	2008

Undergraduate Student Trainees (*URM)

Danielle Meyers	2017-2018
Logan Vinson	2015-2016
Brigitte Clark (UC LEADS student)	2015-2016
Matt Thorstensen; now a PhD student at University of Manitoba	2014-2016
Rupleen Kaur; now doing a NIH post baccalaureate internship	2014-2015
Mia Bianchi	2014-2015
Jessica Lin; now a Masters student in Ecology at UC Davis	2014-2015
Mackenzie Moore	2014-2015
Revati Vishwasrao	2013-2015
Alison Muller	2013-2014
Jamie Yates; now works at biotechnology company Mission Bio	2012
Allison Weakley; now a lab manager in the UCD School of Veterinary Medicine	2010-2011
Brian Mahardja*; now lead biologist for US Fish and Wildlife Service	2007-2009

Graduate Students Committees (*Chair)

Thiago Sanches, PhD, IGG*	2018-present
Michaiah Leal, PhD, ABG	2017-present
Anna Jordan, MS, GGE*	2017-present
Shannon Joslin, PhD, IGG*	2017-present
Sarah Stinson, PhD, GGE	2017-present
Matt Thorstensen, MS, GGE*	2016-2018
Aviva Fiske, MS, GGE*	2016-present
Rachel Struch, PhD, GGE*	2016-present
Ann Holmes, PhD, GGE*	2016-present
Daphne Gille, PhD, IGG	2016
Shannon Kieran, PhD, IGG*	2015-present
Zach Norgaard, MS, IGG	2015
Amanda Coen, PhD, GGE*	2014-present

Instructor/organizer, sturgeon conservation genetics workshops

2015, 2017

“Genetics to Improve Conservation and Management of Sturgeon and Paddlefish” at the North American Sturgeon and Paddlefish Society meeting, Oshkosh, WI, Oct. 2015. 14 participants

“Applied Genetics for Sturgeon Conservation” at the 8th International Symposium on Sturgeons, Vienna, Austria. Sept. 2017. 20 participants

Instructor/organizer, polyploidy genotyping workshop

2010

Two hour workshop attended by graduate students and lab technicians. Lectured on concepts in polyploid genetics, concerns in microsatellite genotyping with polyploids, and managing/analyzing polyploid datasets

Volunteer Teaching Assistant, UC Davis ECL 242: Ecological Genetics

2010

Responsible for several guest lectures and assisting in computer labs, designed and graded one homework assignment and wrote exam questions for my lecture topics

Participated in Graduate and Postdoc Teaching Workshops at UC Davis

Teach Your Own Course: From the Basic to the Advanced (certificate)

2012

UC Davis Teaching Resources Center videotape lecture consultation

2010

Orientation for New Teaching Assistants

2006

SELECTED LIMITED DISTRIBUTION (*mentored student)

Schreier, A., J. Van Eenennaam, P. Anders, and R. Beamesderfer. 2018. A management plan for spontaneous autopolyploidy in cultured white sturgeon (*Acipenser transmontanus*) in lower Columbia and Snake River impoundments. Technical report to the Columbia River Inter-Tribal Fish Commission. 26 pp.

Coen, A.* and **A. Schreier.** 2018. Genetic Analysis of Sacramento Perch, *Archoplites interruptus*, for Development of a Hatchery Genetic Management Plan. Technical report to the California Department of Fish and Wildlife. 16 pp.

Schreier, A., M. Baerwald, A. Goodbla, E. Graves, and M. Holyoak. 2018. Using fecal DNA survey protocols to optimize traditional exit hole surveys and increase detection rates for VELB. Third interim report for the US Fish and Wildlife Service, Sacramento, CA. 16 pp.

Schreier A. and A Goodbla. 2018. DNA Barcoding Analysis of Unknown Killifish Samples Collected by USFWS. Technical report to the US Fish and Wildlife Service, Lodi, CA. 4 pp.

- Schreier, A.,** A. Goodbla, and M. Baerwald. 2018. SNP Marker Development and Population Genetic Analysis of the San Fernando Valley Spineflower. Interim technical report to the Center for Natural Lands Management, Temecula, CA. 7 pp.
- Schreier, A.** and J. P. Van Eenennaam. 2018. 2017 Genetic Diversity Monitoring of White Sturgeon in the Kootenai Tribe of Idaho Native Fish Conservation Aquaculture Program and Study of 10N Reproductive Development. Technical report to the Kootenai Tribe of Idaho, Bonners Ferry, ID. 17 pp.
- Schreier, A.** and J. P. Van Eenennaam. 2017. Spontaneous autopolyploidy in sturgeon – frequently asked questions. Fact sheet developed for the Yakama Nation to be distributed to stakeholders. 2 pp.
- Thorstensen M. *, and **A. Schreier.** 2017. A comparison of genetic diversity and number of breeders represented by broodstock and repatriation sampling of white sturgeon in the Bliss to C. J. Strike Reach of the Snake River. Report to the Idaho Power Company, Boise, ID. 21 pp.
- Coen, A. *, **A. Schreier.** 2017. Using noninvasive genetics to compare how a California freeway affects gene flow in a disturbance-averse versus a disturbance-tolerant species. Report to the National Center for Sustainable Transportation at the University of California Davis. 21 pp.
- Schreier, A.** and J. P. Van Eenennaam. 2017. 2016 Genetic Diversity Monitoring of White Sturgeon in the Kootenai Tribe of Idaho Native Fish Conservation Aquaculture Program and Study of 10N Reproductive Development. Technical report to the Kootenai Tribe of Idaho, Bonners Ferry, ID. 18 pp.
- Schreier, A.,** J. Van Eenennaam, A. Goodbla, and A. Todgham. 2016. 2015 Genetic Diversity Monitoring and the Effect of Post-Ovulatory Ageing on Spontaneous Autopolyploid Production in the Kootenai Tribe of Idaho White Sturgeon Conservation Aquaculture Program (CAP). Report to the Kootenai Tribe of Idaho, Bonners Ferry, ID. 25 pp.
- Coen, A. E. *, **A. Schreier,** and F. Shilling. 2015. Pilot Study: Do California highways act as barriers to gene flow for ground-dwelling mammals? Report to Caltrans and the National Center for Sustainable Transportation at the University of California Davis. 20 pp.
- Schreier, A.** 2015. DNA barcoding analysis of unknown loach samples collected by the USFWS Lodi office. Report to the US Fish and Wildlife Service, Lodi, CA. 3 pp.
- Schreier, A.,** A. Goodbla. 2015. 2014 Genetic Diversity Monitoring and the Effect of Variance in Post-Release Survival on Genetic Diversity in the Kootenai Tribe of Idaho White Sturgeon Conservation Aquaculture Program (CAP). Report to the Kootenai Tribe of Idaho, Bonners Ferry, ID. 30 pp.
- Schreier, A.,** O. Langness, and B. May. 2014. DPS Assignment and Non-Natal Estuary Preferences of SDPS and NDPS green sturgeon. Report to the Washington Department of Fish and Wildlife, Vancouver, WA. 25 pp.
- Schreier, A.,** D. Gille*, A. Muller*, and B May. 2014. 2013 Genetic diversity and genome size monitoring of the Kootenai Tribe of Idaho white sturgeon conservation aquaculture program (CAP). Report to the Kootenai Tribe of Idaho, Bonners Ferry, ID. 11 pp.
- Schreier, A.,** S. Brandl*, and B. May. 2013. Snake River white sturgeon genetic management plan. Report to the Idaho Power Company, Boise, ID. 60pp.
- Stephens, M., B. Erickson, **A. Schreier,** K. Tomalty, M. Baerwald, B. May, and M. Meek. 2013. Genetic Management Plan for Golden Trout. Report to the California Department of Fish and Wildlife, Sacramento, CA. 73pp.

Schreier, A. and B. May. 2012. Comparison of two conservation aquaculture techniques for capturing Upper Columbia white sturgeon genetic diversity. Report to the Spokane Tribe of Indians, Wellpinit, WA. 12pp.

Drauch Schreier, A., B. Mahardja*, and B. May. 2011b. Optimization of four microsatellite markers and validation of increased parentage assignment success in the Kootenai River conservation aquaculture program. Report to the Kootenai Tribe of Idaho, Bonners Ferry, ID. 15pp.

Drauch Schreier, A., B. Mahardja*, and B. May. 2011a. Investigation of white sturgeon population structure in the Transboundary Reach of the Columbia River using polysomic microsatellite markers. Report to the Spokane Tribe of Indians, Wellpinit, WA. 20pp.

Drauch Schreier, A., T. Famula, and B. May. 2009. Estimation of the number of spawning white sturgeon contributing to the 2006 year class in the Bliss to CJ Strike reach of the Snake River. Report to the Idaho Power Company, Boise, ID. 28pp.

Israel, J., **A. Drauch,** and M. Gingras. 2009. Life history conceptual model for white sturgeon. Report to Bay Delta Ecosystem Restoration and Improvement Program, Sacramento, CA. 54pp.

Drauch, A. and B. May. 2009. Examination of temporal trends in genetic diversity and reproductive success of white sturgeon in the Lower Columbia River. Project report submitted to the Oregon Department of Fish and Wildlife, Clackamas, OR. 17pp.

Drauch, A., K. Börk, J. Rodzen, and B. May. 2006. Development of new microsatellite genetic markers for white sturgeon and continued genetic monitoring of KTOI broodstock. Project report submitted to the Kootenai Tribe of Idaho, Bonners Ferry, ID. 22pp.

INVITED TALKS (*mentored student)

A. Schreier, J. Van Eenennaam, A. Todgham, S. Young. The potential for ploidy plasticity in wild California sturgeon. Interagency Ecological Program Meeting, Folsom, CA, March 2018

A. Schreier and S. Young. Spontaneous autopolyploidy in white sturgeon conservation aquaculture. Columbia River Basin White Sturgeon Workshop, Coeur d'Alene, ID, November 2017

A Schreier. Importance of genetic diversity for conservation aquaculture. Columbia River Basin White Sturgeon Workshop, Coeur d'Alene, ID, November 2017

M. Thorstensen* and **A. Schreier.** Genetic variation and number of breeders in the Bliss to C. J. Strike Reach: Project Update. White Sturgeon Technical Advisory Committee Meeting. Boise, ID, March 2017.

A. Holmes*, A. Benjamin, **A. Schreier,** B. Schreier, B. Mahardja, T. Sommer, and M. Finger. Pilot project: using environmental DNA (eDNA) detect Delta Smelt. Progress to date and next steps. Interagency Ecological Program annual meeting. Folsom, CA, March 2017.

B. Cavallo, D. Gille, T. Sommer, B. Schreier, J. Hobbs, **A. Schreier,** M. Finger, B. May, JoAnna Lessard, Evan Carson, Bob Clarke, Mark Clifford, Andrew Schultz, O. Town Burgess, Bruce DiGennario. How might a Delta Smelt conservation hatchery contribute to species recovery? Opportunities, risks, benefits. Interagency Ecological Program annual meeting. Folsom, CA, March 2017.

A. Schreier, B. Mahardja*, B. May. Variable patterns of white sturgeon population structure across the species' range. Interagency Ecological Program annual meeting. Folsom, CA, April 2016.

A. Schreier. Importance of Genetics for Sturgeon Supplementation. Chelan Public Utility District White Sturgeon Workshop, Wenatchee, WA. October 2015.

Guest Panelist. Sturgeon in the Sacramento-San Joaquin Watershed: New insights to support conservation and management. UC Davis CABA Symposium, Davis, CA, March 2015.

A. Schreier. Saving the Dinosaurs: Applying Genetic Tools to Sturgeon Conservation Aquaculture. California State University Monterey Bay Biology Seminar Series, Monterey Bay, CA, April 2014.

A. Schreier, D. Gille*, and J. Van Eenennaam. Summary of Genetics and Genomics Work at the KTOI Hatchery. Kootenai River White Sturgeon Co-Managers Meeting, Bonners Ferry, ID, August 2013.

A Schreier and B. May. Snake River White Sturgeon Genetic Management Plan Update. Snake River White Sturgeon Technical Advisory Committee Meeting, Boise, ID, March 2013.

A. Schreier and B. May. Comparing White Sturgeon Conservation Aquaculture Strategies in the Upper Columbia River. Upper Columbia White Sturgeon Recovery Initiative Technical Working Group Meeting, Castlegar, BC, November 2012.

A. Schreier and B. May. White Sturgeon Genetic Management of the Snake River. Snake River White Sturgeon Technical Advisory Committee Meeting, Boise, ID, May 2012.

A. Drauch Schreier, B. Mahardja*, and B. May. Population structure and marine dispersal in the ancient octoploid White Sturgeon, *Acipenser transmontanus*.” University of British Columbia Fisheries Centre - Quantitative Seminar Series, Vancouver, BC, March 2012. Oral presentation.

A. Schreier and B. May. Kootenai River White Sturgeon Genetics 101. Kootenai River White Sturgeon Recovery Meeting, Spokane, WA, February 2012.

A. Drauch Schreier, B. Mahardja*, and B. May. White sturgeon population structure in the Transboundary Reach. Upper Columbia River White Sturgeon Recovery Initiative Technical Working Group Meeting, Nelson, BC, Canada, April 2011.

A. Drauch Schreier and B. May. Preliminary analysis of white sturgeon population structure in the Columbia River. White Sturgeon Strategic Planning Workshop, Boardman, OR, Jan 2011.

A. Drauch Schreier and B. May. Bliss to CJ Strike Reach parentage analysis. Idaho Power White Sturgeon Technical Advisory Committee Meeting, Oral presentation remotely delivered from UC Davis, March 2010.

A. Drauch and B. May. Genetic management of the KTOI conservation aquaculture program. Kootenai River White Sturgeon Recovery Meeting, Spokane, WA, March 2009

A. Drauch and O. E. Rhodes Jr. Population genetics and lake sturgeon management: population assignment and assessment of reintroduction success. Missouri Department of Conservation Sturgeon Monitoring Project Meeting, Columbia, MO, Oct 2004.

SELECTED CONFERENCE PRESENTATIONS, OF 54 (*mentored student)

A. Fiske*, J. P. Van Eenennaam, A. E. Todgham, C. Holem-Bell, S. Young, and **A. D. Schreier.** A comparison of methods for determining ploidy of cultured white sturgeon. 8th International Symposium on Sturgeon, Vienna, Austria, September 2017. Oral presentation.

A. Schreier, J. Van Eenennaam, A. Todgham. Determining the causes of spontaneous autopolyploidy in cultured white sturgeon. 8th International Symposium on Sturgeon, Vienna, Austria, September 2017. Oral presentation.

J. Van Eenennaam, A. Todgham, F. Conte, **A. Schreier**. Reducing spontaneous autopolyploidy in white sturgeon. 8th International Symposium on Sturgeon, Vienna, Austria, September 2017. Oral presentation.

A. Todgham, M. J. Leal, J. Van Eenennaam, **A. D. Schreier**. Impacts of polyploidy on the physiological performance of white sturgeon. 8th International Symposium on Sturgeon, Vienna, Austria, September 2017. Oral presentation.

A. Holmes, T. Sommer, A. Benjamin, B. Mahardja, B. May, **A. Schreier**, B. Schreier, and M. Finger. Development and evaluation of an environmental DNA (eDNA) protocol to monitor wild Delta Smelt. Ecological Society of America, Portland, OR, August 2017. Poster presentation.

A. Holmes, T. Sommer, A. Benjamin, B. Mahardja, B. May, **A. Schreier**, B. Schreier, and M. Finger. Development and evaluation of an environmental DNA protocol to monitor wild Delta Smelt. Watershed Health Indicator & Data Science Symposium, Sacramento, CA, June 2017. Oral presentation.

M. J. Leal, J. P. Van Eenennaam, B. E. Clark, **A. D. Schreier**, A. E. Todgham. The effects of warm temperature acclimation on the generalized stress response and immune function in 8N and 10N white sturgeon. American Fisheries Society Cal-Neva Chapter Annual Meeting, Eureka, CA, April 2017. Poster presentation.

R. Struch, E. Pulster, **A. Schreier**, and S. Murawski. PAH Concentrations in the Hepatobiliary Systems of Gulf of Mexico Demersal Fishes Following the Deepwater Horizon Oil Spill. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 2017. Poster presentation

M. Baerwald, A. Goodbla, E. Graves, M. Holyoak, **A. Schreier**. Using DNA from beetle feces to improve cryptic species monitoring. Bay Delta Science Conference, Sacramento, CA, November 2016. Poster presentation.

A. Holmes, T. Sommer, A. Benjamin, B. May, **A. Schreier**, B. Schreier, R. Struch, M. Finger. Development and evaluation of environmental DNA protocol to monitor wild delta smelt. Bay Delta Science Conference, Sacramento, CA, November 2016. Poster presentation.

R. Smith, **A. Schreier**, C. Hart, Z. Jackson, J. Kirsch, A. Goodbla. Occurrence of large-scale loach (*Paramisgurnus dabryanus*) in the Sacramento-San Joaquin basin, CA. Bay Delta Science Conference, Sacramento, CA, November 2016. Poster presentation.

J. McLellan, M. Howell, **A. Schreier**, B. May. Use of wild caught white sturgeon larvae for conservation aquaculture and recruitment failure research. California Sturgeon PWT meeting, West Sacramento, CA, November 2016. Oral presentation.

A. Schreier, J. Van Eenennaam, C. Holem-Bell, S. Young, and A. Todgham. In vivo oocyte ageing contributes to spontaneous autopolyploidy in white sturgeon. North American Sturgeon and Paddlefish Society meeting, Hood River, OR, September 2016. Oral presentation.

P. Anders, R. Beamesderfer, J. Crossman, S. Ireland, K. Lepla, J. McLellan, B. Parker, **A. Schreier**, S. Young. Twenty-five years of white sturgeon hatcheries on the Columbia Basin: a retrospective. North American Sturgeon and Paddlefish Society meeting, Hood River, OR, September 2016. Oral presentation.

- R. Smith, J. Kirsch, Z. Jackson, **A. Schreier**, A. Goodbla. Occurrence of large-scale loach (*Paramisgurnus dabryanus*) in the San Joaquin River Restoration Area. San Joaquin River Restoration Program Annual Science Meeting, Fresno, CA, August 2016. Poster presentation.
- M. Baerwald, A. Goodbla, E. Fetherman, and **A. Schreier**. Whirling Disease: Molecular mechanisms and long-term monitoring in the wild. Coastwide Salmonid Genetics Meeting, Astoria, OR, June 2016. Poster presentation.
- A. Coen*, F. Shilling, and **A. Schreier**. Do highways act as barriers to gene flow for wildlife populations? National Center for Sustainable Transportation Webinar, Davis, CA, May 2016. Oral presentation.
- C. Holem-Bell, S. Young, S. Mead, and **A. Schreier**. Standard protocol for in-hatchery monitoring of spontaneous autopolyploidy in Kootenai River white sturgeon. Idaho Chapter American Fisheries Society Meeting, Coeur d'Alene, ID, March 2016. Poster presentation.
- A. Coen*, F. Shilling, and **A. Schreier**. What can scat tell us about disruption of gene flow by highways? The Western Section of the Wildlife Society Meeting, Reno, NV, January 2016. Poster presentation.
- A. Schreier**, Shawn Young, Joel Van Eenennaam, Anne Todgham, Daphne Gille*, Molly Webb, Jeff Powell. The “skinny” on spontaneous autopolyploidy in sturgeon conservation aquaculture. North American Sturgeon and Paddlefish Society Meeting, Oshkosh, WI, October 2015. Oral presentation.
- A. Schreier**, S. Stephenson, P. Rust, and Shawn Young. Mark Recapture Reveals Variance in Broodstock Reproductive Success in a Sturgeon Conservation Aquaculture Program. American Fisheries Society Meeting, Portland, OR, August 2015. Oral presentation.
- A. Schreier**, A. Todgham, M. Webb, S. Young, and F. Conte. Determining causes, costs, and benefits of spontaneous triploidization to improve sturgeon culture. Western Regional Aquaculture Center IAC/TC Meeting, Spokane, WA, October 2014. Oral presentation.
- A. Schreier**, B. Schreier, S. Brandl, M. Stephens, and T. Sommer. Finding the females: developing a novel tool to investigate the apparent sex ratio skew in Bay Delta striped bass. Bay Delta Science Meeting, Sacramento, CA, October 2014. Poster presentation.
- A. Schreier**, S. Stephenson, and P. Rust. Mark recapture suggests variance in white sturgeon reproductive success. American Fisheries Society National Meeting, Quebec City, Canada. August 2014. Oral presentation.
- A. Schreier** and O. Langness. Non-natal estuary preferences of NDPS and SDPS green sturgeon. California Nevada Chapter American Fisheries Society Meeting, Sacramento, CA, March 2014. Oral presentation.
- A. Schreier**, J. Gruber, and J. Frantzych. Where do they go? Critical uncertainties surrounding White Sturgeon spawning in California. Interagency Ecological Program Meeting, Folsom, CA, February 2014. Poster presentation.
- A. Schreier**. White sturgeon spawning in California: What do we know? California Sturgeon Project Work Team Meeting, West Sacramento, CA, November 2013. Oral presentation.
- A. Schreier**, B. May, and D. Gille*. Prevalence of spontaneous autopolyploidy in white sturgeon aquaculture programs. 7th International Symposium on Sturgeon, Nanaimo, BC, July 2013. Oral presentation.

A. Schreier, M. Howell, J. McLellan, and B. May. Comparing white sturgeon conservation aquaculture techniques in the Upper Columbia River. 7th International Symposium on Sturgeon, Nanaimo, BC, July 2013. Oral presentation.

D. Gille*, B. May, and **A. Schreier**. Improving sturgeon management and aquaculture through next generation sequencing. Western Division American Fisheries Society Meeting, Boise, ID, April 2013. Oral presentation.

A. Schreier, A. Welsh, and B. May. Improving sturgeon management and conservation with genetic management plans: case studies from both coasts. Western Division American Fisheries Society Meeting, Boise, ID, April 2013. Oral presentation.

A. Schreier, B. Mahardja*, and B. May. Population structure in White Sturgeon within and among drainages revealed with polysomic microsatellites. American Fisheries Society National Meeting, Minneapolis, MN, August 2012. Oral presentation.

D. Gille*, **A. Drauch Schreier**, and B. P. May. "Identification of quantitative trait loci associated with caviar yield and ovarian adiposity in white sturgeon (*Acipenser transmontanus*).” Plant and Animal Genome XX, San Diego, CA, January 2012. Poster presentation.

A. Drauch Schreier and B. May. Genetic monitoring in sturgeon conservation aquaculture: Case studies from the Kootenai River and Upper Columbia River.” World Sturgeon Conservation Society, North American Chapter Meeting, Nanaimo, BC, July 2011. Oral presentation.

POPULAR MEDIA COVERAGE

“Non-native fish in San Joaquin River newest invasive species.”
Article in Sacramento Bee, 4/2/15

Interviewed in documentary film “Fish Between the Falls”
Gale Force Films, premiered 2015

PROFESSIONAL SERVICE

Department:

Postdoctoral Scholar and Visiting Scholar Committee	2017-present
Picnic Day Committee	2016-present
Academic Federation Merit Review Committee (alternate member)	2014-present
Animal Science Faculty Mentor for University Honors Program	2014-2015
Holiday Gala committee	2010
Co-chair of the UC Davis Ecology Graduate Student Association	2007-2008

Campus:

Faculty sponsor of Davis Chapter of the Society for Conservation Biology	2016-present
Faculty mentor for Guardian Scholars program	2016-2017
Qualifying exam committees for 6 GGE and 4 IGG graduate students	2015-present
UC Davis GGE Admissions Review	2015-2017
Faculty Mentor for UC LEADS student	2015-2016
Co-chair of the UC Davis Ecology Graduate Student Association	2007-2008
Planning committee, UC Davis Animal Conservation Genetics Seminar	2006

Non-University:

Reviewer for Marin Rod and Gun Club graduate research scholarships	2018
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Co-chair of World Sturgeon Conservation Society Genetics/Genomics Working Group	2017-present
Chair of James Wright Award committee, AFS Genetic Section	2016-present
Student and young professional poster presentation judge, IEP meeting	2015
Treasurer, North American Sturgeon and Paddlefish Society	2014-present
Student oral presentation judge, Bay Delta Science Meeting	2014
IUCN Sturgeon Specialist Group	2013-present
Organizer of green sturgeon technical session, Cal-Neva AFS Meeting	2013-2014
James Wright Award committee, AFS Genetics Section	2012-2016
Member of the IEP California Sturgeon Project Work Team	2009-present
Volunteer Organizer, Cal-Neva Chapter AFS Meeting	2009
Secretary of the Sacramento-Davis Subunit of the Cal-Neva AFS	2008-2009
Co-organized 2-day symposium at AFS National Meeting	2007
Planning committee, AFS National Meeting	2007

Outreach:

Video interview for SCB Davis Student Chapter “What does a scientist look like?”	2017
Genomic Variation Laboratory Exhibit, UC Davis Picnic Day	2017-2018
Sturgeon exhibit volunteer, UC Davis Picnic Day	2014-2016
“Watch it Don’t Squash It” Day at Caesar Chavez Elementary, Davis, CA	2009

EXTERNAL REVIEWER

Journals: Aquaculture, Aquatic Ecology, Biological Conservation, BMC Evolution, Conservation Genetics, Environmental Biology of Fishes, Fisheries, Fisheries Management and Ecology, Gigascience, Hydrobiologia, International Journal of Molecular Science, Journal of Applied Aquaculture, Journal of Applied Ichthyology, Journal of Fish Biology, Journal of Heredity, Journal of Molecular Evolution, Molecular Biology and Evolution, Molecular Ecology, Molecular Ecology Resources, Nature Ecology and Evolution, Nature Scientific Reports, North American Journal of Fisheries Management, PloS One, San Francisco Estuary and Watershed Sciences, Transactions of the American Fisheries Society

Funding agencies: Czech Science Federation, Grant County PUD, Minnesota Sea Grant, National Science Center Poland, New York Sea Grant, NSERC

PROFESSIONAL/HONORARY AFFILIATIONS

North American Sturgeon and Paddlefish Society	2012-present
World Sturgeon Conservation Society	2008-present
American Fisheries Society	2004-present

SELECTED AWARDS AND HONORS

Robert L. Kendall Award	2014
Animal Science Hart-Goss-Cole Summer Research Fellowship	2007-09, 2011
UC Davis Graduate Group in Ecology Block Grant Award	2007-2009
UC Davis Graduate Student Association Travel Award	2009
American Fisheries Society James E. Wright Award	2008
Fisheries Recognition Award	2008
Bodega Marine Lab Applied Phylogenetics Course Travel Award	2007
UC Davis Graduate Non-Resident Tuition Fellowship	2006
2 nd International Symposium of Conservation Genetics Travel Award	2005
Purdue University Frederick N. Andrews Doctoral Fellowship	2003-2005
Hillsdale College John Catenhusen Merit Scholarship	2002-2003