

## BIOGRAPHICAL SKETCH FOR MARJORIE L. BROOKS

Department of Zoology, 1125 Lincoln Dr., MC 6501, Southern Illinois University, Carbondale, IL 62901, C: 307-399-0576, F: 618-453-2806, mlbrooks@siu.edu

### (a) Professional Preparation

|                           |                   |                             |         |           |
|---------------------------|-------------------|-----------------------------|---------|-----------|
| University of Wyoming     | Laramie, WY       | Natural Science/Mathematics | B.S.    | 1991      |
| University of Wyoming     | Laramie, WY       | Archaeology/Anthropology    | M.A.    | 1995      |
| University of Wyoming     | Laramie, WY       | Zoology                     | Ph.D.   | 2003      |
| Colorado State University | Fort Collins, CO  | Aquatic Community Ecology   | Postdoc | 2003-2005 |
| University of California  | Santa Barbara, CA | NCEAS*                      | Postdoc | 2006-2008 |

\*National Center for Ecological Analysis and Synthesis

### (b) Appointments

2015-present Associate Professor, Department of Zoology, Southern Illinois University  
2009-2015 Assistant Professor, Department of Zoology, Southern Illinois University  
2006-2008 Postdoctoral Associate, NCEAS, University of California, Santa Barbara  
2003-2005 Postdoctoral Fellow, Department of Fish, Wildlife, & Conservation Biology, Colorado State University  
1999-2002 Fellow, Science to Achieve Results (EPA-STAR), US Environmental Protection Agency

### (c) Closely Related Products

Brooks, ML, JH Behnke, EM Anderson, and JR Lovvorn. In prep. Detecting silent stressors: Bioaccumulation of Cd, Hg, and Se and body condition of declining surf and white-winged scoter populations in Puget Sound. Based on completed Master's thesis.

Lovvorn, JR, MF Raisbeck, LW Cooper, GA Cutter, MW Miller, ML Brooks, JM Grebmeier, AC Matz, CM Schaefer, 2013. Wintering eiders acquire exceptional Se and Cd burdens in the Bering Sea: physiological and oceanographic factors. *Mar Ecol-Prog Ser* 489:245–261

Brooks, ML, E Fleishman, LR Brown, PW Lehman, I Werner, N Scholz, CL Mitchelmore, JR Lovvorn, ML Johnson, D Schlenk, S vanDrunick, JI Drever, DM Stoms, AE Parker, and R Dugdale. 2012. Life histories, salinity zones, and sublethal contributions of contaminants to pelagic fish declines illustrated with a case study of San Francisco Estuary, California, USA *Estuar Coasts* 35:603-621

Byron, ER, HM Ohlendorf, A Redman, WJ Adams, B Marden, M Grosell, and ML Brooks. 2011. Predictive modeling of selenium accumulation in brine shrimp in saline environments. *Integ Environ Assess Manag* 7:478–482

Chapman, PM, WJ Adams, ML Brooks, CG Delos, SN Luoma, WA Maher, HM Ohlendorf, TS Presser, and DP Shaw, editors. 2010. *Ecological Assessment of Selenium in the Aquatic Environment*. CRC Press, London, New York. 339 pages

Janz, DM, DK DeForest, ML Brooks, PM Chapman, G Gilron, D Hoff, WA Hopkins, DO McIntyre, CA Mebane, VP Palace, JP Skorupa, and M Wayland. 2010. Chapter 6, pages 141-231. Selenium toxicity to aquatic organisms. In: *Ecological Assessment of Selenium in the Aquatic Environment*. Chapman et al (eds). CRC Press, London, New York.

### (c) Other Significant Products

Hallman, TA, and ML Brooks. 2016. Metal-mediated climate susceptibility in a warming world: Larval and latent effects on a model amphibian. *Environ Toxicol Chem* 35:1872-1882

Hallman, TA and ML Brooks. 2015. The deal with diel: temperature fluctuations, asymmetrical warming, and ubiquitous metals contaminants *Environ Pollut* 296:88-94

- Landis, WG, JL Durda, ML Brooks, PM Chapman, CA Menzie, RG Stahl, JL Stauber. 2013. Ecological risk assessment in the context of global climate change *Environ Toxicol Chem* 32:79-92
- North, CA, JR Lovvorn, JM Kolts, ML Brooks, LW Cooper, JM Grebmeier, 2014. Deposit-feeder diets in the Bering Sea: implications for effects of climatic loss of sea ice-related microalgal blooms *Ecol Applic* 24:1525–1542
- Geisler-Lee, J, ML Brooks, JR Gerfen, Q Wang, C Fotis, AJ Sparer, X Ma, RH Berg, M Geisler. 2014. Reproductive toxicity and life history study of silver nanoparticle effect, uptake and transport in *Arabidopsis thaliana* *Nanomaterials* 4:301-318
- Clements, WH, ML Brooks, DR Kashian, and RE Zuellig. 2008. Changes in dissolved organic material determine exposure of stream benthic communities to UV-B radiation and heavy metals: implications for climate change *Global Change Biol* 14:2201-2214
- Brooks, ML, DM McKnight, WH Clements. 2007. Photochemical control of copper complexation by dissolved organic matter in Rocky Mountain Streams, Colorado USA *Limnol Oceanogr* 52: 766-779

#### (d) Current Funding

- 2013 **Federal Funding:** Partnership with US Forest Service, *Amphibian occupancy models and energetic costs of multiple stressors in the Shawnee National Forest*. Brooks: \$30,000.
- 2013 Sustainability of critical areas for eiders and subsistence hunters in an industrializing nearshore zone, funded by *National Science Foundation*. Collaborators: James Lovvorn, Henry Huntington, and Tuula Hollmen. Brooks: \$18,000.

#### (e) Scientific Service and Synergistic Activities

- 2014 **Local Collaboration:** *Climate Trends Assessment Program for Illinois (CTAP)*.  
-present Scientists from Illinois Natural History Survey, Illinois Department of Natural Resources and academia (Brooks) are reviewing and commenting on publications for wildlife researchers and the public about wise use of natural resources under climate change.
- 2013 **International Collaboration:** *River ecology and trade-offs of floodplain connectivity on flood management, eutrophication, pollutants, and food safety in Hungary and Serbia*.  
-present Evaluating ecosystem services with local scientists to assess floodplain and fisheries policy. Collaborators: Nicholas Pinter), Béla Csányi (Hungarian Acad. Sci., Göd, Hungary).
- 2010 **Whole Ecosystem Collaboration:** *Pelagic Organism Decline Contaminants Work Team (POD CWT)*, Interagency Ecological Program, State of California, POD CWT is a think tank reviewing research needs regarding contaminants in San Francisco Estuary and the Sacramento San Joaquin Delta. <http://www.water.ca.gov/iep/about/contaminant.cfm>.

#### (f) Collaborators & Other Affiliations

##### Collaborators and Co-Editors (See attached)

**Graduate Advisors and Postdoctoral Sponsors (n=5):** Doctoral advisors: Harold Bergman, Joseph Meyer, Univ of Wyoming), Post-doctoral advisors: William Clements, Colorado State Univ, Diane McKnight, Univ of Colorado, James Reichman, NCEAS Director.

**Thesis Advisor in Last 5 Years (n=6):** Master's Students: Jessi Hallman Behnke (Kauai Seabird Habitat Conservation Program, Kauai, Hawaii), Tyler Hallman (Oregon State U.), Kristen Jordan (unknown), Sara Rassing (SIU), Anthony Roberts (SIU), Doctoral students, Jenny Paul (SIU), Jared Bilak (SIU).