

## HOLLY K. KINDSVATER

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### PROFESSIONAL EXPERIENCE

2019- Assistant Professor, Fish and Wildlife Conservation, Virginia Tech  
2015-2019 Assistant Research Professor, Ecology, Evolution, & Natural Resources,  
Rutgers University  
2013-2015 NSF Postdoctoral Fellow in Math and Biology, Simon Fraser University / UCSC  
2012-2013 Visiting postdoctoral scholar, University of British Columbia, Zoology  
2012 Postdoctoral fellow, Yale University, Ecology and Evolutionary Biology

### EDUCATION

2011 Ph.D. Ecology and Evolutionary Biology, Yale University  
2008 M.S. Ecology and Evolutionary Biology, Yale University  
2003 B.S. Marine Biology (Honors), University of California Santa Cruz

### GRANTS - SINCE PHD, AWARDED \$930,482 (OF \$1,731,000 IN TOTAL FUNDED)

2018 Shark Conservation Fund: \$25,000  
2017 Career-Life Balance Supplement to NSF-DEB/NERC: Informing population models with evolutionary theory to infer species' conservation status: \$28,049  
2016-2019 NSF-DEB/NERC: Informing population models with evolutionary theory to infer species' conservation status. **HK Kindsvater (Lead PI)**, M Mangel (UC Santa Cruz; co-PI), J Matthiopoulos (University of Glasgow; co-PI). *Total budget: \$1.55M My share: \$749,433*  
2009 NSF Doctoral Dissertation Improvement Grant (\$14,967)  
2003 British Ecological Society Small Project Grant (£4,000)

### FELLOWSHIPS AND AWARDS

2013 NSF Postdoctoral Research Fellowship in Math & Biology  
2011 American Assoc. University Women Dissertation Fellowship (*declined due to early graduation*)  
2005 STAR Fellowship; U.S. Environmental Protection Agency  
1999 University of California Regent's Scholarship

### PUBLICATIONS

Horswill C, **Kindsvater HK**, Juan-Jordá MJ, Dulvy NK, Mangel M, Matthiopoulos J. 2019. Global reconstruction of life-history strategies for data-limited tuna populations. *J Appl. Ecol.* **2019**, 1-11

Stiver KA, **Kindsvater HK**, Tamburello N, Heckman KL, Klein J, Alonzo SH. 2018. Intentional multiple mating by females in a species where sneak fertilization circumvents female choice for parental males. *J. Fish Biol.* **93**, 324–333

- Kindsvater HK**, Dulvy NK, Horswill C, Juan-Jordá MJ, Mangel M, Matthiopoulos J. 2018. Overcoming the data crisis in biodiversity conservation. *Trends Ecol. Evol.* **33**, 676-688
- Kindsvater HK**, Palkovacs E. 2017. Predicting eco-evolutionary impacts of fishing on body size and trophic role of Atlantic cod. *Copeia*. **105**, 475-482
- Kindsvater HK**, Reynolds JD, Sadovy de Mitcheson YJ, Mangel M. 2017. Selectivity matters: rules of thumb for management of plate-sized, sex-changing fish in the live reef food fish trade. *Fish and Fisheries*. **18**, 821-836
- Pardo SA, **Kindsvater HK**, Cuevas-Zimbrón E, Sosa-Nishizaki O, Pérez-Jiménez JC, & Dulvy NK. 2016. Growth, mortality, and relative extinction risk of a data-sparse devil ray. *Scientific Reports*. **6**, 33745
- Pardo SA, **Kindsvater HK**, Reynolds JD, & Dulvy NK. 2016. Maximum intrinsic rate of population increase in sharks, rays, and chimaeras: the importance of survival to maturity. *Can. J. Fish. Aqu. Sci.* **73**, 1159-1163
- Weir L, **Kindsvater HK**, Young KA, & Reynolds JD. 2016. Sneaker males influence sexual size dimorphism in anadromous salmon. *American Naturalist*. **188**, 264-271
- Kindsvater HK**, Braun D, Otto SP, & Reynolds JD. 2016. Costs of reproduction explain the correlated evolution of semelparity and egg size: theory and a test with salmon. *Ecology Letters*. **19**, 687-696
- Kindsvater HK**, Mangel M, Reynolds JD, & Dulvy NK. 2016. Ten principles from evolutionary ecology essential for effective marine conservation. *Ecol Evol*. **6**, 2125–2138\*  
\* Recommended by Faculty of 1000
- Paczolt K, Passow C, Declos P, **Kindsvater HK**, Jones A, & Rosenthal GG. 2015. Multiple mating and reproductive skew in pure and introgressed females of the live-bearing fish *Xiphophorus birchmanni*. *J. Heredity* **106**, 57-66
- Kindsvater HK** & Otto SP. 2014. The evolution of egg size in stage-structured populations. *American Naturalist* **184**, 143-155
- Kindsvater HK** & Alonzo SH. 2014. Females allocate differentially to offspring size and number in response to male effects on female and offspring fitness. *Proc. R. Soc. B* **281**, 20131981†  
† Covered by the Canadian Press wire service, Huffington Post, and the Vancouver Sun
- Kindsvater HK** & Alonzo SH. 2013. Short-term dynamics of territory occupancy in an allopaternal species, the tessellated darter *Etheostoma olmstedi*. *J. Fish Biol.* **82**, 1398–1402
- Kindsvater HK**, Simpson SE, Rosenthal GG, & Alonzo SH. 2013. Male diet, female experience, and female size influence maternal investment in swordtails. *Behav. Ecol.* **24**, 691-697
- Kindsvater HK**, Rosenthal GG, & Alonzo SH. 2012. Maternal size and age shape offspring size in a live-bearing fish, *Xiphophorus birchmanni*. *PLoS ONE* **7**(11), e48473
- Kindsvater HK**, Bonsall MB, & Alonzo SH. 2011. Mortality associated with reproduction could explain variation in offspring size and number *J. Evol. Biol.* **24**, 2230–2240
- Kindsvater HK**, Alonzo SH, Mangel M, & Bonsall MB. 2010. Effects of age- and state-dependent allocation on offspring size and number. *Evol. Ecol. Res.* **12**, 327-346

Mangel M, **Kindsvater HK**, & Bonsall MB. 2007. Evolutionary analysis of life span, competition, and adaptive radiation, motivated by the Pacific rockfishes (*Sebastes*). *Evolution* **61**, 1204-1224

### INVITED PERSPECTIVES AND BOOK CHAPTERS

Dulvy NK, **Kindsvater HK**. 2017. The Future Species of Anthropocene Seas. *Conservation for the Anthropocene Ocean*, P Levin & M Coe (Eds). [Book Chapter, peer-reviewed]

Dulvy NK & **Kindsvater HK**. 2015. Recovering the potential of coral reefs. *Nature*. **520**, 304-305 [Invited Perspective]

Alonzo SH & **Kindsvater HK**. 2008. Life History Patterns. *General Ecology*. Vol. 3 *Encyclopedia of Ecology*, SE Jorgensen & BD Fath (Eds) pp. 2175-2180 Elsevier, Oxford UK [Book Chapter]

### MANUSCRIPTS IN REVIEW

Horswill C, Manica A, Wood M, Daunt F, Wanless S, Harris M, **Kindsvater HK**, & Matthiopoulos J. Seabird populations track rather than buffer environmental variation.

Sherley R, Winker H, Rigby C, Kyne P, Pollom R, Pacoureaux N, Herman K, Carlson J, Yin J, **Kindsvater HK**, Dulvy NK. Estimating IUCN Red List population reduction: JARA – a decision-support tool applied to pelagic sharks. *In review, Conservation Letters*.

### WORKING GROUPS

2017- NCEAS - State of Alaska's Salmon and People working group: Consistency, causes, and consequences of declining size and age of Alaskan salmon (Invited participant, 3 meetings)

2019- NSF-RCN Evolving Seas (Invited participant)

### INVITED SEMINARS

2019 Virginia Tech. *Using traits to conserve and manage fish and fisheries*

2018 Rutgers University. *Information from adaptation: how species' life histories help them cope with the Anthropocene*

2018 UC Santa Barbara. *Fisheries, natural selection and life history*.

2018 UC Davis. *Information from adaptation: life history, natural selection, and fishing*.

2018 UC Santa Cruz. *Information from adaptation: Using life history to infer natural selection*.

2016 Northeastern University. *The ecology of marine life histories: Anadromy, hermaphroditism, and global change*.

2016 Stony Brook University. *The ecology of marine life histories*.

2016 University of Sheffield, UK *Linking models of reproductive allocation to population dynamics of marine species*.

2016 Southern Connecticut State University. *Linking reproductive behavior to population dynamics in fishes*.

2015 University of Michigan. *From demography to diversity in fishes*.

2015 Florida State University. *The ecology and evolution of life histories in the sea*.

2015 NOAA Northwest Fisheries Science Center, Seattle. *The ecology of marine life history evolution: Anadromy, hermaphroditism, and global change*.

2014 University of Alaska Anchorage. *The ecology and evolution of life histories in the sea*.

- 2014 University of British Columbia, BC, Canada. *Life histories in the sea.*
- 2013 Simon Fraser University, BC, Canada. *Understanding complexity in life-history evolution. Or, what to do when your fish doesn't fit the theory.*
- 2013 EAWAG Centre for Aquatic Research, Lucerne, Switzerland. *Combining theory and data to understand life-history traits and population dynamics.*

### SELECTED CONTRIBUTED PRESENTATIONS

- 2018 **Kindsvater HK**, Mangel M. Talk: *Linking individual behavior to macro-evolutionary life-history divergence in tunas.* American Society of Naturalists, Asilomar, CA
- 2016 **Kindsvater HK**. Talk: *Life-history traits, population dynamics, and species' ability to cope with change.* Joint Meeting of Ichthyologists and Herpetologists, New Orleans, LA
- 2016 **Kindsvater HK**. Talk: *When smaller is better: do females decrease offspring size to improve their own chances of survival?* Larval Fish Conference, Am. Fisheries. Soc. Early Life History section, Solomons, MD
- 2014 **Kindsvater HK**, Reynolds JD, Mangel M. Talk: *Modeling resilience and extinction risk in sex-changing fishes: how much information do we need to conserve data-poor groupers?* Int'l Marine Conservation Congress, Glasgow, Scotland
- 2014 **Kindsvater HK**. Talk: *The evolution of semelparity and egg size.* American Society of Naturalists, Asilomar, CA; SSE, Raleigh, NC
- 2011 Passow CP‡, **Kindsvater HK**, Paczolt K, & Rosenthal GG. Poster: *Multiple mating in the livebearing fish Xiphophorus birchmanni*, SSE, Norman, OK
- 2011 Simpson SE‡, **Kindsvater HK**, & Rosenthal, GG. Poster: *Swordtail mate choice and reproductive allocation: effects of male condition.* SSE, Norman, OK

‡ UNDERGRADUATE

### TEACHING

- 2019 Workshop Instructor: Importing and Cleaning Data in R and the Tidyverse, Rutgers University
- 2016 Guest lecture: Marine Conservation Ecology, Columbia University
- 2015 Workshop Instructor: Introduction to Linear Mixed-Effects Models in R, SFU
- 2014 Workshop Instructor: Introduction to Statistics in R, Simon Fraser University
- 2013 Course Instructor: Science and Sustainability, Univ. British Columbia

### MENTORSHIP AND COMMITTEE SERVICE

- 2019 Undergraduate student mentor – Swati Modwadhia (Rutgers Dept. of Ecology, Evolution and Natural Resources '21)
- 2019 - Graduate committee member – Katrina Catalano (Rutgers DEENR), Rene Clark (Rutgers DEENR), Sarah Borsetti (Rutgers Dept. of Marine and Coastal Science)
- 2017 - Graduate committee external member – Frieda Benun (CUNY Brooklyn College Biology)
- 2010 Undergraduate Research Thesis supervisor (two students)

### BROADER IMPACTS

- 2016 Contributed expertise - 9 *Mobula* ray species listed on App. II of CITES (see Pardo et al. 2016b)
- 2015 Public talk: *Way Cool Wrasses Beaty Biodiversity Museum Way Cool Seminar*, Vancouver, BC
- 2014 Graduate workshop series organizer: *Introduction to Data and Statistics in R*, SFU
- 2014 Public talk: *Parental Care and Reproduction in Fishes Nerd Nite* Vancouver, July 2014
- 2014 Undergraduate Diversity Mentor (two students), SSE/ASN Joint meeting, Raleigh NC

2014 Graduate workshop talks: *Writing Engagingly* and *Publicizing Your Work*, Grad workshop, SFU

### PEER REVIEW SERVICE

*The American Naturalist, Aquatic Living Resources, Behavioral Ecology, Biological Conservation, Biological Reviews, Biology Letters, Conservation Letters, Conservation Physiology, Coral Reefs, Ecological Applications, Ecology, Ecology Letters, Ecosphere, Entomologia Experimentalis et Applicata, Evolution, Evolutionary Ecology Research, Fisheries Research, Fishery Bulletin, Functional Ecology, ICES Journal of Marine Science, Journal of Animal Ecology, Journal of Evolutionary Biology, Journal of Fish Biology, Journal of Theoretical Biology, Methods in Ecology and Evolution, Naturwissenschaften, Oecologia, Oikos, PLoS ONE, PNAS, Proc. Roy. Soc. B, Reviews in Fish Biology and Fisheries, Theoretical Ecology*

Panelist: NSF-DEB

*Ad hoc* review for NSF-OCE, NOAA Sea Grant

Rutgers University Faculty Review Committee for the School of Graduate Studies Doctoral Awards

### CONTRIBUTIONS TO DATA AND SOFTWARE REPOSITORIES

Dryad data repository for Weir et al. 2016. Sneaker males affect fighter male body size and sexual size dimorphism in salmon. <http://dx.doi.org/10.5061/dryad.76rd1>

Dryad data repository for Kindsvater et al. 2016. Costs of reproduction explain the correlated evolution of semelparity and egg size: theory and a test with salmon. <http://dx.doi.org/10.5061/dryad.8v96r>

GitHub code repository for Kindsvater et al. 2016. 10 principles from evolutionary ecology essential for effective marine conservation. <http://dx.doi.org/10.5281/zenodo.46789>

Dryad data repository for Paczolt et al. 2015. Multiple mating and reproductive skew in parental and introgressed females of the live-bearing fish *Xiphophorus birchmanni*. <http://dx.doi.org/10.5061/dryad.878p7>

Dryad data repository for Kindsvater et al. 2012. Maternal size and age shape offspring size in a live-bearing fish, *X. birchmanni*. <http://dx.doi.org/10.5061/dryad.rp131>