

# **Elizabeth A. Nyboer, Ph.D.**

## Curriculum Vitae

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## **EDUCATION**

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**2018** **Ph.D., McGill University, Department of Biology**  
Title: Climate change adaptation in African inland fisheries  
Supervisor: Dr. Lauren Chapman

**2013** **M.Sc., McGill University, Department of Biology**  
Title: Movement, home range and ecological divergence in the commercially fished Nile perch of Lake Nabugabo, Uganda.  
Supervisor: Dr. Lauren Chapman

**2008** **B.Sc., Simon Fraser University, Double major in the Departments of Biology & Humanities**  
Ecology and Evolution  
Supervisors: Dr. Elizabeth Elle and Dr. Isabelle Côté

## **RESEARCH GRANTS AND FELLOWSHIPS**

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**2019** FRQNT post-doctoral research grant (\$110,000 CAD)  
**2017** McGill Graduate Writing Fellowship (\$6,000 CAD)  
**2016** Vineberg Fellowship (\$4,770 CAD)  
**2015** International Development Research Centre (IDRC) Doctoral Research Grant (\$20 000 CAD)  
**2013** NSERC Post Graduate Scholarship, Doctoral (\$63,000 CAD)  
**2013** Provost's Graduate Fellowship, Doctoral (\$5,000 CAD)  
**2013** Lorne Trottier Science Fellowship, Doctoral (\$5,000 CAD)  
**2010** NSERC Canada Graduate Scholarship, Masters (\$17,500 CAD)  
**2010** Provost's Graduate Fellowship, Masters (\$1,500 CAD)  
**2010** Lorne Trottier Science Fellowship, Masters (\$2,500 CAD)  
**2007** NSERC USRA Undergraduate Research Fellowship (\$4,500 CAD)

## **AWARDS**

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**2018** QCBS Excellence Award (\$1750 CAD)  
**2017** QCBS Excellence Award (\$1,000 CAD)  
**2017** Graduate Research Enhancement and Training Award, McGill Biology (\$500 CAD)  
**2016** Graduate Travel Award, McGill Biology (\$2,000 CAD)  
**2015** Graduate Travel Award, McGill Biology (\$2,000 CAD)  
**2015** QCBS Intensive Course Award (\$1,297 CAD)  
**2015** Graduate Research Enhancement and Training Award, McGill Biology (\$500 CAD)  
**2014** QCBS Excellence Award (\$1,435 CAD)  
**2014** QCBS Excellence Award (\$1,010 CAD)

<b>2014</b>	Graduate Travel Award, McGill Biology (\$2,000 CAD)
<b>2013</b>	Graduate Travel Award, McGill Biology (\$1,500 CAD)
<b>2013</b>	QCBS Excellence Award (\$2,500 CAD)
<b>2012</b>	QCBS Excellence Award (\$1,620 CAD)
<b>2008</b>	PEEC Undergraduate Travel Award, SFU Biology (\$200 CAD)

## PEER REVIEWED PUBLICATIONS

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**Nyboer, EA & Chapman LJ. 2018.** Cardiac plasticity influences aerobic performance and thermal tolerance in a tropical, freshwater fish at elevated temperatures. *Journal of Experimental Biology*. DOI: 10.1242/jeb.178087.

**Nyboer, EA & Chapman LJ. 2017.** Elevated temperature and acclimation time affect metabolic performance in the heavily exploited Nile perch of Lake Victoria. *Journal of Experimental Biology*. 220: 3782-3793.

Fugere V, **Nyboer EA**, Bleeker J & Chapman LJ. **2016.** Impacts of forest loss on inland waters: A global mismatch among deforestation rates, ecosystem services, and research effort. *Biological Conservation*. 201:277-283.

**Nyboer EA**, Gray SM & Chapman LJ. **2014.** A colourful youth: ontogenetic colour change is habitat-specific in the invasive Nile perch. *Hydrobiologia*, 738: 221-234. \*\*chosen for the October 2014 issue cover

Vaccaro I, Chapman CA, **Nyboer EA**, Luke M, Byekwaso A, Morgan C, Mbabazi D, Twinomugisha D & Chapman LJ. **2013.** An inter-disciplinary methodology to harmonise ecology, economy, and co-management: Fisheries exploitation in Lake Nabugabo, Uganda. *African Journal of Aquatic Science*, 38: 97-104.

**Nyboer EA & Chapman LJ. 2013.** Ontogenetic shifts in phenotype-environment associations in Nile perch, *Lates niloticus* (Perciformes: Latidae) from Lake Nabugabo, Uganda. *Biological Journal of the Linnean Society*, 110: 449-465.

**Nyboer EA & Chapman LJ. 2013.** Movement and home range of introduced Nile perch (*Lates niloticus*) in Lake Nabugabo, Uganda: Implications for ecological divergence and fisheries management. *Fisheries Research*, 137: 18-29.

Molloy PP, **Nyboer EA** & Côté IM. **2011.** Male-male competition in a mixed mating fish. *Ethology*, 117: 586-596.

## SUBMITTED MANUSCRIPTS

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**Nyboer, EA , Liang, C & Chapman LJ. 2018.** Assessing the vulnerability of Africa's freshwater fishes to climate change: a continent-wide trait-based analysis. Under revision for *Biological Conservation*. BIOC-2018-1237.

**Nyboer, EA, Chrétien, E & Chapman LJ. 2018.** Divergence in aerobic scope and thermal tolerance of an introduced piscivore is related to local thermal regime. Submitted to *Physiological and Biochemical Zoology*. PBZ-18142.

## INVITED PRESENTATIONS

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**2019** **Nyboer EA**, Chretien E, Kimera S and Chapman L. Planet water: Association for the Sciences of Limnology and Oceanography, San Juan, Puerto Rico. *Tropical*

*fish in a warming world: Effects of elevated temperature on metabolic performance of commercially harvested African fishes.*

**2016** **Nyboer EA.** Weekly Seminar Series, National Fisheries Resources Research Institute of Uganda, Jinja. *Survey results for climate change adaptation in 5 fishing communities on the Lake Victoria basin: trends and comparison.*

**2016** **Nyboer EA.** Weekly Seminar Series, National Fisheries Resources Research Institute of Uganda, Jinja. *Thermal tolerance and climate change: what comes next for fisheries of the Lake Victoria Basin.*

**2015** **Nyboer EA.** Monthly Seminar Series, Aquaculture Research and Development Center, Kajjansi, Uganda. *Using respirometry techniques to investigate the thermal tolerance of commercially-important aquaculture fish species in Uganda.*

**2014** **Nyboer EA & Chapman LJ.** The future of biodiversity in the Anthropocene, McGill School of Environment Symposium, Montreal. *Thermal tolerance of tropical freshwater fish: Predicting the effects of climate change in equatorial waters.*

**2014** **Nyboer EA & Chapman LJ.** Weekly Seminar Series, National Fisheries Resources Research Institute, Jinja, Uganda. *Predicting the effects of climate change on the Nile Perch of the Lake Victoria Basin.*

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## SELECTED CONFERENCE PRESENTATIONS

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**2017** **Nyboer EA & Chapman LJ.** Canadian Society for Ecology and Evolution, Victoria, BC. *Metabolic performance of a commercially harvested tropical freshwater fish at elevated temperatures.*

**2017** **Nyboer EA & Chapman LJ.** Canadian Conference for Fisheries Research, Montreal. *Metabolic performance and fitness-related responses of a commercially-harvested tropical freshwater fish (Nile perch) to elevated temperatures.*

**2016** Chapman LJ, Chretien E\*, McDonnell LJ\*, **Nyboer EA\***. 12<sup>th</sup> International Congress on the Biology of Fish. Texas State University, San Marcos, Texas. *Hot fish in a warming world: Effects of elevated temperature on energetics and performance of equatorial African fishes.* \*Equal contributors

**2015** **Nyboer EA & Chapman LJ.** Global Conference on Inland Fisheries, Food and Agriculture Organization of the United Nations. Rome, Italy. *Thermal tolerance of tropical freshwater fish: Predictions for equatorial fisheries under climate change.*

**2014** **Nyboer EA & Chapman LJ.** Quebec. Center for Biodiversity Science Annual Symposium, Montreal. *Thermal tolerance of tropical freshwater fish: Predictions for fisheries under climate change.*

**2014** **Nyboer EA & Chapman LJ.** Genomes to Biomes, CSEE, Montreal. *Thermal tolerance of tropical freshwater fish: Predicting the effects of climate change in equatorial waters.*

**2013** **Nyboer EA & Chapman LJ.** National Fisheries Resources Research Institute of Uganda, Jinja and Lake Victoria Fisheries Organization. *Movement, home range and eco-morphological divergence in Nile perch (*Lates niloticus*) in Lake Nabugabo, Uganda.*

**2012** **Nyboer EA & Chapman LJ.** World Fisheries Congress, Edinburgh. *Movement, home range and ecological divergence in the commercially fished Nile perch (*Lates niloticus*) in Lake Nabugabo, Uganda.*

**2012** **Nyboer EA & Chapman LJ.** Quebec Center for Biodiversity Science Annual Symposium, Montreal. *Habitat-associated divergence of Nile perch in Lake Nabugabo, Uganda.* Quebec Center for Biodiversity Science Annual Symposium.

**2011** **Nyboer EA** & Chapman LJ. Quebec Center for Biodiversity Science Annual Symposium, Montreal. Movement, home range and vulnerability in the commercially fished Nile perch (*Lates niloticus*) in Lake Nabugabo, Uganda.

**2010** **Nyboer EA** & Chapman LJ. Quebec Center for Biodiversity Science Annual Symposium, Montreal. Ecological divergence in the commercially fished Nile Perch (*Lates niloticus*) in Lake Nabugabo, Uganda.

**2009** **Nyboer EA**, McCormick, JA, Courcelles DMM, Palen, WJ, Power ME, McNeely C, Limm M, Finlay J. Pacific Ecology and Evolution Conference (PEEC), Bamfield. *Eating in or going out? Tracing the sources of energy to top predators across a watershed.*

**2008** **Nyboer EA**, Molloy PP & Côté IM. Pacific Ecology and Evolution Conference (PEEC) (Bamfield). *Big males, red males? Intra-sexual competition and dominance in a mixed mating fish.*

## TEACHING

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### Co-instructor

**2013** Perspectives in Science (BIOL 210), McGill University (co-instructor and TA)

### Teaching Assistant

**2015** Perspectives in Science (BIOL 210), McGill University

**2014** Perspectives in Science (BIOL 210), McGill University

**2013** Canadian Field Studies in Africa (field lecture), McGill University

**2012** Perspectives in Science (BIOL 210), McGill University

**2012** Cell and Molecular Biology (BIOL 112), McGill University

**2011** Perspectives in Science (BIOL 210), McGill University

**2011** Canadian Field Studies in Africa (field lecture), McGill University

**2010** Organismal Biology (BIOL 111), McGill University

**2010** Cell and Molecular Biology (BIOL 112), McGill University

**2007** Plant Ecology (BISC 404), Simon Fraser University

### Guest Lectures

**2015** BIOL 465, Conservation Biology, McGill University, Montreal. *Thermal tolerance in tropical freshwater fish.*

**2013** Fisheries Management Course, Makerere University, Uganda. *Implications of climate change for stability in the Nile perch fishery of Lake Victoria.*

**2013** Canadian Field Studies in Africa, McGill University. *Current research on Lake Nabugabo's Nile perch fishery.*

**2012** Canadian Field Studies in Africa, McGill University. *Field research methods and techniques at the Lake Nabugabo field site.*

**2011** BIOL 210, Perspectives in Science, McGill University. *Midterm Review Lecture.*

### Student mentorships

**2018** Chris Liang, Undergraduate researcher, McGill University.  
Project title: *Using GIS to predict impacts of climate change on African fisheries.*

**2017** Stephen Kimera, M.Sc., Makerere University, Uganda.  
Project title: *Thermal tolerance of Nile tilapia in the Lake Victoria basin, Uganda.*

**2017** Luisa Trujillo, Undergraduate honours, McGill University.  
Project title: *Using heart and gill measurements provide insight on physiological limitations of commercially harvested tropical fish exposed to elevated temperatures.*

**2016** Juilia Conzon, Undergraduate researcher, McGill University  
Project title: *Using GIS to predict impacts of climate change on African fisheries.*

**2014** Richard Ddungu, Undergraduate Researcher, NaFIRRI, Uganda  
Project title: *Thermal tolerance of Nile perch in the Lake Victoria basin, Uganda*

**2012** Johanna Bleecker, Undergraduate researcher, McGill University  
Project title: *Movement and home range of Nile perch.*

**2011** Jennifer Sunahara, Undergraduate Researcher, McGill University  
Project title: *Ontogenetic colour variation in Nile perch.*

**2009** Danielle Courcelles & Jodie McCormick, Undergraduate Researchers, SFU.  
Project title: *Food web interactions of Pacific salmon.*

## **SERVICE AND VOLUNTEER ACTIVITIES**

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### **Professional affiliations and volunteer activities**

**2019 – present** Member of InFish

**2019 – present** Member of the Association for the Sciences of Limnology and Oceanography

**2015 – present** Member of the Canadian Society for Ecology and Evolution

**2013 – 2016** Student representative for the Canadian Aquatic Resources Section (CARS) of the American Fisheries Society (AFS)

**2013 – present** Member of the American Fisheries Society

**2013 – 2017** Student volunteer, QCBS annual symposium

**2012 – 2015** Biology Graduate Student Association (BGSA) councillor

**2010 – 2018** Quebec Center for Biodiversity Science (QCBS) student member

**2014** Co-organizer on student sub-committee for American Fisheries Society (2014) annual meeting

### **Peer review**

Marine and Freshwater Research  
Journal of Fish Biology  
Hydrobiologia  
Biological Journal of the Linnaean Society  
Fisheries Research  
African Journal of Fisheries and Aquatic Science  
International Journal of Fisheries and Aquaculture