

# University of Windsor's Pelee Environmental Research Centre



# Outline

- Our goal for the research centre
- The Leamington site
- Local benefits
- Users of the Research centre
- Other research centres in Canada



# University of Windsor's Pelee Environmental Research Centre

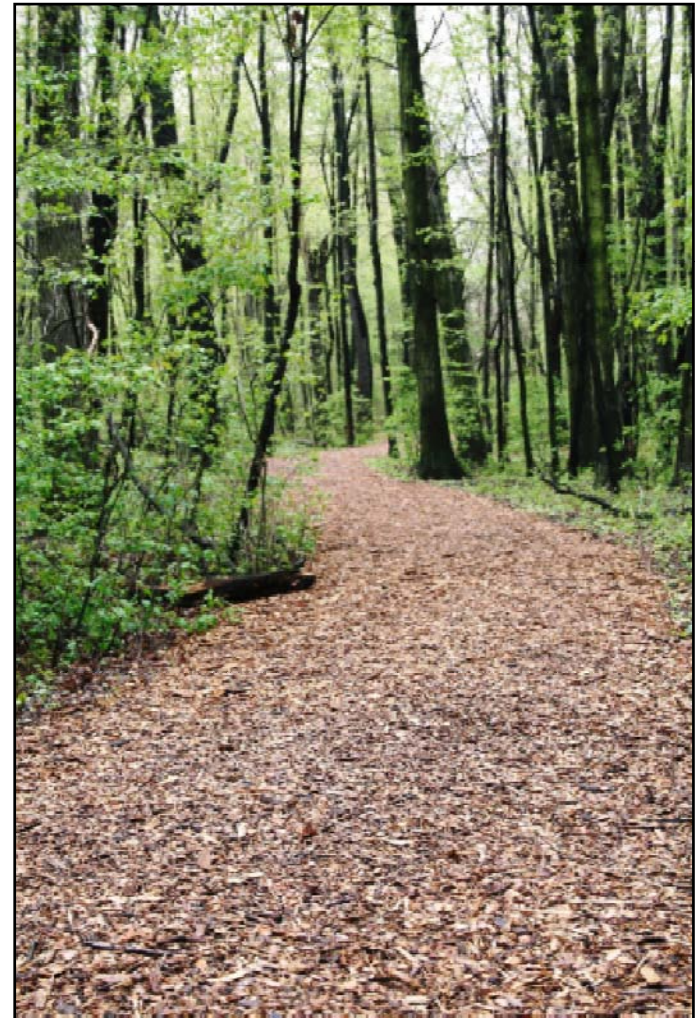
## Our Goal:

- To develop an environmental research centre that will provide field-based laboratories, meeting and teaching facilities, and a staging site for environmental research and education



# University of Windsor's Pelee Environmental Research Centre

- Our research centre will provide a venue for local, national, and international scientists to:
  - Conduct field research and analyses
  - Perform environmental monitoring and remediation research
  - Provide unique teaching and training opportunities



# University of Windsor's Pelee Environmental Research Centre

## Our plan for development:

1. Obtain land that will serve as a base site
2. Develop infrastructure:
  - i. Facilities
  - ii. Personnel
3. Initiate new research, environmental monitoring, and teaching programs



# The Leamington Site



# Attributes of the Leamington site

- Close to environmentally unique ecosystems available for research and monitoring



**Leamington  
site** 

**Hillman Marsh  
Conservation  
Area**

**Lake Erie**

**Point Pelee National Park**





# Attributes of the Leamington site

- Close to environmentally unique ecosystems available for research and monitoring
- Provides opportunities for aquatic and terrestrial research and teaching on-site



MERSEA RD 19

MERSEA RD B



Dormitory

Research  
Centre

Storage

Naturalization Area

MERSEA RD 19

MERSEA RD B

# Attributes of the Leamington site

- Close to environmentally unique ecosystems available for research and monitoring
- Provides opportunities for aquatic and terrestrial research and teaching on-site
- Southwestern Ontario provides unparalleled opportunities for biodiversity environmental research



**Carolinian forest ecosystem**



**Dryland  
Blueberry**



**Yellow Star  
Grass**



**Merrybells under  
Black Oak**



**Arrow-leaved  
Violet**



**Orange-spotted Sunfish**



**Lake Erie Watersnake**



**Spiny Softshell Turtle**



**Spotted Gar**

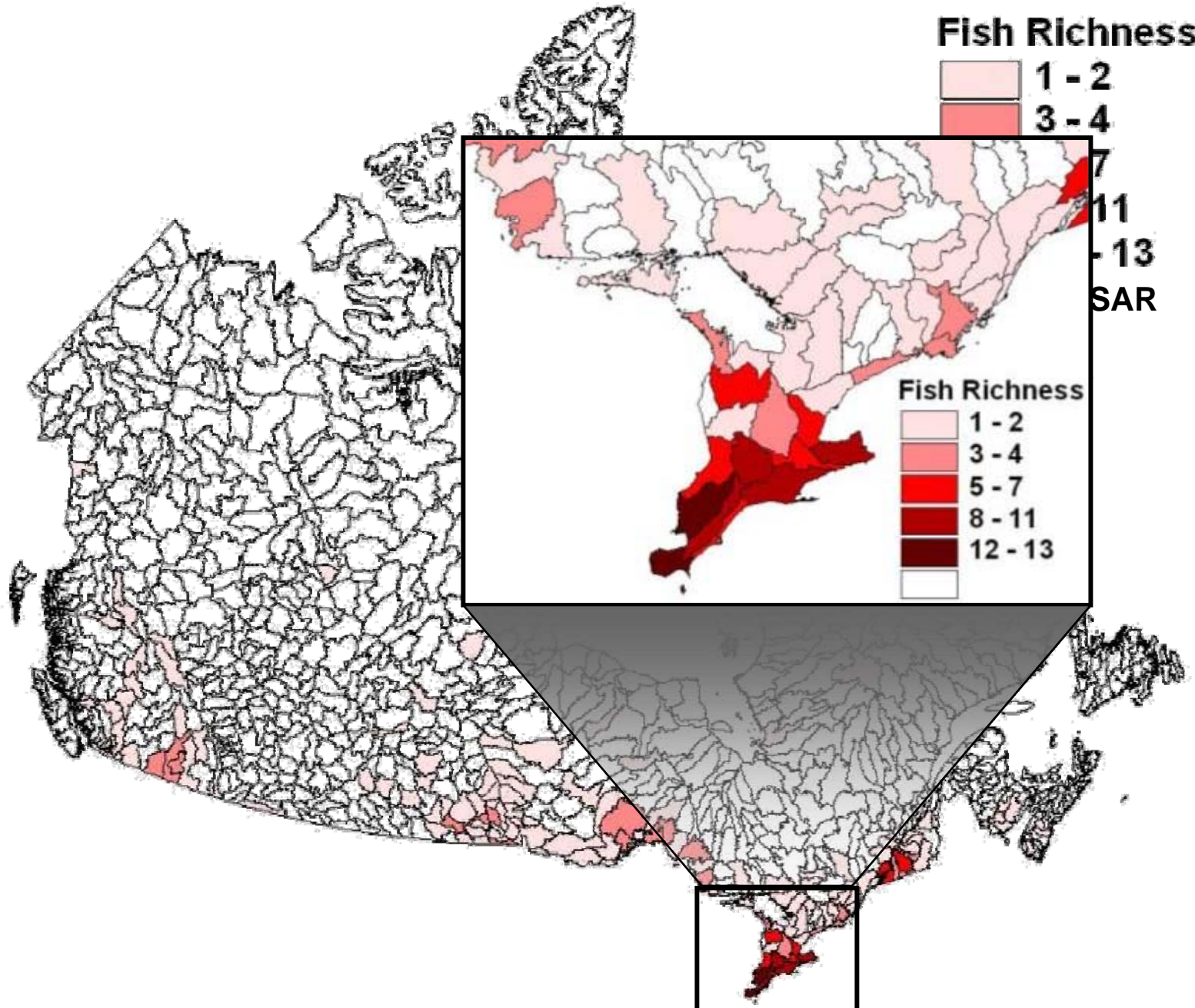


**Redside Dace**

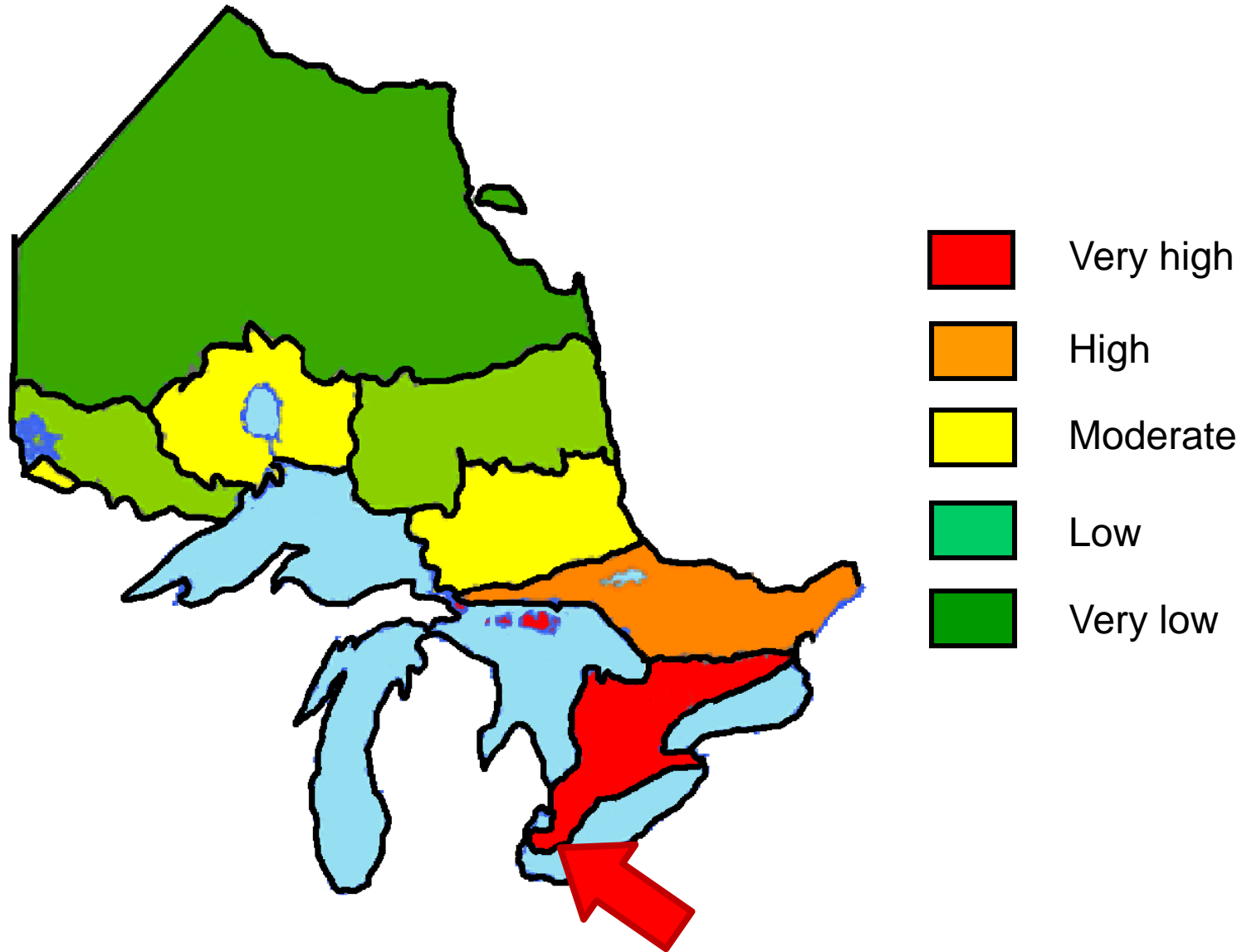


**Prothonotary Warbler**

# Fish Species-At-Risk in the Great Lakes Basin



# Total species richness

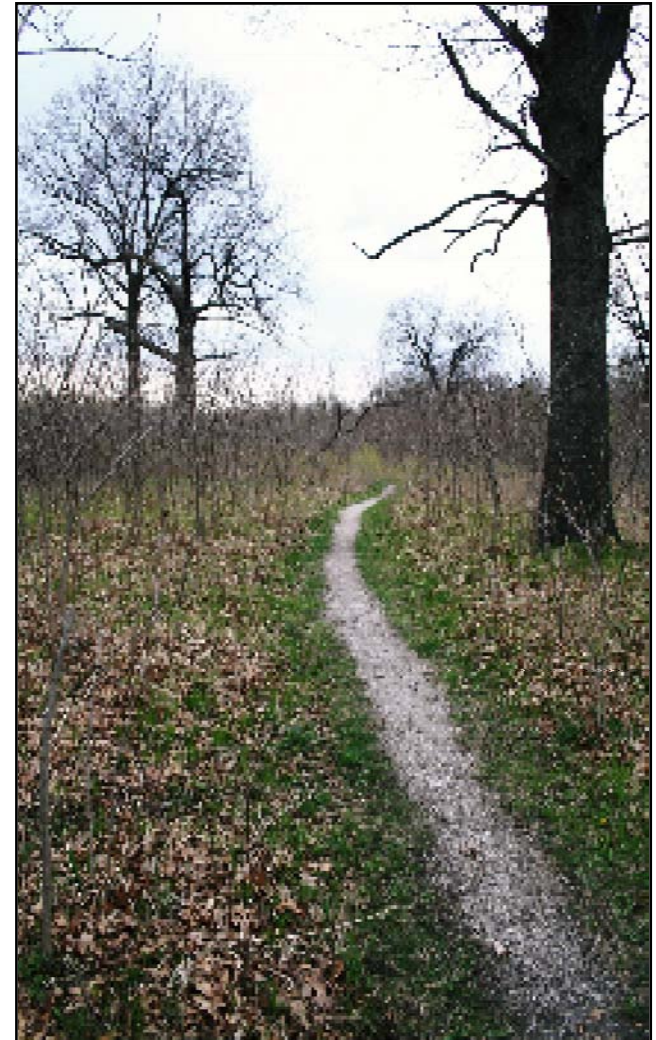




# Local Benefits of the Research Centre

## Economic

- Increased recognition for ecotourism
  - Point Pelee
  - Hillman Marsh
  - Holiday Beach
- Local environmental research expertise
  - Agricultural issues
  - Alternative energy (wind power)
  - Fisheries
- Spin-off industry
  - Biofuels
  - Environmental remediation
  - Aquaculture



# Local Benefits of the Research Centre

## Education / Outreach

- Public environmental outreach programs
  - Partner with Phil Roberts (Holiday Beach)
  - Partner with Point Pelee (Parks Canada)
  - Partner with Essex Region Conservation Authority
- High school and elementary school training and short courses
  - Overnight field courses
  - Novel environmental education partnering
    - Windsor and Essex school boards
- Training of area students
  - Local student involvement
    - Volunteer and paid positions on site



# Local Benefits of the Research Centre

## Research impacts

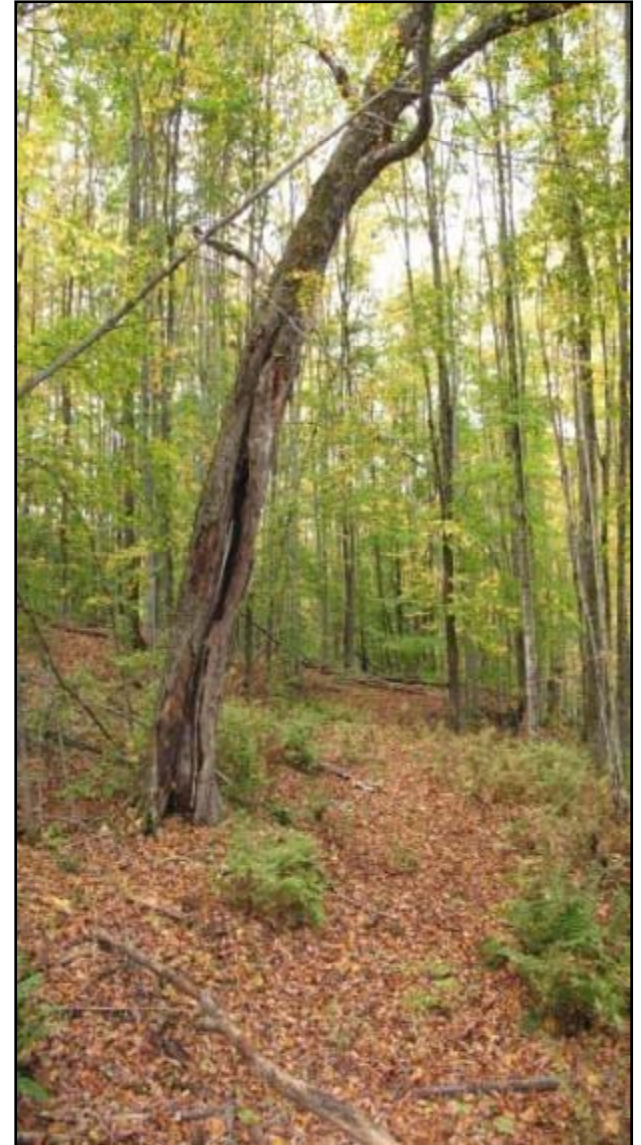
- National research destination
  - Canadian scientists already present
    - Saskatoon, Ottawa, Halifax
- International research destination
  - Unique and world-recognized ecosystems
  - Research integrated design
  - Housing in Leamington and at site
  - Travel infrastructure
    - Windsor and Detroit airports
- Government projects and partners
  - OMNR, DFO, Environment Canada, Parks Canada, Ag. Canada, OMFRA, MOE, ERCA, etc.



# Who will use the Research Centre?

## Many types of users:

- Researchers from U Windsor and other universities throughout Ontario
- Professors teaching field courses
- University-sponsored events (meetings, academic retreats, etc.)
- Community-sponsored/organized events (high school groups, naturalist groups, volunteer organizations, outreach groups)
- Community at large (open-houses and seminar series)



# U Windsor Researchers



**Dr. Jan Ciborowski** (Biology)

Ecology of aquatic communities (invertebrates and fishes) and human-derived stresses

*Jan received the International Joint Commission Biennial Award for Great Lakes Science*



**Dr. Lynda Corkum** (Biology)

Ecology and behaviour of aquatic insects and invasive fish

*Lynda is the Faculty of Science Associate Dean of Research and Graduate Studies*



**Dr. Stéphanie Doucet** (Biology)

Ecology and evolution of birds with a focus on reproduction and colouration

*Stéphanie holds a University Faculty Award from NSERC*



# U Windsor Researchers



**Dr. Dennis Higgs** (Biology)

Ecology and behaviour of local fish and invasive species, including a focus on fish hearing



**Dr. Dan Mennill** (Biology)

Behaviour and ecology of birds, with a focus on bird song and endangered species

*Dan holds an Early Researcher Award from the Ontario Ministry of Research and Innovation*



**Dr. Trevor Pitcher** (Biology)

Behaviour and genetics of fish, including research on fish mating tactics



# U Windsor Researchers



**Dr. Sherah VanLaerhoven** (Biology)

Ecology of food webs of terrestrial insects

*Sherah was named one of Canada's "Top 40 Under 40" in 2007*



**Dr. Barb Zielinski** (Biology)

Behaviour and neurobiology of fish



**Dr. Melania Cristescu** (GLIER & Biology)

Evolutionary genetics of aquatic invasive species

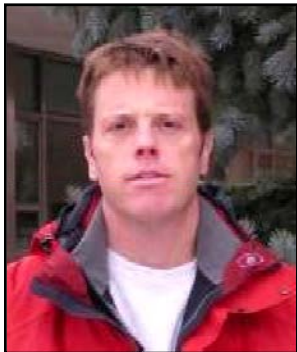


# U Windsor Researchers



**Dr. Ken Drouillard** (GLIER & Biology)

Ecotoxicology and effects of contaminants on the biology of fish, birds, and amphibians



**Dr. Aaron Fisk** (GLIER & Earth Sciences)

Ecotoxicology and movements of contaminants through food webs

*Aaron holds a Canada Research Chair in Trophic Ecology*



**Dr. Phil Graniero** (GLIER & Earth Sciences)

Environmental science and geospatial technology including GPS and GIS





# U Windsor Researchers



**Dr. Doug Haffner** (GLIER & Biology)

Toxins in aquatic ecosystems with a focus on fish and amphibians

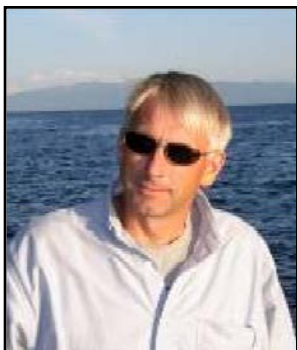
*Doug holds a Canada Research Chair in Great Lakes Research*



**Dr. Daniel Heath** (GLIER & Biology)

Conservation and evolutionary biology of aquatic ecosystems using genetic tools

*Daniel holds a Canada Research Chair in Conservation Genetics*



**Dr. Hugh MacIsaac** (GLIER)

Community ecology of lakes with an emphasis on invasive species

*Hugh is the Director of the Canadian Aquatic Invasive Species Network and holds a DFO Chair in Invasion Biology*



# U Windsor Researchers

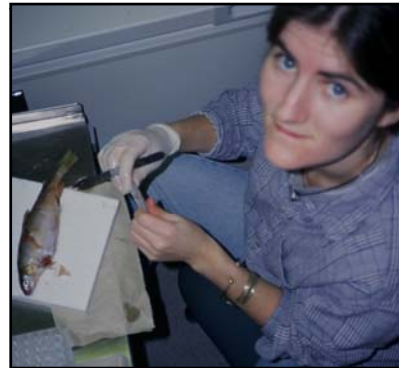


**Dr. Chris Weisener** (GLIER & Earth Science)

Research on the influence of microbes metal contaminants in the environment



# Students



# Other Research Centres in Canada

- There are only a few research centres found throughout Canada and there is heavy competition for use
- No other Canadian research centre focuses on the Carolinian Forest ecosystem or the Great Lakes ecosystem





## **Kananaskis Field Station**

A research centre in the foothills of the Rockies east of Calgary, Alberta, run by University of Calgary



## **Queen's University Biology Station**

A research centre north of Kingston, Ontario, comprised of former farmland and forest/field edge habitat



## Huntsman Science Center

A research station in eastern New Brunswick used by several universities in Ontario, Quebec, and New Brunswick

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