

# **What's Your Next Move?**

## ***Perspectives on Employment and Post-Graduate Education for Young Fisheries Professionals***

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**Based on Cooke and Hinch. Fisheries Employment in Canada.**

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# Why Should There be Lots of Fisheries Jobs in Canada?

- Surrounded by three oceans
- 265,500 km of coastline
- 25% of the world's fresh water
- >2 million freshwater lakes covering 7% of Canada's landmass
- >23,000 registered commercial fishing vessels
- >3.6 million recreational anglers
- AND – LOTS OF PROBLEMS AND CHALLENGES...



# Seven Key Aquatic Stressors

*(Ken Minns - DFO - CCFFR Plenary 2007)*

- Nutrients
- Sediment
- Toxic chemicals
- Habitat loss and modification
- Exotics
- Exploitation
- Climate change



**All of these stressors contribute to the biodiversity crisis and emphasize the need for sustainable development**

***SO – There is a need for talented fisheries professionals to deal with these challenges***

# Canada is diverse...

- Landscape, peoples, fishes, and fisheries issues
- Therefore, diverse opportunities for fisheries employment (as a fisheries professional)
  - Pathologist, Historian, Gear Technologist, Aquatic Veterinarian, Restoration Ecologist, Urban Planner, Policy Analyst, Engineer, Toxicologist, Culturist, Environmental Lawyer, Anthropologist, Communications Specialist, Observer, Fish Biologist... etc.

# 30 Years Ago...

- Get a degree in “Fish Biology” and assume a position with a provincial or federal government agency

# Today...

- Get a degree in “something”, go back for more school (certificate, diploma, M.Sc., Ph.D.) and have a broad range of options – few programs specific to fish or aquatics – more focus on interdisciplinarity (THEME)
- Hands-on fisheries experience usually found outside of the traditional classroom – more onus on the student to acquire relevant experience

# How does one obtain relevant fisheries experience outside of the conventional classroom?

- Volunteer with government agencies (CA's, OMNR) and academic labs (fisheries prof at almost every university in Ontario)
- Participate (ACTIVELY) in a professional society (e.g., AFS, CSZ, CSEE, SER)
- Volunteer with an ENGO (TU, OFAH)
- Professional development courses
- (e.g., through AFS certification process)

# Desirable Skills for Fisheries Professionals

- Communication skills (oral and written)
- Problem solving skills and creativity
- Critical thinking
- Collaborative team work (ability to interact with a group of diverse team members and partners)
- Project management (from proposal writing to budgeting to HR)
- Strong background in integrated science with understanding of hypothesis testing, experimental design, etc.
- Specialized training in some techniques (GIS, fish ID, biotelemetry, multivariate ecology, social survey design, geomorphology, conflict resolution, outreach, etc.)

*Look at AFS Fisheries Certification Program to get an idea of the breadth of experience expected from fisheries professionals*

# What are the employment options?

- Academia (including grad school)
- Local and regional government
- Provincial and territorial government
- Federal governments
- Transboundary organizations
- Consultancy
- Other (Fisheries sectors, ENGO, utilities, industry)



# Employment Opportunities Academia (College and University)

**Examples of Positions:** Professor, Instructor, Post Doctoral Fellow, Graduate Student (M.Sc., Ph.D.), Field/Lab Assistant/Technician

## **Observations**

- Grad Students Get Paid!!!
- Ontario Government pushing for more M.Sc. positions (doubling enrollment at most universities between now and 2010)
- Universities competing for the best students
- Don't look for the word "fish" in advertisements

# Employment Opportunities Local and Regional Governments

**Examples of Positions:** Planner, Environmental Education, Biologist, Environmental Monitoring, Drainage Superintendents

## **Observations**

- There are many positions that require knowledge of fish and fish habitat
- Many opportunities outside of the provincial and federal realms

# Employment Opportunities

## Provincial and Territorial Governments

**Examples of Positions:** Fish biologist, Fisheries manager, Conservation officer, Research scientist, Creel clerk, Policy analyst, Outreach coordinator, Stream ecologist

### **Observations**

- Broad training required (usually more than just fish)
- Look beyond the “fisheries agency”
- Contract positions

# Employment Opportunities Federal Government

**Examples of Positions:** Fish habitat biologist, Fisheries manager, Fisheries officer, Research scientist, Park warden, Policy analyst, Science advisor, Stock assessment biologist, Recovery coordinator

## **Observations**

- Check out...DFO, Parks Canada, Environment Canada, Agriculture Canada, Dept of Defence
- Geographical restrictions
- Bilingual requirements

# Employment Opportunities Transboundary Organizations

Examples...

- Pacific Salmon Commission
- Great Lakes Fisheries Commission
- International Pacific Halibut Commission
- International Commission for the Conservation of Atlantic Tunas
- Food and Agriculture Organization of the UN

**Examples of Positions:** Stock assessment biologist, Policy advisor, Fisheries manager

# Employment Opportunities Consultancy

**Examples of Positions:** Environmental scientist,  
Fish biologist, Fisheries technician

## **Observations**

- Consulting agencies vary in size and focus (even regional differences within an agency)
- Need for professional certification in some jurisdictions (RPBio in BC)

# Employment Opportunities Other

**Fisheries Sectors** – First Nations, Recreational, Commercial

**ENGOS** – Suzuki Foundation, OFAH, Trout Unlimited, Biodiversity Institute, Project Seahorse (DFO has list of all ENGOS in Canada)

**Utilities** – OWA, OPG, NYPA, etc.

**Fishing Gear Technology and Scientific Instrumentation** – research, development, and sales (Hoskin, Hallmark, Lotek, Vemco, etc)

# How do you find out about jobs?

- Internet sites

<b>KEY EMPLOYMENT WEBSITES SPECIFIC TO CANADA</b>
<b>Federal Government positions - <a href="http://www.jobs-emplois.gc.ca/">www.jobs-emplois.gc.ca/</a></b>
<b>Career Owl – <a href="http://www.careerowl.ca">www.careerowl.ca</a></b>
<b>Workopolis – <a href="http://www.workopolis.com/">www.workopolis.com/</a></b>
<b>Monster - <a href="http://www.monster.ca/">www.monster.ca/</a></b>
<b>Canadian Aquatic Resources Section of the AFS - <a href="http://www.fisheries.org/cars/en/index.htm">www.fisheries.org/cars/en/index.htm</a></b>
<b>University Affairs - <a href="http://www.universityaffairs.ca/careers/index.html">www.universityaffairs.ca/careers/index.html</a></b>
<b>Canadian Association of University Teachers - <a href="http://www.academicwork.ca/">www.academicwork.ca/</a></b>
<b>DFO Jobs Site - <a href="http://www-hr.pac.dfo-mpo.gc.ca/pages/career_e.htm">www-hr.pac.dfo-mpo.gc.ca/pages/career_e.htm</a></b>
<b>Canadian Conference for Fisheries Research Site - <a href="http://www.phys.ocean.dal.ca/ccffr/">www.phys.ocean.dal.ca/ccffr/</a></b>
<b>Canadian Society of Limnologists - <a href="http://uregina.ca/~scl/society.htm">//uregina.ca/~scl/society.htm</a></b>
<b>Canadian Society for Ecology and Evolution - <a href="http://www.ecoevo.ca/">www.ecoevo.ca/</a></b>
<b>Ontario AFS Chapter - <a href="http://www.afs-oc.org/">www.afs-oc.org/</a></b>

- Look beyond Canada
- Talk to people – ideally through your network of connections (hint...)



# Getting the Interview (and the job)

- Competitive job market – lots of people with degrees – but few with relevant experience
- Hundreds of applicants – you have to be exceptional and stand out
- Connect the dots when developing your cover letter (address the points and provide supporting evidence)
- Customize your resume/CV and cover letter each time (do your homework)
- Choose appropriate references (means you have to have people that really know you)
- If you use email, be professional

# Questions?

Email me and I will send you a copy of the chapter  
(includes list of websites for locating “fisheries” jobs)

[Steven\\_Cooke@carleton.ca](mailto:Steven_Cooke@carleton.ca)

– OR –

Purchase the book from AFS Bookstore  
([www.fisheries.org](http://www.fisheries.org))