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Eels I: The Eel Passage Research Center: Lessons Learned Regarding Structure and Process for Effective Collaboration

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The Eel Passage Research Center: Lessons learned regarding structure and process for effective collaboration

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Fish Passage 2016

June 21, 2016
Amherst, MA



Eel Passage Research Center



Upper St. Lawrence River and Selected Hydropower Project Facilities



Scope and Purpose of the Eel Passage Research Center

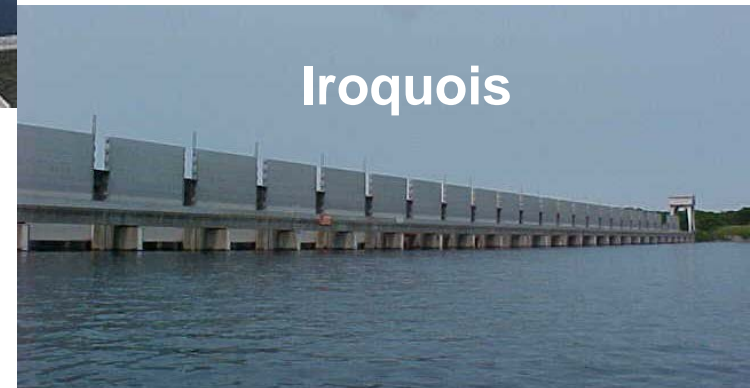
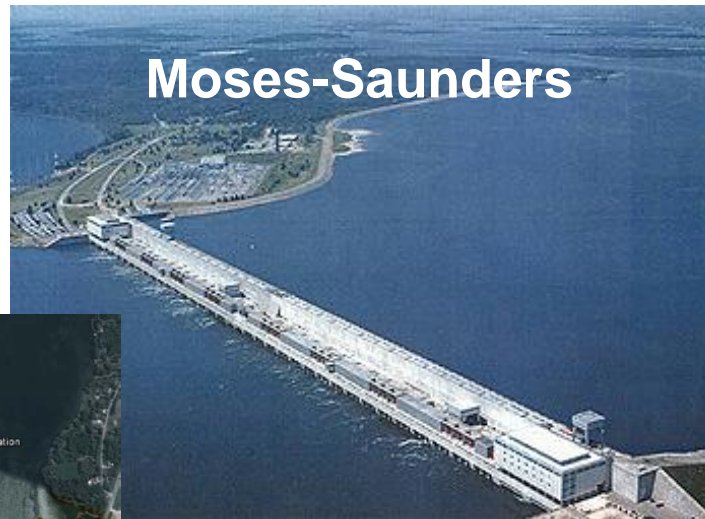
- Identify and develop economical means that are biologically- and operationally-effective in passing downstream migrating adult eels at large- and medium-sized hydroelectric facilities
- Conduct research in St. Lawrence River above Montreal, and elsewhere if it advances the primary purpose of providing safe passage on the St. Lawrence River
 - Other rivers
 - Laboratory studies
- Initial Term: 2013-2017

A Virtual Center



Eel Passage Research Centre

Goal: Maximize survival rate of eels that would otherwise pass through turbines at Moses-Saunders and Beauharnois without significantly reducing power production

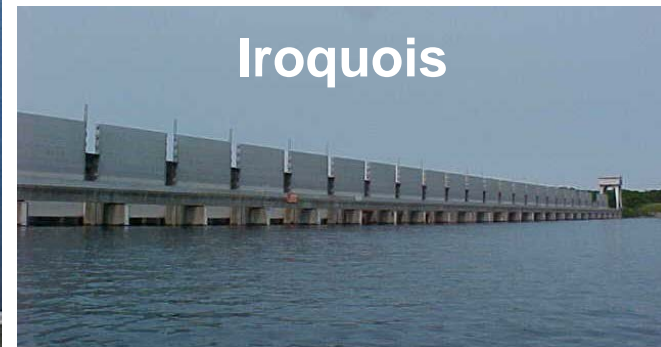
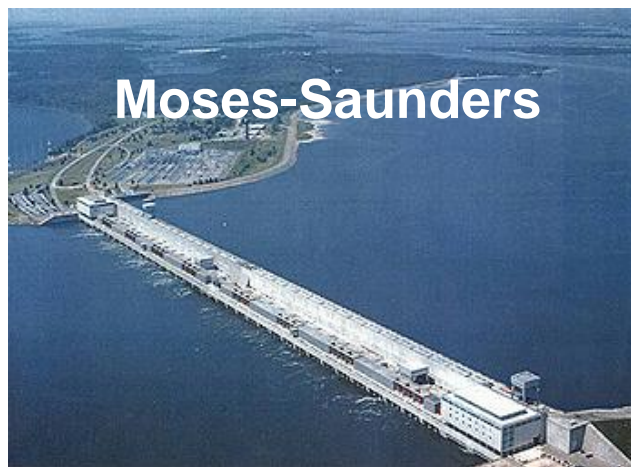


Eel Passage Research Center – Results to Date

- Recruited four funders and \$3.8M in funding
- Finalized Terms of Reference
- Formed Technical and Management Committees
- Four research projects completed



Beauharnois



Technical Committee – Member Affiliations

- Electric Power Research Institute
- Ontario Power Generation
- Hydro-Québec
- USFWS, FEMRF
- Duke Power
- New York Power Authority
- Ontario Ministry of Natural Resources
- Fisheries and Oceans Canada
- Québec Ministry of Sustainable Development, Environment Wildlife and Parks
- NYS Department of Environmental Conservation



Fisheries and Oceans
Canada



*Développement durable,
Environnement,
Faune et Parcs*

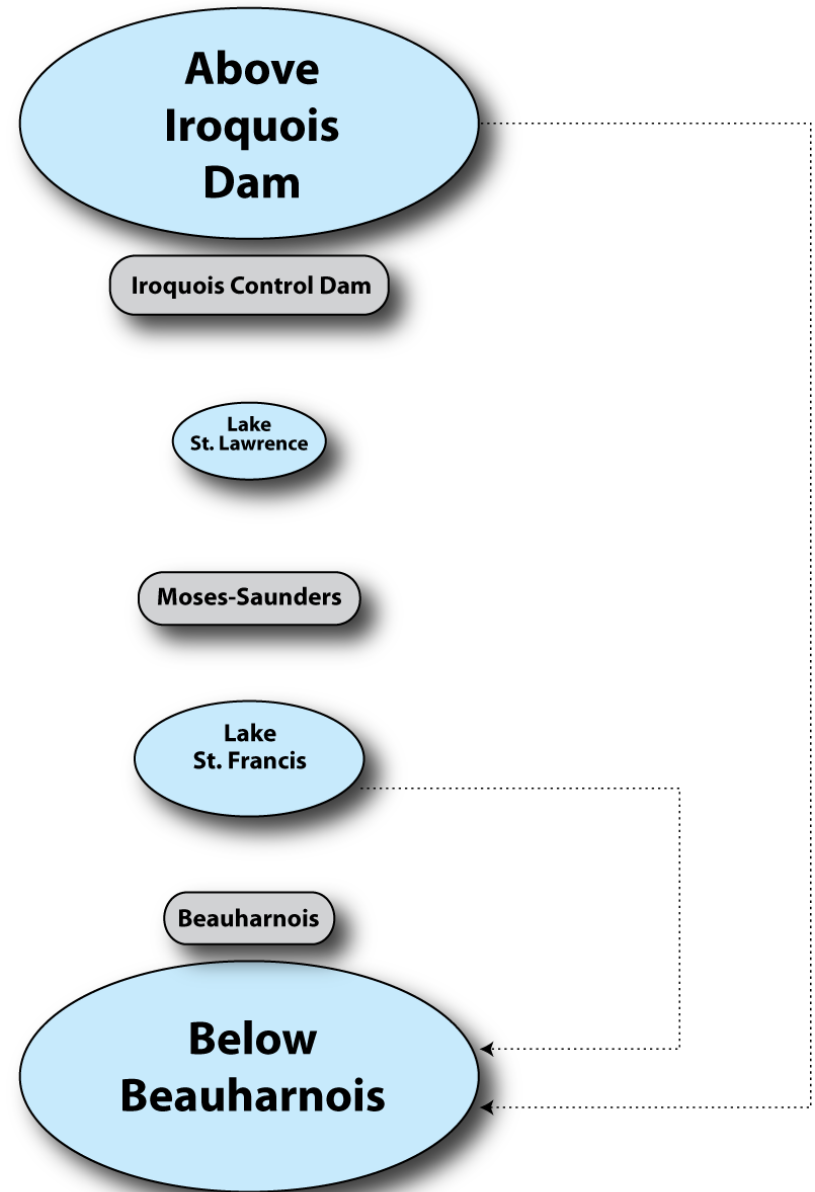


Approach

- Adaptive research and development planning
- Explicit specification of:
 - Research goals and objectives
 - Research questions
 - Decision path
- Revise as new information warrants
- Collaborative decision-making
- Contracted R&D

Where We Are

- Screening infeasible
- Behavioral guidance (e.g. light, electricity) to collection points
 - Above M-S (Iroquois)
 - Above Beauharnois
- Collection and Transport Below Beauharnois



Collaboration

People and Organizational Factors

■ People

- Personality
- Training
- Skills
- Work experiences

■ Organizations

- Mission
- Culture
- Priorities
- Modus operandi
- Resources



Collaboration

Challenges

- Business as usual is inherently adversarial, enforced by:
 - Regulatory processes
 - Participating organizations
- Interactions are dominated by discordant organizational factors rather than shared goals



Collaboration

Benefits

- People factors are leveraged across organizations to achieve shared goals
- Funding base is expanded
- Resources are expended more efficiently
- Mutual trust and understanding are fostered

Collaboration

How

- Commitment to explicitly defined:
 - Goal
 - Process
 - Term
 - Funding level



Up front specification of these terms makes it possible to proceed in a non-adversarial, collaborative manner

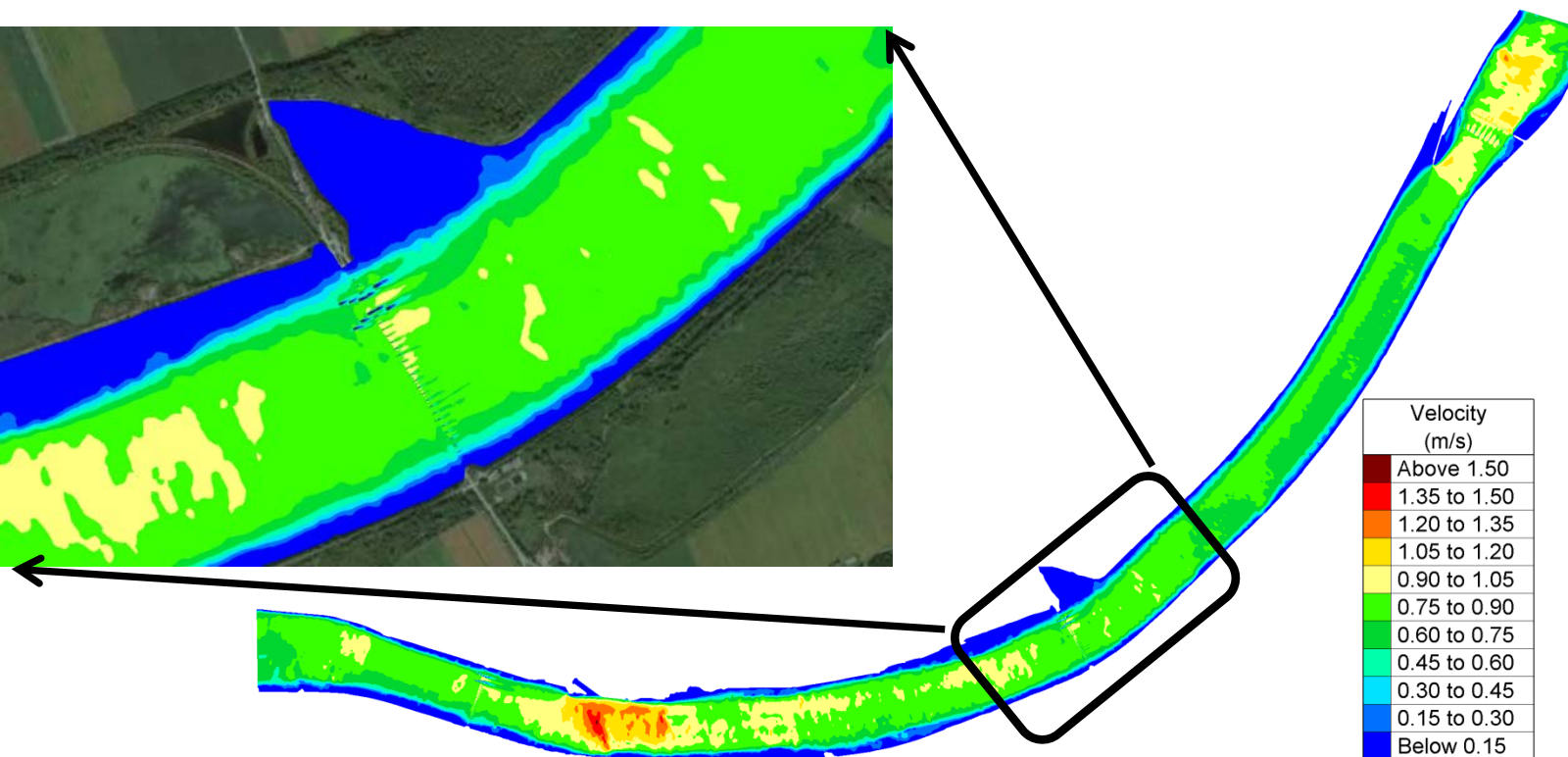
Eel Passage Research Center

- Terms of Reference document specifies:
 - Purpose and scope
 - Goal
 - Approach
 - Administrative structure
 - Decision-making process
 - Funding commitment
 - Term
 - Deliverables



Projects to date

1. CFD Model Development for Iroquois Control Dam and Beauharnois Approach Channel



Projects to date

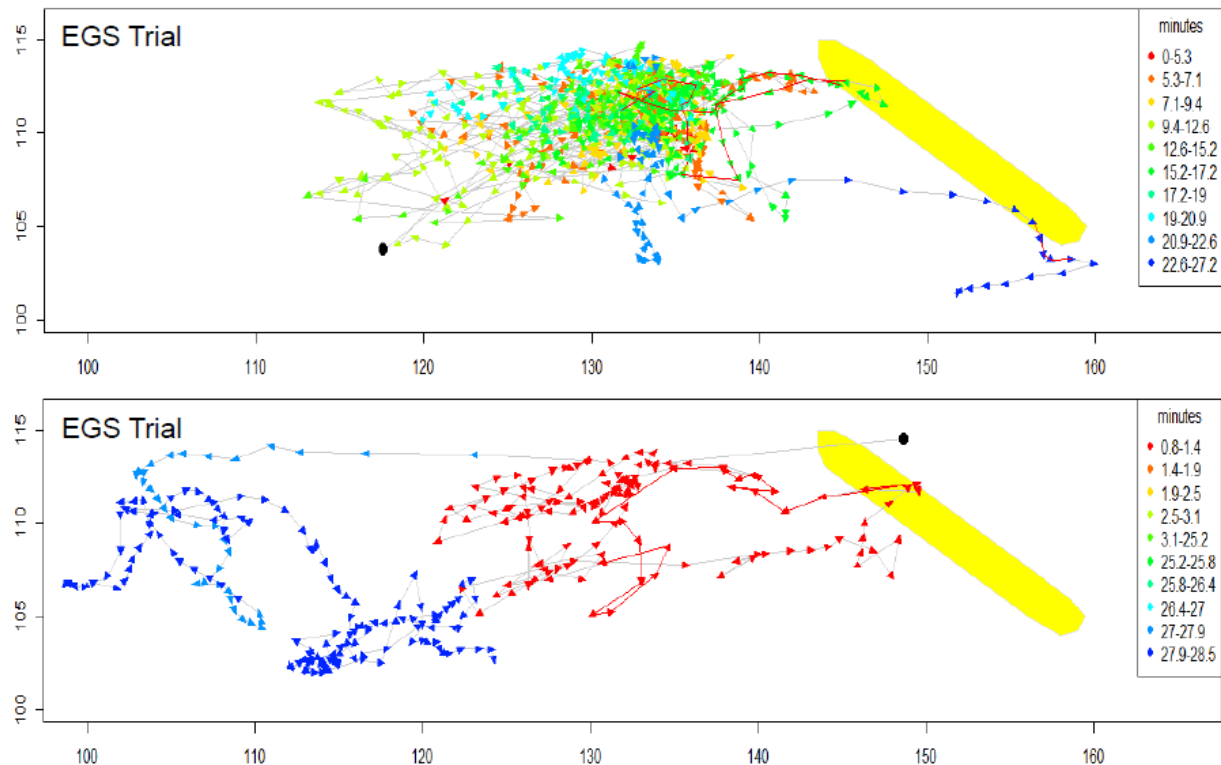
- CFD Model Development for Iroquois Control Dam and Beauharnois Approach Channel

Flow measurements for model calibration (OPG, September 2014)



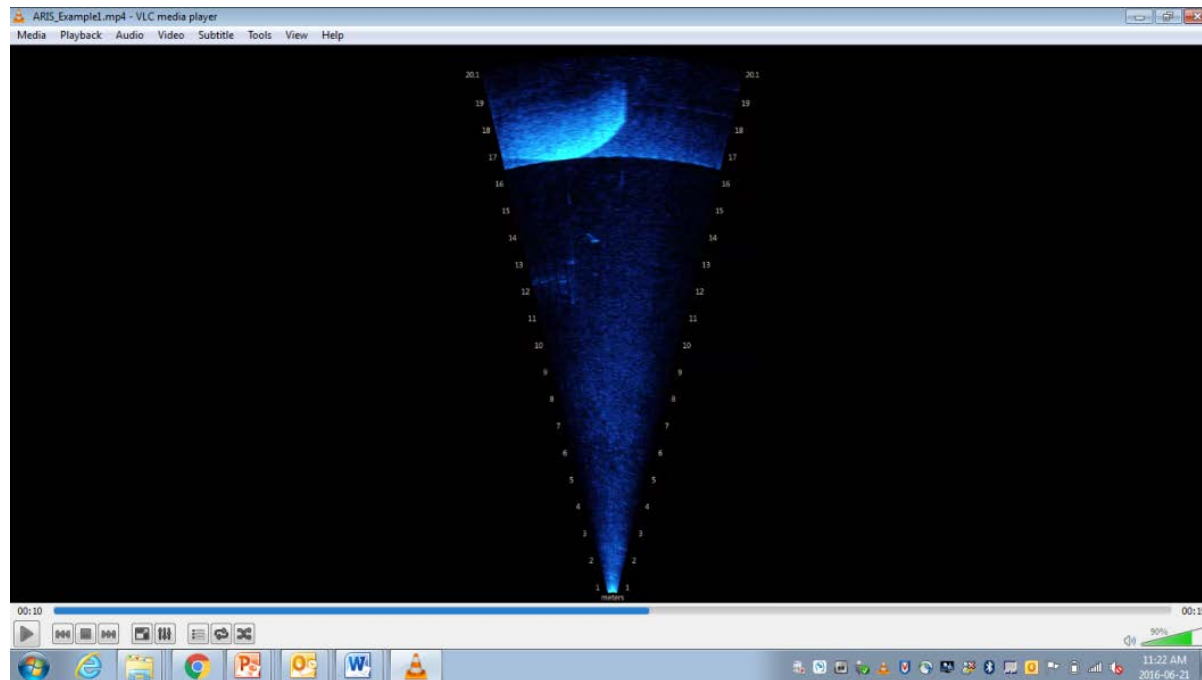
Projects to date

2. Laboratory Studies of Eel Behavior in Response to Various Behavioral Cues (Electricity, Flow, Vibration, EMF)



Projects to date

3. Recent Research on the Effect of Light on Outmigrating Eels and Recent Advancements in Lighting Technology: 2007 to 2014 Investigations
4. Assessment of Hydroacoustic Technologies for Assessing Downstream Eel Migration



Insights and Lessons Learned

1. Willingness to commit to a process rather than an outcome is essential
2. Collaboration is self-reinforcing
3. Engagement is critically important (see #2)
4. Everyone needs to relinquish some room to maneuver (see #1)
5. Deliberations should highlight people factors rather than organizational factors

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