



FERN
FUNDY ENERGY RESEARCH NETWORK

Annual Update of Activities and Accomplishments

April 2010-March 2011

FERN officially launched activities in June 2010 with the hiring of a full-time Coordinator, Lisa Isaacman. The first 6 months focused on setting up the network, including building the website, revising the Terms of Reference, goals and objectives and governance structure (with the appointment of an Executive Committee and Sub-committee chairs), developing a publications and research project database, membership recruitment and communications. Since the Interim 6-month report in November 2010, FERN staff and members have been active - all four subcommittees have met and drafted Terms of Reference and Action Plans, and FERN staff and members have begun work on several collaborative projects.

The FERN Terms of Reference, which provide a summary of the above roles and functions, can be found at <http://fern.acadiau.ca>.

FERN Objectives:

1. To identify and provide guidance on emerging and priority issues related to tidal energy proposals and developments;
2. To facilitate research collaboration and information sharing among government scientists, academia and tidal energy developers to address environmental, socio-economic and engineering issues and challenges associated with tidal energy developments in the Bay of Fundy;
3. To enable creation of research teams capable of obtaining funding to support collaborative research and training of the next generation of highly qualified people;
4. To enhance communication and cooperation among those involved in tidal energy research and development;
5. To develop and maintain productive relationships with regional, national and international groups involved in tidal energy research;
6. To communicate information and research progress through meetings, seminars, conferences, reports, FERN website, and/or other forms of public presentation.

FERN Executive & Sub-committee members

- The executive committee is comprised of two co-chairs (Drs Anna Redden and Ken Lee) and one co-chair from each sub-committee
- Total committee members = 36: 5 Biological/Ecological, 12 Socioeconomic, 8 Engineering Challenges, 10 Hydrodynamics & Geophysics

Name	FERN Committee	Affiliation	Email
Anna Redden	Executive Committee co-chair, Biological/Ecological	Acadia / Acadia Centre for Estuarine Research	anna.redden@acadiu.ca
Ken Lee	Executive committee co-chair	COOGER	Ken.Lee@dfo-mpo.gc.ca
Graham Daborn	Biological/Ecological co-chair	Acadia	graham.daborn@acadiu.ca
Gerhard Pohle	Biological/Ecological co-chair	Huntsman Marine Science	gpohle@huntsmanmarine.ca
Dom Tollit	Biological/Ecological	SMRU	djt@smru.co.uk
Gary Melvin	Biological/Ecological	DFO, St. Andrews	Gary.Melvin@dfo-mpo.gc.ca
Jean-Marc Nicholas	Biological/Ecological	NS Power	
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Dana Morin	Socioeconomics co-chair	Fundy Tidal Inc.	dana@fundytidal.com
Gay Harley	Socioeconomics	Scotian Carbon Services	gay.harley@scotianwindfields.ca
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Tim Milligan	Hydrodynamics & Geophysics	DFO	Tim.Milligan@dfo-mpo.gc.ca

Sub-Committee Activities

All four sub-committees have held at least their 1st meeting between December 2010 and February 2011. The goal of the 1st meeting was generally to establish their general mandate and, at least begin developing objectives and/or activity plan for 2011. Minutes taken for all committee meetings.

Biological/Ecological Effects

- held first meeting Dec 6, 2010. The purpose was to discuss the mandate and priorities for the SC and provide an update on current research activities and findings. A key role of the SC will be to facilitate the development of strategic cross-institutional research proposals for submission to the upcoming OEER and/or FORCE RFPs
- A draft ToR and mandate is currently under review

Hydrodynamics & Geophysics

- Held 1st meeting Jan 28, 2011. The purpose was to draft a mandate, objectives and priority activities for 2011.

Socioeconomics

- Held 1st meeting Jan 24, 2011. The purpose was to identify key priorities/activities and discuss a mandate. Discussion centered on the subcommittee initially focusing on facilitating scenario planning exercises (strategic socioeconomic assessment) to identify priorities, research gaps, capacity and funding opportunities. This will set the groundwork for future initiatives.
- Mandate is currently under revision
- 2nd meeting to be held March 14, 2011 to finalize mandate and discuss initiating a socioeconomic scoping study

Engineering Challenges

- Held 1st meeting Feb 10, 2011. The purpose was to discuss a mandate/scope and objectives/activities for 2011
- Held 2nd meeting on March 10, 2011 to decide upon objectives and identify potential activities for 2011

FERN activities and progress during the period June 2010 – March 2011 is shown in the following table:

Area of activity	Activity	FERN Objective(s)	Current status (as of Mar 2010)
FERN administration	Appointed FERN coordinator (June 2010)	1	Completed
	Held Steering Committee meeting at BIO on Aug. 19, 2010	1	Completed
	Revised Terms of Reference, goals and objectives, and FERN structure	1	Completed
	Appointed new Executive Committee	1	Completed
	Four theme-based sub-committees (Biological & ecological effects, Hydrodynamics & geophysics, Engineering challenges, Socio-economics) held 1 st meetings January – February (see below for details).	1	Terms of Reference and 2011/12 Action Plans drafted. Activities underway.
	Held Executive meeting in Wolfville on Oct. 14, 2010 & Feb 2011	1	Completed
Communication and membership development	FERN website launched October 13, 2010.	1	Completed
	Developed information flyer and membership form	1, 6	Completed
	Flyer and membership forms available on FERN website & distributed at OEER/FORCE workshop & OREG conference	1, 6	Completed
	Articles about FERN were published and distributed through the OREG, BoFEP and ACZISC newsletters.	1, 6	Completed
	Created media releases on history of Fundy tidal power research for distribution through Acadia publications.	6	Completed
	Highlighted current Fundy tidal research and demonstration activities on FERN website	1, 6	On-going
	FERN participation (Chair and/or Coordinator) at regional, national and international marine renewable energy events: <ul style="list-style-type: none"> • OEER/FORCE workshop (Wolfville, Oct 13-14, 2010) • IEA Annex IV Experts Workshop (Dublin, Sept 27-28, 2010) • OREG Conference (Vancouver, Oct. 27-28, 2010) • Renewable Ocean Energy & the Marine Environment Conference (Palm Springs, FL, Nov. 3-5, 2010) • Marine Renewable Energy Legislation Forum (Wolfville, Nov. 2, 2010) • Marine Renewable Energy Technology Roadmap Workshop (Halifax, Feb 8, 	1, 5, 6	Attended

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	2011) <ul style="list-style-type: none"> • Technology Roadmap (Halifax Feb, 2010 and Montreal Mar 2011) • National Standing Senate Committee on Energy, the Environment and Natural Resources hearing on Canada’s sustainable energy future (Halifax, Feb 28, 2011) 		
Projects underway or completed	Awarded National HQ Fisheries and Oceans Canada contract to complete Pathways of Effects logic models identifying potential environmental stressors and effects of marine wind, tidal and wave energy technologies – component of Clean Energy Fund project to develop strategic research plan and regulatory guidance.	1, 2, 5	Underway
	Collaborating with NRCan staff on environmental monitoring technology assessment component of Marine Renewable Energy Technology Roadmap project	1, 2, 5	Underway
	Developing a Bay of Fundy Modellers Network to be hosted on the FERN website to facilitate data sharing and communication among the BoF modelling community, in collaboration with researchers from Acadia Dept. of Mathematic & Statistics (in support of Hydrodynamics & Geophysics subcommittee)	2, 4	Underway
	Compiled an inventory of acoustic devices/companies which may be appropriate for monitoring fish and marine mammals at tidal in-stream deployments. The inventory focuses on companies that provide active acoustic technologies designed for direct attachment to marine structures. Recent applications in tidal stream-related studies in Fundy were noted. Prepared at request of Alstom Hydro.	1, 4, 5	Completed. Forwarded to Alstom. Available on FERN website.
	Establishing a Student Tidal Energy Forum, based out of Acadia, to engage in Bay of Fundy tidal energy related issues. To be composed of Acadia, Dalhousie, SMU, NSCC and Wolfville-area high school students.	3, 6	Initial planning underway. Volunteer student leader / coordinator engaged.
	Overlap and gaps matrix for tidal energy research support services provided by existing Canadian marine energy related organizations (FORCE, FERN, OEER, OREG), with the purpose of identifying potential activities/roles for FERN to fill in	1	Completed
	Compiled available information on environmental monitoring techniques for tidal current power (research publications, monitoring reports, protocols and standards, available from or being developed by other institutions and facilities)	1, 2	On-going

Area of activity	Activity	FERN Objective(s)	Current status (as of Mar 2010)
	Compile list of potential experts to advise FORCE related to environmentally appropriate design of moorings/platforms & other engineering issues	2, 3	Completed
	Provide comments for Nova Scotia Marine Energy Legislation consultations particularly regarding environmental impacts and research and monitoring	1, 2	Completed
	Established/maintaining a clearinghouse for tidal energy related publications (digital and print). List of publications available on FERN website	2, 3	On-going
	Established/maintaining a database of Fundy tidal energy researchers and research activities	3	On-going
	Supported OEER/FORCE tidal workshop (Oct 13-14) steering committee. FERN Chair & coordinator participated on steering committee	1, 3, 6	Completed
	Support ACOA AIF proposal (Acadia, Dalhousie, DFO collaboration) for advancing research on monitoring tools for detecting impacts on aquatic species from tidal power developments	3, 4	On hold
	Opened dialogue with international institutions (EMEC, Wave Hub) regarding potential collaborations & environmental research/monitoring and standards development experiences.	5	On-going

