

Atlantic Salmon in the Miramichi River

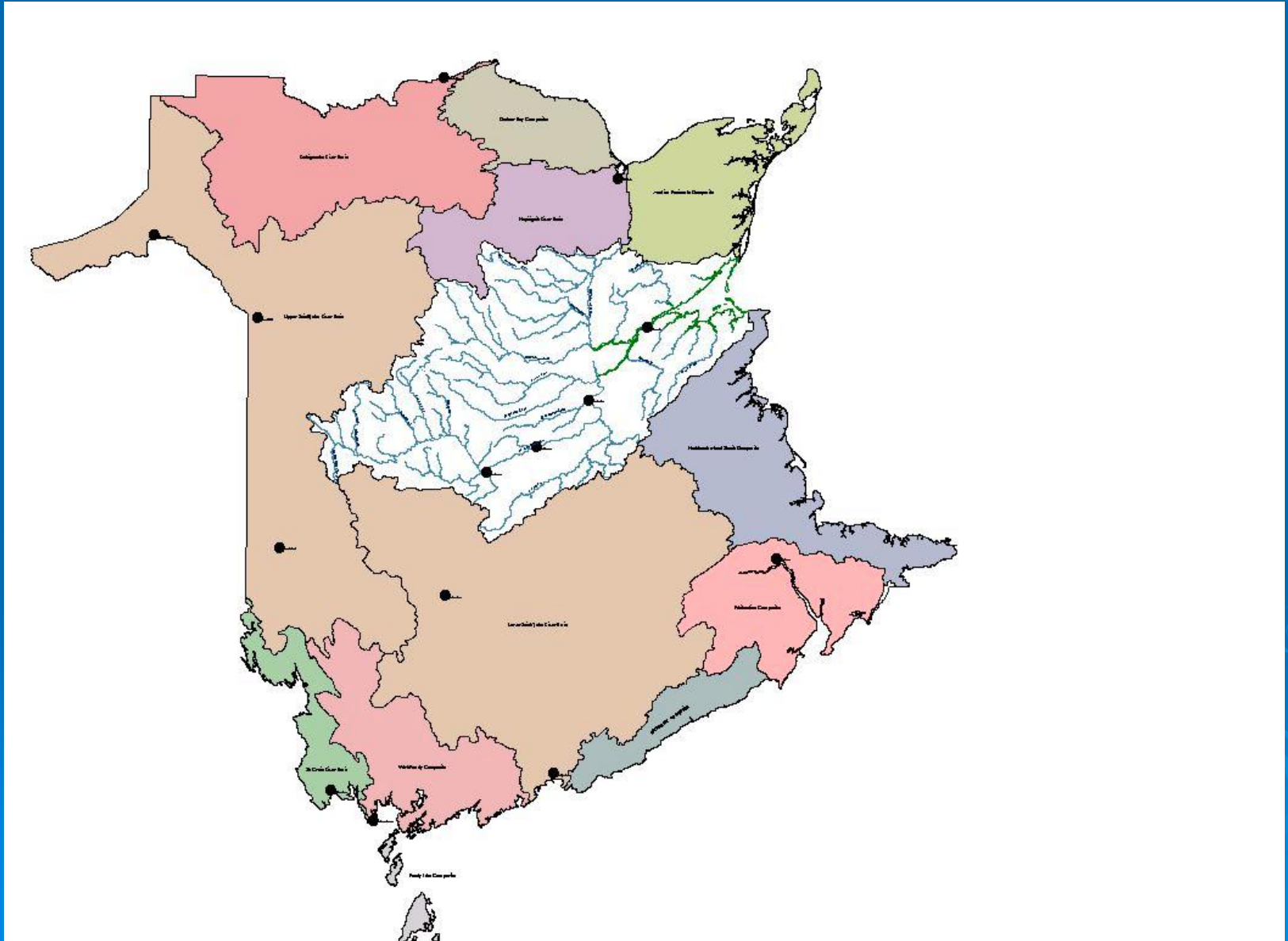


Mark Hambrook

Miramichi Salmon Association

Miramichi Watershed

5,800 km²







Miramichi Salmon Association

- Non-profit group that works on conserving Atlantic salmon on the Miramichi River
- Non-government funded
 - Fundraising dinners, donations
 - Grants for projects
- Conduct a variety of field programs to assess health of salmon on the Miramichi
- Provide advice on salmon management



Miramichi Salmon Conservation Centre



14 07 2001



Saltwater

Wild Atlantic salmon *a wondrous life cycle*



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Adult



Smolt



Parr



Fry



Alevin



Spawning in a Redd



Eggs

Eyed eggs

Visit www.asf.ca
to learn more

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Illustrations by Jud Penman

Freshwater

Environment

- Salmon require clean, cool water
- Symbol of a healthy environment
- Affected by land use practices
- Miramichi salmon are extremely fortunate for no dams and no polluting industries
- Still being seriously impacted in the ocean

Atlantic Salmon Assessment

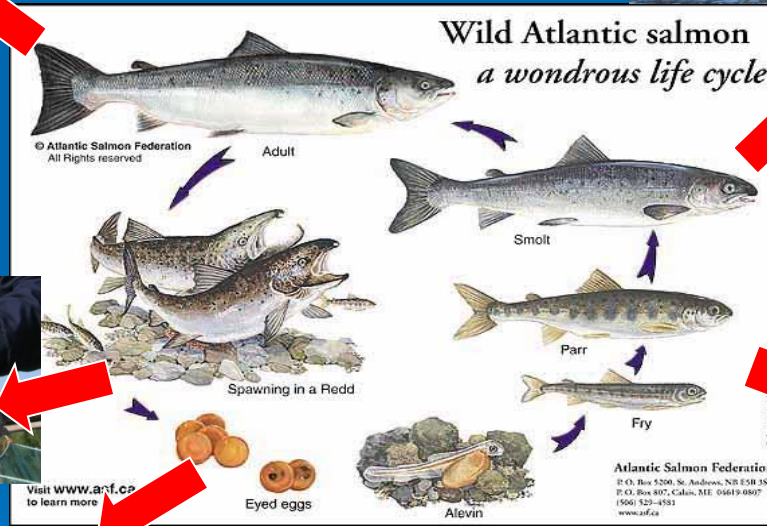
Seines



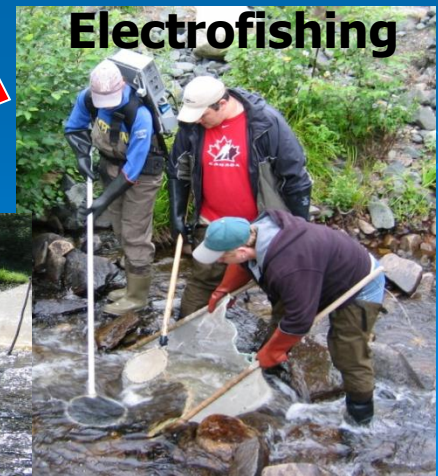
Smolt Wheels and Traps



Trap Nets



Kelts

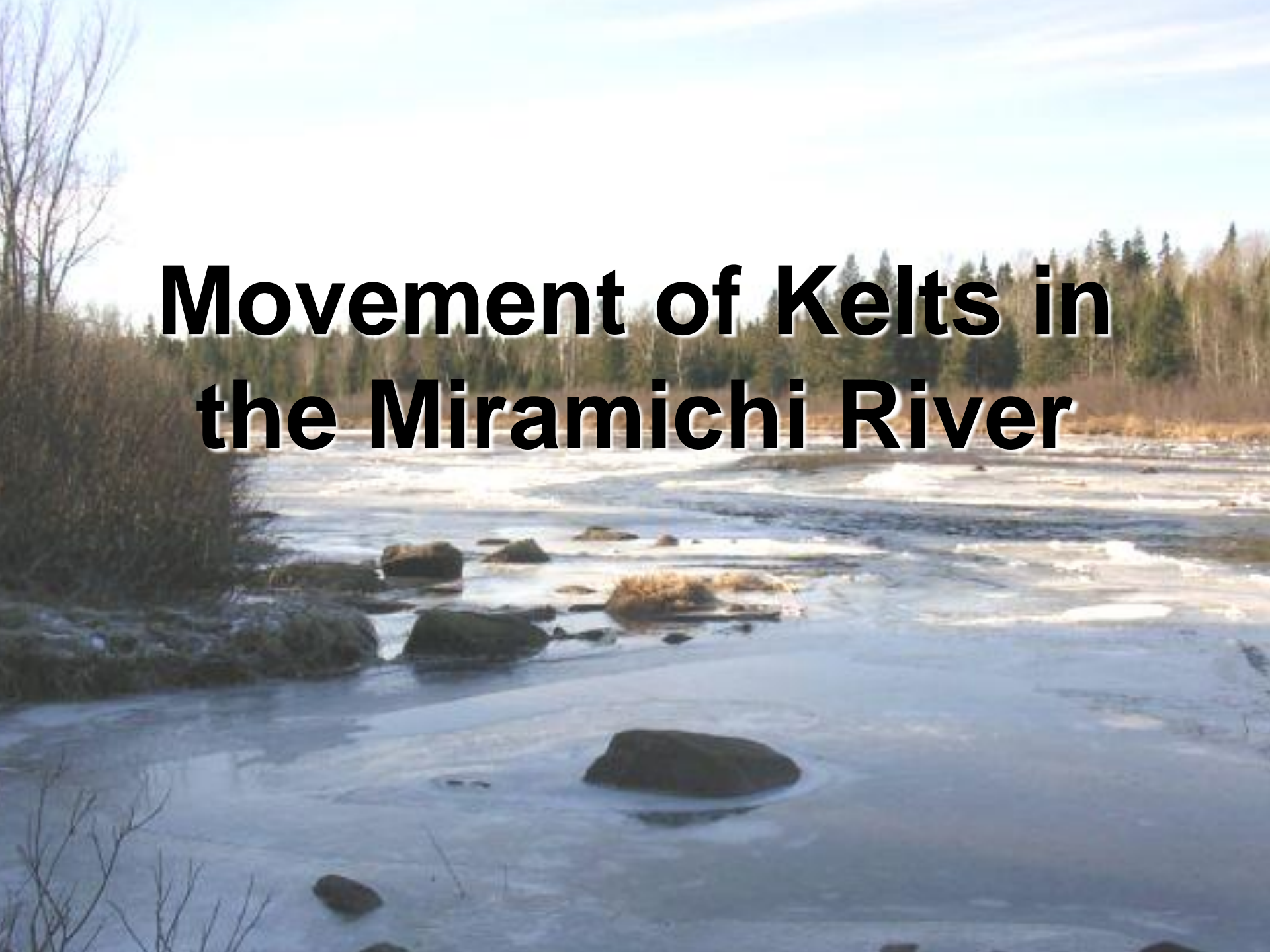


Electrofishing

Egg Production



Movement of Kelts in the Miramichi River



Kelt Tracking

- Kelts are fish that have spawned the previous fall and over-wintered in rivers
- Migrate to the sea after ice out until late May
- ~15-20% will survive to spawn again
- Repeat spawners make about 35% of the large salmon component that return each year
- Alternate and consecutive spawners
 - Consecutive – spawn every year
 - Alternate – spawn every second year

Kelt Tracking Objectives

- Document the survival, timing and migratory pathways of kelts in the river and ocean
- Determine where mortalities are occurring and from what

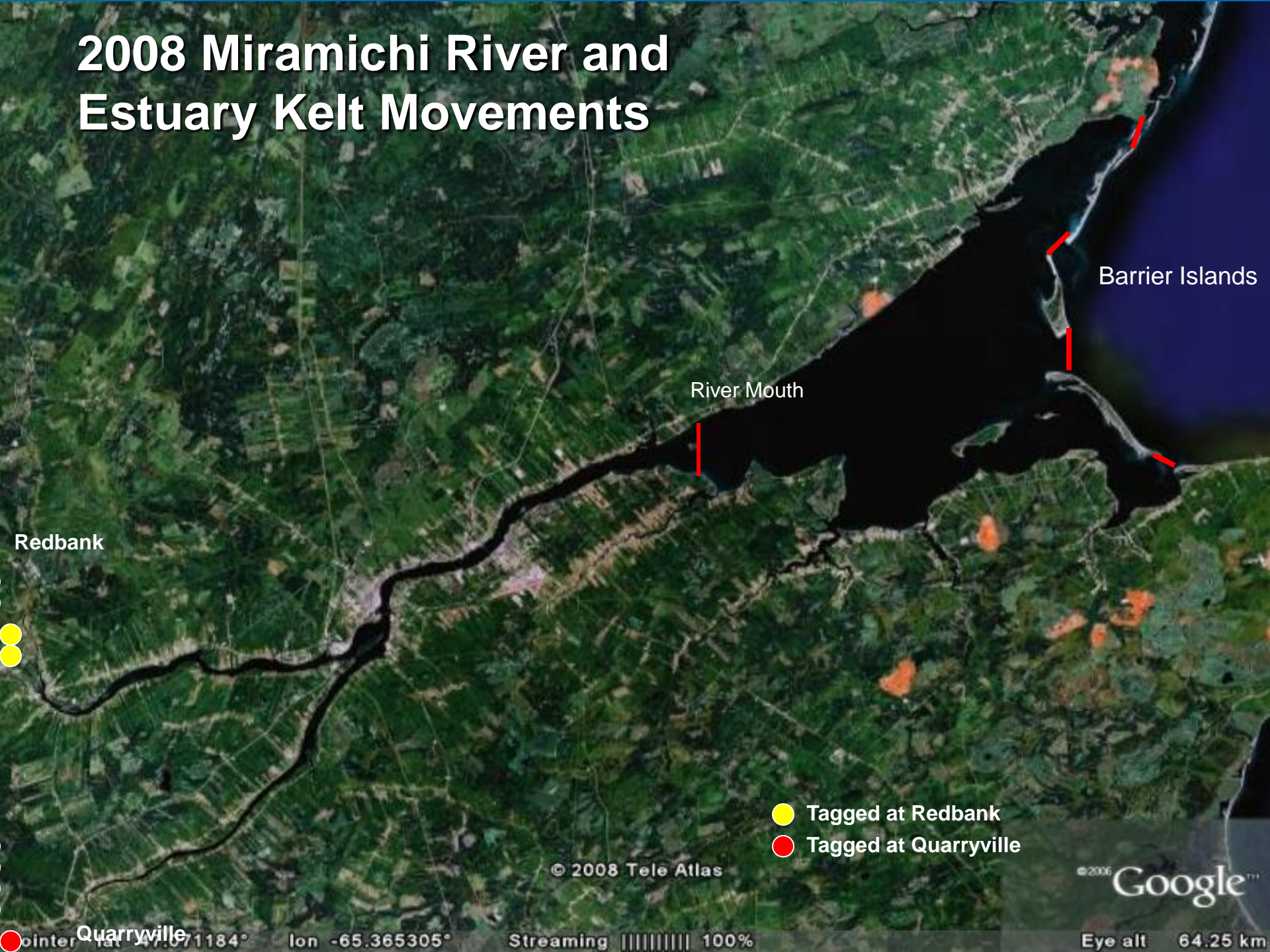


Methods

- Angle kelts in early May
- Implant 50 kelts with transmitters
- Transmitters last up to 2 years
 - Able to detect adults when they return
- Receivers set up
 - Head of tide
 - River mouth
 - Miramichi Bay (outer array)
 - Strait of Belle Isle
 - Cabot Strait (2010 partial)



2008 Miramichi River and Estuary Kelt Movements



- Tagged at Redbank
- Tagged at Quarryville

2008 Gulf of Saint Lawrence Kelt Movements



Results – Tagged Kelts

Location	2008	2009	2010	2011
Head of tide	50	50	50	50
River mouth	48	46	45	47
Miramichi Bay	48	46	45	47
Strait of Belle Isle	22	9	7	15
Returned to river as consecutive	3	4	9	5
Returned to river as alternate	4	0	5	?

Kelt Tracking 2012

- Partner with ASF
- 25 Acoustic Tags
- 10 Pop-up Tags
 - Track fish for 4-5 months
 - Depth, temperature and location
 - Pops off if fish dies or at predetermined time
- Tagged 34 salmon and 1 grilse





1st Detection May 20, 2012

