OUTLINES OF THE QUEBEC GEOGRAPHIC INFORMATION SYSTEM FOR **VOLUNTARY MONITORING** OF INVASIVE ALIEN SPECIES

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NEANS

27th April 2011

WHO I AM ?

- Bachelor of Biology - Animal Ecology
- Master in Forest Sciences - Spatial Structure of Forest Ecosystems
- Doctorate in Geomatic Sciences - Spatial Data Analysis of Ecosystem Structure

BioGeomatician

Ph D

means

Permanent Head Damage

Beyond all this:

I do not take life too seriously,

anyway, I do not get out alive

WE THINK HARD ABOUT SOLUTIONS

- Until now, we mainly monitored the distributions of invasive alien species and the endangered species occurrences

- We have big gaps in available information on the spatial structure of biodiversity, so how to measure impact of invasive alien species on native biodiversity?

Invasion vs Biodiversity

It pose a major **challenge** for regional

conservation planning

THE FINDING OF SOLUTIONS

- Providing informations will not lead to understanding of spread, establishment and impacts of non-indigenous species in our native ecosystems
- We need an efficient data gathering strategy which improves our biodiversity knowledge when we are monitoring the invasive alien species

WE SHOULD FIND SIMPLICITY BEYOND COMPLEXITY

THE PURPOSE OF AN APPLICATION FOR INVASIVE ALIEN SPECIES MONITORING

- We need to change our attention and we now focus on ***where, how*** and ***why the structure of ecosystems*** is more or less resistant to invasions?
- Modeling ***collective properties of biodiversity*** rather than individual entities. We should find the eco-units, their mosaics and measure their susceptibility or resistance to invasions
- For regional conservation planning, we are talking about determining how ***species richness varies with landscape structure and spatial patterns of biodiversity*** and how the invasive species impact on it

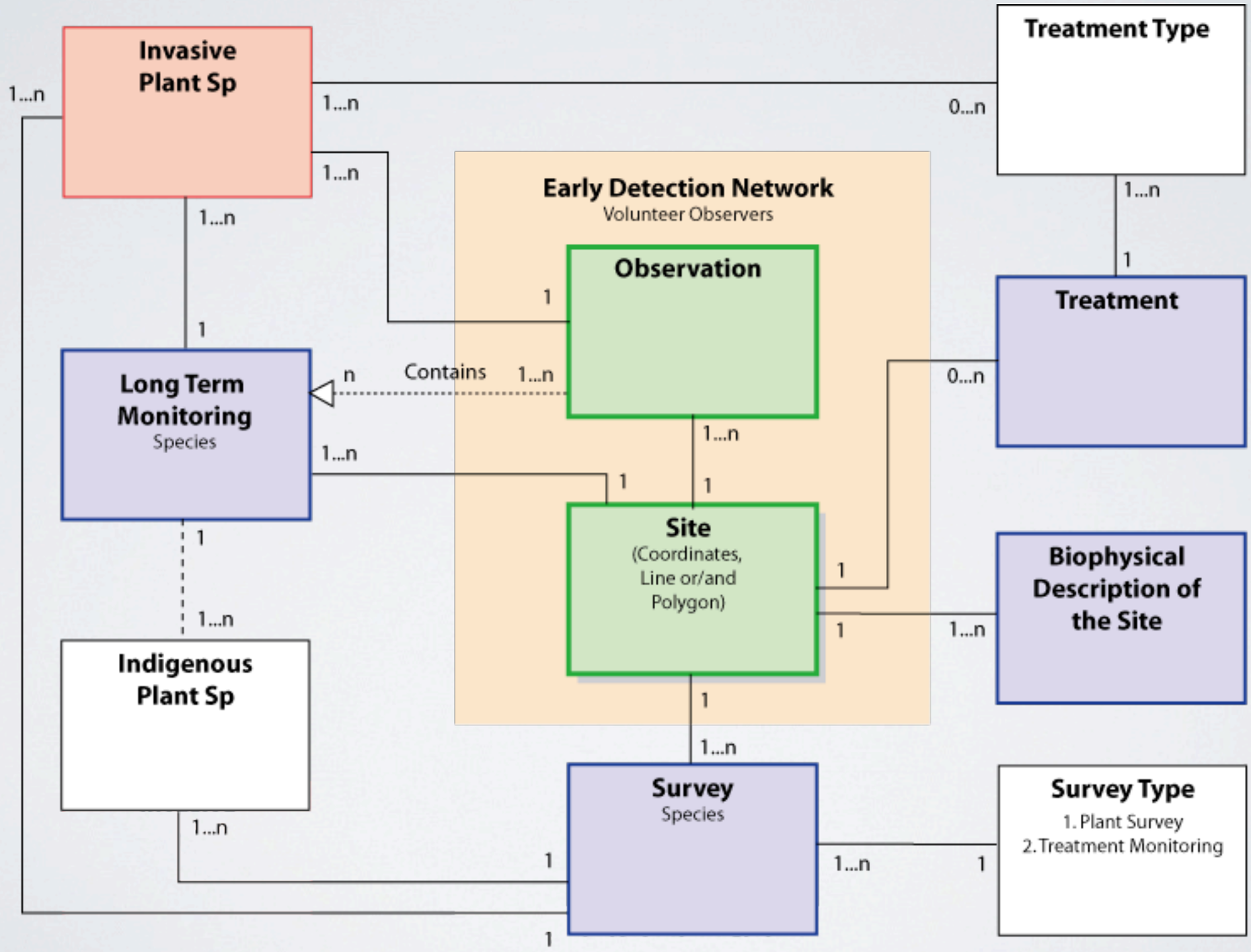
THE COLLABORATIVE BIOGEOGRAPHY FOR INVASIVE ALIEN SPECIES MONITORING

- Time is against us. We need ***fast information collection***, faster than invasive rate, so we need to collaborate
- ***Spatial distribution*** of invasive species must be communicated to the observers and the team's progress against invasion must be monitored
- ***Mapping data*** is important for correlation and causal inference
- So we should have an open collaboration strategy based on ***rich information mapping tools***

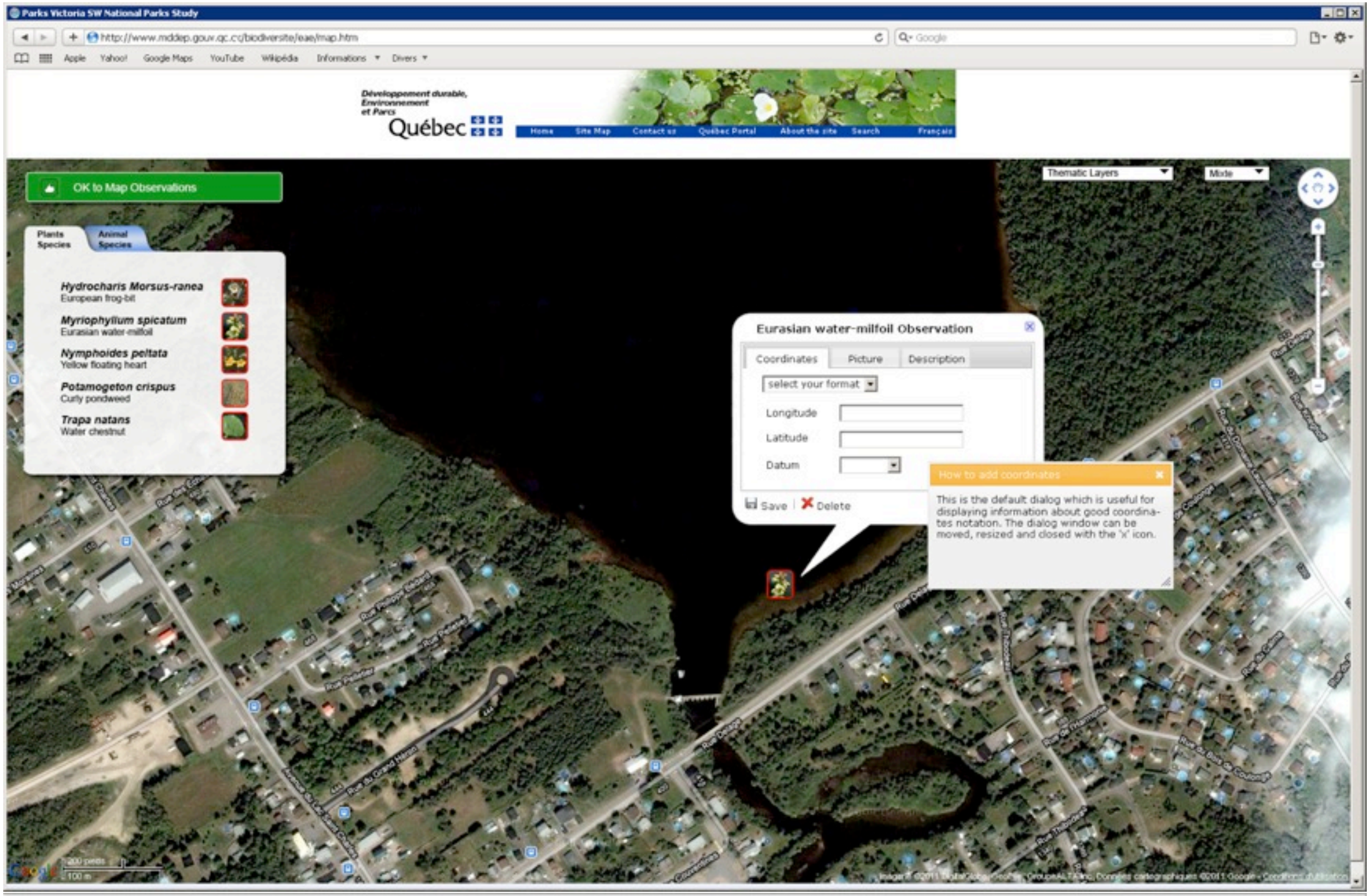
MAP-BASED CITIZEN SCIENTISTS REPORTING PLATFORM

- We are developing a map-based citizen scientists reporting platform that enables public to report and track invasive alien species. The fact that people see their report is the biggest motivation to engage them
- We use ***mobile*** phone and ***WEB*** solutions
- We mash-up ***scientific*** and validated ***citizen*** based information
- We want to see everybody ***pick up the technology*** and be able to ***embrace it***
- So we will use simple and democratic mapping technology

DATA MODEL BASED ON SPATIAL FEATURES INSTEAD OF INVENTORY



WEB 2.0 ARCHITECTURE AND AGILE SOFTWARE REQUIREMENTS



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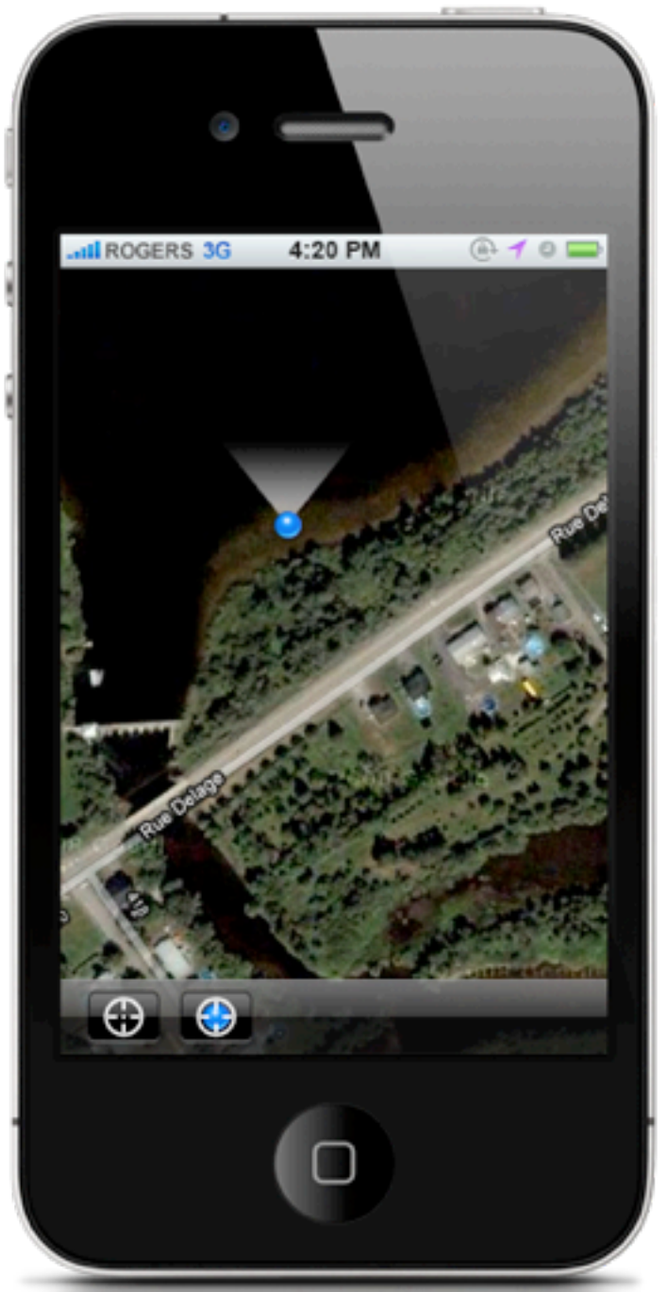

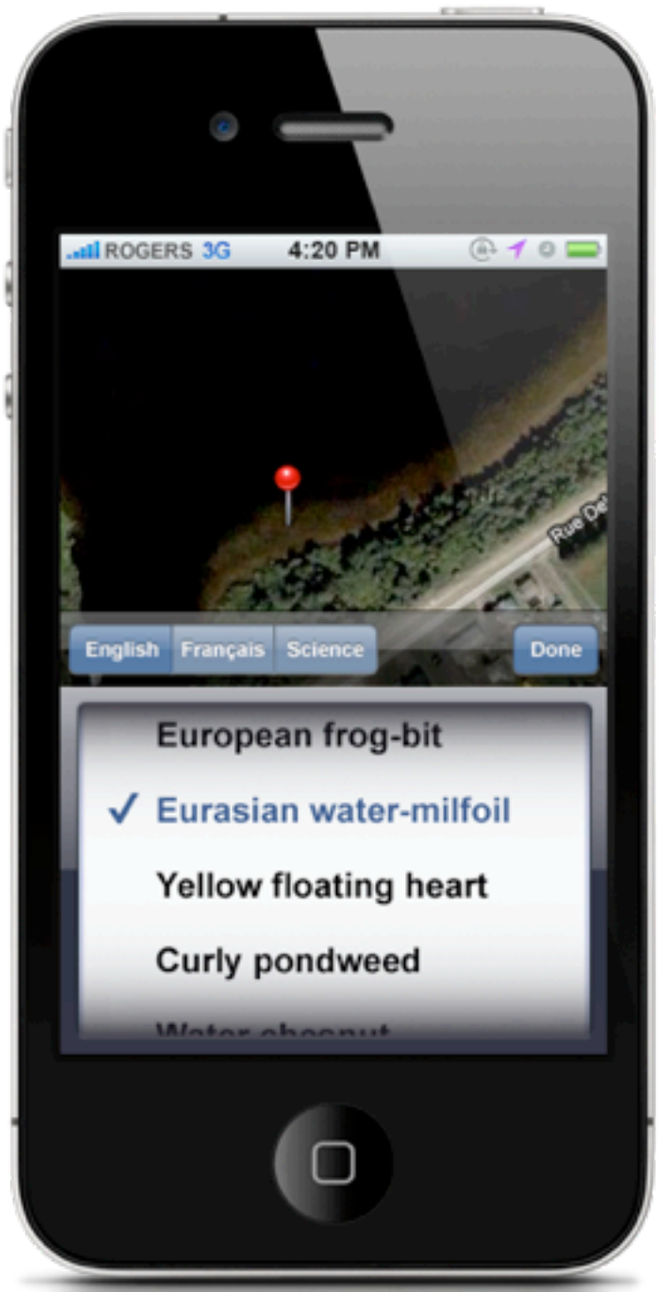

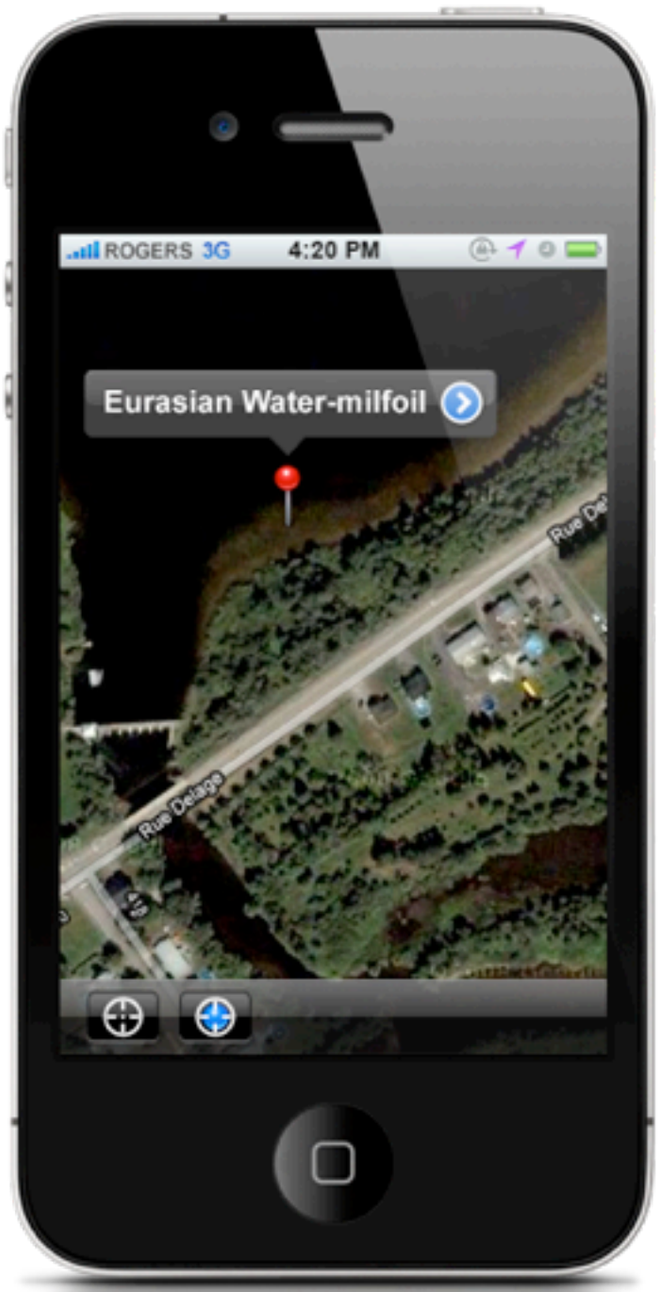

WE ARE STRONGLY OPTIMISTS

This glass is really half full...