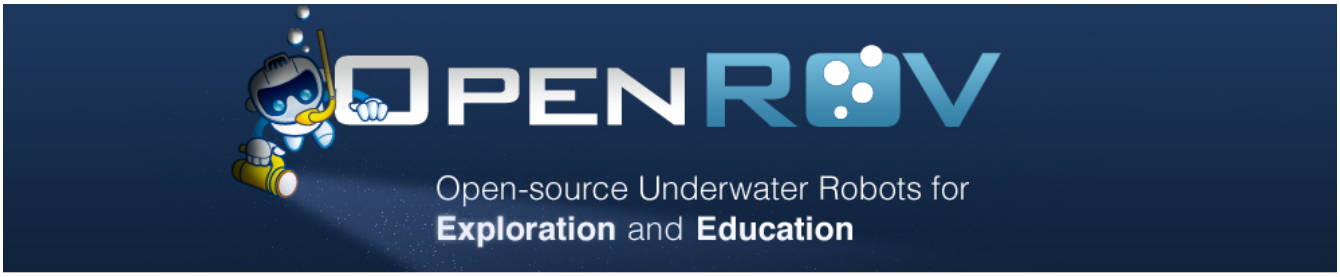


'MVHS Underwater Robots'

Many Thanks To...

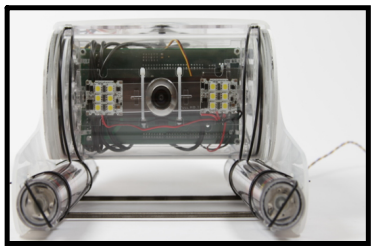
Brilliant LABS

OPENROV

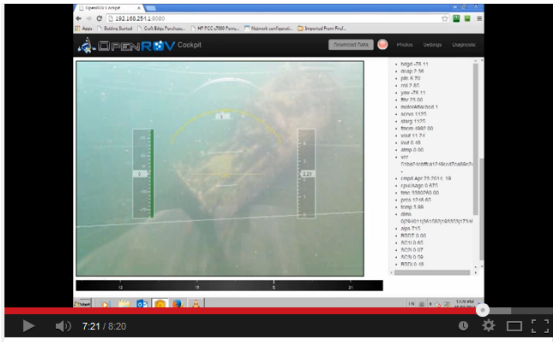
http://openrov.com/

Follow @OpenROV

OpenROV
Like 3,061



What is an OpenROV? What can it do?



OpenROV Dave Murphy Nova Scotia Bedford Basin Princess Lodge Boilers

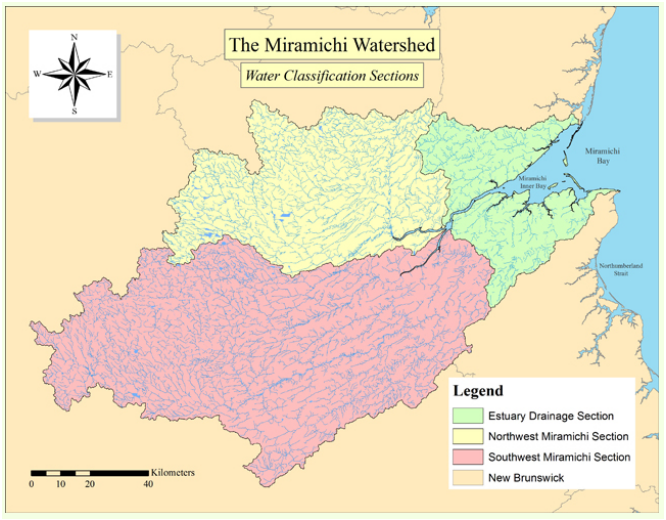
Brilliant LABS http://brilliantlabs.ca/projects/

BRILLIANT PROJECTS
SUPPORTING AND SHARING INNOVATIVE CREATIVE LEADING ENTREPRENEURING EDUCATIONAL PROJECTS

What is 'our' project? What is involved?

- Project...
  - OpenROV Underwater Robot (fully assembled)
    - » join the OpenROV community
    - » document our journey on school website and course blog
    - » familarize ourselves with the device and software
    - » become trained in using the device
  - OpenROV Underwater Robot (kit)
    - » build our own using the necessary tools and kit
    - » use tech resources when needed... (instructions, SKYPE, Youtube, forums, etc...)
    - » make it our own and modify for Miramichi River
    - » test the device and make adjustments
    - » **EXPLORE**...Environmental Science 120 (Sem. 1 or 2)

YOU are the engineers? You do the exploring? You manage the project!

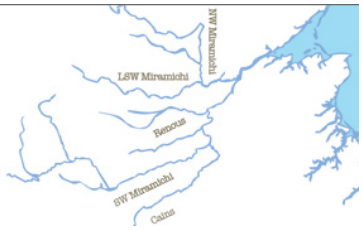


Possible Interested Partners...

MSA CONSERVATION

MIRAMICHI SALMON ASSOCIATION

Leading River Conservation Since 1953



NBCC COLLEGEWORKS

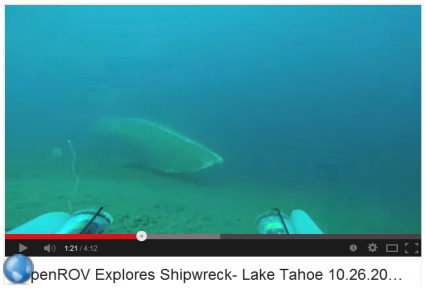
MREAC

MIRAMICHI RIVER ENVIRONMENTAL ASSESSMENT COMMITTEE

Atlantic Salmon Federation

Fédération du Saumon Atlantique

'Underwaters Robots' Project...2014/2015



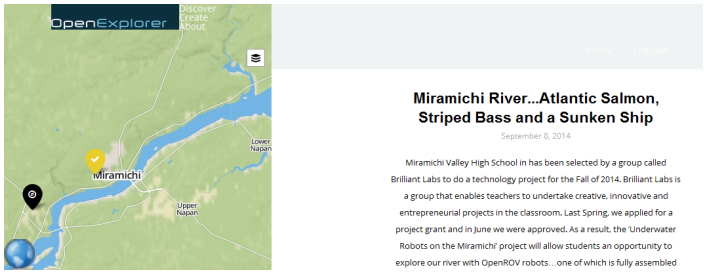
- students from Grade 11/12
- 1st Semester - Computer Science 120
  - > skills on working with device (assembled)
  - > build a second device (kit)
  - > maintain a website about project
  - > project will be evaluated in the course
- 1st or 2nd Semester - Environmental Science 120
  - > will take the lead on using device
  - > rest of class will be participants
  - > research scientific questions....Miramichi River
  - > this will be your Eco-Challenge project

* spread the word... need to get schedule done NOW with Guidance

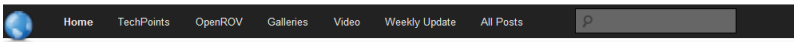
derwater robot
Feb 2013
nguages
anscript
TED
DAVIDLANG

Getting word out...blogging the experience

- OpenExplorer



- ASD-North WordPress



What are the features?

FEATURES:

- Live HD video with wide-angle lens and tilt function
- LED lighting for low-light environments
- Easy-to-use web browser user interface
- Includes depth, IMU, and temperature sensors
- Beaglebone Black AND Arduino MEGA microprocessors for a flexible and powerful developer platform with dozens of input/output channels and plenty of computing power for user-designed features and experiments
- Rechargeable lithium batteries (sold separately)
- 100-meter lightweight 2-wire tether
- Compact and lightweight--backpack or carry-on ready
- Payload area for additional hardware or equipment
- Join our open source community-- find all the software and hardware files online as well as an enthusiastic community to share adventures, ask questions, and meet other people with a passion for exploration

Necessary Items and Tools NOT Included

6 rechargeable lithium batteries / charger

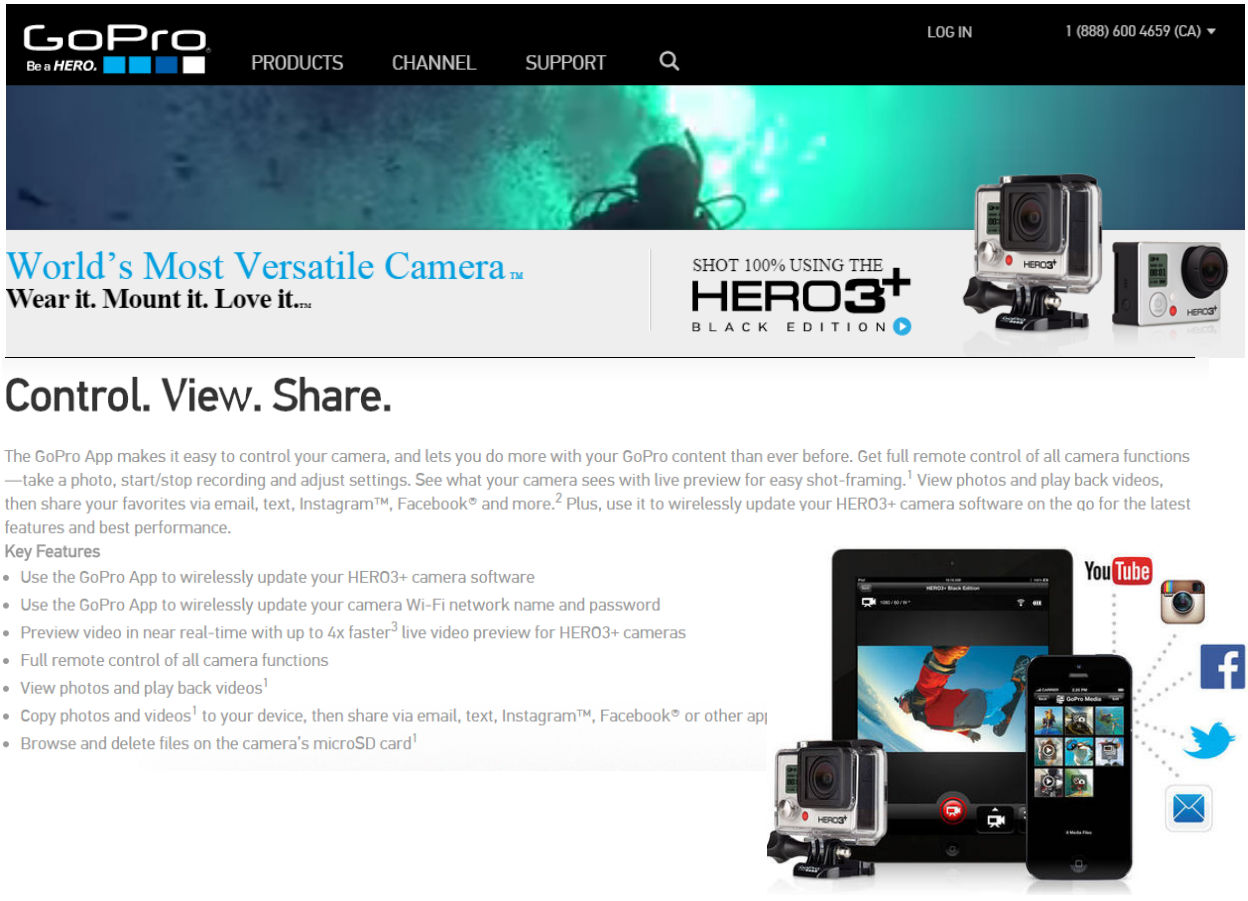
Silicone grease or petroleum jelly for lubricating o-rings
Silicone spray for brushless motor protection and cleaning

Laptop or tablet for topside control

Gamepad controller

IMPORTANT NOTE: **The OpenROV Kit is a perfect introduction into the world of underwater robotics and exploration, but it's still a product for makers/developers. It's a blast to play with, but you should be ready to tinker with it. The kit involves soldering, gluing, and wiring of electronics.**

Do You Like To Build Stuff? Want Some TechPoints?

http://rayhightower.com/blog/2014/09/10/manage-that-openrov-tether/

First dive...testing connectivity of GoPro!