

## Sea Perch Costs

Build one Sea Perch or many, and equip them with a variety of payloads and sensors.

### For each Sea Perch you will need:

- One Sea Perch Kit (approximately \$70)
- One battery and charger (\$30)
- Set of tools — one needed for every two students (approximately \$250)

### Additional Payload Sensors:

- Underwater Camera System (\$200)
- Various sensors and software for measuring temperature, light, depth (\$100 & up)
- Hydrophone (\$50)
- Water Sampler (\$40)

*Subsidies for the purchase of Sea Perch kits may be available.*



### About MIT Sea Grant

MIT Sea Grant is one of a network of 30 Sea Grant programs, funded by NOAA, and located in the coastal and Great Lakes states. Through a combination of research, education, and outreach, MIT Sea Grant works to promote a sustainable marine environment and economy in Massachusetts, the nation, and the world.

<http://seagrant.mit.edu>

## Questions & Comments on Sea Perch?

For more information about the Sea Perch Program, and about MIT Sea Grant's other educational offerings, please contact:

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Or visit the MIT Sea Perch web site:

<http://seaperch.mit.edu>

MIT SEA PERCH  
COLLABORATING ORGANIZATIONS  
Center for Innovation in Ship Design  
Advanced Technology through Collaboration  
MIT's Discover Ocean Engineering

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## The Sea Perch College Program: a hands-on introductory course



Designed to teach  
underwater robotics, mapping,  
sampling, measurement and  
observation

<http://seaperch.mit.edu>

# MIT SEA GRANT

## Introducing Sea Perch

Inspired by the book, *Build Your Own Underwater Robot and Other Wet Projects*, by Harry Bohm and Vickie Jensen, the Sea Perch program was created by the MIT Sea Grant College Program in 2003.

In this program, students learn to build a simple, remotely-operated, underwater vehicle, or ROV, from PVC pipe and other easily-available materials.



MIT has used the Sea Perch program as an introduction to Ocean Engineering as well as to introduce undergraduate courses such as “Fundamentals of Engineering Design” as well as “Engineering the Ocean.”

**Sea Perch is a great tool to get college students interested in science, technology and engineering!**

But Sea Perch is not just for budding oceanographers, engineers and marine scientists. Sea Perch can also be an effective springboard into subjects as varied as seafaring literature, topics in math and physics, and the history of underwater exploration and archaeology.

## Introducing Students to the Basics of Science and Engineering

The Sea Perch curriculum allows students to integrate knowledge from different disciplines, in **a start to finish cycle that includes designing, building, and deploying the Sea Perch on research missions.**

Ongoing support for Sea Perch construction is provided by our web site which includes:

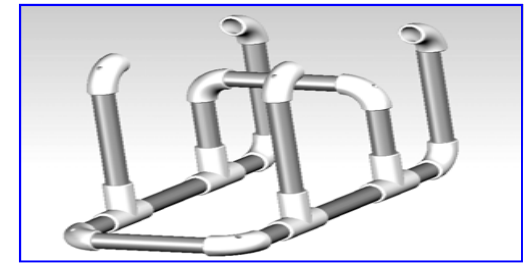
- Current Sea Perch construction manual, parts list, and safety manual for students
- Both a 3-D interactive program and a video clip detailing construction of a Sea Perch
- “Perch Chat,” an online discussion forum for teacher and students to exchange information on technical issues, as well as ideas for classroom and curriculum integration
- Information on building an Advanced ROV and the Sea Star Surface Craft

<http://seaperch.mit.edu>

## Sea Perch: An international Initiative

An international initiative, Sea Perch has trained over 300 educators in 17 U.S. states and abroad in settings including:

- Colleges and universities
- Semester-at-sea programs
- Museum education programs
- Elementary, middle, and high schools
- After school programs and summer camps



## Teaching Engineering with Sea Perch

The Sea Perch program provides students hands-on experience designing and building a vehicle for underwater use. In the process of building the Sea Perch students learn:

- Principles of design
- Designing for buoyancy
- Principles of underwater communication
- Scientific measurement & analysis
- Sensor development
- Methods of water proofing
- Electrical wiring and circuit assembly

## Sea Perch in Action

Once built the Sea Perch can be used to:

- Collect environmental data such as light, depth, and temperature via sensors
- Explore underwater habitats
- Listen below the water line
- Collect water, sediment, and plankton samples

