

## Newsletter #2

**SUPPORT CITIZEN  
SCIENCE ON GIVING  
TUESDAY**

Give to TurtleCam!



**FOUR TURTLES  
TAGGED BY TEAM  
TURTLECAM**



**MIKE DODGE LANDS  
OUR SUCTION CUP  
TAG WITH PRECISION**



**ENDANGERED  
LEATHERBACKS  
NEED YOUR HELP**

# PROJECT TURTLECAM



## UPDATE

The TurtleCam team successfully tagged four leatherback turtles around the shoals of Cape Cod and the Islands this past fall. Our first attempt at tagging a turtle with our new suction cup tag design (see pic on page 2) was flawless allowing us to track a mature female turtle, named Jean after a Project TurtleCam donor, for nearly six hours. We became the first research team to tag, track and film a sea turtle with an AUV ever in open water while collecting a full suite of physical and biological oceanographic data with our robot's sensors.

**As seen from  
TurtleCam, Jean  
the turtle comes up  
for a breath near  
the steamship ferry.**

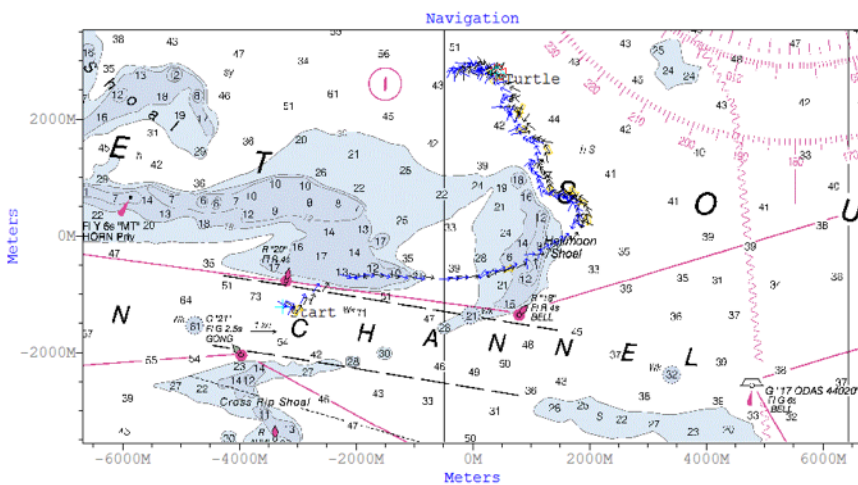
Our project, with your support, gives researchers an opportunity to learn about turtle behavior and feeding dynamics in coastal habitat where turtles face many challenges such as maneuvering around high density fishing gear fields, crossing ferry lanes while zigzagging for jellies between shoals, and narrowly avoiding the props of fast-moving boats blasting through fishing grounds where these vulnerable turtles feed.

## What we accomplished (and we are not done!):

- ▶ Tagged four leatherbacks in four days of operations thanks to the watchful mariners who reported sightings in the Cape Cod area. For our local supporters, please report sea turtle sightings to 1-888-SEA-TURT or use your phone to submit an online report at <http://www.seaturtlesightings.org/>. *These reports have been integral to our success in finding these elusive turtles!*
- ▶ Collected nearly 18 hours of REMUS AUV TurtleCam footage and 14 hours of tag camera footage from the turtle's perspective to be analyzed.

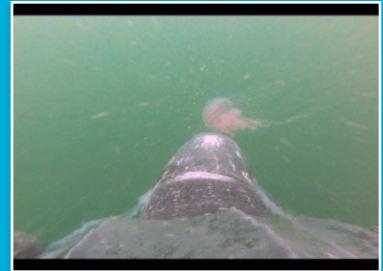
### Up next:

- ▶ A winter of data processing and analysis;
- ▶ More fundraising to continue and expand our study;
- ▶ Manuscript prep and sea turtle conferences
- ▶ Many talks are in the works to discuss our project results (please check our websites for updates if you are interested in attending).



We tracked four turtles for a total distance of 36 miles around Cape Cod shoals and ship channels. The above chart shows Jean traveling 9.5 miles up/down and horizontally feeding on a menu of sea nettles and crystal jellies, while providing habitat for many small fish looking for protection and an easy meal. Leatherbacks here are occasionally attacked by an aggressive bluefish, like turtles don't have enough to worry about!

## Robots, Jellies and Turtles



Atlantic sea nettles (pictured here from TurtleCam) are just one "flavor" of jellyfish eaten by leatherbacks. These turtles travel thousands of miles every year to feast on jellyfish in New England. Understanding feeding behavior is critical to conservation efforts.

## Talks and other items:

- ▶ Stay up to date on 2017 talks and lectures on TurtleCam as well as video updates here: <http://www.whoi.edu/osl/turtlecam>
- ▶ We hope to be back out on the water in 2017, will you join us? Stay in touch!



Top left photo shows new suction cup tag design with two cameras, one looking back and the other forward in order to capture flipper movements, jellyfish diet and consumption rates. These cameras also showed the many fish species that interact with leatherbacks.

Top right photo shows tag mounted on leatherback taking a few breaths at the surface.

Bottom photo shows TurtleCam AUV complete with great white shark bite marks from its last shark mission. This robot has six cameras on board.

Thank you to all of our wonderful donors, and a special thank you to Falmouth High School ceramics students for selling their TurtleCam inspired artwork, raising \$900 to benefit our research!  
Amy and Kara

