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Research



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Deployment of biologging tags on free swimming large whales using uncrewed aerial systems

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NMFS
#23644

Pole Tagging

Small boat close approaches

Potential for strong reactions

Can be stressful, dangerous



NMFS
#18636-01

DFWR

Drones for Whale Research
Program
at Ocean Alliance



Noninvasive Health Assessments



Novel Tools and Methods



Democratizing Science

SNOTBOT™



Feasibility Study



CATS tags and DTAGs

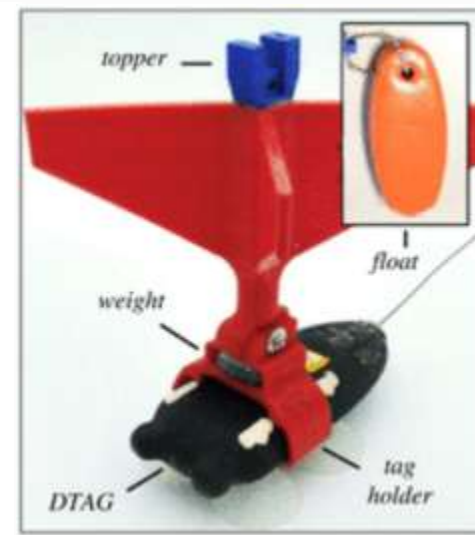
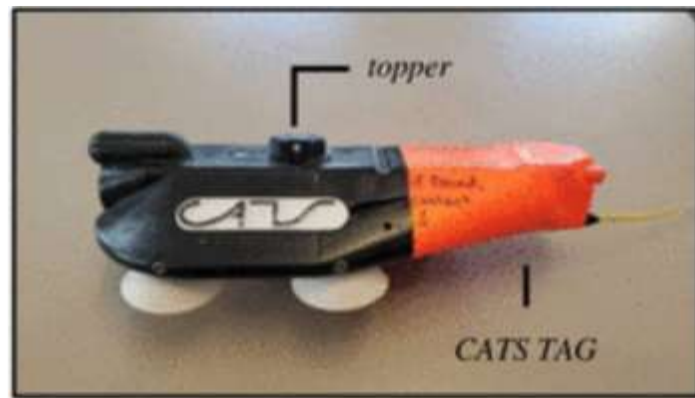
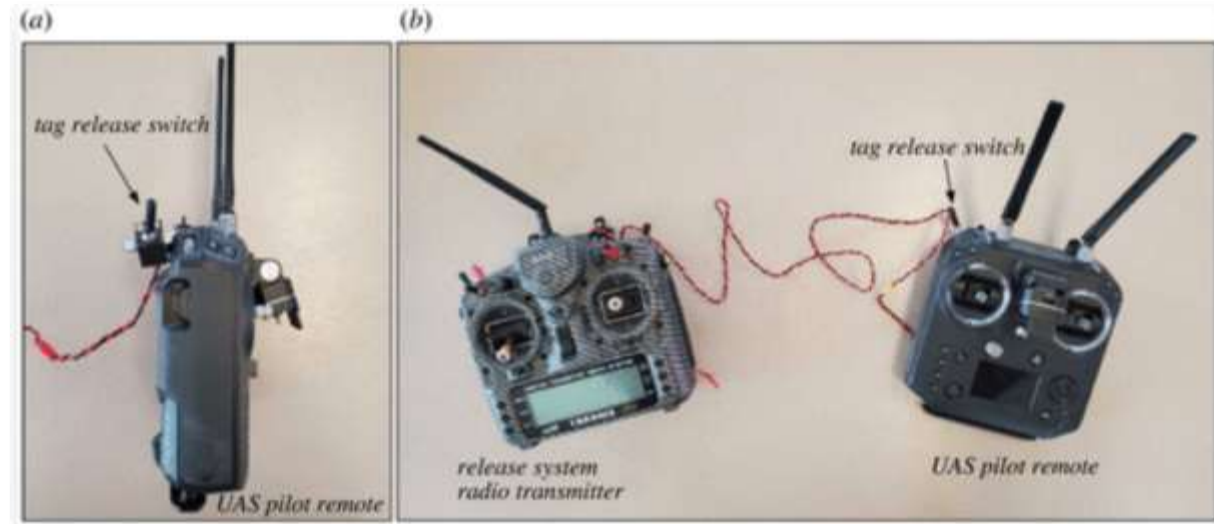
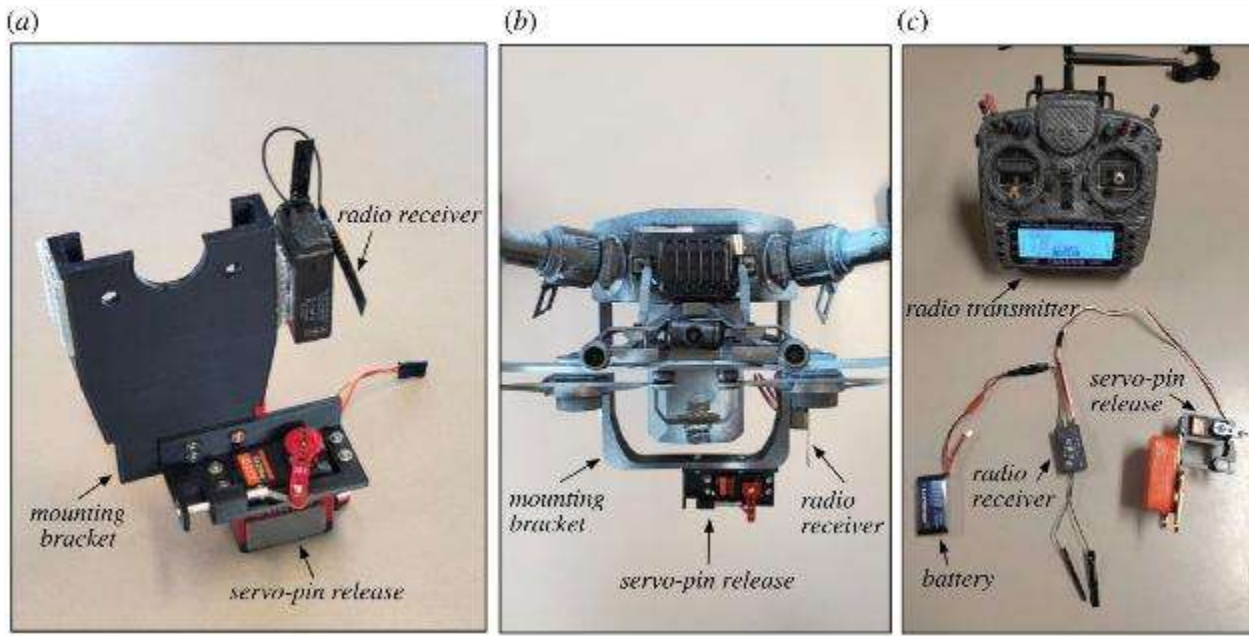
- Using “off the shelf” tags



Initial designs

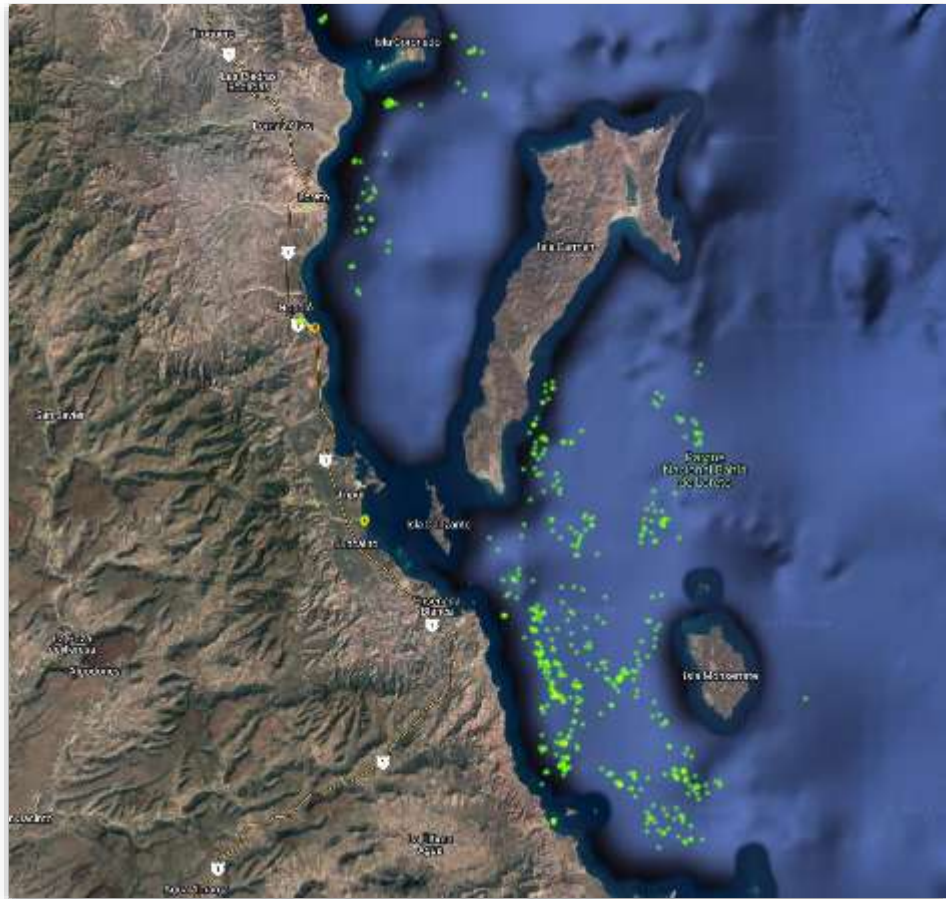
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2022 Field Test

SNOTBOT™ GOES TAGGING



(a)



(b)

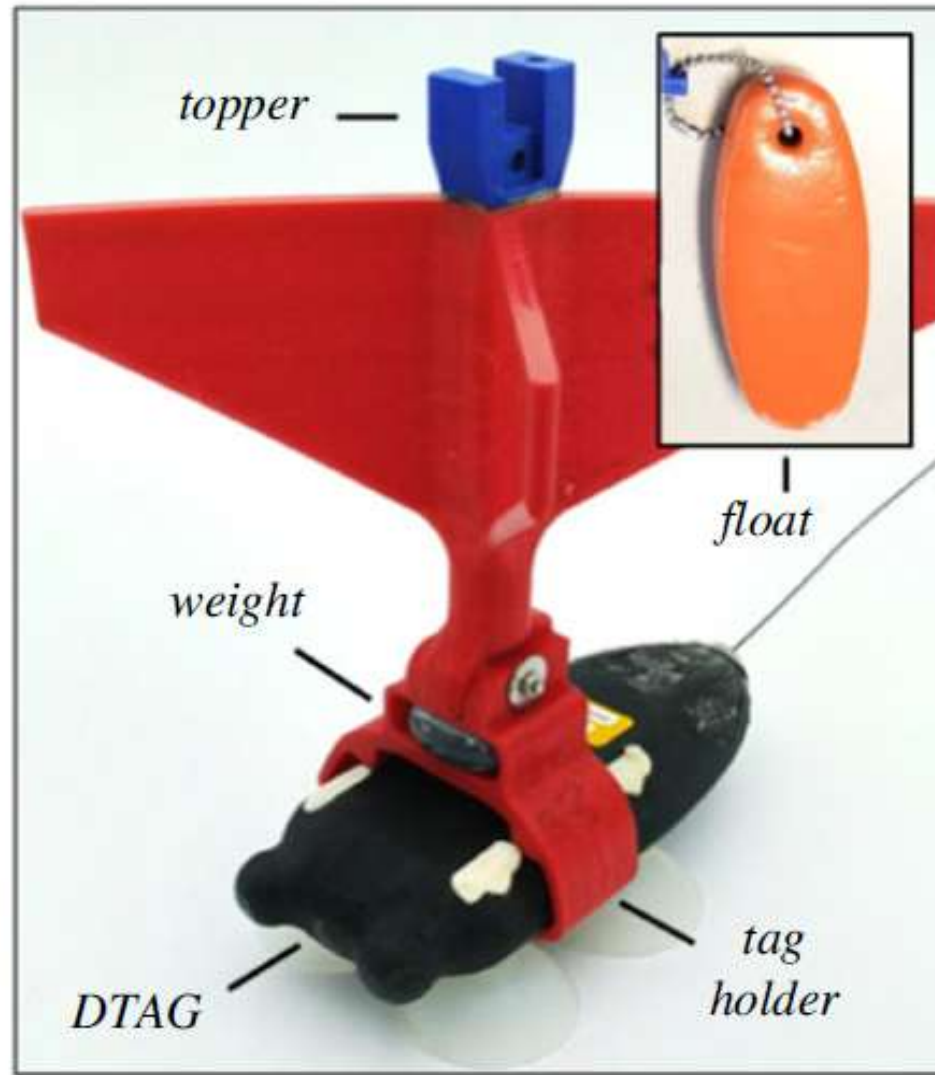


Figure 2. (a) Hand launching assembled M210 V2 with the DTAG deployment package. (b) DTAG drop system components.

CATS tags and DTAGs





First Field Test Results

Successfully deployed 20+ CATS and DTAGs blue and fin whales



value	Distance From Launch at Drop (m)	Time from Contact to Drop (mm:ss)	Time from Launch to Drop (mm:ss)
Mean	490.1	01:05	02:45
SD	235.8	01:19	02:15
Range	90.1 - 1048.8	00:10 - 08:25	00:43 - 12:20

Gulf of California Tagging 2022

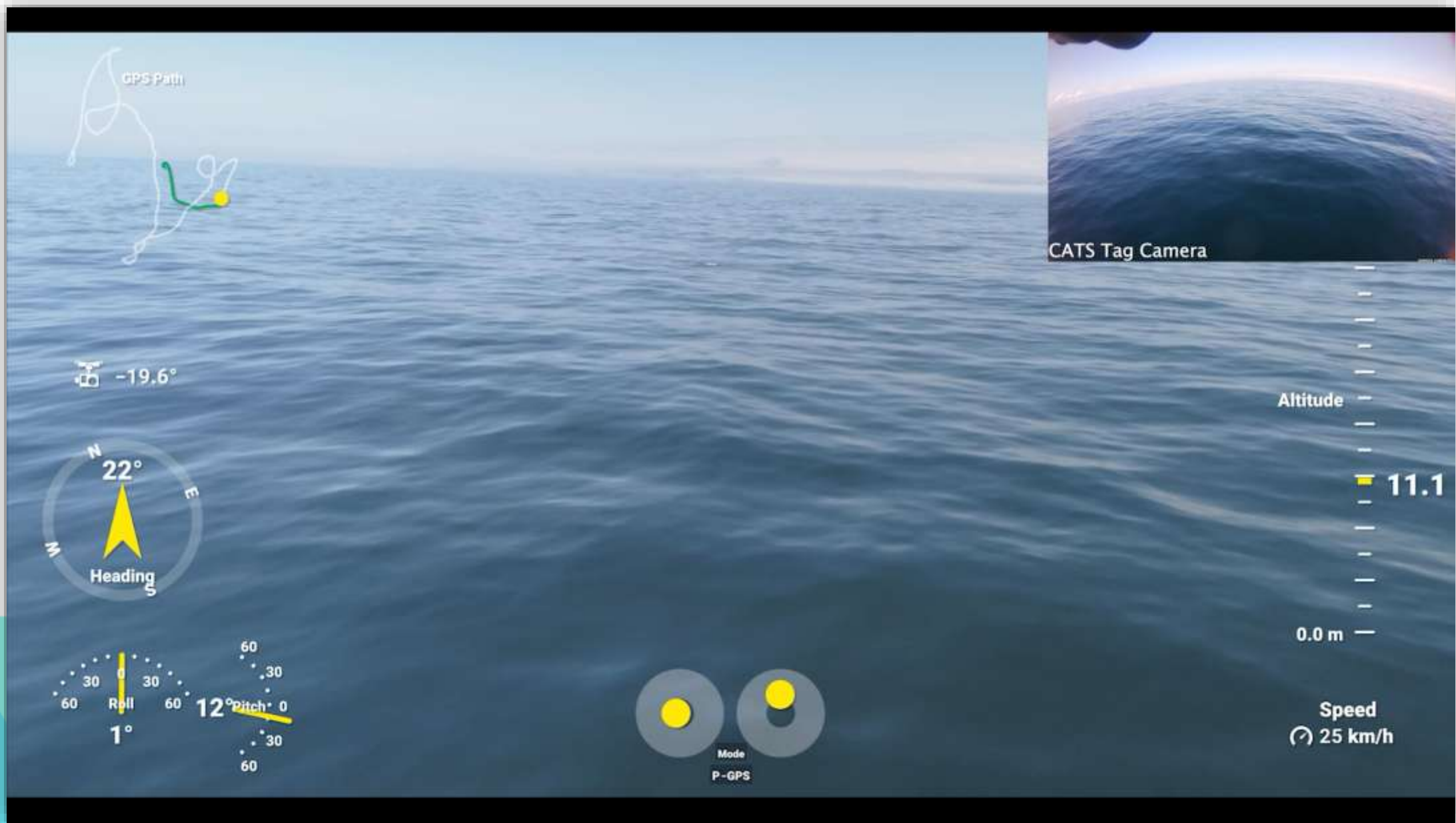
First Field Test Results

Successfully deployed 20+ CATS and DTAGs blue and fin whales



58% overall success rate
(21 attachments/36 drops)

Tag type	# of tag attempts (drops)	# of tag landed on whale	% successful landings	# of successful attachments
CATS	10	8	80% (8/10)	5 50%
DTAG	26	18	69% (18/26)	16 62%
Total	36	26	72% (26/36)	21 58%



NMFS # 23644

Whale.org

North Atlantic Right Whales



NMFS #24359



Whale.org