

# Deep Neural Networks for Automated Detection of Marine Mammal Species

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Ocean IoT class presentation

# Why do we need to detect marine mammal species?

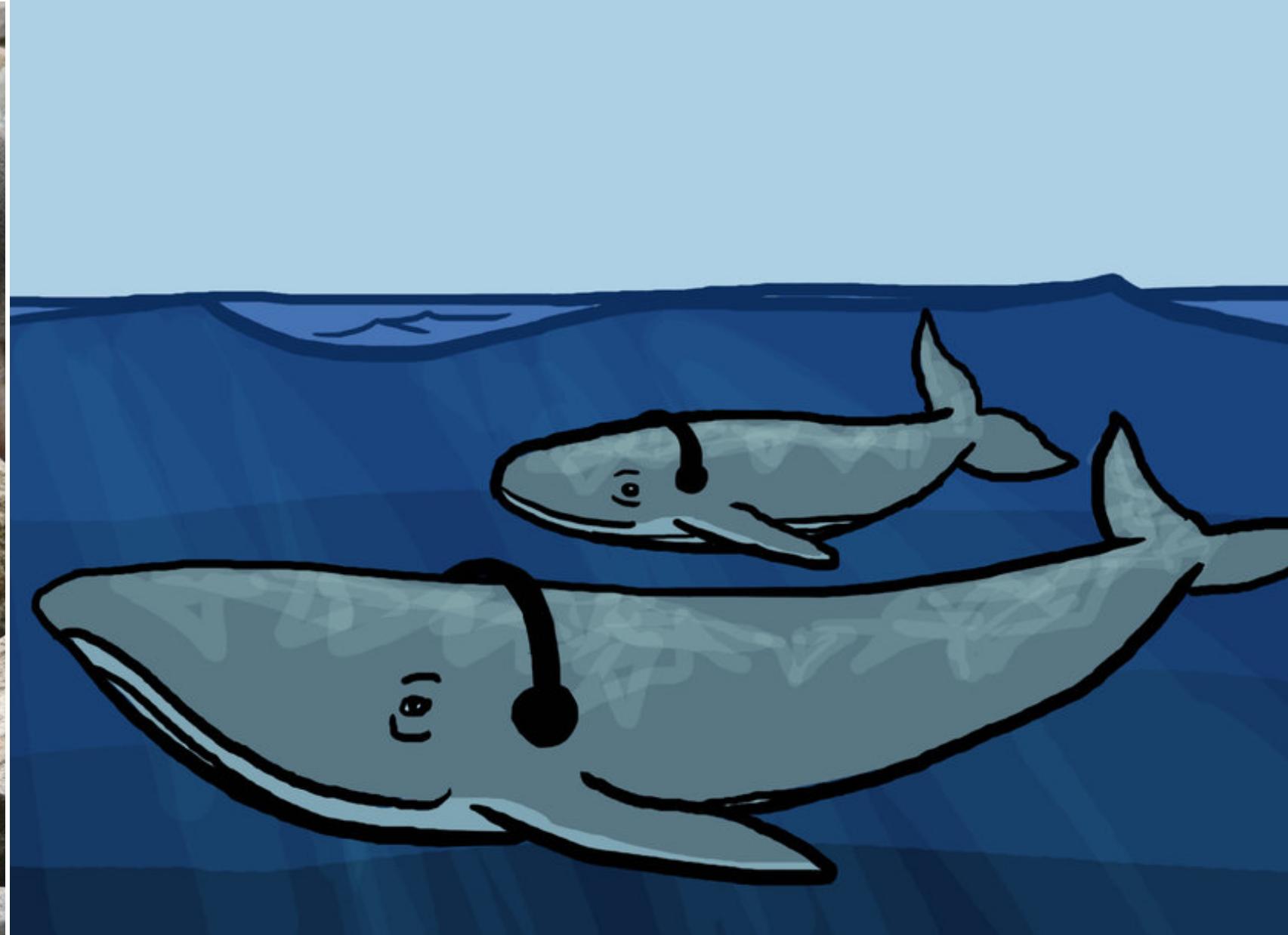
**Helps us to manage human activities to preserve habitat quality**



**Collision with ships**

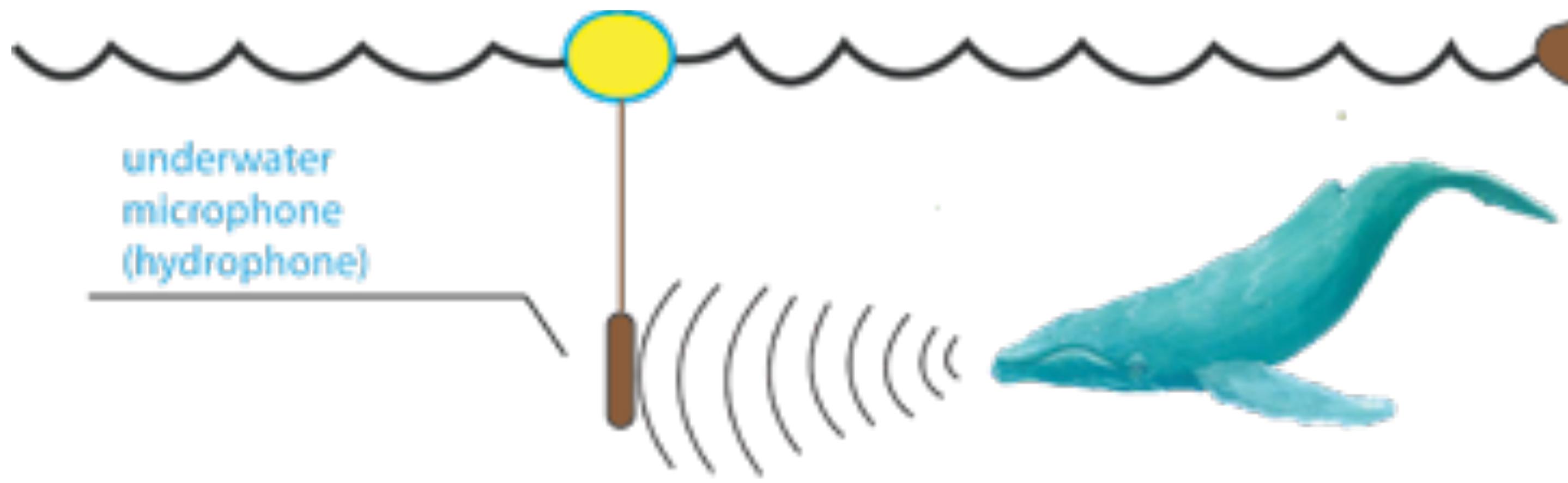


**Entanglement in  
fishing gears**

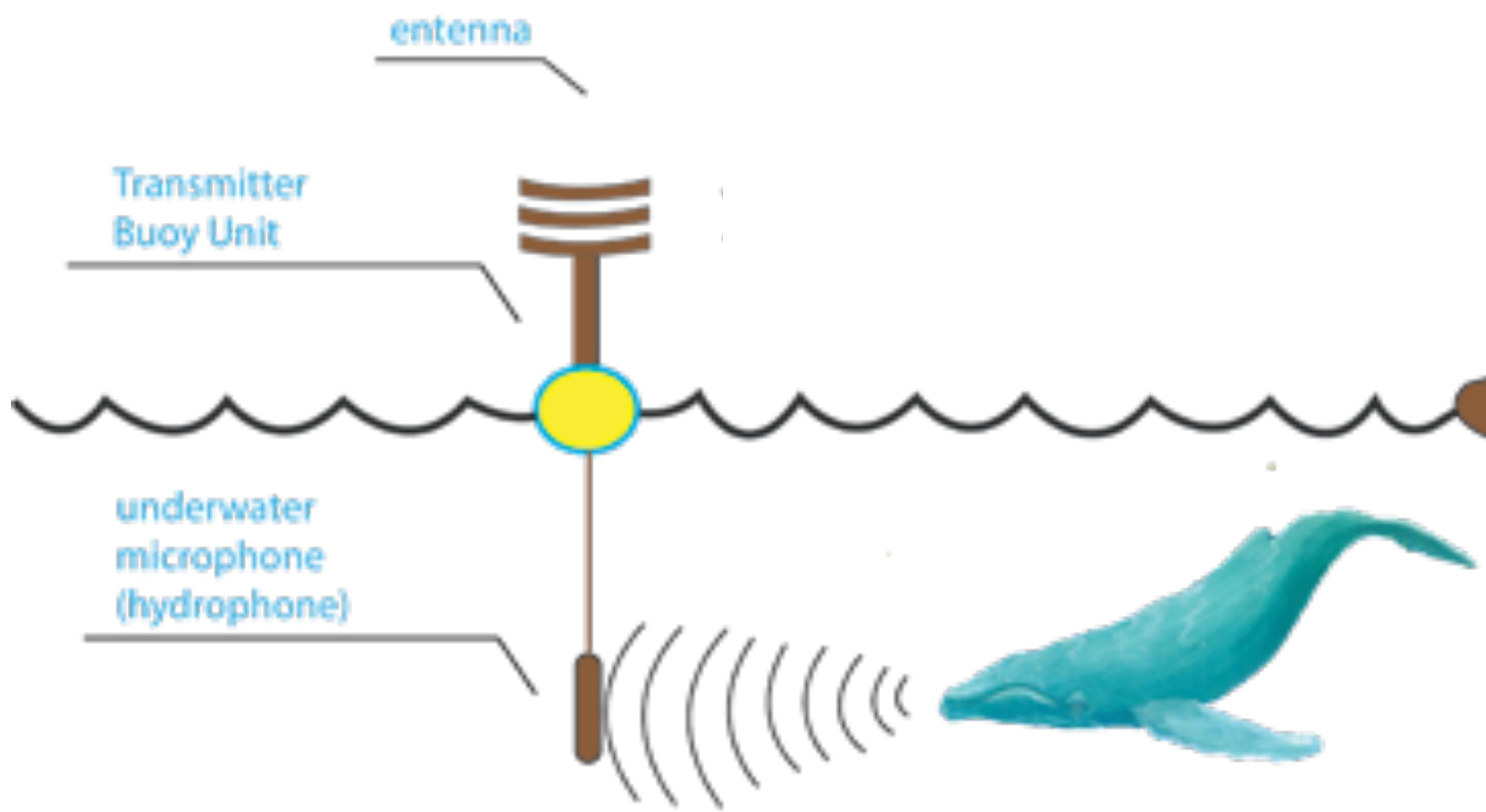


**Anxiety caused by  
Underwater noise**

# How can we passively detect marine mammal species?

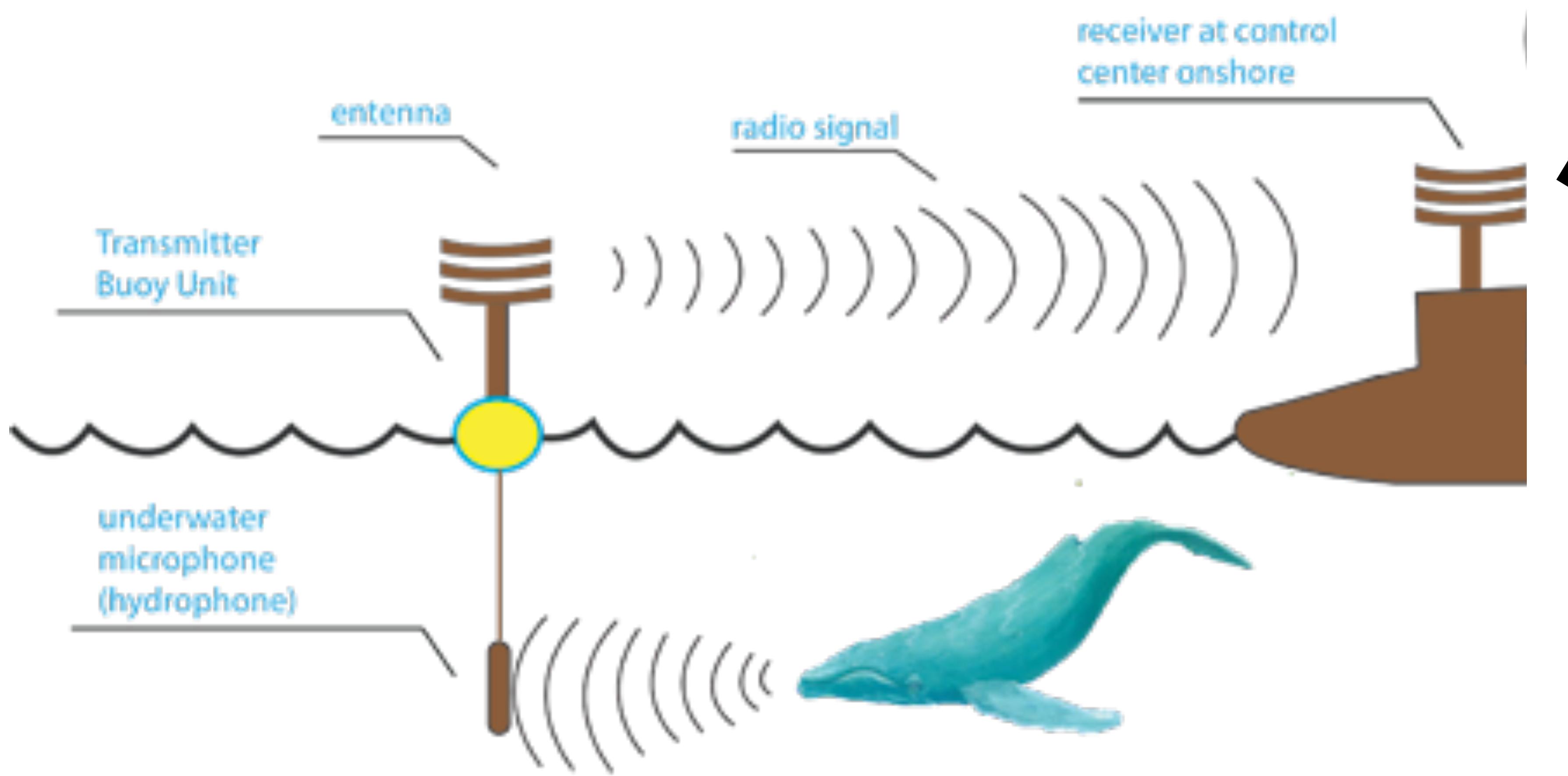


# How can we passively detect marine mammal species?



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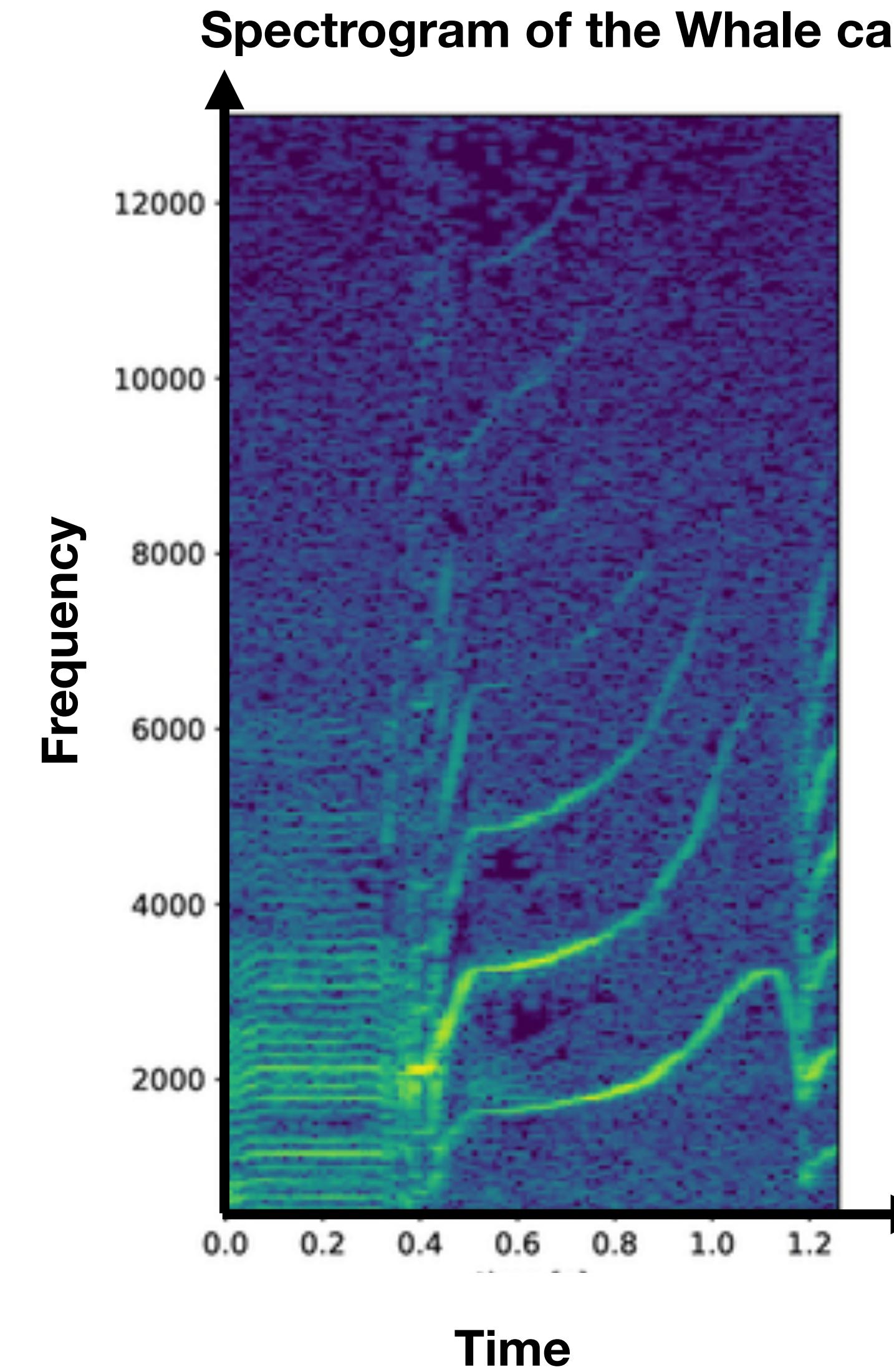
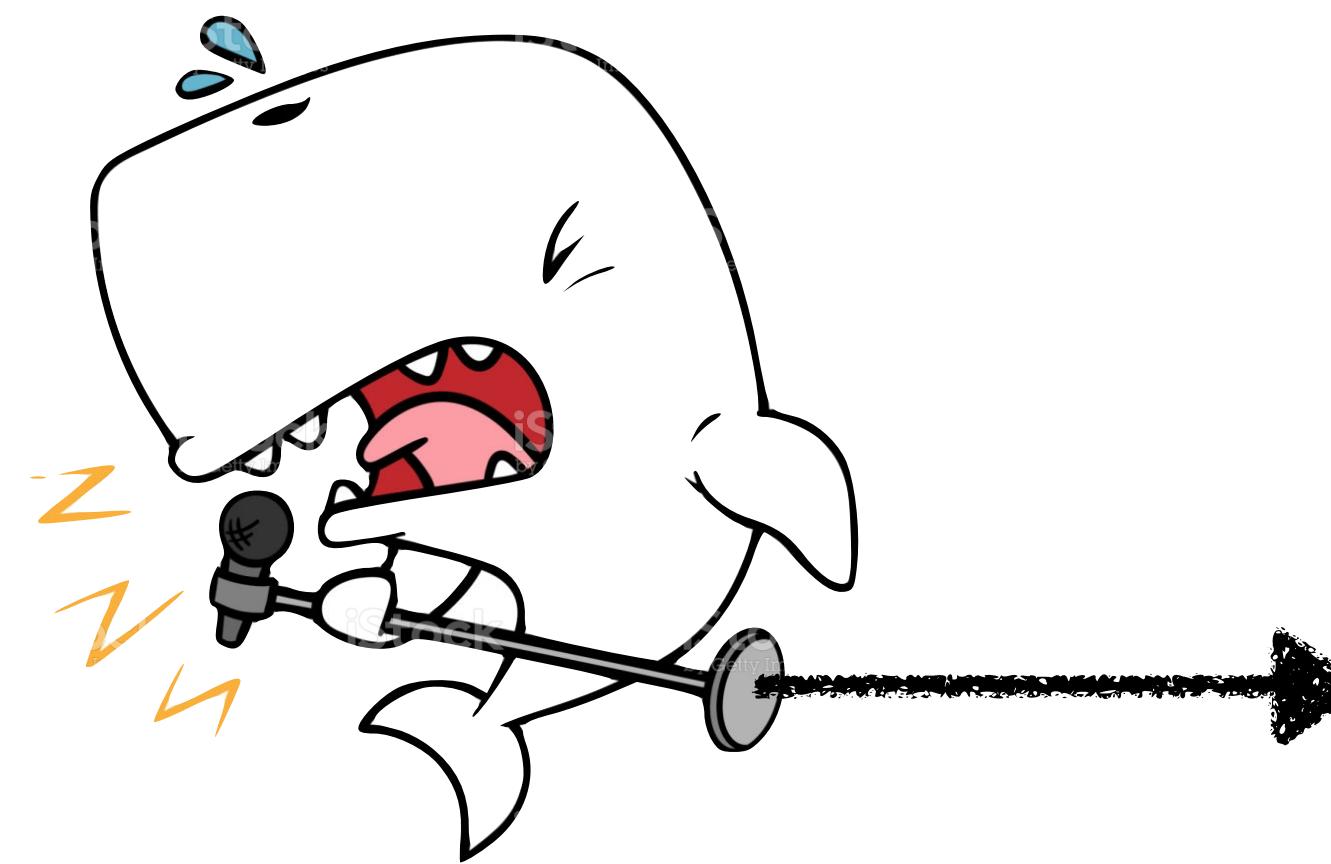
Current classification methods have high false positives rate



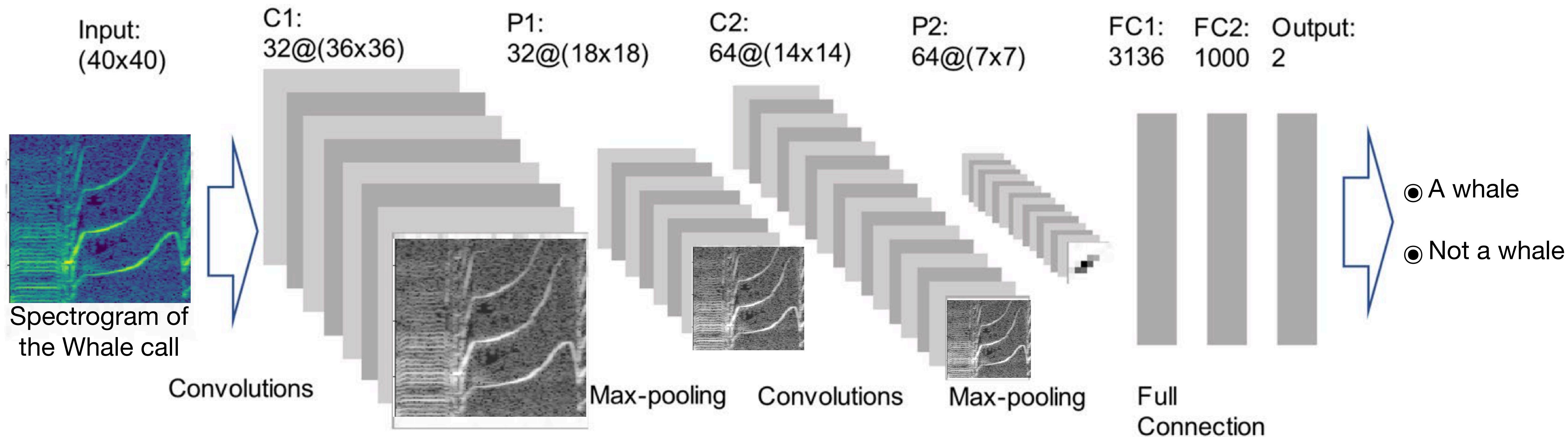
The key idea of the paper is to use deep learning to get:

- \* High accuracy
- \* Low false positive rate

# What is the input to the Deep Neural Network?



# Deep Network Architecture



# How does deep learning accuracy and false positive rate compare to the previous methods?

