## Abstract

Marine mammals face increased threats due to human activities. Current health monitoring strategies include dangerous pole captures, skin biopsies, or catch and release procedures.

Uncrewed aerial systems (UAS) can collect blow mucus without the animal needing to stay close to a boat, providing a less invasive health assessment option.

Blow samples can be analyzed for reproductive health and stress levels, indicating animal fitness.

Multi rotor UAS have been used to collect blow in larger whales. But propeller downwash blows away samples from small cetaceans with a smaller blow field (Abele, 2021).

For this project, a fixed wing system named PHASM or Passive Health Assessment of Sea Mammals was designed to collect blow even from small animals like dolphins or porpoises.