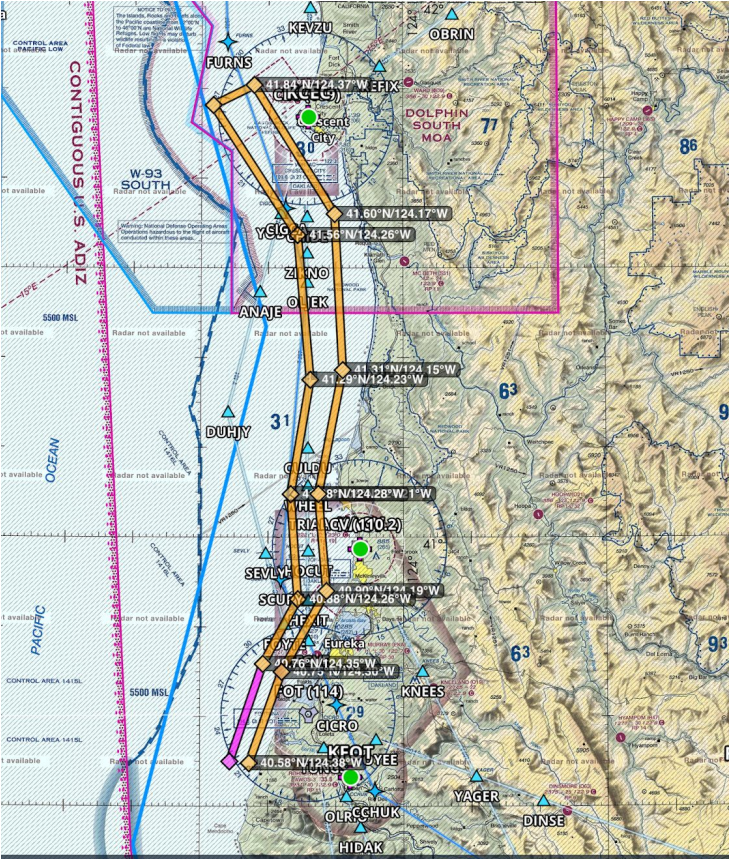


### Understanding Whale & Fishing Presence through Aerial Surveys

On February 7, 2018, the CA Whale Entanglement Working Group (Working Group) was able to send member Richard (Dick) Ogg on a Lighthawk flight of CA's north coast. Aerial surveys give a valuable snapshot of whale and Dungeness crab fishing gear co-occurrence and intensity, which are priority research areas for the Working Group.

Pilot Peter Gordon set a course from the Little River Airport to Shelter Cove on the 20-35 fathom line and returned along the 50 fathom line. During a 4-hour period from approximately 10am to 2pm, Dick and Mary Mayberry (a volunteer spotter) observed gear from Pt. Arena to Shelter Cove on the transect along 20-35 fathoms, as well as 3 humpbacks on south end of Noyo area and 7 grey whales gathered in small groupings. All whales seemed to be swimming and transient. Fewer whales were observed around 50 fathoms, with 9-10 whales overall observed.



Dick observed whale and crab pot distribution along approximately 185 miles of nautical flight. His key comments include:

- The weather and ocean conditions were ideal
- There were zero entanglements and almost no co-occurrence during the flight
- Flights provide an important snapshot of fishing pressure and whale presence
- Aerial surveys are an invaluable tool for starting to understand whales' migration and the movement of the crab gear
- Monthly flyovers could increase the predictive portion of this tool
- Flight allowed for excellent viewing of the entire area from approximately the 15 to 40/50 fathom line
- Very professional experience

### Survey Conclusion

The aerial survey was successful in meeting a number of key objectives, each of which can inform the Risk Assessment and Mitigation Program (RAMP) 2017-18 pilot:

- Objective 1: Gain a snapshot of the whale/fishing conditions around the time of the northern season opener.
- Objective 2: Understand the feasibility of “rapid response” data collection efforts that may be needed with the risk of whale entanglements is at an elevated level, or if there are unusual circumstances impacting whales or the fishery.
- Objective 3: Provide a baseline to inform the design of a more systematic aerial survey for the Northern Management Area.

This survey continued to confirm that strategic flights can contribute to the RAMP and help the Evaluation Team/Working Group and agencies to better understanding how whale and fishing patterns shift throughout the Dungeness Crab fishing season.

Aerial surveys are an ideal tool for visually verifying fishing effort and whale presence in the Northern Management area. Utilizing periodic LightHawk flight for whale spotting could contribute to a whale monitoring program, which could inform fishermen when whales are overlapping with key fishing areas. Ultimately, surveys can contribute to a deeper understanding of fishing pressure as it relates to whale migrations and feeding.



