

SEAN Sea otter monitoring SOP 2: Planning and implementing a safe and efficient aerial survey flight

Revision History Log:

Previous SOP version	Effective Date	Revised By	Changes Made	New SOP version
-	September 2018	Jamie Womble	Initial version	1.0

Plan and implement a safe and efficient flight

In order to conduct a survey as efficiently as possible, and in the safest and most efficient manner possible, observers must consider and balance many complex factors, such as:

- The geography of the survey area and distribution of sea otters.
- Current and predicted future weather conditions at airport and in survey area. (Sources for this are listed in Appendix SOP2.1.)
- The aerial survey plane's speed and range capabilities, as well as its safety, navigation, and communication equipment.
- The flight schedules, flight hour limitations for the pilot, and fuel capacity of plane.

Wildlife biologist and aircraft pilot should study maps of the survey area and consult about their plane's capabilities and the local weather forecast to devise a safe and efficient flight plan each day, prior to leaving the airport. This plan, at a minimum, should include:

- A take-off time that will allow completing the day's aerial survey during daylight hours.
- An efficient route that allows maximizing survey effort while minimizing the need to back-track or over-sample certain areas.
- A route that can be flown safely; this includes avoiding areas of bad weather or poor radio/satellite reception as much as possible, and landing with plenty of fuel remaining. The location of nearby airports (e.g., Juneau, Gustavus, Hoonah, Excursion Inlet) should also be taken into consideration should the need for emergency or refueling landings arise.

The Project Leader and pilot both have responsibilities to ensure the safety and efficiency of the aerial surveys. Observers are responsible for informing the pilot(s) about the methods and protocols involved with flying a sea otter aerial survey (e.g., the preferred timing and route of the flight as well as the preferred altitude (~700 feet; depending on plane type and the sea otter's response to the aerial survey (i.e., disturbance)).

The Project Leader should also provide the aircraft pilot(s) with a waypoint list at the start of the aerial surveys. The pilot is also responsible for making sure their plane's communication system can communicate effectively with the observer and with flight services throughout the flight. Good communication is vital to a safe and successful flight, so each aerial survey team should develop a system that works for them. The pilot is also responsible for informing the observer about the location and proper use of the plane's safety equipment, as well as activating the required safety flight plan with flight services prior to each flight. Pilots are usually a good source for local weather information, and are ultimately responsible for determining what are/ safe flying conditions. However, observers always have the right to cancel or end early any flight if they do not feel safe for any reason.

Pre-flight weather check

Numerous tools, including those listed below, are used to assess weather conditions prior to initiating a survey flight. After consulting the following sources, a weight of evidence approach is used to determine whether conditions are appropriate for a survey. Minimum flight conditions include 1,500 foot ceiling and wind less than 20 knots.

- National Weather Service Marine Forecast Marine Observations and Aviation Forecast
- Federal Aviation Weather Camera for Southeast Alaska
- Weather reports from other pilots transiting in the Icy Strait and Glacier Bay region that day.
- Weather reports from GLBA VIS employees and GLBA vessels in Glacier Bay.
- The SEAN GLBA vicinity weather observations web page (https://science.nature.nps.gov/im/units/sean/WC_observations_GLBA.aspx).