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Probability of detection of animals or groups declines with their distance from the transect. In line-transect (or distance) sampling theory, \( f(0) \) is the probability density function of right-angle sighting distances (for that species and platform) evaluated at a distance of 0. The reciprocal of \( f(0) \) is the “effective strip width,” a statistical estimate of the area effectively searched on either side of the transect.

Effective strip width for large whales is ca. 1.13 nm

Observer nearfield view is obscured by fuselage out to 233 ft from the trackline @ 1000 ft

424 ft wide FOV

465 ft obscured

Cessna Skymaster O-2 Observer and Camera Viewfields
Fin whale sighting totals by month, combined across all survey years (October 2011 – June 2015).

Humpback whale sighting totals by month, combined across all survey years (October 2011 – June 2015).

Minke whale sighting totals by month, combined across all survey years (October 2011 – June 2015).
Right whale sighting totals by month, combined across all survey years (October 2011 – June 2015).

Right whale mean monthly acoustic presence ± standard error for all years combined.
Recommendations

1) The seasonality and spatial distribution of marine mammals in the area suggests seasonal and spatial management of survey and construction activities should be considered for implementation during environmental review and permitting.

2) The long-term impacts of offshore wind farm facilities should be carefully assessed using a statistically robust design to understand the consequences of such development on marine mammal and sea turtle distribution, abundance, behavior, and communications.

3) Focused oceanographic studies are needed to interpret the occurrence of endangered whales in the SA. There are two questions:
   - Can offshore wind facilities affect whale habitat or behavior, thereby changing distribution and/or behavior?
   - Are whale distributions food dependent, and any changes in distribution and/or behavior are due to changes in prey species in the area?

Distinguishing between these two hypotheses will be important in the context of managing future development.