

Wildlife Inventory Plan  
Alaska Maritime National Wildlife Refuge  
Protocol #12

Version 1.1

Parameter: Populations

Species: Red-legged kittiwake

## PURPOSE

To census the entire red-legged kittiwake population at St. Paul Island. Red-legged kittiwakes breed at just four major locations in the world and more than 75% of the world population nests in the Pribilof Islands (Byrd and Williams 1993). Red-legged kittiwakes appear to have declined on the land-based population plots at St. Paul Island since the mid-1970's (Byrd et al. 2008). Frequent island-wide population estimates are important to understanding the extent of the apparent decline. Because this survey takes only a few hours to complete on a good day, it can be conducted in non-population count years as well.

## PROCEDURES

**Data collection.**—Do not attempt this survey if kittiwakes have already completely failed that year (consult with the unit biologist if productivity appears to be very low). Beginning at Northwest Point, follow the coastline south by skiff and use a tally counter to count all adult red-legged kittiwakes you encounter (ignore nests or other species). Counts should be made from approximately 100 m offshore, although the distance will be determined by the height of the cliffs, kelp, and weather conditions – get close enough for an accurate count but far enough away that you can see to the tops of the cliffs. When you reach obvious stopping points, record the cumulative tally in your notebook in case your tally counter is accidentally reset later.

Aim to count all areas with potential red-legged kittiwake nesting habitat (from Northwest Point to Zapadni Point, Tolstoi Point, and the east side of Reef Rookery; see Figure 1). If time is limited, prioritize those areas that are not covered by land-based population counts (e.g., High Bluffs; see Figure 1).

Conduct one to three counts between mid-incubation and early in the chick-rearing period of the nesting season (two weeks before the first eggs hatch until less than 10% of chicks reach fledging age; typically early July to early August). This is the same time period used for population counts on the Pribilofs.

**Data analysis.**—Report the total number of adult red-legged kittiwakes counted on each survey.

### **Specific Requirements**

**Dates:** Mid-incubation to early chick-rearing period, typically early July to early August.

**Weather:** Calm seas with little fog, both for counting ease and boating safety.

**Equipment:** All boating safety gear, 10x40 binoculars, plot maps, two sets tally counters, Rite-in-the-Rain<sup>®</sup> data notebook, two pencils.

### **Literature Cited**

- Byrd, G.V., J.A. Schmutz, and H.M. Renner. 2008. Contrasting population trends of piscivorous seabirds in the Pribilof Islands: a 30-year perspective. *Deep Sea Research II* 55:1846-1855.
- Byrd, G.V. and J.C. Williams. 1993. Red-legged kittiwake (*Rissa brevirostris*). No. 60 in *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology.

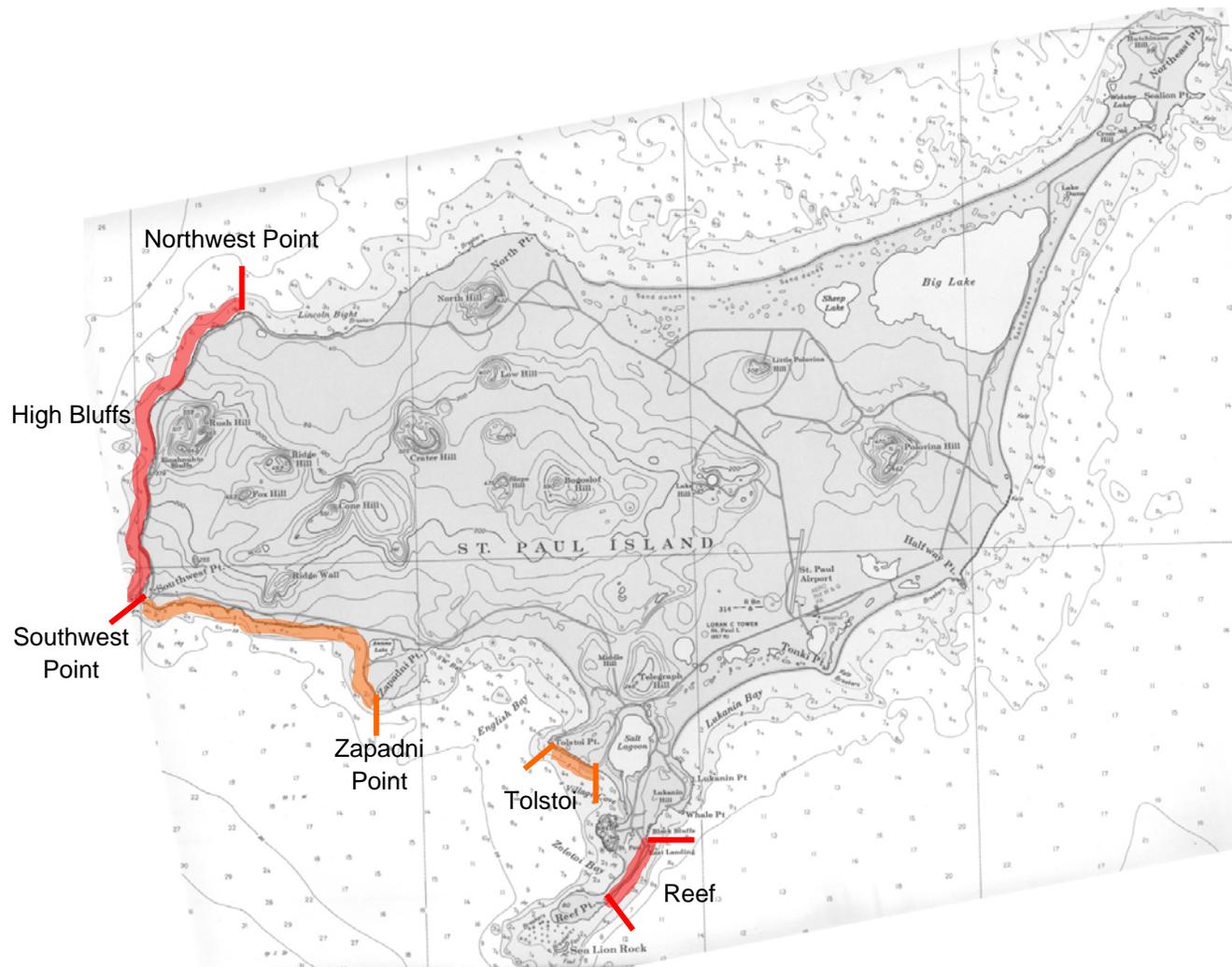


Figure 1. Map of red-legged kittiwake breeding areas to survey during all-island census. If time allows, survey all areas. If time is limited, prioritize areas in red that are not covered by land-based population counts.

**Protocol Revision History Log**

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Revision Date	Changes made	New version #
April 2014	Changed font to Arial, added revision history log, replaced revision date with version # on first page, added protocol # to first page, changed number format of tables and figures in island attachments, changed page number format to include protocol #, made minor grammatical edits	1.1
May 2011	Protocol developed in standardized format from historic St. Paul protocols	1.0

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