**Black-Legged Kittiwake Population Study designed by students in the Whittier Community Youth Area Watch Program**

**Statement of Purpose**
Kittiwakes are an integral part of the Prince William Sound Ecosystem. The second largest Kittiwake rookery in the Sound, is located right across the bay from Whittier. Our concern is that when the new road is built connecting Anchorage to Whittier and Prince William Sound, the increased tourism will have a negative effect on the thriving Kittiwake population. The purpose of this project is to collect information regarding current Kittiwake population numbers. In doing this we will establish a population figure prior to the increase in tourism the road will bring. By comparing current numbers of Kittiwakes to future population data, we hope to find whether or not the Kittiwake population is being impacted.

**Classroom Activities before the field work:
1. Readings about the 1899 Harriman Expedition**: [Science Aboard the Elder](http://www.pbs.org/harriman/1899/elderscience.html) and the biographies of the [Original Participants](http://www.pbs.org/harriman/1899/participants1899.html). After these readings, students discussed how the 1899 scientists designed and carried out their studies and reviewed the scientific process as it relates to the design, conduct and dissemination of research.

**Field Work Activities:**

1. Hire a charter service to provide weekly trips to observe the Kittiwake rookery.
2. Before the birds arrive in the spring, visit the rookery to select a suitable plot. Measure out a 10 meter X 10 meter area by placing flagging in unobtrusive locations on the colony.
3. During the first Kittiwake count, take a digital photo of the rookery.
4. Back in the classroom, overlay a grid on the picture taken of the rookery. Use the flagging as a point of reference to determine the plot size. Using the grid, estimate the size of the rookery.
5. On a given day each week, students go out by boat to the rookery and count the birds in the plot using the attached data collection sheet.
6. Each observer will perform three counts of the plot. The individual counts will be collected and averaged to determine a final count number for the colony.
7. Use the simple formula of: **(Number of birds in plot/size of plot = number of birds in colony/size of the colony)** to estimate how many birds are in the colony during the collection period.
8. Other observations to make include: mating behaviors, nesting behaviors, and whether or not any predators are present.
9. Create a spreadsheet combining all of the data collected during year.
10. Design a Web page in order to enable scientists and other interested parties to use this research data.

**Resources**

For information on Black-legged Kittiwakes, visit the U.S. Geological Service Web site.

Check out the Web sites under the Science and Ecology section of the Harriman Linkspage.

*Created by Douglas Penn, team leader of the Harriman Young Explorers Team, and the Whittier Community School Youth Area Watch Students.*

**Kittiwake Survey Data Sheet:***(Copy this sheet or create an on-line notepad for data recording).*

**Observer Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Plot ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Time: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Species: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Atmospheric Condition (circle one):**

Clear
Partly Cloudy
CloudyRain
Heavy Rain
Snow

**Visibility (circle one):**

Clear
Fair (> 1 mi.)
Marginal (0.5 -1 mi.)
Poor (< 1 mi.)

**Wind Velocity (circle one):**

Calm
Gentle Breeze (<12 mph)
Strong Breeze (13-30 mph)
Gale (> 30 mph)

**Number of birds on the plot: \_\_\_\_\_\_\_\_\_\_\_\_**

**Number of birds in the air
surrounding the plot: \_\_\_\_\_\_\_\_\_**

**Predators present (e.g. Bald Eagles, Crows,
Magpies, Ravens, Gulls, Bears,
Wolverines, etc.): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Comments:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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