

# PIGU Population Counting Guidelines and Strategies

## Identifying Pigeon Guillemot Breeding Colonies

To identify colonies of Pigeon Guillemots, look for groups of birds that associate together in front of breeding bluffs (or other breeding structures such as docks, jetties and wharfs.) The colonies can be as small as 8-10 birds with only a couple breeding burrows or as large as 100 or more birds. The burrows may be widely spread along a bluff, but as long as the birds generally move back and forth and mix together, they are considered a single colony.

## General Notes Regarding Population Counts:

1. The goal of guillemot population counts is to record the number of birds associated with the colony. Therefore, only count birds that are clearly interacting and associating with your colony at the time of the count. This means, only count PIGU that are gathering in the nearshore area in front of your colony or interacting with the colony beach and bluff. Do not count birds that are far out in deeper waters or far removed from the perimeters of your colony bluff/structure.
2. Only count PIGU you can see with your eyes. Do not count birds that have flown into burrows and are unseen at the time of the count. Do not count birds that you think are underwater. Do count ledge sitters and birds sitting in the mouth of burrows that you can see.
3. To avoid double counting birds, ensure each observer at a colony is performing their count on the same day at the same beginning, middle, and end time points by communicating the exact settling and start time of the survey. Check that each surveyor's clock reads the same time.
4. Make sure each surveyor, including subs, knows the counting method that will be used and which section of the bluff and water they will be counting, and be consistent from week to week.

5. Each observer should make notes of “questionable” birds, which can be discussed at the end of the survey to make sure they are accounted for properly. For example, if there are PIGU in the air at the time of a count, and it’s unclear who is recording them, each surveyor can jot them down and then make sure they are added into the count only once, at the end.
6. Each colony is different, and the counting strategy you use will depend on the behavior of the birds, the landscape characteristics, and size of the colony bluff/structure. The methods below are the most common examples of colony types and strategies, but there could be many other variations and combinations of strategies. If you are not sure how to choose the best strategy, feel free to reach out to your regional or SSGN coordinators for assistance.

## Colony Types and Corresponding Counting Strategies

1. **Birds spread out or not visible to all observers**: This is typical of long stretches of bluff or bluffs with natural divisions in between faces. As a result, PIGU are more spread out and may form many smaller groups gathering in front of different sections of bluff, with some commingling in between. Often surveyors are not able to see and count all birds, either due to distance or obstructed views. In this case, an **Additive Strategy** (see graphic) works best to make sure all PIGU are accounted for. To implement this:
  - Delineate areas in which each observer will count PIGU
  - Add counts from each observer together to get the final counts to record on the datasheet
2. **Completely commingled birds**: here, each observer is watching the same group of birds on the water, beach, and bluff. In this case, you would use a **High Count Strategy** (see graphic). At the end of the survey, compare observer counts and:
  - Take the high count for each time point and record this on the combined datasheet

3. If the **birds on the water are completely commingled**, but there are **ledge or beach sitters which are not visible to all**, use a **Hybrid Strategy** (see graphic):
- Take the high count of birds on the water, then add ledge and beach sitters recorded by each observer from their own section of bluff
  - Alternatively, one person (usually the most central) takes the count of birds on the water and ledge sitters may be added in by other observers from their own sections