

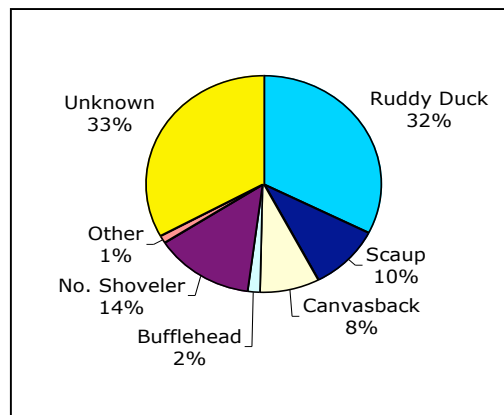
# WINTERING DUCK RESPONSE TO TRAIL USE AT FORMER SAN FRANCISCO BAY SALT PONDS

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Thirty trials were completed during the months of Dec. 2006, Jan-Mar. 2007, and Oct.-Dec. 2007. The majority of ducks present in the trials were diving ducks, with Ruddy Ducks, Scaup, Canvasback, and Bufflehead comprising 52% of all species observed. Northern Shoveler made up 14% of the species composition, while 33% of ducks were at too great a distance to be identified (Figure 1).

**Figure 1 Species Composition**



To determine how ducks responded to trail use, we used a general linear model (GLM) to compare duck abundance in each of the bands before and after trail use disturbance. The response of ducks to trail use differed greatly by band ( $P=0.002$ ). This can be seen when examining the means and standard errors of duck numbers before and after trail use.

In particular, in bands 1, 2, and 3 (0-120m from the levee), there were many more ducks present before trail use than after. In band 1, there was a mean of  $57 \pm 12$  ducks present before trail use and  $20 \pm 6$  ducks present after; these numbers are similar to the numbers seen in bands 3 and 4. However, by bands 4 and 5 (120-200m from the levee), the before and after numbers were much closer, with a mean of  $49 \pm 8$  ducks before and  $34 \pm 5$  ducks after in band 4 and a mean of  $52 \pm 12$  ducks before trail use and  $42 \pm 6$  ducks after in band 5.

Our preliminary results indicate that birds were significantly less numerous after trail use compared to before at a distance of up to 120m from the levee on which the trail use occurred. Beyond 120m, bird numbers pre- and post-trail use differed little.

This information is the result of a small amount of preliminary data analysis. We will be conducting additional data analysis this summer, with a goal of thesis completion by mid-October. I will plan to present full results to the San Francisco Bay Joint Venture once completed.