

Bottoms up! Maintain a Vigilant Eye

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Contrary to proposed assumptions that animals are unable to be vigilant while feeding, many studies have shown that feeding and foraging are not always mutually exclusive.



“We will not duck the tough issues...”

- Paul Ryan

Mallard ducks often feed on water bodies and obtain their food by using a variety of feeding methods, which fall into two categories with respect to visibility:

1. Shallow foraging (eyes are above substrate allowing head-down vigilance)
2. Deep foraging (eyes are underwater so vigilance and feeding are mutually exclusive).

Materials & Methods:

Foraging behavior of mallard ducks was assessed in water versus on land in two separate locations.

Hypothesis: Foraging behavior of mallard ducks will differ on water than on land in order to maximize vigilance and that ducks will be more vigilant while feeding on water.



- A combination of behavioral and focal sampling was conducted on 32 Mallard ducks in the Crystal Springs Rhododendron Gardens
- Data was collected* for:
 - Land and water (randomly selected for order)
 - In two locations (randomly selected for order)
 - For 5 minutes
 - On a single individual (randomly selected for sex)
 - With continuous feeding

*Using JWatcher

Results:

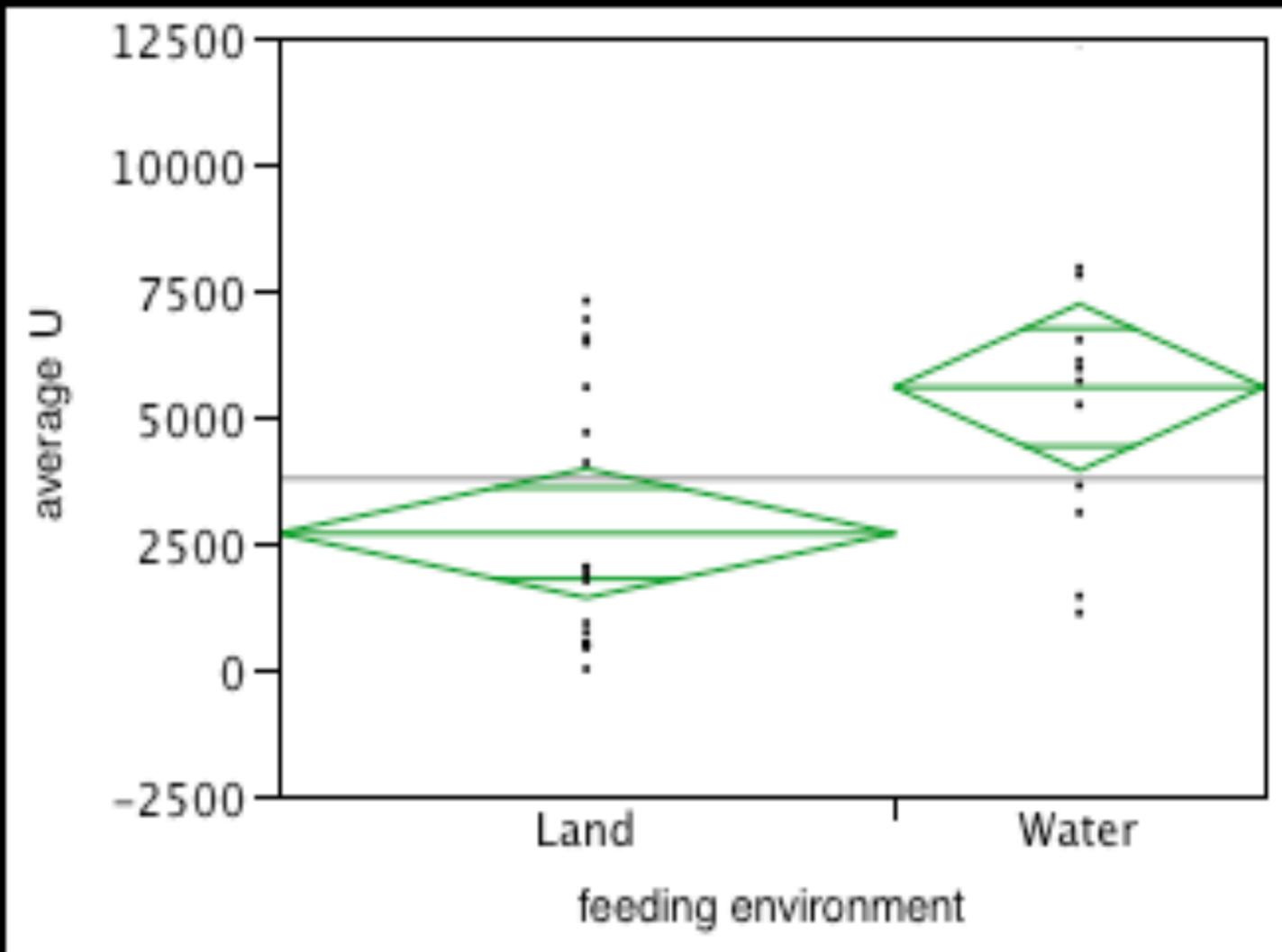


Figure 1: Average time ducks spent head up (ms), i.e. not foraging, with 95% confidence intervals. Foraging behavior was observed in Mallard ducks (N=32) with continuous feeding on land versus on water for 5-minute intervals as recorded by JWatcher.



Conclusion:

We cannot conclude solely from our data that vigilance and foraging are not always mutually exclusive activities. Nevertheless, we can conclude that, regardless of location, sex, population size, or the number of Canadian geese present, Mallard ducks in water spend significantly more time not engaging in any feeding behavior (head up) as compared to ducks observed on land.

Other variables to consider...

- Foraging behaviors at different times of day (morning vs afternoon)
- Foraging behaviors in different seasons
- Introduction of known predators
- Amount of human interaction

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