



Prey Selection by Pigeon Guillemots on Whidbey Island, Washington



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Abstract

Pigeon Guillemots are a good indicator species for the health of the Salish Sea because they nest throughout the area, they are found here all year and they are near the top of the food chain. Since 2008, members of Whidbey Audubon Society have monitored the 25 colonies of guillemots nesting on Whidbey Island. During the breeding season, 40-50 volunteers spent one hour per week at each colony observing the birds. They began no later than 9 a.m. and counted the number of adults in the colony, the number of occupied burrows (defined as burrows an adult has entered), the number of burrows with chicks (defined as burrows to which an adult has delivered prey) and the type of prey delivered. In addition, paid interns monitored selected colonies for 5 hours per day each week. They made the same observations as the volunteers as well as documented the activities with photographs and videos. Since they were at the site for a prolonged period, they also estimated the number of burrows that fledged chicks, defined as burrows that have received prey for at least 3 consecutive weeks. Over this six year period the population appeared to be stable. The mean number of adults was 1038 ± 33 , of occupied burrows was 233 ± 16 and of burrows with chicks 168 ± 14 . The fledging success was more variable, from a high of 81% of burrows with chicks to a low of 55% with a mean of $68\% \pm 11\%$. Prey were identified as gunnels, sculpins or other (including unidentified prey and other prey such as perch or cod). Over the 6 year observation period, 3543 gunnels, 1720 sculpin and 1031 other prey were delivered. Gunnels were the predominant prey delivered each year. Prey deliveries began in the middle of June, reached a peak in the middle of July and ended by the last week of August.

This six year study supported by the Island County Marine Resources Committee and Whidbey Audubon has established a solid baseline of guillemot breeding success and the prey fed to young. We plan to continue this study yearly into the future.

Methods

Time Period: Late June through the end of prey delivery in late August. Each volunteer observed for one hour weekly. Interns observed for 25 hours weekly.

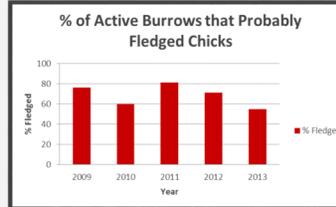
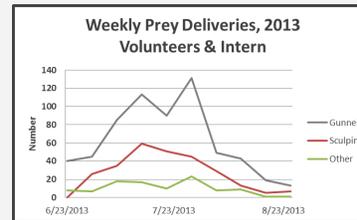
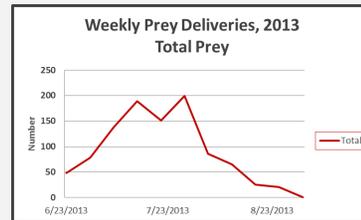
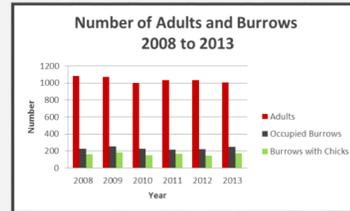
Volunteers: Volunteers arrived at their assigned colony before 8:45 a.m. During their visit, they counted the adult birds, identified occupied burrows and noted prey delivered to those burrows. They also recorded any disturbances such as Bald Eagles, dogs running on the beach or walkers.

Interns: Interns monitored 5 colonies (one each day of the week) in 2009 and 2010. Funding constraints reduced the number of colonies monitored by interns to 3 in 2011 to 2013. Colonies were chosen to represent different habitats on Whidbey Island. Interns arrived at the colony within 1/2 hour of sunrise and observed for 5 hours. They counted the adult birds, identified occupied burrows and the prey delivered to those burrows. They documented their findings by still and video photography. They also recorded any disturbances.

Burrows: Burrows were designated as occupied if the researcher observed a bird entering a burrow. They were designated as a burrow with at least one chick if prey was delivered to the burrow.

Counts: Adult birds were counted every half hour by the interns and at arrival and after a half hour by the volunteers. In this poster the maximum counted at any one time at each colony is recorded. Counts were low on days with fog or high wind and waves making an average count unreliable.

Results



Conclusion

Approximately 1,000 Pigeon Guillemots gathered in colonies on Whidbey Island, Washington each breeding season.

From 2008 to 2013, guillemot populations remained stable.

Prey delivered to the chicks was primarily gunnels and sculpins.

About 70% of the occupied burrows hatched at least one chick as indicated by delivery of prey.

Interns (2009 through 2013) monitored 163 burrows. One hundred nine (67%) of those burrows received prey for at least three consecutive weeks indicating chicks probably survived to fledging age.



Pigeonguillemot.org

Photography by Govinda Rosling and Craig Johnson

