

Abstract

Populations of frogs and other amphibians are declining at a rapid rate around the world. We used a standard survey protocol developed by the North American Amphibian Monitoring Program to survey frog calls along four road routes on Vashon and Maury Islands. Our data can be used locally to start a record of amphibian distribution across Vashon and Maury Islands and to identify areas where amphibians might need help. In addition, our data can be input into the North American Amphibian Monitoring Program to help scientists worldwide assess the distribution of amphibians over time.



Fisher Pond

Introduction

Worldwide frog populations are declining more rapidly than birds or mammals (Stuart et al. 2004). Our objective was to survey our own local ponds to see if the amphibians here were being affected as well. Surveying the many ponds on Vashon is helpful in finding out the general health of the ponds. Our guiding questions were: Which areas of the island have frogs, and what species of frogs are they? What factors influence the distribution of frogs? How can we use our collected data to help the frogs on Vashon?

Frog Call Survey

Methods

Group of students were given one of four different routes featuring 4-6 locations where frogs are usually heard. The groups visited each location at night once in March and once April. The groups recorded temperature, wind, weather, noise factor, frog sound and the direction of the frog croaks they observed.



Pacific tree frog

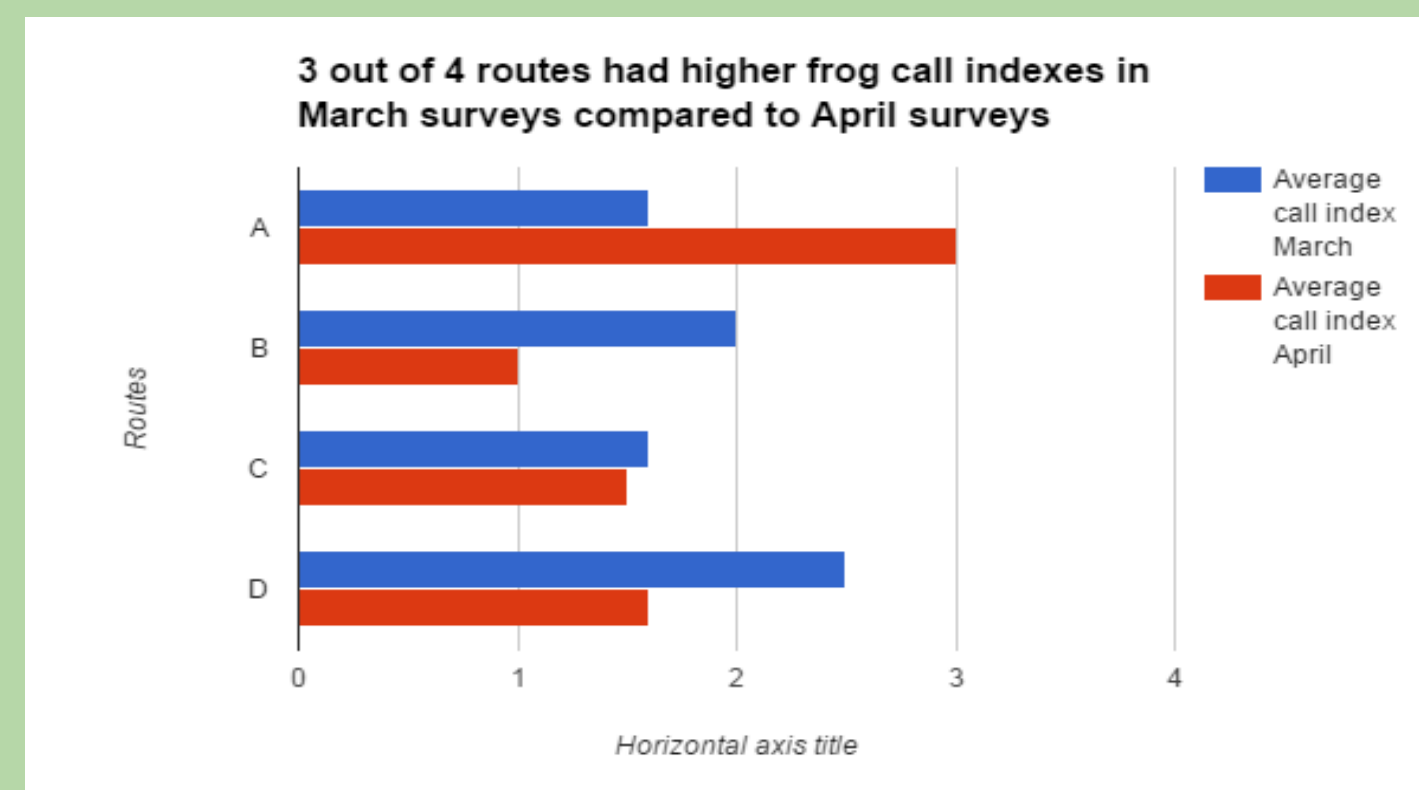
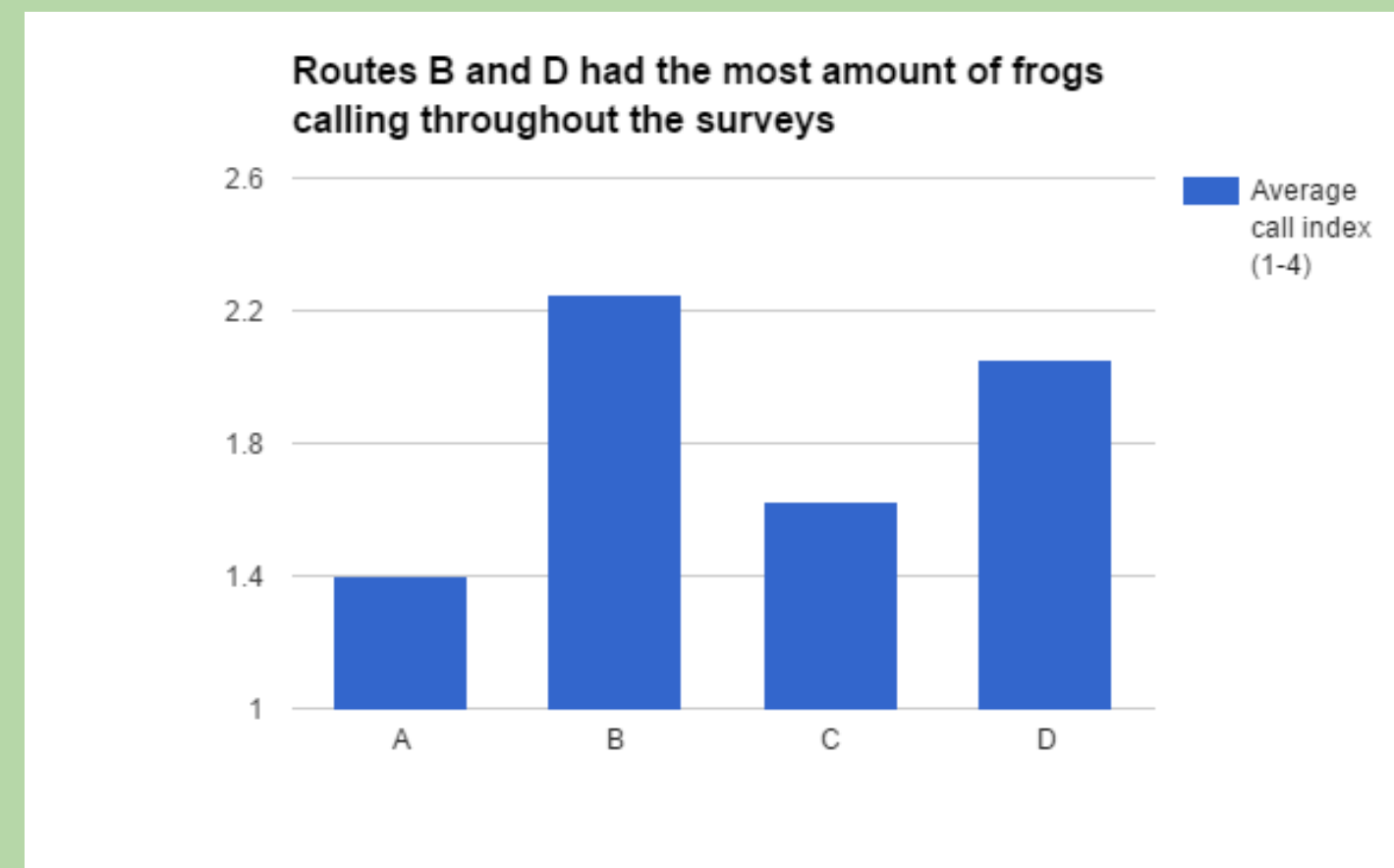


Bullfrog



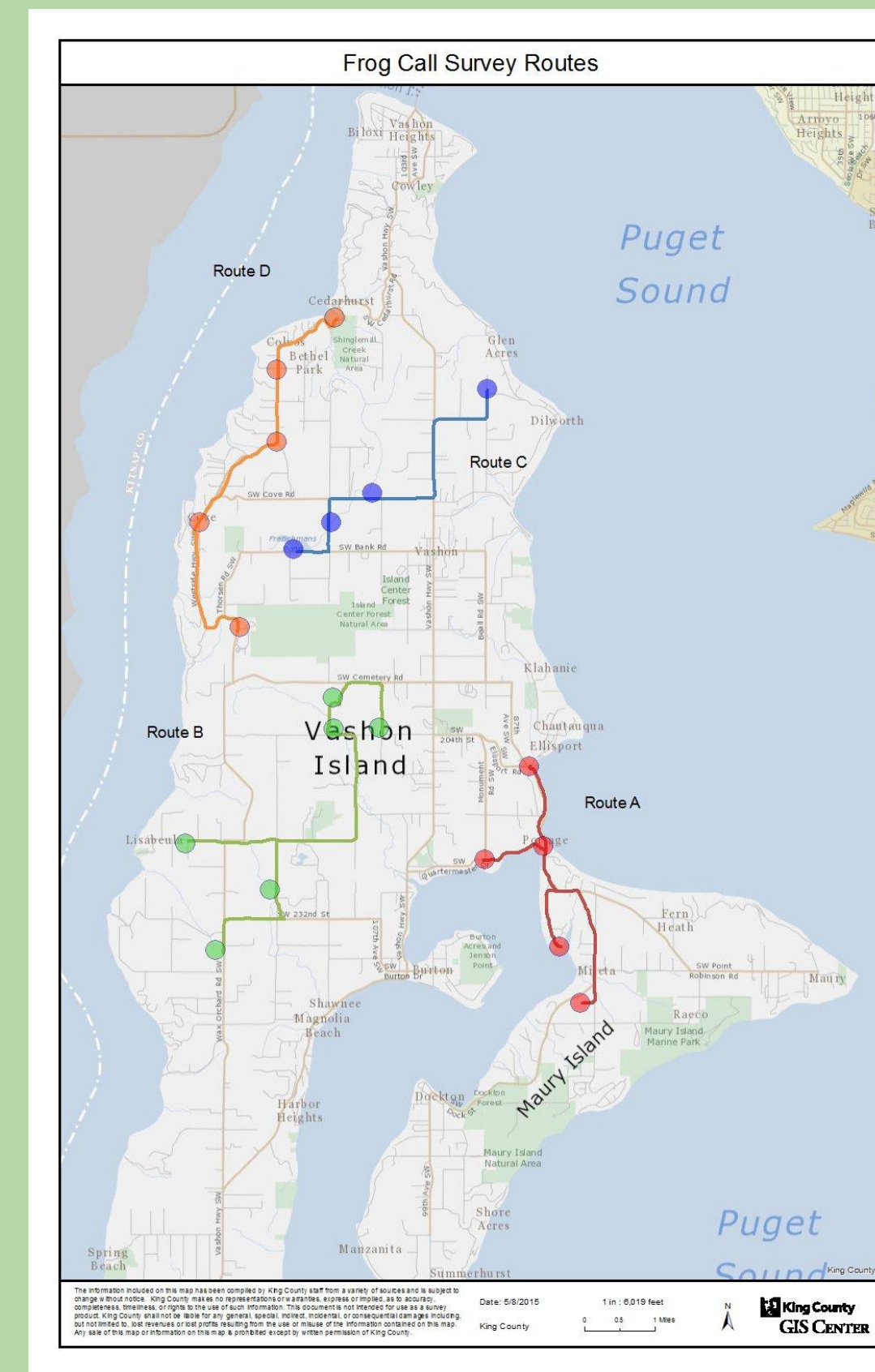
Christensen Pond

Results



Frog call index definitions:

- 1- single frogs can be heard. no overlap in calls.
- 2- several distinct frogs can be heard. little overlap in frog calls
- 3- Many different frogs calling at once. Hard to hear distinct frogs.
- 4- Chorus of Frogs heard at once. constant overlap.



Conclusion/Further Research

Frogs are widespread throughout Vashon at the moment. It would be interesting to repeat this experiment in 5-20 years and look for changes. Out of all the locations, Route D had the highest average level of calls for March (2.5/4), while for April route A had the top average at 3/4.

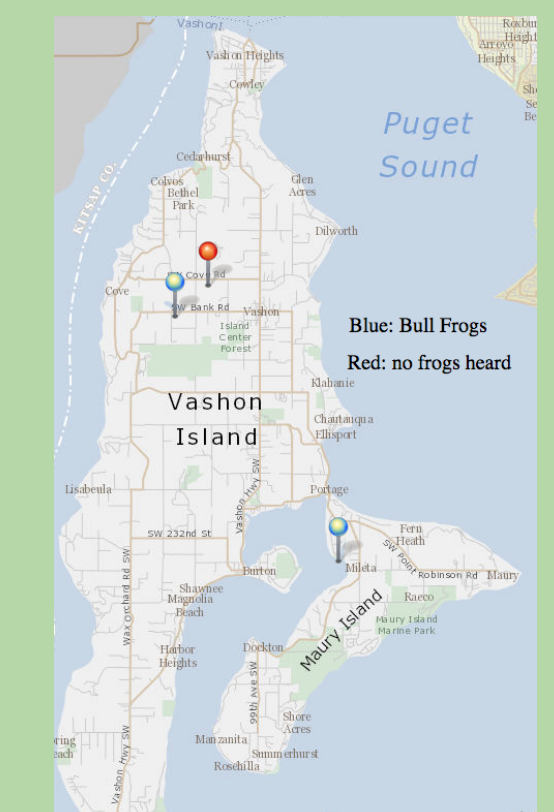
We spotted bullfrogs at two different stops. One bullfrog call was heard at Fisher Pond, while the other sighting was at Raab's Lagoon. These two locations are fairly far away, which means that bullfrogs don't congregate in a common areas, or at least according to our findings. Even though we didn't hear Bullfrogs in any other locations, we can not validate that there weren't Bullfrogs in other places, due to their hard-to hear call. It would be fascinating to specifically track down bullfrogs in future research.

In the marshlands around Vashon Airport, no frogs were heard in both March and April. This may be due to the loud disruptions coming from the planes and the cars on the road. Pollution may also be a factor affecting the frogs in that area. In further research it may be beneficial to seek reasons as to why there is a lack of frogs in this area.

Out of all our findings, Frogs could be heard on both sides of the road at Fisher and Christensen Ponds. It may be a good idea to construct underground corridors for the frogs, in order to minimize roadkill.



Map 1



Map 2

Acknowledgements

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Literature Cited:

Stuart S., Chanson J., Cox N., Young B., Rodrigues A., Fischman D., Waller R. 2004. Status and Trends of Amphibian Declines and Extinctions Worldwide. Science Express pg. 1-5.

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