

# Extent of beaver (*Castor canadensis*) activity around recently colonized lakes

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# Why are beavers important to the environment?

## Positive Impact

- New habitats are formed, due to beavers forming dams.
- Increases biodiversity, by introducing new animals/plants (Haemig 2012)
- Beaver ponds enhance water quality
- The flow of water slows down allowing the pond to filter out pollutants

## Negative Impact

- The cutting down of trees causes other animals to lose their homes(Negative)
- Could kill terrestrial plants,due to too much water because of beaver dams
- Dam streams could flood people's basements

# Background Information

- Least favorite food = conifers
- Beaver cut down trees within 100 ft.(30.48 meters) from the water.
- Factors that affect beavers selecting trees; size, distance, nutritional value.
- When a beaver's food source decreases, they travel farther away from their body of water.
- Their summer diet changes due to more food options.
- Beavers are most active during the fall because they're starting to collect food for the winter.

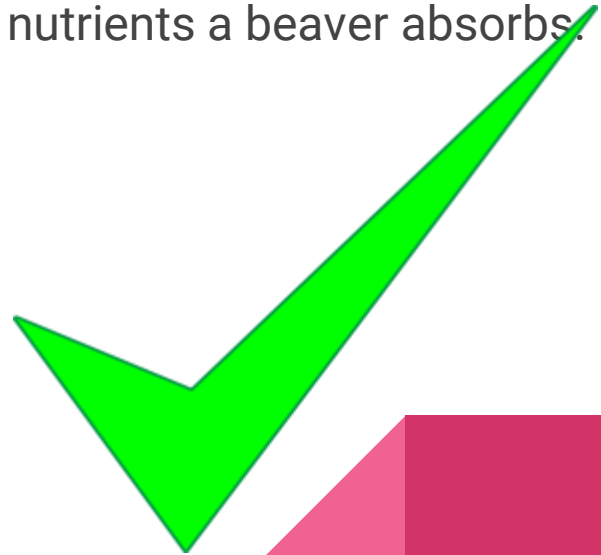


# Favorite Food: Aspen Trees

- Beavers like aspen because of how fast it goes through their digestive tract.
- The faster the food goes through the more nutrients a beaver absorbs.



<http://www.fortier.us/magazine/washington-plants/trees/aspens/eng-aspen.jpg>



# They also like

## Black Cherry Tree



<http://www.backyardnature.net/n/08/080616bc.jpg>

## Birch Trees



[https://www.almanac.com/sites/default/files/styles/primary\\_image\\_in\\_article/public/images/bircheswhite.jpg?itok=SPA5EU0i](https://www.almanac.com/sites/default/files/styles/primary_image_in_article/public/images/bircheswhite.jpg?itok=SPA5EU0i)

## Alder trees



<https://maxpull-gdvuch3veo.netdna-ssl.com/wp-content/uploads/2013/10/alder-leaves-1024x682.jpg>

# Beavers Summer Diet

- When summer comes, beavers shift their diet towards aquatic vegetation.

## Water Lily



[http://www.teachenglishinasia.net/files/u2/white\\_water\\_lily\\_pad.jpg](http://www.teachenglishinasia.net/files/u2/white_water_lily_pad.jpg)

## Waterweed



[http://www.pro-shrimp.co.uk/2990-thickbox\\_default/egeria-densa-tropical-water-weed-dennerle.jpg](http://www.pro-shrimp.co.uk/2990-thickbox_default/egeria-densa-tropical-water-weed-dennerle.jpg)

## Pondweed



<https://maxpull-g3vuch3veo.netdna-ssl.com/wp-content/uploads/2013/09/pondweed.jpg>

# Research Questions

- What's a beaver's favorite species of tree, Aspen or Birch?
- How much are beavers willing to travel away from their body of water, in search of trees?



<http://www.clker.com/cliparts/f/a/6/b/13201707751167052069Beaver%20Cutting%20Down%20Tree.svg>



# Hypothesis

- The beavers will take the Aspen branches.
- There will be evidence of beaver activity up to 30 meters away from their body of water.





# Methods:Materials

## Tape Measure



[https://www.ruralking.com/media/catalog/product/cache/1/image/9df78eab33525d08d6e5fb8d27136e95/k/o/komelon\\_100\\_ft\\_ope\\_n\\_real\\_fiberglass\\_tape\\_measure\\_6611.jpg](https://www.ruralking.com/media/catalog/product/cache/1/image/9df78eab33525d08d6e5fb8d27136e95/k/o/komelon_100_ft_ope_n_real_fiberglass_tape_measure_6611.jpg)

## SD Card



[https://images-ssl-images-amazon.com/images/I/715mkNMEXAL\\_SL1500.jpg](https://images-ssl-images-amazon.com/images/I/715mkNMEXAL_SL1500.jpg)

## Camera

<https://sew.blob.core.windows.net/upload/17708/web/product/reconyx-hc600-cameraval.eu.jpg>



## Pencil & Clipboard & Data Table



<https://i1.wp.com/www.foxloweartscentre.org.uk/wp/wp-content/uploads/2015/11/Survey-image.gif?resize=332%2C365>

## Aspen



<http://naturecalling.org/wp-content/uploads/2016/02/Quaking-Aspen-Leaves.jpg>

## Birch



<https://thumbs.dreamstime.com/z/birch-branch-white-background-31437429.jpg>

# Methods: Tree food preference

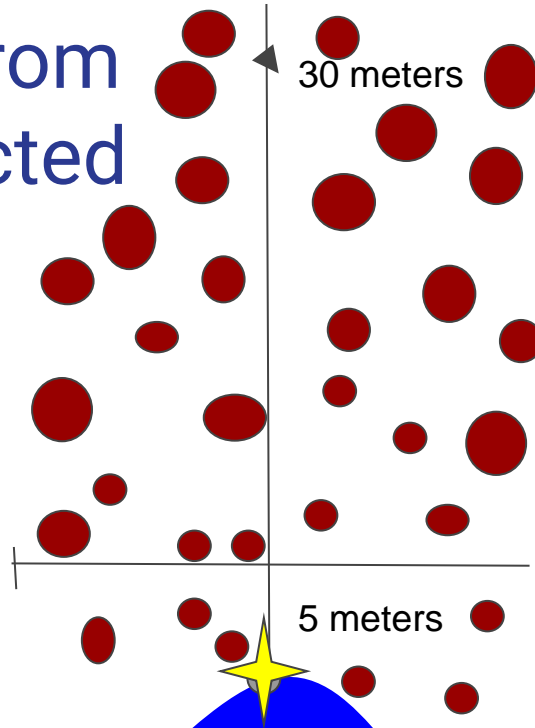
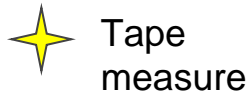
- 2 cameras; one at Vernay and one at Shadow Lake.
- In front of each camera I put one branch of Aspen and one of Birch.
- I analyzed the photos to see what took the branches and which type of branch it took.



# Sketch: Distance from lake to trees impacted

Birds Eye View

Belt Transect:

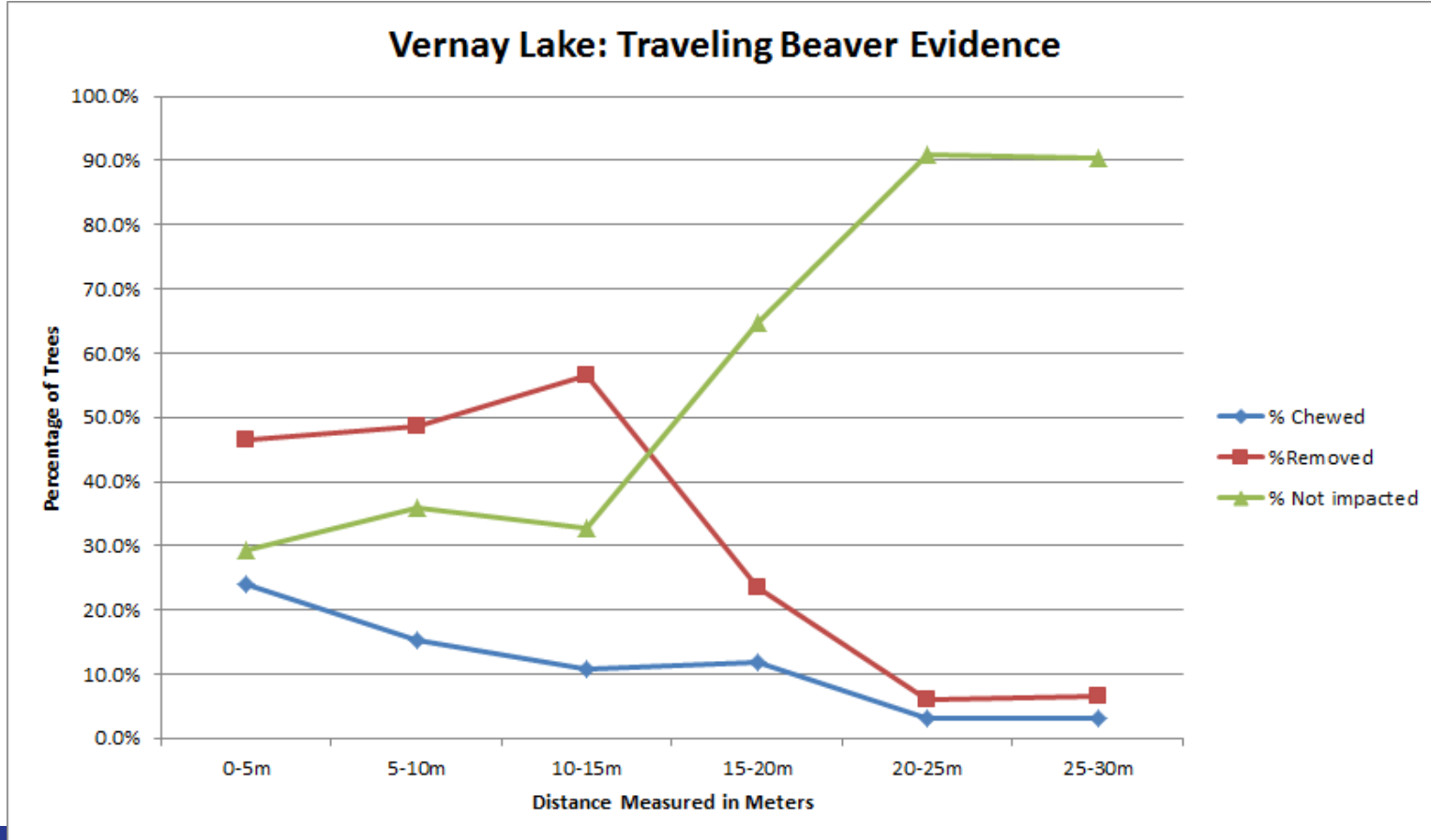


Lake

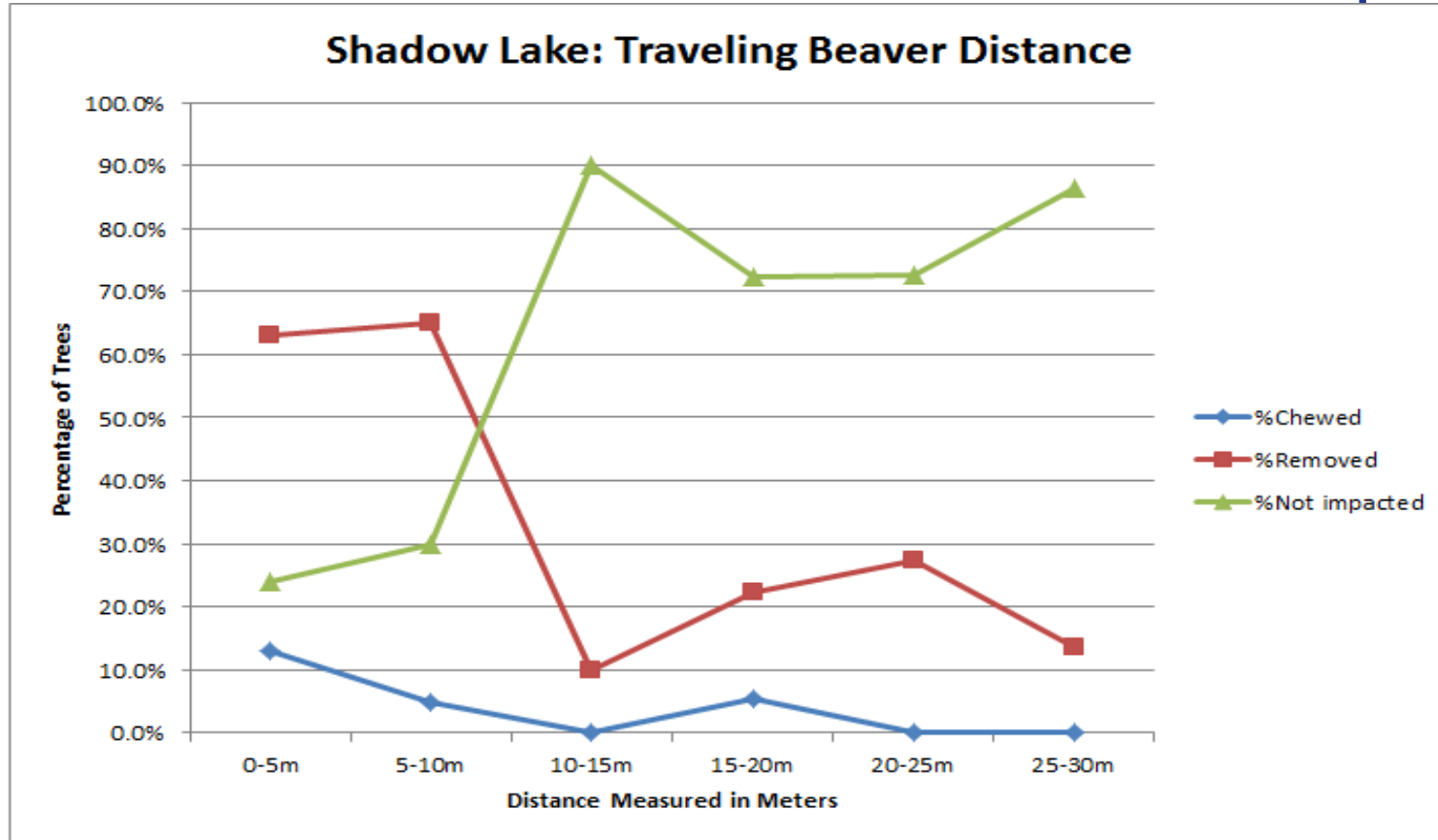
# Chewed and Taken Down Trees



# Results: Distance from lake to trees impacted



# Results: Distance from lake to trees impacted



# Results: Tree food preference



# Results: Tree food preference



This is a Raccoon's nose.





# Conclusion:

First of all, I did not get any beaver photos and they didn't take any of the branches.

- Their food preference shifts towards aquatic vegetation during the summer.

For the transects....

- In Vernay lake the beavers mostly traveled within a 10 to 15 meter range away from their body of water.




# Conclusion:Part 2

- Vernay Lake is small so they deplete their resources faster.(10-15m)
- Shadow Lake is larger so they're not depleting their resources as fast.(5-10m)



# Conclusion: Part 3/Importance of Results

In the end my results did not support my hypothesis that, But they did support...

- 1: That the beavers are healthy since their annual shift in their diet has happened.
  - 2: That the beavers have a good amount of food in the lakes in which they are in, because they haven't traveled really far in search for food.
  - My results are important, because it helps Teatown know more about the current health and living conditions of beavers.
  - New hypothesis is that, beavers would take the aspen branches if they are put out around fall.
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# Citation

- [www. beaversolutions.com](http://www.beaversolutions.com)
- [animals.mom.me/beaver-eat-1661.html](http://animals.mom.me/beaver-eat-1661.html)
- Müller- Schwarze, Dietland. The Beaver: Its life and impact. Ithaca: Cornell University Press, 2011. Print

