# Oil Spill Impacts on Water Quality

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# Introduction: Eutrophic Lakes

- Excessive Nutrients: nitrates, phosphates
- Agricultural runoff, household and industry
- Abundant aquatic plants and algae
- Damaging to ecosystems

# Coontail (Ceratophyllum demersum)

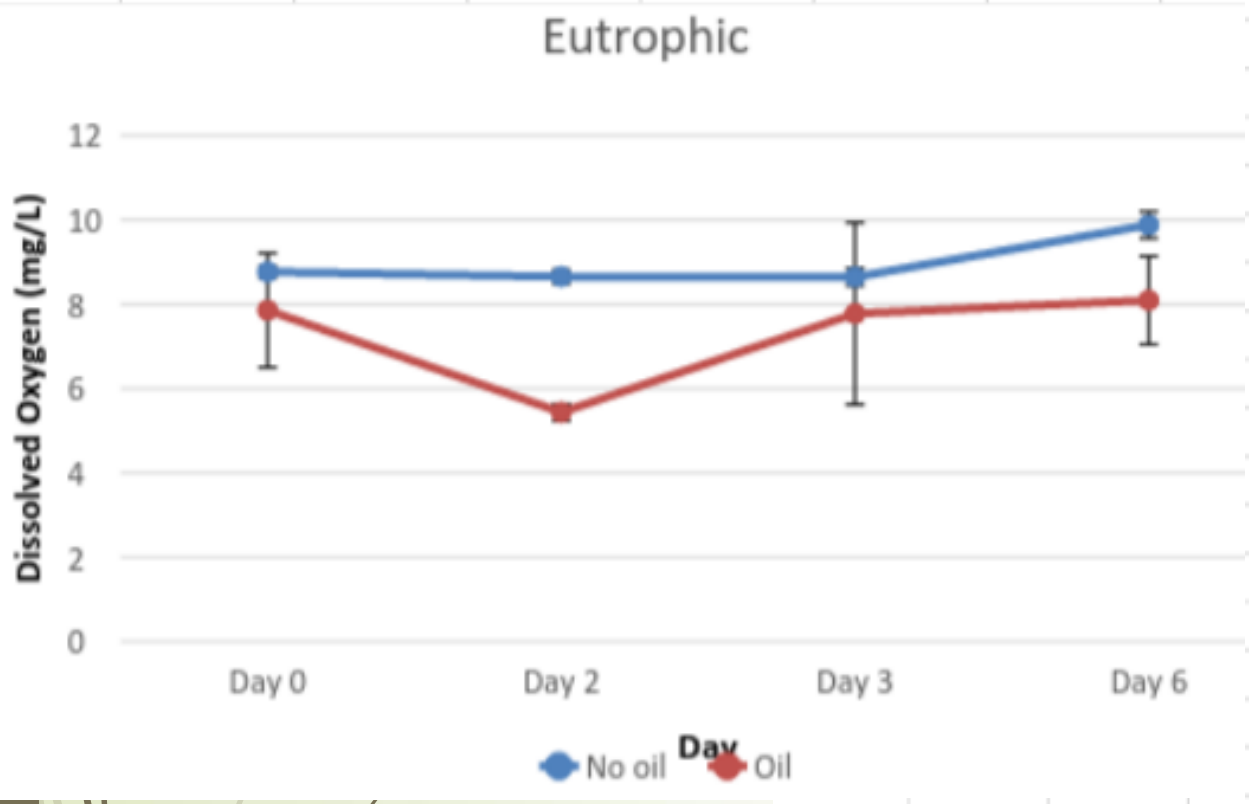
- Abundant type of vegetation in Teatown Lake
- Phytoremediative properties
- Absorbs nutrients from its environment

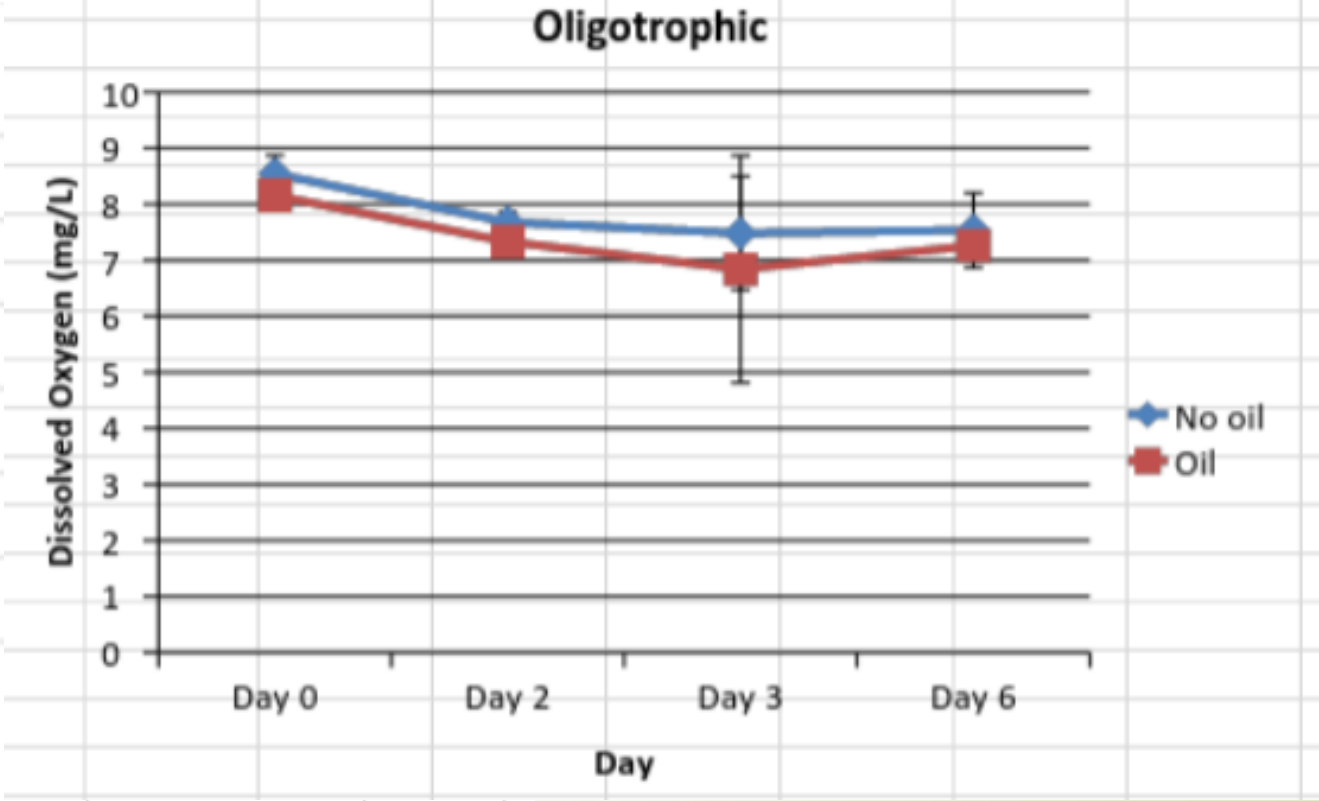
# Hypothesis:

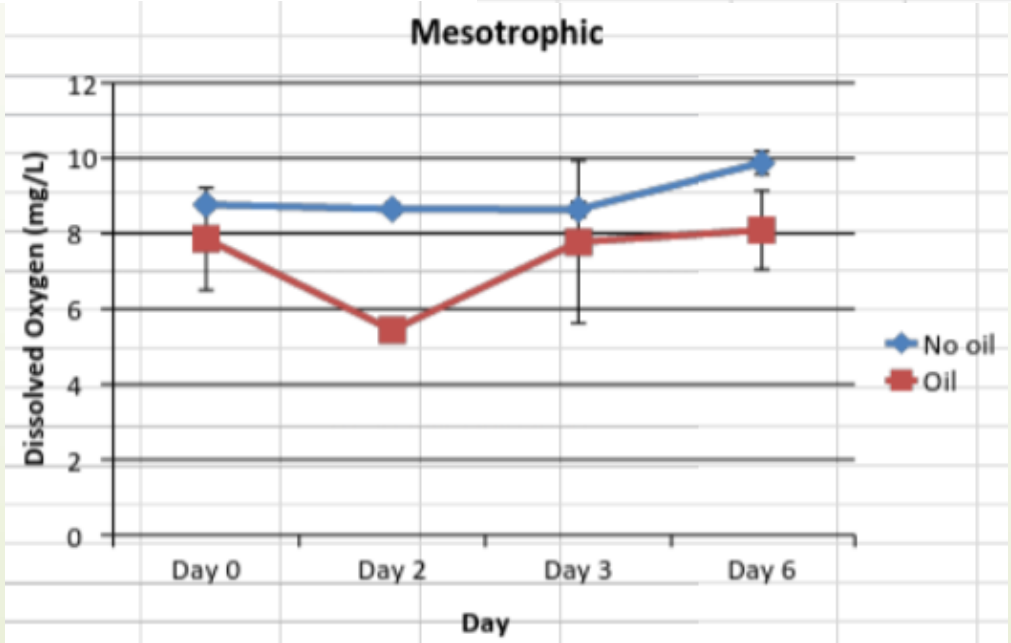
- Eutrophic Lakes will be less affected by oil pollution

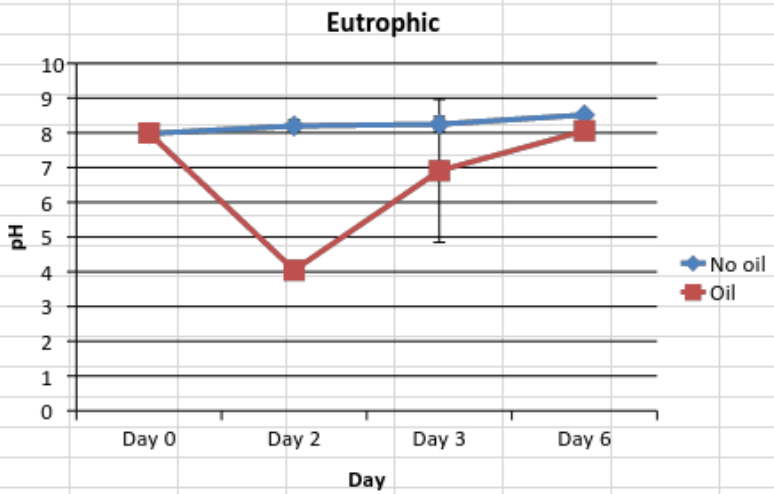
# Methods

- Water and plant samples
- Water quality probes
- Nitrate and phosphate test
- Siphon



Eutrophic
Dissolved Oxygen (mg/L)
12
10
8
6
4
2
0
Day 0
Day 2
Day 3
Day 6
Day
No oil
Oil


Oligotrophic
Dissolved Oxygen (mg/L)
10
9
8
7
6
5
4
3
2
1
0
Day 0
Day 2
Day 3
Day 6
Day
No oil
Oil


Mesotrophic
Dissolved Oxygen (mg/L)
12
10
8
6
4
2
0
Day 0
Day 2
Day 3
Day 6
Day
No oil
Oil


Eutrophic
pH
Day
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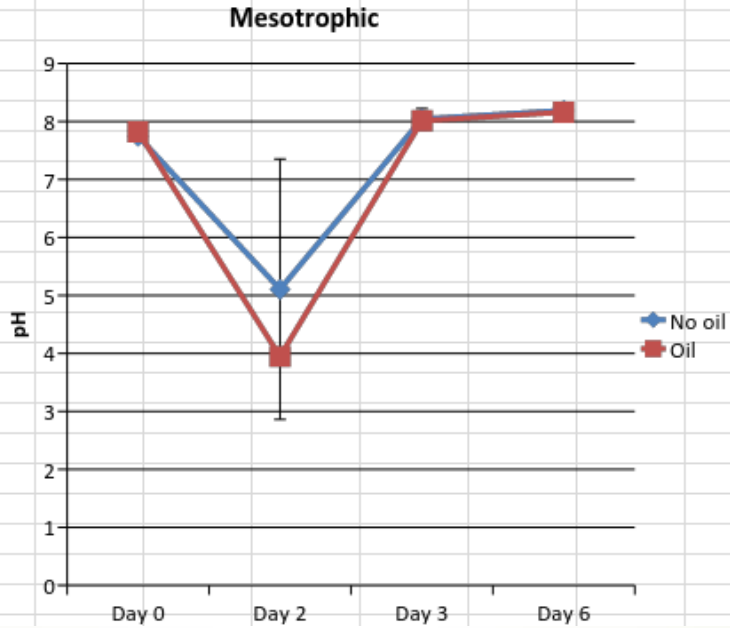
Day 6
No oil
Oil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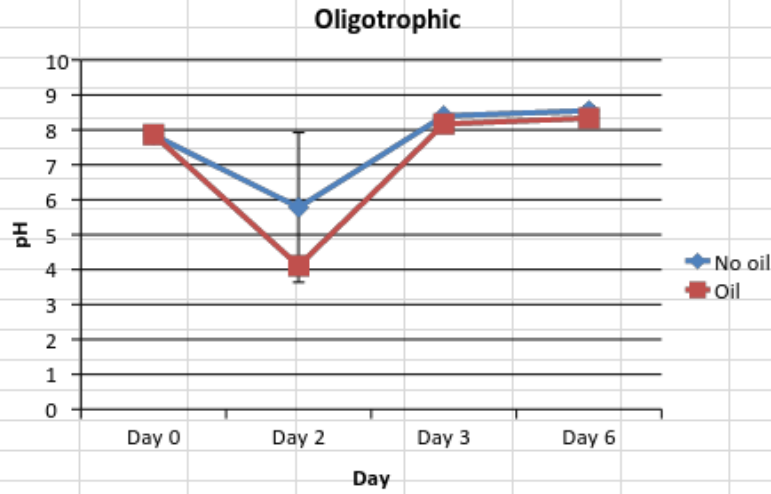
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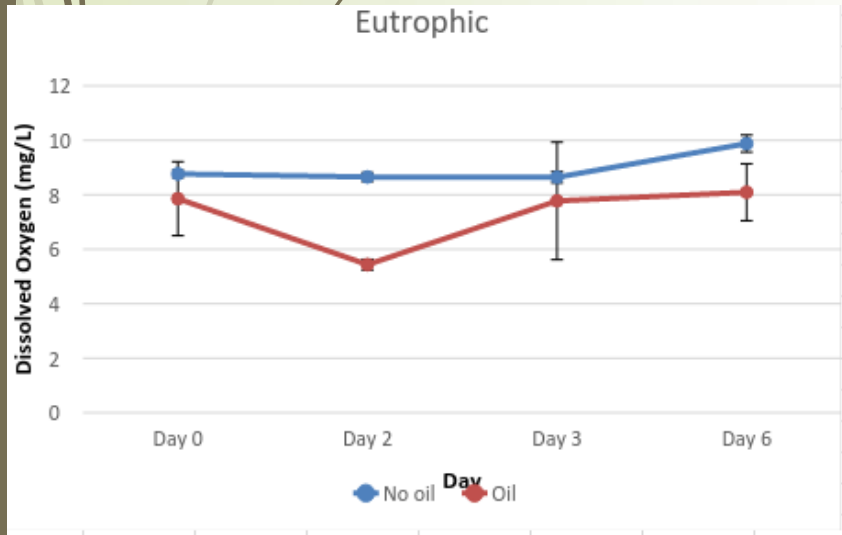
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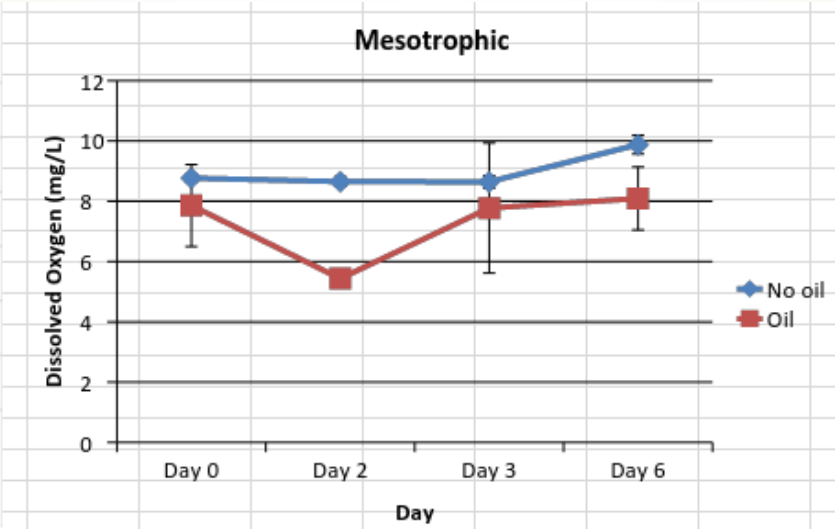
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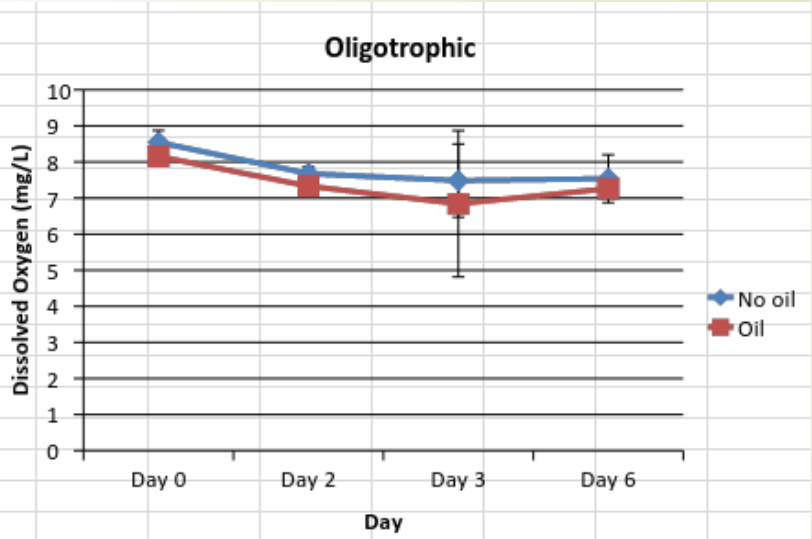
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Dissolved Oxygen (mg/L)
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# Conclusions:

- Dissolved oxygen decreases with oil
- The effects are similar in eutrophic, mesotrophic and oligotrophic systems
- Little effect on water quality

# Discussion:

- Oil's directly affects organisms
- Eutrophic lakes are not essential

# Acknowledgements


- Hillary Siener
- Rebecca Policello
- Dr. Amy Karpati
- Paul Wang
- Arel Pizarda
- My parents

# Sources:


- http://www.illinoiswildflowers.info/wetland/plants/coontail.html
- https://socratic.org/questions/what-is-the-main-difference-between-oligotrophic-and-eutrophic-lakes
- http://siberiantimes.com/ecology/casestudy/features/f0133-shocking-oil-spill-scenes-from-siberia-but-is-there-a-way-to-a-cleaner-future/