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### Risk Assessment of Devil's Swamp Lake

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# Devil's Swamp Lake

Jocelyn Price

BIOL364: Perspectives in Toxicology (Instructor: Dr. Erin Shanle), Longwood University

## Background

- Scotlandville, Louisiana (1)
- "U" shaped lake
- Fishing and recreation
- Industrial facilities dumped PCBs in water (3)
- EPA Superfund Site
- Told locals to not eat the fish (4)



## Specific Aim

The aim of this study was to develop a perspective on the risk management of Devil's Swamp Lake using the scientific and social perspectives

## Methods

### Hazard Identification

- Aroclor 1254
- Aroclor 1260

### Dose Response

- LOAEL: 0.005mg/kg/day
- RfD: 2E-5 mg/kg/day

### Surrounding Area

- 1600 people in 2 miles (1)
- Mostly POC (13)

### Community Risk

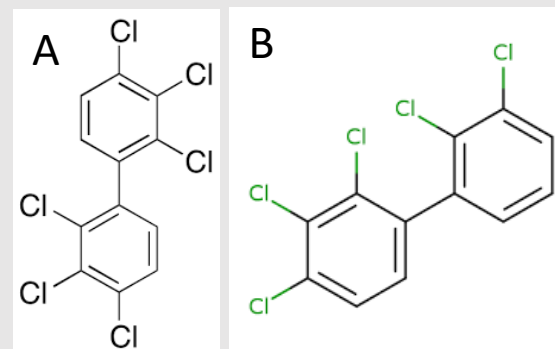
- Low income
- Children most at risk

### Risk Management

- Scientific Risk
- Economic Perspective

## Results

- Devil's Swamp Lake, Louisiana:
  - Hazard characterization: Aroclor 1254 (B) & 1260 (A)
  - Dose-response assessment: Aroclor 1260 mimics human adipose tissue (8) which can lead to liver related health problems.
  - Surrounding community: Majority POC, majority below poverty line, local families



## Conclusions and Future Directions

- Scientific Perspective:
  - Water is contaminated well above the RfD, making every part of it and every animal in it toxic
- Environmental Justice:
  - Families living there are low income, with no ability to move away or clean it up
  - Lake provides a cheap source of food, further perpetuating the cycle of exposure

## References

- 1)EPA. (2017, October). *Devil's swamp lake site profile*.
- 3)Van Metre, et al. (2006). *Sources of polychlorinated biphenyls to Devils Swamp Lake near Baton Rouge, Louisiana*.
- 4)Litten, K. (2015, August 13). *Devil's Swamp Lake Fish too polluted to eat, DHH warns*.
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- 13)LDH. (2006). *Devil's Swamp Lake HC comment version*.