



# STUDENT PRESENTATIONS





# AMIN DAVIS



- March
- 2024

# Sushi is My Favorite Food

---

Presented by: Amin Davis





# I Love Eating Sushi with Chopsticks



- My name is Amin King Davis and I am a 3<sup>rd</sup> grader at Hitchcock Elementary School.
- People think it's strange that ever since I was 4 years old that my favorite food has been sushi! How many kids do you know who would eat raw fish, right?
- My mom made me try it and it was love at first bite!
- My favorite kind of sushi is "*Unagi*" which means '*eel*' in Japanese.



# Aquaculture

**Fish farming, also known as aquaculture, is one of the best ways to provide sustainable food for our future. *Let's learn more about it...***





# Air-Friendly Protein

## Did You Know?

- Fish is a low-fat, high quality protein. It's rich in Omega 3 Fatty Acids, *Vitamins D, B2, as well as Calcium, and Phosphorous.*
- It also supplies our bodies with essential nutrients, like *Iron, Zinc, Iodine, Magnesium, and Potassium.*

## Why Fish?

- Aquaculture is a sustainable food source and more environmentally friendly way to produce protein than harvesting livestock on land.
- Did you know that globally livestock animals are responsible for a whopping 40% of methane emissions, making them one of the least climate-friendly sources of food on the planet? Besides the fact that it's delicious, that's why fish is my favorite protein!





# In Conclusion

**In my family, we eat more fish than meat, because it's healthier for our bodies, as well as less damaging for the air quality we breathe.**

***Whether you choose to go fishing or buy from a sustainable fish farm, you are doing our environment a huge favor picking fish over meat.***





Thank You for listening to my point  
of view, even though I'm only nine.

Sincerely, Amin King Davis

3<sup>rd</sup> Grade Student

Hitchcock Elementary

Omaha NE



# EILYAH KHABIR





**YOUR**  
**NEIGHBORHOOD**



**Friendly**  
**Fishy**  
**Farmer**

by Eiliyah K.

My name is Eiliyah. I'm 10. And someday I would like to become your neighborhood friendly Fishy Farmer. I fight for truth, Trout and the farm fishy way of life! Plus fish are pretty tasty. After starting homeschool I found out I have a SUPER POWER!

I always thought the food we buy in the store was created by factories or the Government. Who knew I could make my own dinner from my own backyard using my own two hands!!

MIND BLOWN, 🤯 🤯  
**SUPERPOWER** unlocked



Now how do I help other people Unlock their power!?



The

Friendly

Fishy

Farmer

System

Starter Fish (EASY Mode)

TILAPIA/ BLUE/ JAVA

- Less diseases
- Grows fast
- Taste great 

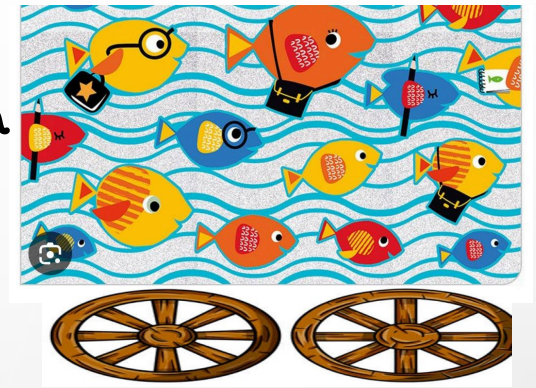
**Starter  
Pack!!**

**Setup...  
ANYWHERE!!**

What's Inside?

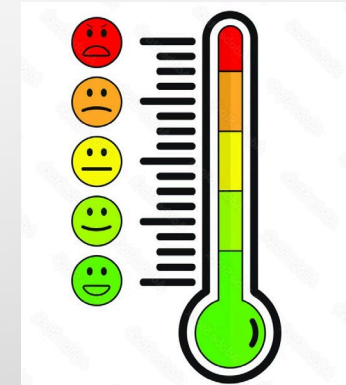
Tank of Friendly Fishy

Your own special size tank with just the right amount of fish and water on wheels!



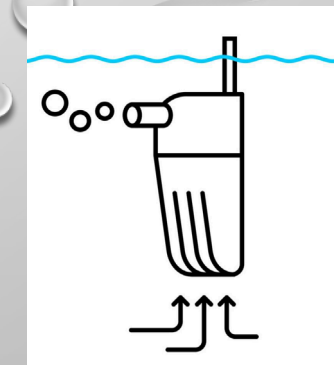
Fishy Monitor

Tracks water temp/ water levels/ weight and happiness of your Fishy.



Pump & Filter

Keeps water clean and fresh for healthy Fishy.





# EMMA PARK







Agriculture in my community  
by- Emma park



# Growing up with nature



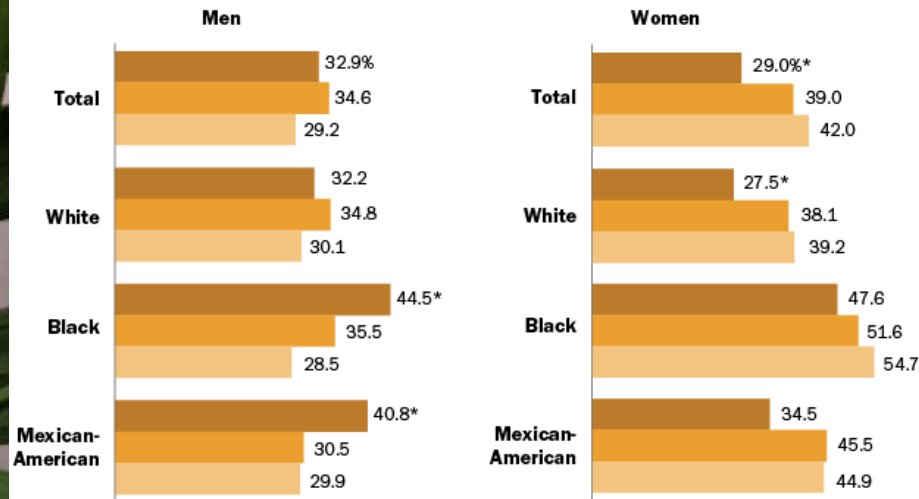
When I was a young child I remember how much I loved nature and fishing although that slowly went away as I got older and it wasn't because I stopped liking it it was because I wasn't exposed to fishing like I was when I was younger. I remember loving to be hands on with nature and wanting to touch every animal I came in contact with well except for spiders.. but I probably wouldn't even been able to have experiences with fishing if it wasn't for my dad who is white. That might sound sad but it is but it's true. Lots of African American and low income communities and house holds don't even know about how to fish or grow their own food. That is why I would like to make a change.

# Obesity rates in low income households and communities

## Prevalence of Obesity by Income

Percentage of U.S. adults ages 20 years and older who are obese

- Income equal to or more than 350% of poverty level
- Income 130%–349% of poverty level
- Income less than 130% of poverty level



Notes: \* indicates statistically significant trend. Persons of other race and ethnicity included in total.

Source: CDC/NCHS, National Health and Nutrition Examination Survey, 2005–2008

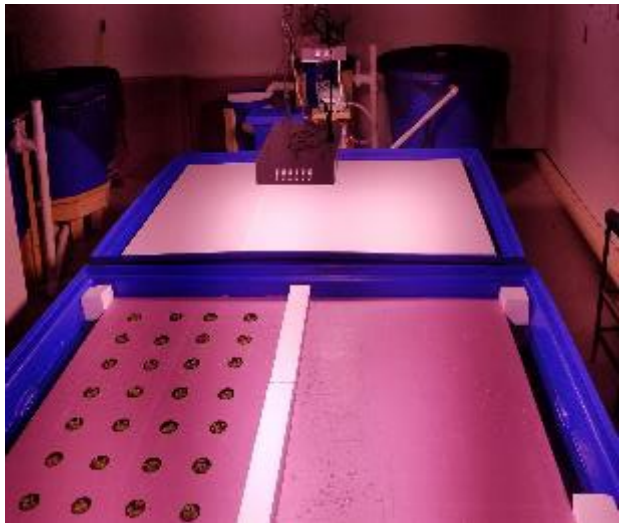
PEW RESEARCH CENTER

Obesity rates in lower income households continue to rise day by day. The rate worldwide is 41.9% but African Americans and other minorities is higher at 49.9% according to trust for America's health.com. This is a serious problem and if we don't make a change who will? Lots of processed foods that are unhealthy for our body are priced low, so that is why families with low incomes have to gravitate to buying those processed foods. These foods (if not ate in moderation) can lead to high cholesterol, diabetes, heart problems and many other illnesses. However all of this can change if we make an effort. Some of the ideas that i would like to make a reality are, making classes to teach people about aquaculture and creating their own food/fishing. Some other ideas are, having free giveaways for seeds and supplies to create your own garden, and free community gardens. These things have proven to help lower income communities in the past. But that doesn't mean the problem went away. This is a world wide issue but one small act could change it. Wake up. We can make a change!



# MARGARET LAWRENCE

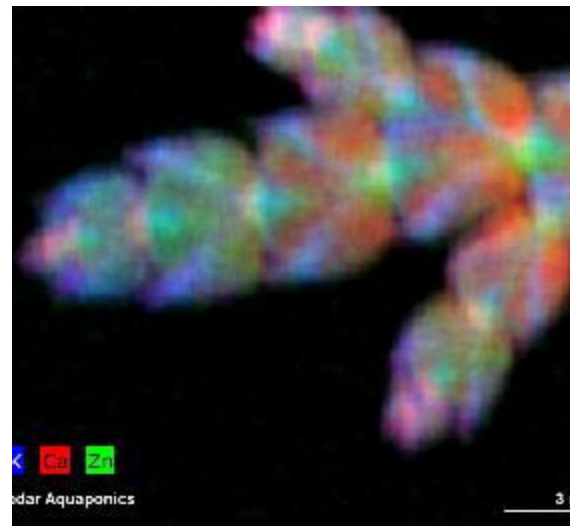
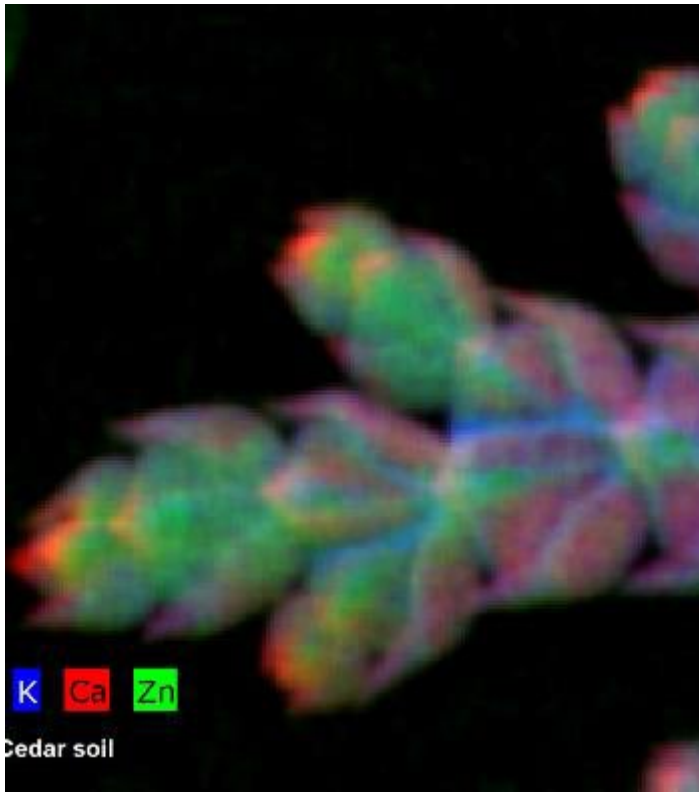




# Growth Rate of Eastern White Cedar in Aquaponics vs. Soil

Margaret Lawrence  
School of Biological Sciences  
Lake Superior State University  
mlawrence3@lssu.edu





# Verdict

- Growth Rate
  - Similar for the first few months
  - Faster in soil due to warmth
- Mortality Rate
  - Lower in Aquaponics
  - Higher in Soil
- Root Systems
  - Aquaponic – longer with less root hairs
  - Soil – shorter with lots of root hairs

# ANDREW POTHOVEN





Determining the effects of sediments  
from different water bodies in  
Michigan on Zebrafish (*Danio rerio*)

Andrew Pothoven

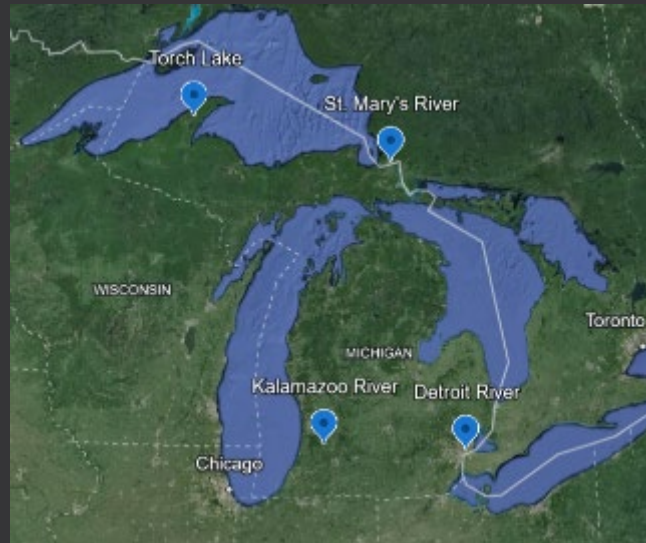
Lake Superior State University

School of Science and Medicine

Dr. Jun Li

# Zebrafish at LSSU

- Common Model Organism
  - High Sensitivity
- Undergraduate Research
- Environmental Toxicology
- Contaminated MI Water Bodies



# Methods/Future Directions

- Assemble System
- Collect and Analyze Sediments
  - Expose Eggs
  - ANOVA
- Determine Pollutants' Effects

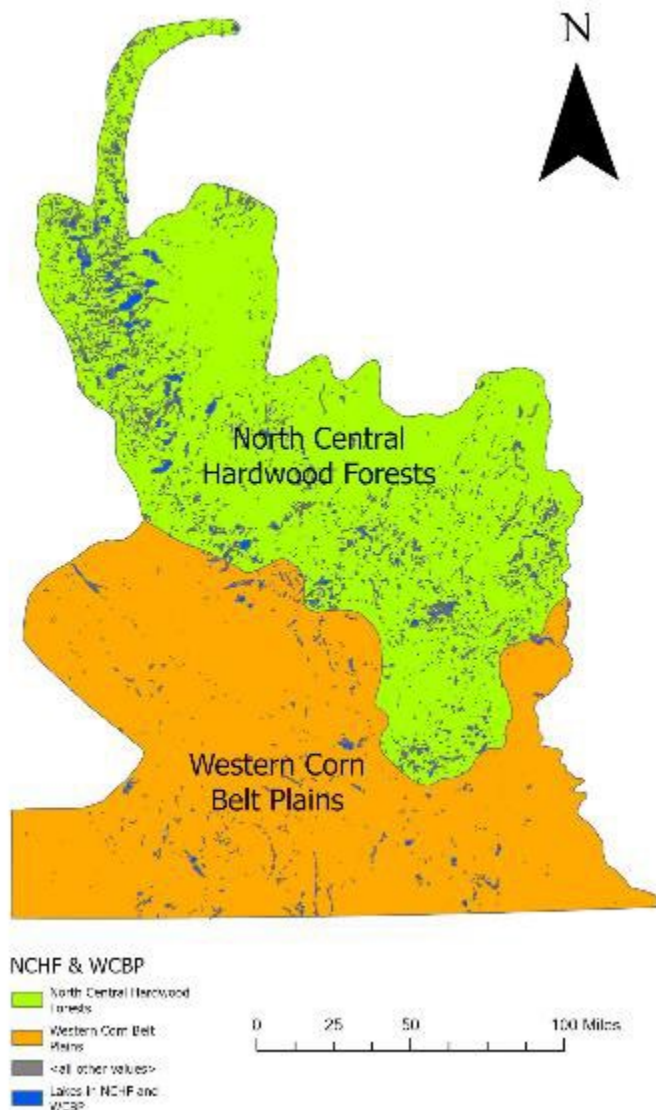




# MASAKI HARA



# The Influence of Ecoregions and Land Use/Cover on Fish Assemblages in Southern Minnesota – Masaki Hara, Minnesota State Mankato



- Study Sites
  - North Central Hardwood Forests (NCHF)
  - West Corn Belt Plains (WCBP)
- 104 fish species in two ecoregions
  - 96 fish species in the NCHF lakes
  - 77 fish species in the WCBP lakes
- Fish species richness by basin area was significantly different between two ecoregions.
- NCHF lakes had higher fish species richness by basin area than the WCBP lakes.



# Indicator Species Analysis

- 8 indicator fish species in NCHF



Banded Killifish



Cisco

- 16 indicator fish species in WCBP



Fathead Minnow



White Crappie

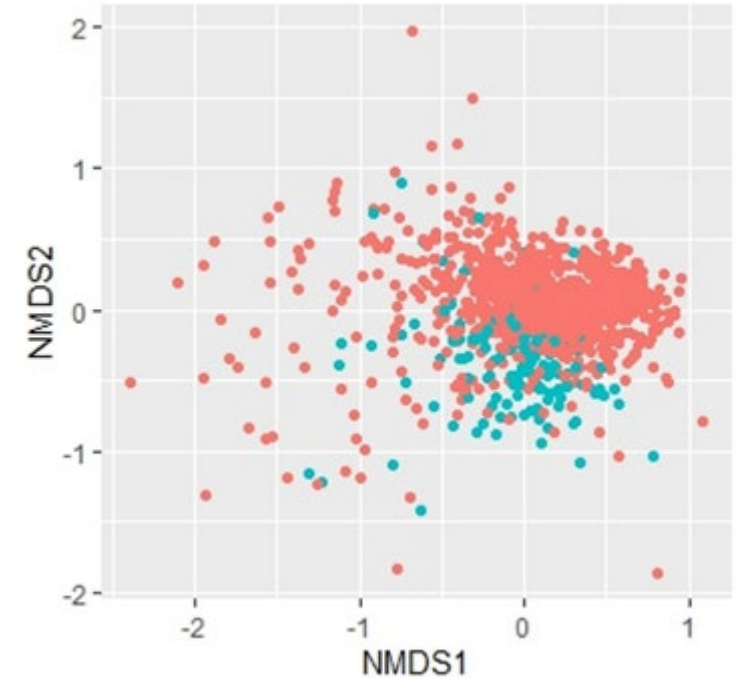


Bigmouth Buffalo



Walleye

# Nonmetric Multidimensional Scaling (NMDS)



as.factor(Ecoregions)

- North Central Hardwood Forests
- Western Corn Belt Plains

# Analysis of Covariance (ANCOVA)

- % Planted, % Forest, & % Developed were positively related to the fish species richness by area.
- Mean TSI was negatively related to the fish species richness by area.

# PRANIL PRADA



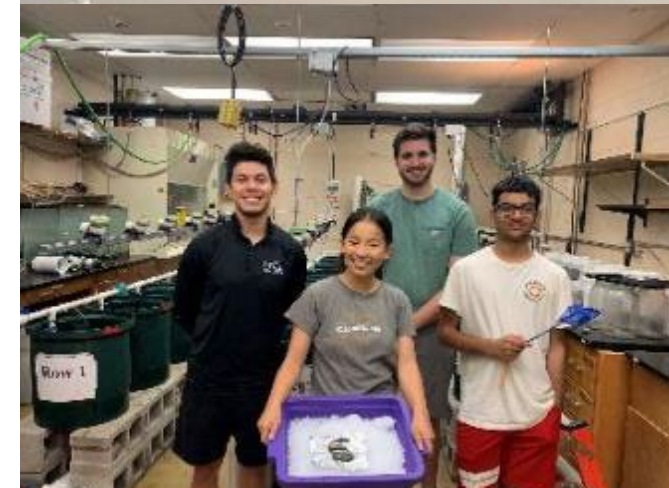


# How Much To Feed Walleye Fingerlings?

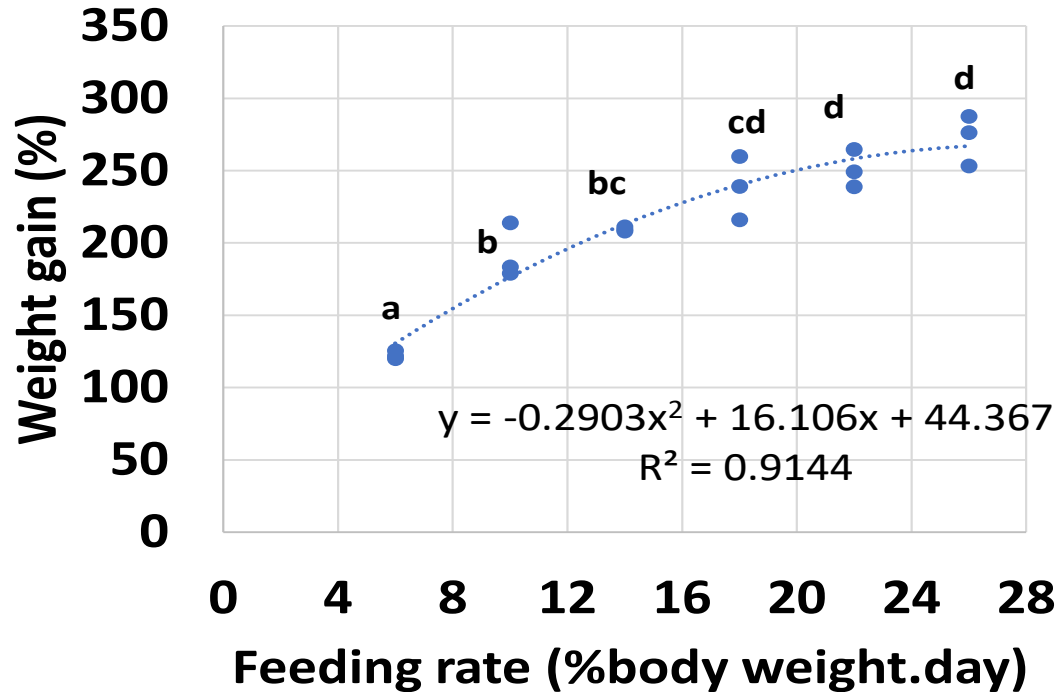
Pranil Panda

High School Intern, University of Wisconsin-Milwaukee

- **Feeding rates: 6, 10, 14, 18, 22, 26% body weight.day)**
- **Endpoints:**
  - **Growth performance**
  - **Feed conversion ratio**
  - **Tolerance to hypoxia & heat shock**



# Findings



- ❖ **Hypoxia:** similar mortality at 6% or 18% body weight
- ❖ **Heat Shock:** no mortality
- ❖ **Optimal feeding rate:** 18% for optimal growth & hypoxia tolerance
- ❖ **Future Research**
  - Nutrition retention
  - Fish Health
  - Other stress

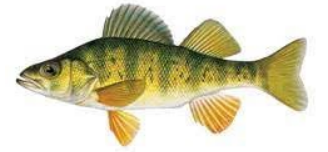




# JACOB PETERSON

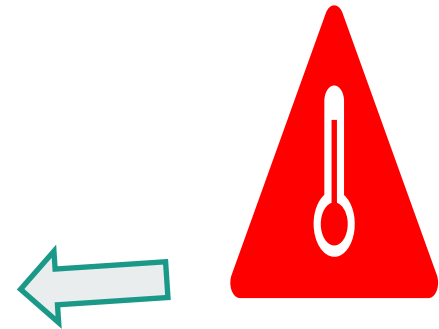


# Assess The Tolerance Of Yellow Perch To Acute Chlorine Exposure And Heat Shock



Jacob Peterson

School of Freshwater Sciences, University of Wisconsin-Milwaukee



Chlorine Contamination

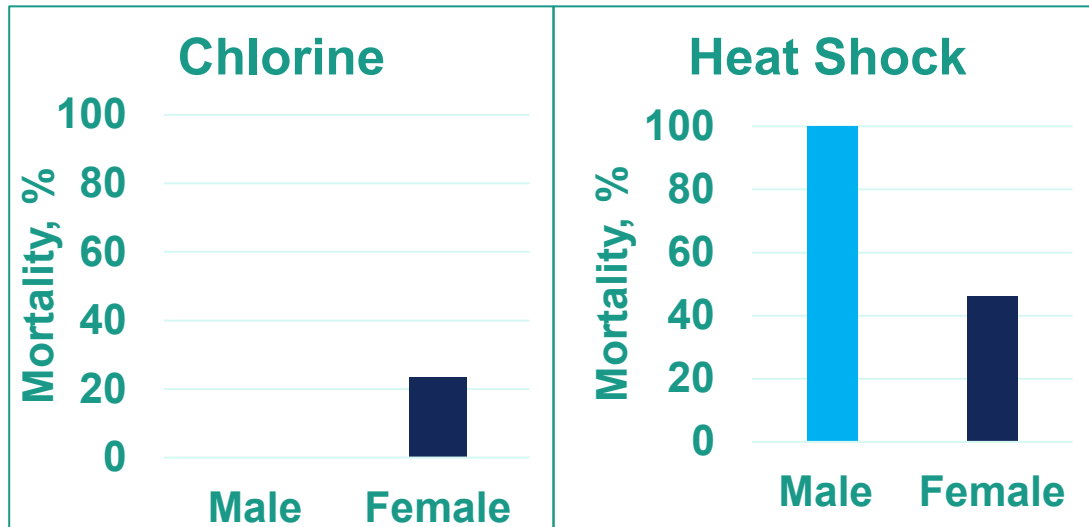
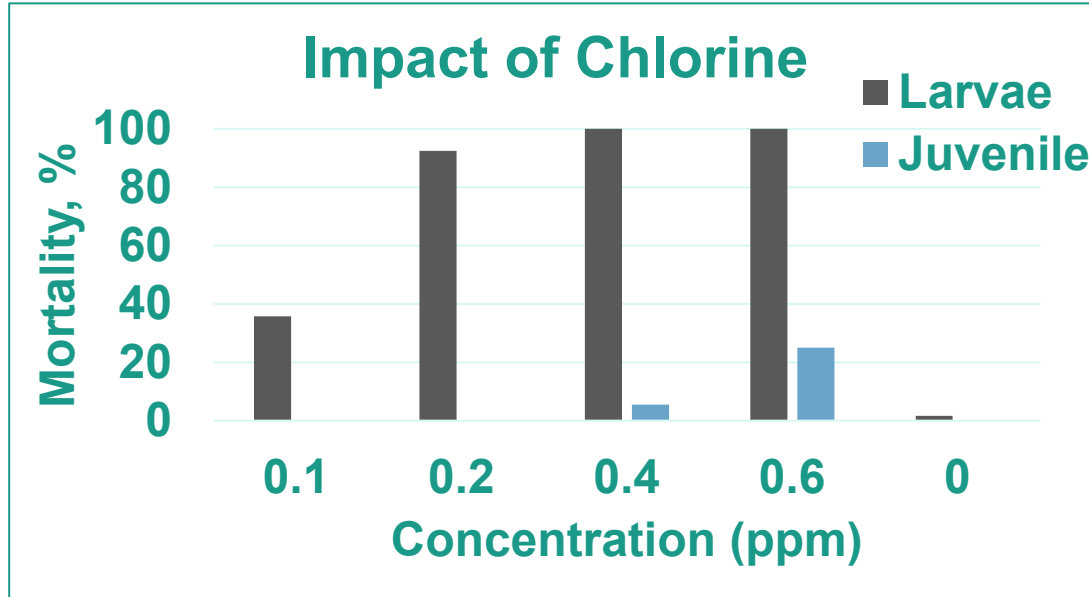
Larvae

Heat Shock

Juvenile



# Results



# Conclusion

Resilience to stress depends on age and sex

- Chlorine contamination  
Larvae < Juvenile; Female < Male
- Heat shock: Male < Female

# Future Research

- Effects of various stressors on different life stages of yellow perch
- The impact of environmental stressors on other species.