



Nathan Van Zante  
6-8 Science Teacher  
Southwest Valley  
Iowa DNR Fisheries

## **Part I: About the Organization**

Their Mission: To conserve and enhance our natural resources in cooperation with individuals and organizations to improve the quality of life in Iowa and ensure a legacy for future generations.

## **Part II: Job Specifics**

The Fisheries dept focuses on maintaining and improving the aquatic life to promote fishing and trapping in Iowa's bodies' of water.

## **Part III: Introduce the Problem**

There is an unhealthy amount of nutrients in our bodies of water.

Algae blooms are creating a negative impact on entire aquatic ecosystems, sometimes killing off entire populations.

## **Part IV: Background**

Especially in the 60s & 70s, farmers would put large amounts of fertilizer on their fields, which would end up in the water.

- Some type of plant is going to use up the nutrients in the water.
- This created many aquatic plants to thrive.
- Fishermen didn't like plants so grass carp was introduced to get rid of them.
- Now the algae has nothing to shade it from doing photosynthesis, or any other plants to compete for nutrients.
- When the plants die, it depletes the oxygen from the water, with enough of this the fish will suffocate.
- The nutrients put in the water during the 60s is still there. Plants use up the nutrients but when they die, the nutrients go right back in the lake.

## **Part V: Business Solution**

- Do not introduce grass carp.
- Promote a healthy amount of vegetation. Enough to prevent the algae from thriving. Also have diversity so when a plant's season ends, it won't take all the oxygen at once.

## **Part VI: Student Solutions**

Hoping something like the DNR solution. But I would also see if they could create ways to decrease the amount of nutrients in the water, and not just have it cycle year after year. Also realize little to no plants grow in the river (not even algae) so nothing is taking the nutrients before it goes to the gulf. See if they have any solutions for that, keeping in mind of the changing water levels.