# Eutro Poc

# Meet the Team











We are a group of high school juniors with interests in environmental issues and advocacy. Through the creation of **Eutr**()**Pod**, we hope to empower individuals and communities around the world to fight eutrophication.



# The Problem

An influx of nitrogenous and phosphorous compounds cause eutrophication. These compounds come from industrial waste, untreated wastewater, and other household products.

- \$ 2.2 Billion is lost from the US Economy in the form of LOST AGRICULTURAL PRODUCTIVITY and DIMINISHED USE OF
  - RECREATIONAL WATER from EUTROPHICATION.



# EutroPhication prevention technology

**EutrOPod** alters enzymes present in denitrifying bacteria to accelerate the process of denitrification in eutrophic ecosystems.

### The **Eutr**\(\rightarrow\) **Pod** Cycle The Nitrogen Cycle Reduced nitrates = less algae NH<sub>3</sub>/NH<sub>4</sub>\* NO, NO, NH<sub>2</sub>/NH<sub>2</sub>\* NO, /NO, Nitrification Nitrification Limiting Limiting **Nutrients From Nutrients From Runoff and** Runoff and **Eutr**\(\rightarrow\) Pod Wastewater Wastewater applied here

# Using **Eutr Pod**

Pre-Eutrophic Lake: A lake that will become eutrophic if not treated properly.

Nitrogen Testing Strips: Determine the amount of Eutra Pod to apply.

Apply Eutr Pod: **EutraPod** will work in a matter of hours.

Oligotrophic Lake: A clearer and cleaner lake after applying EutroPod.







# The **Eutr** Pod

EutroPod contains a proprietary blend of four denitrifying enzymes (nitrate reductase, nitrite reductase, nitric oxide reductase, and nitrous oxide reductase) and other all-natural ingredients.

nitrate reductase

### **Eutr** Pod reduces nitrogen levels and fights algal blooms.

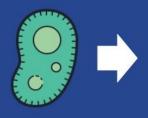
**Eutr Pod** reduces limiting nutrients to a form unusable by algae and safe for the environment.



# Developing **Eutr Pod**

Edit Genes and Insert in Expression Vector.

Extract Enzymes from E. Coli.



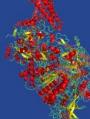
Extract Genes from Pseudomonas Fluorescens.















Insert Expression Vector into E. Coli.

Enter Enzymes in Buffer Solution.



# **Competitive Analysis**

All-natural, cost-effective alternative to previous solutions.

Solution	Price	Eco-Friendly	Large bodies of water	Longevity of product	Ease-of-use / implementation
<b>EutrOPod</b>	\$	✓	✓	<b>✓</b>	✓
Filtration Systems	\$\$\$			1	
Reducing nutrients in household products	\$\$	✓	1	1	
Herbicides + Algaecides	\$		<b>✓</b>		✓
Dilution of Water Bodies	\$\$	1			✓
Extraction of excess nitrogen/phosphorous	\$\$\$	<b>✓</b>			



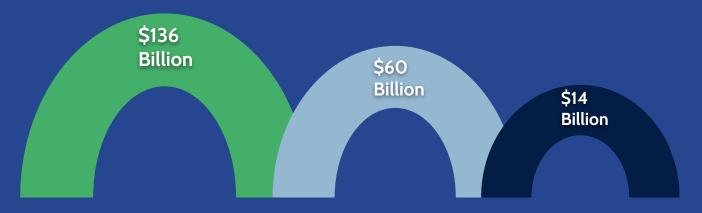
# Target Market

**EutrOPod** aims to compete in a multi-billion dollar market.

**Primary:** Farmers, Agricultural Companies

Secondary: Government Departments (DOA, DOI, EPA) for use on public lands

Retail: Home gardening, private waterways/lakes, landscaping



**Total Available US Market**Wildlife and Agriculture Industry

Serviceable US Market
Clean Water and Waste
Treatment

Target Market
Government Agencies
and Fertilizers

## Revenue Model

Target Acquisition Plan



### Customers

Potential Customers 311,326

Estimated quantity of **Eutr Pod** necessary for treatment based on the quantity of eutrophic aquatic bodies and sewage facilities in the U.S.

### Plans with Revenue

Target Customers
10,000

Initial targeting 5% of potential U.S. customers.
Expanding minimum 1% into foreign markets year over year.

### **Projections**

\$1.6 million
(first year)

Exponential growth for multi year planning

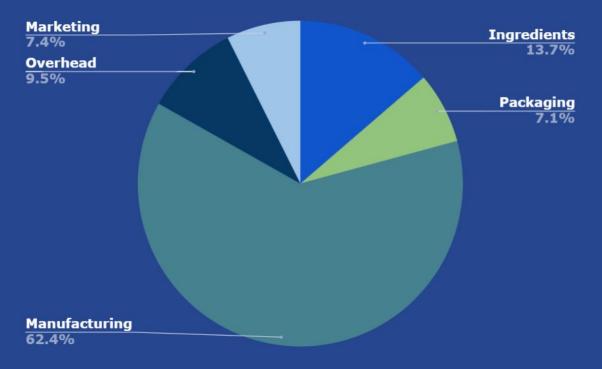


# **Production Cost Breakdown**

Costs per 1,000 units of EutroPod

1 unit = 1 gallon

UNIT COST:	\$19.55	
UNIT PRICE:	\$60.00	
UNIT PROFIT:	\$31.65	



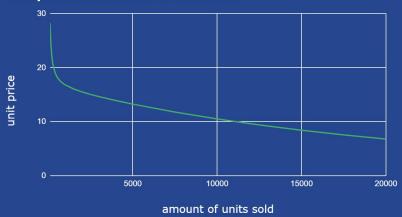


# Production Cost Breakdown (cont.)

### Revenue vs. Amount of units sold



### unit price vs. amount of units sold



After 20,000 units the production cost remains constant.



# Three-Pronged Marketing Strategy





### **Direct Marketing**

Industrial market requires targeted focus and direct contact



### Academic/ Target Media

Build credibility naturally through publishing in journals and trade magazines

### **Affinity and Co-branding**

partnerships with organizations and institution already in market



**ECO-FRIENDLY** 

**INEXPENSIVE** 

**EASILY IMPLEMENTABLE** 

Eutr\\Pod