

How You Can Improve Water Quality and Shoreline Habitats

MPOA Board Meeting
January 9, 2024

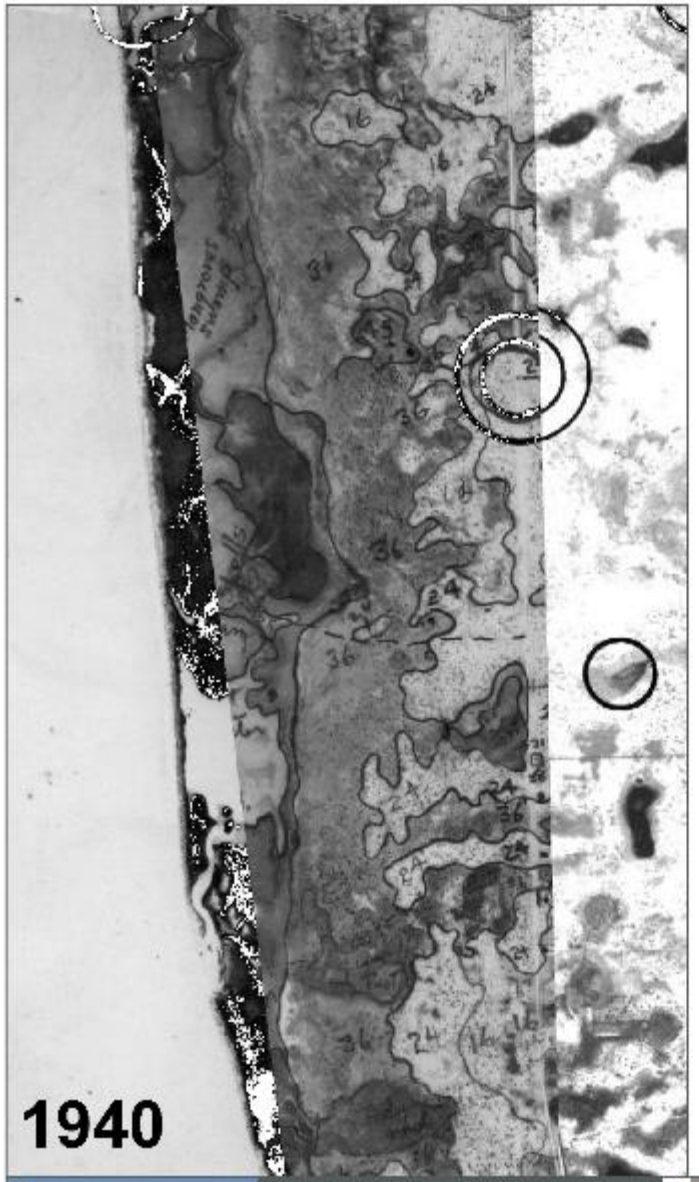





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Figure 1-1. Historical Aerials of Moorings Bay

City of Naples, Natural Resources Division
Collier County, Florida

Cardno
Shaping the Future
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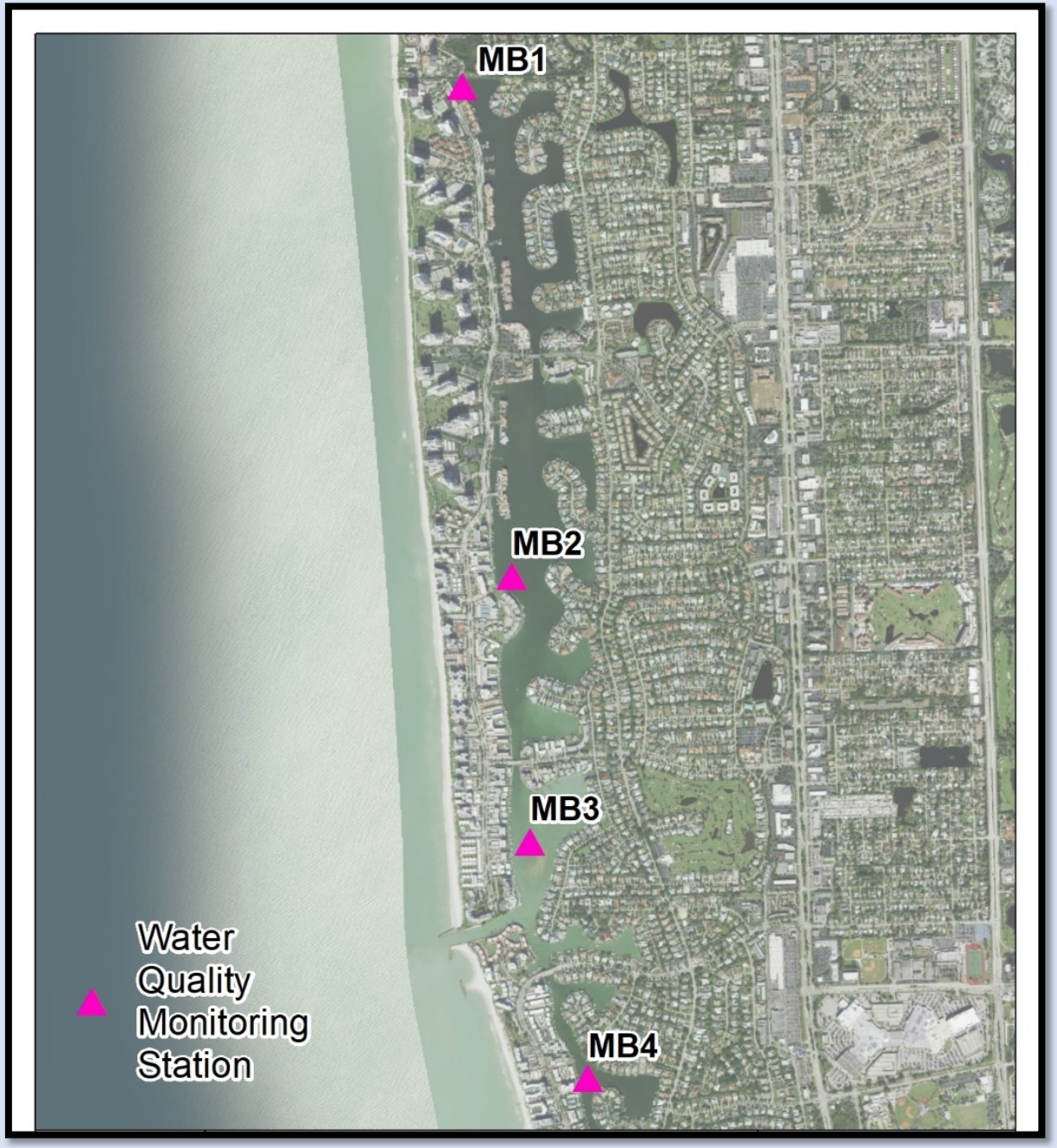
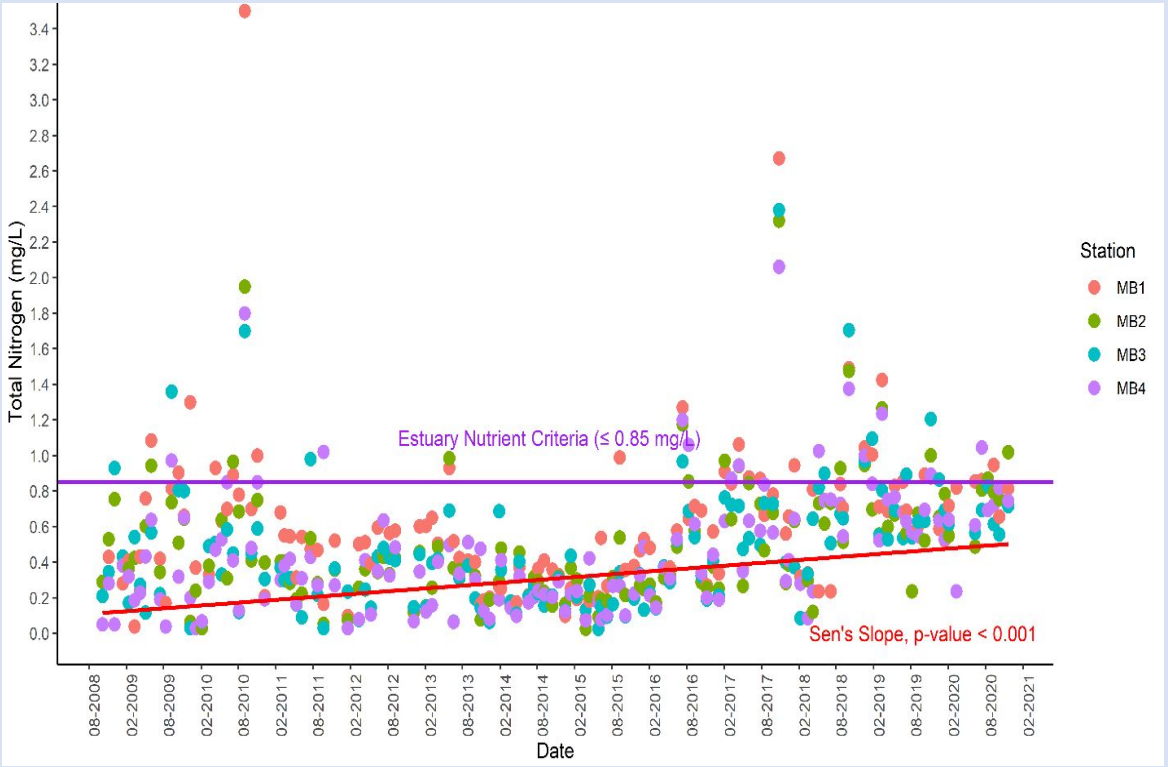
Moorings Bay Water Quality and Biological Analysis Report (2021)

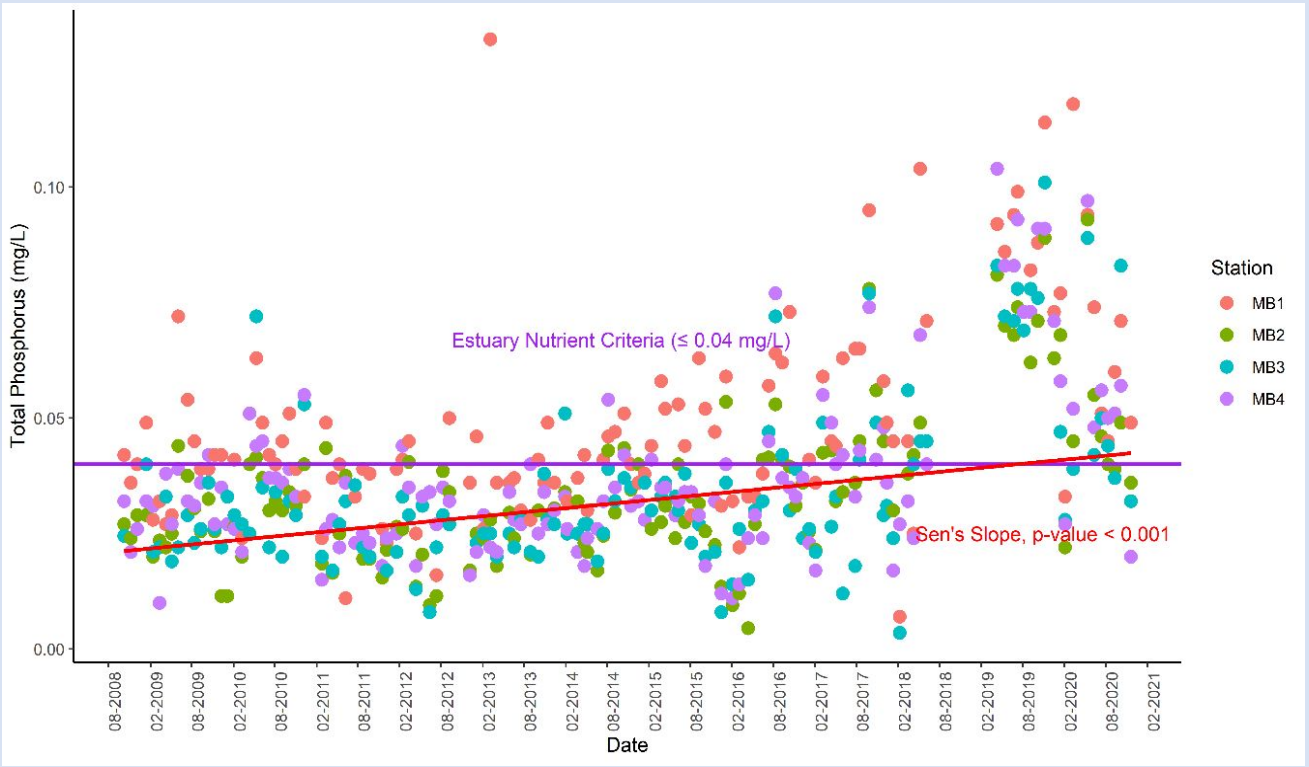


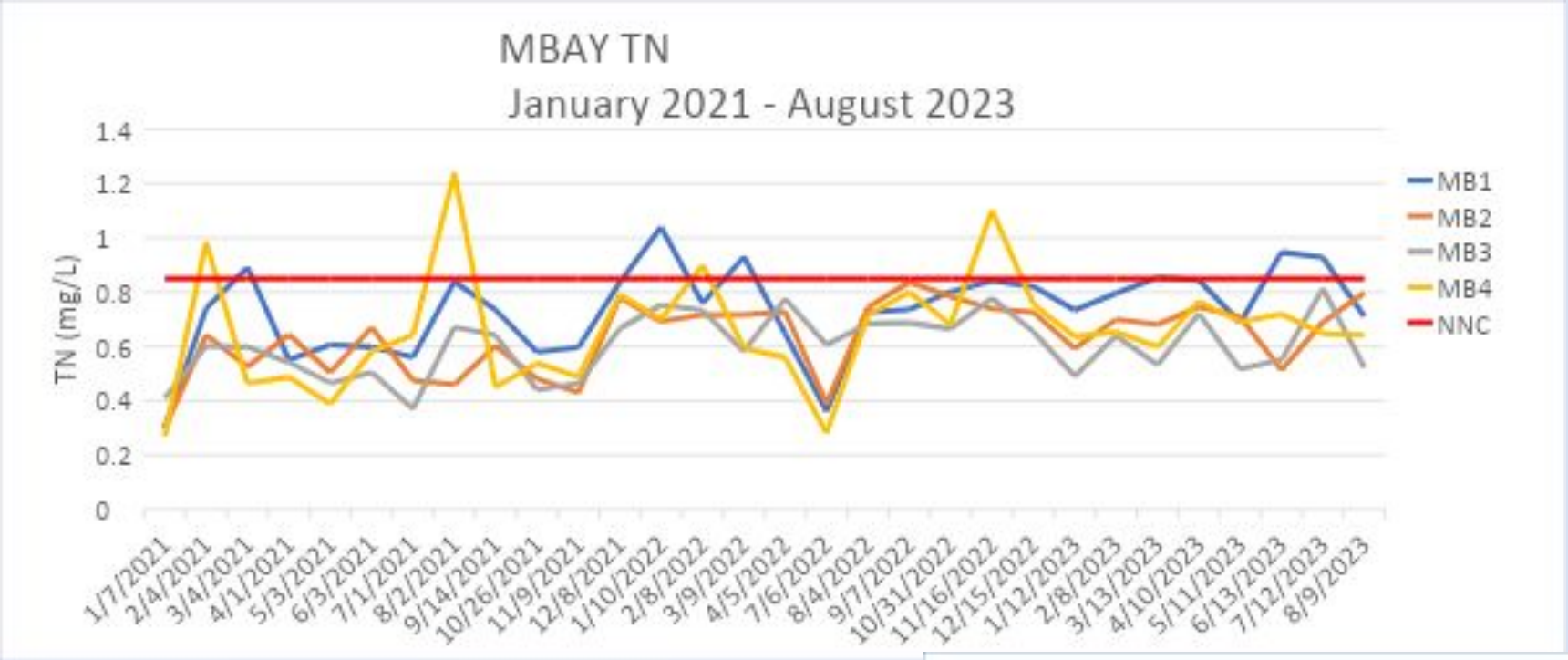


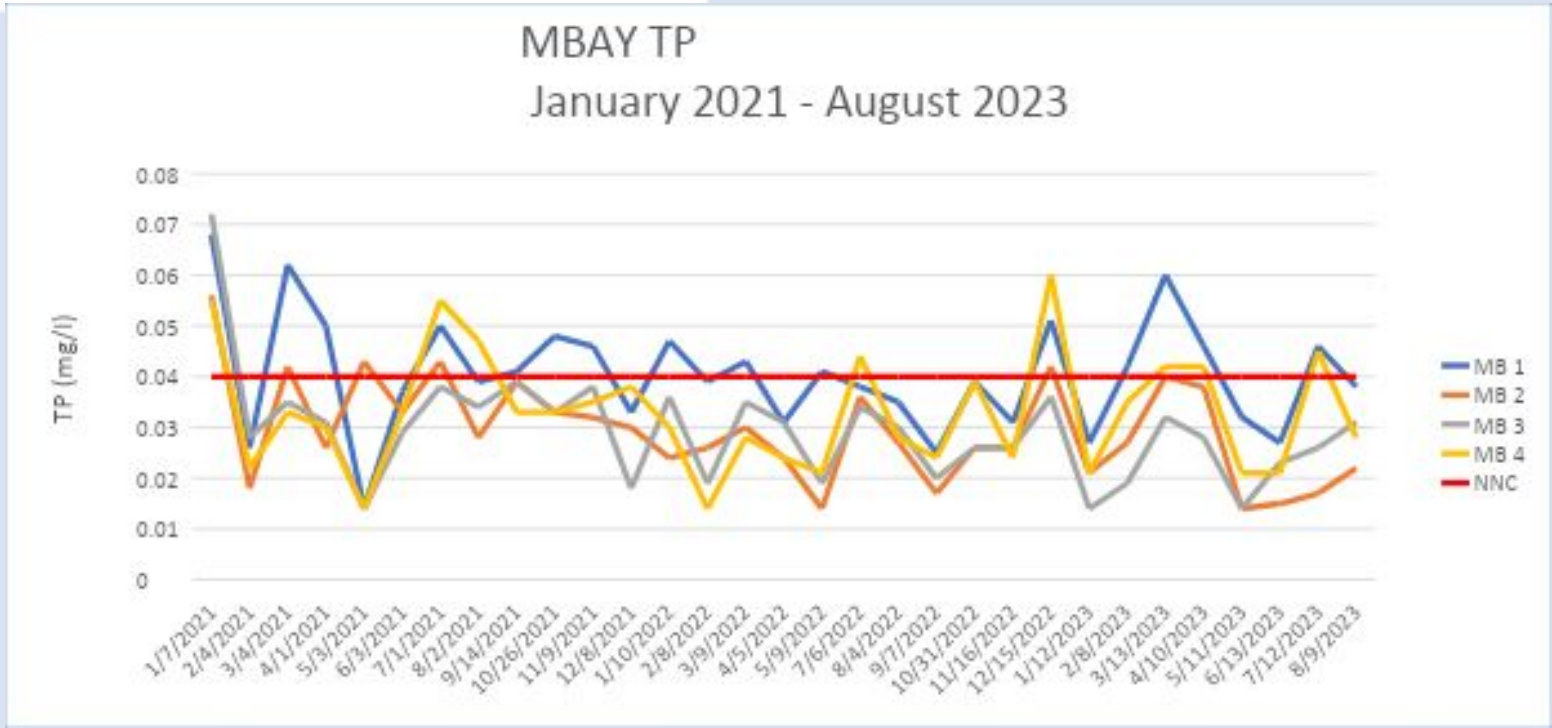
Trends Over Time in Bay Water Quality

- Significantly increasing concentrations of TN, TP, Chl-a
- No trend observed in DO
- Copper and Enterococci: Recent decreases in exceedances






MBAY TN
January 2021 - August 2023
TN (mg/L)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
MB1
MB2
MB3
MB4
NNC
1/7/2021
2/4/2021
3/4/2021
4/1/2021
5/3/2021
6/3/2021
7/1/2021
8/2/2021
9/14/2021
10/26/2021
11/9/2021
12/8/2021
1/10/2022
2/8/2022
3/9/2022
4/5/2022
7/6/2022
8/4/2022
9/7/2022
10/31/2022
11/16/2022
12/15/2022
1/12/2023
2/8/2023
3/13/2023
4/10/2023
5/11/2023
6/13/2023
7/12/2023
8/9/2023


MBAY TP
January 2021 - August 2023
TP (mg/l)
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
MB 1
MB 2
MB 3
MB 4
NNC
1/7/2021
2/4/2021
3/4/2021
4/1/2021
5/3/2021
6/3/2021
7/1/2021
8/2/2021
9/14/2021
10/26/2021
11/9/2021
12/8/2021
1/10/2022
2/8/2022
3/9/2022
4/5/2022
5/9/2022
7/6/2022
8/4/2022
9/7/2022
10/31/2022
11/16/2022
12/15/2022
1/12/2023
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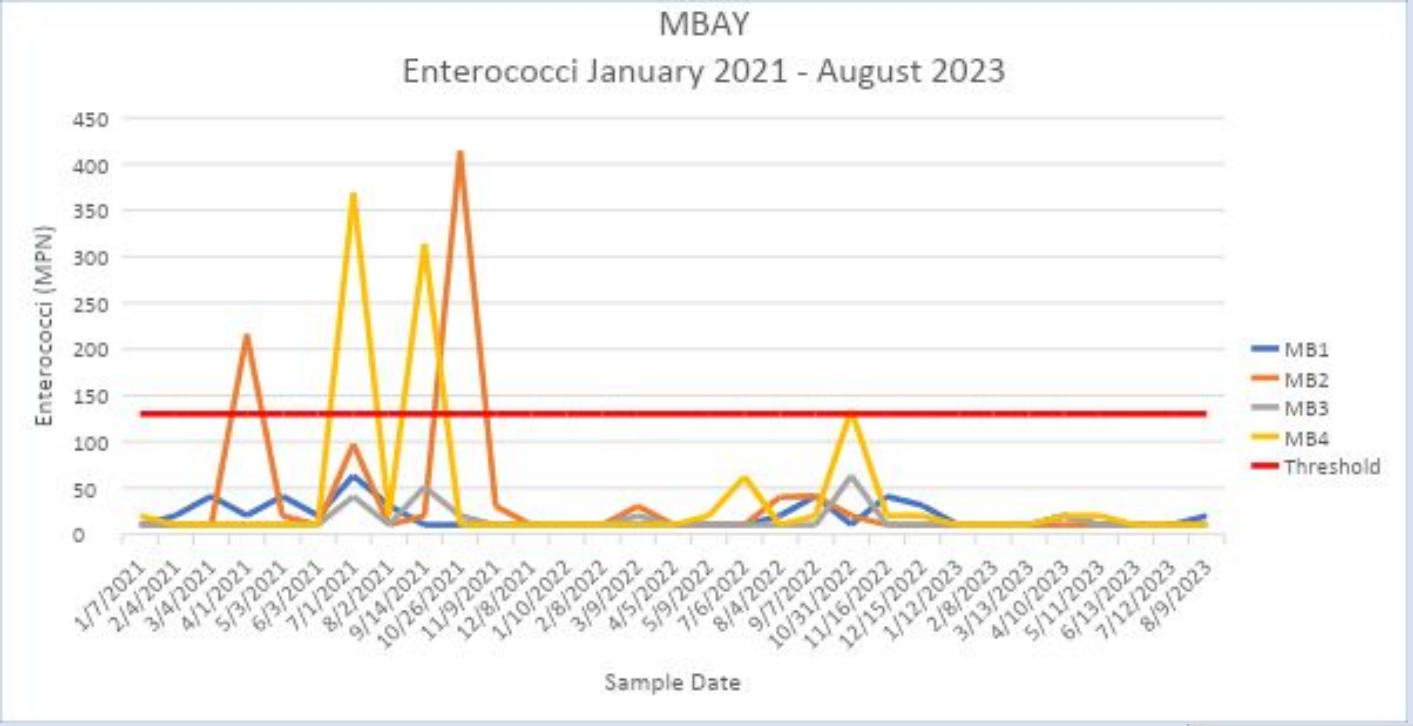
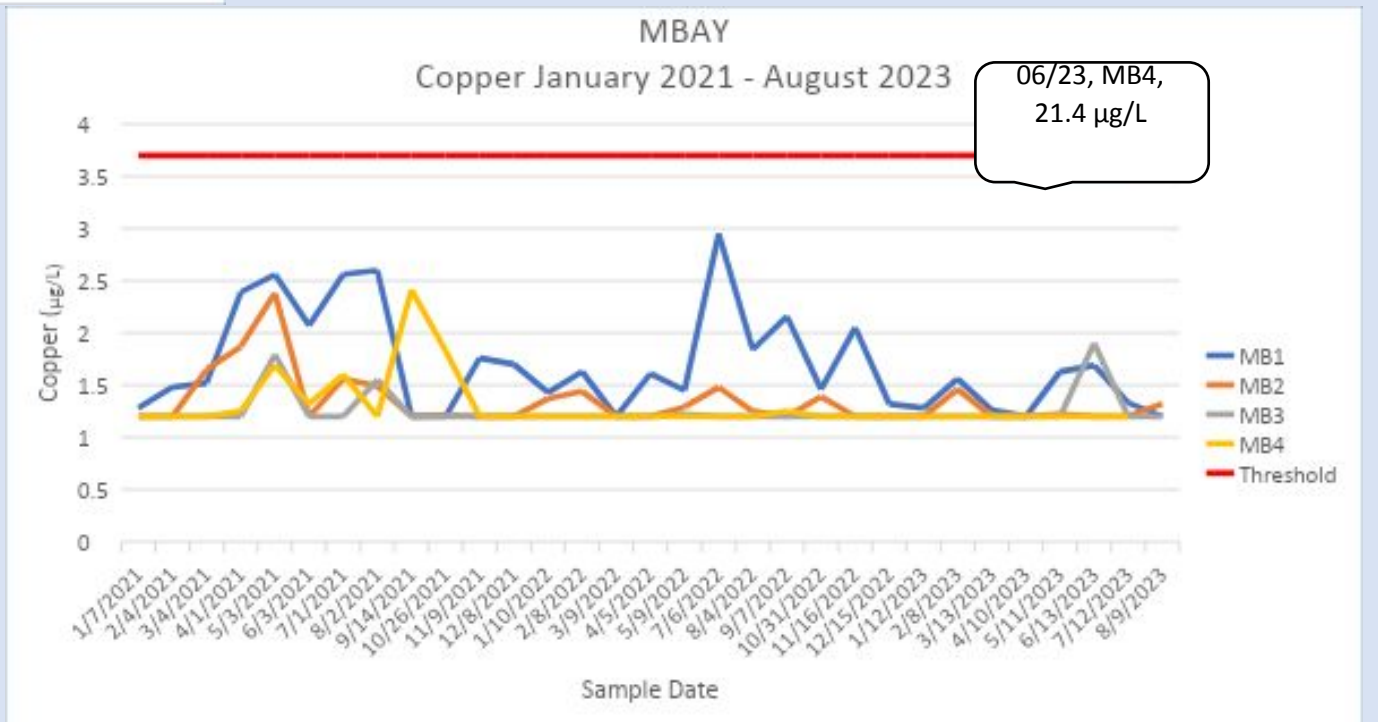
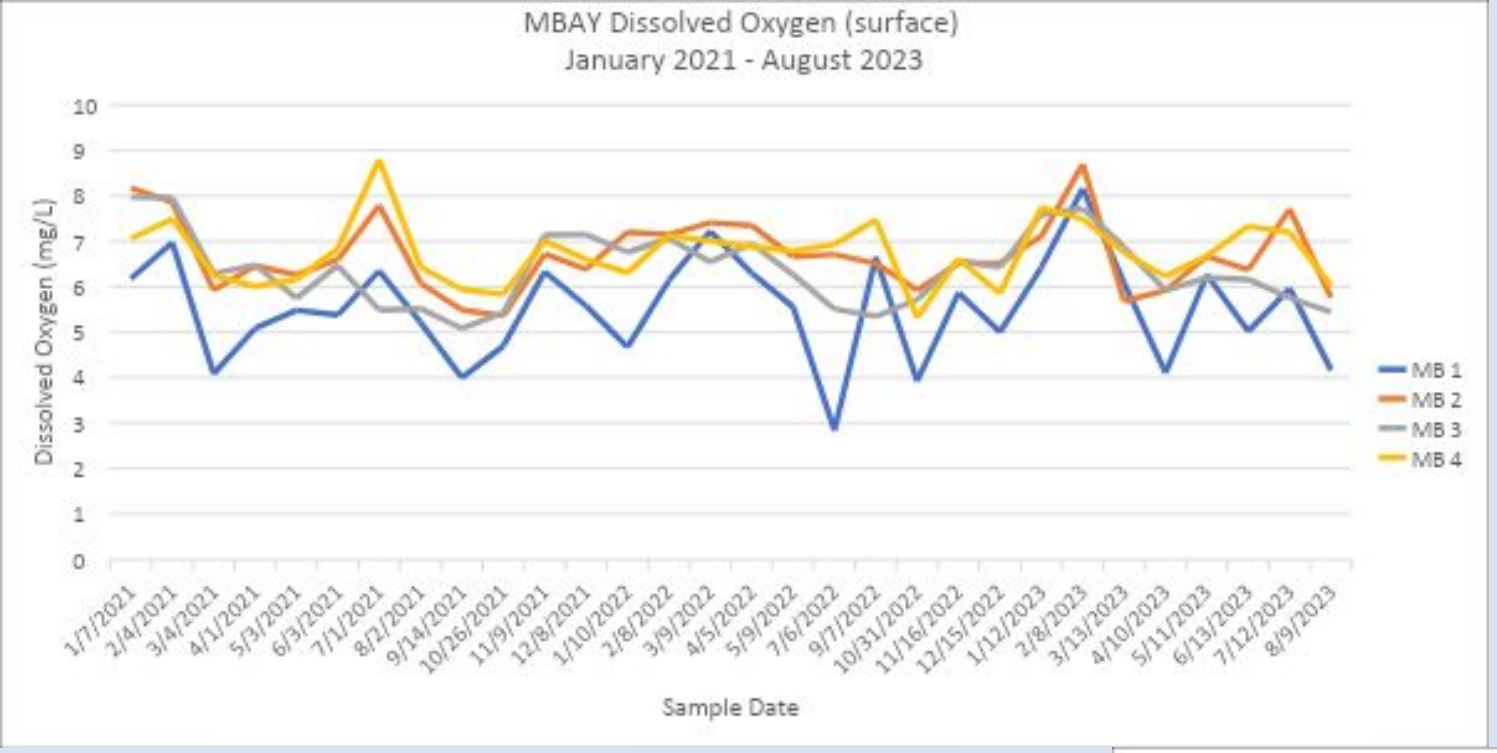
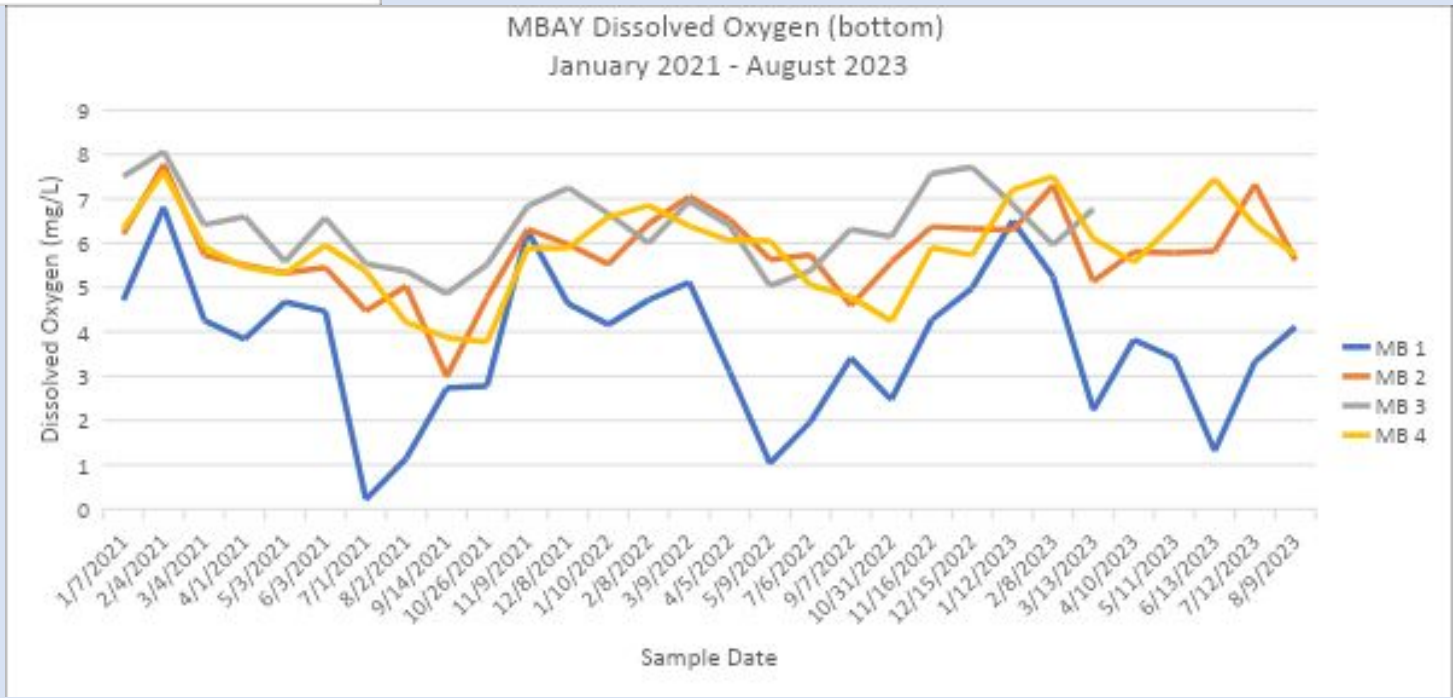
7/12/2023
8/9/2023


MBAY
Enterococci January 2021 - August 2023
Enterococci (MPN)
450
400
350
300
250
200
150
100
50
0
1/7/2021
2/4/2021
3/4/2021
4/1/2021
5/3/2021
6/3/2021
7/1/2021
8/2/2021
9/14/2021
10/26/2021
11/9/2021
12/8/2021
1/10/2022
2/8/2022
3/9/2022
4/5/2022
5/9/2022
7/6/2022
8/4/2022
9/7/2022
10/31/2022
11/16/2022
12/15/2022
1/12/2023
2/8/2023
3/13/2023
4/10/2023
5/11/2023
6/13/2023
7/12/2023
8/9/2023
Sample Date
MB1
MB2
MB3
MB4
Threshold


MBAY
Copper January 2021 - August 2023
06/23, MB4, 21.4 µg/L
Copper (µg/L)
4
3.5
3
2.5
2
1.5
1
0.5
0
1/7/2021
2/4/2021
3/4/2021
4/1/2021
5/3/2021
6/3/2021
7/1/2021
8/2/2021
9/14/2021
10/26/2021
11/9/2021
12/8/2021
1/10/2022
2/8/2022
3/9/2022
4/5/2022
5/9/2022
7/6/2022
8/4/2022
9/7/2022
10/31/2022
11/16/2022
12/15/2022
1/12/2023
2/8/2023
3/13/2023
4/10/2023
5/11/2023
6/13/2023
7/12/2023
8/9/2023
Sample Date
MB1
MB2
MB3
MB4
Threshold


MBAY Dissolved Oxygen (surface)
January 2021 - August 2023
Dissolved Oxygen (mg/L)
Sample Date
MB 1
MB 2
MB 3
MB 4


MBAY Dissolved Oxygen (bottom)
January 2021 - August 2023
Dissolved Oxygen (mg/L)
Sample Date
MB 1
MB 2
MB 3
MB 4

Riprap vs. Seawall



Disadvantages of seawalls

- Reflects wave energy, resuspends sediment
- Increases turbidity and lowers water clarity
- Poor habitat for estuarine life
- Scouring can occur at base of seawall







What is riprap?

- Rock material placed along shorelines and in front of seawalls
- Provides shoreline protection
- Size ranges from 1 to 2 feet
- Aesthetically pleasing, natural-looking alternative that blends into the environment





Habitat restoration in your backyard!

- Help oysters grow by placing riprap along your shoreline
- Improve water quality and juvenile fish habitat by allowing mangroves to recruit and grow





Advantages of riprap

- Absorbs wave energy
- Provides habitat for flora and fauna
- Extends the life of seawall and reduces scouring

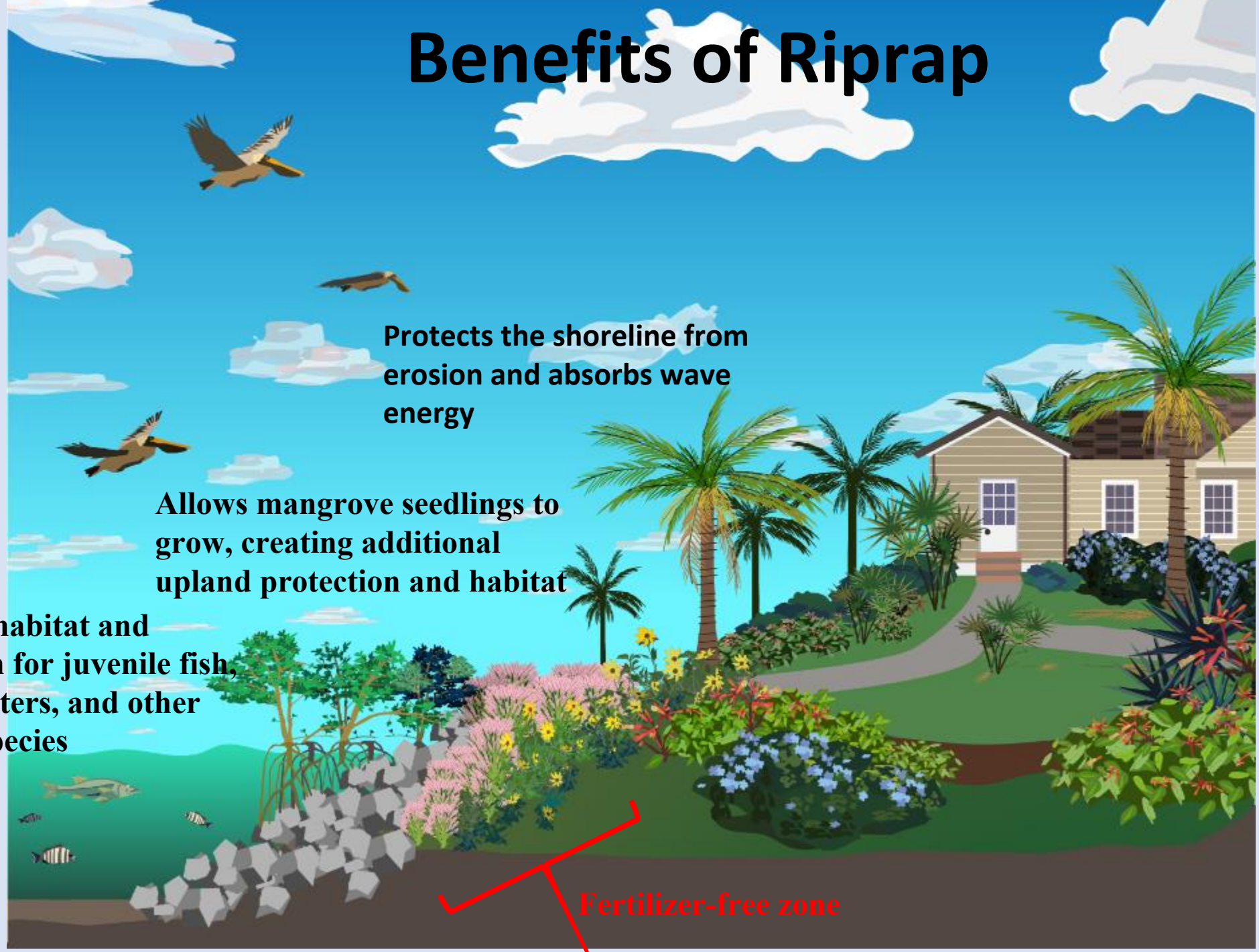








Benefits of Riprap



Along your shoreline, establish a fertilizer-free zone

- Select native plants that:
  - Tolerate high salt areas
  - Provide low cover and are attractive
  - Are low maintenance (no fertilizer)
  - City code requires 10’ fertilizer-free zone from any waterbody or seawall
  - Ex: Muhlygrass, Saw Palmetto, Seaside Ambrosia, Sunshine Mimosa, Black-eyed Susans, Sand Cordgrass



Who is found among mangroves and riprap?

- Crabs
- Juvenile snappers
- Sea trout
- Snook
- Tarpon
- Red drums
- Goliath grouper
- Sheepshead





Riprap, docks, and mangroves are compatible





Can I trim mangroves? YES!



- Can be trimmed as low as 6-feet from substrate
- Permit exemptions for trimming by homeowners
  - When mangroves are kept between 6 and 10 feet in height
- Some situations require a professional mangrove trimmer
  - When mangroves are between 10 and 24 feet in height
- For more specifics, visit the Department of Environmental Protection website

Build a Rain Garden

- A landscaping feature planted with native plants
- Used to intercept stormwater runoff from impervious surfaces
- Roofs, sidewalks, and parking lots

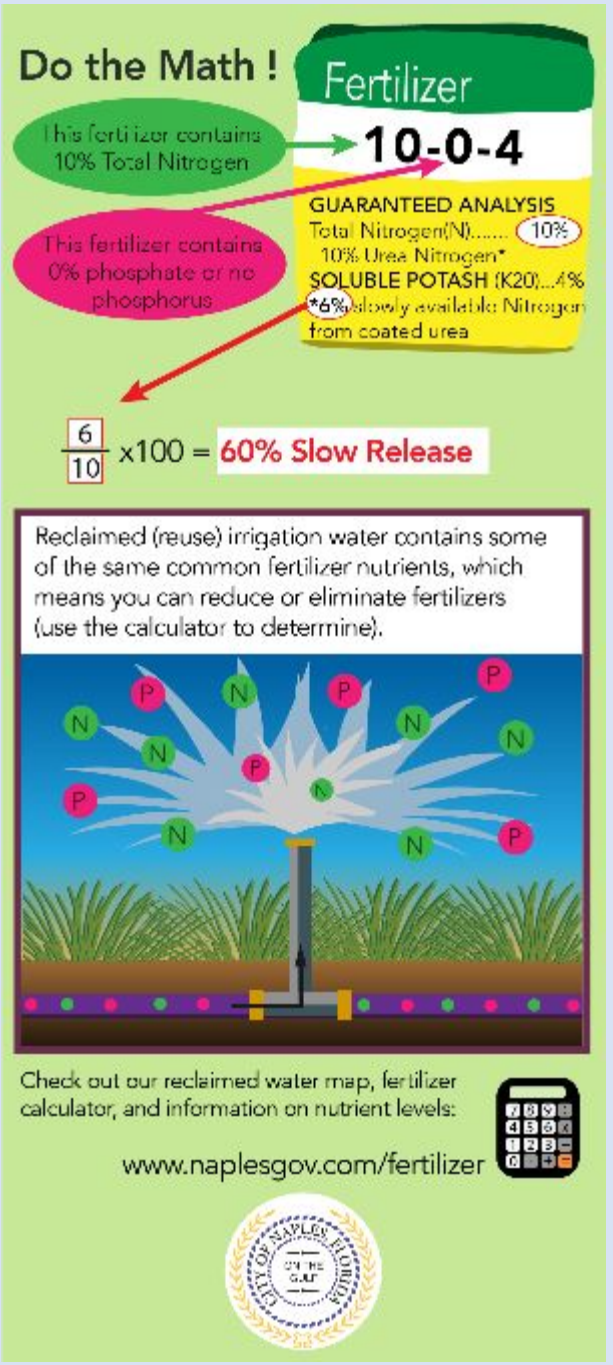




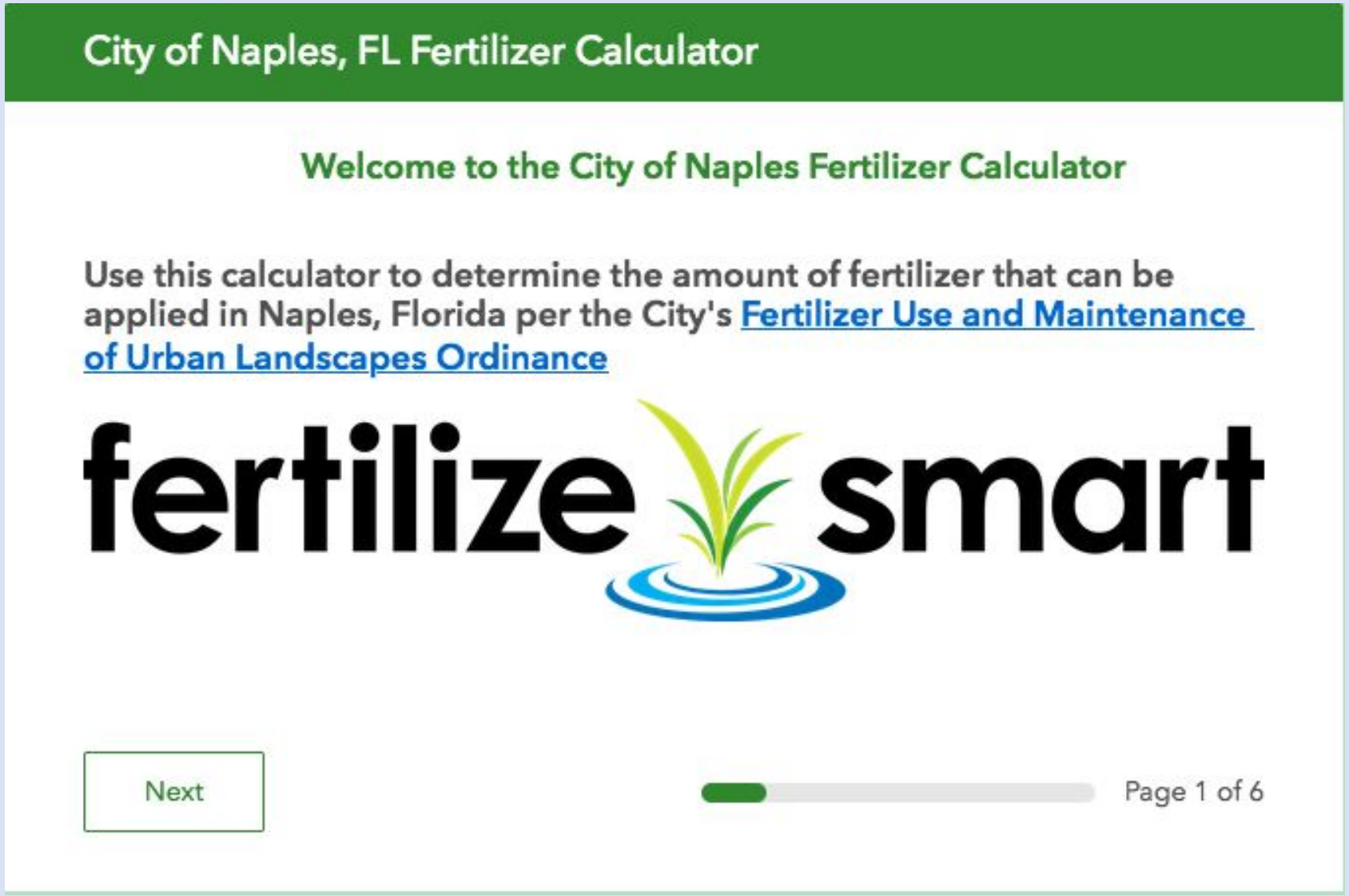
Fertilizer use in Naples

- Check out the City of Naples website for more information and the new Fertilizer Calculator
- https://www.naplesgov.com/fertilizer



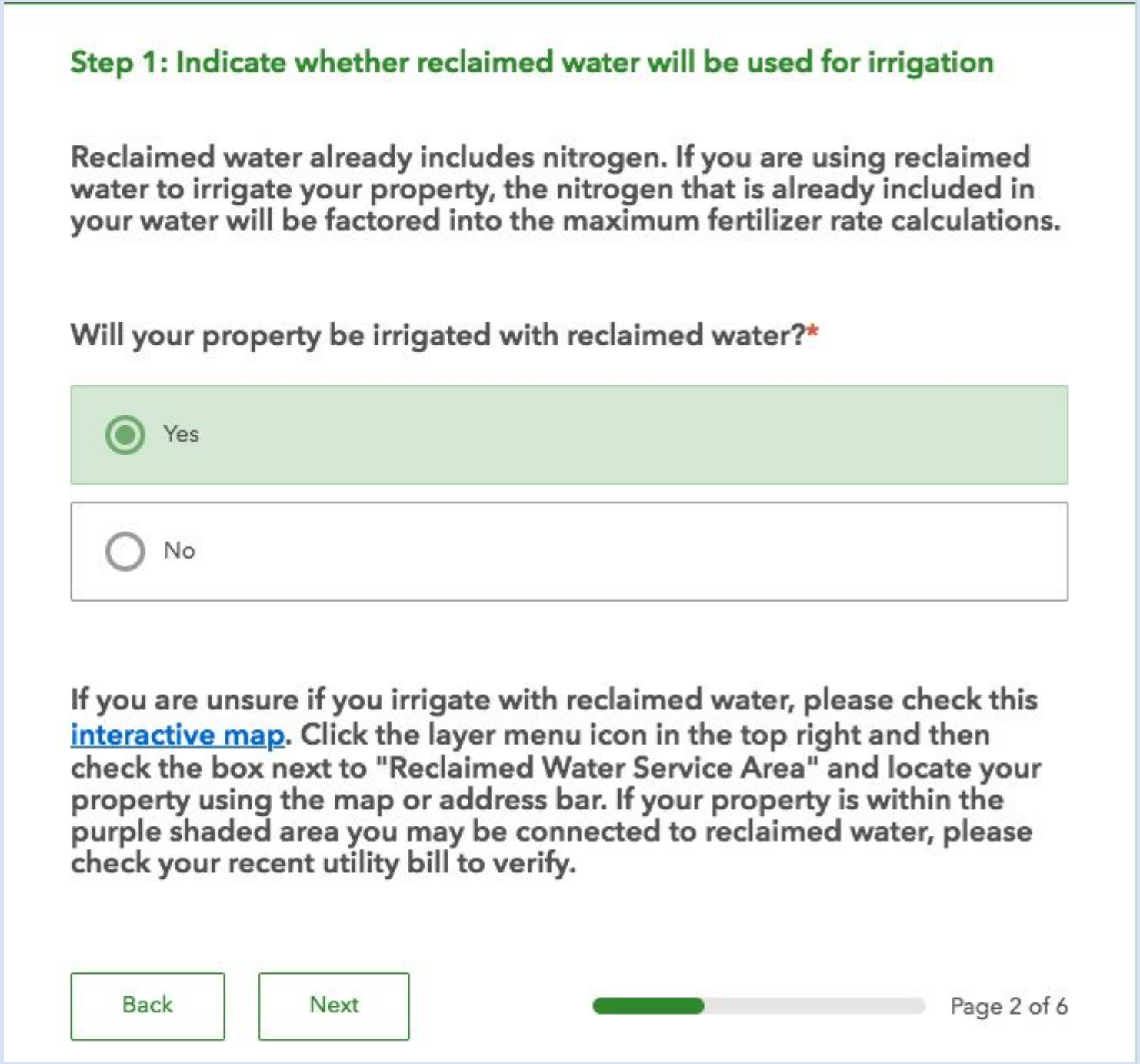


Fertilizer calculator



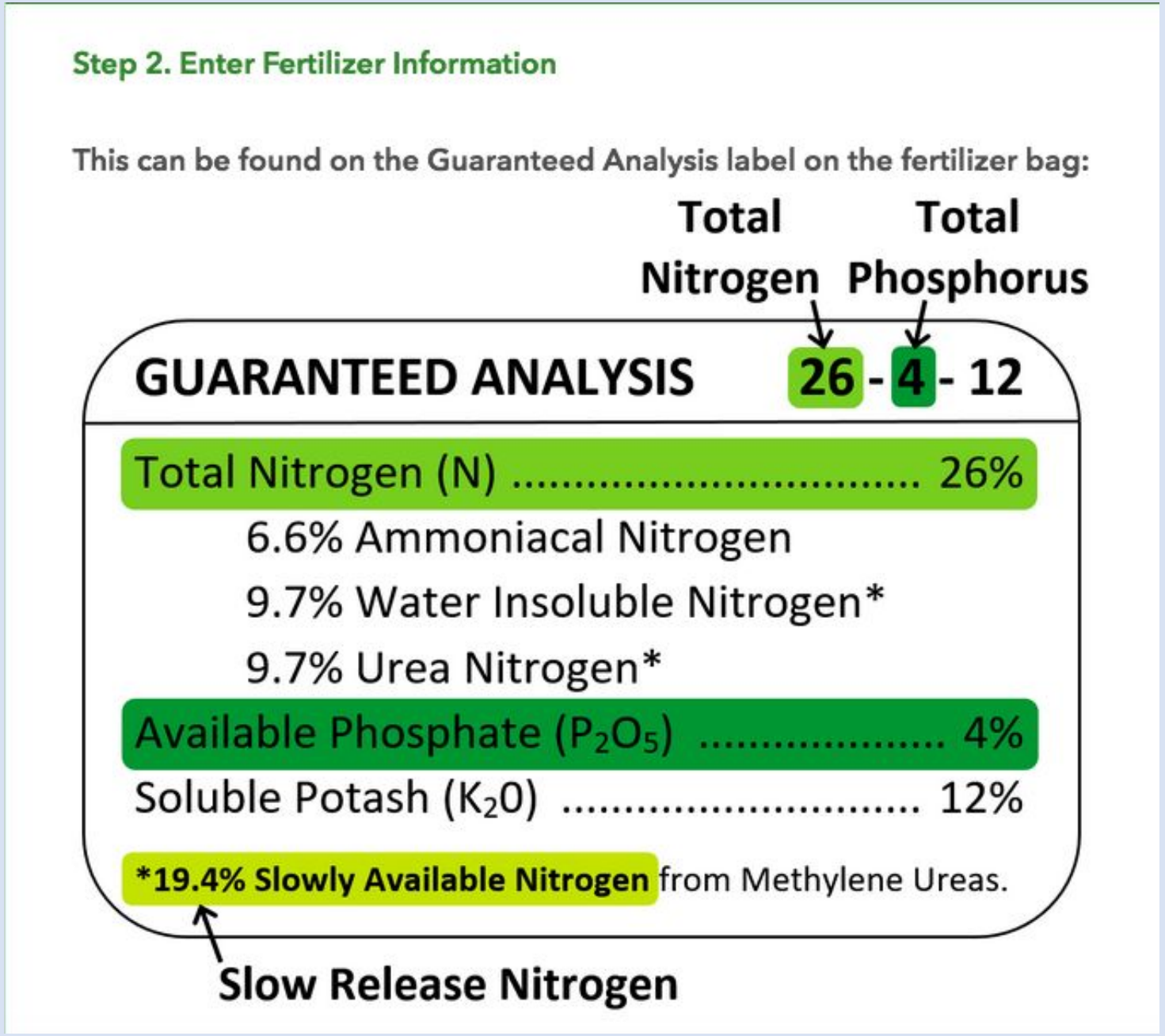
Step 1

- Do you use reclaimed water for irrigation?



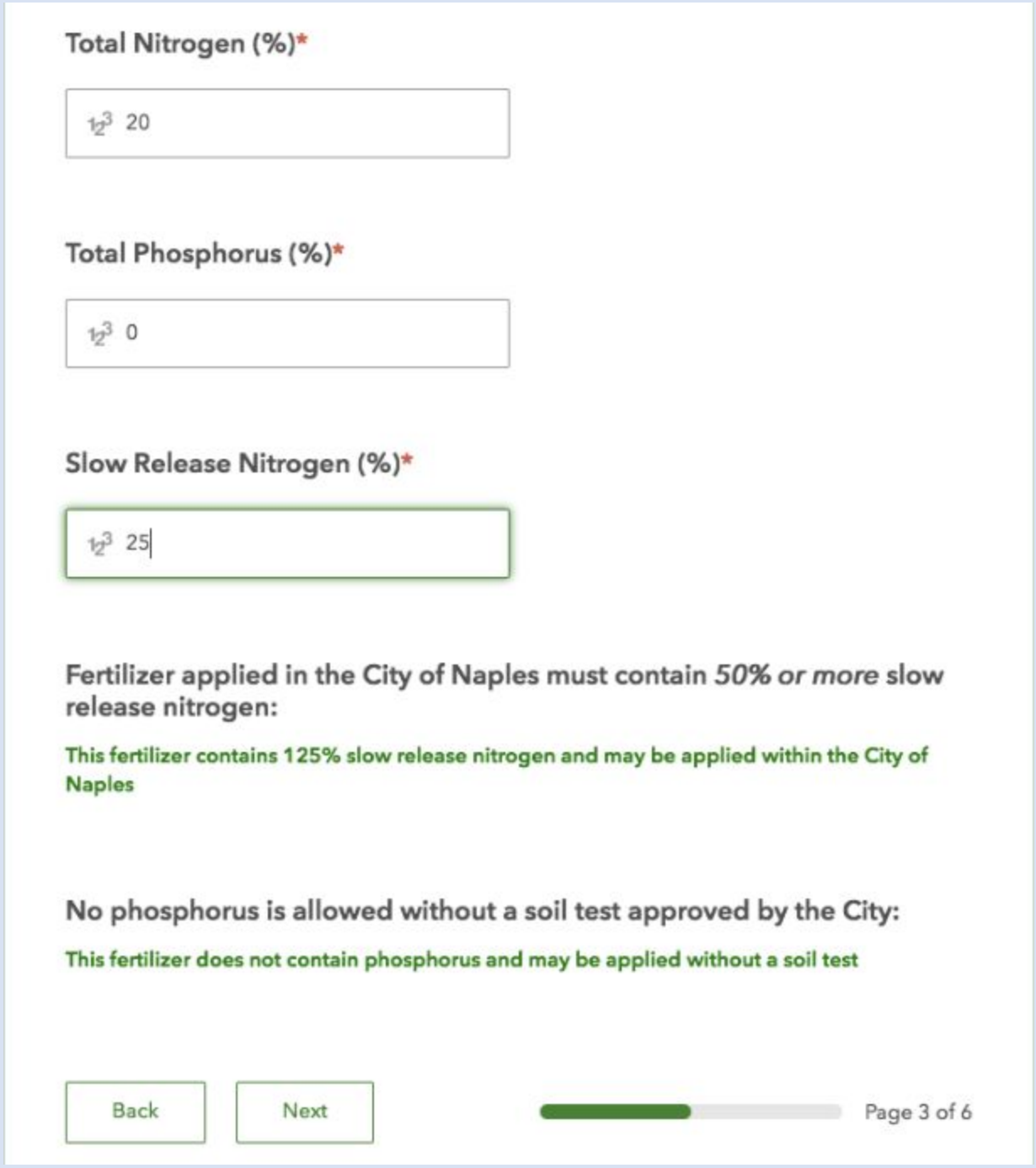
Step 2

- Example of a fertilizer bag label



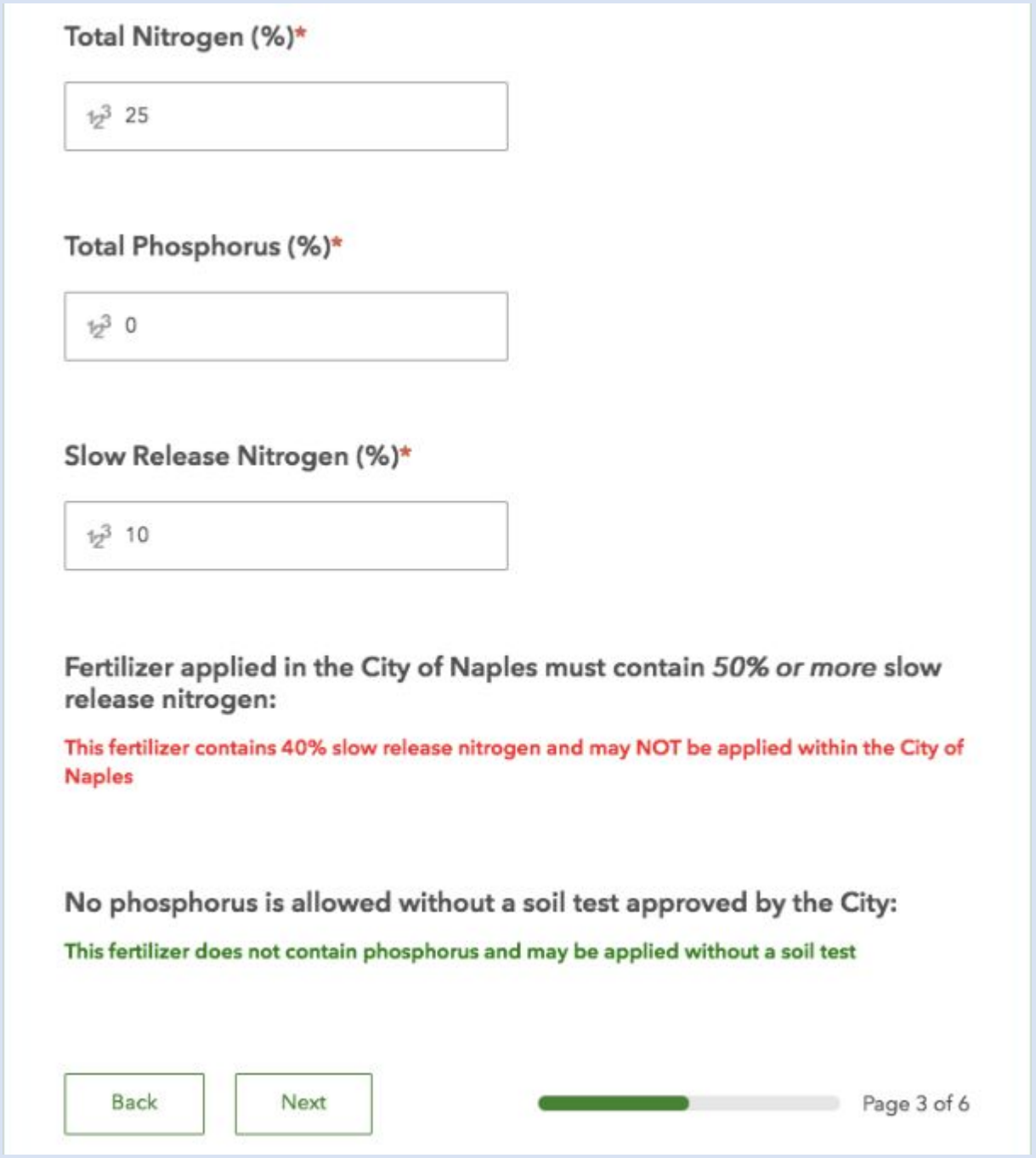
Step 2 cont.

- Input the numbers from your fertilizer bag
- Green font indicates the numbers comply with the standards



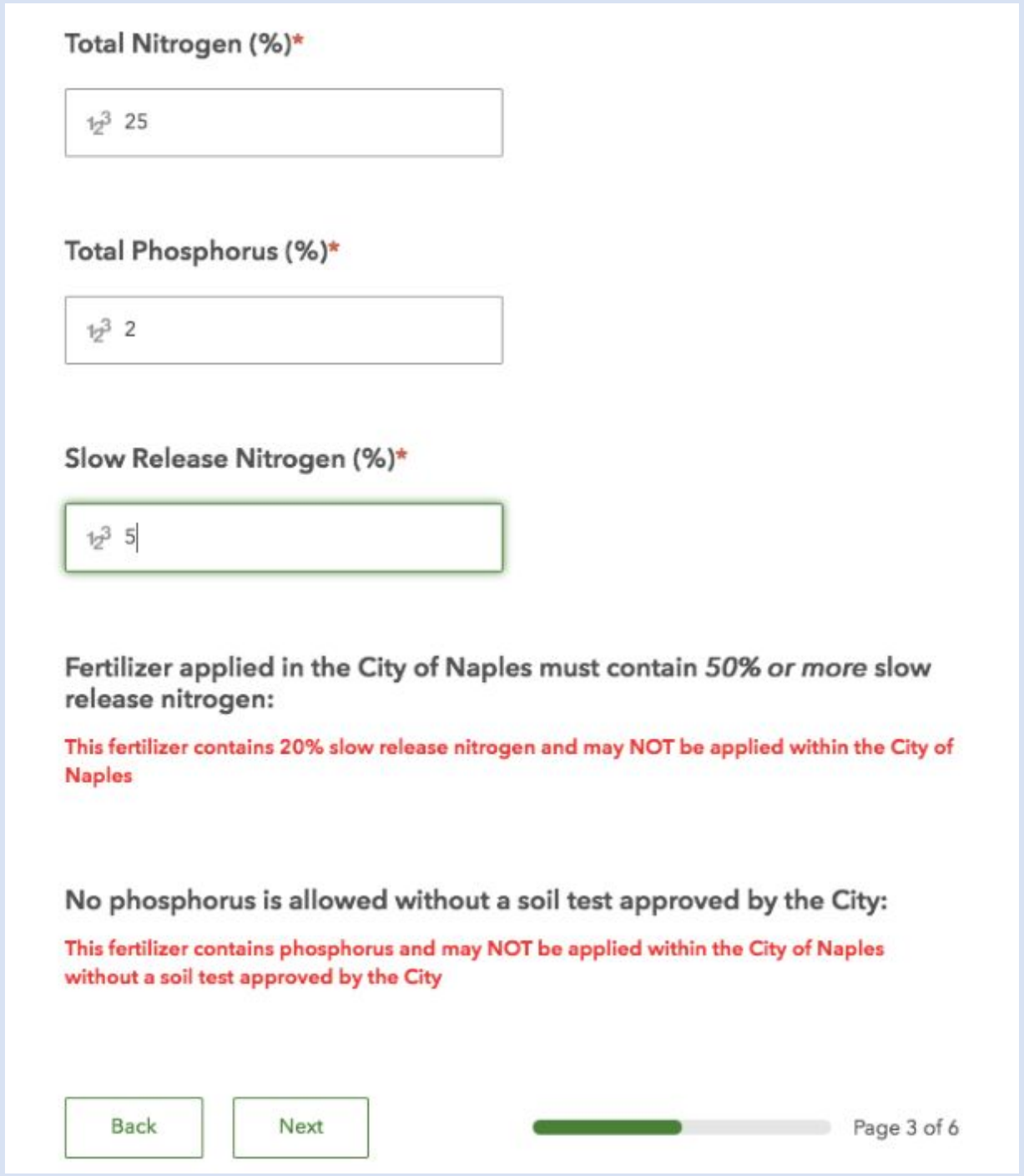
Step 2 cont.

- Red font indicates the nutrient numbers entered are too high and non-compliant with the code
- In this example, the fertilizer has only 40% slow release and it has to be a minimum of 50% slow release nitrogen.



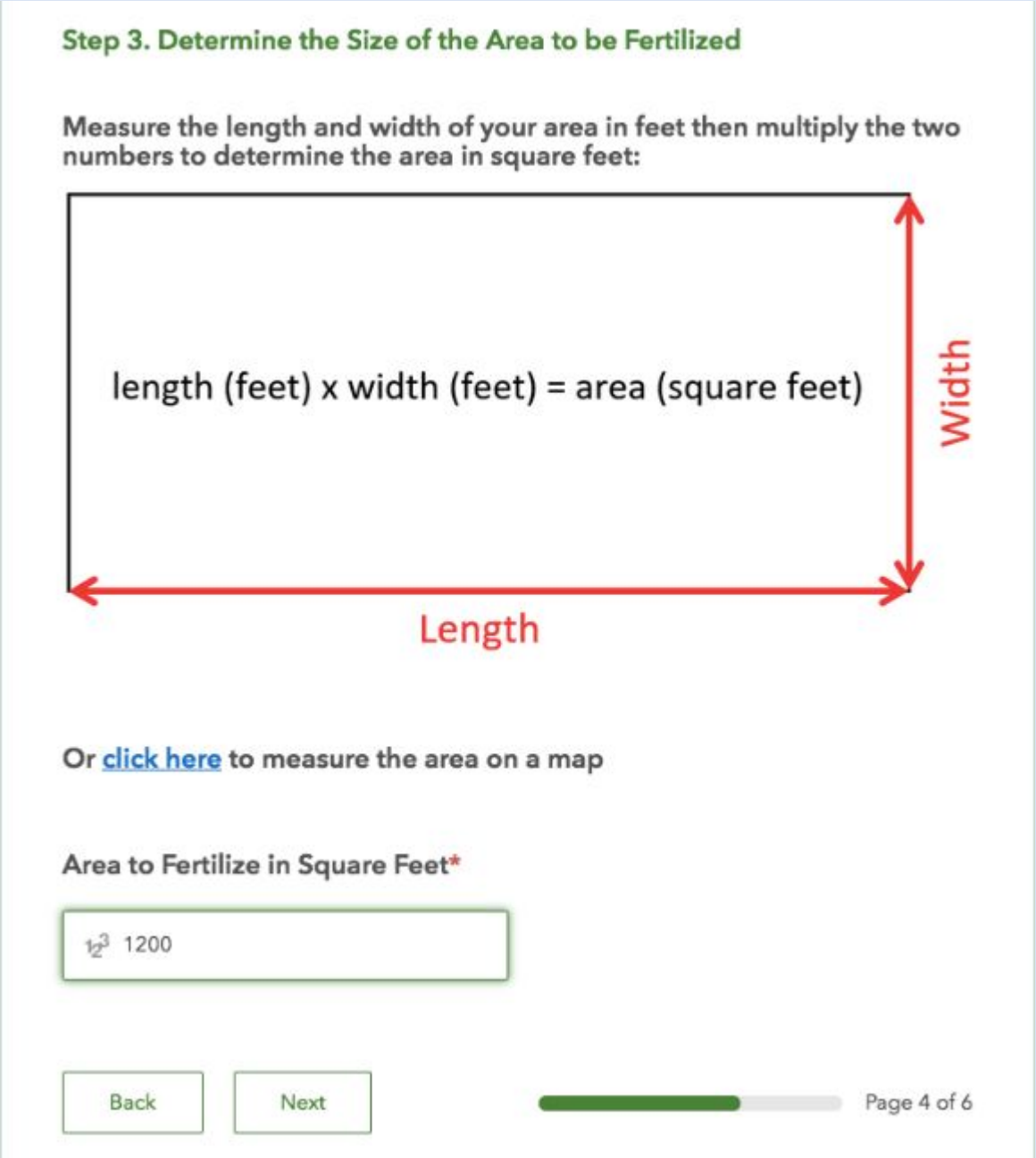
Step 2 cont.

- Red font indicates the nutrient numbers entered are too high and non-compliant with the code
- In this example, in addition to the slow release percentage being too low, “2%” was entered for Total Phosphorus and fertilizers cannot contain phosphorus without an approved soil test showing deficiently. A message pops up reminding residents of this portion of the fertilizer code



Step 3

- Add the square footage of your yard
- To assist with this, you can click on the link which will take you to a map with a measuring tool that allows you to measure your green space.



Step 4

- If your numbers showed up red, the fertilizer cannot be used and are out of compliance with the City code.



Step 4. Apply Fertilizer at a Rate Allowed by the City of Naples and State Regulations

Maximum amount of 25% N fertilizer allowed *per year* for 1200 square feet:

This fertilizer may NOT be used

Assuming you fertilize 4 times per year, the *maximum* amount allowed *per application* for 1200 square feet:

This fertilizer may NOT be used

Soil test requirement:

This fertilizer contains phosphorus and may NOT be applied within the City of Naples without a soil test approved by the City

Step 4 cont.

Reminder:

- Do not apply fertilizer containing nitrogen during the rainy season (June 1 - September 30)
- Do not apply phosphorus at any time unless you have a City-approved soil test showing deficiency
- Rainwater and reclaimed water already contain nitrogen, so you may not need any fertilizer!
- For more information on Florida Friendly Landscapes, check out https://ffl.ifas.ufl.edu/

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Thank you for using the City of Naples Fertilizer Calculator

For more information regarding the fertilizer regulations in the City of Naples please visit www.naplesgov.com/fertilizer.

If you observe a potential regulation infraction, please contact the Code Enforcement Department at:
CodeEnforcement@naplesgov.com

239-213-5030

If desired, you may submit your fertilizer calculator entry anonymously to the City of Naples for record keeping. Otherwise, you may now close this window.

Back | Submit

Illicit discharge

- Help keep our waters clean!
- Report any illegal dumping to code enforcement
- Report any concerns observed at construction sites (e.g. sediment runoff, silt fence down or absent)



