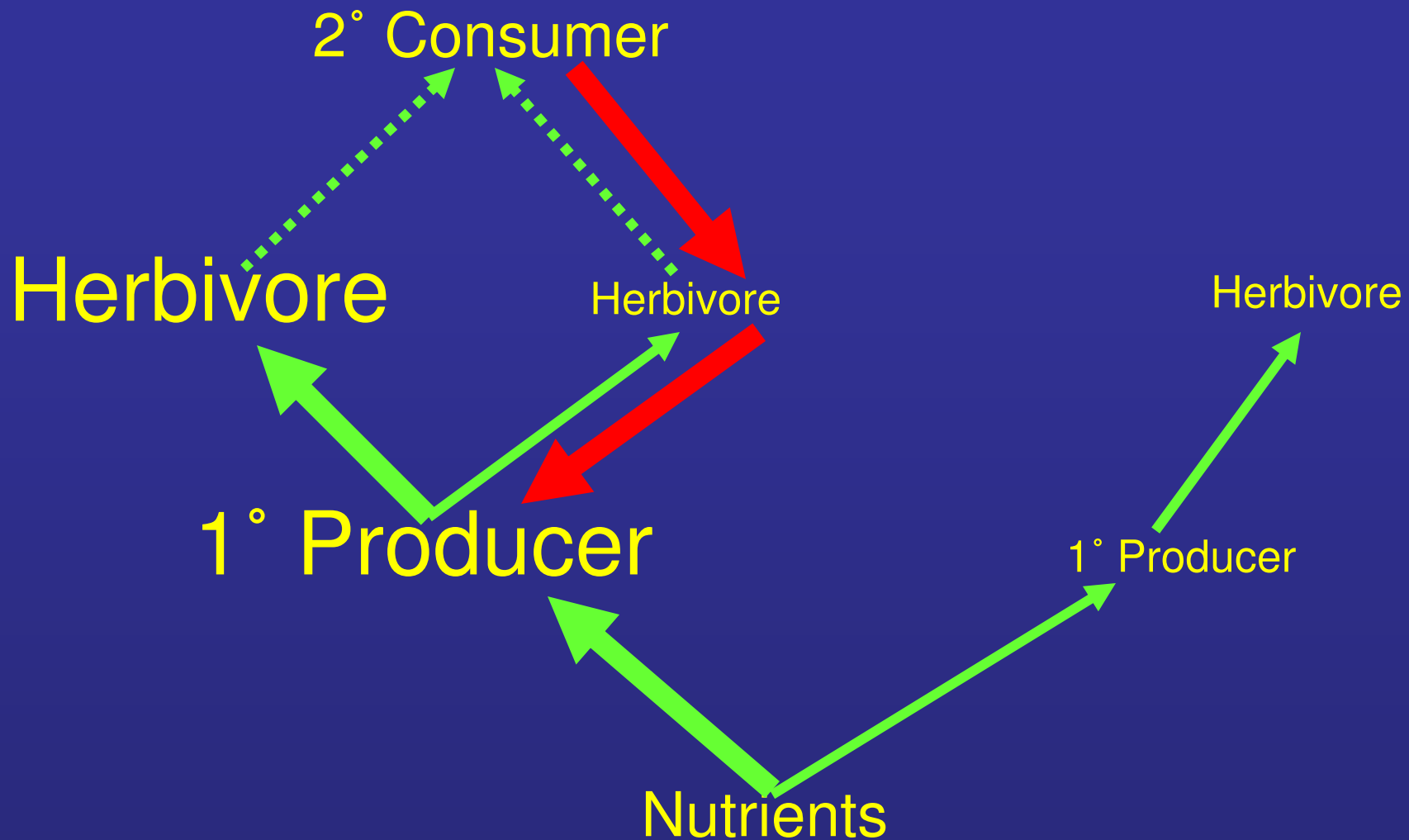


Long-term shifts in seagrass community structure follow experimental nutrient enrichment in Florida Bay

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Enrichment occurs over large temporal and spatial scales

- Hard to manipulate

Questions

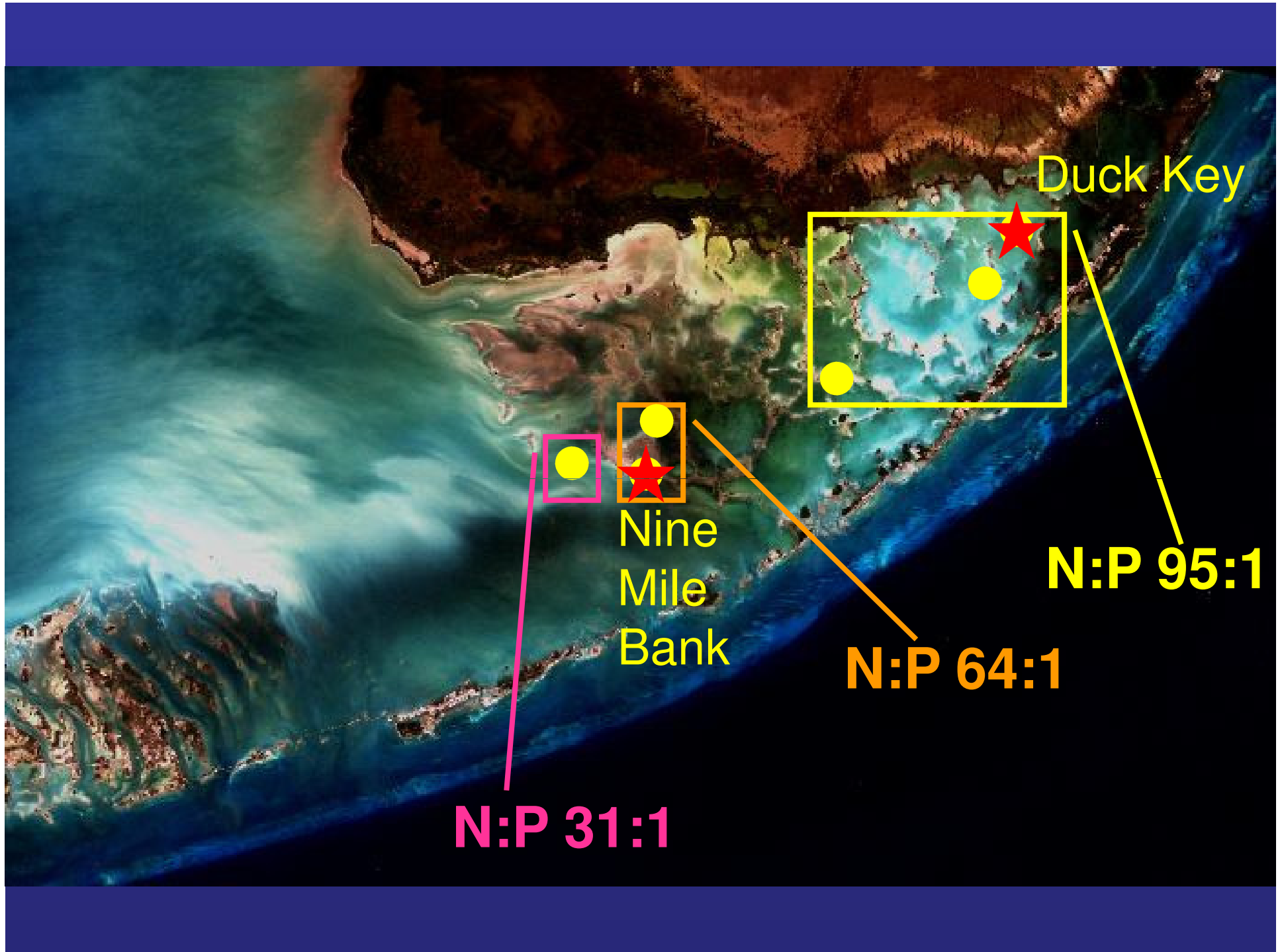
Q1: How will increased nutrient input affect seagrass community structure?

Producers.....Consumers

- Natural variation in NP supply
- Experimental nutrient addition

Q1: What are the long-term impacts of nutrient enrichment in Florida Bay?

- Everglades restoration?
- Phytoplankton blooms?



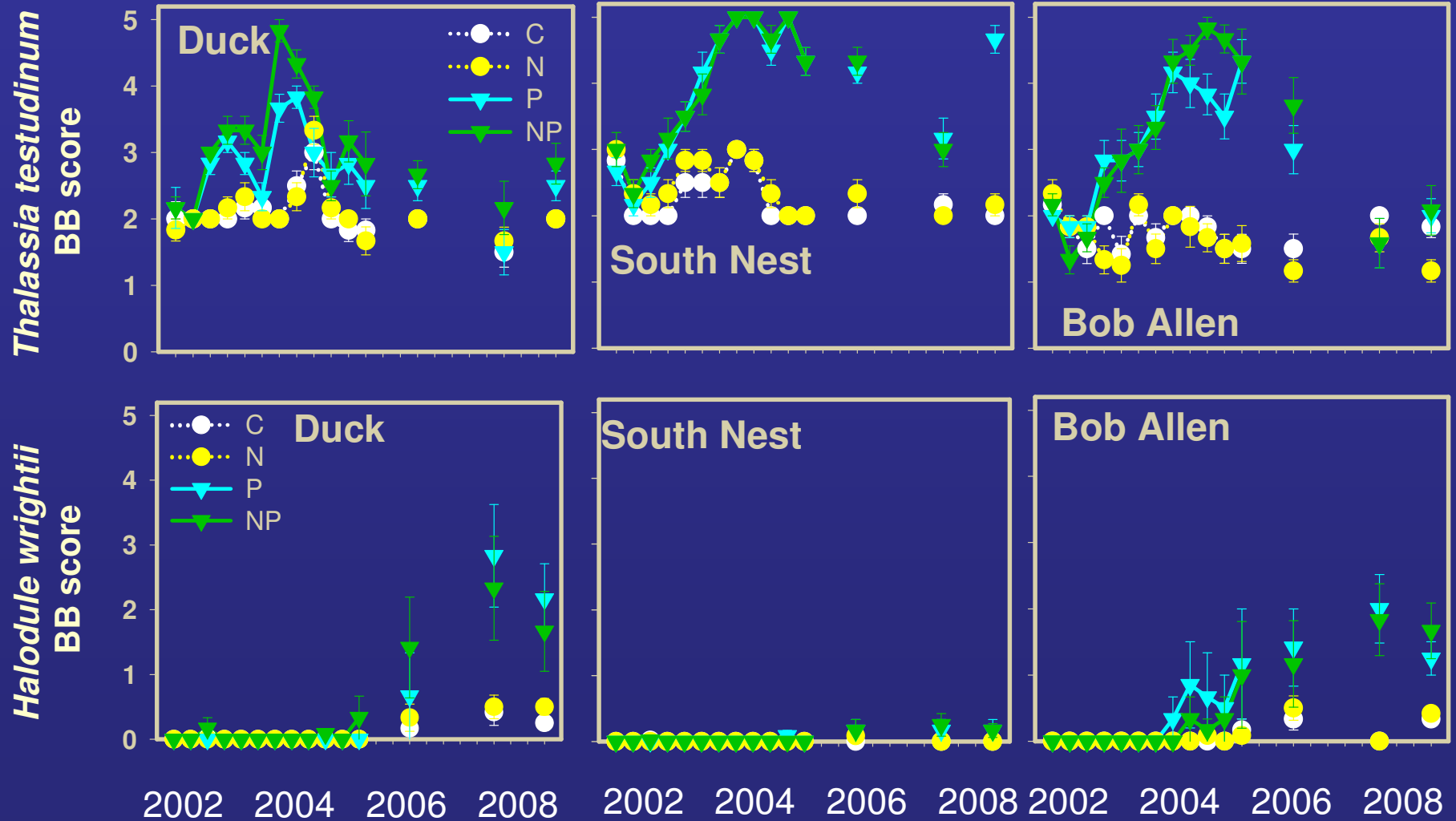
| | | | | |
|----|----|----|----|----|
| C | P | NP | C | N |
| N | C | N | NP | P |
| C | NP | | P | N |
| N | P | NP | C | NP |
| NP | C | P | N | P |

- 6 years
- Producer responses
- Consumer responses

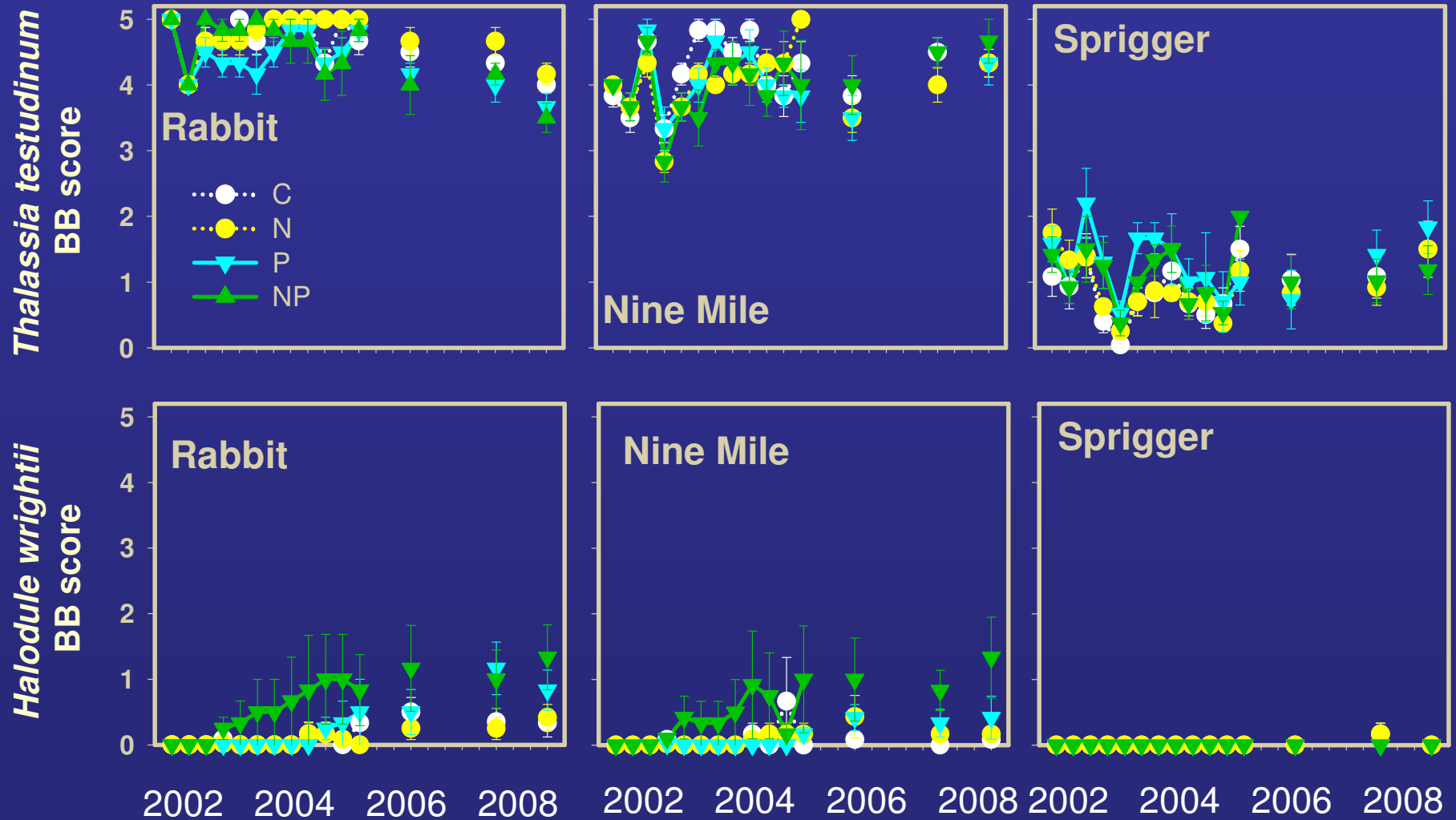


Fertilizing

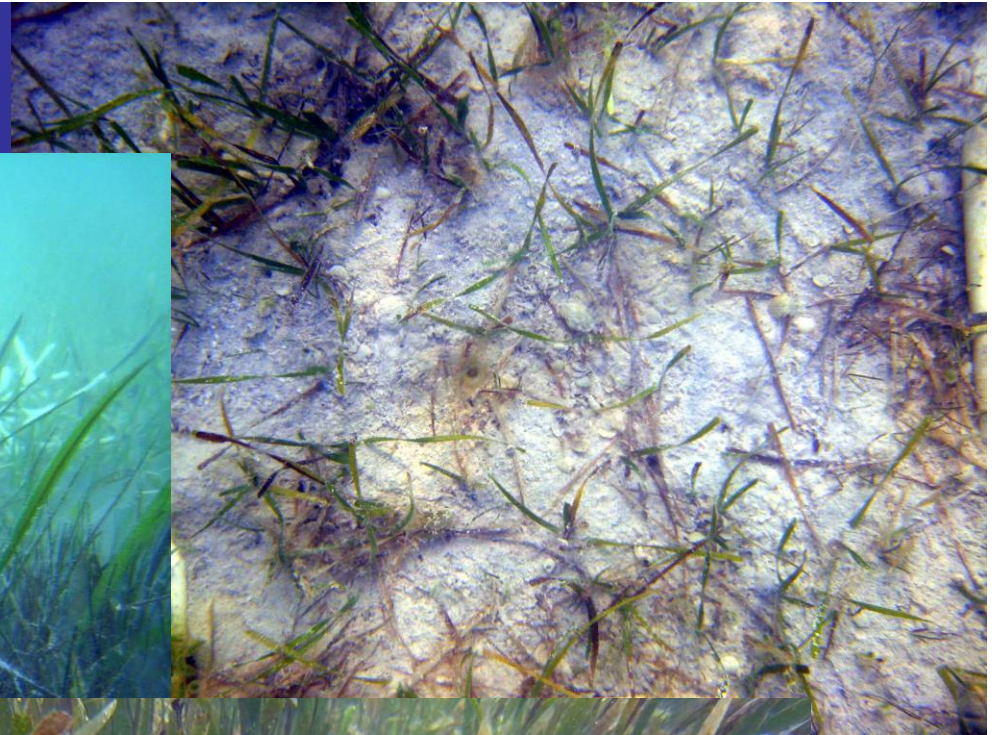
Enrichment - *Halodule* begins to replace *Thalassia* in P-limited environments



Enrichment – more modest impacts in more nutrient-rich environments



Duck Control



Duck +NP

Nine Mile +NP

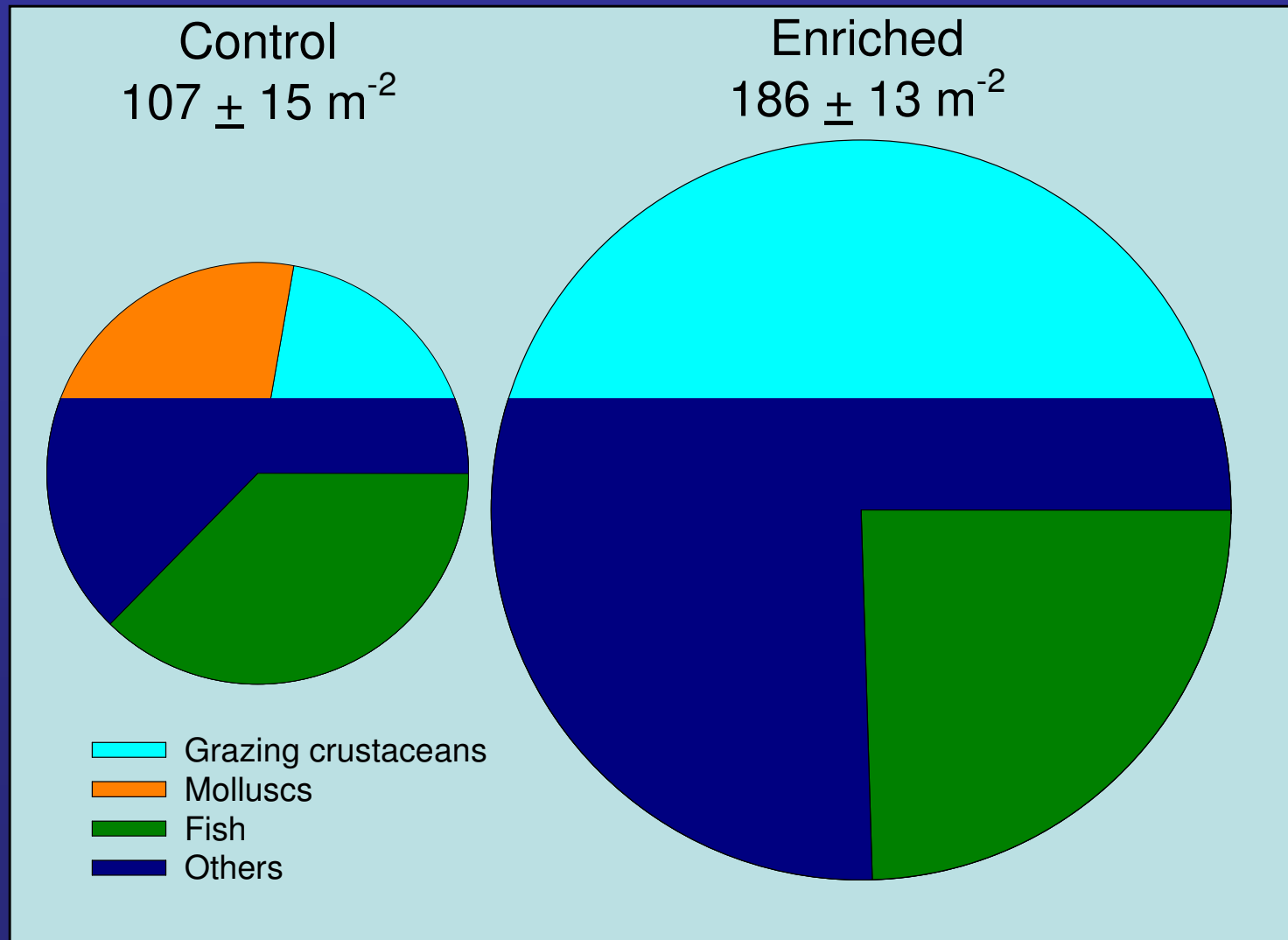


No evidence of epiphytic or macroalgal overgrowth

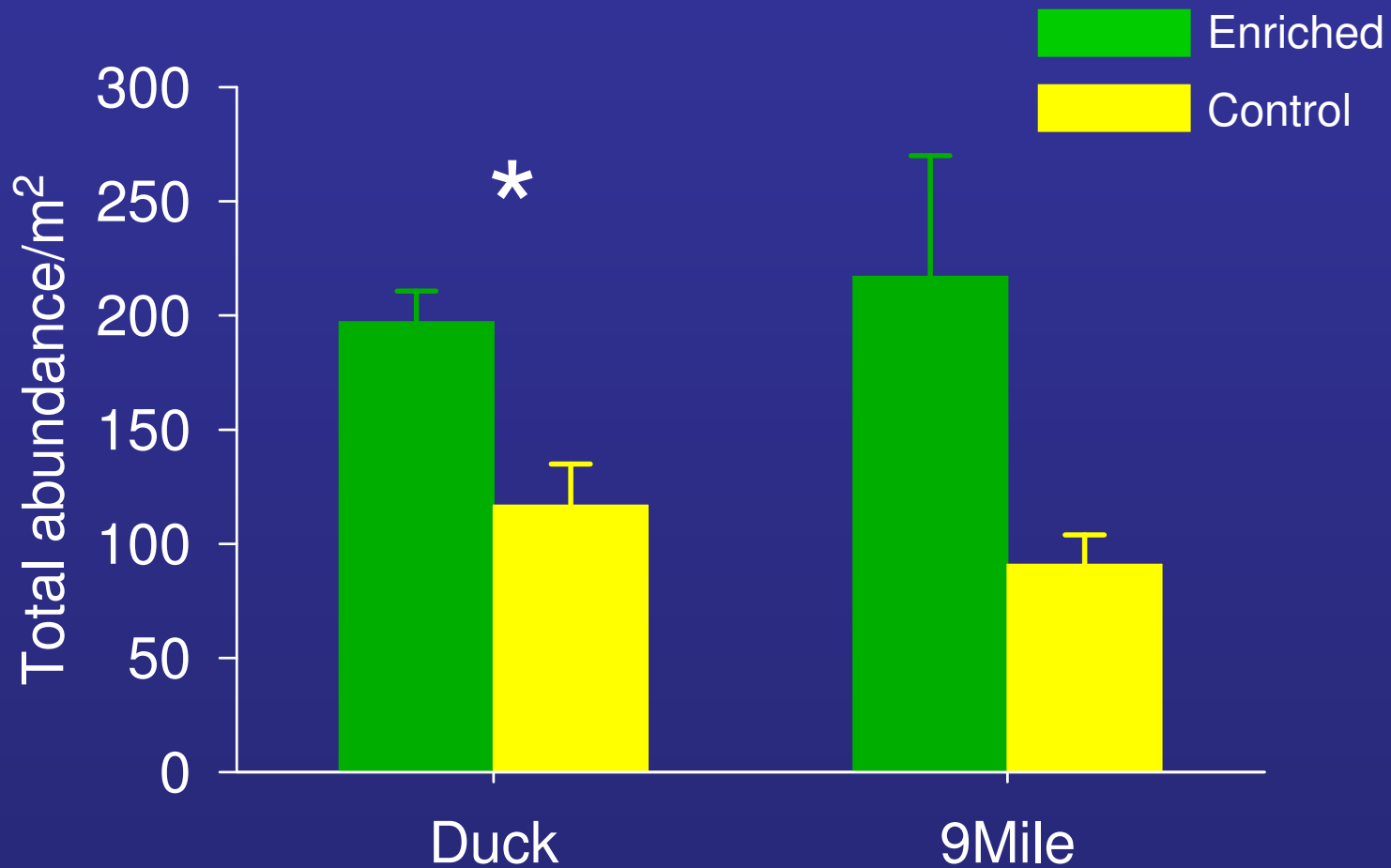


- Are grazers controlling algae?
- Are macroalgae too seasonal to overgrow seagrasses in this area?

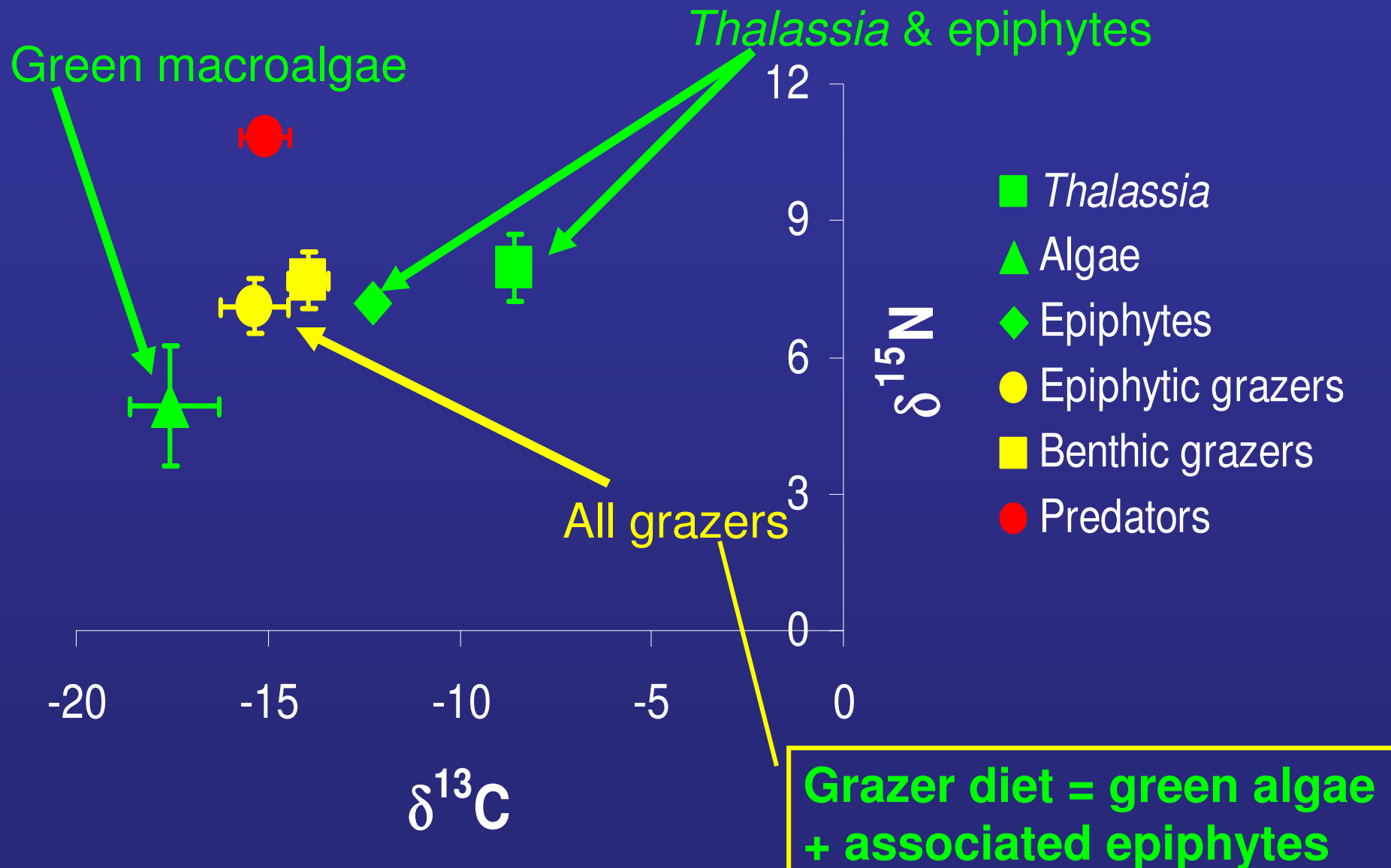
Enrichment - Increased animal density



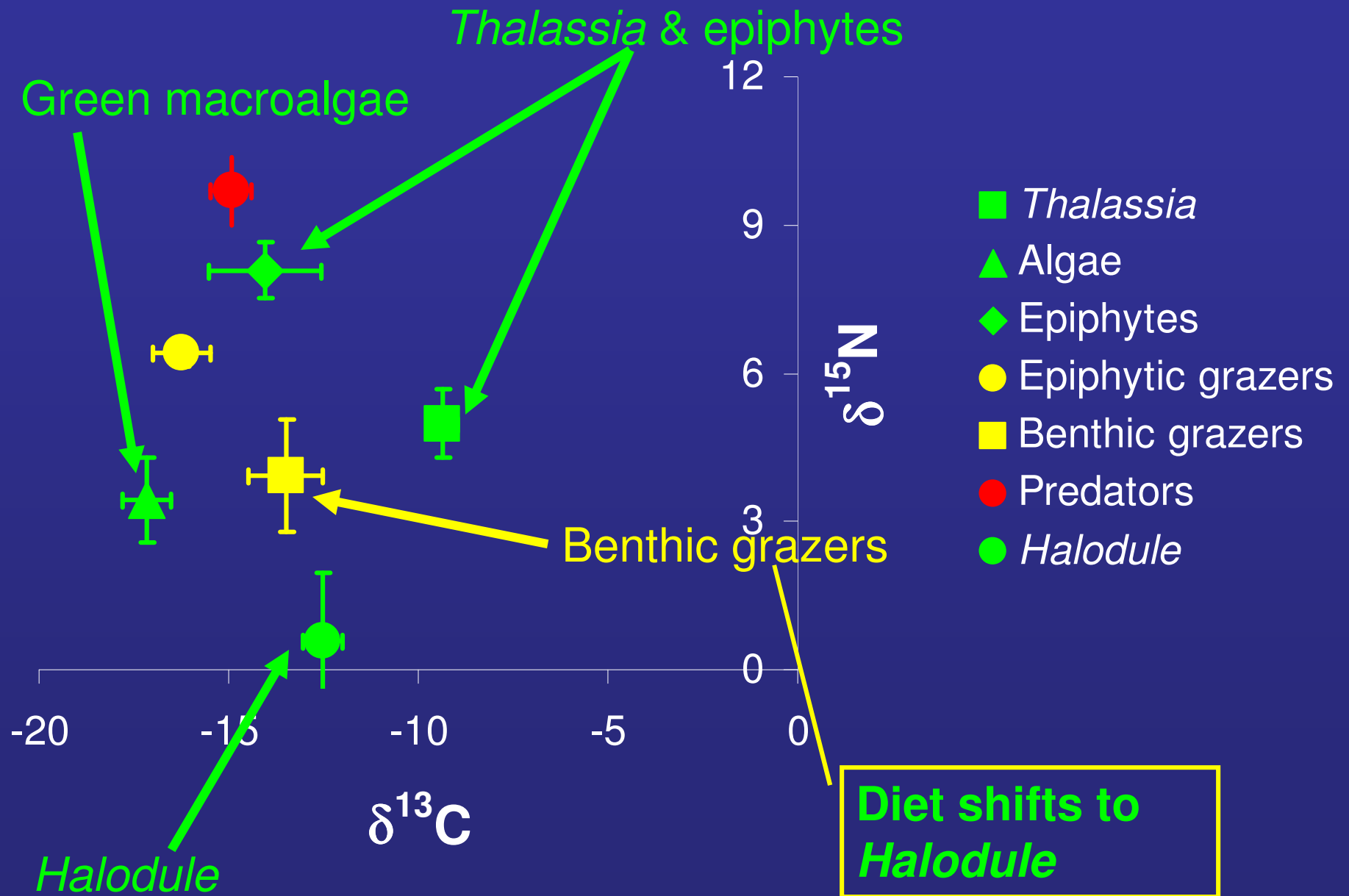
Enrichment - Increased grazing crustacean density

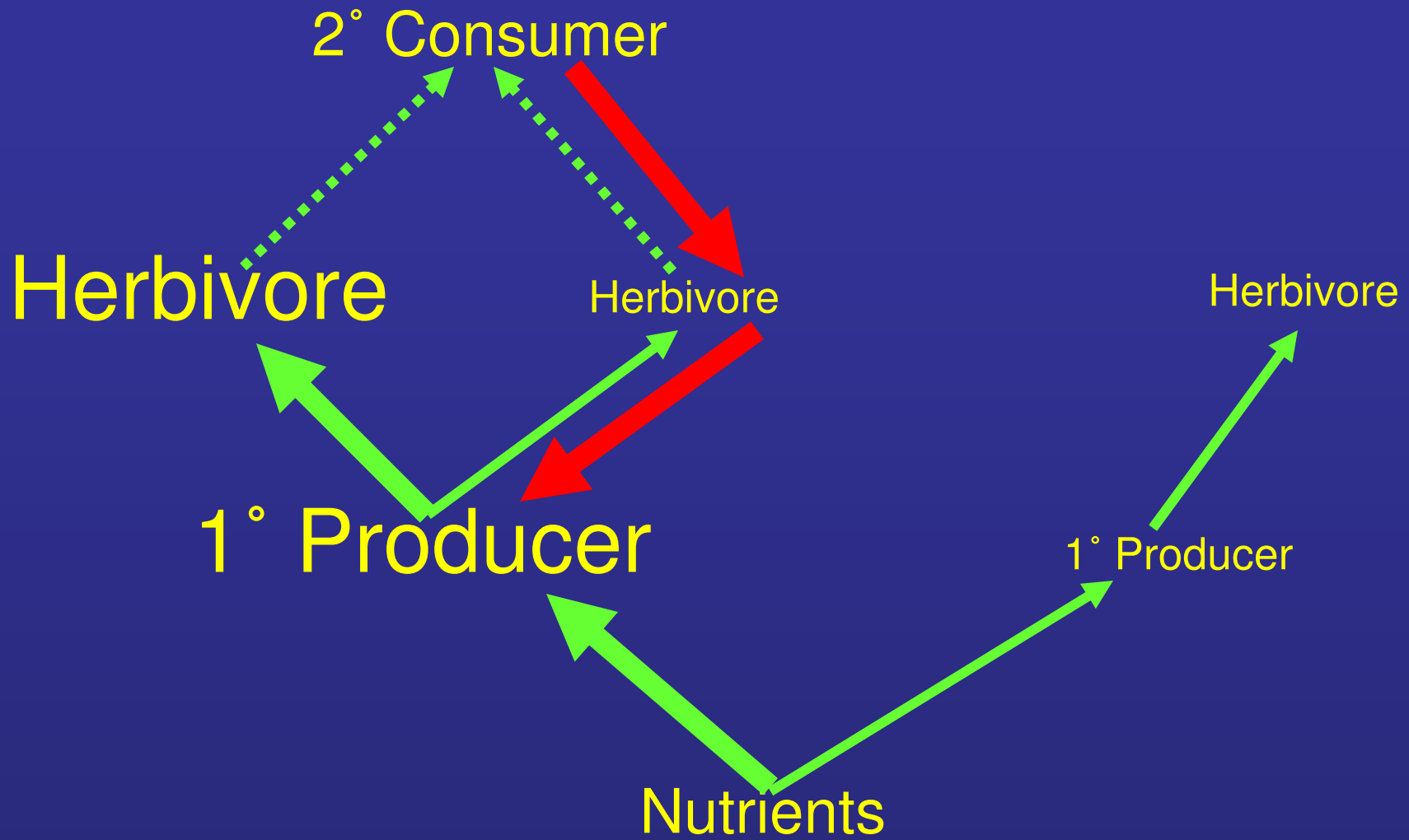


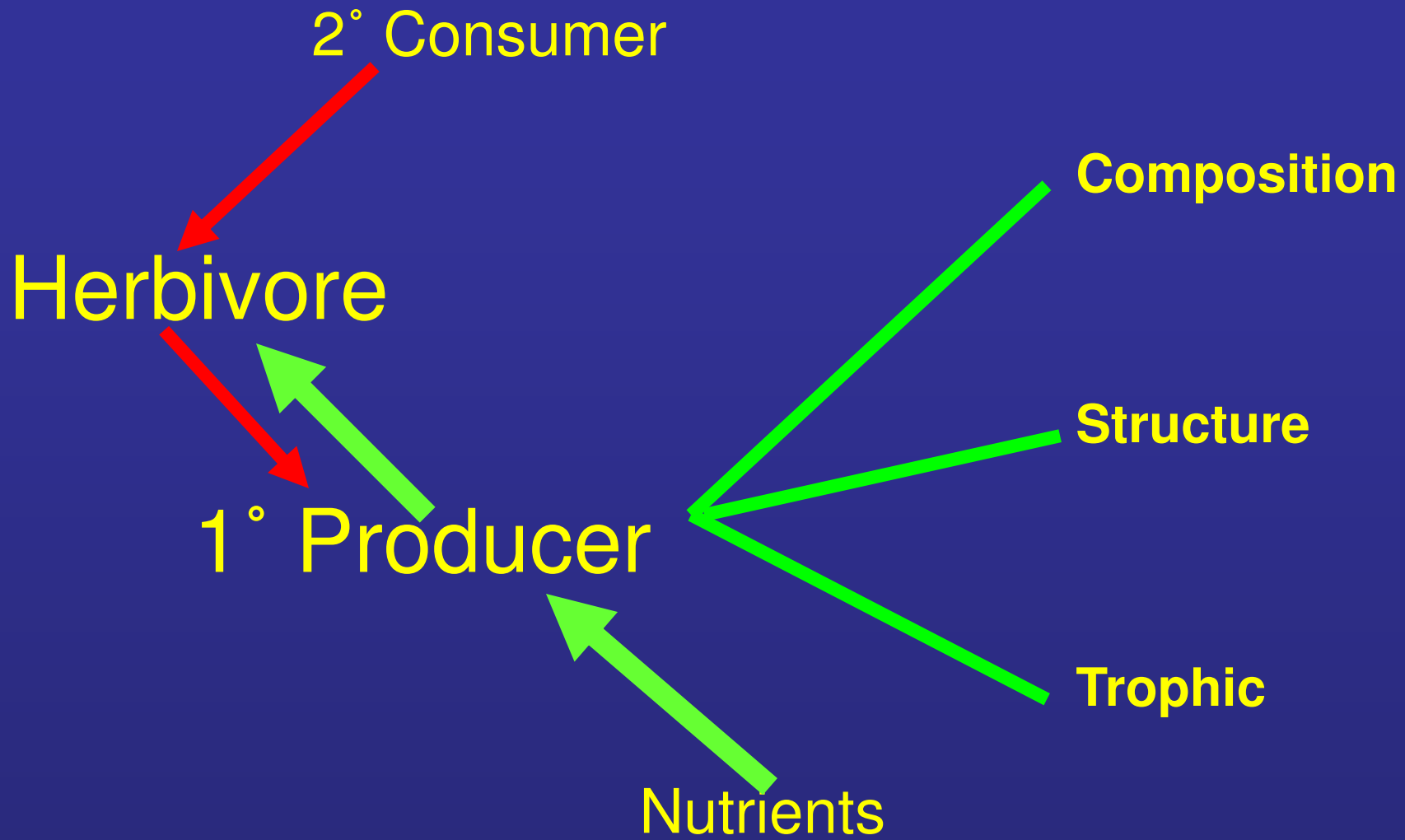
Duck: Control



Duck: Enriched







Why did epiphytic grazer density increase?

H1: Structural complexity of habitat increased

What is the role of refuge?

Is the nutrient effect related to food or refuge?



H2: Food availability increased

Not really, but were higher epifauna densities suppressing epiphytes?

H3: Food quality/composition changed

✓ Yes, but not all epifaunal groups switched diets

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