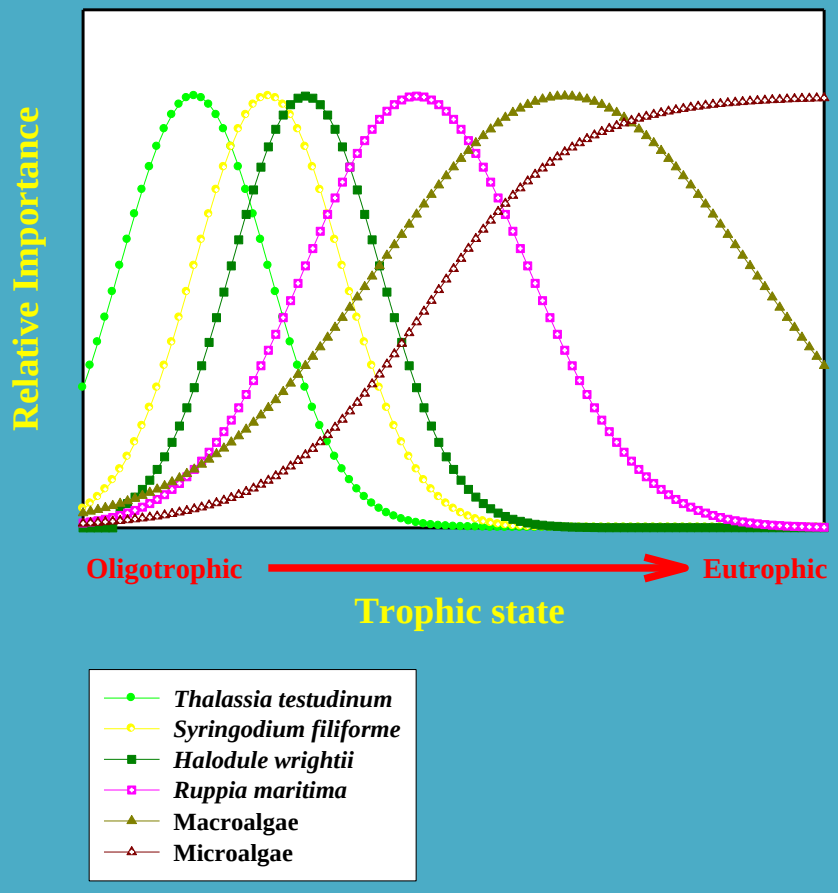
Eutrophication model

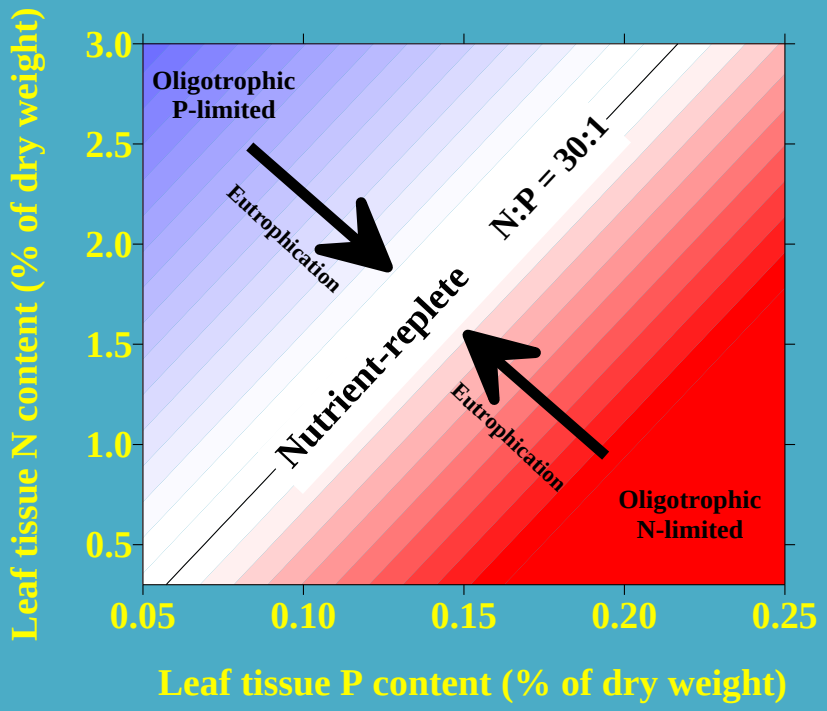


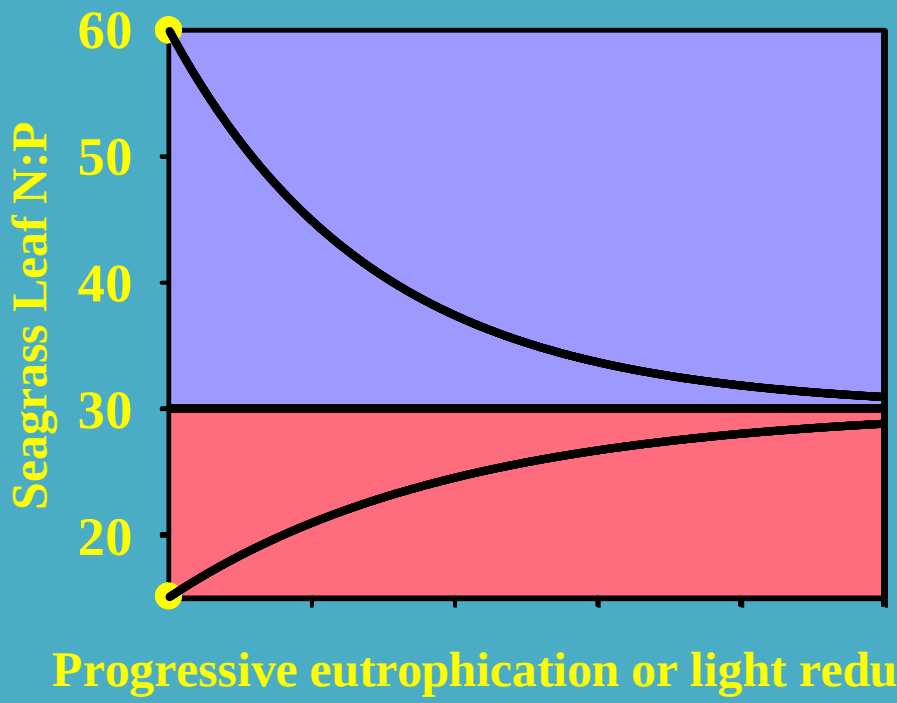
Explicit model of ecosystem behavior #1

Eutrophication will lead to changes in relative abundances of primary producers in a predictable way.

Explicit model of ecosystem behavior #2

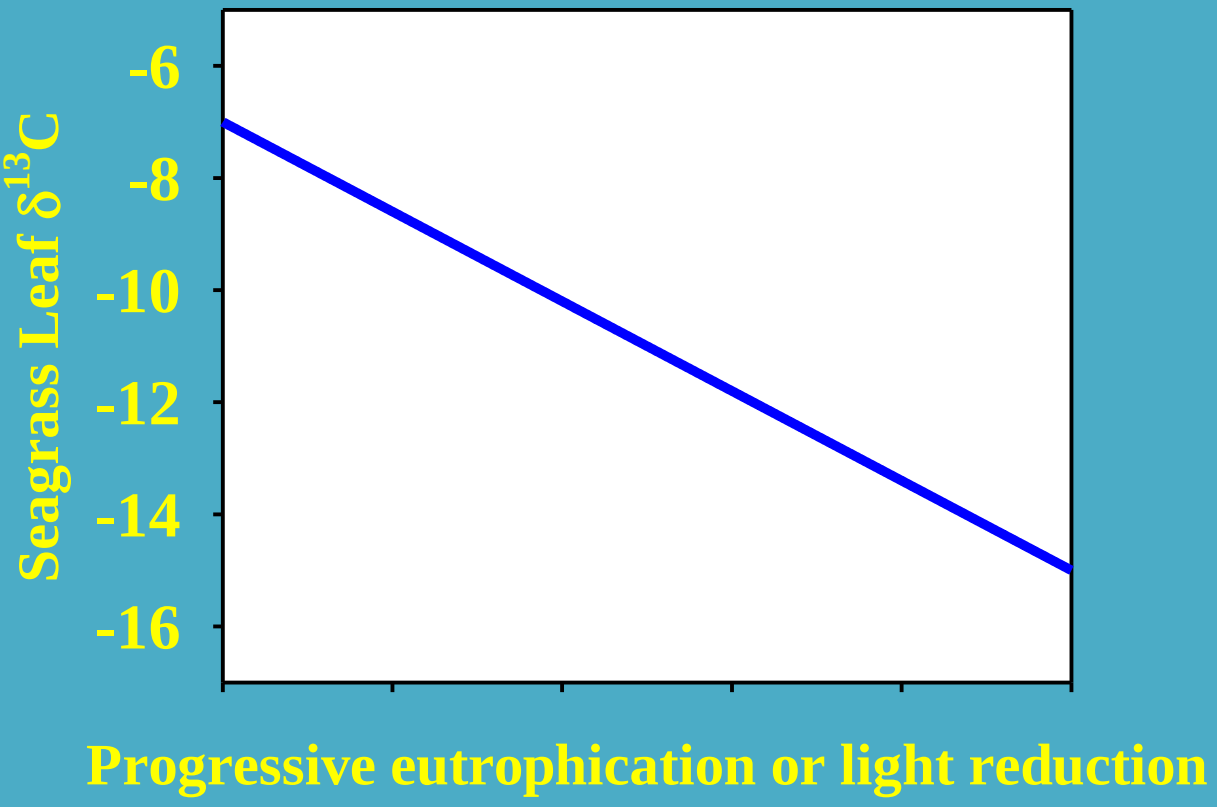
Eutrophication will shift N:P ratios of primary producers towards a taxon-specific "Redfield ratio"





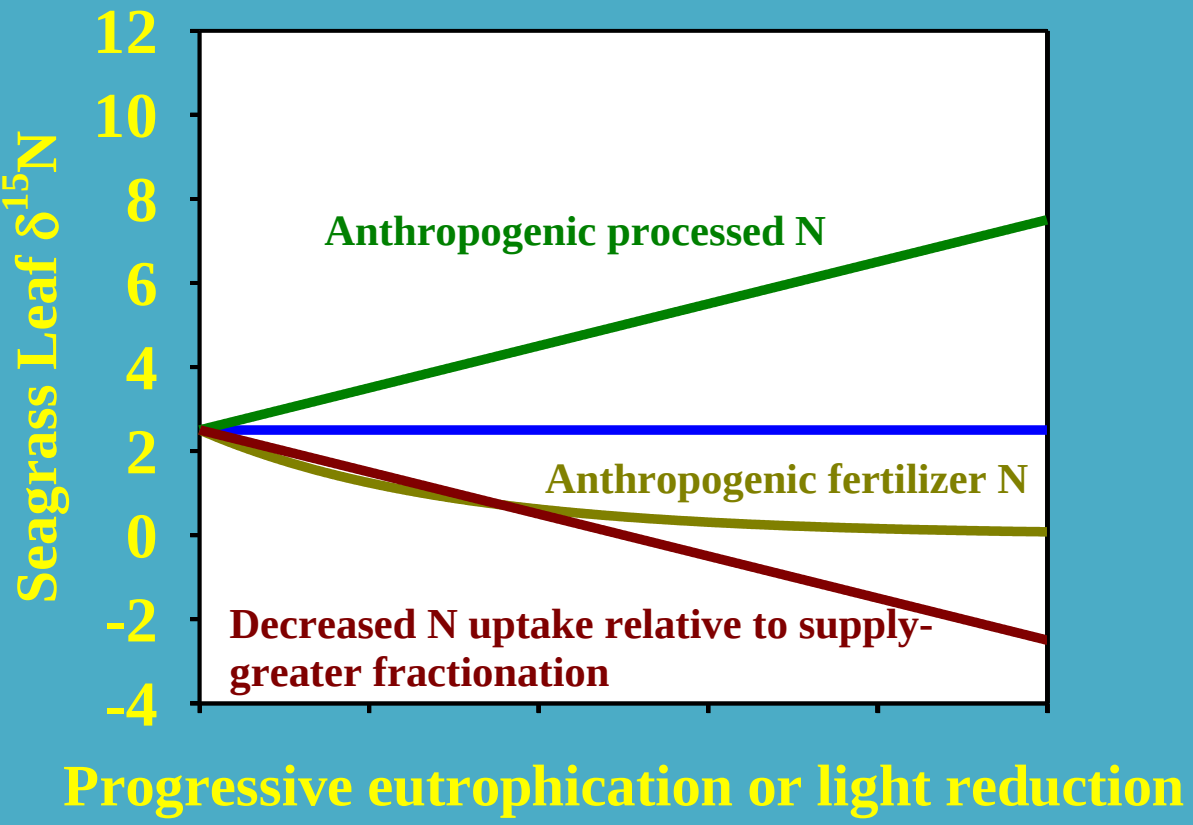
Explicit model of ecosystem behavior #3

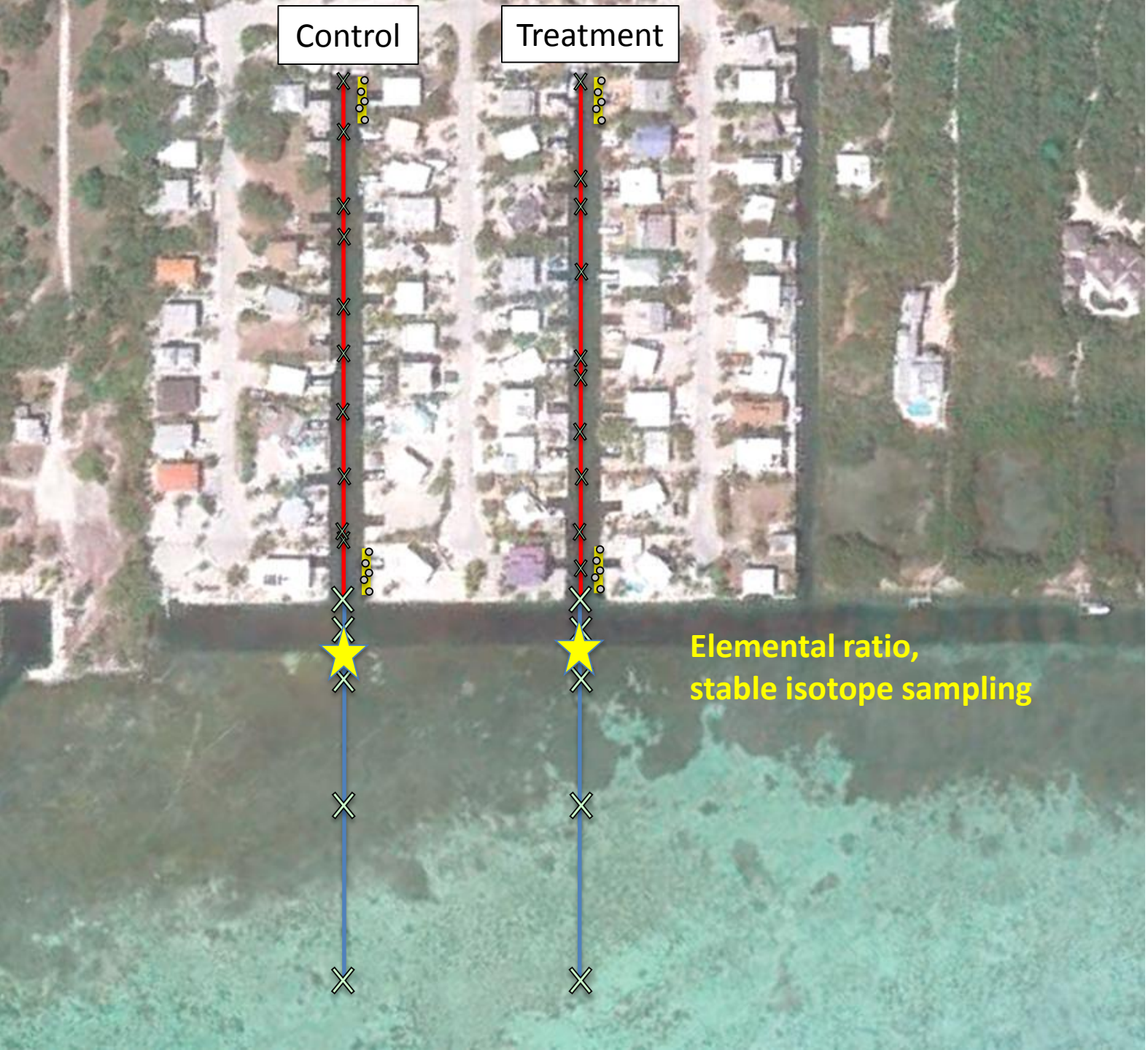
Eutrophication will shift seagrass $\delta^{13}C$ towards more negative values because of increased discrimination against ^{13}C in low light conditions



Not-so-Explicit model of ecosystem behavior #4

Eutrophication will cause some kind of change in $\delta^{15}N$ of primary producers



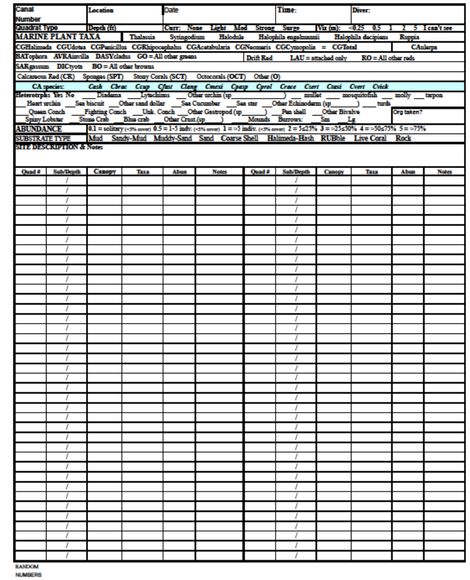


25cm x 25cm randomly placed for benthic coverage

25cm x 25cm set sites for benthic coverage

10cm x 10cm randomly placed for canal wall coverage

We will also specifically identify and count the conspicuous fish and invertebrates along each transect



Canal Number | Location | Date | Time: | Diver:

Quadrat Type | Depth (ft) | Curr: None Light Mod Strong Surge | Viz (m): <0.25 0.5 1 2 5 I can't see

MARINE PLANT TAXA | Thalassia Syringodium Halodule Halophila engelmannii Halophila decipiens Ruppia

CGHalimeda CGUdotea CGPenicillus CGRhipocephalus CGAcetabularia CGNeomeris CGCymopolia = CGTotal | CAulerpa

BATophora AVRAinvilla DASYcladus GO = All other greens | Drift Red LAU = attached only RO = All other reds

SARgassum DICtyota BO = All other browns

Calcareous Red (CR) Sponges (SPT) Stony Corals (SCT) Octocorals (OCT) Other (O)

CA species: *Cash Cbrac Ccup Cfast Clang Cmexi Cpasp Cprol Crace Csert Ctaxi Cvert Cvick*

Heterotrphs Yes No ___ Diadema ___ Lytechinus ___ Other urchin (sp ___) ___ mullet ___ mosquitofish ___ molly ___ tarpon

___ Heart urchin ___ Sea biscuit ___ Other sand dollar ___ Sea Cucumber ___ Sea star ___ Other Echinoderm (sp ___) ___ turds

___ Queen Conch ___ Fighting Conch ___ Unk. Conch ___ Other Gastropod (sp ___) ___ Pen shell ___ Other Bivalve | Org taken?

___ Spiny Lobster ___ Stone Crab ___ Blue crab ___ Other Crust.(sp ___) ___ Mounds Burrows: ___ Sm ___ Lg

ABUNDANCE | 0.1 = solitary (<5% cover) 0.5 = 1-5 indv. (<5% cover) 1 = >5 indiv. (<5% cover) 2 = 5≤25% 3 = >25≤50% 4 = >50≤75% 5 = >75%

SUBSTRATE TYPE | Mud Sandy-Mud Muddy-Sand Sand Coarse Shell Halimeda-Hash RUBble Live Coral Rock

SITE DESCRIPTION & Notes

Quad #	Sub/Depth	Canopy	Taxa	Abun	Notes	Quad #	Sub/Depth	Canopy	Taxa	Abun	Notes

RANDOM NUMBERS