

Coastal Eutrophication

(modified after Cloern, 2001)

NUTRIENT SOURCES

Atmospheric deposition

Fertilizer runoff

Wastewater streams

Industrial effluents

Groundwater discharge

Nitrogen fixation

Influx from coastal ocean

Freshwater inputs



Primary Responses

- Algal blooms
- Primary productivity
- SAV biomass
- N:P ratio
- Species assemblages
- Organic carbon deposition and storage
- Denitrification

Fish kills

Indirect responses

- Benthic biomass
- Biodiversity
- Sediment geochemistry
- Dissolved oxygen
- Nutrient cycling
- Harmful algal blooms
- Mortality events
- Social and economic costs

Tourism