

CRITERIA AND PROCESS TO TRANSLATE OA THRESHOLD SCIENCE INTO WATER QUALITY OBJECTIVES

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DOES OA
THRESHOLD
SCIENCE MEET
MINIMUM BAR
FOR POLICY
DEVELOPMENT?

Is there a managerial need for a threshold?

Can we create a causal link to regulated discharges?

Is there scientific consensus on the OA parameter to regulate?

Is there scientific consensus on what levels result in an adverse impact?

MANAGERIAL NEED

Is pollution is causing a significant adverse impact on beneficial uses (ecosystem services)?

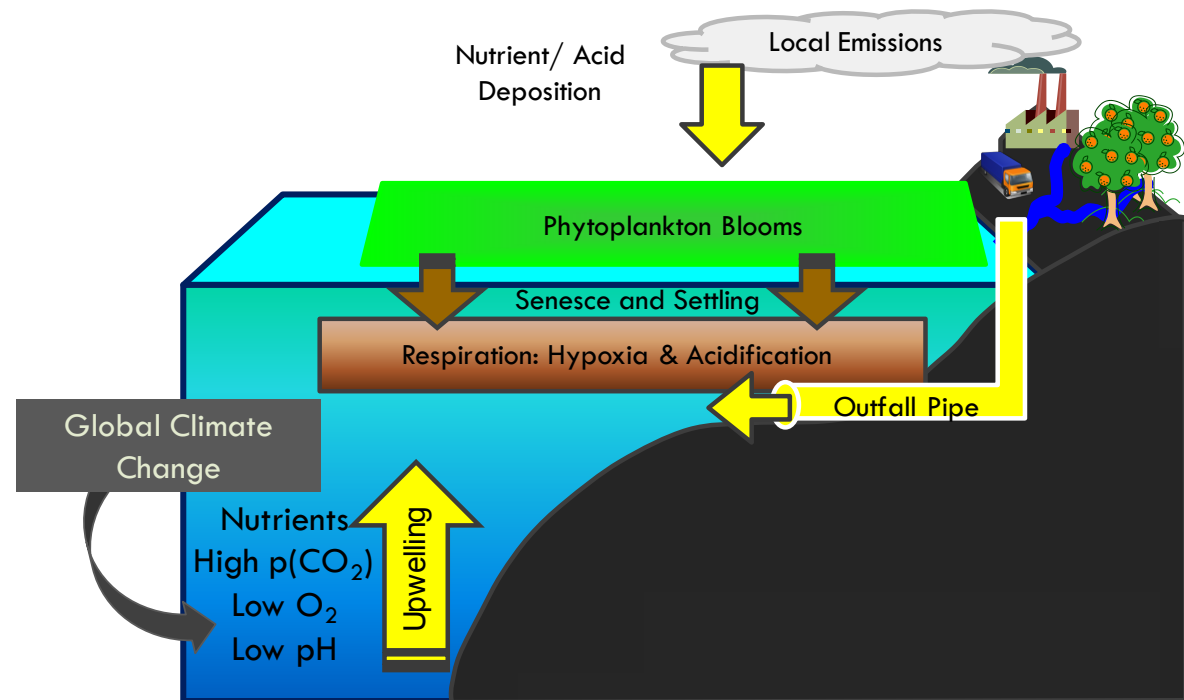
- Are nutrient discharges exacerbating OA in a way that affects biota?

Is the extent of biological impact sufficient to warrant regulation?

CAUSAL LINK

Can a causal link be established between pollution source and adverse impact?

Is there scientific consensus that this causal link is credible?



SCIENTIFIC
CONSENSUS ON
WHICH OA
PARAMETER TO
REGULATE?

pH?

pCO₂?

Aragonite saturation state?

Can a crosswalk be developed from one
to another?

SCIENTIFIC
CONSENSUS ON
OA LEVELS THAT
PRODUCE AN
ADVERSE
IMPACT?

Have we studied the most sensitive habitats and focal taxa?

Is there consensus on OA levels that will produce a significant impact for those species?

How does that level relate to natural background?

FIRST
IMPRESSIONS OF
MANAGERIAL
AND CAUSAL
LINK READINESS

The model Martha talked about appears appropriate to assess OAH extent

The model is mechanistic, so there is a means to establish a causal link

Biggest hurdle is getting community acceptance

- Is there scientific consensus about model adequacy?
- Are the stakeholders actively involved in the model validation process?

FIRST IMPRESSIONS OF THRESHOLD SCIENCE

Good selection criteria and focus on calcifiers as sensitive focal taxa

Emphasis on use of expert consensus as part of the process is fantastic

Not clear how/whether multiple stressors should be incorporated into an objective

- There aren't many precedents for adding that level of complexity
- Scientists need to demonstrate multi-stressor is critical to protecting the ecosystem

IF MINIMUM BAR IS MET, WHAT IS THE PROCESS TO ESTABLISH OBJECTIVE?

Steps:

1. Take the scientific studies and develop a story
2. Prepare Regulatory package (including CEQA, peer review, public comments and hearings)
3. Approval by SWRCB, OAL, US EPA
4. Amend permits to implement Objective

WHAT COULD AN OA POLICY ACTION LOOK LIKE

Policy can take different forms

Water Quality Objective

- Narrative

Modification of Waste Discharge Requirements (permits) in accordance with ..

“Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded*” (Ocean Plan 2012)

- OA assessment endpoints can be part of numeric guidance to interpret existing ocean plan
- Numeric

HOW QUICKLY CAN THIS HAPPEN?

Policymaking is never quick

Generally minimum of 18 months to 2 years once science is settled

But we've been known to move quickly under legislative mandate or when the environmental need is significant