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The Seattle Times, “Sea Change: The Pacific’s Perilous Turn”

This video and the associated article

<http://apps.seattletimes.com/reports/sea-change/2013/sep/11/pacific-ocean-perilous-turn-overview/> address current concerns in regard to ocean acidification and the already felt and predicted impacts on the biology of individual species, food webs, and ecosystem productivity. Approximately 1 billion people derive the majority of their protein from the sea!

Please read through the questions/themes below prior to the movie and take notes to allow for class discussion of each theme based on the presented information.

1) Name three *commercially* important organisms that are already impacted by ocean acidification. (0–4:10 min)

2) Carbon dioxide seeps as “natural laboratories” to study the potential impacts of ocean acidification on coral ecosystems 50 to 100 years into the future (i.e., Papua New Guinea). Explain how coral communities compare at a “normal” versus seep site in regard to: (4:10–6:20 min)

- How does coral diversity differ?
- Where are corals, where are algae dominating?
- Where do you find a higher number and diversity of associated reef organisms (i.e. fish)?

3) Ocean acidification and fish. Give three specific examples of how fish species (i.e., clown fish, p olock) may be directly (e.g, physiologically) or indirectly (food web shifts) affected by ocean acidification. *Explain!* (6:20–7:30 min)