Unit3_Activity 2/ Homework

NAME_____

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 protein from the sea!

1) Name 3 commercially important organisms (name/region) that are already impacted by ocean acidification *(0 – 4:10 min)* **– 6 pts**

- Pacific oyster – Washington, US West Coast
- Red King Crab - Alaska Bering Sea
- Snow Crab – Alaska Bering Sea

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)* **– 6 pts**

- coral diversity - decreases
- coral versus algal cover - mostly algae
- number and type of associated reef organisms (i.e. fish) - decrease

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

- Sensory (i.e. smell and sight)
- Behavioral changes – ability to navigate (neural?)
- Ability to find food – food web changes