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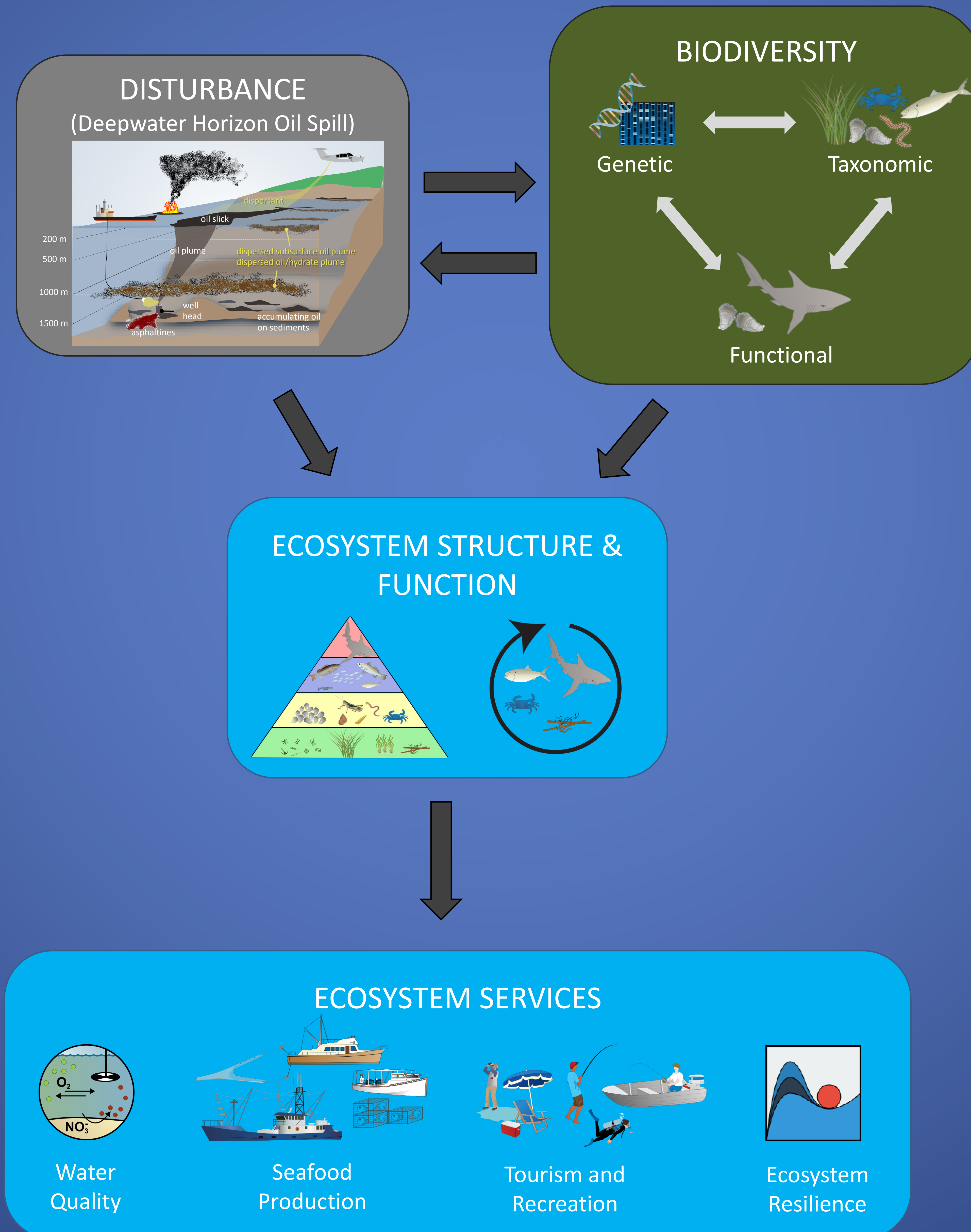
Objective:

The Alabama Center for Ecological Resilience (ACER) Consortium was formed to investigate how biodiversity (genetic, taxonomic and functional) influences an ecosystem's ability to resist and recover from disturbance. Over the next 3 years, ACER scientists will conduct field and large scale manipulative laboratory experiments to:

- 1.) Assess ecological processes, ecosystem structure, and ecosystem services along a gradient of oiling exposure that resulted from the Deepwater Horizon accident.
- 2.) Investigate how the genetic, taxonomic and functional diversity influenced the northern Gulf of Mexico ecosystem's response to oiling.

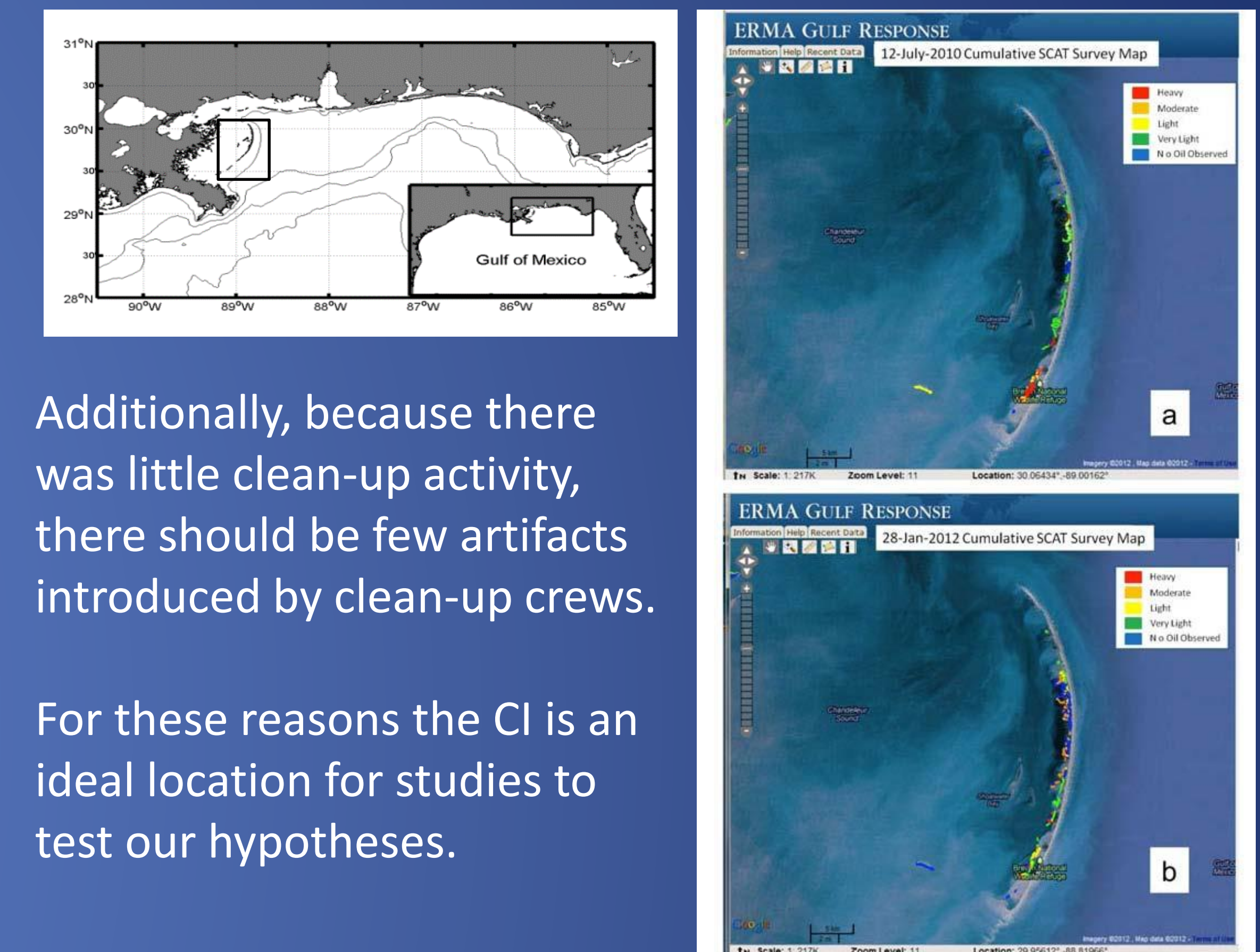
Why focus on biodiversity?

1. Diversity can increase production and resource use
2. Diversity can enhance efficiency of energy transfer
3. Diversity can increase stability and resistance to disturbance



Field Observations:

The focal point for ACER field studies is the Chandeleur Island (CI) chain. These islands received variable amounts of oiling, creating an opportunity for comparative studies of the susceptibility and responses of the nGoM flora and fauna to oil pollution



Additionally, because there was little clean-up activity, there should be few artifacts introduced by clean-up crews.

For these reasons the CI is an ideal location for studies to test our hypotheses.

Laboratory Experiments:

Using the unique mesocosm facilities at the Dauphin Island Sea Lab, ACER researchers are conducting experiments to examine the interactive effects of genetic, taxonomic and functional biodiversity on key ecosystem processes after oil/dispersant exposure.



Research Teams	Biodiversity Measure
Nitrogen Cycling	Functional
Benthic Microbes	Genetic, Taxonomic, Functional
Phytoplankton-Microzooplankton	Taxonomic, Functional
Benthic Macroinfauna	Functional
Wetlands	Genetic, Taxonomic
Oyster Reefs	Genetic, Taxonomic
Higher Level Consumers	Taxonomic, Functional