Ecosystem Health Indicators are defined as measurable ecosystem features that provide information on processes, anthropogenic inputs and habitats, as depicted in Conceptual Models.

**Phytoplankton bioassays**
- Water samples inoculated with nutrients
- Changes in biomass measured
- Responses can distinguish limiting nutrients
- Demonstrate light vs nutrient limitation

**Sewage plume mapping**
- Sewage effluent has a distinct δ15N signature
- Macroalgal uptake of δ15N indicates sewage nitrogen availability
- Facilitates mapping of sewage plumes

**Water quality sampling**
- Salinity, pH, temperature, dissolved oxygen, turbidity & Secchi depth
- Chlorophyll a, NOx, NH3, FRP, TN, TP

**Seagrass habitat**
- Seagrass is critical habitat in Moreton Bay
- Seagrass distribution in Moreton Bay is directly dependent on light availability
- Seagrass depth range can indicate water column turbidity

**CURRENT CONCEPTUAL MODEL**

**FUTURE CONCEPTUAL MODEL**

**Actions**
- Reduction in nutrients and sediments

**Monitoring Ecosystem Health Indicators**

**Examples of poor Ecosystem Health**

**Examples of good Ecosystem Health**

**Major Stakeholder Initiatives**

- Sewage improvements
- Stormwater control
- Catchment management

**What is Ecosystem Health?**
- Key Processes operate to maintain stable and sustainable ecosystems
- Zones of Anthropogenic Impacts do not deteriorate
- Critical Habitats remain intact

**Monitoring Ecosystem Health?**
- A change in Ecosystem health is measured as a Change in Functional Zones
- Change is defined in comparison with either historical scenarios or appropriate contemporary reference sites
- A Functional Zone is defined as a geographic entity which has common structural and functional characteristics, in particular it is homogenous in:
  a) Key Processes,
  b) Relevant Anthropogenic Impacts,
  c) Critical Habitats.
- Defined in a Conceptual Model and quantified by measurement.

**Examples of good Ecosystem Health**

**CRC for Coastal Zone Estuary & Waterway Management**

**SE Qld Regional WATER QUALITY MANAGEMENT STRATEGY**

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