

National Biological Assessment  
and Criteria Workshop

Advancing State and Tribal Programs



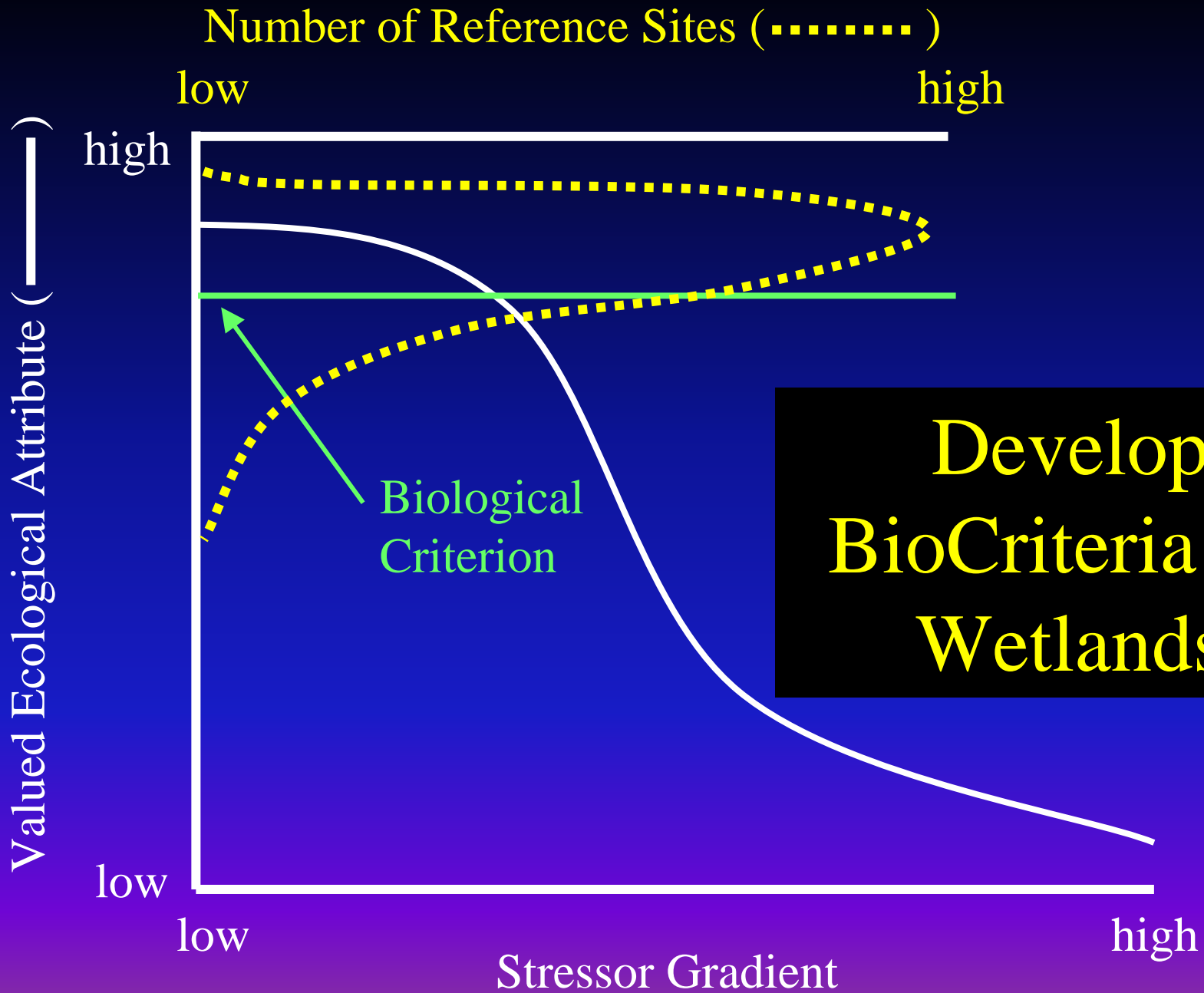
Coeur d'Alene, Idaho  
31 March – 4 April, 2003

**WET 101**

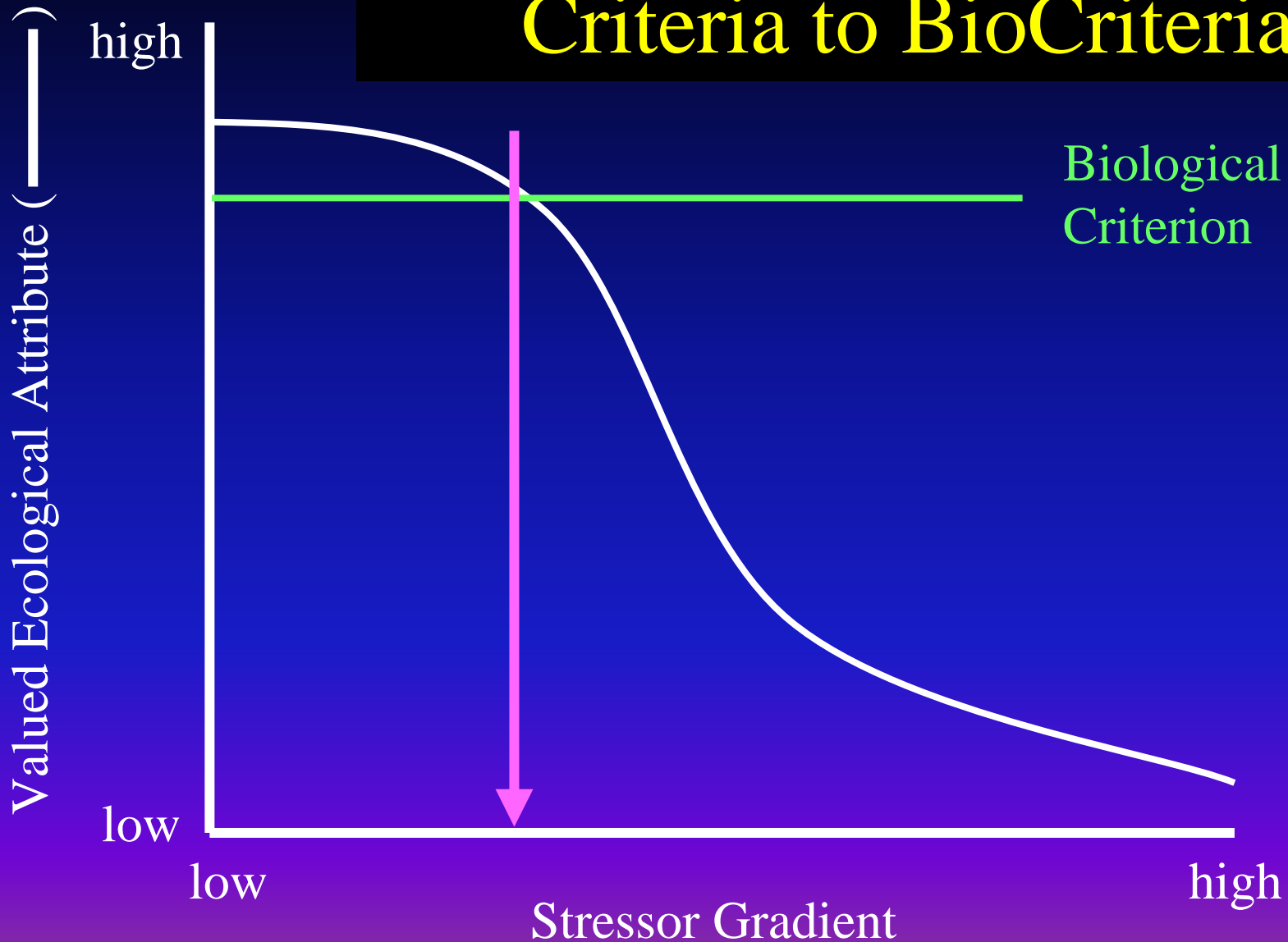
## *Future Directions*

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*Presented by*  
**Jan Stevenson**  
**Michigan State University**



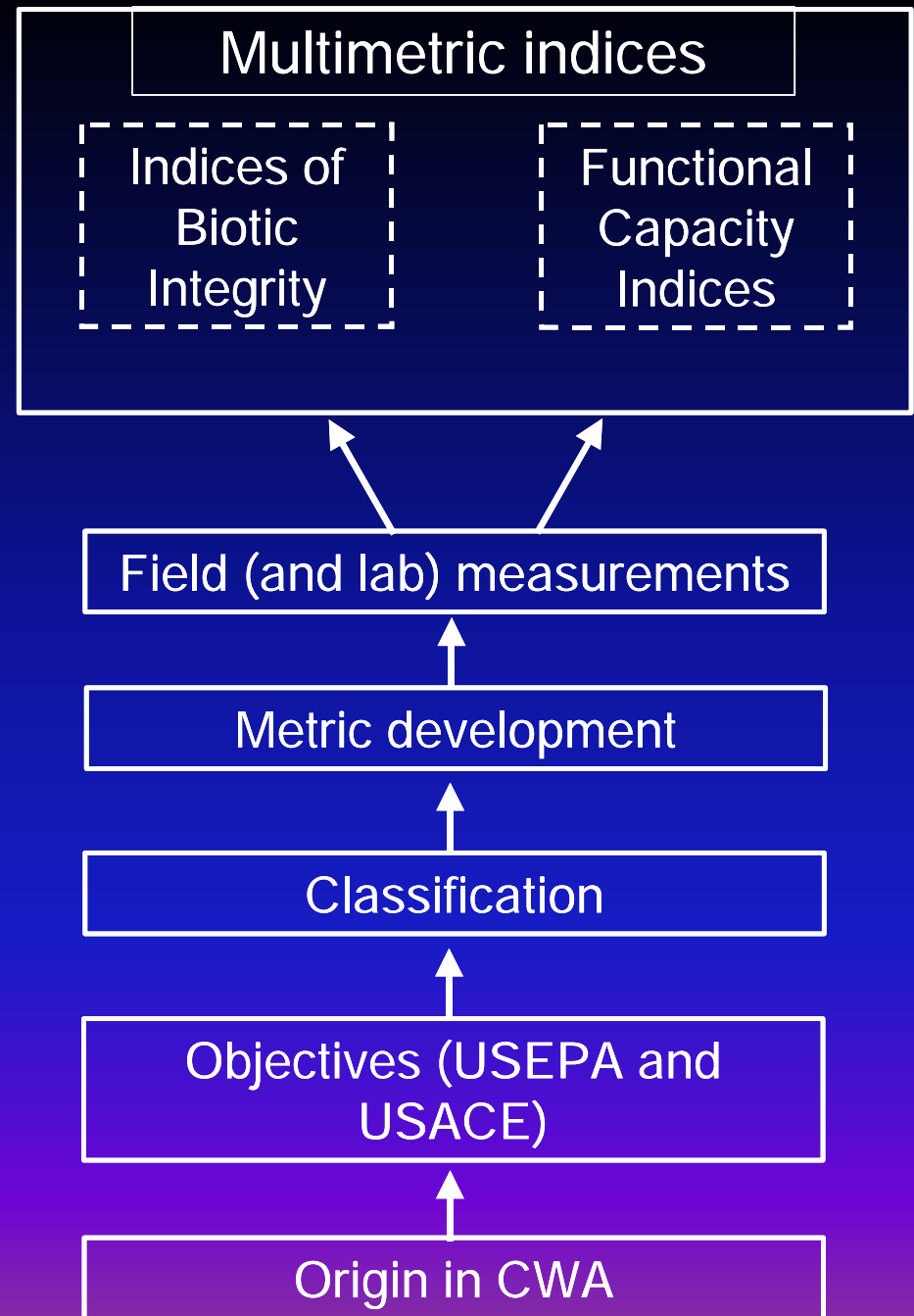
# Link Water Quality & Habitat Criteria to BioCriteria



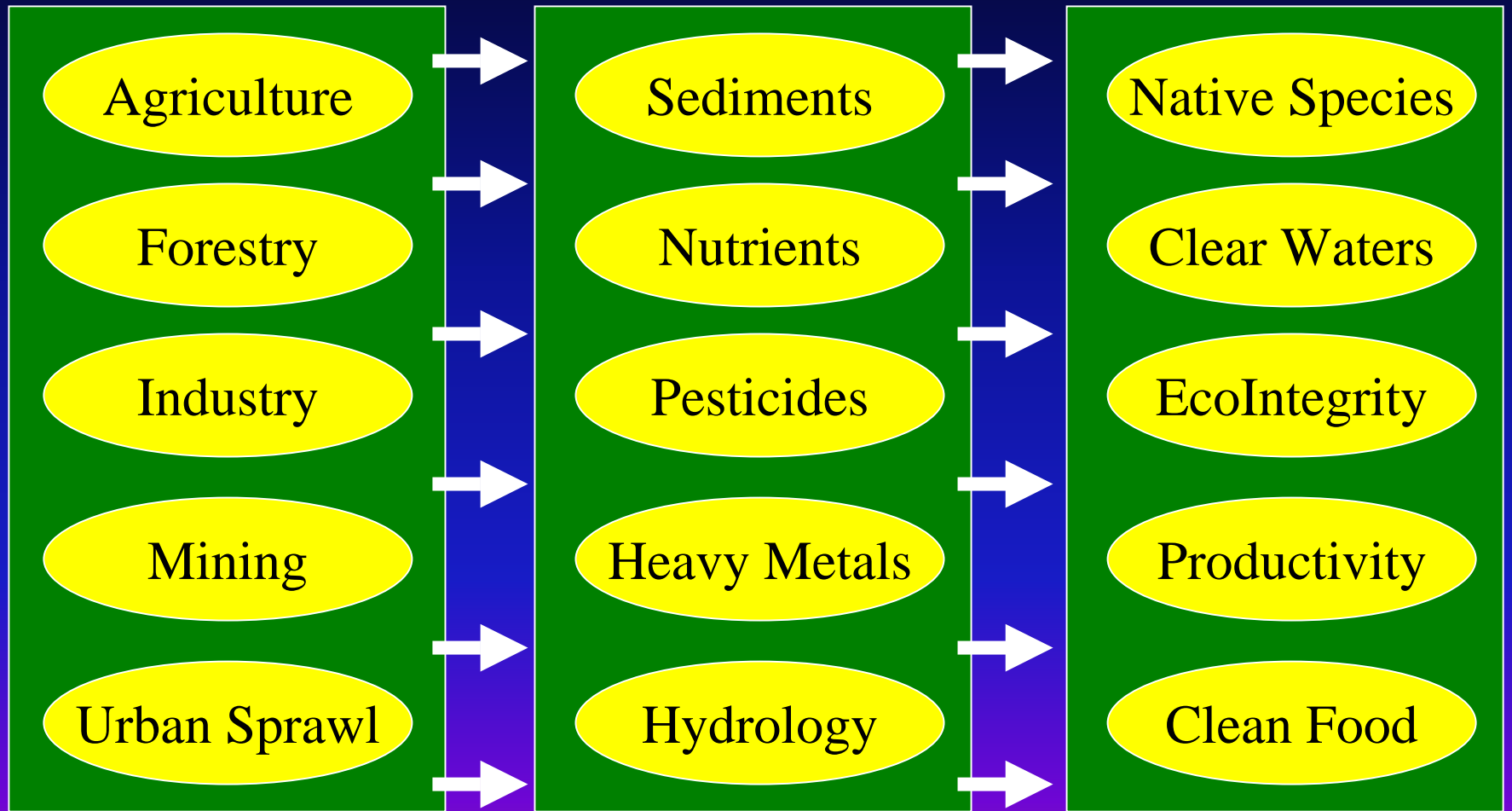
# Comparative Ecological Assessments (Watershed Assessments) for Wiser Management

- Common Assessment Framework
- Common Goals and Metrics
- Among ecosystems of the same type, e.g. wetlands
- Among ecosystem types, e.g., wetlands, streams, lakes, forests, deserts
- Among regions (nationally & globally)

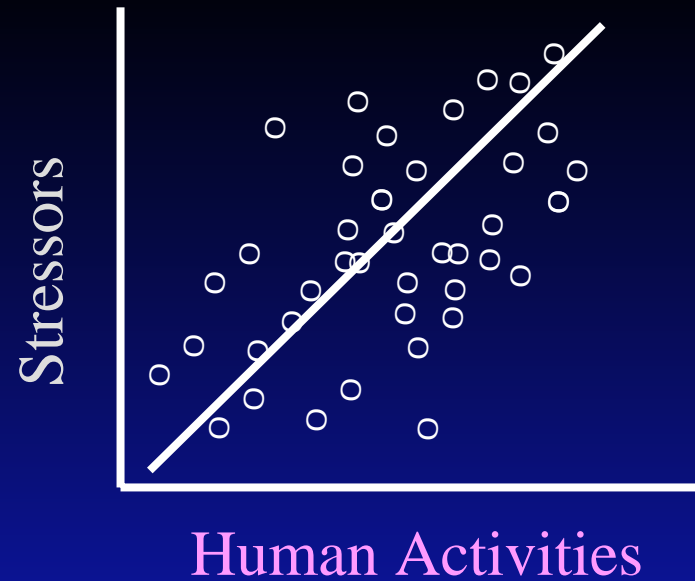
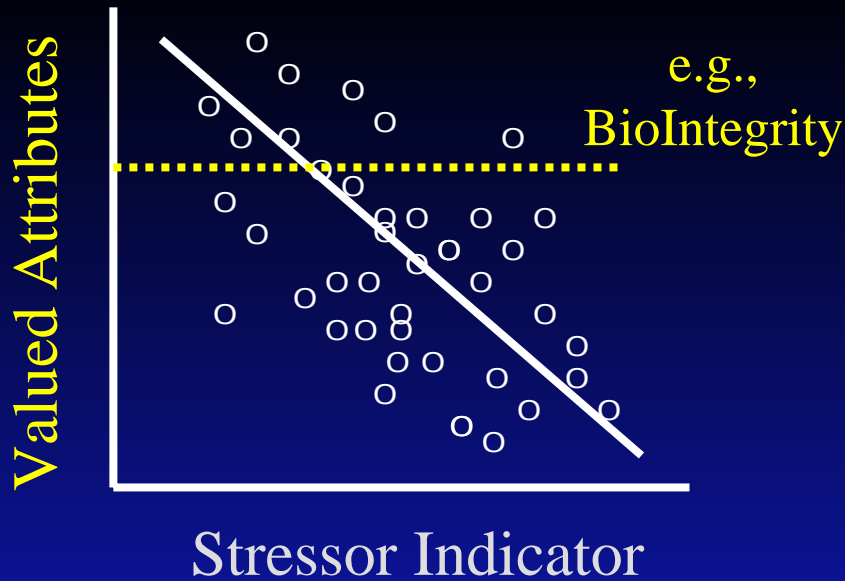
**HGM & IBI**  
**Approaches:**  
**Basically the**  
**Same**  
**(at least highly**  
**complementary,**  
**see Stevenson &**  
**Hauer, 2002)**



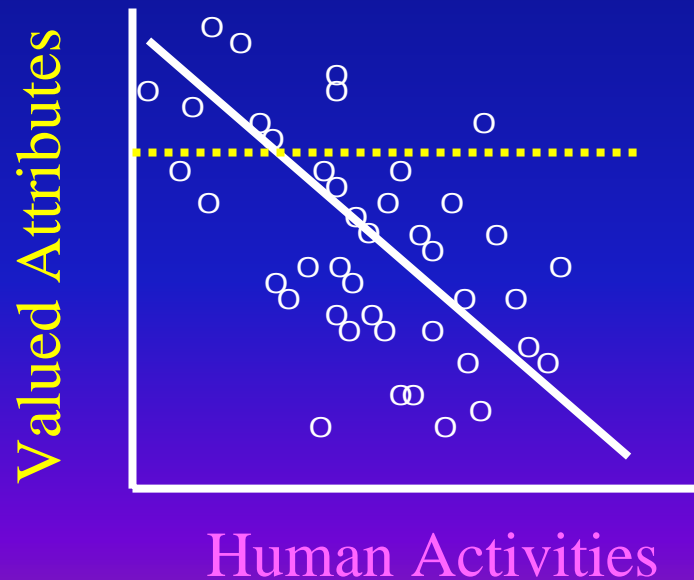
# Stressors Link Human Activities to Valued Ecological Attributes



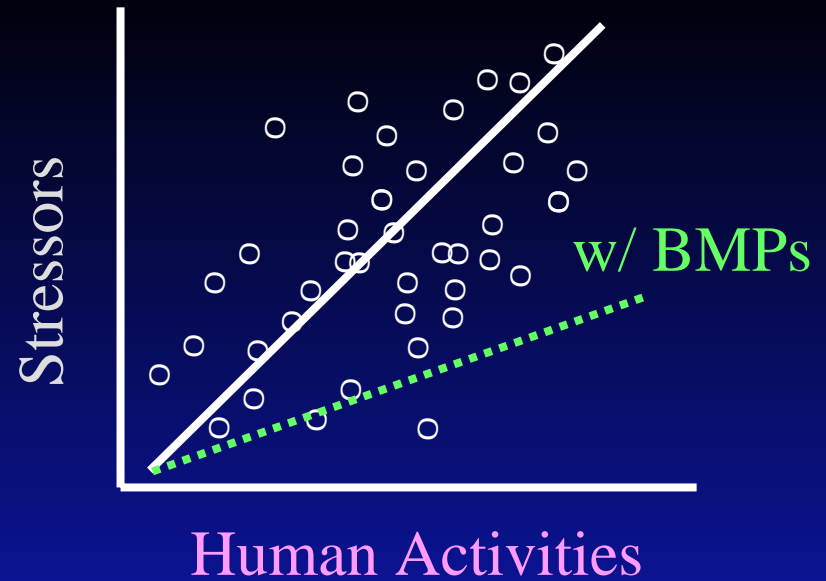
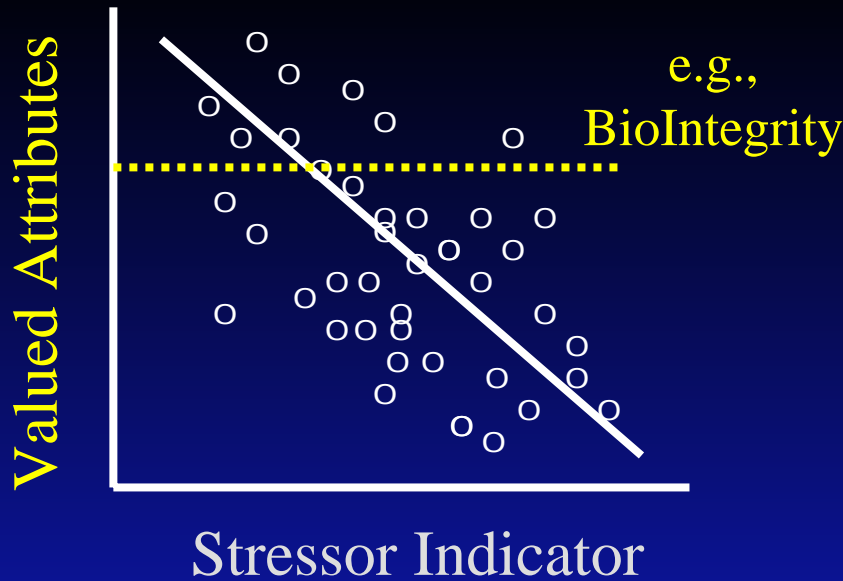
*Human Activities* → *Stressors* → *Valued Attributes*



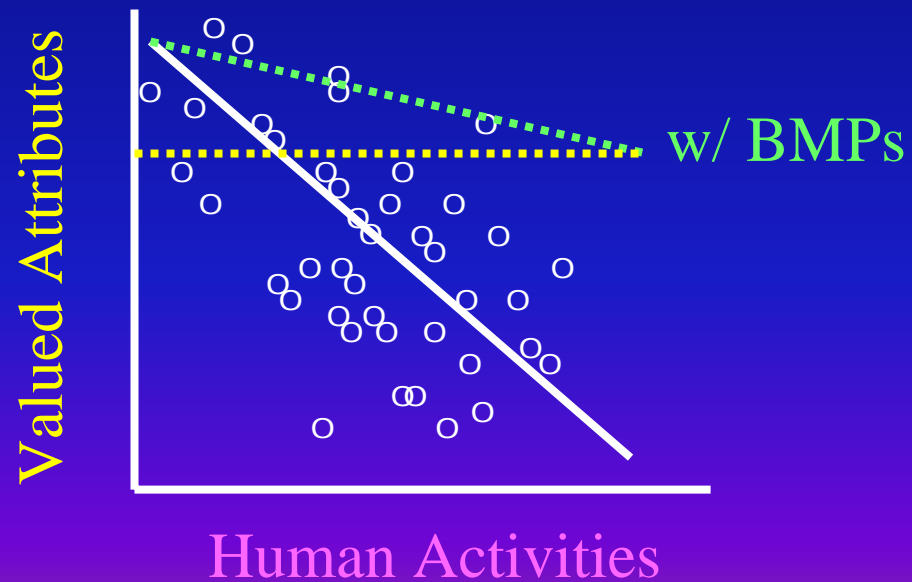
Relations Among  
**Valued Attributes,**  
 Human Activities,  
 & Stressors



*Stressors, not Human Activities, directly affect Valued Attributes*



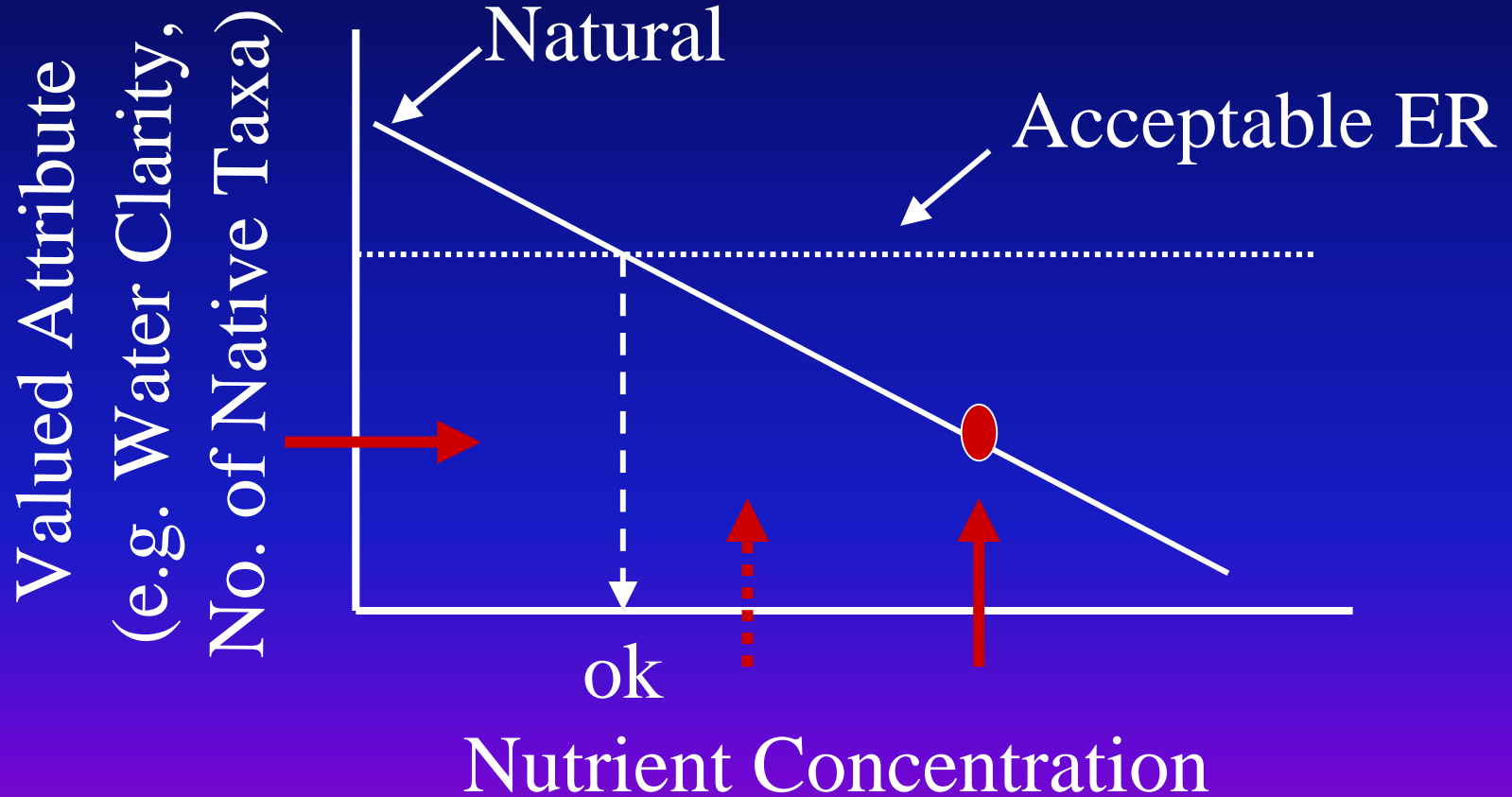
Goal: Support  
**Valued Attributes**  
 by Managing  
**Human Activities**  
 to Reduce  
 Stressors



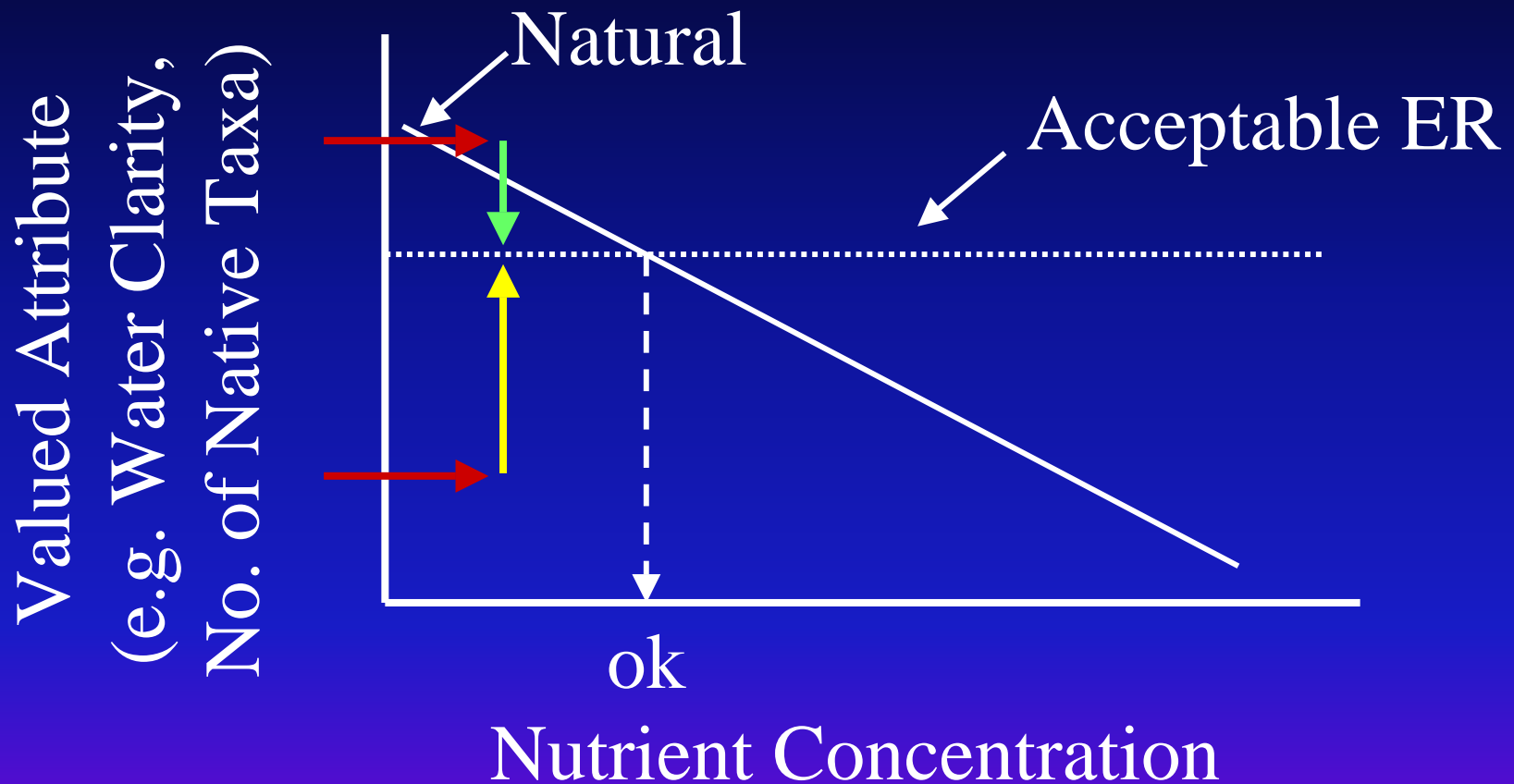
*Stressors, not Human Activities, directly affect Valued Attributes*



# Diagnosing Stressors Threatening or Causing Impairment



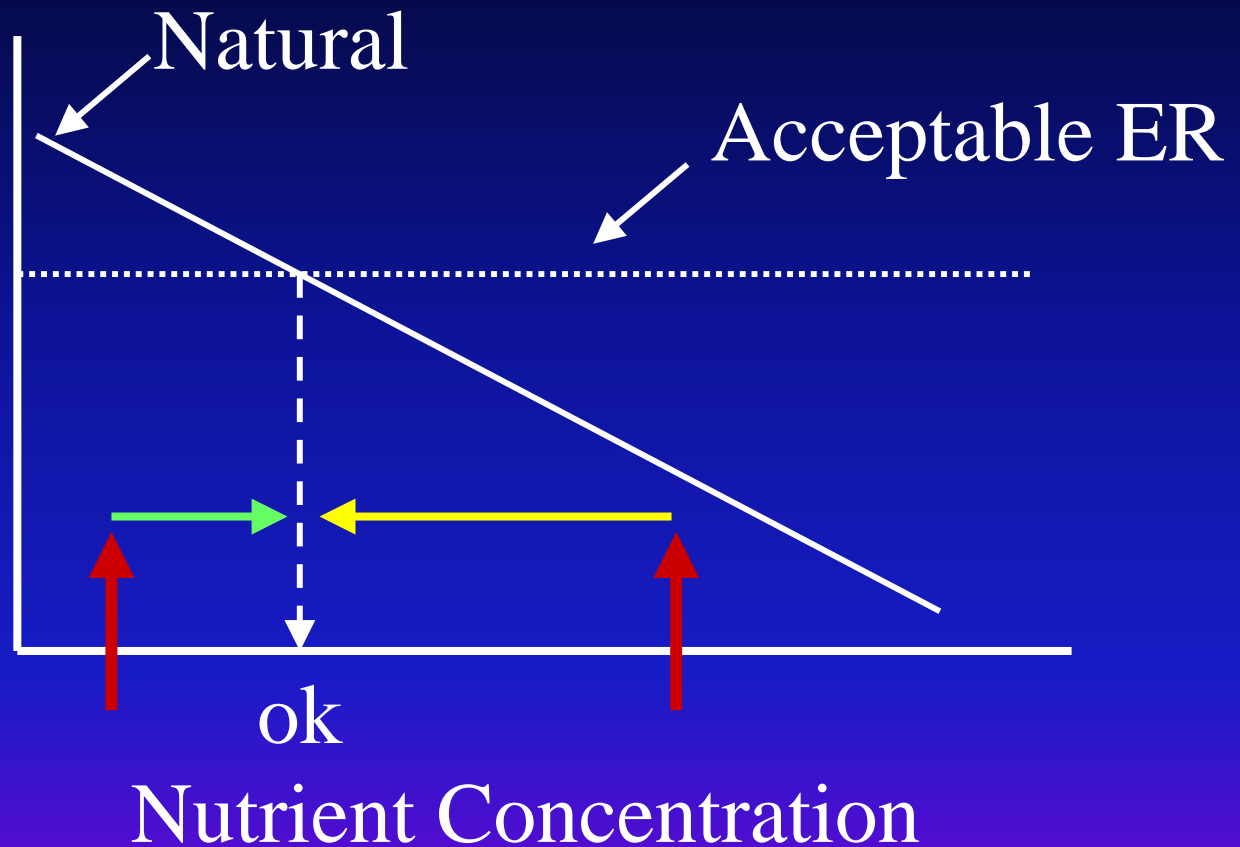
# Prioritizing Management Activities




Sustainability  $\longrightarrow$   $\longleftarrow$  Restorability

# Prioritizing Management Activities

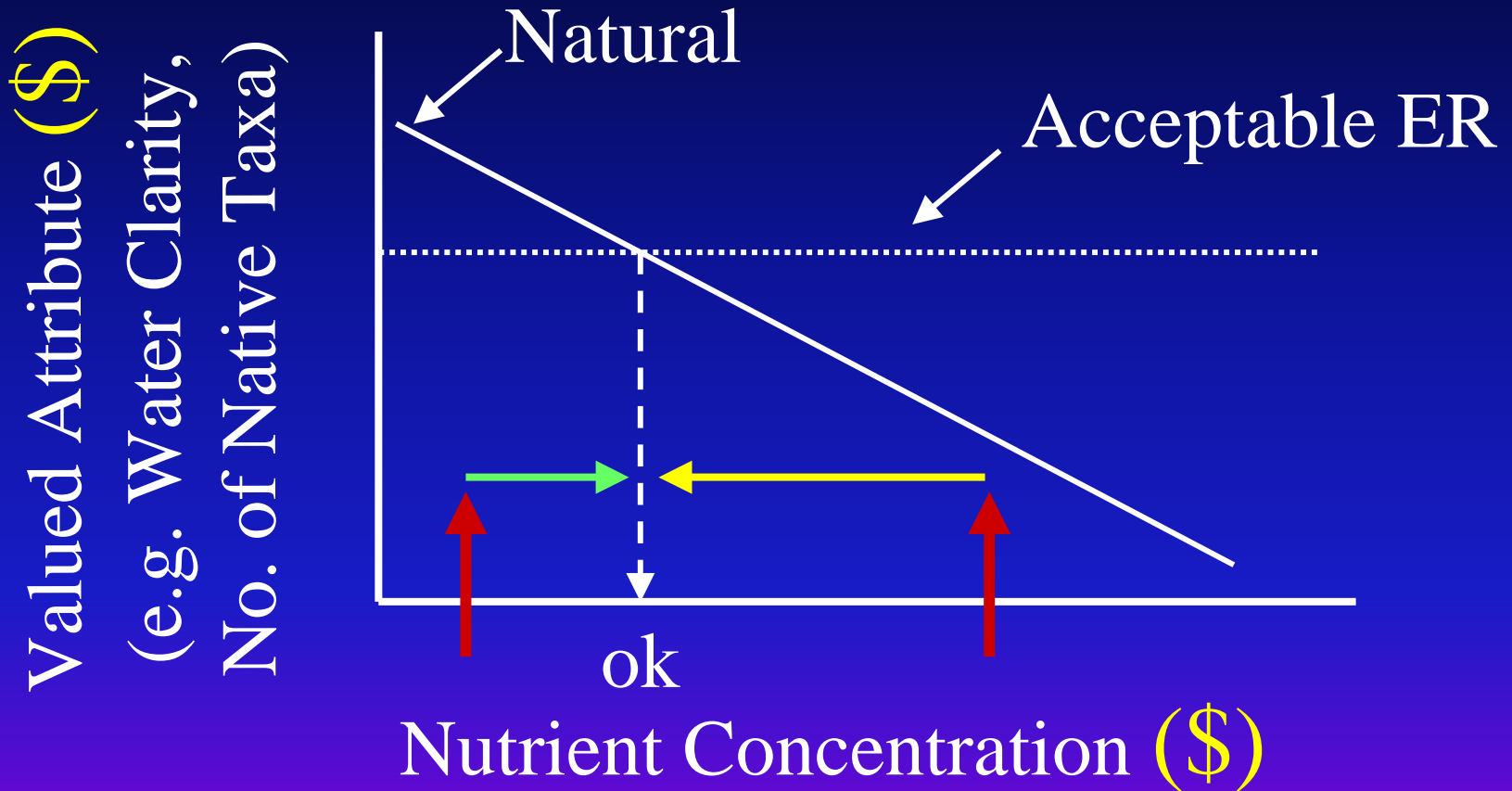
Valued Attribute  
(e.g. Water Clarity,  
No. of Native Taxa)



Sustainability   Restorability

# Prioritizing Management Activities

( $\$$ )



Sustainability  $\longrightarrow$   $\longleftarrow$  Restorability

# Future Directions

- Develop BioCriteria for Wetlands
  - Indices of Biotic Integrity
  - Functional Capacity Indices
  - Valued Ecological Attributes
- Link Water Quality and Habitat Criteria to Criteria for Valued Ecological Attributes
- Comparative Ecological Assessments
  - Watershed Assessments
  - Prioritize Management Actions

# The Water Quality Management Process

