



*4th Stakeholder Forum on Federal
Wetland Mitigation
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Tampa, FL*

*Developing Performance
Standards Guidance*

Performance Standards:

Criteria used to determine if a project attains specific structural or functional goals as intended by design. *Wetland Engineering Handbook 2000*

“Measures of wetland structure or type or a functional assessment score.” *NRC 2001*

“Clear, precise, quantifiable parameters that can be used to evaluate the status of desired functions” *Model Mitigation Plan Checklist 2003*

Mitigation performance standards need to assure ecologically sustainable outcomes and be enforceable



Examples of mitigation performance standards:

- Specific hydrologic, soil, & vegetation conditions
- Vegetation cover (%)
- Plant species survival
- Slope, sinuosity, bankfull width
- % cover of invasive species
- Specific aquatic invertebrate taxa

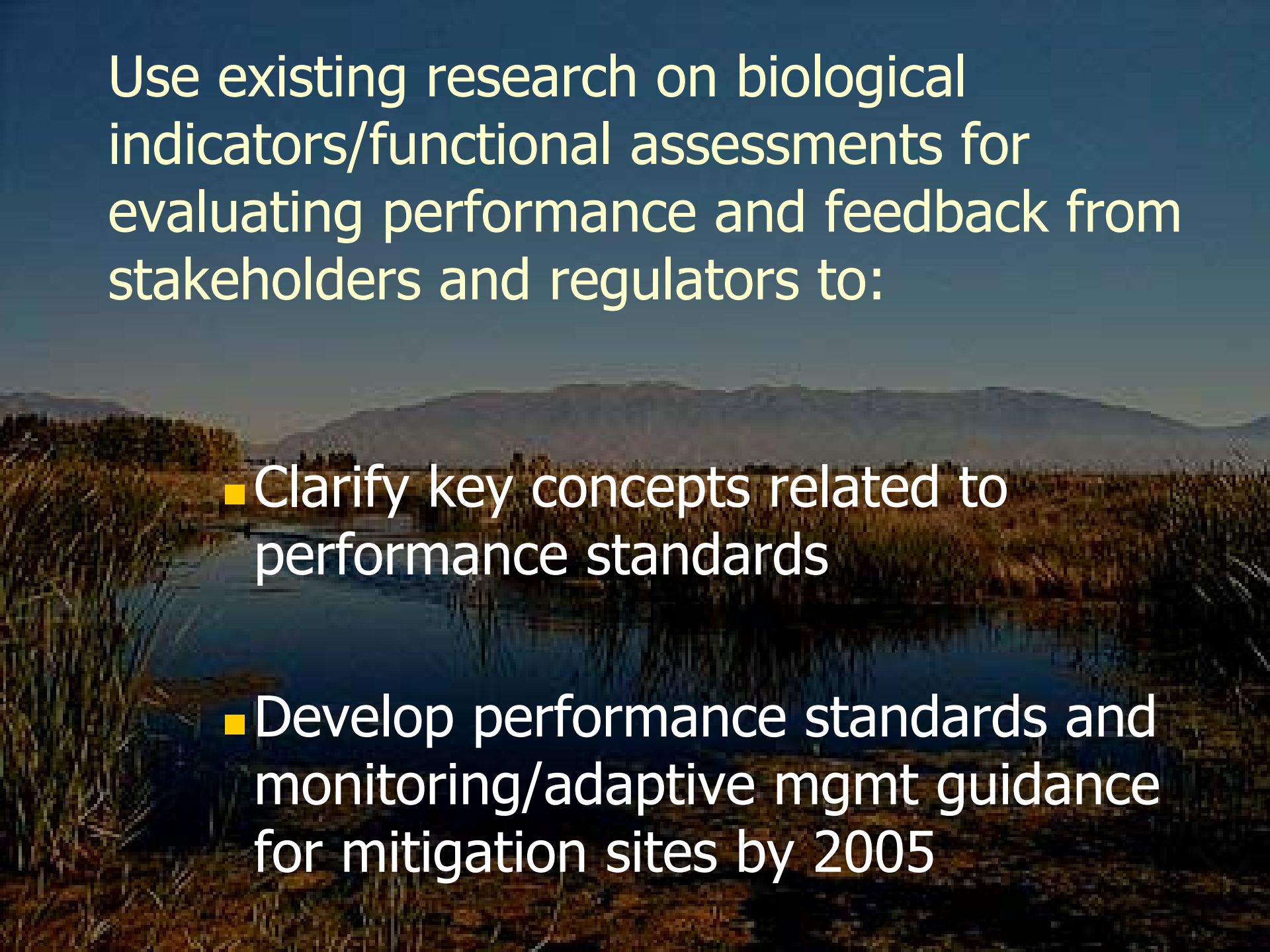
Concerns with mitigation include:

(NRC 2001)

- Failure to construct/complete mitigation
- Unclear permit requirements
- Failure to satisfy permit conditions
- Failure to offset impact acreage/function
- Superficial description of intended functions
- Lack of legal & financial mechanisms to ensure completion & protection

Concerns with Performance Standards

- Performance standards are often:
 - Not included in permit/banking documents
 - Not measurable/observable
 - Vague and unenforceable
 - Narrowly focused on vegetation

A scenic landscape featuring a body of water in the foreground, surrounded by reeds and tall grasses. In the background, there are rolling hills or mountains under a clear sky. The overall tone is natural and serene.

Use existing research on biological indicators/functional assessments for evaluating performance and feedback from stakeholders and regulators to:

- Clarify key concepts related to performance standards
- Develop performance standards and monitoring/adaptive mgmt guidance for mitigation sites by 2005

Constraints on Performance Standards

- Measurable/observable
- Direct/uncomplicated measures
- Repeatable
- Enforceable
- Cost



A framework for Performance Standards

- Administrative standards
- Physical/ecological standards
- Adaptive Management Standards



Administrative performance standards

A background image of a construction site. On the left, a yellow excavator is partially visible. In the center, a person wearing a dark jacket and light-colored pants stands with their back to the camera, looking through a telescope mounted on a tripod. The ground is muddy and uneven, with some puddles. In the background, there are trees and a clear blue sky. A white truck is parked further back on the left.

- Financial assurances
- Site protection
- Assignment of responsibility
- Construction schedules
- Monitoring
- Maintenance
- Long-term management

Physical/Ecological Standards

- **Structural Components**
- **Community or Functional Performance Components**



Physical/Ecological Standards: **Structural Components**

- Site Description - e.g. Size, HGM, Cowardin, Rosgen
- Hydrology - e.g. jurisdictional, periodicity,
- Soils - hydric, constituents, structure
- Vegetation - jurisdictional, community composition & structure
- Stream - e.g. slope, sinuosity, profile



Physical/Ecological Standards: Community/Functional Performance

- Specific community objectives met/
functions performed
- Indicators of biological/functional
attainment
 - Specific measures – e.g. bankfull width, snag
density, foliage height diversity
 - Composite measures – e.g. FQAI, HSI/HUs,
IBI, FCI/FCU (HGM Assessments), WRAP scores

Why Adaptive Management?

- Wetlands are complex/dynamic
- Ability to predict response is limited
- Limited resources
- Do we focus on Function, Community, or Process?
- Need for sustainable mitigation in face of uncertainty

Adaptive Management Standards

- Feedback Process
- Steps
 - Monitor site & implementation
 - Analyze outcomes
 - Incorporate results into future actions
- Encourage experimentation
- Link administrative & physical/ecological standards
- Increase likelihood of sustainability



A photograph of a lush green wetland landscape. In the foreground, there is a body of water with tall, green grasses growing in it. The middle ground is filled with more dense green grasses. In the background, there is a line of trees and a utility pole. The sky is bright and clear.

Questions/Feedback?