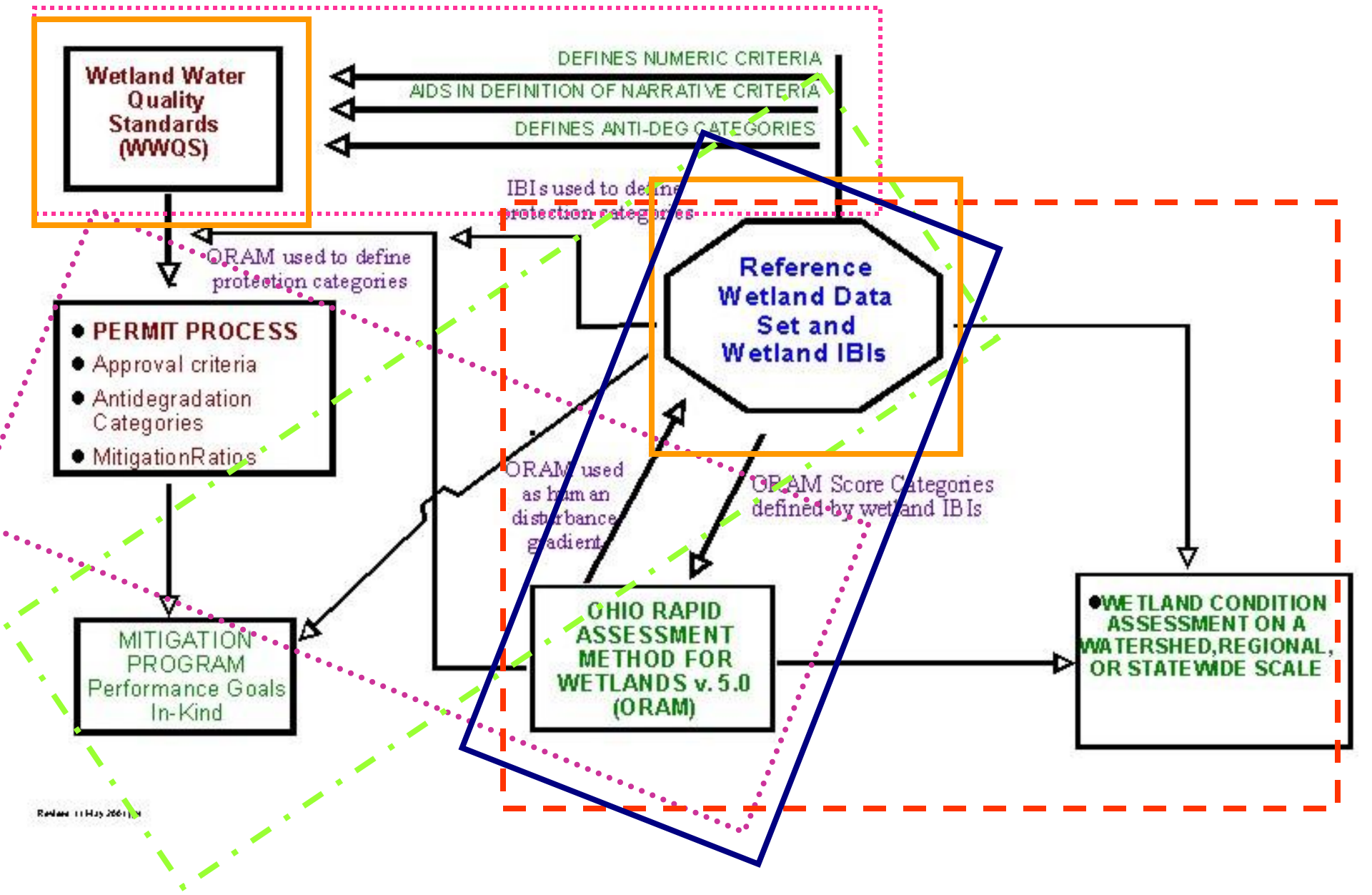
# Ohio EPA's Integrated Wetland Assessment Program



# Steps to ensure "functional replacement"

- STEP 1.
  - As part of permit application, the HGM class and dominant plant community of the impacted wetland(s) must be determined.
  - Specifying the type of wetland will account for different ecosystem processes (functions) and ecological services (values) of different wetland types without the necessity of developing a comprehensive list of those functions and values.

# Steps to ensure functional replacement

- STEP 2.
  - The condition of the impacted wetland is assessed with the rapid condition tool (ORAM v. 5.0) or a wetland IBI.
  - This provides a measure of "functional capacity" since "good" condition equates to "good" functioning, etc.

# Steps to ensure functional replacement

- STEP 3.
  - The size of the wetland to be impacted is determined.
  - Mitigation ratios (e.g. Ohio Administrative Code 3745-1-54) are then used to determine the *amount* of mitigation required.

# Steps to ensure functional replacement

- STEP 4.
  - Any residual moderate to high ecological services the impacted wetland(s) may still be providing, despite moderate to severe degradation, can be evaluated
  - A checklist approach can be used with a narrative discussion
  - If necessary, a more detailed quantification of residual services can be performed

# Performance Standards

- STEP 5.
- Quantitative performance standards for wetland mitigation based on ecologic condition and key biogeochemical indicators are required:
  - Hydrology
  - Soils
  - Ecologic Condition
  - Morphometry
  - Perimeter:Area ratio
  - Basic vegetation establishment
  - Invasive species
  - unvegetated open water

# Has "Functional" Replacement occurred?

- Yes, because…
  - 1) there was "no net loss" of wetland acreage,
  - 2) a mitigation wetland of same HGM class and dominant plant community was created with functions and ecological services equivalent to the impact wetland, and
  - 3) a mitigation wetland was created of equivalent "quality" as measured by biological, hydrological, and biogeochemical indicators (and therefore of equivalent functional performance).

# Or to put it another way...

- IF there is...
  - 1) replacement by size of the impacted wetland,
  - 2) replacement of the type of wetland impacted (same landscape position and dominant plant community,
  - 3) and replacement of the quality of the impacted wetland as measured by quantitative, condition-based ecological performance targets,
- THEN there is very strong assurance that functional replacement is occurring

# Conclusions

- Reference wetland networks are the foundational element for a comprehensive wetland program
- Fundamentally, allows you to
  - 1. quantify what is “good”;
  - 2. quantify the characteristics of natural wetlands;
  - 3. develop a detailed classification system that accounts for natural functions and services of different wetland types
  - 3. and finally, derive meaningful ecologic performance standards for wetland mitigation

# Conclusions cont.

- A condition-based approach has multiple advantages:
  - avoids need to quantify each function or ecological service
  - allows for “rapid” assessment of “impact” wetlands in most situations
  - makes the permit process more predictable and simplified
    - Note: out-of-kind mitigation addressed explicitly and case-by-case
  - decisions highly defensible scientifically