

# The Ohio Lake Erie Phosphorus Task Force Phase II: Science-based Analysis for Policy Recommendations

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Ohio Lake Erie Commission

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# Blue-green Algae Bloom circa 1970, Lake Erie





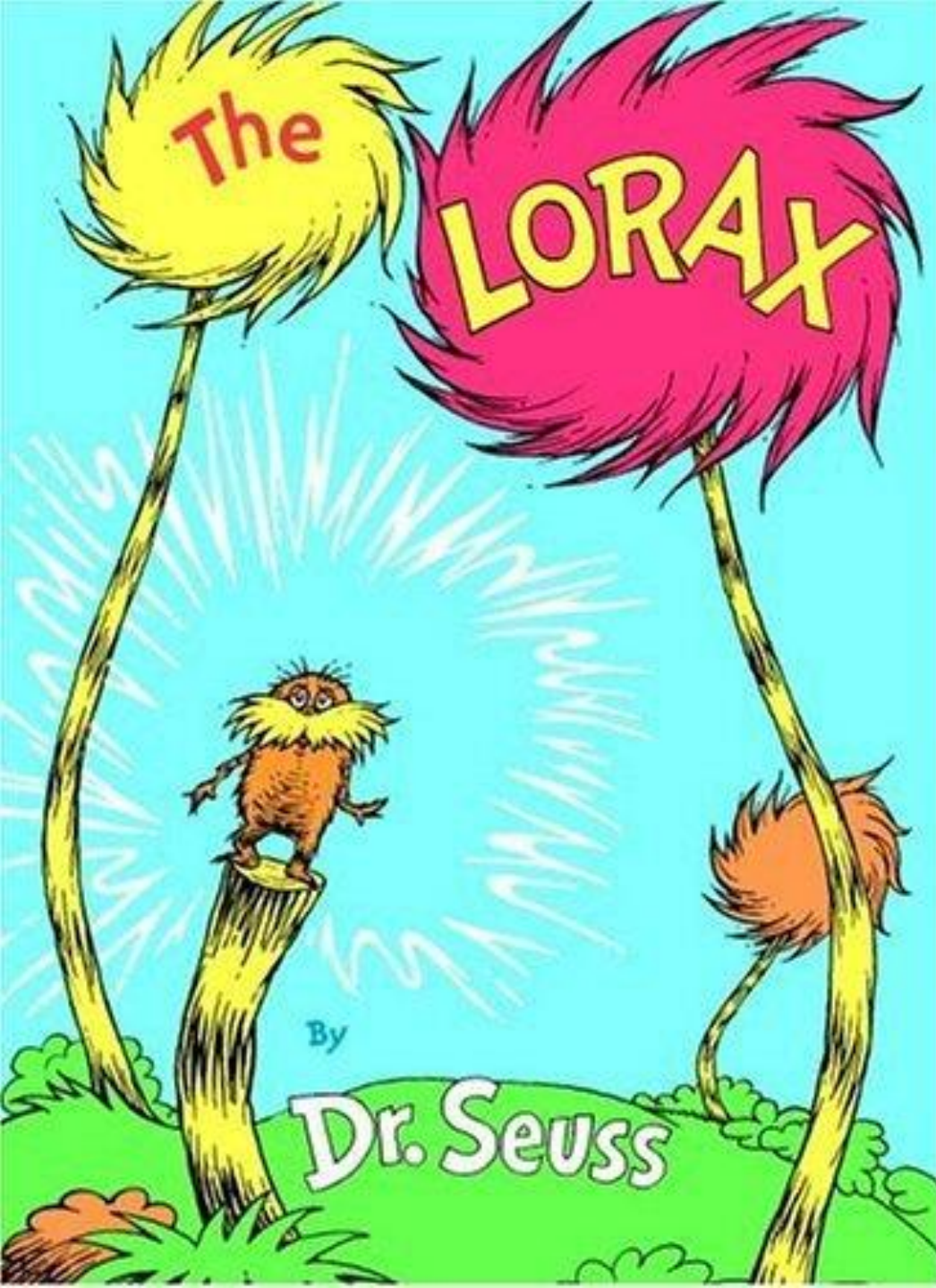
***“I heard Lake Erie is the place fish  
go to die.”***

*- Johnny Carson, 1976*

An aerial photograph of Lake Erie, showing the water's surface and surrounding land. A semi-transparent blue overlay covers the entire image, creating a soft, ethereal effect. The text is centered over this overlay.

*Even Dr. Seuss had something  
to say about Lake Erie...!*





“They’ll walk on their fins and get woefully weary in search of some water that isn’t so smeary. I hear things are just as bad up in Lake Erie.”

# What's Needed

- On-the-ground implementation:
  - Several state and federal funded programs
  - Voluntary efforts, emphasis on new(er) practices
- Research and monitoring
  - Current focus on edge of field studies
  - Tributary and nearshore monitoring program
- Other analytic efforts:
  - Phosphorus Task Force, work groups
  - Workshops, symposiums

# Ohio Lake Erie Phosphorus Task Force

- Approach
- Content
- Recommendations (preliminary)

April 2010

# Ohio Lake Erie Phosphorus Task Force Final Report Executive Summary



Ted Strickland, Governor  
Lee Fisher, Lt. Governor  
Chris Korleski, Director

# P Task Force Phase I

- Comprehensive analysis of possible sources
- Identified relative contribution of dissolved phosphorus
- Point sources have remained relatively constant, other sources contribute
- Agriculture is the prevailing source
- Management of land application of fertilizer is key (*how it is applied: timing and placement*)
- Exacerbated by changing weather patterns
- Hot spots change continually

# P Task Force Phase II: Approach

Composition: researchers, water resource and agricultural agency representatives, agricultural industry, NGOs

## Task:

- Develop reduction targets to track future progress
- Review new and emerging data and information
- Develop policy and management recommendations

# P Task Force Phase II: Approach

- Utilized peer reviewed publications
- Presentations from content experts
- Information presented, deliberations, development of recommendations
- Fact, Opinion, Guess
- Consensus-based approach

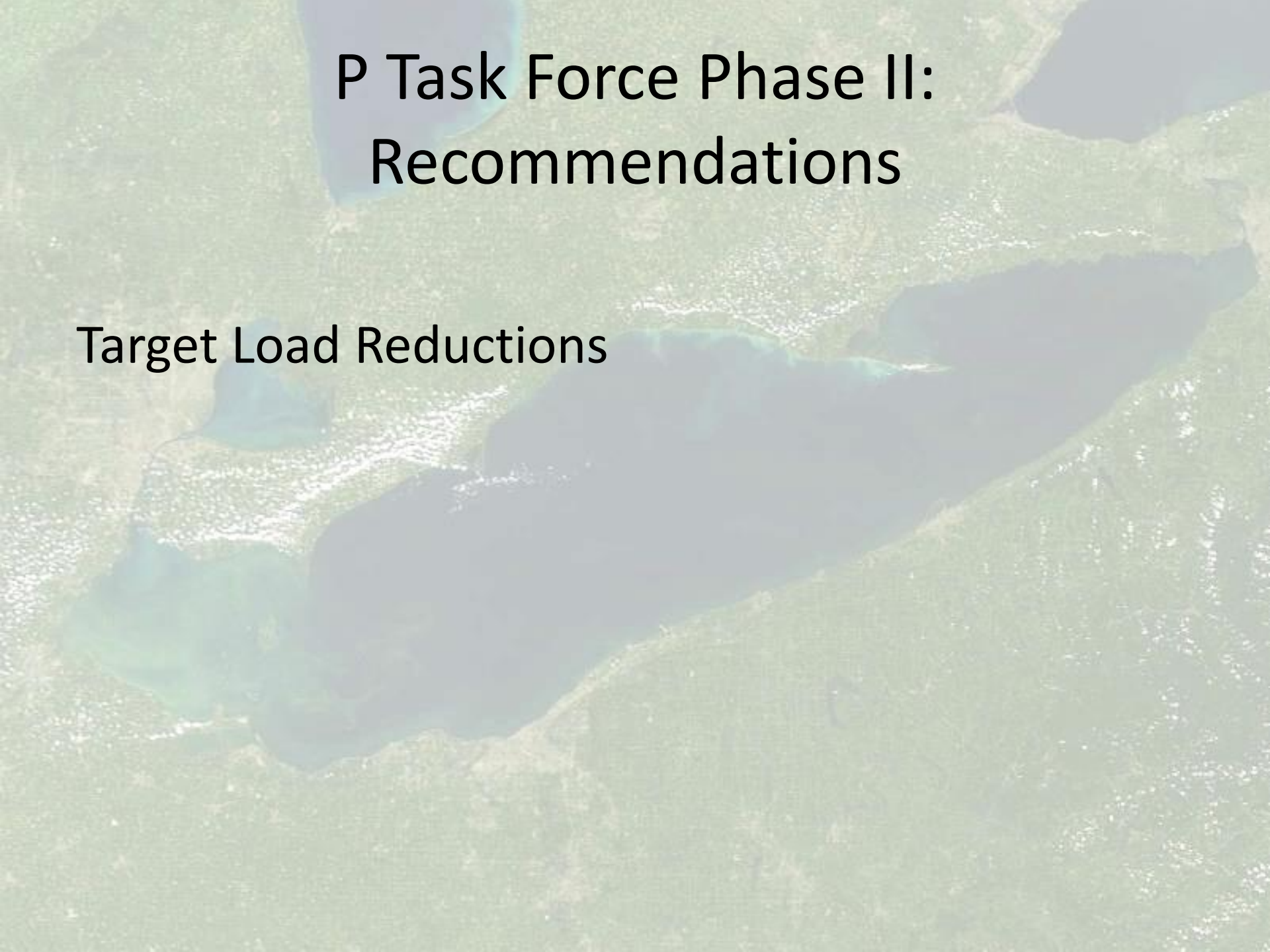
# P Task Force Phase II: Content

- Updated water quality and algal bloom information (2011 and 2012 contrast)
- Reviewed status of Task Force I recommendations
- Targets for load reductions
- Progress & costs of point source reductions
- Nutrient management and mitigating practices
  - Drainage management
  - Soil health



# P Task Force Phase II: Content

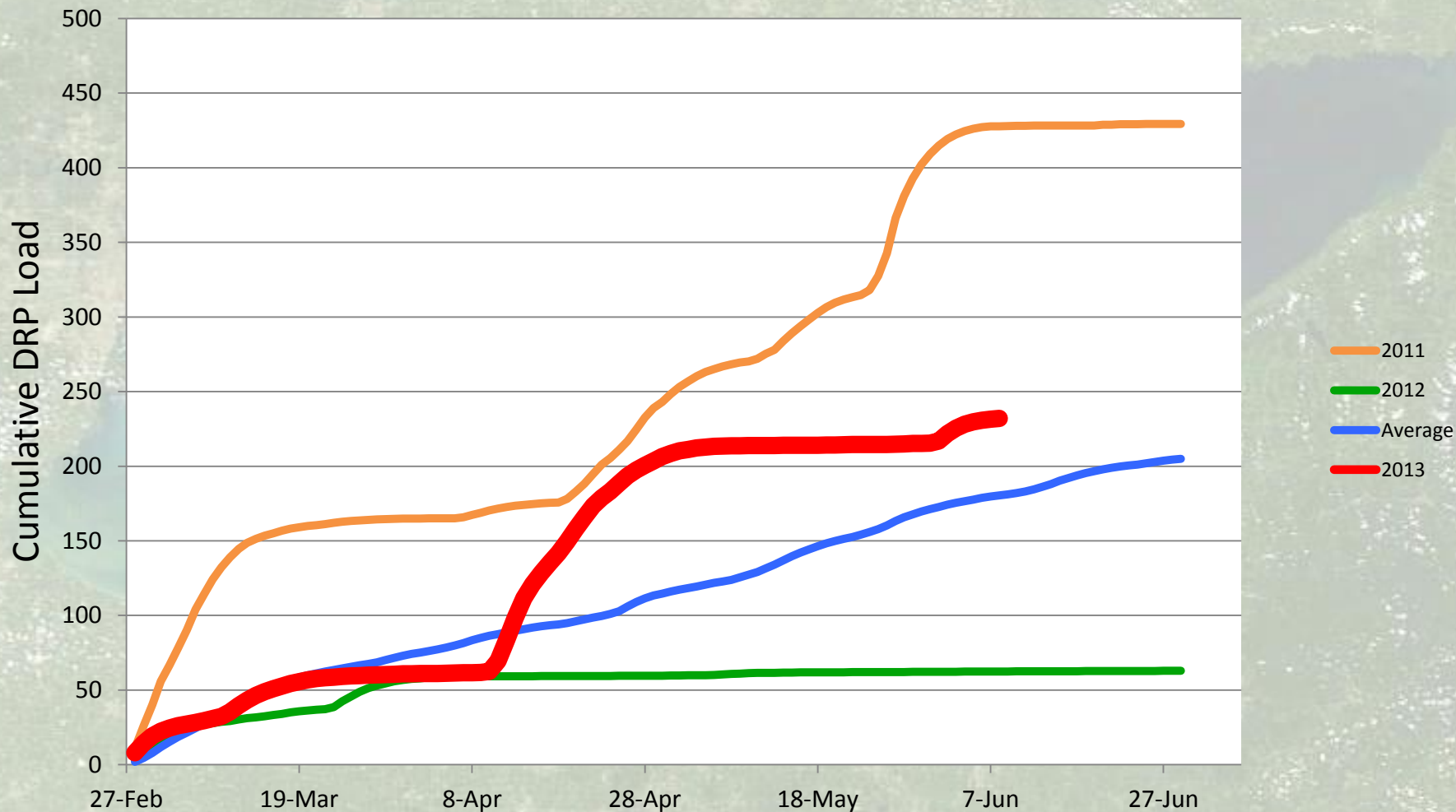
- Drainage Management
  - New structures emerging that are beneficial to reducing nutrient loss
  - Explored available research on p removal
  - Little data specific to Ohio
- 1.3 million acres of “Very Poorly” and “Poorly Drained” soils in the Maumee and Sandusky basins
  - 1 structure per 30 acres = 44,032 structures
  - 25% is 11,008 structures at a cost of \$22 million

An aerial photograph of a large, winding river or waterway, likely the Mississippi River, flowing through a lush green landscape. The water is a deep blue-green color, and the surrounding land is covered in dense vegetation. The river meanders across the frame, creating a central focus for the text overlaid on the image.

# P Task Force Phase II: Recommendations

Target Load Reductions

# Water Year Loads



Source: P. Richards, Heidelberg University

# Phosphorus Loading Target

- Spring loads defined as 1 March – 30 June
- Proposing targets based on reduction in multi-year average loads rather than acceptable peak loads. The 2007-12 time period was selected to better address predicted increases in the frequency of severe storms
- Recommended actions for reduction apply to watersheds between Monroe, MI and Sandusky, OH

# Phosphorus Loading Target

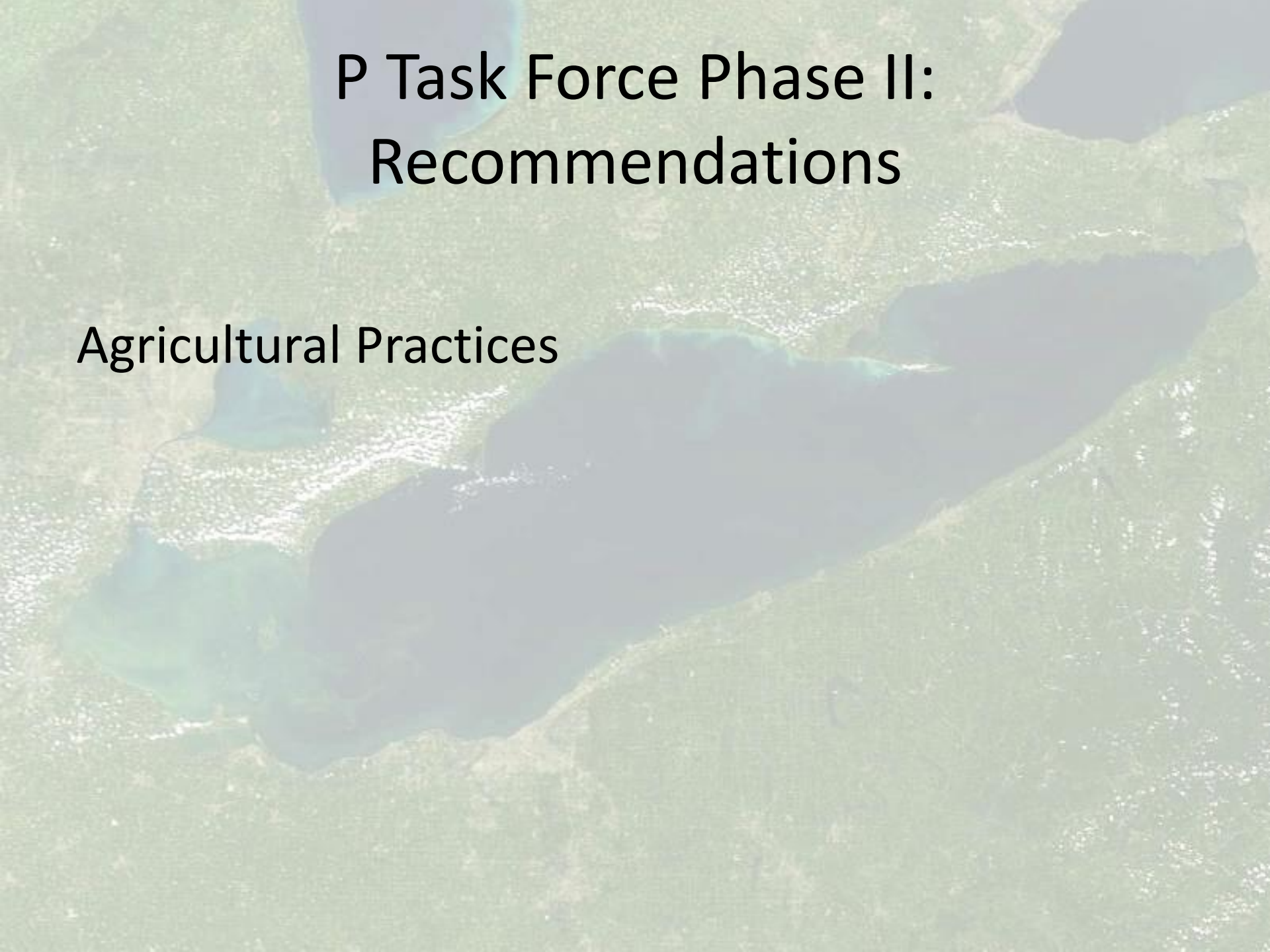
## Dissolved Reactive P

- Average for 2007-2012:  
Spring: 256 tons
- Recommended target:  
Spring: 150 tons
- 41% reduction from the average
- No annual loading target recommended

## Total P

- Average for 2007-2012:  
Spring: 1275 tons  
Annual: 2630 tons
- Recommended target:  
Spring: 800 tons  
Annual: 1600 tons
- 37% - 39% reduction from the average

*No phosphorus concentration recommendations at this time*

An aerial photograph of a large, winding river or waterway, likely the Mississippi River, flowing through a lush green agricultural landscape. The river is the central focus, with its banks lined with dense vegetation and fields. The water appears dark and calm, reflecting the surrounding greenery. The overall scene is a typical representation of a major agricultural region.

# P Task Force Phase II: Recommendations

## Agricultural Practices

# Avoid, Control, Trap

## 7 Super Strategies:

1. Soil test
2. Follow Tri-State Fertility Guide
3. No application on snow covered/frozen ground
4. Fertilizer placement to ensure soil contact
5. Develop soil health to increase filtration/reduce runoff
6. Manage tile drainage to minimize p transport
7. Utilize trapping practices to slow down/retain runoff

# P Task Force Phase II: Recommendations

- Terminology: transition from “incorporation” to “fertilizer placement”
- Track land-based conservation practices
- Soil test methodologies
  - Current use of Bray P1, Bray P2, Mehlich III (colorometric) and Mehlich III-ICP
  - Soil labs: clearly note method and source and reference source for nutrient recommendations to clients
- Emphasis on edge-of-field research and update to the Phosphorus Risk Index



# Lake Erie Protection Fund



Available on the web at: [www.oplates.com](http://www.oplates.com)



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