

The CERP Interim Goals and Interim Targets Process in RECOVER

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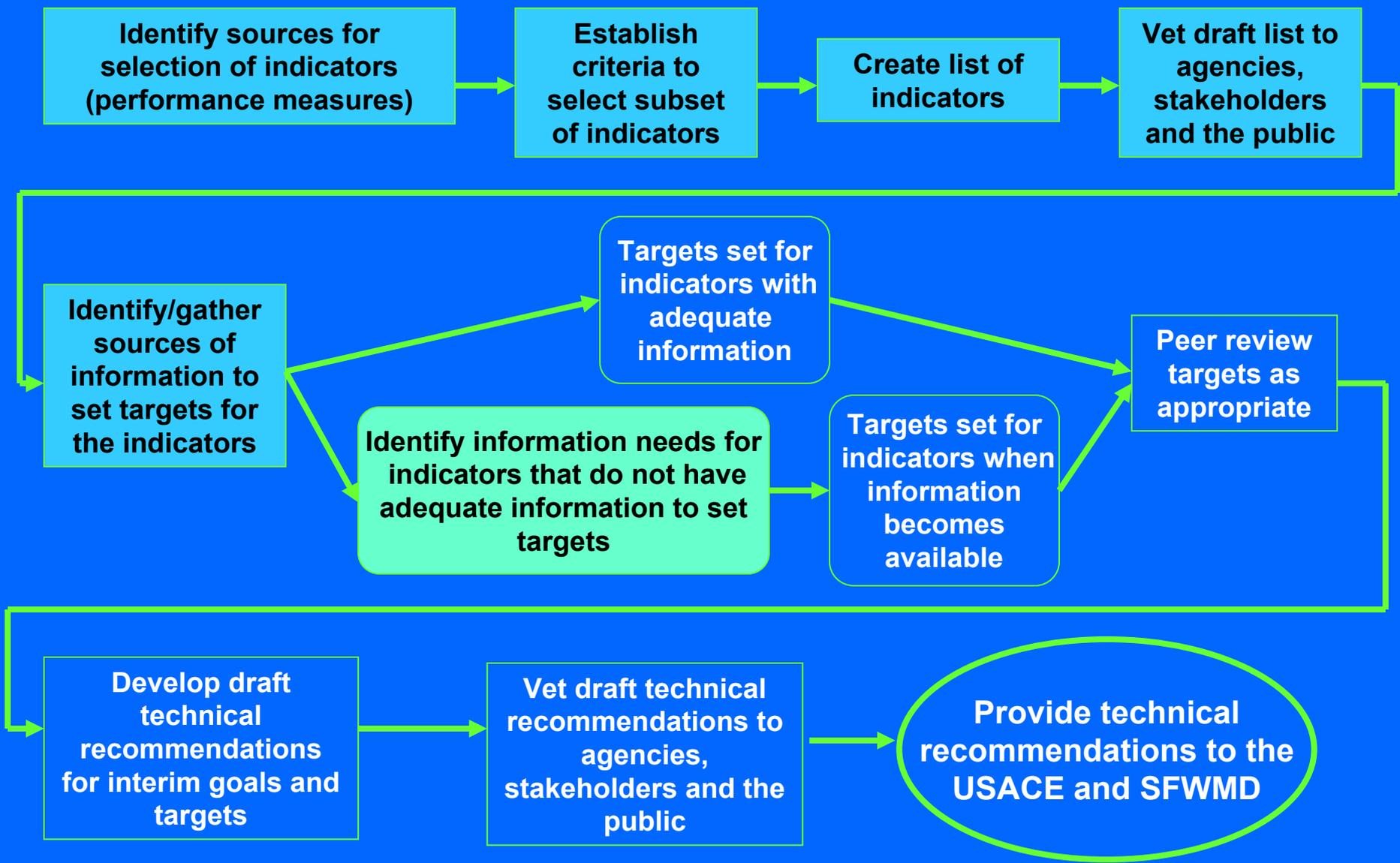
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COMPREHENSIVE
EVERGLADES
RESTORATION PLAN

RECOVER Process for Interim Goals and Targets



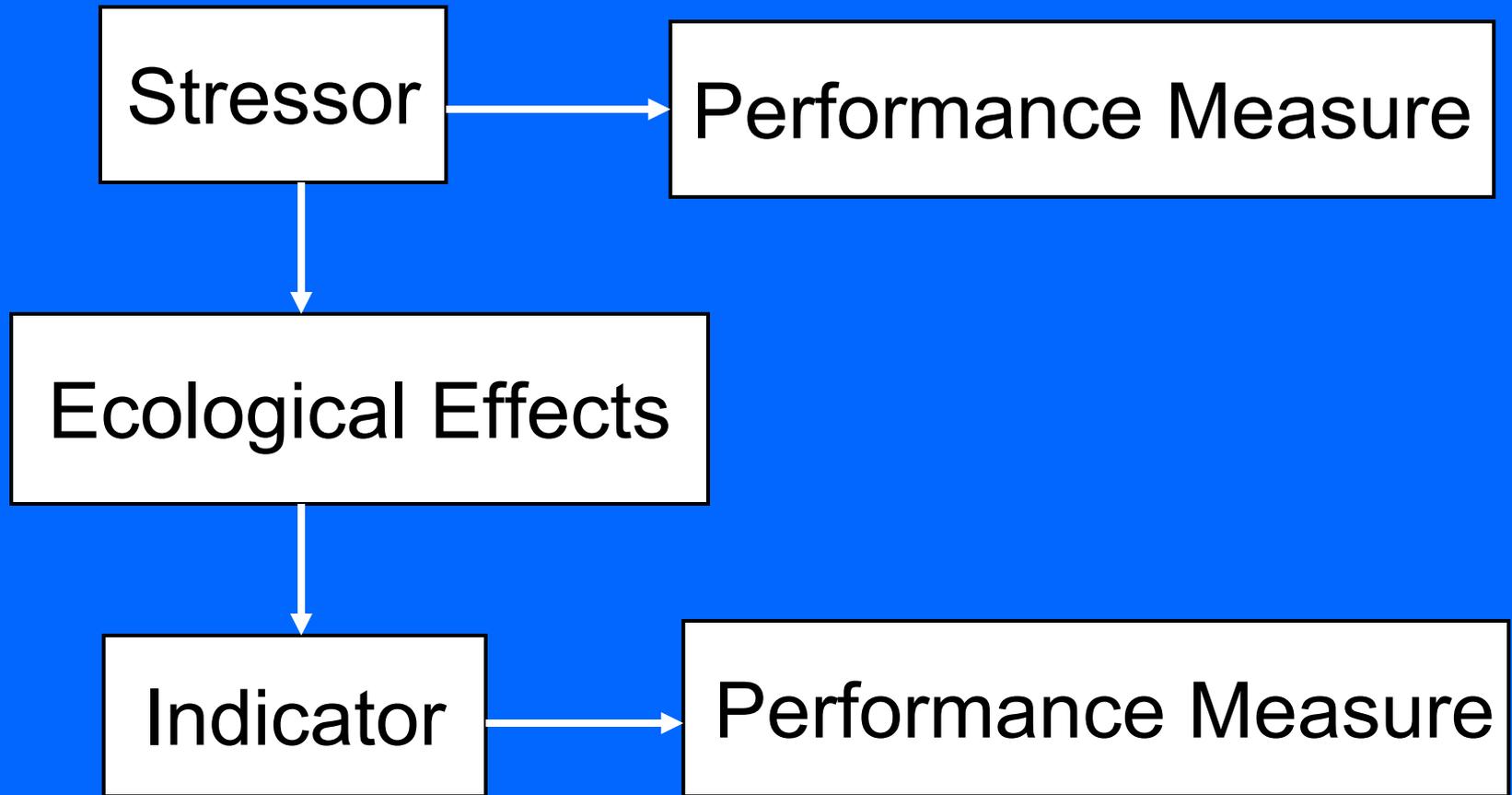
Sources of CERP Assessment Performance Measures:

- 1) Conceptual ecological models**
- 2) Water law and policy**

For the CERP, the conceptual ecological models are used to:

- 1) Reach scientific consensus on the major sources of stress (stressors) on the wetland systems of south Florida and to create a set of working hypotheses that explain the principle biological and ecological effects (indicators) of these stresses,**
- 2) On the assumption that CERP must reduce or eliminate these stressors as a prerequisite for meeting the restoration goals of the Plan, develop a set of assessment performance measures to show how well CERP corrects the stressors and achieves the predicted ecological responses (indicators) that the Plan is designed to affect.**

Conceptual Ecological Model



**Criteria for Selecting a Subset of
CERP Assessment Performance
Measures to be Used as
Indicators for Interim Goals and
Interim Targets:**

- 1) Programmatic Regulations
guidelines**
- 2) RECOVER guidelines**

Programmatic Regulations:

“...RECOVER shall consider [interim goal] indicators including, but not limited to:”

Hydrologic --

- The amount of water...available to the natural system**
- Hydroperiod targets... throughout the Everglades**
- Seasonal and annual overland flow volumes**
- Frequency of extremely high and low water levels in Lake Okeechobee**
- Salinity envelopes for the St. Lucie and Caloosahatchee estuaries, and Biscayne and Florida bays**

**Programmatic Regulations:
“...RECOVER shall consider
[interim goal] indicators including,
but not limited to:”**

Improvements in water quality –

- Total phosphorus in the Everglades and Lake Okeechobee phosphorus

Ecological responses --

- Increases in total spatial extent of restored wetlands
- Improvements in habitat quality
- Improvements in native plant and animal abundance

**Programmatic Regulations:
“...RECOVER shall consider the
following [interim target]
indicators, but not limited to:”**

- **The frequency of water restrictions in the Lower East Coast Service Area**
- **The frequency of water restrictions in the Lake Okeechobee Service Area**
- **The frequency of meeting salt-water intrusion protection criteria for the Lower East Coast Service Area**
- **The frequency of water shortage restrictions... under the Seminole Tribe Water Rights Compact**

RECOVER Criteria for Selecting Indicators for Interim Goals and Interim Targets for CERP

- **Consistent with goals and purposes of CERP**
- **Address the physical (quality, quantity, timing, distribution of water), and biological aspects of the Plan: must be measurable hydrologic and ecological indicators that include short-term, intermediate, and long-term responders**
- **Consistent with the approved performance measures used to develop the CERP Monitoring and Assessment Plan**
- **Predictable and easily interpreted: must have a reasonable level of predictability and should be easily interpreted by a broad audience**

RECOVER'S Proposed Interim Goals Indicators

Group 1: Indicators that can be developed into interim goals using established predictive methods

1.1 Volume – Quantity and Distribution

1.2 Sheetflow

1.3 Hydropattern

1.4 Salinity Patterns in Southern Estuaries

1.5 Water Levels in Lake Okeechobee

1.6 Lake Okeechobee Phosphorous

1.7 Lake Okeechobee Algal Blooms

RECOVER'S Proposed Interim Goals Indicators

Group 2: Indicators that will be developed into interim goals although the predictive tools are still under development and/or review

2.1 Total Phosphorous

2.2 Periphyton Mat Cover, Structure and Composition

2.3 Recovery of Threatened & Endangered Species and Supporting Habitats - Snail Kite

2.4 Ridge and Slough Pattern

2.5 Everglades Tree Islands

RECOVER'S Proposed Interim Goals Indicators

Group 2: Indicators that will be developed into interim goals although the predictive tools are still under development and/or review

2.6 Spatial Extent of Habitat – Cattail

2.7 Submerged Aquatic Vegetation in Southern Estuaries

2.8 Juvenile Shrimp Densities in Florida and Biscayne Bays

2.9 Submerged Aquatic Vegetation in Northern Estuaries

RECOVER'S Proposed Interim Goals Indicators

Group 3: Indicators that, at present, cannot be developed into interim goals, although progress will be reported to Congress at five-year intervals, and for which predictive methods may be developed

3.1 Aquatic Fauna Regional Populations

3.2 Systemwide Wading Bird Nesting Patterns

3.3 Recovery of Threatened & Endangered Species and Supporting Habitats – American Crocodile

3.4 Systemwide American Alligator Distribution and Abundance

RECOVER'S Proposed Interim Goals Indicators

Group 3: Indicators that, at present, cannot be developed into interim goals, although progress will be reported to Congress at five-year intervals, and for which predictive methods may be developed

**3.5 Lake Okeechobee Ecological Communities –
Submerged Aquatic Vegetation**

3.6 American Oysters

3.7 Florida Bay Algal Blooms

RECOVER'S Proposed Interim Targets Indicators

Group 1: Indicators that can be developed into interim targets using established predictive methods

1.1 Volume – Quantity and Distribution

1.2 Water Supply for the Lower East Coast Service Area

1.3 Water Supply for the Lake Okeechobee Service Area

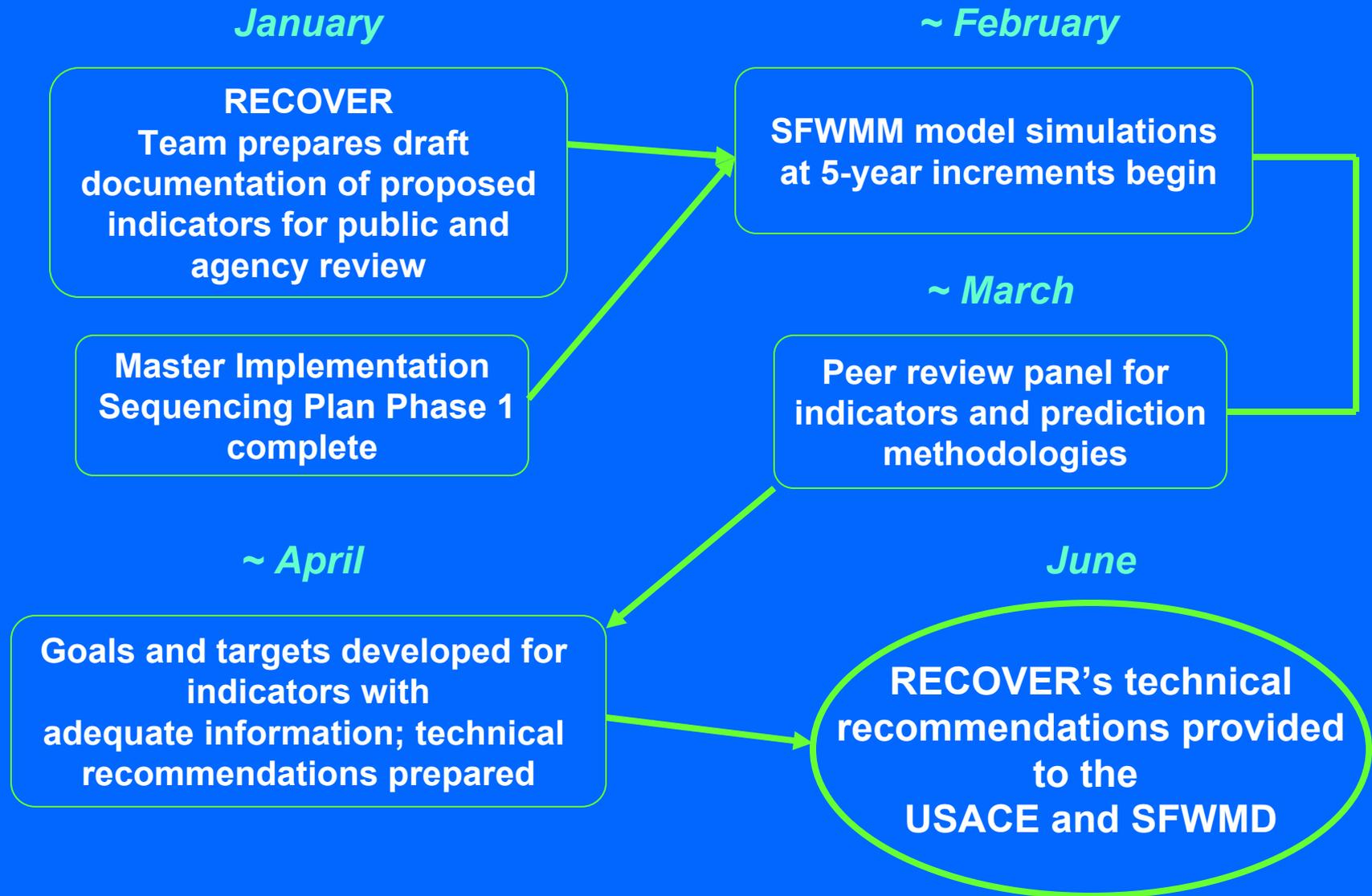
1.4 Protect the Biscayne Aquifer from Saltwater Intrusion

RECOVER'S Proposed Interim Targets Indicators

Group 1: Indicators that can be developed into interim targets using established predictive methods

- 1.5 Protect the Southern Portion of the Biscayne Aquifer from Saltwater Intrusion**
- 1.6 Flood Control: Root Zone Groundwater Levels in the South Dade Agricultural Area east of L-31N**
- 1.7 Flood Control: Groundwater Stages for Miami-Dade, Broward, Palm Beach and Seminole Tribe Surface Water Management Basins**
- 1.8 Flood Control: Flood Water Removal Rate for the Everglades Agricultural Area**

Status of Interim Goals and Interim Targets



Key Questions for Independent Peer Review of Interim Goals

- **Is this the “right” set of indicators. i.e., do these indicators adequately represent the objectives and the spatial and temporal scope of the Plan?**
- **Are the models and other procedures that are proposed for predicting the performance of each indicator appropriate and well thought-out?**

Draft RECOVER Report on Recommendations for Interim Goals and Interim Targets for Public and Agency Review (January 2004)

- **Introduction**
 - **Authority**
 - **Process**
- **Section 1 – Interim Goals**
- **Section 2 – Interim Targets**

RECOVER's Final Technical Recommendations (June 2004)

- **Will include responses to public and agency review**
- **Will include responses to peer review**
- **Will include predictions of indicator responses at 5-year intervals**



Thank You
Questions?