

LAKE OKEECHOBEE WATERSHED PROJECT
RECOVER EVALUATION OF PROJECT-LEVEL PERFORMANCE
MEASURES
(Final 8-14-03)

1.0 Introduction

The role of RECOVER is to organize and apply scientific and technical information in ways that are most effective in supporting the objectives of the Comprehensive Everglades Restoration Plan (CERP). RECOVER links science and the tools of science to a set of system-wide planning, evaluation and assessment tasks. These links provide RECOVER with the scientific basis for meeting its overall objectives of evaluating and assessing Comprehensive Plan performance and refining and improving the plan during the implementation period. RECOVER fulfills this role by working with the PDTs to help them meet CERP's systemwide goals and objectives. Specifically, RECOVER reviews the performance measures for project-level evaluation of alternatives for consistency with the systemwide evaluation performance measures developed by RECOVER.

The purpose of this performance measures consistency review is: 1) to inform the PDT of the compatibility of proposed project goals and objectives with regional CERP restoration goals and performance expectations, 2) to identify general compatibility of project-level performance measures with applicable system-wide performance measures, and 3) to provide information to decision-makers regarding compatibility of project-level and system-wide performance measures of the Lake Okeechobee Watershed (LOW) project.

RECOVER commends the PDT on an organized and well-conceived set of performance measures. RECOVER recognizes and appreciates the time and effort that went into developing these performance measures. The review comments below are intended to enhance an already quality document.

2.0 Consistency with Objectives of the Comprehensive Plan

The planning objectives developed for the LOW project are generally consistent with the objectives of the Comprehensive Plan. The planning objectives developed for this project were developed using both the broad CERP goals and objectives and the more defined regional and site-specific restoration objectives. The project objectives developed for the LOW project presented below directly correspond to specific CERP objective(s) contained in the Central and Southern Florida Project Comprehensive Review Study Final Integrated Feasibility Report and Programmatic Environmental Impact Statement (USACE and SFWMD 1999).

	Project Objectives – of the LOW Project	Corresponding CERP Objectives
1	Improve habitat in the watershed	Increase habitat and functional quality; improve native plant and animal species abundance and

	Project Objectives – of the LOW Project	Corresponding CERP Objectives
		diversity
2	Improve water quality in the watershed	Increase habitat and functional quality; improve native plant and animal species abundance and diversity
3	Maintain and enhance municipal, industrial, and agricultural water supply in the Lake Okeechobee watershed	Enhance economic and social well being; increase availability of fresh water for agricultural water supply
4	Maintain agricultural and urban flood protection	Enhance economic and social well being; reduce flood damages
5	Enhance recreational opportunities	Enhance economic and social well being; provide recreational opportunities
6	Protect and manage significant cultural, historical and archeological resources	Enhance economic and social well being; protect cultural and archeological resources and values
7	Minimize adverse socioeconomic impacts on the local and regional economies	Enhance economic and social well being; minimize socioeconomic impacts on the local and regional economies
8	Maximize immediate, interim and long-term project performance	Optimize project performance and efficiency
9	Ensure the recommended plan is cost efficient	Optimize project performance and efficiency
10	Minimize risk and uncertainty of project performance	Optimize project performance and efficiency
11	Improve water quality in Lake Okeechobee	Increase habitat and functional quality; improve native plant and animal species abundance and diversity
12	Provide adequate storage capacity	Increase availability of freshwater for agricultural water supply; reduce flood damages

3.0 Consistency with RECOVER System-Wide Evaluation Performance Measures

There is general compatibility between the project-level performance measures developed by the PDT for the LOW project and the system-wide evaluation performance measures developed for the Comprehensive Plan by RECOVER. However, RECOVER has suggestions for additional project-level and system-wide performance measures. General comments of significance are noted below, while comments on each specific project-level performance measure are presented in Attachment A.

Terminology - In the introductory text and throughout the LOW performance measure documentation, there is some confusion related to terminology used by the project and RECOVER in describing performance measures. The hierarchy established in the LOW project contains two main headings: watershed and system. Watershed refers to the larger project boundaries, and system refers specifically to Lake Okeechobee, the St. Lucie and Caloosahatchee estuaries, and all other areas south of the Lake. The use of the term “system” creates confusion between the term used by the LOW PDT and RECOVER’s system-wide terminology. For consistency with the terminology used by RECOVER and other CERP Projects the Level 1 headings could be clarified to read: “LOWP Project-level” and “RECOVER Systemwide” evaluation criteria. Clarification in Section 2.3.1 of the project text would solve this confusion. RECOVER also suggests following a naming convention that distinguishes performance measures from evaluation criteria. For example, to clarify criteria designation for the reader, RECOVER suggests changing EC 1.1.1, EC 11.1.1 and EC 11.1.2 to PM 1.1.1, PM 11.1.1 and PM 11.1.2. Additionally, RECOVER suggests defining “Other Criteria” in the project text of section 2.4.1.

Inclusion of RECOVER System-Wide Evaluation Performance Measures – When presenting the comprehensive list of all applicable evaluation criteria, RECOVER suggests that an index of the relevant RECOVER performance measures be referenced. Inclusion of the performance measures developed by RECOVER in the evaluation hierarchy would benefit readers’ understanding of relevant and applicable performance measures. Additionally, the inclusion of RECOVER evaluation performance measures will enable the reader to understand the potential effects of the project and how it will be evaluated. The system-wide measures RECOVER suggests adding to the evaluation criteria hierarchy have been identified in the accompanying table, Attachment A. Applicable RECOVER performance measure fact sheets can be viewed at http://www.evergladesplan.org/pm/recover/ret_perf_measures.cfm and can be referenced in RECOVER’s *Performance Measure Documentation Report* currently under development.

Performance Measures vs. Evaluation Criteria – One of the project purposes, as defined in the Restudy, is to reduce phosphorus loads flowing into Lake Okeechobee. RECOVER supports the PDT’s decision to prioritize reduction of Phosphorus loads to Lake Okeechobee. Therefore, RECOVER concurs with the decision to make tributary water quality issues evaluation criteria.

Phosphorus Loading in Lake Okeechobee - The metrics for the Reduction in Phosphorus Loading to Lake Okeechobee performance measure is inconsistent with RECOVER evaluation performance measures. RECOVER evaluation performance measure LO-E6 addresses phosphorus concentrations in Lake Okeechobee rather than phosphorus loading. RECOVER assessment performance measure LO-A19 use phosphorus loading as a metric to evaluate performance in the future. RECOVER suggests changing this metric to be consistent with LO-E6 and adding another metric for P-load to Lake Okeechobee from the tributaries as EC 2.1.3. Additionally, since the set target for P-loading falls short from the RECOVER LO-A19 target of 105 metric tons per year of total phosphorus loading rate from the watershed, RECOVER suggests decreasing the target or indicate in the "Comments" section how much load reduction (in metric tones per year) is expected from other best management practices (BMPs) as a complementary effort to this project.

4.0 Consistency Between Project and RECOVER Evaluation Strategies

Use of Assessment Criteria – The PDT should use some of the RECOVER Assessment Performance Measures to guide refinement of the relevant evaluation criteria. The RECOVER Assessment Performance Measures include the desired direction or target for the system. The specific RECOVER Assessment Performance Measures that are applicable are noted on the individual evaluation criteria.

5.0 Conclusions

RECOVER commends the PDT on an organized and well-conceived set of performance measures. Fact sheets were detailed and informative. Evaluation methods were consistent with RECOVER system-wide performance measures. There is general compatibility between the project-level performance measures developed for the LOW project and the system-wide performance measures of the Comprehensive Plan. Some revisions are suggested. First, updating the report to reference the RECOVER performance measures in RECOVER's *Performance Measure Documentation Report* is suggested. This addition to the evaluation hierarchy will benefit readers' understanding of the array of performance measures and project evaluations. Second, the use of the term "system" at the project level should be modified to eliminate confusion with RECOVER's use of the term systemwide. Lastly, RECOVER suggests that the PDT clarify the relationship between the PDT load PM and the broader Lake Okeechobee TMDL requirements for the performance measure dealing with Phosphorus load reduction to Lake Okeechobee.

**Lake Okeechobee Watershed Project (LOW)
Project Level Performance Measure and Evaluation Criteria Consistency Review
Attachment A**

	Project Performance Measure Objective	Project Performance Measure Target	Applicable RECOVER System-wide Performance Measure and Comments
PM 1.1.1 Total Acres of Wetland Gained (Performance Measure)	Increase wetlands to increase wildlife diversity and abundance, improve water quality, increase storage capacity, enhance downstream functions of natural environments, and improve human interests.	Restoration that will result in a minimum net gain of 3,500 acres of pre-drainage, non-STA wetlands and maximize high quality habitat within those wetlands.	RECOVER suggests updating the existing naming convention to refer to this performance measure as PM 1.1.1
EC 1.1.2 Increase in Wetland Functional Value	Increase wetland functionality including increased wildlife diversity and abundance, improved water quality, increased storage capacity, enhanced downstream functions of natural environments, and improved human interests.	Maximize lift to a theoretical value that corresponds to pre-drainage conditions in wetland functional values as a result of the project. (a WRAP score of 1)	
EC 1.1.3 Total Acres of Wetland Lost	Minimize wetland loss to increase wildlife diversity and abundance, improve water quality, increase storage capacity, enhance downstream functions of natural environments, and improve human interests.	No loss in the spatial extent of existing wetlands	
EC 1.1.4 Decrease in Wetland Functional Value	Minimize decrease in wetland functionality including decrease wildlife diversity and abundance, degraded water quality, decreased storage capacity, degraded downstream functions of natural environments, and impaired human interests.	No reduction in wetland functional values.	
EC 1.2.1 Total Acres of Upland Gained	Increase uplands to increase wildlife diversity and abundance, improve water quality, increase groundwater recharge, and improve human interests.	Maximize the spatial extent of native and natural uplands.	
EC 1.2.2 Increase in Upland Functional Value	Increase functional value of the uplands including increased wildlife diversity and abundance, improved water quality, increased groundwater recharge, and improved human interests.	Maximize functional value including connectivity of native and natural uplands for wildlife habitat.	
EC 1.2.3 Total Acres of Upland Lost	Minimize uplands loss to increase wildlife diversity and abundance, improve water quality, increase groundwater recharge, and improve human interests.	No loss in the spatial extent of native and natural uplands for wildlife habitat.	

EC 1.2.4 Decrease in Upland Functional Value	Minimize decrease in functional value of the uplands including decreased wildlife diversity and abundance, degraded water quality, decreased groundwater recharge, and impaired human interests.	No loss in functional value including connectivity of native and natural uplands for wildlife habitat.	
EC 1.3.1 Total Acres of Open/Deep-Water (ODW) Habitat Gained	Increase ODW habitats to provide habitat for fish and wildlife, increase water storage and increase natural depositional areas.	No net gain in the spatial extent of ODW, but to maximize the area within the reservoirs that provides high quality habitat.	
EC 1.3.2 Increase in Open/Deep-Water Functional Value	Increase ODW habitats functional value including providing habitat for fish and wildlife increasing water storage and increasing natural depositional areas.	Restoration that would maximize ODW functional value to pre-drainage conditions. (a WRAP score of 1)	
EC 1.3.3 Total Acres of Open/Deep-Water (ODW) Habitat Lost	Minimize decrease in ODW habitats to provide habitat for fish and wildlife, increase water storage and increase natural depositional areas.	No loss in the spatial extent of ODW.	
EC 1.3.4 Decrease in Open/Deep-Water Functional Value	Minimize decrease in ODW habitats functional value including loss of habitat for fish and wildlife, decreasing water storage and decreasing natural depositional areas.	No loss of ODW functional value.	
EC 2.1.1 Length of Tributaries with Reduced phosphorus Concentrations Due to CERP Project Features	Decrease phosphorus concentrations in order to increase wildlife diversity and abundance, decrease occurrences of algal blooms, decrease benthic organisms, reverse impairments for designated uses, decrease drinking water treatment and improve water quality to the Everglades.	Maximize the reduction in phosphorus concentration per length of tributaries.	RECOVER is commenting on this evaluation criteria because of its focus on water quality system-wide. One of the project purposes, as defined in the Restudy, is to reduce phosphorus loads flowing into Lake Okeechobee. RECOVER supports the PDT's decision to prioritize reduction of Phosphorus loads to Lake Okeechobee. Therefore, RECOVER concurs with the decision to make tributary water quality issues evaluation criteria.
EC 2.1.2 Increase Tributary Phosphorus Assimilation Capacity	Increase sediment removal in the tributaries to decrease the amount of P reaching Lake Okeechobee.	Maximize the phosphorus assimilation capacity of the tributaries to Lake Okeechobee.	LO-E6, LO-A14 RECOVER is commenting on this evaluation criteria because of its focus on water quality system-wide. Although RECOVER does not have a performance measure that specifically addresses sediment phosphorus assimilation capacity, the project evaluation criteria is consistent with LO-A14 and LO-E6 in its intent to reduce phosphorus concentrations in Lake Okeechobee. One of the project purposes, as defined in the Restudy, is to reduce phosphorus loads flowing into Lake Okeechobee. RECOVER supports the PDT's decision to prioritize reduction of Phosphorus loads to Lake Okeechobee. Therefore, RECOVER concurs with the decision to make tributary water quality issues evaluation criteria.

EC 2.2.1 Compliance with State Water Quality Standards (FAC 62-302)	Maintain lake and tributary water quality so as not to cause or contribute to violation of state water quality standards.	Compliance with FAC 62-302.	LO-E6, LO-A14 RECOVER is commenting on this evaluation criteria because of its focus on water quality system-wide. Although RECOVER does not have a performance measure that specifically addresses state water quality standards, the project evaluation criteria is consistent with LO-A14 and LO-E6 in its intent to reduce phosphorus concentrations in Lake Okeechobee. One of the project purposes, as defined in the Restudy, is to reduce phosphorus loads flowing into Lake Okeechobee.
EC 3.1.1 Agricultural Water Supply	Have no negative impact on the quantity and quality of the existing water supply.	Avoid reductions in existing water supply in the watershed and if possible, to increase the availability of water supply.	
EC 3.2.1 Agricultural Water Supply - No Declared Water Shortage	Reduce the number of occurrences in which the water supply levels of lake Okeechobee and Lake Istokpoga fall below that which would sustain optimal water levels in the C-41 and C-40 canals.	Reduce the number of occurrences in which the water supply levels of lake Okeechobee and Lake Istokpoga fall below that which would sustain optimal water levels in the C-41 and C-40 canals.	
EC 3.2.2 Agricultural Water Supply - Declared Water Shortage	Reduce the number of occurrences in which the water supply levels of lake Okeechobee and Lake Istokpoga fall below that which would sustain optimal water levels in the C-41 and C-40 canals under declared water shortage conditions.	Reduce the number of occurrences in which the water supply levels of lake Okeechobee and Lake Istokpoga fall below that which would sustain optimal water levels in the C-41 and C-40 canals under declared water shortage conditions.	
EC 4.1.1 Flood Damage Potential to Existing Development	Have no negative impact on flood protection after project implementation.	Levels and duration of high wet season canal stages will remain at the existing levels to maintain flood protection. Lower canal stages or a reduced duration of high stages will be an indication of enhanced flood protection.	
EC 5.1.1 Net Change in Outdoor Recreational Potential Within the Lake Okeechobee Watershed	Create a large recreational potential while not decreasing existing recreational opportunities	No decrease in recreational potential.	Not Reviewed by RECOVER
EC 5.2.1 Number of Days of Constrained Navigation Access to Lake Okeechobee	Minimize occurrences of low stages and durations to navigable waters providing access to Lake Okeechobee in order to provide recreational and navigational opportunities to the public.	Minimize occurrences of low stages and durations to navigable waters providing access to Lake Okeechobee in number of days.	Not Reviewed by RECOVER
EC 6.1.1 Number of Significant Resources Disturbed, Encroached, or Impacted	Minimize number of disturbance to "significant cultural resources".	Ratio of adversely affected cultural resources versus known resources should be zero.	Not Reviewed by RECOVER

EC 6.1.2 Spatial Extent of Adverse Impact to Areas of High Cultural Resource Sensitivity	Minimize spatial extent of disturbance to "areas of cultural resource sensitivity".	Ratio of acreage impacted within areas identified through predictive modeling to have a high potential for significant cultural resources versus total acreage within areas of high cultural resource sensitivity should be zero.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 7.1.1 Agricultural Income	Minimize agricultural income, measured in dollars.	Minimize agricultural income lost, measured in dollars.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 7.1.2 Present Value Change in Regional Income	Maximize gains or minimize losses in regional income, measured in dollars.	Maximize gains or minimize losses in regional income, measured in dollars.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 7.1.3 Jobs Displaced/Created	Minimize number of jobs displaced.	Minimize number of jobs displaced.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 7.2.1 Total Number of Primary Residences Impacted	Minimize total number of primary residences impacted.	Minimize total number of primary residences impacted.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 7.2.2 Total Number of Property Owners Impacted	Minimize number of property owners impacted.	Minimize number of property owners impacted.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 7.2.3 Community Well-Being	Minimize impact on whole neighborhoods or communities in the project area.	Minimize impact on community well being in the project area. This impact may be low, moderate, or high.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 7.2.4 Minimize Impacts to Major Roads and Other Utilities	Minimize total number of major roads, corridors, and facilities to be impacted.	Minimize total number of major roads, corridors, and facilities to be impacted.	<input type="checkbox"/> Not Reviewed by RECOVER

EC 7.3.1 Avoid Disproportionate High Adverse Job Displacements Within Low Income and Minority Populations	Minimize number of jobholders from low income and minority populations displaced from their jobs.	Minimize number of jobholders from low income and minority populations displaced from their jobs.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 7.3.2 Number of Relocations of Primary Residences Within Low Income and Minority Populations	Minimize number of households from low income and minority populations forced to relocate, and avoid disproportionate negative impacts on these groups.	Minimize number of households from low income and minority populations forced to relocate, and avoid disproportionate negative impacts on these groups.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 7.4.1 Impacts to Property Tax	Minimize reduction in local property tax revenues generated, measured in dollars.	Minimize reduction in local property tax revenues generated, measured in dollars.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 7.5.1 Acceptability of the Project	Maximize likelihood of acceptance by State and local entities and the public.	Maximize acceptability of the project. Each alternative will be designated as low, moderate or high.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 8.1.1 Time to Substantial Construction Completion	Complete construction within or ahead of the 1999 Restudy implementation schedule.	Complete construction within or ahead of the 1999 Restudy implementation schedule.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 8.1.2 Startup Duration	Minimize the duration of the startup period.	Minimize the duration of the startup period.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 8.1.3 Time to Achieve 100% of Overall Performance	Minimize duration of the stabilization period.	Minimize duration of the stabilization period.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 8.2.1 Potential Operational Flexibility	Provide projects that will maximize interim and long-term flexibility to adapt to unforeseen project conditions.	Provide projects that will maximize interim and long-term flexibility to adapt to unforeseen project conditions.	<input type="checkbox"/> Not Reviewed by RECOVER

EC 9.1.1 Average Cost per Acre-Foot of Storage	Determine which plan is the most cost effective with respect to storage.	Determine which plan is the most cost effective with respect to storage.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 9.1.2 Average Cost per Ton of phosphorus Removed	Determine which plan is the most cost effective with respect to phosphorus removal.	Determine which plan is the most cost effective with respect to phosphorus removal.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 9.1.3 Average Cost per Functional Value of Habitat Created	Determine which plan is the most cost effective with respect to habitat creation.	Determine which plan is the most cost effective with respect to habitat creation.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 9.2.1 Average Cost per Additional Acre-Foot of Storage	Determine which plan has the lowest incremental cost with respect to storage.	Determine which plan has the lowest incremental cost with respect to storage.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 9.2.2 Average Cost per Additional Ton of phosphorus Removed	Determine which plan has the lowest incremental cost with respect to phosphorus removal.	Determine which plan has the lowest incremental cost with respect to phosphorus removal.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 9.2.3 Average Cost per Additional Functional Value of Habitat Created	Determine which plan has the lowest incremental cost with respect to habitat creation.	Determine which plan has the lowest incremental cost with respect to habitat creation.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 9.3.1 Total Project Cost Estimate Consistent with CERP	Total project cost should be maintained at no more than 120% of authorized project cost.	Total project cost should be maintained at no more than 120% of authorized project cost.	<input type="checkbox"/> Not Reviewed by RECOVER
EC 9.3.2 Provide Efficient OMRR&R Costs	Minimize OMRR&R costs.	Minimize OMRR&R costs.	<input type="checkbox"/> Not Reviewed by RECOVER

EC 10.1.1 Level of Confidence to Achieve Treatment Goals	Minimize risk and uncertainty related to the ability of the plan to perform as designed.	Minimize risk and uncertainty related to the ability of the plan to perform as designed.	Not Reviewed by RECOVER
EC 10.2.1 Sensitivity of Treatment Capability to Extreme Weather Conditions	Provide a project that will function as designed with minimal impacts from extreme weather conditions.	Provide a project that will function as designed with minimal impacts from extreme weather conditions.	Not Reviewed by RECOVER
PM 11.1.1 Phosphorus Load Reduction to Lake Okeechobee (Performance Measure)	Decrease phosphorus concentrations in order to increase wildlife diversity and abundance, decrease occurrences of algal blooms, decrease benthic organisms, reverse impairments for designated uses, decrease drinking water treatment and improve water quality to the Everglades.	Reduce phosphorus loading by a minimum of 167 metric tons annually.	LO-A19, LO-E6 RECOVER is commenting on this evaluation criteria because of its focus on water quality system-wide. RECOVER evaluation performance measure LO-E6 addresses phosphorus concentrations in Lake Okeechobee rather than phosphorus loading. RECOVER assessment performance measure LO-A19 uses phosphorus loading as a metric to evaluate performance in the future. The set target for this performance measure is inconsistent with the RECOVER LO-A19 target of 105 metric tons per year of total phosphorus loading from the watershed. RECOVER suggests that the PDT explain the relationship between the PDT load PM and the broader Lake Okeechobee TMDL requirements. The PDT could indicate in the "Comments" section how much load reduction to Lake Okeechobee is expected from this project in relation to other projects and BMPs in order to meet the Lake Okeechobee loading of 105 metric tons per year. Additionally, RECOVER suggests updating the naming convention to refer to this performance measure as PM 11.1.1
EC 11.1.2 Exceedances of phosphorus Load Reduction Target to Lake Okeechobee (Performance Measure)	Decrease number of P concentration exceedances to increase wildlife diversity and abundance, decrease occurrences of algal blooms, decrease benthic organisms, reverse impairments for designated uses, decrease drinking water treatment and improve water quality to the Everglades.	Minimize the number of exceedances of the target value of 167 metric tons of phosphorus load reduction.	LO-A19, LO-E6 RECOVER is commenting on this evaluation criteria because of its focus on water quality system-wide. Although RECOVER does not have a performance measure that specifically addresses number of exceedances for P-loading, the project evaluation criteria is consistent with LO-A19 and LO-E6 in its intent to reduce phosphorus concentrations in Lake Okeechobee. Additionally, RECOVER suggests updating the naming convention to refer to this performance measure as PM
EC 11.1.3 phosphorus Load Reduction to Tributaries from CERP Project Features	Maximize P load reduction to increase wildlife diversity and abundance, decrease occurrences of algal blooms, decrease benthic organisms, reverse impairments for designated uses, decrease drinking water treatment and improve water quality to the Everglades.	Maximize the average annual load reduction from each project feature.	LO-A19, LO-E6 RECOVER is commenting on this evaluation criteria because of its focus on water quality system-wide. Although RECOVER does not have a performance measure that specifically addresses phosphorus loading in tributaries, the project evaluation criteria is consistent with LO-A19 and LO-E6 in its intent to reduce phosphorus concentrations in Lake Okeechobee. One of the project purposes, as defined in the Restudy, is to reduce phosphorus loads flowing into Lake Okeechobee. RECOVER supports the PDT's decision to prioritize reduction of Phosphorus loads to Lake Okeechobee. Therefore, RECOVER concurs with the decision to make tributary water quality metrics an evaluation criterion.
EC 12.1.1 Percent of Runoff Stored When Lake Okeechobee Water Levels Are High (Performance Measure)	Maximize the percent of the total watershed runoff captured and stored in reservoirs during periods of high water levels in Lake Okeechobee.	Maximize the percent of the total watershed runoff captured and stored in reservoirs during periods of high water levels in Lake Okeechobee.	RECOVER suggests updating the naming convention to refer to this performance measure as PM 12.1.1
EC 12.2.1 Increased Lake Okeechobee Inflows During Extreme Dry Conditions (Performance Measure)	Maximize the percent of the increased watershed discharges to Lake Okeechobee during periods of low water levels in Lake Okeechobee.	Maximize the percent of the increased watershed discharges to Lake Okeechobee during periods of low water levels in Lake Okeechobee.	RECOVER suggests updating the naming convention to refer to this performance measure as PM 12.2.1

PROPOSED Lake Okeechobee Prolonged Extreme Low Lake Stage	Prevent low lake stages to stop negative impacts on the system.	No events where lake stage falls below 11 ft NGVD of where stage falls below 12 ft NGVD for more than 12 months duration.	LO-E1 RECOVER suggests the PDT add a systemwide performance measure to capture the benefits associated with reduced frequency of low lake stage. Addition of the performance measure would be consistent with RECOVER evaluation performance measure LO-E1.
PROPOSED Lake Okeechobee Prolonged Moderate Low Lake Stage	Prevent low lake stages to stop negative impacts on the system.	No events where lake stage falls below 12 ft NGVD for more than 12 months duration.	LO-E2 RECOVER suggests the PDT add a system-wide performance measure to capture the benefits associated with reduced frequency of low lake stage. Addition of the performance measure would be consistent with RECOVER evaluation performance measure LO-E2.
PROPOSED Lake Okeechobee Prolonged Extreme High Lake Stage	Prevent high lake stages to stop negative impacts on the system.	No events where lake stage exceeds 17 ft NGVD or where stage exceeds 15 ft NGVD for more than 12 months duration.	LO-E3 RECOVER suggests the PDT add a system-wide performance measure to capture the benefits associated with reduced frequency of high lake stage. Addition of the performance measure would be consistent with RECOVER evaluation performance measure LO-E3.
PROPOSED Lake Okeechobee Prolonged Moderate High Lake Stage	Prevent high lake stages to stop negative impacts on the system.	No events where stage exceeds 15 ft NGVD for more than 12 months duration.	LO-E4 RECOVER suggests the PDT add a system-wide performance measure to capture the benefits associated with reduced frequency of high lake stage as an appendix. Addition of the performance measure would be consistent with RECOVER evaluation performance measure LO-E4.
PROPOSED Spring Recession for Lake Okeechobee	Establish spring recessions to benefit wading birds and other aspects of the lake's ecosystem.	Have a spring recession in lake stages between 15 and 15.5 ft NGVD in January to near 12 ft NGVD in early June with no reversals of stage greater than 0.5 ft during the event.	LO-E5 RECOVER suggests the PDT add a system-wide performance measure to capture the benefits associated with spring recession in Lake Okeechobee as an appendix. Addition of the performance measure would be consistent with RECOVER evaluation performance measure LO-E5.
PROPOSED Lake Okeechobee Total Phosphorus Concentrations	Reduce total phosphorus in Lake Okeechobee.	Pelagic zone average TP < 40 ppb	LO-E6 RECOVER suggests the PDT add a system-wide performance measure to capture the benefits associated with reduced TP in Lake Okeechobee. Addition of the performance measure would be consistent with RECOVER evaluation performance measure LO-E6.

<p>PROPOSED Lake Okeechobee Total Nitrogen:Total Phosphorus Ratio</p>	<p>Keep TN:TP ratio high enough to discourage growth of bloom-forming cyanobacteria.</p>	<p>Pelagic TN:TP long-term average mass ratio higher than 22:1</p>	<p>LO-E7 RECOVER suggests the PDT add a system-wide performance measure to capture the benefits associated with reduced nutrient levels in Lake Okeechobee. Addition of the performance measure would be consistent with RECOVER evaluation performance measure LO-E7.</p>
<p>PROPOSED Lake Okeechobee Diatom : Cyanobacteria Ratio</p>	<p>Substantially reduce the dominance of cyanobacteria relative to diatoms.</p>	<p>long-term pelagic biovolume ratio above 1.5:1</p>	<p>LO-E8 RECOVER suggests the PDT add a system-wide performance measure to capture the benefits associated with reduced populations of cyanobacteria in Lake Okeechobee. Addition of the performance measure would be consistent with RECOVER evaluation performance measure LO-E8.</p>
<p>PROPOSED Lake Okeechobee Algal Bloom Frequency</p>	<p>Reduce the number of water advisories related to nuisance algal blooms. High water column TP and warm water conditions create these events. The number of events and duration are indicative of a impaired water body. The algae consumes oxygen dies and releases specific bio toxins that pollute the water and create an acrid taste and smell. The water utilities have to issue drinking water bans. They are incapable of treating the water to meet drinking water standards.</p>	<p>Fewer than 5% of daily values with chlorophyll a concentrations greater than 40 ppb.</p>	<p>LO-E9 RECOVER suggests the PDT add a system-wide performance measure to capture the benefits associated with reduced water system advisories in Lake Okeechobee due to algal blooms. Addition of the performance measure would be consistent with RECOVER evaluation performance measure LO-E9.</p>