

Acme Basin B Discharge
**RECOVER EVALUATION OF PROJECT-LEVEL
PERFORMANCE MEASURES**
(FINAL 12-17-03)

1.0 Introduction

The role of the Restoration Coordination and Verification (RECOVER) team 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 project delivery teams (PDTs) to help them meet CERP's system-wide goals and objectives. Specifically, RECOVER reviews the performance measures for project-level evaluation of alternatives for consistency with the system-wide 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 project managers and others, as appropriate, regarding compatibility of project-level and system-wide performance measures of the Acme Basin B Discharge project (ABBDP) as described in the In Progress Review/ Feasibility Scoping Meeting (IPR/FSM) Document dated October 2003.

RECOVER recognizes and appreciates the time and effort that went into developing these performance measures. The review comments below are intended to enhance the existing set of performance measures.

2.0 Consistency with Goals of the Comprehensive Plan

During the planning process, the primary objective of the ABBDP has changed from that stated in the Yellow Book (YB) for the project. However, in RECOVER's view, the project objective still is consistent with the objectives of the Comprehensive Plan. The Yellow Book contains this description of the ABBDP: "The purpose of this feature is to provide water quality treatment and storm-water attenuation for runoff from ACME Basin B prior to discharge to the Loxahatchee National Wildlife Refuge (LNWR) or alternate locations" The current project primary goal stated in the IPR/FSM document is "to provide additional water to the Refuge and other parts of the natural system

including Everglades National Park.” Based on the future without project condition (where all Acme Basin B water is routed through to Acme Basin A and into C-51 where it would flow to the LWL) water quality compliance would be addressed by discharging stormwater runoff from Acme Basin B to the C-51 Canal thus eliminating discharges into the LNWR. In order to divert flows lost to tide to the LNWR and other areas of the Everglades Protection Area, additional water quality treatment is needed and may be accomplished by sending the water through STA-1E prior to discharging into the Everglades Protection Areas. In essence, both the Comprehensive Plan stated objective for the project and the PDT objective-strategy recognize the water-quality treatment need of the water before it is discharged to the Refuge. RECOVER suggests that the PDT discuss in the IPR/FSM document and Project Implementation Report (PIR) the change and the reasoning behind the change in project objective/strategy from the YB to the current objective.

Some CERP goals do not directly correspond to project goals (e.g., provide recreational and navigational opportunities; protect cultural and archaeological resources and values; and minimize socioeconomic impacts on the local and regional economics) and are not addressed by specific performance measures or evaluation criteria. These CERP goals are not expected to be relevant to the ABBDP. The project will be identifying recreational opportunities once the selected plan is identified. The following general CERP goals apply to the ABBDP (this goal is presented in the IPR/FSM Document):

	Project Goal of the Acme Basin B Discharge Project	Corresponding general CERP Goals
1	Provide additional water to the Arthur R. Marshall Loxahatchee National Wildlife Refuge (Water Conservation Area 1) and other parts of the natural system including Everglades National Park.	Increase habitat and functional quality; reduce flood damages; increase the total spatial extent of natural areas

The project goals and objectives stated on the Performance Measure and Evaluation Criteria Fact Sheets in Appendices B,C, and D of the IPR/FSM are different than the above stated goal. RECOVER suggests that these inconsistencies be reconciled as the PDT finalizes the documents and continues work on the project.

3.0 General Document Comments

The ABBDP IPR/FSM is generally a well-developed document. RECOVER does however have some suggestions as to the general document terminology and the format

of the performance measure documentation sheets to enhance consistency among projects and provide additional information for document reviewers and developers.

Terminology - In the introductory text and throughout the IPR/FSM and Appendices, there is some confusion related to terminology used by the PDT and RECOVER in describing performance measures (e.g., Evaluation Criteria, Performance Measures, and WQ Metrics). For consistency within the project document, RECOVER suggests that Performance Measure Fact Sheets or Documentation Sheets be clearly labeled with the appropriate project goal and indicate whether the metric is a Performance Measure or Evaluation Criteria. RECOVER also suggests following a naming convention on the sheets that distinguishes performance measures from evaluation criteria.

Performance Measure Documentation Sheets (Fact Sheets) – In addition to the naming conventions discussed above, the Performance Measure Documentation Sheets (Fact Sheets) could be improved by adding the current status of the performance measure or evaluation criteria (e.g. Draft, Final draft, etc.) and the lead author of the performance measure. These additions will provide valuable information to reviewers and to the document audience.

Fact sheets for system-wide RECOVER performance measures could also be added to reflect the latest version of RECOVER's Evaluation Performance Measures. Inclusion of the performance measures developed by RECOVER 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 regional effects of the project and how it will be evaluated. Applicable RECOVER performance measure documentation sheets can be viewed at http://www.evergladesplan.org/pm/recover/ret_perf_measures.cfm.

4.0 Consistency with RECOVER System-Wide Evaluation Performance Measures

There is general compatibility between the project-level performance measures developed by the PDT for the ABBDP and the system-wide evaluation performance measures developed for the Comprehensive Plan by RECOVER. RECOVER does however have suggestions regarding the content, target and appropriate level of evaluation for several of the performance measures/evaluation criteria. General comments of significance are noted below, while comments on each specific project-level performance measure are presented in the attached table (Attachment A).

Potential effect of TP loading on LNWR and Consistency with RECOVER GE-E9 (Overland/groundwater net TP loading should not exceed approximately 20 mg/m²/yr) – RECOVER recognizes the effluent concentrations of phosphorus discharged from the STA is expected to be unchanged by a 25% increase in hydraulic loading from the addition of Acme Basin B Discharge; however, the volume of discharge is expected to increase and consequently increase the phosphorus loading proportionately. The

increased loading may impact the total areal loading goal set by RECOVER Performance Measure GE-E9 and therefore may reduce the likelihood that this target can be met. The functionality and spatial extent of impacted wetlands should be captured in part under Ecologic EC 2.0

Hydrologic EC 1 and EC 7, Two Measures for Volumes to LNWR and EPA – RECOVER recognizes the importance of appropriate flows to LNWR and subsequently to the EPA; however, the presence of two hydrologic ECs for this flow may be duplication in accounting for project benefits. Hydrologic EC 1 and hydrologic EC 7 appear to be capturing the same benefit of increased water delivery to the Greater Everglades region. The flow accounted for in EC 1, which is discharged through STA-1E to LNWR, is the same water that will reach the EPA through the WCAs. EC 1 and EC 7 also contain an implied constraint within them. They include both improving water quantity and maintaining existing levels of flood damage reduction which may be more easily characterized if the conflicting aspects are evaluated separately, rather than mixed together in a single EC. Since flood damages to the basins are already covered in EC 4b they may not need to be in EC 1 or EC 7 where they imply that improving water quantity to the Refuge and to the EPA will only occur when existing levels of flood protection are not affected.

Bypass Events to LWL – The diversion of Acme Basin B to STA-1E may increase the likelihood that bypass of water intended for treatment in the STA will occur more frequently to LWL. Per the Everglades Forever Act (EFA), the LNWR has received assurance that when water in STA-1E does not meet the standard it would be bypassed to LWL rather than discharged into the refuge. These bypass events, based on the described future without project condition, are expected to meet water quality standards. The potential for increased bypass events would, however, affect evaluation of LWL related ECs. The LWL is one of the estuaries targeted for restoration under CERP. The potential total phosphorus (TP) and total nitrogen (TN) impacts caused by bypasses to LWL should be evaluated by the PDT. RECOVER expectation is that there be no increase in TP and TN concentrations in the LWL (RECOVER PM NE-A14). RECOVER suggest an EC be added to consider potential changes in TP and TN in LWL waters caused by ABBDP bypasses to the lagoon. This would ensure that the regional effect into LWL is evaluated.

Hydrologic EC 6 and WQ EC 1.2: Two EC's for Salinity Envelope and Water Volumes to LWL – RECOVER recognizes the importance of improved salinity in LWL due to reduced discharges to tide. However, the hydrologic EC 6 and the WQ EC 1.2 appear to account for the same benefit to LWL. The hydrologic EC appears to be acting as a WQ surrogate for improved salinity while the WQ EC also captures the benefit of improved salinity in LWL. The intent of both ECs, improve salinity envelopes in LWL, is consistent with RECOVER PMs NE-E2 and NE-A2.

WQ EC 1.1: Nutrient, Mercury, and other Contaminants Targets – The critical WQ constituents that will be evaluated under WQ EC 1.1 should be listed. Those constituents should include, but should not be limited to TP, TN, SO₄, and metals. Due to its potential

regional effect and as part of the evaluation of WQ constraints, the PDT should determine if the proposed wetland (Section 24) could contribute to increased levels of sulfate and methylated mercury, either to STA-1E or LWL.

Section 24 Ecologic ECs – The PMs related to ecologic performance inside Section 24 and surrounding canals and levees are generally consistent with RECOVER PMs. RECOVER suggests that the PDT review the RECOVER HSI PMs for wetlands species including fish and wading birds to further develop these PMs.

5.0 Consistency Between Project and RECOVER Evaluation Strategies

Targets of Performance Measures - In general, some evaluation method sections are inconsistent with the goals defined in the descriptions and the targets. The fact sheets for the performance measures and evaluation criteria require additional detail and expansion of the description, target and evaluation methods sections. The evaluation methods section should describe how the predictive models output would be quantified, relate it directly to the performance measure description and target, and the justification should incorporate some level of actual (baseline) data if available. In addition, the level of detail should be consistent throughout the fact sheets to the extent possible.

Performance Measure Evaluation and Model Runs – The IPR/FSM Document addresses regional modeling. The ABBDP PDT is planning to use RECOVER's Comprehensive Plan Refinement/ Initial CERP Update (CPR/ICU) model runs for their existing, future with project, and future without project conditions. This is a commendable idea from the standpoint of saving time and resources, if the appropriate comparisons can be made using these runs. RECOVER suggests that assumptions regarding Acme Basin B, STA-1E, and inputs into LNWR continue to be discussed and coordinated with appropriate modelers/team members as the project alternative details are finalized to insure that the model output and any subsequent evaluations based on them will be applicable to the ABBDP or that plans to run additional model runs are made.

6.0 Conclusions

There is general compatibility between the project-level performance measures and evaluation criteria developed for the ABBDP and the system-wide performance measures of the Comprehensive Plan. Some revisions are suggested. RECOVER suggests that the PDT discuss in the IPR/FSM document the change and the reasoning behind the change in project objective/strategy from the Yellow Book. RECOVER also encourages the PDT to carefully examine possible impacts to the LNWR and LWL that could result from increased phosphorus loading via STA-1E and C-51, respectively. Additionally, RECOVER suggests that the fact sheets be revised to include additional detail and expansion of the description, target, and evaluation methods sections for several of the performance measures.