CEPP Working Sponsored Public Workshop
1/25/12

Questions/Comments provided via email during the meeting

1. What opportunity is there for those of us unable to be in WPB today to have comments entered into this record?

   Participants are strongly encouraged to participate in person, however if that is not an option questions and comments can be sent to evergladesrestoration@yahoo.com during the Working Group Sponsored Public Workshops.

2. Thanks, first I would like to know if Glades County is in this drainage discussion and, if so, the relative importance of leasing Nicodemus Slough given the enormous annual fee as compared with other similar storage areas.

   The CEPP Study Area includes the open water bodies of Lake Okeechobee and the Caloosahatchee River in Glades County. Nicodemus Slough is not in the CEPP Study Area.

3. Expediting the decision-making process for CEPP implies for each project and combination of projects:

   (1) greater qualitative and quantitative uncertainties at each critical decision-making juncture and milestones;

   (2) a greater likelihood of making Type I and II errors regarding the quantity, quality, timing, and distribution of water available for ecosystem restoration and protection and achieving various ecological restoration benefits and avoiding various unacceptable ecological risks; and

   (3) a need for greater margins of safety to offset the propagated qualitative and quantitative Uncertainties.

   In that context, these questions are applicable to each element and milestone of the expedited CEPP process, programs, and projects:

   (1) What role will sensitivity analysis play in identifying significant sources of uncertainty most amenable to reduction within the expedited restoration planning timeframes and budgets?

   (2) How will the irreducible significant qualitative uncertainties be accommodated with appropriate margins of safety for each project and combination of projects? e.g., errors of omission or commission in conceptual models, water budgets, ecological stressor-stress manifestation relationships, choice of indicator regions, and/or policy and budget constraints

   (3) Same question as (2) for irreducible significant quantitative uncertainties? e.g. water budgets, water quantity and quality timing-distribution-magnitude-duration-frequency contours, and quantity and quality ecological habitat responses

   (4) What role will probabilistic analysis of propagated quantitative uncertainties play in the calculation and display of benefits attained and lost and risks incurred and avoided with appropriate margins of safety for each project and combination of projects?

   The modeling tools for CEPP will be used for relative comparison, rather than absolute predictions of system response. The modeling tools selected for CEPP provide flexible inputs to

accommodate uncertain CEPP planning outcomes, while providing hydrologic information sufficient to evaluate the entire South Florida system for the needs of CEPP. Extensive numerical analysis to reduce qualitative or quantitative uncertainties will not be conducted during the CEPP; however, general parameter sensitivity information is already available within the RSM Glades-LECSA calibration and verification report. Levels and degrees of uncertainties are recognizably inherent to the planning process and these uncertainties support the application of adaptive management principals during the CEPP development. Some design uncertainty will be addressed in cost contingencies which will help to account for uncertainty in the modeling tools and the expedited planning process.

The issue of decision-making under the inherently greater uncertainty in the expedited CEPP process and the associated greater margins of safety required to compensate for those greater uncertainties (uncertainty risk management) needs to be addressed explicitly in the PIR/EIS that will capture the various impacts associated with the proposed combination of projects that defines the preferred option and each of the viable alternatives, at each stage in the process by the PDT for each of the individual projects in the preferred option, and in the Federal, Florida, and county permitting processes for the required reasonable assurances.

Although CEPP is expedited, the DECOMP Project has been reviewing plans and assessing uncertainties for almost 10 years. Therefore, decision-making under CEPP is not inherently more uncertain. Never-the-less, the EIS will capture environmental differences and impacts associated with alternative plans. Local, State and Federal entities will be consulted during each decision-point in this CEPP to assess and recommend reasonable assurances.

4. Consider adding to the columns: the rate of attainment of ecological restoration objectives or ecosystem recovery from unnatural perturbation.

   Consider adding to the rows as a potential project: dredging of Lake Okeechobee as a restoration benefit in terms of accelerating Lake Okeechobee recovery from turbidity, dissolved oxygen sags, and nutrient stressors and their adverse effects of water supply, recreational and wildlife uses.

   Due to the interdependent nature of the proposed project, many Management Measures are heavily reliant upon other measures for function and cannot be assessed individually. As such, although measures were formulated to address one or more planning objectives, the actual magnitude of potential effects and accompanying measurement of the attainment of objectives will not be assessed during the initial screening of Management Measures. Ecological performance will be evaluated further in the study after measures have been combined into plan components or alternatives.

   Dredging of Lake Okeechobee has previously been suggested during Project Delivery Team meetings and will be evaluated as a potential Management Measure for the proposed project.

5. How will the effects of changes in the timing, distribution, quantity, and quality of water on methylmercury production, bioaccumulation, exposure and toxic effects be taken into account explicitly in the PIR/EIS for the preferred option and the various viable alternatives? ... as constraints for project design, operation, maintenance, and repair, especially that which causes or contributes to a drying and rewetting cycle and/or the use of high-sulfate water? ... in the Federal, Florida, and county permitting process for the required reasonable assurances?
   An Environmental Impact Statement is being prepared that will address potential environmental effects, including any secondary or cumulative effects that may occur as a result of the proposed project.

6. Please add to the list of climate change-related effects that need to be taken into account by the CEPP PIR/EIS, PDTs, and regulators, the following:

(1)(f) a change in the timing or pathway or an increase in the extent, intensity, duration, or frequency of recurrence of extreme weather events, especially tornadoes and hurricanes.

Available information on climate change in South Florida is limited to general observations such as: increased evapo-transpiration, decreased total annual rainfall, and increased magnitude and frequency of extreme weather events (hurricanes and tornados). Specific information on number, size, duration, and frequency of extreme events in the future is not available. Given the lack of specific information regarding climate change related extreme events, they cannot be explicitly simulated using the available hydrologic models. However, the project team will be able to look at the performance of project alternatives under historic hydrologic extremes such as large rainfall events or drought periods that occurred over the past 40 years to estimate how each alternative would likely perform under similar but more frequent extreme conditions that may occur as a result of climate change.

7. Here is an additional set of questions per subject regarding global warming:

(1) How are the effects of global warming being factored into the CEPP process for the design, construction, operation, maintenance, and repair for normal and various failure modes of the infrastructure required to restore and protect a more natural timing, distribution, quantity, and quality of water throughout the remnant Everglades and Florida Bay:

(a) the increase in ambient air, water, and land temperatures?

(b) changes in cloud cover, humidity, wind speed and evapotranspiration timing, magnitude, duration, and frequency?

(c) changes in rainfall timing, magnitude, duration, and frequency?

(d) sea level rise? and

(e) ocean acidification?

(2) Same as (1) for the responsible Federal, Florida, and County regulatory and consulting agencies for reasonable assurances in the permitting process?

(3) Same as (2) for the Clean Water Act (CWA) Total Maximum Daily Load (TMDL) process?

(4) What are the qualitative and quantitative uncertainties introduced by global warming into the CEPP decision-making process?

(5) What are the appropriate margins of safety needed to compensate for/offset those qualitative and quantitative uncertainties in each of the following:

(a) CEPP process?

(b) Federal, Florida, and County for the required reasonable assurances in the permitting process?

(c) TMDL process?

Sea level rise impacts to the CEPP will be evaluated on the TSP, using a static scenario based GIS sea level rise mapping effort similar to previous CERP PIRs and Include a thorough explanation of how formulation and plan selection would not be impacted by sea level rise. The

USACE is currently developing an engineering circular to address planning for climate change; however, this guidance is not likely to be available and in effect during the CEPP planning process. In the absence of USACE climate change planning guidance or well established procedures for incorporating climate change into water resource planning, the CEPP team will evaluate the performance of the project alternatives under historic extreme conditions such as large storm events and extended droughts. Alternatives that perform well during the extreme stress periods will be considered to be likely to perform well under future conditions that include climate change. Questions regarding how regulatory authorities will address climate change are more appropriately posed to those agencies.