IRL-North Project Delivery Team Meeting #9
February 3, 2004

To: Attendees

From: Deborah Peterson, P.E., U.S. Army Corps of Engineers (USACE)

Subject: United States Army Corps of Engineers and St Johns River Water Management District (SJRWMD) Indian River Lagoon (IRL) North Restoration Feasibility Study
Project Delivery Team (PDT) Meeting Summary – February 3, 2004

Attendees: See attached sign-in sheet

Handouts: Meeting Agenda
Problems and Opportunity Statements dated January 26, 2004

The ninth Project Delivery Team (PDT) meeting for the Indian River Lagoon-North (IRL-N) Feasibility Study was held at the St Johns River Water Management District (SJRWMD) Service Center in Palm Bay, Florida on February 3, 2004. The meeting began at 10:00 am.

Welcome, Introduction and Agenda

Debbie Peterson, Planning Technical Leader for the United States Army Corps of Engineers welcomed the PDT members. She requested that all attendees introduce themselves and the agency they are representing. As an icebreaker, Debbie requested that each individual answer the following question: "What's your favorite part about living in Florida in the winter?"

Paul Tritaik, U.S. Fish and Wildlife Service, made a presentation to Mark Crosley and David Roach, Florida Inland Navigation District (FIND), in recognition and thanks for their efforts in assisting with the Pelican Island Centennial celebration.

Debbie provided an overview of the agenda (Attached) and used a Microsoft PowerPoint presentation to highlight the key points. The agenda included the following items:

- Team Member Roles (Federal Advisory Committee Act -FACA)
- Florida Marine Research Institute Data – Rich Paperno
- Sub-team Updates – Debbie Peterson
    - C-54 / St. Sebastian River Management Measures
    - Ecological
    - Modeling
    - Shoreline Performance Measures

- Public Comment
- Problems and Opportunities – Debbie Peterson
- Public Comment
- Next Steps
- Adjourn

Florida Marine Research Institute (FMRI) Data – Rich Paperno

The impetus for data collecting at FMRI is to investigate the impacts of fresh water releases on the IRL. Rich discussed FMRI's data collecting program, gear, philosophy, type of data collected, and how the data is used (analyses). Most of the data is for IRL proper and St. Sebastian River. Data collection in tributary creeks is not done very often. The data is not available on line at this time. For now, to request raw data, email Rich with a specific request. This data is amenable to analyses and has been used for some preliminary assessments toward establishing biological performance measures.

Fish catch rates per net for IRL are higher than other localities. To gain insight on parameters controlling recruitment, a general linear model is run on the data, which provides indices of relative abundance.

An otolith is a bone from a fishes ear that's used to determine the age of fish and knowing the age of a fish, per it's size, provides insight into the characteristics of that fishery, e.g. growth models, stock assessments, spawning potential ratio.

Sub-team Updates

C-54 / St. Sebastian River Management Measures: This sub-team met on October 9, 2003. Work and monitoring underway by the Water Control Districts (WCDs) was discussed, e.g. discharge criteria for St. Sebastian River, hydrologic study, basin model, retrofitting main discharge gates (flow-over or tilted weir), implementation of off site storage criteria, upstream sediment traps, erosion control, etc. This sub-team will meet again early 2004.

Ecological: This sub-team met on December 16, 2003. The purpose of the first meeting was to determine if performance measures could be established and quantified for other biota, besides SAV (e.g. clams, oysters, horseshoe crabs, larval transport, fisheries, sea turtles, etc.) Appropriate experts were identified and invited to the next sub-team meeting (scheduled for February 4, 2004) to obtain their input. FMRI fisheries data has been used to look at species richness vs distance from inlet to determine if there is a break at the causeways.

Modeling: The modeling sub-team met prior to this PDT meeting. The sub-team is working on criteria, nomination and selection of a Model Evaluation Group (MEG) for use in review of models and reasonableness of results and assistance in resolving modeling issues. The sub-team is also working on modeling of the Future Without Project Condition (FW/OPC), which quantifies and describes the study area during the

period of analysis (50-years) if no USACE water resources project is implemented. All other alternative plans are compared against the FW/OPC. The next meeting is scheduled for March 30, 2004.

Shoreline Performance Measures: The development footprint in the study area has removed a certain percentage of the barrier island and mainland shoreline habitat from the ecosystem. Focusing on the spoil islands created during dredging of the Intracoastal Waterway by USACE, some of this intertidal and shoreline habitat could be restored and this sub-team is working towards quantifying performance measures for these restorations. The sub-team last met December 16, 2003. At that meeting, Ed Carter, SJRWMD, presented work and analyses done on Hydrographic and Topographic sheets and spoil island migration. The sub-team has been working on updating and groundtruthing a 1980's Spoil Island Management Plan to prioritize restoration of the spoil island's shoreline and intertidal habitat. Also, the sub-team is researching a means to quantify percentage of shoreline developed, for quantification of a shoreline restoration performance measure such as, linear feet of shoreline habitat restored.

Public Comment (Morning Session)

There were no public comments presented during the morning public comment period at the meeting.

Afternoon Session

The afternoon session of the IRL-N PDT meeting began at approximately 12:15 PM with a handout of Problems and Opportunities statements dated January 26, 2004. The goal will be to complete the Problems and Opportunities statements at this meeting. The specification of problems and opportunities is the first step in the USACE six step planning process.

Problems and Opportunities

These revised statements include the comments from all previous PDT meetings and comments from National Atmospheric and Science Administration (NASA) and SJRWMD. Revisions per the 16 December 2003 PDT meeting and the NASA and SJRWMD comments include:

- Re-wording titles for clarification
- Statements converted into footnotes
- Two clarification footnotes added.
- Placement of some of the statements in the "Parking Lot", i.e. statements were either redundant, i.e. covered in another statement, or not applicable.

Discussion began on problem statement 7.

Statement Number 7: Macroalgae includes wind-driven drift algae and attached

microalgae, which includes Caleurpa but not epiphytes. The validity of including this problem statement was discussed. Macroalgae plays a big role in nutrient dynamics and it is a major food source for sea turtles. What allows Caleurpa to out-compete seagrass? Macroalgae has lesser light requirements than seagrass. Two transects have been surveyed in the study area, which could indicate the magnitude of macroalgae as a problem in the IRL-N study area. There should also be sufficient data to be able to show where SAV is doing well and not so well, with regard to the presence of macroalgae.

Performance measures i., ii., and iii. included comparison to baseline conditions, which may not be readily available. Therefore, these three performance measures were replaced with revised (i.) and (ii.).

Statement Number 8: Literature supports that restoration of impoundments is beneficial to the ecosystem. The Florida Department of Environmental Protection (FDEP) is currently implementing a pilot floodplain reconnection project on the North Fork of the St. Lucie River in the IRL-S watershed, and has started preliminary work on planning and designs for future reconnection projects. In addition, floodplain restoration has already been successful and shown to be critical in the ongoing Federal Kissimmee River restoration efforts. Research on reconnection of impoundments began in the 1980's and the actual reconnection of impoundments started in the early 1990's. Fisheries resource agencies accept that reconnection of impoundments is beneficial for the fisheries. If possible, IRL-N should provide monitoring to demonstrate the impacts on the IRL N ecosystem of restoration / rehabilitation / reconnection of impoundments.

Outside of Merritt Island, there are approximately 1,800 acres of impounded wetlands in the study area. To determine the optimal location for the re-connection, the impoundment should be examined for evidence of ponds or historic tidal creeks.

Establishing biological performance measures for restoration of impounded wetlands will be discussed at a future ecological sub-team meeting. In this case, acres of restoration / rehabilitation / re-connection as performance measures are most likely the easiest to measure and monitor. Recruitment of mangroves as a performance measure was suggested.

Management measure (iii.) was reworded for clarification.

Statement Number 9: Quantitative targets could be based on historical data. In the 1980's, there were large clam landings in the study area. Now, however, only a large set of larvae could increase landings. Previous attempts of seeding and restocking of clams in the IRL have not worked.

Linda Walters has done research and a paper regarding how boat wakes may cause migration of clam beds, which is a relatively new hypothesis. When this paper has been peer reviewed and released, this issue can be considered during plan formulation, e.g. for project siting and other purposes.

Dan Haunert, South Florida Water Management District (SFWMD), has been researching oysters for many years and has utilized an oyster model for the IRL-S FS. IRL-N should incorporate this oyster model for evaluation of alternative plans, if applicable.

One performance measure was added (Reduction of shellfish closures (days)) and the others were revised for clarification. Two management measures were added (Best Management Practices (BMPs) and research to identify limiting factors especially for oysters) and (iii.) was revised to clarify "Construct artificial habitat" would be for oysters.

Statement 10: One performance measure was moved to management measures (Identify species location / extent / source / significance / prioritize) and the remaining performance measure was revised to include "decrease population" also. Management measure (i.) was revised to included "reduce exotics".

Statement 11: Sea level rise may exacerbate this problem, i.e. linking upland natural habitat to open water. Reference to blueways was removed from the performance measure. Management measure (i.) was revised for clarification and (ii.) was added (education).

Statement 12: No changes.

Statement 13: Performance measure was revised.

Statement 14: Performance measure (ii.) was added (quantify recreational needs).

Parking Lot: Statements that previously referred to human related impacts to the diversity and extent of habits, declining deep water habitat, and certain man made habitats were deleted due to redundancy or inapplicability. The statement referring to decline of certain native species populations and habitats was retained in the Parking Lot. During plan formulation, this statement may be re-inserted into the Problems and Opportunities statements, if studies indicate added applicability, and it is not being addressed through another problem statement.

Sub-lagoons: At the May 28, 2003, PDT meeting, a comment was made that some of the problems, or issues, are not as bad in certain geographical areas within the IRL as they are in other geographical areas. It was suggested that a matrix be created to deal with regional variances. A regional matrix, based on water quality, has already been created and is included in the most recent Surface Water Improvement Management (SWIM) Plan. The SWIM plan matrix divides the IRL into north, central and south sub-lagoons. The IRL-N study area includes the north and central sub-lagoons. The PDT determined that, at this time, the Problems and Opportunities statements do not need to be further compartmentalized into sub-lagoons.

Next Steps

Problems and Opportunities statements were completed today. The PDT is commended on their input and efforts on this accomplishment.

In 2004, the PDT will begin work on forecasting and quantifying the Future Without Project Condition (FW/OPC) and formulating alternative plans (combining management measures from the Problems and Opportunities statements). The FW/OPC should include all projects that will be implemented (e.g. stormwater treatment), taken off line (e.g. power plant or wastewater treatment plant that impacts the lagoon), Total Maximum Daily Loads, PLRGs, Best Management Practices, etc., during the period of analysis (2015 – 2065). The PDT is requested to provide projects, assumptions, etc., including timeframe for implementation, for their agency that should be included in the FW/OPC by March 2, 2004.

In January 2005, all study work completed at that time (e.g. Problems and Opportunities, performance measures, FW/OPC, alternative plans, public coordination, etc.) will be presented to the USACE South Atlantic Division (SAD) and Headquarters (HQ, USACE) at the Feasibility Scoping Meeting (FSM). The FSM is the first Quality Assurance / Quality Control milestone in the USACE civil works planning process. The FSM will provide policy guidance to the PDT for the plan formulation work done through January 2005, and for completing plan formulation (evaluation and comparison of the alternative plans and selection of the recommended plan). In 2005, the alternative plans will be evaluated using models and other sound scientific procedures and those results will be compared to the FW/OPC and each other.

In 2006, the recommended plan will be selected and optimized for maximum benefits. Also in 2006, the plan formulation process and recommended plant will be presented to SAD and HQ,USACE at the Alternative Formulation Briefing (AFB). Based upon guidance from the AFB, the draft report will be completed, coordinated for public and resource agency review and comment, and submitted to SAD and HQ,USACE for approval in 2007.

PDT Comments

- The SJRWMD Water Supply Division has identified eleven potential future water supply sources, two of which are desalinization plants located at the present power plants in Rockledge. A working group is being formed to look at the environmental impacts of these potential water supply sources. The PDT was requested to notify Reit Engel, SJRWMD Governmental Coordinator, if their agency is interested in participating in this working group.
- Restoration work and performance measures should focus on listed species.
- Coordination of future work should include Metropolitan Planning Organizations and the Regional Planning Council.
- IRL-N should use models developed and run for IRL-S whenever possible.

- February 27, 2004, Bob Ulevich (St. Johns Water Control District / Sebastian River Water Control District) will present information regarding inter-basin water transfers for Upper East Coast Water Supply. Bob will provide this presentation at a future PDT meeting.

Public Comments

- There was a large oyster industry in the study area historically.
- Everyone's edging into zoning the IRL. The PDT should think about utilizing certain criteria in certain locations.

Adjourn

Debbie thanked the PDT for their attendance and participation in today's meeting. The next PDT meeting will be held March 30, 2004, from 10:00 am – 4:00 pm at the SJRWMD Palm Bay Service Center.

Action Items:

1. All: The PDT is requested to provide projects, assumptions, etc., including timeline for implementation, for their agency that should be utilized in the FW/OPC by March 2, 2004.

2. SJRWMD / USACE: Coordination of future work should include Metropolitan Planning Organizations and the Regional Planning Council.