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Date: 22 August 2005

Feasibility Study
Monitoring of Alternative Construction Template
For Beach Nourishment Projects
2nd TAG Meeting

Date of Meeting: 30 June 2005
Location: PBS&J, Orlando Office

Attendees:

**Florida Department of Environmental
Protection (FDEP)**

Roxane Dow
Becky Roland

USACE
N/A

FWCC
N/A

EAI
Erik Martin

USFWS
Melody Ray-Culp
Sandy MacPherson

UCF
N/A

CCC
Gary Appelson

PBS&J
Jeff Tabar

This memo summarizes the activities during a meeting held on June 30, 2005 between the above attendees. The meeting was used to present information to the Technical Advisory Group (TAG) members and discuss strategy for the next stages of work.

The meeting started with brief introductions by all attendees. An overview was presented to the group in order to review the overall work assignment. The work assignment is broken into two phases:

Phase I

Project Performance Evaluation.
Recommended Design & Construction Criteria



Monitoring Program Development.
Project Site Selection.

Phase II

Coordination w/ Local Sponsor.
Design & Permitting.
Construction.
Monitoring & Evaluation.

Next a brief review of the objectives of the first task under Phase I was presented:

Project Performance Evaluation

Evaluate Past Projects throughout Florida
QA/QC Project Data
Document Physical Performance
Document Biological Response
Link Physical and Biological
Comprehensive Assessment of Marine Turtle Impacts
Develop Alternative Design/Construction Considerations

Mr. Martin reviewed the meeting agenda (attached) and began presenting the findings of the project performance evaluation. Mr. Martin explained that approximately 40 nourishment projects were evaluated for past project performance. Most of the biological data was recovered from contacting the sponsors that performed the monitoring. The physical data was to be recovered from the FDEP. Mr. Martin passed out several tables that outlined items recovered from the biological monitoring data. A discussion continued regarding the availability, quantity, and quality of the data. Mr. Martin discussed problems encountered in determining project effects on biological variables. The following problems were discussed:

1. The variables monitored were different among projects for some of the early projects. Now they are more consistent.
2. In a number of cases there was insufficient background information. For example:
 - a. In some cases there was no indication whether or not relocated nests were included with *in situ* nests for the purposes of determining hatching/emerging success.
 - b. In other cases there was no indication whether or not wash-outs were included in calculations of reproductive success.
 - c. Often there was no indication of what characteristics were evaluated when designating a control.
 - d. In some cases there was no indication what characteristics were evaluated when designating baseline data (i.e., did other projects occur during baseline years, did the area change during baseline years)

3. Reporting: a) in some cases the results are not interpreted or even summarized, b) often the results were poorly presented, c) in some cases there were inconsistencies between years
4. Many projects lacked an appropriate experimental design (i.e., no valid control and no true baseline data)
5. Methodology differed among projects.
6. Often sample sizes were inadequate to determine if the project has had an effect.
7. In a number of cases projects overlapped making interpretation of results difficult or impossible.

Based on the problems encountered in evaluating project effects, Mr. Martin made the following recommendations:

1. Standardize data collection techniques (develop protocols so data from all projects are collected in a consistent manner)
2. Where possible establish minimum sample sizes for biological variables.
3. Standardize data reporting (require that data be summarized in tables that include the sample size, mean, range, standard deviation for all biological and physical variables; present reproductive data with and without wash-outs; report reproductive success data for relocated and in situ nests separately; standardize format for reporting nesting success; data could be entered into a Statewide database)
4. Establish criteria for designating control area and baseline years.
5. Document any changes in conditions for the period of study (e.g., residential/commercial development, weather/storms/rain, armoring, lighting, etc.) including pre- and post-construction years at both project and control areas. Could require table with conditions related to each of these parameters for each year of study in the project area and control.
6. Measure the physical data over at least three years.
7. Determine if additional physical variables should be monitored (compaction, temperature, color, moisture content).
8. Integrate the physical and biological data (again, a Statewide database could be used).

Mr. Martin presented a comparison/correlation analysis of turtle impacts in relation to certain physical parameters including:

- Borrow Area Median Grain Size
- Native Beach Median Grain Size
- Design Beach Width
- Design Berm Width
- Presence of Dune Feature
- Slope of Seaward Face
- Volume of Sediment Placed (cy/ft)
- Project Length

Prior to lunch, a discussion took place regarding the physical and biological data, and the elements used to identify effects on sea turtles. It was concluded that there was no obvious correlation found through this level of analysis.

Following lunch the group reconvened and briefly recapped the information presented earlier. A recommendation was made by Ms. Roland to look at a select number of project sites that have sound data in order to refine the correlation analysis. A discussion followed with regards to the potential importance of width and slope on sea turtle impacts. It was noted that the previous analysis used physical data from the project design documents and that perhaps post-construction data would be useful to evaluate as well. It was agreed upon that an additional evaluate of five project areas would be required. This evaluation would look into the changes of widths and slopes of the project through evaluation of the post-construction monitoring data. The five project areas are as follows:

1. Brevard County – North Reach Project (2001)
2. Brevard County – Patrick AFB (2001)
3. Brevard County – South Reach (2003)
4. Martin County – Hutchinson Island (1996)
5. Palm Beach County – Ocean Ridge (1997)

Finally, Mr. Tabar explained the number of parameters that could be evaluated by looking at changes in width and slope. He also explained how this might be accomplished by demonstrating several example measurements.

The meeting adjourned at 2:45PM as Mr. Tabar and group thanked the attendees for their time.

Jeffery R. Tabar, P.E.
Senior Coastal Engineer

