CID EGRET An innovative solution for storing and retrieving biological and ecological monitoring data for the Everglades

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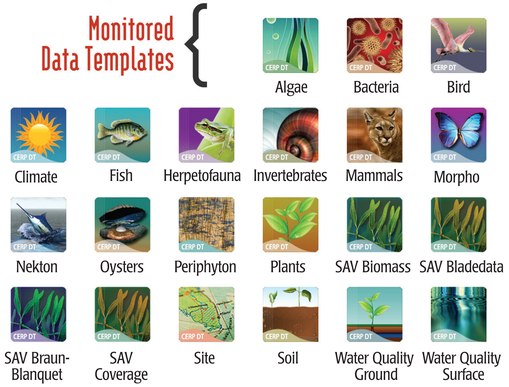
PROBLEM:

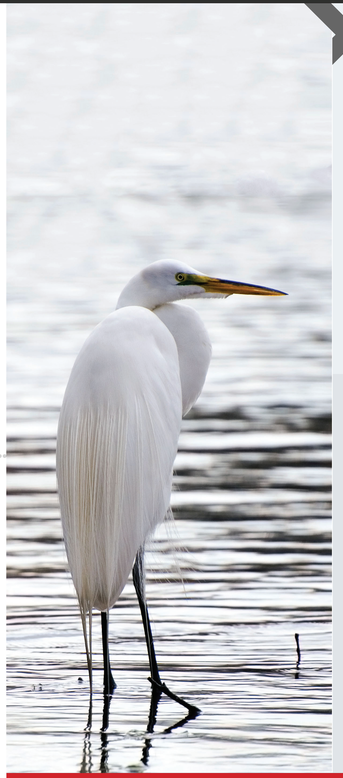
- A significant number of environmental monitoring data records generated – project specific and system-wide
- Data encompasses many different disciplines: biology, ecology, hydrology, water quality
- Data collected for many different purposes: regulatory, reference condition, cultural resources, system-wide understanding, hydrodynamic modeling, etc.
- Although there was a database for hydrologic and water quality data, other data was housed in many different locations: common drives, desktop computers, file cabinets
- In addition, data were in different formats: Excel spreadsheets, Access/Oracle databases, PDF tables, paper copy tables, etc.
- Project and/or system-wide assessments were time consuming efforts and there was uncertainty whether all data was considered

SOLUTION:

- CERP Integrated Database (CID) and Dashboard (DASH)
- Connectable to other databases
- Data can be queried and extracted
- Allows storage of many types of biological/ecological data.

Monitored Data Templates





STEP 1

Gather Data and Prepare for Data Entry

- Utilizes an ecological metadata off-the-shelf product – Morpho – which is customizable
- Morpho can also accept the data files as attachments
- Templates are to be followed for each type of biological or ecological data
- Templates and tables can be added as new types of data are collected or identified
- Metadata and data files are all kept together in a single "package"

DATA COLLECTION

CERP monitoring data is documented in MORPHO and data is included

DATA ENTRY

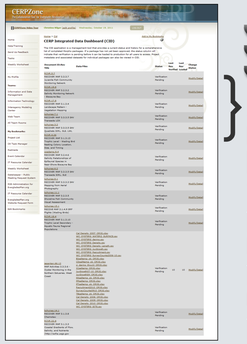
MORPHO

MORPHO entries are processed through the CID Dashboard

STEP 2

Data Tracking

- The CID Dashboard (DASH) is used to manage completed packages
- Provides version control of submissions resulting in "Chain of Custody" for the data (who changed what when)
- File and Package level security is available on all data loaded – restricting those that can change the data.
- Tracking and indexing of complete data inventory – finally know what all we have and where it is.



DASH

CERP Integrated Data Dashboard is the control point for verifying and processing the data through to production

STEP 3

Data Verification

DASH is used to review and promote completed packages into the Database

1. The Contract Manager reviews and verifies the deliverables based on the contract
2. The Contract / Data Manager accepts the package to load into CID

   OR

3. The Contract/Data Manager sends the package back for corrections or changes

The Contract Manager uses the Dashboard to review and promote the packages into the database

CERP CONTRACT MANAGER

Step 4

Data Loading

- The data is loaded into a relational database
- Location/Station information is geo-referenced
- Data is tied to other applications – for example, the Monitoring Locator application will receive the metadata information and location – thus automatically adding it to that application

Monitoring data from MORPHO is loaded into the CID Database (metadata and data)

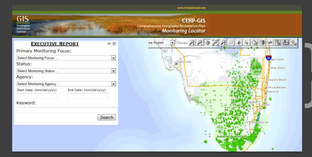
MORPHO PACKAGE

CID DATABASE

GIS GEODATABASE

Future

- Ability to link together the water quality and hydrology database and the biological/ecological database
- Ability to link to custom applications

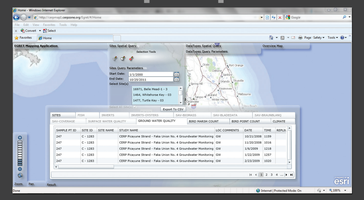


Monitoring Locator

Results:

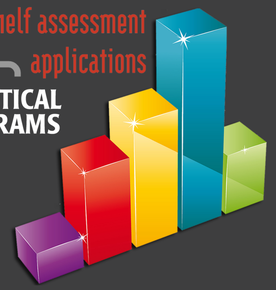
EverGlades Restoration Data Extraction Tool (EGRET)

- EGRET is a geographic interface designed to facilitate the view of CERP monitoring locations as well as enabling access of associated data.
- EGRET allows for data query by spatial parameters or type of data.
- Monitoring component abstracts and data tables can be viewed within the application, or be exported to .csv files for further use.



Data is now available for import to custom or off -the-shelf assessment applications

STATISTICAL PROGRAMS



Results

- Access to several types of data collected by multiple persons in one central location
- Ability to retrieve data using station names or a geographic interface
- Ability to retrieve data in a format that is importable to several different programs – from statistical programs to spreadsheets

A joint collaboration between the South Florida Water Management District and the U.S. Army Corps of Engineers, Jacksonville District