Data Acquisition Standard Operating Procedures

Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network (ID# 476)

Last Updated: 5/6/2023

Program Summary

Water quality, weather

URLs

- Program - https://floridadep.gov/rcp/aquatic-preserve/content/charlotte-harbor-estuaries-volunteer-water-quality-monitoring-network
- DDI - https://data.florida-seacar.org/programs/details/476

Contacts

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Data Tables

- Data_476A_Final
- Data_476A_Load
- Data_476B_Load

Data Stored Procedures

- usp_Data_476A_Load_insert
- usp_combined_wq_wc_nut_insert_476A

Data Acquisition Standard Operating Procedures: ProgramID *476*

Date Created: *02/08/2019*

Created By: *Claude Kershaw*

Data File Path:

1. STORET and WIN Data Tables already in the SEACAR database.
2. Spatial Data: In the "Notes" Section of the DDI.

DDI URL: http://dev.seacar.waterinstitute.usf.edu/datadiscovery/programs/details/476

Contact Information:

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Procedure Overview:

1. Use SQL Server Import Export Wizard to load the Stations from the "Notes" in the DDI into table **Locations_476A.**
2. Use SQL Server Import Export Wizard to load the data from **Data_STORET_Load** into table **Data_476A_Load** where StationIDs are found in **Locations_476A**.
3. Use SQL Server Import Export Wizard to load the data from **Data_WIN_Load** into table **Data_476B_Load** where StationIDs are found in **Locations_476A**.
4. Execute procedure usp_Data_476A_Load_insert to load the data into table **Data_476A_Final.**
5. Execute procedure usp_Data_476B_Load_insert to load the data into table **Data_476B_Final.**
6. Add the Monitoring Locations from table **SampleLocation_STORET and SampleLocation_WIN** to the **SampleLocation_Point** table if they are found in **Locations_476A.**
7. Add new Monitoring Locations into the **SampleLocation** table. This will generate a LocationID for each Monitoring Location.
8. Update the **SampleLocation_Point** table with the LocationID generated in the **SampleLocation** table. Run procedure usp_SampleLocation_Point_update to do this.
9. Update the LocationID column in table **Data_476A_Final** with the LocationID in the **SampleLocation** table. Join on the ['STORET_'+Station_ID] column in **Data_476A_Final** and the ProgramLocationID column in **SampleLocation.**
10. Update the LocationID column in table **Data_476B_Final** with the LocationID in the **SampleLocation** table. Join on the ['WIN_'+Station_ID] column in **Data_476B_Final** and the ProgramLocationID column in **SampleLocation.**

Data Tables

1. Data_476A_Load
2. Data_476A_Final
3. Data_476B_Load
4. Data_476B_Final

Data Stored Procedures

1. usp_Data_476A_Load_insert
2. usp_Data_476B_Load_insert
3. usp_SampleLocation_Point_update

GIS Procedures

1. The Monitoring Location information is found in the table **Locations_476A**.
2. Complete steps 6 through 10 in the “Procedure Overview” section of this document.

```
SET ANSI_NULLS ON
SET QUOTED_IDENTIFIER ON

CREATE PROC [dbo].[usp_combined_wq_wc_nut_insert_476A]

AS
BEGIN
SET NOCOUNT ON;
SET XACT_ABORT ON;

-- THIS IS JUST FOR STORET/WIN DATA MANUAL LOADS

-- Constants - PLEASE SET NOW!!
DECLARE @combinedTable varchar(50) = 'Combined_WQ_WC_NUT'
DECLARE @dataLoadCode varchar(10)

-- Temporary
SET @dataLoadCode = '476A'

-- Setup data load
DECLARE @runBy varchar(50) = SYSTEM_USER;
DECLARE @programID varchar(10);
DECLARE @dataStreamID varchar(10);

SELECT@dataStreamID = DataStreamID,
@programID = ProgramID
FROMDataStreamProcedure
WHEREDataLoadCode = @dataLoadCode;
-- Delete Existing Data
exec usp_delete_combined @datastreamID, 'Combined_WQ_WC_NUT'

-- Secchi "ON BOTTOM"
INSERT INTO Combined_WQ_WC_NUT (ProgramID, DataStreamID, ParameterID, LocationID, SampleDate,
ActivityDepth_m, TotalDepth_m, RELATIVEDEPTH, ResultValue,  DateAdded, SampleFraction,
ValueQualifierID,ActivityType)
SELECT@programID,@dataStreamID,parameterID, locationID, a.ACTIVITY_START_DATE,
a.ACTIVITY_DEPTH,d.RESULT_VALUE, a.REL_DEPTH, d.RESULT_VALUE, getdate(), a.SAMPLE_FRACTION,
vq.valuequalifierid, a.ACTIVITY_TYPE
FROMData_476A_Finala
INNER JOINCombined_Conversion_Parametersb ON a.CHARACTERISTIC = b.OriginalParameter and a.RESULT_U
= b.OriginalUnits and b.DatastreamID = @dataStreamID
INNER JOINCombined_Parametersc ON b.TargetParameterID = c.ParameterID
LEFT JOINCombined_ValueQualifiervq ON vq.ValueQualifier = a.VALUE_QUALIFIER
LEFT JOIN(SELECT RESULT_VALUE, RESULT_UNIT, ACTIVITY_ID
           FROM Data_476A_Final
 WHERE CHARACTERISTIC = 'Depth, bottom') d ON a.ACTIVITY_ID = d.ACTIVITY_ID
WHEREa.RESULT_VALUE IN ('ON BOTTOM')
ANDa.ACTIVITY_START_DATE not like '0%'
ANDc.ParameterID = 11
ANDvq.QualifierSource = 'STORET_WIN'

-- Insert into Combined_QAQCFlagID for Result-to-Flag mapping
INSERT INTO Combined_QAQCFlagID_DiscreteWQ (CombinedRowID, SEACAR_QAQCFlagID)
SELECT a.RowID, 8
FROM Combined_WQ_WC_NUT a
WHERE a.DataStreamID = @dataStreamID
AND a.ParameterID = 11 --secchi
AND NOT EXISTS (SELECT *
                FROM Combined_QAQCFlagID_DiscreteWQ b
WHERE a.RowID = b.CombinedRowID
AND b.SEACAR_QAQCFlagID = 8)
-- Secchi not "ON BOTTOM"
INSERT INTO Combined_WQ_WC_NUT (ProgramID, DataStreamID, ParameterID, LocationID, SampleDate,
ActivityDepth_m, TotalDepth_m, RELATIVEDEPTH, ResultValue,  DateAdded, SampleFraction,
ValueQualifierID,ActivityType)
```

```
SELECT@programID,@dataStreamID,parameterID, locationID, a.ACTIVITY_START_DATE,
a.ACTIVITY_DEPTH,d.RESULT_VALUE, a.REL_DEPTH, a.RESULT_VALUE, getdate(), a.SAMPLE_FRACTION,
vq.valuequalifierid, a.ACTIVITY_TYPE
FROMData_476A_Finala
INNER JOINCombined_Conversion_Parametersb ON a.CHARACTERISTIC = b.OriginalParameter and a.RESULT_U
= b.OriginalUnits and b.DatastreamID = @dataStreamID
INNER JOINCombined_Parametersc ON b.TargetParameterID = c.ParameterID
LEFT JOINCombined_ValueQualifiervq ON vq.ValueQualifier = a.VALUE_QUALIFIER
LEFT JOIN(SELECT RESULT_VALUE, RESULT_UNIT, ACTIVITY_ID
           FROM Data_476A_Final
 WHERE CHARACTERISTIC = 'Depth, bottom') d ON a.ACTIVITY_ID = d.ACTIVITY_ID
WHEREISNUMERIC(a.RESULT_VALUE+'e0') = 1
ANDa.ACTIVITY_START_DATE not like '0%'
ANDvq.QualifierSource = 'STORET_WIN'
UNION ALL
---- INSERT MDL when result is '*Non-detect' and the value_qualifier is like '%U%'
SELECT@programID,@dataStreamID,parameterID, locationID, a.ACTIVITY_START_DATE,
a.ACTIVITY_DEPTH,d.RESULT_VALUE, a.REL_DEPTH, a.MDL, getdate(), a.SAMPLE_FRACTION, vq.valuequalifi
a.ACTIVITY_TYPE
FROMData_476A_Finala
INNER JOINCombined_Conversion_Parametersb ON a.CHARACTERISTIC = b.OriginalParameter and
a.DETECTION_UNIT = b.OriginalUnits and b.DatastreamID = @dataStreamID
INNER JOINCombined_Parametersc ON b.TargetParameterID = c.ParameterID
LEFT JOINCombined_ValueQualifiervq ON vq.ValueQualifier = a.VALUE_QUALIFIER
LEFT JOIN(SELECT RESULT_VALUE, RESULT_UNIT, ACTIVITY_ID
           FROM Data_476A_Final
 WHERE CHARACTERISTIC = 'Depth, bottom') d ON a.ACTIVITY_ID = d.ACTIVITY_ID
WHEREa.RESULT_VALUE = '*Non-detect'
ANDa.ACTIVITY_START_DATE not like '0%'
ANDa.VALUE_QUALIFIER like '%U%'
ANDvq.QualifierSource = 'STORET_WIN'


DELETECombined_Data_Tracking
WHEREDataStreamID = @dataStreamID
AND@combinedTable = @combinedTable

INSERT INTO Combined_Data_Tracking (ProgramID, IndicatorID, DataStreamID, ParameterID,
CombinedTableName, NumRowsFinal, NumRowsCombined, LastUpdateDate, LastUpdateBy)
SELECT@ProgramID, b.IndicatorID, a.DataStreamID, a.ParameterID, @CombinedTable,
COUNT(a.ResultValue), COUNT(a.ResultValue), GETDATE(), @runBy
FROMCombined_WQ_WC_NUTa
INNER JOINCombined_Parameters b on a.ParameterID = b.ParameterID
WHEREa.ProgramID = @ProgramID
AND a.DataStreamID = @dataStreamID
GROUP BY a.ProgramID, b.IndicatorID, a.DataStreamID, a.ParameterID

/*
SELECT *
FROM DataStreamProcedure
WHERE ProgramID = 476

exec usp_delete_combined 11, 'Combined_WQ_WC_NUT'
exec usp_delete_combined 185, 'Combined_WQ_WC_NUT'

*/

END
```

GO

```
SET ANSI_NULLS ON
SET QUOTED_IDENTIFIER ON
CREATE PROC usp_Data_476A_Load_insert
AS
BEGIN

SET XACT_ABORT ON;

INSERT INTO Data_476A_Final(ContactsID, [First Monitor], [Second Monitor], [Site Number],
Activity_Category, QACode, [Date of Sample], [Time Start], [Time Stop], [Time of Sunrise], [Wind
Speed], [Wind Direction], [Weather Conditions], Precipitation, [Air Temperature, Farenheit], [Air
Temperature, Celcius], [Water Surface], [Tidal Stage], [Secchi Avg], [Water Depth], [Water
Temperature Farenheit], [Water Temperature Celcius], [Dissolved Oxygen test 1], [Dissolved Oxygen
test 2], [Dissolved Oxygen test 3], [Dissolved Oxygen Average], DO_Qualifier, DO_Comment, pH,
pH_Qualifier, pH_Comment, Hydrometer, [Water Temp with Hydrometer], Salinity, [Salinity
Qualifier], [Water Color, observed], [Water Color, measured], Comments, [Total Nitrogen value],
TN_Comment, TKN_value, TKN_Qualifier, TKN_Comment, TKN_Analysis_Date, TKN_Analysis_Time,
TKN_Prep_Date, TKN_Prep_Time, NOX_Value, NOX_Qualifier, NOX_Comment, NOX_Analysis_Date,
NOX_Analysis_Time, NOX_Prep_Date, NOX_Prep_Time, [Total Phosphorus value], TP_Qualifier,
TP_Comment, TP_Analysis_Date, TP_Analysis_Time, TP_Prep_Date, TP_Prep_Time, [Chlorophyll value],
ChlA_Qualifier, ChlA_Comment, ChlA_Analysis_Date, ChlA_Analysis_Time, ChlA_Prep_Date,
ChlA_Prep_Time, [Coliform values], Coliform_Qualifier, Coliform_Comment, Coliform_Analysis_Date,
Coliform_Analysis_Time, Coliform_Prep_Date, Coliform_Prep_Time, [General Conditions], Turbidity,
Turbidity_Qualifier, Turbidity_Comment, Turbidity_Analysis_Date, Turbidity_Analysis_Time,
Turbidity_Prep_Date, Turbidity_Prep_Time, [Lab Color], Lab_Color_Qualifier, Lab_Color_Comment,
Lab_Color_Analysis_Date, Lab_Color_Analysis_Time, Lab_Color_Prep_Date, Lab_Color_Prep_Time)
SELECTContactsID, [First Monitor], [Second Monitor], [Site Number], Activity_Category,
QACode, [Date of Sample], [Time Start], [Time Stop], [Time of Sunrise], [Wind Speed], [Wind
Direction], [Weather Conditions], Precipitation, [Air Temperature, Farenheit], [Air Temperature,
Celcius], [Water Surface], [Tidal Stage], [Secchi Avg], [Water Depth], [Water Temperature
Farenheit], [Water Temperature Celcius], [Dissolved Oxygen test 1], [Dissolved Oxygen test 2],
[Dissolved Oxygen test 3], [Dissolved Oxygen Average], DO_Qualifier, DO_Comment, pH,
pH_Qualifier, pH_Comment, Hydrometer, [Water Temp with Hydrometer], Salinity, [Salinity
Qualifier], [Water Color, observed], [Water Color, measured], Comments, [Total Nitrogen value],
TN_Comment, TKN_value, TKN_Qualifier, TKN_Comment, TKN_Analysis_Date, TKN_Analysis_Time,
TKN_Prep_Date, TKN_Prep_Time, NOX_Value, NOX_Qualifier, NOX_Comment, NOX_Analysis_Date,
NOX_Analysis_Time, NOX_Prep_Date, NOX_Prep_Time, [Total Phosphorus value], TP_Qualifier,
TP_Comment, TP_Analysis_Date, TP_Analysis_Time, TP_Prep_Date, TP_Prep_Time, [Chlorophyll value],
ChlA_Qualifier, ChlA_Comment, ChlA_Analysis_Date, ChlA_Analysis_Time, ChlA_Prep_Date,
ChlA_Prep_Time, [Coliform values], Coliform_Qualifier, Coliform_Comment, Coliform_Analysis_Date,
Coliform_Analysis_Time, Coliform_Prep_Date, Coliform_Prep_Time, [General Conditions], Turbidity,
Turbidity_Qualifier, Turbidity_Comment, Turbidity_Analysis_Date, Turbidity_Analysis_Time,
Turbidity_Prep_Date, Turbidity_Prep_Time, [Lab Color], Lab_Color_Qualifier, Lab_Color_Comment,
Lab_Color_Analysis_Date, Lab_Color_Analysis_Time, Lab_Color_Prep_Date, Lab_Color_Prep_Time
FROM Data_476A_Load
END
GO
```