

Data Acquisition Standard Operating Procedures

Prehistoric baseline reveals substantial decline of oyster reef condition in a Gulf of Mexico conservation priority area - archaeological oyster data (ID# 5072)

Last Updated: 2/17/2024

Program Summary

The Gulf of Mexico (GoM) is home to the world's largest remaining wild oyster fisheries, but baseline surveys needed to assess habitat condition are recent and may represent an already-shifted reference state. Here, we use prehistoric oysters from archaeological middens to show that oyster size, an indicator of habitat function and population resilience, declined prior to the earliest assessments of reef condition in an area of the GoM previously considered pristine. Stable isotope sclerochronology reveals extirpation of colossal oysters occurred through truncated life history and slowed growth. More broadly, our study suggests that management strategies affected by shifting baselines may overestimate resilience and perpetuate practices that risk irreversible decline.

URLs

- Program - <https://doi.org/10.5061/dryad.66t1g1jz4>
- DDI - <https://data.florida-seacar.org/programs/details/5072>

Contacts

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Data Tables

- Data_5072A_Final
- Data_5072A_Load

Data Stored Procedures

- usp_Data_5072A_Load_insert
- usp_combined_oyster_insert_5072A

Data Acquisition Standard Operating Procedures: ProgramID 5071

Date Created: 09/21/2020

Created By: *Girija Bandaru*

Data File Paths:

1. Data:"U:\Misc_Projects\SEACAR_FDEP\Data\ID_5072\Hesterberg_etal_BL_Dryad_archaeodat_incliveDate.xlsx"

DDI URL: <http://dev.seacar.waterinstitute.usf.edu/datadiscovery/programs/details/5071>

Contact Information:

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Procedure Overview:

1. Use SQL Server Import Export Wizard to load the file "Hesterberg_etal_BL_Dryad_archaeodat_incliveDate.xlsx" into table **Data_5072A_Load**.
2. Execute procedures usp_Data_5072*_Load_insert to load the data into **Data_5072*_Final** tables.
3. Add new Monitoring Locations from table **Locations_5072A** with [Site as Monitoring_Location] into the **SampleLocation_Point** table.
4. Add new Monitoring Locations into the **SampleLocation** table. This will generate a LocationID for each Monitoring Location.
5. Update the **SampleLocation_Point** table with the LocationID generated in the **SampleLocation** table. Run procedure usp_SampleLocation_Point_update to do this.
6. Update the LocationID column in table **Data_5072A_Final** with the LocationID in the **SampleLocation** table. Join on the [Site] Column in **Data_5072A_Final** and the ProgramLocationID column in **SampleLocation**.

Data Tables

1. Data_5072*_Load
2. Data_5072*_Final

Data Stored Procedures

1. usp_Data_5072*_Load_insert
2. usp_SampleLocation_Point_update

GIS Procedures

1. Complete steps 2 through 6 in the “Procedure Overview” section of this document.
2. The location information is available in **Data_5072A_Final** table.

```
SET ANSI_NULLS ON
SET QUOTED_IDENTIFIER ON
```

```
CREATE PROC [dbo].[usp_combined_oyster_insert_5072A]
```

```
AS
```

```
BEGIN
```

```
SET NOCOUNT ON;
```

```
SET XACT_ABORT ON;
```

```
-- Delete Existing Data
```

```
exec usp_delete_combined 1392, 'Combined_OYSTER'
```

```
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```

```
-- Constants - PLEASE SET NOW!!
```

```
DECLARE @dataLoadCode varchar(10) = '5072A';
```

```
DECLARE @combinedTable varchar(50) = 'Combined_OYSTER'
```

```
DECLARE @parameterID int
```

```
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```

```
-- Setup data load
```

```
DECLARE @runBy varchar(50) = SYSTEM_USER;
```

```
DECLARE @programID int, @dataStreamID int;
```

```
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```

```
SELECT @dataStreamID = DataStreamID,
```

```
@programID = ProgramID
```

```
FROM DataStreamProcedure
```

```
WHERE DataLoadCode = @dataLoadCode;
```

```
-- Insert data
```

```
SET @parameterID = 28 -- Shell Height
```

```
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```

```
INSERT INTO Combined_OYSTER (ProgramID, DataStreamID, ParameterID, LocationID, SampleDate, SurveyMethod, PercentLiveMethod, HabitatClassification, MinimumSizeMeasured_mm, NumberMeasured_n, QuadSize_m2, ResultValue, DateAdded, QAQCFlag, QuadIdentifier, ReefIdentifier, LiveDate, LiveDate_Qualifier, LiveDate_MinEstDate, LiveDate_MaxEstDate)
```

```
SELECT @programID, @dataStreamID, @parameterID, a.LocationID, a.[Date Collected],
```

```
'Archaeological survey', NULL, 'Natural', 35, 'ALL', NULL, a.[Shell Height (mm)], GETDATE(), NULL,
```

```
CAST(a.[Site #] as varchar) + '-' + CAST(a.[Phase] as varchar) + '-' + CAST(a.Unit as varchar) + '-'
```

```
+ CAST(a.[Level] as varchar), a.[Site #], a.LiveDate_yrAD, 'Estimate', MinEst_yrAD, MaxEst_yrAD
```

```
FROM Data_5072A_Final a
```

```
WHERE a.[Shell Height (mm)] IS NOT NULL
```

```
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```

```
exec usp_combined_data_tracking_insert @parameterID = @parameterID, @ProgramID = @programID,
```

```
@dataStreamID = @dataStreamID, @CombinedTableName = @combinedTable, @NumRowsFinal = @@ROWCOUNT,
```

```
@LastUpdateBy = @runBy
```

```
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```

```
/*
```

```
SELECT *
```

```
FROM Combined_OYSTER
```

```
SELECT Distinct ProgramID, b.IndicatorName, c.ParameterName, a.NumRowsCombined
```

```
FROM Combined_Data_Tracking a
```

```
INNER JOIN Indicator b on a.IndicatorID = b.IndicatorID
```

```
INNER JOIN Combined_Parameters c on a.ParameterID = c.ParameterID
```

```
WHERE b.Habitat = 'Oyster/Oyster Reef'
```

```
SELECT *
```

```
FROM Data_5072A_Final
```

```
SELECT *
```

```
FROM Combined_Parameters a
```

```
INNER JOIN Indicator b on a.IndicatorID = b.IndicatorID
```

```
where b.Habitat = 'oyster/oyster reef'
```

```
SELECT *
```

```
FROM DataStreamProcedure
```

```
WHERE ProgramID = 5072
```

```
exec usp_delete_combined 1392, 'Combined_OYSTER'  
*/  
END
```

```
GO
```

```
SET ANSI_NULLS ON
SET QUOTED_IDENTIFIER ON
create PROC [dbo].[usp_Data_5072A_Load_insert]
AS
BEGIN
SET NOCOUNT ON
SET XACT_ABORT ON
```

```
INSERT INTO Data_5072A_Final ([Site #],
[Site Name] ,
[Latitude] ,
[Longitude] ,
[Phase ] ,
[Unit] ,
[Level] ,
[Shell Height (mm)] ,
[Sampled By] ,
[Date Collected] ,
[LiveDate_yrAD] ,
[MinEst_yrAD] ,
[MaxEst_yrAD] )
SELECT [Site #],
[Site Name] ,
[Latitude] ,
[Longitude] ,
[Phase ] ,
[Unit] ,
[Level] ,
[Shell Height (mm)] ,
[Sampled By] ,
[Date Collected] ,
[LiveDate_yrAD] ,
[MinEst_yrAD] ,
[MaxEst_yrAD]
FROM Data_5072A_Load
```

```
END
GO
```