Biodiversity Baseline and the Deepwater Horizon Oil Spill

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Texas A&M University-Corpus Christi

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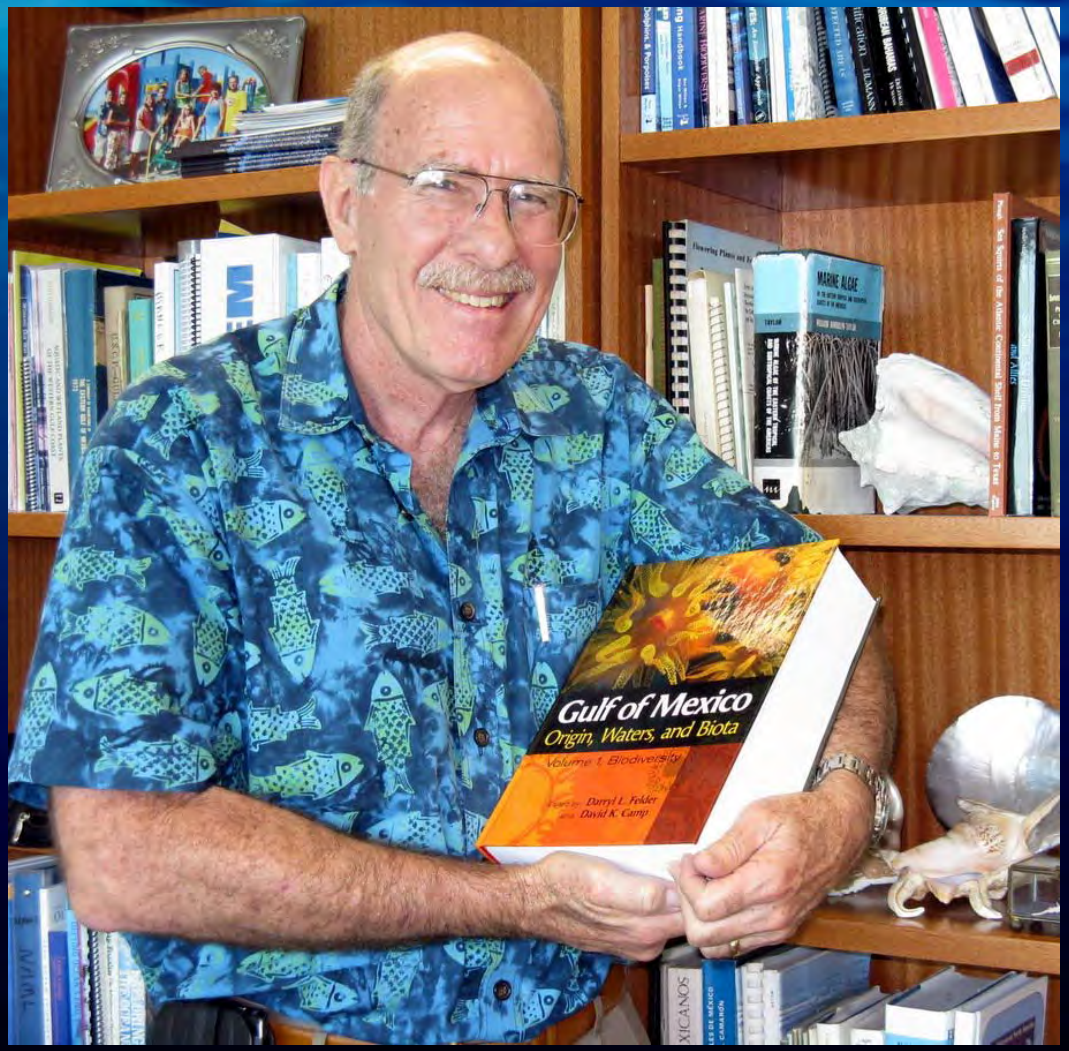
Biota of the Gulf of Mexico

- Inventory sponsored by the Harte Research Institute (HRI)
- Team of 140 taxonomists from 15 countries
- Comprehensive biotic inventory: 15,419 species from 40 phyla/divisions
- Expert-vetted data, updated taxonomy
- Phase I: book, published by Texas A&M University Press (Felder and Camp, eds. 2009)

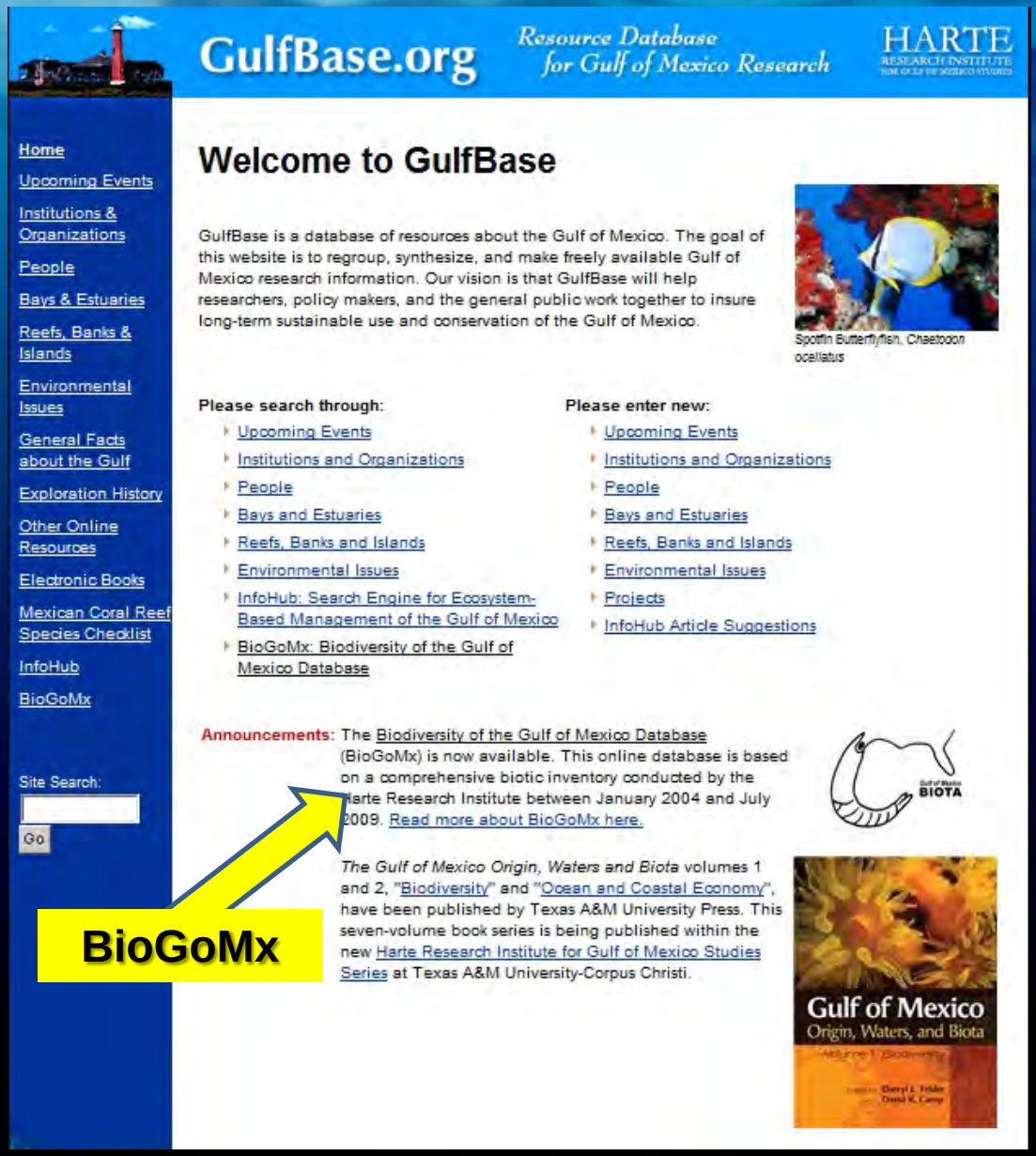
- Felder and Camp (2009)
- 79 chapters
- ~1400 pp.
- Authors wanted “a benchmark on the bookshelf”
- Timely benchmark for GoMx prior to DWH Oil Spill



BioGoMx Database

- Phase II: conversion of the checklist from Felder and Camp (2009) into a database
- Distributional data posted on OBIS-USA, USGS, NASA and other biodiversity portals, Jan. 2010
- BioGoMx database, with richer data, was completed and launched in Mar. 2011 on *GulfBase.org*

GulfBase.org



- Portal for GoMx research
- Over 1800 researchers
- Over 480 institutions
- 95 bays and estuaries
- Conferences and events
- Over 2 million hits

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BioGoMx

http://www.gulfbase.org/biogomx/

- All data from Felder and Camp (2009)
- Complex queries can be performed
- Searches by:
  - taxonomy
  - habitat & biology
  - depth range
  - distribution
  - references
  - endnotes, etc.
- Results can be downloaded

BioGoMx Query

Biodiversity of the Gulf of Mexico Database

Enter any desired search terms (e.g., species name) here:

endangered

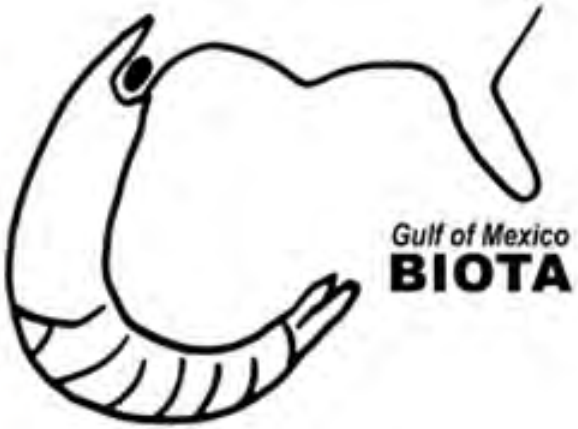
☐ Also search references and endnotes

Add any additional criteria below.

Phylum:	
Class:	
Subclass:	
Order:	
Superfamily:	
Family:	
Genus:	
Habitat-Biology:	
GoMx Octants:	☐ WNW ☐ NNW ☐ NNE ☐ ENE ☐ WSW ☐ SSW ☐ SSE ☐ ESE
Depth range:	to meters

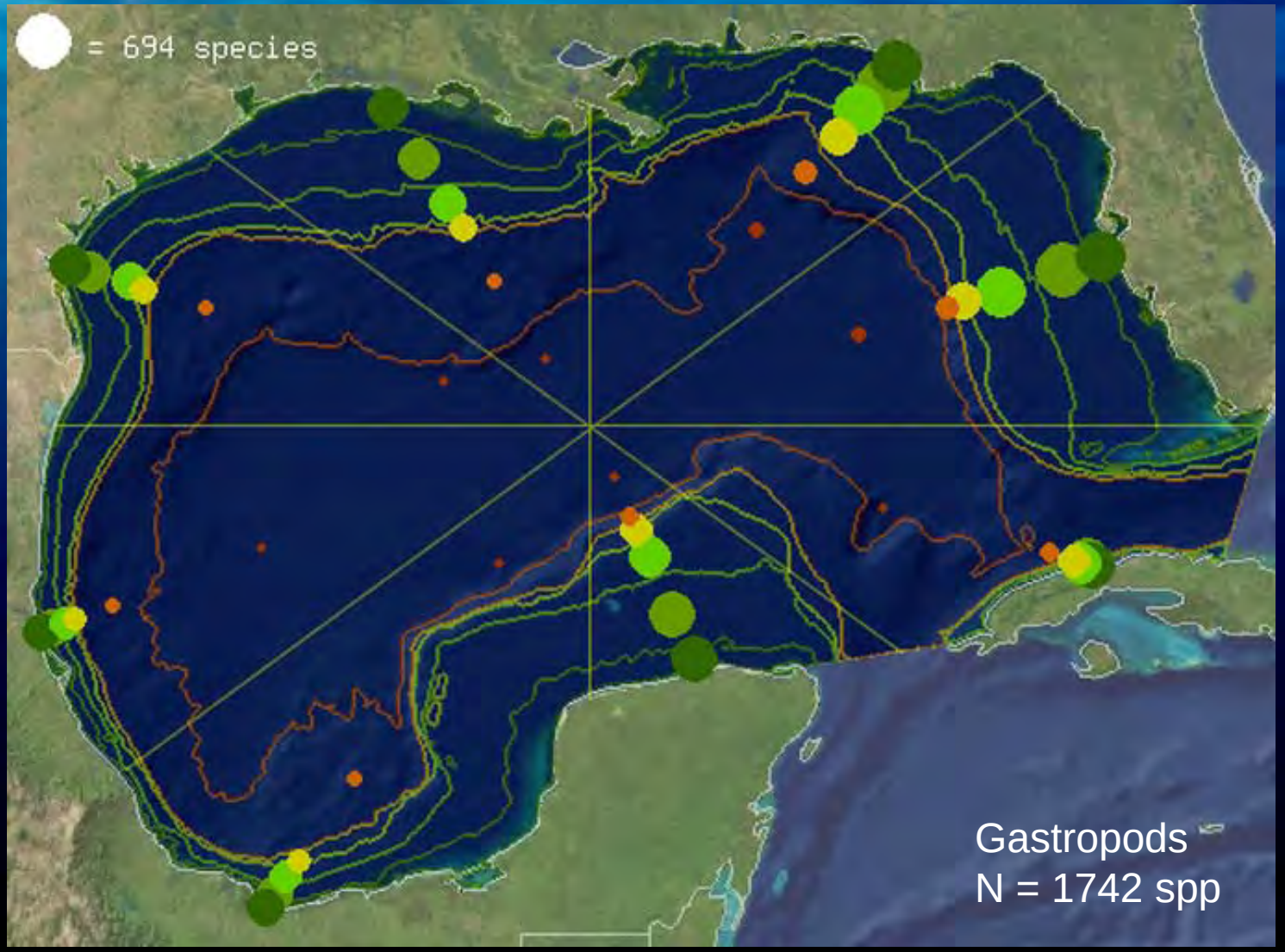
Clear search form

Display results



About BioGoMx

Species richness map



Moretzsohn et al. – Biodiversity Inventory of the Gulf of Mexico

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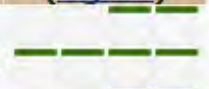
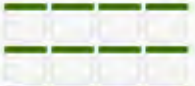
Search Results

81 unique taxa found. Download results as CSV

Scientific Name	Phylum	Habitat-Biology	Octants and depths (legend)
Acrostichum aureum	Polypodiophyta	emergent vegetation; intertidal to semiterrestrial; threatened or endangered	
Argusia gnaphalodes	Magnoliophyta	beach and shoreline; emergent vegetation; threatened or endangered	
Avicennia germinans	Magnoliophyta	bay and nearshore; estuarine; emergent vegetation; threatened or endangered	
Balaenoptera borealis	Chordata	epipelagic; outer continental shelf; slope; threatened or endangered; rare species	
Balaenoptera musculus	Chordata	epipelagic; outer continental shelf; slope; threatened or endangered	
Balaenoptera physalus	Chordata	epipelagic; outer continental shelf; slope; threatened or endangered; rare species	
Blutaparon vermiculare	Magnoliophyta	beach and shoreline; emergent vegetation; threatened or endangered	
Cakile lanceolata	Magnoliophyta	beach and shoreline; emergent vegetation; threatened or endangered	
Caretta caretta	Chordata	neritic; threatened or endangered	
Chamaesyce bombensis	Magnoliophyta	beach and shoreline; emergent vegetation; threatened or endangered	
Chelonia mydas	Chordata	neritic; threatened or endangered	

Results - Species Pages

Biodiversity of the Gulf of Mexico Database (BioGoMx)

About the database Another search

Map of GoMx distribution and bathymetry

Physeter macrocephalus Linnaeus, 1758

Taxonomy

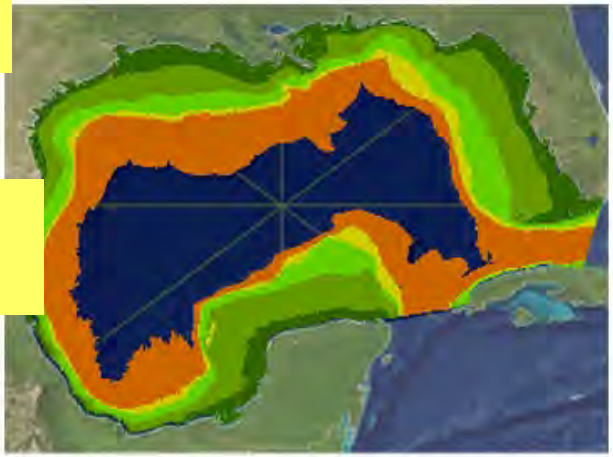
Taxonomy (summary)

Phylum	Chordata
Class	Mammalia
Order	Cetacea
Family	Physeteridae
Genus	*Physeter*
Species	*macrocephalus*
Author	Linnaeus, 1758

Distribution, Habitat, and Biology

Distribution, depth, habitat, biology

GoMx range	entire
Min depth (m)	0
Max depth (m)	2775
Overall geographic range	cosmopolitan; eurythermic; migratory
Habitat-Biology	demersal; pelagic; outer continental shelf; threatened or endangered; common species



References

References and Endnotes

Collum, L. A., and T. H. Fritts. 1985. Sperm whales (Physeter catodon) in the Gulf of Mexico. Southwestern Naturalist 30: 101-104.

Jefferson, T. A. 1996. Estimates of abundance of cetaceans in offshore waters of the northwestern Gulf of Mexico, 1992–1993. Southwestern Naturalist 41: 279–87.

Jefferson, T. A., and A. J. Schiro. 1997. Distribution of cetaceans in the offshore Gulf of Mexico. Mammal Review 27: 27–50.

Mullin, K. D., W. Hoggard, C. Roden, R. Lohoetener, C. Rogers, and B. Taggart. 1991. Cetaceans on the upper Continental Slope in the north-central Gulf of Mexico. OCS Study/MMS 91-0027. New Orleans: U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico, OCS Regional Office.

Ortega-Ortiz, J. G. 2002. Multiscale analysis of cetacean distribution in the Gulf of Mexico. Ph.D. dissertation, Texas A&M University, College Station, Tex. 170 pp.

Endnotes

(none)

Results - Species Pages (cont.)

Endnotes
(none)

Changes from the book
(none noted)

Any departures from the book

Data from: Schmidly, D. J. and B. Würsig. 2009. Mammals (Vertebrata: Mammalia) of the Gulf of Mexico, Pp. 1343–1352 in Felder, D.L. and D.K. Camp (eds.), Gulf of Mexico–Origins, Waters, and Biota. Biodiversity. Texas A&M Press, College Station, Texas.

BioGoMx citation: Moretzsohn, F., J. Brenner, P. Michaud, J.W. Tunnell, and T. Shirley. 2011. Biodiversity of the Gulf of Mexico Database (BioGoMx). Version 1.0. Harte Research Institute for Gulf of Mexico Studies, Texas A&M University-Corpus Christi, Corpus Christi, Texas.

Citation of book chapter and database

Links to external resources
Search for "*Physeter macrocephalus*" in:

- Google
- Google Images
- Encyclopedia of Life
- World Register of Marine Species (WoRMS)
- OBIS mapper

Direct links to other sites (on species in question)

Complete taxonomy

Kingdom	Animalia
Phylum	Chordata
Subphylum	Vertebrata
Class	Mammalia
Order	Cetacea
Suborder	Odontoceti
Family	Physeteridae
Genus	*Physeter*
Species	*macrocephalus*
Author	Linnaeus, 1758

Complete taxonomy

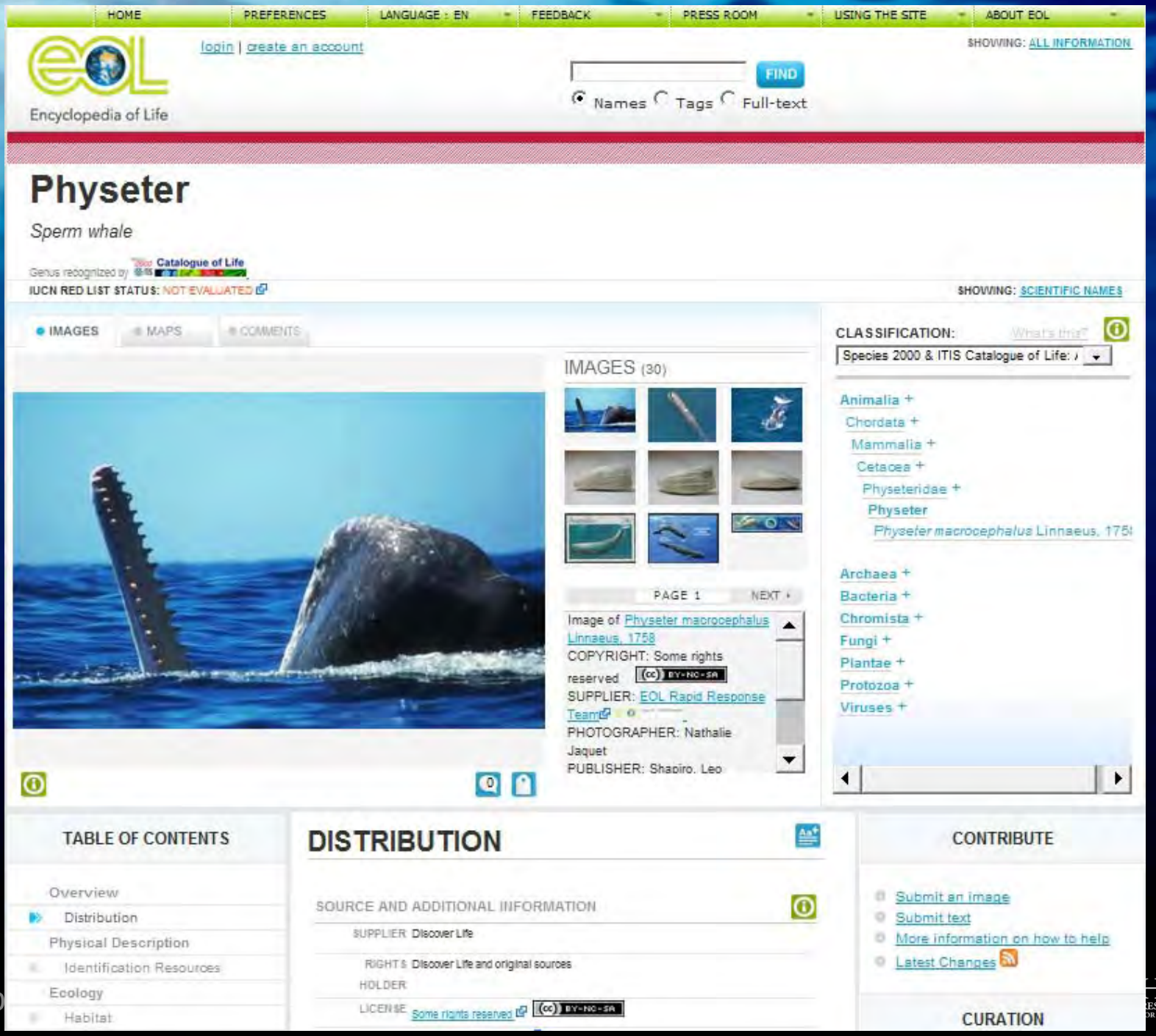
Comments about *Physeter macrocephalus* Linnaeus, 1758 (Spp-78-0013)

This record currently has 0 comments.

Add a new comment:

Window for comments or corrections

Your email address: Submit comment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Species 2000 & ITIS Catalogue of Life:
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Chordata +
Mammalia +
Cetacea +
Physeteridae +
Physeter
Physeter macrocephalus Linnaeus, 175
Archaea +
Bacteria +
Chromista +
Fungi +
Plantae +
Protozoa +
Viruses +
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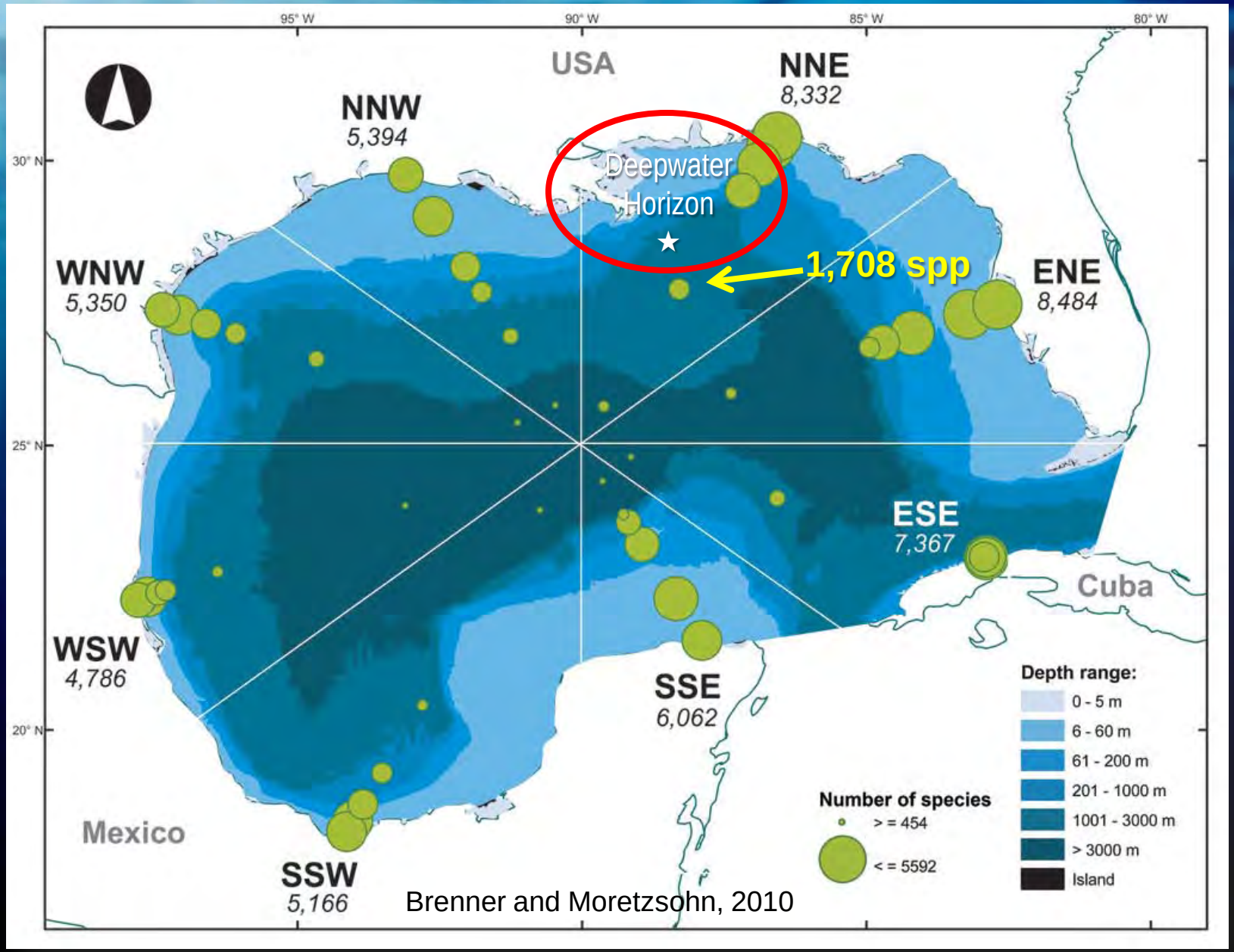
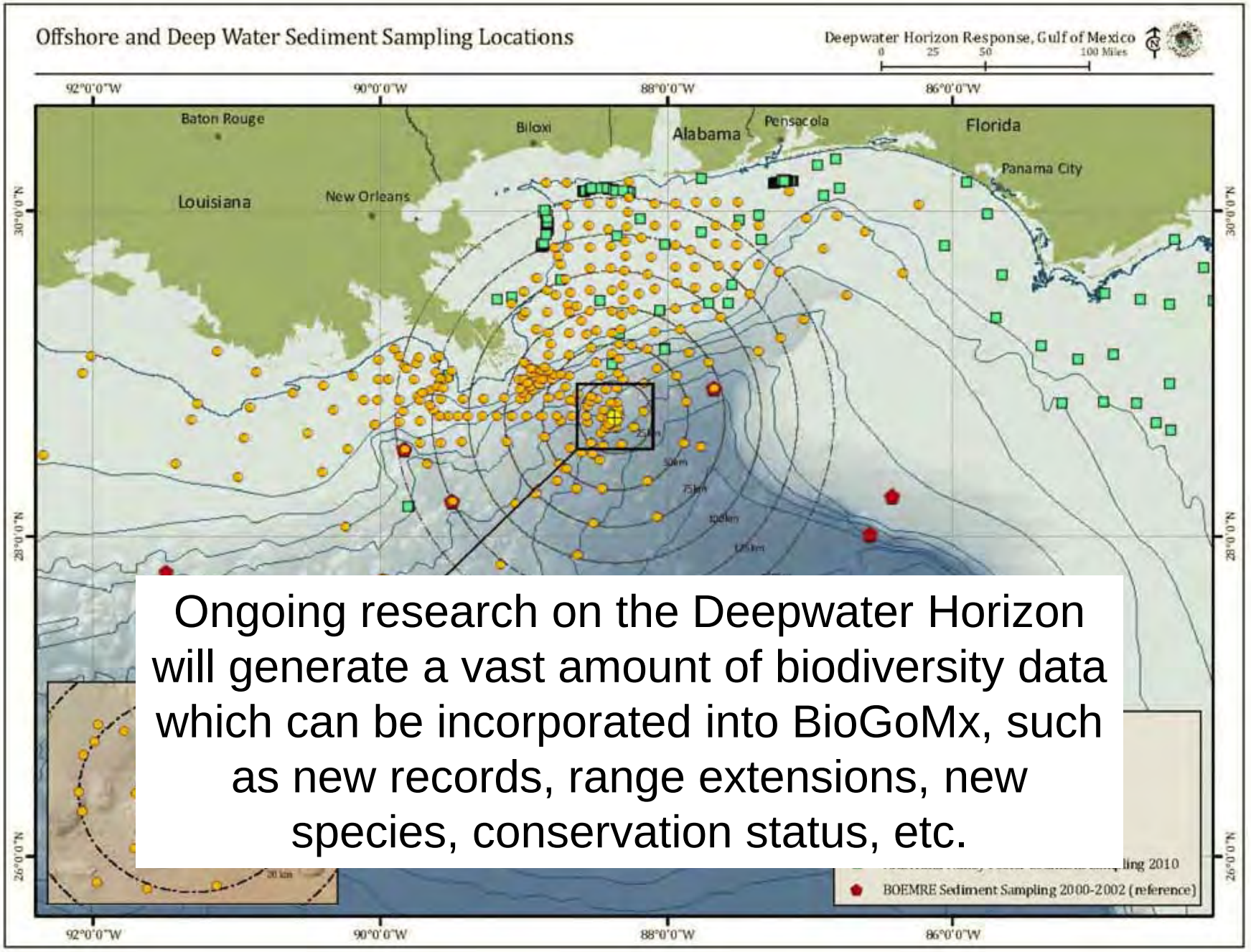


Brenner and Moretzsohn, 2010

Using BioGoMx as a Baseline

- Baseline prior to the BP oil spill (2010)
- Can be useful in conservation, restoration, and monitoring studies related to oil spill
- As new scientific results from studies become available, new data can be added to BioGoMx
- New keywords, e.g. “affected by oil spill”, density, etc, can be added to database



Ongoing research on the Deepwater Horizon will generate a vast amount of biodiversity data which can be incorporated into BioGoMx, such as new records, range extensions, new species, conservation status, etc.

http://www.restorethegulf.gov/sites/default/files/documents/pdf/13_NOV_2010_SMU_Strategic_Plan.pdf

New species being discovered

Example of a 2 mm long new species of Thyasiridae currently being described from deep Gulf of Mexico

Submit Your Data

- Check **www.gulfbase.org/biogomx/**
- Submit your biodiversity data directly through the website
- Contact me at ***mollusca@gmail.com***
- Please join if you are not on GulfBase
- Create a project page for your project
- Keep your record up-do-date
- Post new events

Acknowledgements

- Alfred P. Sloan Foundation
- Northern Gulf Institute (NGI)
- Ocean Biodiversity Information System (OBIS and OBIS-USA)
- Texas Research Development Fund
- National Ocean and Atmospheric Administration (NOAA)
- United States Geological Survey (USGS)
- National Biological Information Infrastructure (NBII)
- Houston Advanced Research Center (HARC)
- Harte Research Institute for Gulf of Mexico Studies


Questions?