Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Development of the data component for the national marine theme of NBII (OBIS-USA) Year 1-4

Type of Project: Technical Assistance
Project Discipline: Natural
Funding Agency: USGS
Other Partners/Cooperators: University of Colorado at Boulder
Effective Dates: 7/1/2008 – 6/30/2013
Funding Amount: $892,627 [FY08:$150,000; FY09: $215,000, FY10: $240,000; FY11: 287,627]

Investigators and Agency Representative:
USGS Contact: John Mosesso, USGS Biological Informatics Program, 12201Sunrise Valley Drive, Reston, VA 20192

Investigator: Rob Guralnick, Curator of Invertebrate Zoology, University of Colorado Museum of Natural History, *303-735-0178;* Robert.Guralnick@colorado.edu

Philip Goldstein, University of Colorado, 310 Marine Street, Room 479, 572 UCB, Boulder, CO 80303; 303-492-6892; Philip.goldstein@colorado.edu

Project Abstract: The University Of Colorado Museum Of Natural History (CUMNH) will further develop OBIS-USA, contributing the following components:

Technical Development
A. Data Networking and Ingest
B. Occurrence Database Description and Implementations
C. Online Mapping, Spatial/Environmental Datasets, GIS layers and metadata storage and access
D. Website design, Development, deployment and maintenance

Outcomes with completion dates:
The end product will be a demonstration showing how aggregated species occurrence data can be used to determine ocean biodiversity and track how environmental changes may affect that biodiversity. More specifically the end products will include:
a. A new set of providers delivering data to OBIS-SUS with a focus on 5-6 new, key data sets that contain high quality data,
b. A stable infrastructure that includes a federation of providers delivering DarwinCore complaint records to an RDBMS system.
c. A website similar to Seamap (http://seamap.env.duke.edu/) in functionality that meets NBII expectations and allows users to query RDBMS system and return and download both tabular occurrence data and mapping results simultaneously. Map and tabular results are correctly linked so that map operations can update the local record and vice versa.
d. A set of environmental and other contextual GIS data that can be linked through the map application to occurrence data.
e. Prototype of a set of analysis web services for performing operations like determining environmental conditions for a set of species occurrences, determining ecologically relevant variables that limit species distribution, and predicting species distributional response to environmental change.
f. Collaborate with USGS in planning and implementing workshops for designing a data model that allows biological data to be incorporated with environmental data (physical and chemical)
g. A code base and all associated products deliverable to NBII's Center of Biodiversity Informatics for deployment at the facility.

Keywords: Ocean Biogeographic Information System (OBIS-USA), Data Networking, Online Mapping, Website design, University of Colorado Museum of Natural History, USGS-NBII