

## Welcome to the Minerals Management Service Coastal Marine Habitats GIS on DVD

This set of three DVDs contains a Geographic Information System (GIS) data set of California coastal marine habitat maps. The original maps were created in the 1970s and 1980s by a team of scientists under contract to the Minerals Management Service (MMS)-Pacific OSC Region<sup>1</sup>. Shoreline physical and biological data for the entire California coast and Channel Islands were collected from helicopter videotape flyovers and ground-truth surveys, and the information was portrayed on a total of 165 USGS maps. The purpose of the surveys was to develop a statewide set of coastal maps with shoreline biological and substrate information for determining areas most sensitive to oil spills.

The original series of laminated maps and tables were provided to Tenera Environmental (San Luis Obispo, CA) to scan and archive as high-resolution .jpg images and Adobe .pdf files. All of the drawings and text information was then converted into six ESRI ArcView/ArcGIS map layers (themes) as line and point shapefiles. The GIS can be used to search and retrieve information electronically across maps, complete spatial analyses, and query results. Selected data from this GIS can be exported to new themes for other purposes. Also, data from other studies can be added to expand the present GIS.

This set of three DVDs is the GIS created from the original maps (and tables) for the shoreline from Bodega Head in Sonoma County to the California-Mexico border, including all of the Channel Islands. An earlier conversion of the MMS shoreline information into GIS was completed for the shorelines of the Monterey Bay, Gulf of the Farallones, and Channel Islands National Marine Sanctuaries<sup>2</sup>. The present project is an expansion of this earlier GIS work.

We recommend the system user begin by reviewing the **orientation guide** (filename: *Bodega-Mexico Coastal Habitats GIS Orientation Guide.pdf*) in the **orientation folder** on DVD 1 and printing out the **orientation guide** according to the printing suggestions provided at the beginning of the guide. The attachments that are included in the **orientation guide** should be

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<sup>1</sup> Littler, M.M. and D.S. Littler. 1979. Rocky intertidal island survey. Vol. II, Report 5.0 in southern California intertidal survey year III. Prepared by Science Applications, Inc. for the Bureau of Land Management, Pacific OCS Office, Los Angeles, CA. Contract No. AA551-C17-44.

Littler, M.M. and D.S. Littler. 1980. Mainland rocky intertidal aerial survey from Point Arguello to Point Loma, California. Prepared for the Bureau of Land Management, Pacific OCS Office, Los Angeles, California. Contract No. YN010-CT9-4. May 1980.

Woodward-Clyde Consultants. 1982. Central and northern California coastal marine habitats: Oil residence and biological sensitivity indices. Submitted to the U.S. Department of Interior, Minerals Management Service, Pacific OCS Region, Los Angeles, California. Contract No. AA851-CTO-73. November 1982.

<sup>2</sup> MMS shoreline GIS on DVD of the Monterey Bay, Gulf of the Farallones, and Channel Islands National Marine Sanctuaries. Prepared for Dr. Steve Lonhart, Monterey Bay National Marine Sanctuary, March 31, 2005.



printed out on large format paper (11" x 17" tabloid) to view the small details on the maps and tables. The **orientation guide** describes the information on the maps, how the information was converted into the GIS, and operation of the system to query results. The **orientation guide** is not a GIS instructional manual or tutorial. The **orientation guide** is designed for the GIS system user who is already knowledgeable in GIS applications.

Also included in the **Orientation folder** are legend sheets and selected full-size maps and tables for quick reference to other example maps and tables outside the **orientation guide**. An inventory sheet (.pdf) of the MMS maps and tables provided from MMS, a map-table to GIS tracking status file (.xls), and a statewide map layout of the USGS quad maps (.jpg) converted into the GIS are also included in the **Orientation folder**.

Copy the contents of all three DVDs into your GIS system under a common root folder (e.g., 'MMS Coastal Habitats GIS'). This is to provide for faster access and retrieval of data. Enhanced viewing performance and increased screen refresh rates will likely be faster than opening the files directly from the DVDs.

Many files are in .pdf format. If you do not have Adobe Acrobat Reader on your PC to read these files, you can download a free copy of the most recent Acrobat Reader software for your specific PC platform from the Adobe website at <http://www.adobe.com>.

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## Summary of DVD Contents:

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### DVD 1 of 3

There are seven folders on DVD 1 under the root folder 'MMS Coastal Habitats GIS'. The file named '*Directory on this 3 DVD set.txt*' is in the root folder, and lists all of the folders and files on the three DVD set. The contents are also described in **Table 1** of the **orientation guide**. The following is a brief description of each folder.

#### Adobe Reader 8.0

If you do not have Adobe Reader 8.0, double click on the file '*AdbeRdr80\_en\_US.exe*' to install Adobe Reader 8.0 for Windows XP.

#### Orientation

The file '*Bodega-Mexico Coastal Habitats GIS Orientation Guide.pdf*' in this folder describes the information on the maps, how the information was converted into the GIS, and operation of the system to query results. This folder also contains selected .pdf versions of the maps and tables referenced in the orientation guide.

#### Sample Project

This folder contains two sample ArcGIS (8.x) demonstration projects (filenames: '*MMS\_Demo1.mxd*' and '*MMS\_Demo2.mxd*'). Copies of the map layouts for the sample projects are also included. The file named '*MMS\_Demo2.mxd*' loads all completed maps, and requires a more powerful PC.



### Shapefiles

This folder contains the 11 GIS data shapefile themes (points, lines, polygons) used in this GIS. Metadata is provided for viewing in ESRI's ArcGIS in the .xml format.

### MMS Maps Rectified tn83m

This folder contains the georectified maps used in the mapping surveys. They are rectified to Teale-Albers NAD83m projection commonly used by resource agencies in California.

### GIS Data Summaries

This folder contains 25 summarized GIS query results viewable in Microsoft Excel for selected attribute fields. These represent all combinations of selected attributes for a given data field. For example, mussel abundance categories and associated lengths of coastline can be viewed in file '*Sum\_MYTILUS-CA-length-km.dbf*'. The subfolder '*Metadata*' includes the GIS metadata as .htm and .txt files for viewing outside ESRI's ArcGIS.

### Literature References and Documents

This folder contains publications and documents of the original MMS surveys.

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## **DVD 2 of 3**

DVD 2 contains the scanned versions of all original 165 MMS maps and tables in respective folders for the entire MMS California coastline mapping project. View the inventory file '*MMS Maps & Tables-Inventory.pdf*' for a complete listing of all maps and tables. For convenience, all .pdf maps and tables are contained in two .pdf files with book marking in the folder named '*MMS Maps & Tables*'. The file '*Central & Northern CA Maps & Tables.pdf*' contains a copy of each individual central and northern California map in one file. Feature attributes are listed separately on associated tables. The file '*Southern CA & Islands Maps.pdf*' contains a copy of each individual southern California and Channel Islands map in one file. There are no associated MMS tables. An Excel file named '*SoCal\_Mainland\_&\_Islands\_Species\_list.xls*' was created for this GIS, and lists the species that appear on the southern California and Channel Islands maps.

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## **DVD 3 of 3**

DVD 3 contains the 154 USGS 7.5 Minute Quad maps (1:24K scale) and 21 less detailed quad maps (1:250K scale) that the MMS maps were georeferenced to for comparison. These are also in the Teale-Albers NAD83 meter projection. USGS map Source:  
([ftp://casil.ucdavis.edu/casil/gis.ca.gov/drg/7.5\\_minute\\_series\\_albers\\_nad83\\_trimmed/](ftp://casil.ucdavis.edu/casil/gis.ca.gov/drg/7.5_minute_series_albers_nad83_trimmed/))

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There are 41 additional MMS maps from the original study that are not in any GIS (MMS map numbers CNC 090 to CNC 130). These cover the remaining shorelines from Bodega Head north to the California-Oregon border. The maps have been scanned electronically, and are included as .pdf files on DVD 2.

If there are any questions or if assistance is needed with this DVD set, please contact:



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