

DORIS

Marine Protected Areas Decision Support Tool

User's Manual

Updated August 21, 2007



Doris is named after a sea nymph in Greek Mythology associated with a “bountiful” ocean.

DORIS
User's Manual

Doris is the result of a collaboration among:



The development of DORIS was funded by the California Marine Life Protection Act Initiative, the National Marine Protected Areas Center, and the Monterey Bay National Marine Sanctuary Foundation. The tool was developed by IM Systems Group, Inc.

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Getting Started

Doris was developed for use by stakeholders, planners, managers and scientists involved in marine protected area (MPA) planning in California. The development of this tool was supported and funded by (1) California's Marine Life Protection Act (MLPA) Initiative, a public-private partnership to help the State of California re-design its MPAs in state waters, (2) the Monterey Bay National Marine Sanctuary Foundation to support MPA and other spatial management planning efforts in federal waters of the sanctuary, and (3) the National Marine Protected Areas Science Center to support the development of MPA planning tools.

Doris is designed to be integrated with the California Marine Geodatabase, a geographic information systems (GIS) database hosted at the Marine Science Institute, University of California, Santa Barbara. A variety of federal and state agencies, academic institutions, and non-governmental organizations contributed spatial data to the geodatabase for use by this decision-support tool. Those spatial data layers can also be viewed with a web browser at <http://marinemap.org/mlpaims>.

Doris is designed to be relatively easy to use and accessible over the Internet to support MPA planning by stakeholders with basic computer skills. Doris allows the user to create MPAs or arrays of MPAs and evaluate what features (habitats, bathymetric or oceanographic features, fisheries, etc.) are captured within single MPAs or arrays of MPAs by reviewing reports generated by the tool. While the reporting function is limited to the data present in the geodatabase, new data can continue to be entered into the database and used in future planning efforts. In this way, the geodatabase and Doris can be continually improved to support marine planning efforts in California.

The basic steps involved after accessing Doris include:

Step 1: Selecting a study region (state or federal waters)

Step 2: Viewing and selecting data layers

Step 3: Creating candidate MPAs

Step 4: Combining MPAs into arrays

Step 5: Selecting or building a report

Step 6: Viewing a report

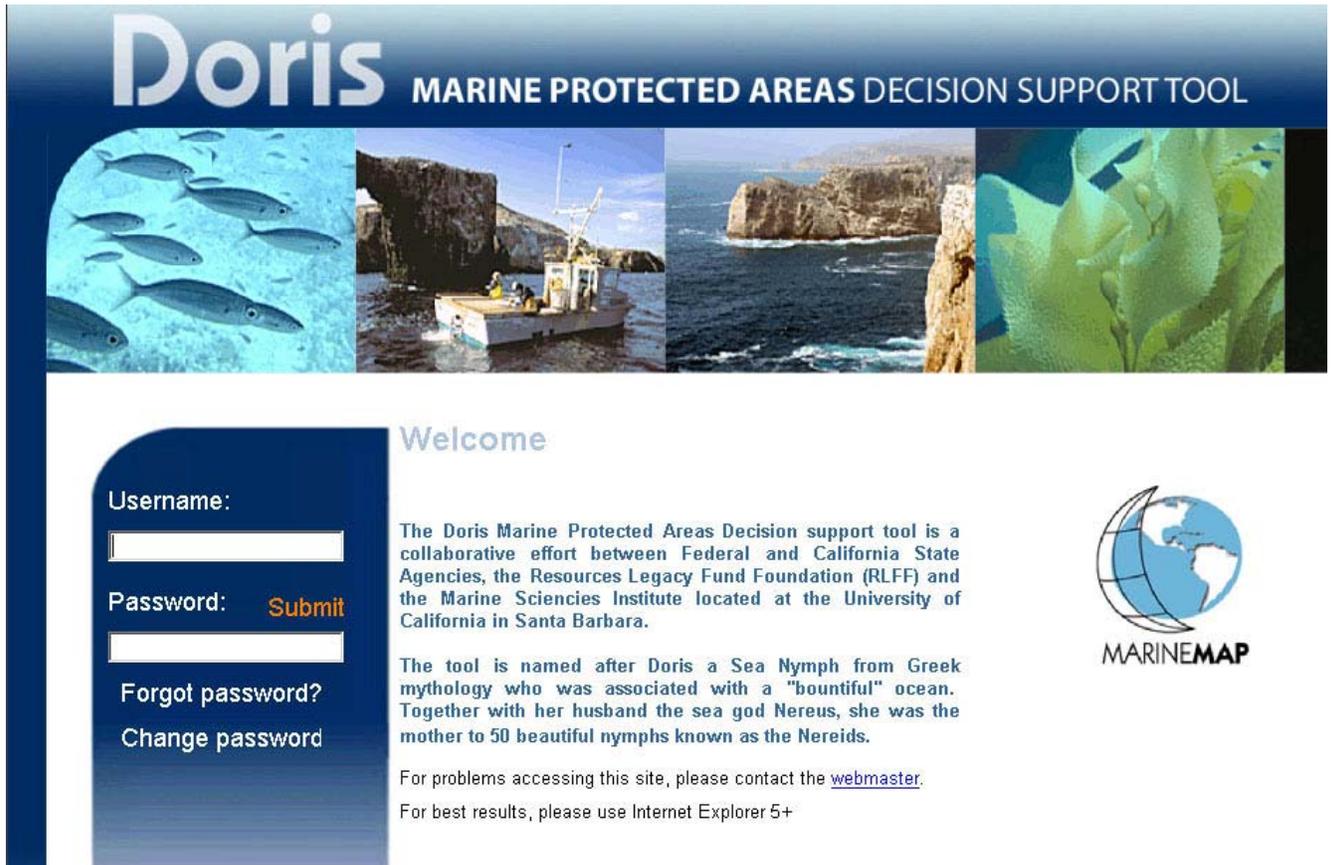
Accessing Doris



Doris is accessed via the Internet using Internet Explorer 6 or above at the following address:

<http://marinemap.org/doris>

The user will arrive at the login page where the user must enter a correct username and password to gain access to the tool. This page also provides the user the ability to change the user password or, should it be forgotten, to have the password emailed to the user's email account. Please note that when accessing Doris, your web browser should be set to "allow pop-ups."



Doris MARINE PROTECTED AREAS DECISION SUPPORT TOOL

Username:

Password: **Submit**

[Forgot password?](#)

[Change password](#)

Welcome

The Doris Marine Protected Areas Decision support tool is a collaborative effort between Federal and California State Agencies, the Resources Legacy Fund Foundation (RLFF) and the Marine Sciences Institute located at the University of California in Santa Barbara.

The tool is named after Doris a Sea Nymph from Greek mythology who was associated with a "bountiful" ocean. Together with her husband the sea god Nereus, she was the mother to 50 beautiful nymphs known as the Nereids.

For problems accessing this site, please contact the [webmaster](#).

For best results, please use Internet Explorer 5+



Access Levels

There are three different access levels within Doris. All access levels have access to the same information, but have different capabilities within the tool. Only one access level is for use by stakeholders and the other two are for use by staff to build reports (at the request of stakeholders) or manage accounts (such as adding, deleting or revising usernames and passwords).

User

The user has the ability to access data and metadata, interact with the map, draw polygons (candidate MPAs), organize candidate MPAs and MPA arrays, select pre-built reports, and view reports on features captured in selected MPAs. After successful login, all users start at the Instructions page. Here, they are provided with an overview of the tool's functionality and process flow. Selecting "*Get Started*" will take the user to the study region page to begin the session.

Section
2

System Overview

There are six steps (or pages) within Doris: Choose a Study Region, Add Map Layers, Draw Your MPA, Create an array of MPAs, Create or Load a Report, and View Reports. More about each step is provided within the sections dedicated to those functions. The Instructions page provides more information about each function.

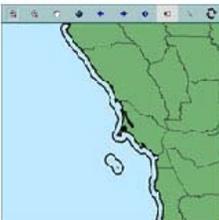
Doris
MARINE PROTECTED AREAS DECISION SUPPORT TOOL

Instructions

[log-out](#) | [help](#) | [Get Started](#)

Step 1: Choose a Study Area

Select a study area. This will default the map to the area of interest.



Step 2: Add Map Layers

Add the map layers that you are interested in capturing in your candidate Marine Protected Area (MPA).



Step 3: Draw your MPA

Draw your own MPA or add existing candidate MPAs.



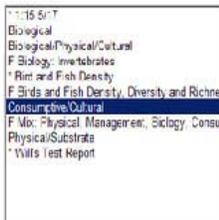
Step 4: Create a sytem or array of MPAs

Create and name a new system of MPAs. Add you new MPAs or existing MPAs to your array.



Step 5: Create or Load a Report

Select from existing reports or create a report based on your layers that you selected.



Step 6: View Reports

View statistics and compare percentages to determine if your MPA(s) provided the desired outcome.

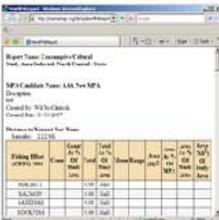


FIGURE 2.1 Screenshot of the Instructions page with overview of capabilities of each function.

After clicking “Get Started” on the Instructions screen, the user will see the main Doris layout. Doris contains two panels with which the user can interact: **Left Panel** and **Map Panel** (see Figure 2.2)

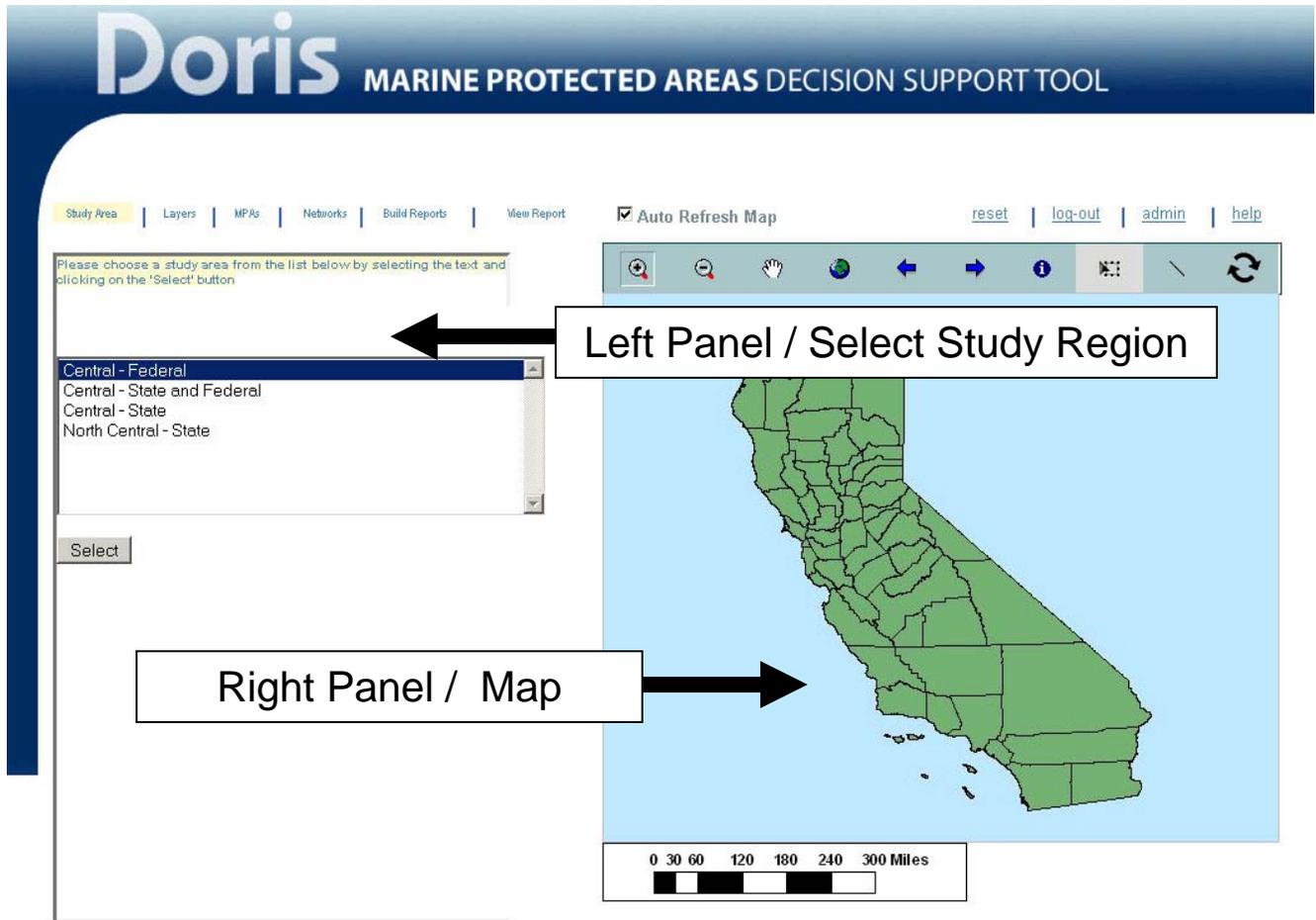


FIGURE 2.2 Screenshot of the Left Panel and Map Panel.

Left Panel

Function Toolbar

The function toolbar is shown in Figure 2.3a. The links appear in the following order: Study Region, Layers, MPAs, arrays, Build Reports, View Report.



FIGURE 2.3A Screenshot of the Function Toolbar.

The yellow shading of a link informs the user which function is presently being displayed. To the right of the function toolbar, above the map, the user sees a check box next to the text “Auto Refresh Map” and, further to the right, Reset, Log-out, Admin, and Help (Fig. 2.3b).



FIGURE 2.3B Screenshot of functions above map view.

The “Auto Refresh Map” checkbox allows the user to turn on and off the auto refresh (indicated by a check in the box when on). When the auto refresh is turned on, every selection made within the left panel of Doris will refresh the map on the right panel. Reloading the map after each selection (checking Auto Refresh Map) slows down the application since every selection has to be placed on the map time and time again.

Clicking the “reset” link brings the user back to the default or beginning of a session, which removes the study region, any selected layers, MPAs or reports. The “admin” link may only be accessed by Doris administrators. When clicked, the “help” link will open a new browser window that will display a help document in PDF.

Map Panel

Map Toolbar

The map toolbar can be seen in Figure 2.4. The icons appear in the following order: Zoom In, Zoom Out, Pan, Full Extent, Previous View, Next View, Identify, Draw Polygon, Distance, and Reload.



FIGURE 2.4 Screenshot of the Map Toolbar.

ZOOM IN

- Click the Zoom In  icon on the toolbar.
- Left click and drag the crosshairs to outline a rectangle around the zoom area.
- The map will automatically zoom in to the selected area.

ZOOM OUT

- Click the Zoom Out  icon on the toolbar.
- Left click and drag the crosshairs to create a rectangle of the map. The ratio of the rectangle to the map will be the amount of zoom out. Smaller rectangles will zoom out more than large rectangles.

- The map will automatically zoom out.

PAN

- Click the Pan icon  on the toolbar.
- "Grab" (click and drag) the map to recenter it.
- The map will automatically recenter.

FULL EXTENT

- Click the Full Extent icon  on the toolbar.
- The map will automatically revert to show the full selected study region.

PREVIOUS VIEW

- Click the Previous View icon  on the toolbar.
- The map will automatically go to the view extent visible prior to the current view.

NEXT VIEW

- Click the Next View icon  on the toolbar.
- The map will automatically go to the view extent visible after the current view.

IDENTIFY

- Click the Identify icon  on the toolbar.
- Click a point on the map. An information box will pop up displaying any layer attributes and features at that geographic location. If the box does not appear, ensure the browser is allowing pop-ups and that there are not pop-up blockers enabled.

- Click another area or close the information box.

DRAW POLYGON

The Draw Polygon feature is only active within the Candidate MPA portions of the application. (See section 5 for complete details.)

- Click the Draw Polygon icon  on the toolbar.
- Left click the start point for the Candidate MPA.
- Click on a location for each desired vertex (or point) in order to create the boundaries for the Candidate MPA. A minimum of (3) three must be selected.
- Double click to snap to the first point, or close the polygon.
- Once the polygon has been completed/closed, an alert box will appear that reads “Press ‘OK’ to continue and save MPA. Press ‘Cancel’ to Edit MPA vertices and placement.” The button reflecting the desired course of action should be clicked.
- After the map reloads, the Candidate MPA (polygon) should be displayed with a thick green line by default. SMCA polygons will be in blue, SMR polygons in red, and SMP polygons will appear in yellow.

DISTANCE

- Click the Distance icon  on the toolbar.
- Left click and drag from the start point to the end point (double click to create the end point).
- The distance in miles will be displayed below the bottom right corner of the map.
- The distance line is only viewable until a different feature or function is selected.

RELOAD

- Click the Reload icon  on the toolbar.
- The map will display any changes made within the Left Panel.

Study Region

Selecting the “Get Started” link on the Instructions page will take the user to the **Study Region** page. In order to create a report, a study region must be selected. There are several different study regions defined so the user must select the appropriate one. Once a study region is highlighted, the user clicks the **Select** button. The map will automatically zoom in to the extent of the selected study region.

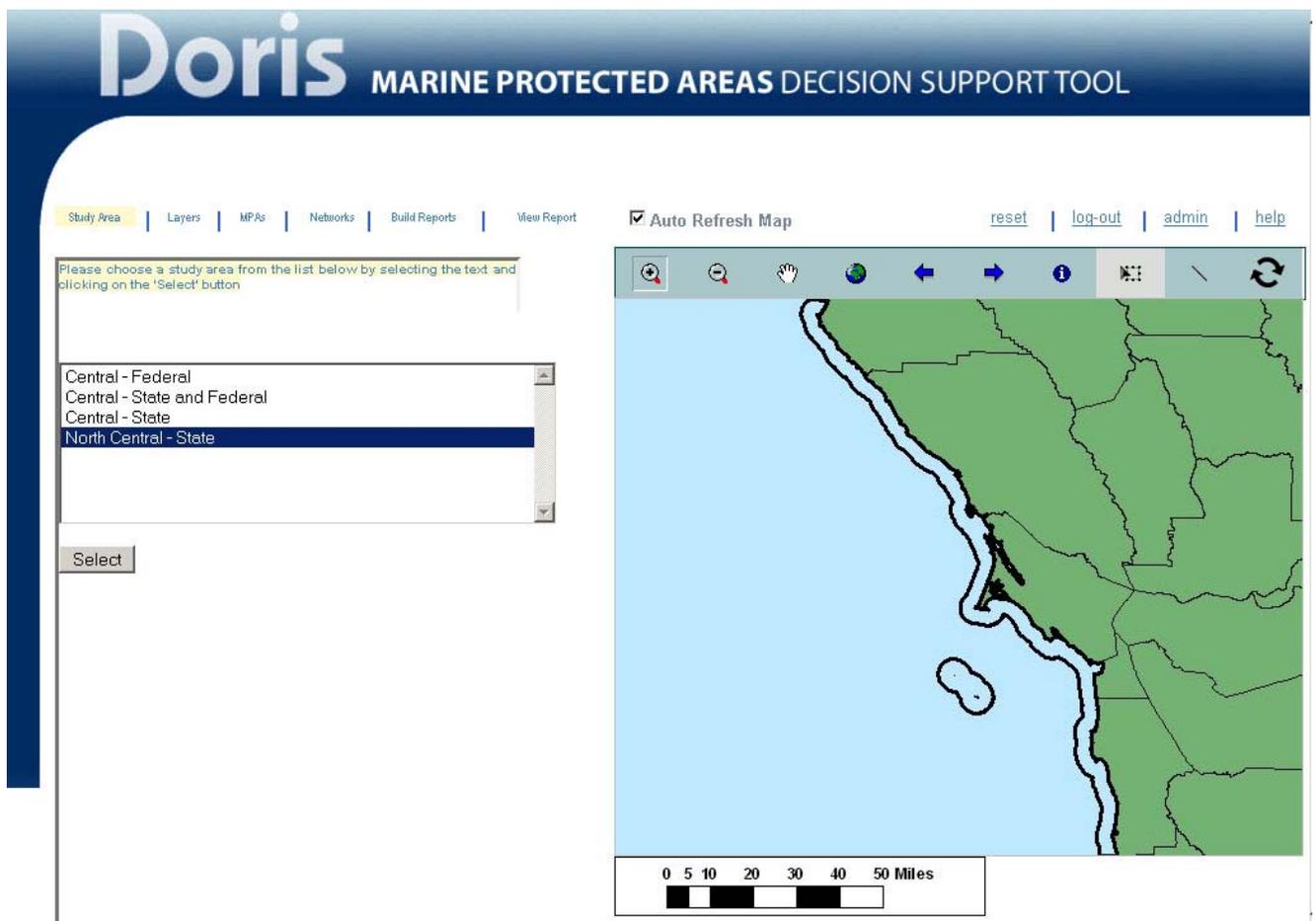


FIGURE 3.1 Screenshot of the Study Region function when the “North Central – State” study region is selected.

Section
4

Layers

The **Layers** page allows the user to add spatial data layers to the map, then order, hide, remove, or delete these layers. This is managed through two components that are viewable in the **Left Panel**: Layers Legend and List of Layers (See Figure 4.1)

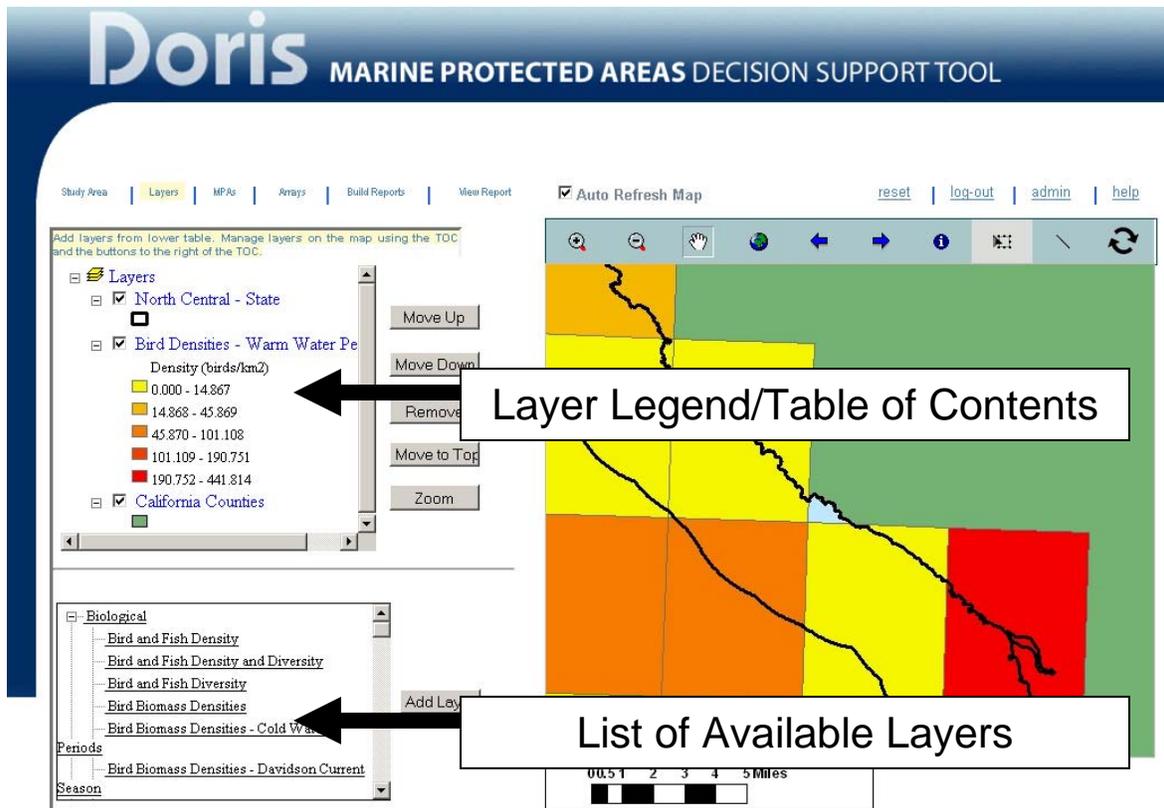


FIGURE 4.1 Screenshot of the **Layers** function in the **Left Panel**.

Adding Layers

Layers are added through the List of Layers (see Figure 4.1) provided at the bottom of the **Left Panel**. In order to add layers:

- Expand the category box by clicking the "+".
- Highlight the desired layer.
- Click the “Add Layer” button to the right of the list box
- Layer will appear on map.
- The order of the layers in the Table of Contents affects visibility – top layers sometimes cover lower layers and make them invisible.

Ordering Layers

You may want to re-order the layers selected on your map to make them all visible. Layers are added through the Layer Legend (see Figure 4.1) provided at the top of the **Left Panel**. If the “Auto Refresh Map” checkbox is checked, then the map will refresh with each change to the order of the layers. It is recommended that users uncheck the “Auto Refresh Map” checkbox during this action. To order or re-order layers:

- Highlight the desired layer.
- Click either the Move Up, Move Down or Move to Top button. Moving the layer up or down in the Table of Contents results in the layer being displayed above or below the corresponding layers on the map. If you move a layer to the top, it will be displayed over all others and will therefore be the most visible layer. See Figure 4.2.
- Continue with above steps until the layers are appropriately arranged for viewing.

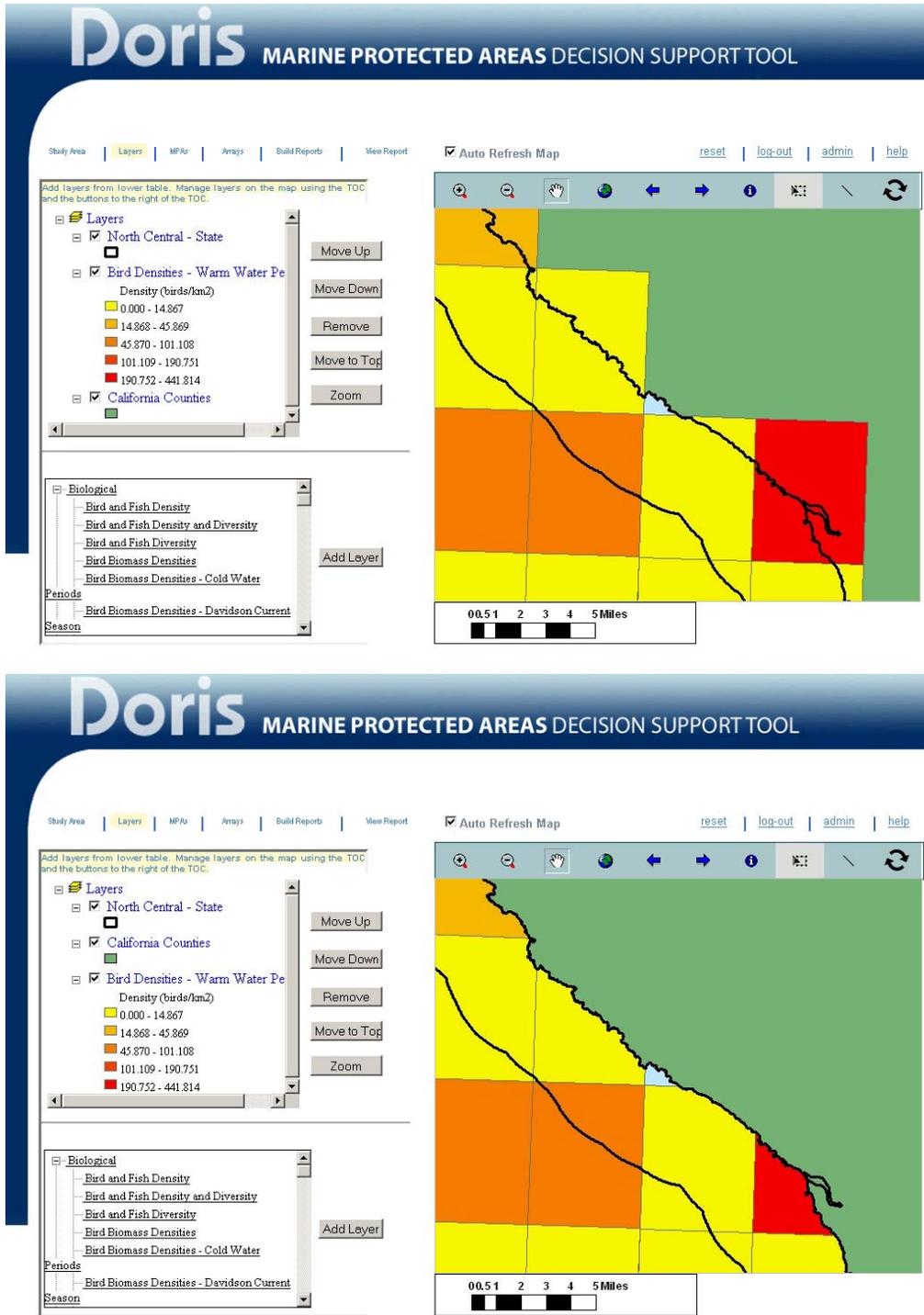


FIGURE 4.2 Screenshot of the layers placed on a map before ordering and afterwards. In the top image, the Bird Densities layer is second to the top. In the bottom image, the Bird Densities layer has been moved to the bottom so that the Counties Layer (in green) is completely visible.

Hiding Layers

Hiding a layer will make the attribute information available for reference without hindering the visual presentation of the map. Layers are hidden through the Layer Legend (see Figure 4.1) provided at the top of the **Left Panel**. By default, all layers added to the map are viewable. This is indicated by the checkbox next to the layer title. Unchecking the box to the left of the layer title hides that layer from view.

Removing Layers

Layers are removed through the Layer Legend (see Figure 4.1) provided at the top of the **Left Panel**. To remove layers:

- Highlight the title of the layer to be removed.
- Click the “Remove” button.

Zoom to Layer

The “Zoom” button allows the user to zoom to the extent of the selected layer.

- Highlight the title of the layer targeted for closer inspection.
- Click the Zoom button.

Candidate MPAs

One of the main functions of the tool is to allow users to create and analyze individual MPA designs (**Candidate MPAs**) and arrays of MPAs that may eventually be part of an **array**. Candidate MPAs and MPA arrays can be created, named and renamed, copied or deleted, kept private or shared, and viewed on maps.

Only those Candidate MPAs placed upon the map are included in the evaluation of features for the final report (see section 7). Candidate MPAs that are placed on a map as part of a MPA array are viewable in the final report as part of the array.

Creating Candidate MPAs

By default, the only active button is the “Create” button. Select the “Create” button. This should activate

the “Draw Polygon” toolbar item  on the map. Check to ensure that the Draw Polygon toolbar item on the map toolbar is active.

- User should use the zoom tool to better view the area targeted for creation of a Candidate MPA.
- Create the boundaries for a Candidate MPA by clicking on the locations for the desired vertices for the polygon. A minimum of (3) vertices must be selected, four or more is preferable. On the last vertex, double click to snap to the first vertex and close the polygon.
- Once the polygon is drawn, input fields will appear below the MPA list box (See Figure 5.1). Enter the Name and Description of the MPA in the text boxes that appear within the Left Panel.
- **IMPORTANT:** Name the candidate MPA with its general geographic location, proposed designation, your initials and a number. For example, the first candidate MPA in the Jones Point area, proposed as a state marine conservation area, and created by John Q. Public should be named “JonesPoint_SMCA__JQP_01”.
- Click **Save** to save the polygon as a Candidate MPA or **Cancel** to Edit. After clicking **Save** you will be presented with a dialog box to enter information about your MPA. See “Editing Candidate MPAs Name, Description, or Details” and Figure 5.4 below for details on entering this information.

Saved Candidate MPAs will appear within the MPA list box. By default, recently saved Candidate MPAs will be checked and viewable on the map. Note that at this point, only the user can access and view the candidate MPAs they have created. See “Sharing Candidate MPAs” below for instructions on sharing candidate MPAs or MPA arrays with other users.

Clip to Study Region

Users will see a “Clip to Study Region” checkbox displayed above the **Save** and **Cancel** buttons when naming and describing Candidate MPAs. When checked, Doris will clip any portions of the Candidate MPA that fall outside of the selected study region to the study region boundary. (See Figures 5.1 and 5.2). This is important to prevent creating MPAs outside the boundaries and allows the tool to automatically clip the candidate MPAs to the state waters line or shoreward boundary, as appropriate.

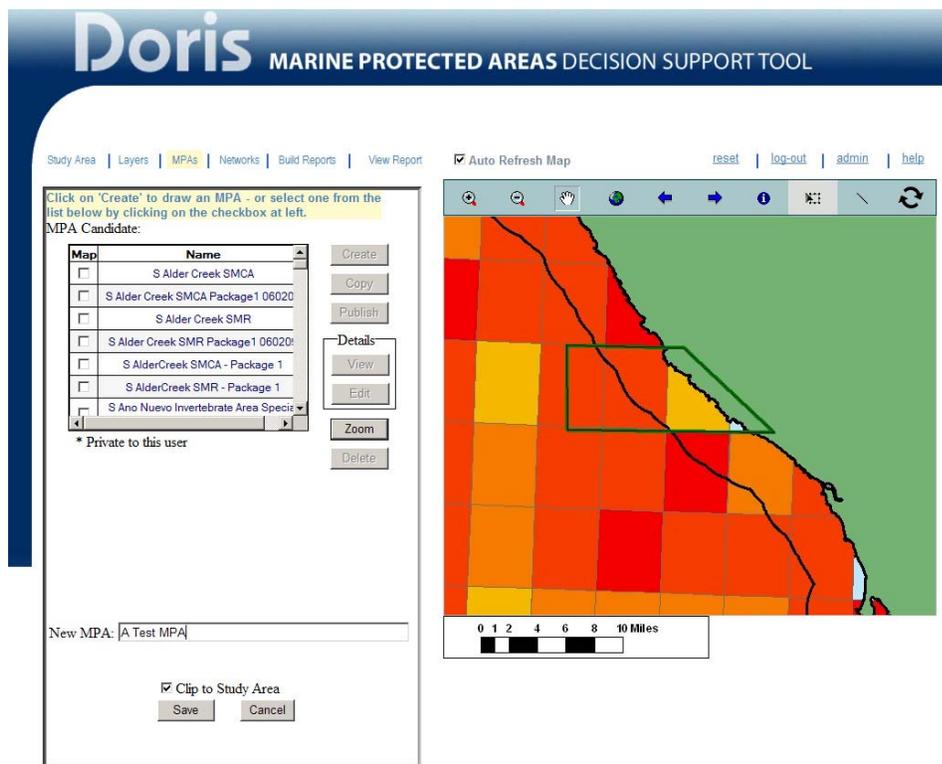


Figure 5.1 Screenshot of the Candidate MPA (green box) before being clipped. to the study region boundary

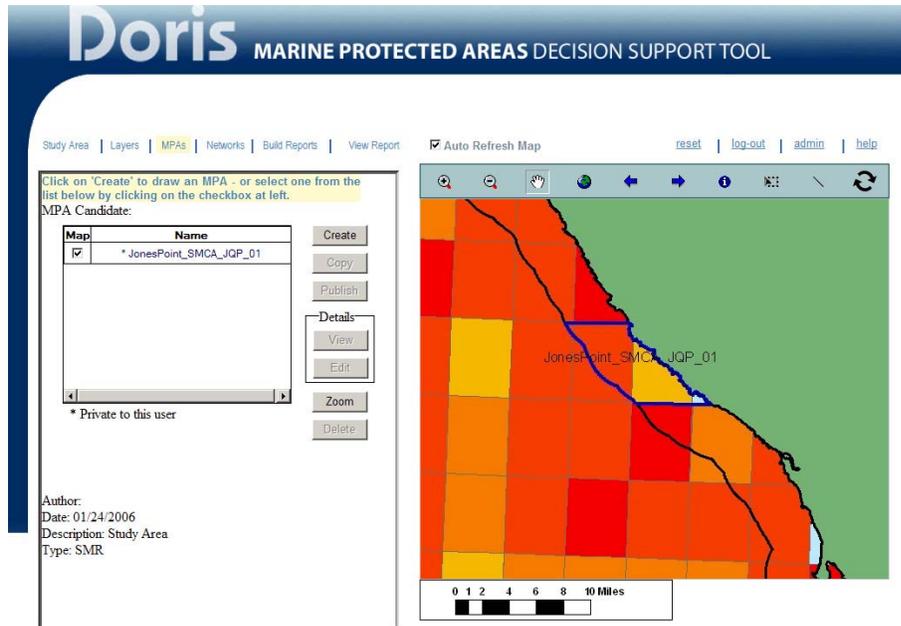


Figure 5.2 Screenshot of the Candidate MPA after being clipped. to the state waters line offshore and to the shoreline on the nearshore boundary. Note that the MPA boundary color has changed to blue because it was designated a State Marine Conservation Area. MPAs are symbolized (colored) based on type.

Candidate MPA List Box

The list box provides a list of all shared and private (those Candidate MPAs drafted under that username) Candidate MPAs. By highlighting a Candidate MPA, the Author, Date (of creation), and Description will be displayed beneath the list box. (*Note: Newly created, copied, or renamed Candidate MPAs will be private until the user shares them for public view.*) See “Sharing Candidate MPAs” below for details on how to share or “publish” your MPA so that other users may view them.

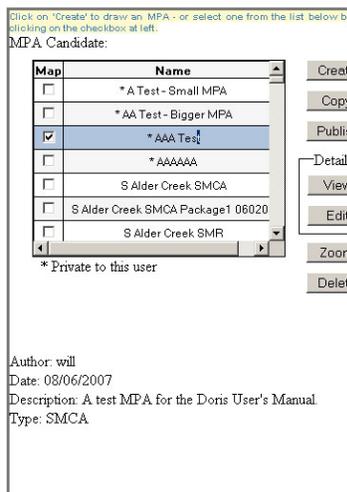


FIGURE 5.3 Candidate MPA list box.

Editing Candidate MPA Polygons

Once a Candidate MPA has been drawn on the map, the author can edit the polygon but only *before* it has been saved. Immediately upon completion of drafting a Candidate MPA, the options of “OK” or “Cancel” will be offered. In order to proceed with editing the polygon, the user must click “Cancel”.

The border of the candidate MPA will turn bright green, indicating edit mode. The “polygon” (View/Edit) toolbar item and “create” button will no longer be active.

Clicking on the map while the cursor is in Double Arrow



“Move” mode allows the entire polygon to be moved around on the map.

Clicking on the map when the cursor is in “pointing finger” mode  allows the user to click and drag the nearest vertex for adjustments.

Once all adjustments have been made, move the cursor away from the shape and double click (or hit the “Enter” button twice). This will bring up the dialogue box to save or continue editing. Clicking “OK” will save the polygon and “Cancel” will return the polygon to edit mode.

(Note: if you are using Mozilla, Safari or any browser besides Internet Explorer, the above “move” and “pointing finger” icons may not be visible. The same functions are, in fact, available, but your cursor will only show the default cross-hairs icon.)

Viewing/Removing Candidate MPAs

Candidate MPAs (and existing MPAs in the region) are listed alphabetically in the list box. In order to place a Candidate MPA from the list box onto the map, check the box next to the title. To remove the Candidate MPAs from the map, simply uncheck the checkbox next to the name of the Candidate MPA.. Unchecking the box will remove it from view and inclusion in the final report. If the Auto Refresh Map feature is on, the Candidate MPAs will automatically be placed/removed from the map. If the box is left unchecked, then selected Candidate MPAs will not be placed/removed from the map until the Reload feature on the map toolbar is used.

Copying Candidate MPAs

To copy Candidate MPAs, follow these steps:

- Select the Candidate MPA to be copied (Author, Date, and Description of Candidate MPAs appear below the list box. For existing state and federal MPAs, no information will be displayed).
- Click the Copy button located to the right of the list box.
- A new name will be needed for the copy. Enter the new name into the textbox labeled “Copy” that appears beneath the list box. Only the name of the Candidate MPA is editable when copying.
- Click the Save button to save a copy or Cancel to cancel the action. Saved copies will have an author and date associated with them.
- The copy will be added to the list box as a private Candidate MPA. You may then edit the design or description of the MPA and keep it private or share it with other users.

- Check the box next to the name of the copy to display it upon the map. The original will remain displayed upon the map until unchecked by the user.

Editing Candidate MPAs Name, Description, or Details

To edit or rename the Candidate MPA, the user should follow these steps:

- Select the Candidate MPA to be edited or renamed
- Click the Edit button located to the right of the list box. This launches a new window with text areas displaying: Name, Description, Details and radio buttons for selecting the Designation of the MPA. By default, the original name, description, and details are entered into the boxes.
- Each of these text boxes can be edited to change the information (see Figure 5.4).
- Selecting a Designation for the MPA (either State Marine Conservation Area, State Marine Reserve, State Marine Park, or Other) dictates the color in which the candidate MPA will be drawn., SMR polygons in red, SMCA polygons will be in blue and SMP polygons will appear in yellow.
- Click the Save button to save the changes or Cancel to cancel the action. Both will cause the window to close.

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MPA Details

View or Edit information about the selected MPA. Click the "Save" button to save changes or click "Cancel" to close window without saving changes.

Name: JonesPoint_SMCA_JQP_01

Description: This area needs further consideration.

Boundaries: Near Jones Point. North of point A. South of Point B. Extends to the 3 nautical mile state boundary.

Allowable Uses: Still under development. Let's get back to this.

Designation of MPA:

- Marine Conservation Area
- Marine Reserve
- Marine Park
- Other
- New Designation

Save **Cancel**

Figure 5.4 Screenshot of Candidate MPAs Details box.

Sharing Candidate MPAs

Candidate MPAs are viewable (private) to the user who created them until they are ready to be shared. Sharing or “publishing” a Candidate MPA means that others can view it but they cannot edit information or delete the candidate MPA. In order to publish a Candidate MPA, the user should follow these steps:

- Select the private Candidate MPA to be published.
- Click the “Publish” button.

The Candidate MPA will now appear in the list box without the “*” in front of the title. This indicates that all users can now view the Candidate MPA.

Deleting Candidate MPAs

Deleting a Candidate MPA will permanently remove it from the system. Once deleted, it cannot be retrieved. If the deleted Candidate MPA is part of a MPA array, it will not be removed from the array, even though it will no longer be in the Candidate MPA list box. (See Chapter 6 “Editing Candidate arrays” for information on removing Candidate MPAs from an array). To delete a MPA, the user should follow these steps:

- Select the Candidate MPA to be deleted.
- Click the “Delete” button located to the right of the list box.
- Click “OK” on the alert boxes to proceed with the deletion.
- The Candidate MPA will be removed from the list box and the map (if it was displayed on the map).

MPA Arrays

Candidate MPAs can be grouped into Candidate MPA arrays. This allows the selected set of candidate MPAs to be viewed, edited, shared with others, and subject to analysis in the final report (see section 7).

The **arrays** page handles creating, copying, deleting, publishing, editing, and placing MPA arrays upon the map. Only those Candidate MPAs and Candidate MPA arrays currently displayed on the map are eligible for the final report.

MPA Array

Similar to Candidate MPAs, MPA arrays are created by the user and can be kept private or shared (“published”) to all other users.

The list array box provides a list of all shared and private Candidate MPA arrays. By highlighting a Candidate MPA array, the Author, Date (of creation), and Description will be displayed – just like for Candidate MPAs.

The following Candidate MPA array actions function like Candidate MPA actions: Copy, Rename, Publish, and Delete.

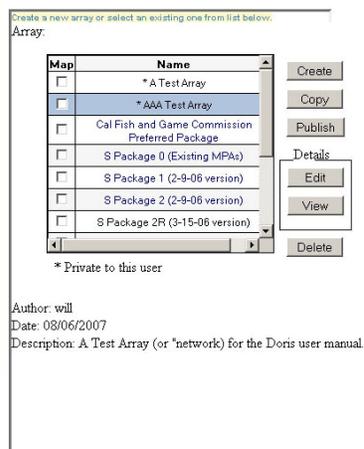


Figure 6.1 MPA array list box.

Creating Candidate MPA Arrays

Initially, the only active button is the “Create” button. Create establishes the name, author, date of creation, and description of the Candidate MPA array. Adding Candidate MPAs into a MPA array is performed with the Edit button.

To create a new MPA array:

- Select the Create button. Beneath the list box, two text boxes should appear labeled “Name” and “Description”.
- Enter in the Name and Description within the text boxes that appear inside the **Left Panel**. When naming MPA arrays, please use a consistent format. For the first MPA array created by John Q. Public for the North Central Coast study region, an appropriate name would be: “NCC_array_JQP_01”.
- Click Save to save the MPA array title or Cancel to edit it.
- The new title should appear in the list box with an “*” to indicate the array is private.

Copying MPA Arrays

To copy Candidate MPA arrays, follow these steps:

- Select the Candidate MPA array to be copied (Author, Date, and Description of Candidate MPA arrays appear below the list box, along with a text box to name the copy)
- Click the *Copy* button located to the right of the list box.
- Enter the new name into the textbox labeled “Copy” that appears beneath the list box. Only the name of the Candidate MPA array is editable when copying.
- Click the Save button to save a copy or Cancel to cancel the action. Saved copies will have an author and date associated with them.
- The copy will be added to the list box as a private Candidate MPA array.
- Check the box next to the name of the copy to display it upon the map. The original will remain displayed upon the map until unchecked by the user.

Sharing or “Publishing” Candidate MPA Arrays

Similar to candidate MPAs, a Candidate MPA array can be kept private to the user or shared “published” for others to view and use. Publishing a Candidate MPA array means that other users can view and copy an MPA array. (Before publishing a Candidate MPA array, it is advised to create a private “backup” copy. In order to publish a Candidate MPA array, the user should follow these steps:

- Select the private Candidate MPA array to be published.
- Click the “Publish” button.
- The Candidate MPA array will now appear in the list box without the “*” in front of the title. This indicates that all users can now view the Candidate MPA array.

Deleting Candidate MPA Arrays

Deleting a Candidate MPA array will permanently remove it from the system. Once deleted, it cannot be retrieved. To delete a Candidate MPA array, the user should follow these steps:

- Select the Candidate MPA array to be deleted.
- Click the *Delete* button located to the right of the list box.
- Click “OK” on the alert boxes to proceed with the deletion.
- The Candidate MPA array will be removed from the list box and the map (if it was displayed on the map).

Editing Candidate MPA Arrays

Edit allows the user to modify the Candidate MPAs contained within a MPA array.

Opening the Editor Page

Follow these steps to open the Candidate MPA array Editor Panel:

- Select the Candidate MPA array to be edited.
- Click the *Edit* button.
- The Candidate MPA array Editor (Figure 6.2) will appear in a new window containing the following editable text boxes:
 - Name
 - Description
 - Details
- The Editor page contains two different list boxes. The list box on the left, referred to as the Candidate MPA list, contains all the possible Candidate MPAs and existing MPAs that can be added to a Candidate MPA array. The list box on the right, referred to as the Candidate MPA array list, contains all the Candidate or existing MPAs that are currently part of the candidate MPA array being edited. Users can select multiple arrays from the list boxes to “**Add**” or “**Remove**” by holding the “Shift” or “Ctrl” buttons while selecting. The “**Clear List**” button removes all candidate MPAs from the list box on the right – effectively removing all of the MPAs from the array.
- Users can choose their own “**array Color**” by checking the “Choose custom color” and either selecting from a color box or by entering the RGB color values using the “+” and “-“ buttons. Otherwise, users can choose to allow the MPAs to default to their normal color based on MPA type/designation.
- Click the *Save* button to save the changes or *Cancel* to cancel the action either button will cause the new window to be closed.

Figure 6.2 MPA array Editor

Adding New Candidate MPAs or Existing MPAs to an Array

The following steps will add existing MPAs and Candidate MPAs to the Candidate MPA array being edited:

- Highlight the Candidate MPA(s)/MPA(s) to be included into the Candidate array
- Click the *Add* button
- The Candidate MPA(s) will be added to the Candidate MPA array list

Removing Candidate MPAs/MPAs from a Candidate Array

- Highlight the Candidate MPA(s)
- Click the *Remove* button.
- **Note:** If you wish to remove all Candidate MPAs from an array, click on the “Clear List” button.
- The Candidate MPA(s) will be removed from the Candidate MPA array list.

Saving MPA Array Changes

- Ensure the Candidate MPA array contains all the desired Candidate MPAs or existing MPAs
- Click the *Save* button
- Once the changes are saved, the array Editor will close.
- By default, the edited MPA array will be highlighted.

Build Reports

The Build Reports page allows users to select an established report format to create and view statistics and data regarding either Candidate MPAs or Candidates MPA arrays selected by the user. Reports can include information on the area (size) of Candidate MPAs, the amount of various habitats or other features captured within the Candidate MPA(s), and other parameters. The definitions of report outputs can be found in Appendix A.

Directions on using the Model Builder and additional features to build new report formats are available to the users with Report Builder or Administrative status can be found in Appendix D.

Selecting Candidate MPAs or Candidate MPA Arrays for Reporting

Make sure any individual Candidate MPAs and MPA arrays wanted for inclusion into the report are displayed on the map. See sections 5 and 6 for instructions on adding Candidate MPAs and MPA arrays to your map.

Selecting a Report

Reports have been designed by the Report Administrator (MLPA staff) to include layers of primary interest to the end user. The following are common reports and their associated layers:

Cultural: Aquaculture Leases, Coastal Access Points, Ports

Habitat: Estuaries, Surf Grass, Depth Soundings, Hard and Soft Bottom Habitat, Eelgrass, ESRI Shorelines, Kelp

Recreational Fisheries: Abalone Landings, Kayak Fishing Cites, Landings Data, Fishing Effort Data, Fishing Hotspot Data.

Select Species: Corals, Sponges and Anemones, Marine Mammal Haulouts, Seabird Colonies, Marine Mammal Rookeries, Sea Otter Densities, Salmonid Outlets.

To load one of these or some other report follow these steps:

Identify the type of report desired (e.g. Habitat, Recreational Fisheries, Cultural, etc.).

Highlight the report title from the list box (Fig. 7.1).

Click the *Select* button located to the right of the list box.

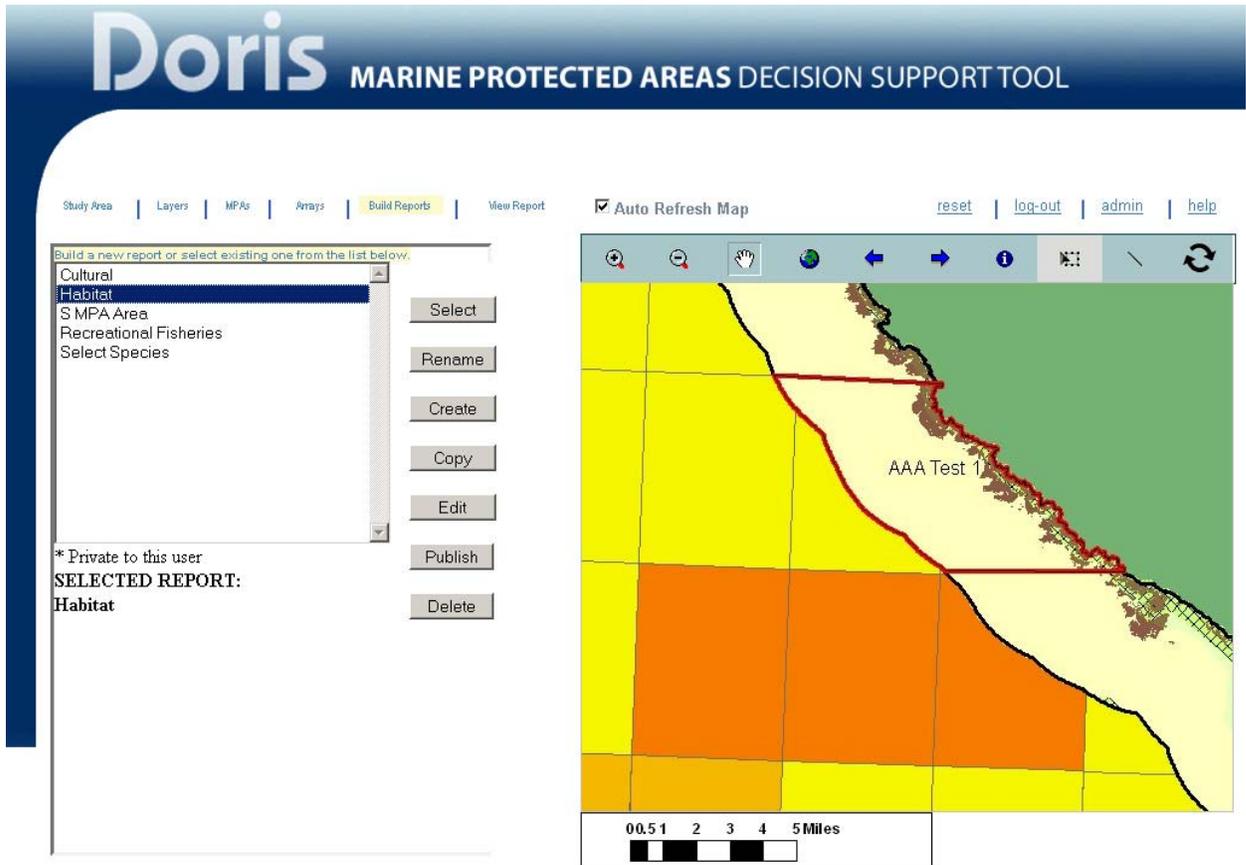


Figure 7.1 Screenshot of the **Build Reports** layout. This user is selecting an existing report called “Habitat.”

Once a report has been selected, all of the layers associated with that report are loaded into the map. If you want to know what these layers are, you can click on the **Layers** tab and view each of the layers.

View Reports

The View Reports portion allows users to view the reports created in Doris on the selected Candidate MPAs(s). The user can opt to view reports on individual Candidate MPAs or on Candidate MPA arrays that are placed on the map. The top left panel on the View Reports page shows individual Candidate MPAs that may be selected. The bottom left panel shows Candidate arrays that may be selected.

To view a report, follow these steps:

- Click the Candidate MPA or Candidate MPA array (which appear as a link) to start the report generation.
- After several minutes, the report will appear in a new window.
- Repeat above steps for each individual report needed.

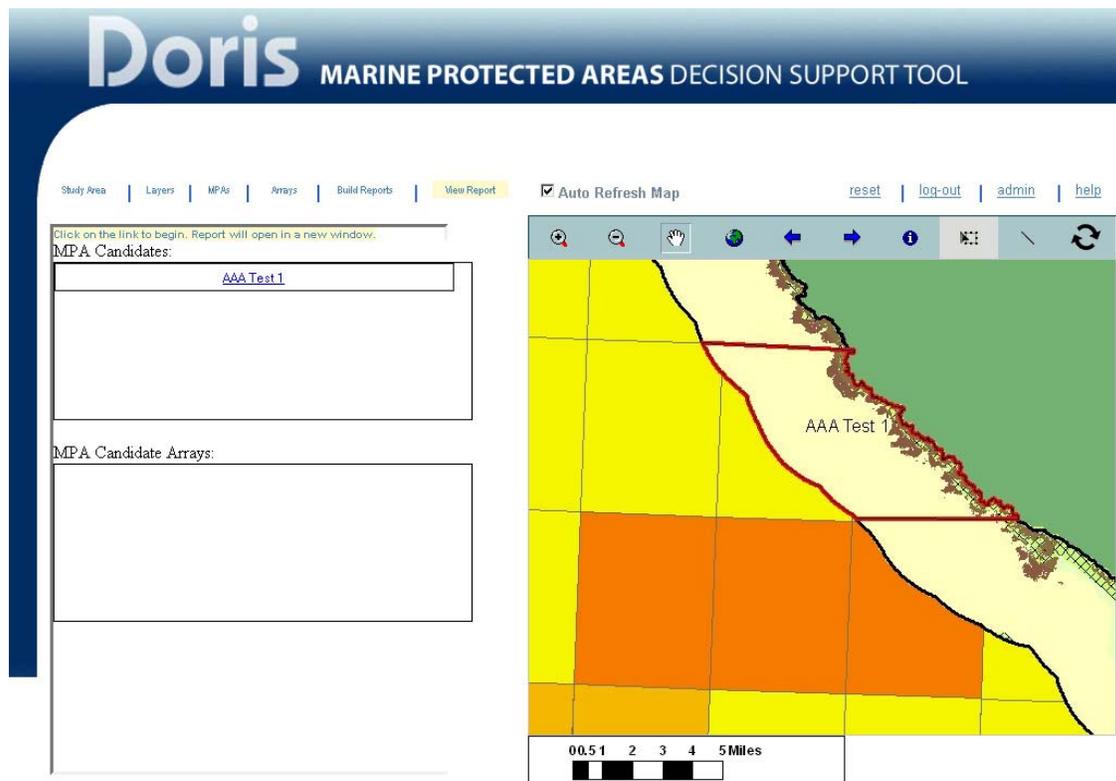


Figure 8.1 Screenshot of the **View Reports** layout.

Report Results

All reports will appear within their own browser window. In order to save a report, the user must copy (CTRL + A) everything within the report and paste it (CTRL + V) into a document (such as a blank Word document). Doris does not retain copies of reports run on Candidate MPAs or MPA arrays, but they can be regenerated using the same procedures as above.



Report Functions

Function	Definition
Count	Count of features included in MPA
Count - % Study Region	Count / Count of features included in Study Region
Total	Sum of field values (must be numeric)
Total - % Study Region	Total / Sum of field values (must be numeric)
Avg of Features	Total / Count
Range	Min field value in MPA – Max field value in MPA
Area	Area of Feature
% MPA, Area	Area of Feature / Area of MPA
% Study Region, Area	Area of Feature / Area of Feature in Study Region
List	List of unique Field values
Distance	Distance to nearest feature (i.e. ports & harbors)
Coast Line Distance	Break out of types of Coast Line intersected with MPA
Present	True if Area of upwelling feature inside MPA > 30 % of MPA
Special Case breakout of Shoreline types: Also used for linear distance of Surfgrass	

Other Definitions:

Value	Definition
NaN	Not a Number - This is displayed when the system attempts to divide zero by zero.
Infinity	This is displayed when the system attempts to divide by zero.
Outside Study Region	Oceanographic feature present in MPA is outside of the study region.

Sample Report

Report Name: Sample Report
Candidate MPA Name: Sample
 Description:
 Creator's description
 Created By: Author's Name
 Created Date: 01/01/2006

Each report has a "Layers Details" section, (i.e. metadata) at the end of the report that provides more information about each layer within the report.

Depth Zones	Count	Count As % Of Study Region	Total	Total As % Of Study Region	Mean	Range	Area(Mi ²)	Area As % Of MPA	Area As % Of Study Region	Area(Mi ²) Of Study Region
Zone										
200 - 3000m							36.778	100.00 %	1.23 %	3,000.138

This is the only zone found within the Candidate MPA boundaries. Only those zones that fall within the Candidate MPA boundaries are reported on.

"IND" is a field name that was used in the original shape file.

Coarse Scale Habitat	Count	Count As % Of Study Region	Total	Total As % Of Study Region	Mean	Range	Area(Mi ²)	Area As % Of MPA	Area As % Of Study Region	Area(Mi ²) Of Study Region
IND										
soft							36.778	100.00 %	1.09 %	3,364.998

When this column is empty, it indicates that the layer did not contain a reportable attribute for this column.