CA Reefs and CA Platforms Fish Survey Data Update Steps

UCSB Marine Science Institute fish surveys

Data Contact Information:

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The following steps should be performed by someone familiar with ArcGIS, spreadsheets, and database tables.

1. Email a data request to Dr. Milton Love at the Marine Science Institute's Love Lab (love@lifesci.ucsb.edu).

   Include the following information:
   - The reason for the request.
   - The years you are interested in (although it may be easier to work with the whole database).
   - The format you would like the data to be in (although it will likely be in a Microsoft Access database format).
   - Specify if you are interested in Reef survey data or Platform survey data (or both).

2. The data will probably arrive as several tables in an Access database.

   - Use ArcCatalog to create a temporary file geodatabase.
   - Export the following tables to the temporary gdb: names_fishcodes, tbl_FISH, tbl_DIVE, tbl_TRANSECT, and tbl_HABITAT.

3. If you received the reef and platform data together, you need to create a subset dive table for each.

   - In ArcMap, open the tbl_DIVE table. Find the "nat_rig" field and make a selection on either "nat" (reefs) or "rig" (platforms).
   - Export each selection of dive type out into your temporary geodatabase as tbl_DIVE_Reefs and tbl_DIVE_Rigs.

4. You will need to make sure that the names used in the platform dives table match those used in the Oil_Platforms feature class in the fisheries geodatabase.

- Add the Oil_Platforms feature class to your ArcMap document and open its attribute table.
- Open the platform dives subset table you created. Add a text field and use the field calculator to add the values from the "site" field. Modify these values to match the format used in "Name" field in the Oil_Platforms feature class.

5. Generate point locations from the tbl_DIVE_Reefs table using the coordinate fields. Export this as a feature class in your temporary gdb.

6. Join the tbl_FISH table to the names_fishcodes table on the "fishcode" field (make sure the values are formatted correctly). Export the joined table to your temporary gdb as tbl_FISH_fishcodes.

7. Join the tbl_Fish_fishcodes table to the tbl_HABITAT table using the "Patch_ID" field. Export the joined table to your temporary gdb as tbl_FISH_fishcodes_HABITAT.

8. Open the tbl_TRANSECT table and add a dive_trn_seg field (long data type). Use the field calculator to create values for this field that are a concatenation of the "dive", "transect", and "segment" fields.

    - Be sure to add a "0" to the "transect" and "segment" values that are less than 10. The SQL statement should be something like: dive_trn_seg = [dive] & "0" & [transect] & "0" & [segment].

9. Join the tbl_FISH_fishcodes_HABITAT table to the tbl_TRANSECT table using the "dive_trn_seg" field you created and the "dv0tx0seg" field. Export the joined table to your temporary gdb as tbl_FISH_fishcodes_HABITAT_TRANSECT.

10. Create a relate between the tbl_FISH_fishcodes_HABITAT_TRANSECT table and the Reefs point feature class you created, based on the "dive" field. Select all the records in the Reefs feature class and perform the relate. The resulting records that are selected in the tbl_FISH_fishcodes_HABITAT_TRANSECT table should be exported as a new table. This will be your new Reefs data.

11. Create a relate between the tbl_fishcodes_HABITAT_TRANSECT table and the tbl_DIVE_Rigs table you created based on the "dive" field. Select all the records in the tbl_DIVE_Rigs table and perform the relate. The resulting records that are selected in tbl_FISH_fishcodes_HABITAT_TRANSECT should be exported as a new table. This will be your new Platforms data.

12. If you received all the years of data for the fish surveys, you will need to separate the years for which you are interested. In all three files you created (the final reefs data table, the final platforms data table, and the reef locations feature class), use the "year" field in each to select the records you want, and export them to new files in your

temporary geodatabase.

13. Use ArcCatalog to load the update data (Reefs or Platforms) into the equivalent fisheries geodatabase table (Reefs_data or Platforms_data).

    - Right-click on the target fisheries data table and choose Load > Load Data.
    - Verify that the "Target" and "Matching Source Field" values match during the load process. The data types should match (double or string) or the Load could fail. Make sure the field names match correctly (they do not need to have the exact same name, but they should be equivalent fields). Due to all the joins, there will be more fields in the tables you created than in the target tables, so choose the matching fields carefully.
    - If you are given an error, it most likely means there is a data type conflict. You will need to go back and review the formatting to ensure that the field values and field data types aren't causing the conflict.

14. Use ArcMap to append the updated Reef dive locations feature class you created to the Reefs feature class in the fisheries geodatabase.

15. After you have successfully updated the Reefs or Platforms data, you can also update the custom tools to reflect the new range of years in the drop-down menu.

    - Open the Fisheries ArcMap document.
    - Open the VBA editor.
    - Open frmTools.
    - Open the code window for the form.
    - Find the following variables which store the names and edit them:

      ```
      Dim strCaReefs As String
      strCaReefs = "CA Reefs (1995 - 2009)"

       Dim strCaOil As String
       strCaOil = "CA Oil Platforms (1996 - 2009)"
      ```

      - You can <u>carefully</u> edit the text inside the quotation marks, such as the years. However, you must be sure not to delete the quotation marks surrounding the title or the VBA code for this variable will cease to work correctly.
    - Save and close the VBA editor.