

HOW TO USE THE “SWAP TERRESTRIAL TARGETS” DATA

General Information about Data

This data set was created to describe the spatial extent of terrestrial Targets for the 2015 California State Wildlife Action Plan (SWAP 2015) Update. The SWAP 2015 is required under the State and Tribal Wildlife Grants Program (SWG) to allow states and territories to receive Federal grant funds. It is a comprehensive vision for wildlife conservation initially completed in 2005 and updated in 2015.

The GIS data for SWAP are divided into two types - terrestrial (vegetation macrogroup based raster [pixel]) and aquatic (watershed based vector [polygon]) data. This file contains instructions about how to use the terrestrial data (“SWAP Terrestrial Targets” in BIOS). Because some terrestrial projects may impact aquatic species and features it is a good idea to do both aquatic and terrestrial assessments. Instructions for completing the aquatic assessment can be found at [“https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=149562”](https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=149562).

General Information on BIOS

This data set can be used in CDFW’s BIOS (<https://map.dfg.ca.gov/bios/>) or ACE 3.0 or downloaded through BIOS. If you are unfamiliar with BIOS, instructions for finding sites (or just downloading data to use in a GIS) can be found at [“http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=150442”](http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=150442).

Terminology/Field Descriptions (Field Descriptions are marked with an “*”)

SWAP: State Wildlife Action Plan, located at [“https://www.wildlife.ca.gov/SWAP/Final”](https://www.wildlife.ca.gov/SWAP/Final).

SWAP Province*: Regions based on USDA Ecoregions, with modifications in the San Francisco Bay Area to unify the Bay Delta, which would otherwise be divided among several ecoregions. There are 7 SWAP Provinces, including the Marine Province. This layer can be viewed in BIOS as “State Wildlife Action Plan Provinces”.

Conservation Unit*: A spatial unit within a SWAP PROVINCE in which the conservation objects called TARGETS were selected and the conservation STRATEGIES developed. These are based on USDA ecoregion sections, except for the San Francisco Bay Delta, which is modified to fit into one Conservation Unit (the “Bay Delta and Central Coast”). The ecoregions for each PROVINCE are discussed at the beginning of each Sub-Chapter and can be viewed in BIOS as “Ecoregion Sections” under “Reference Layers”.

Province Chapter*: Chapter in which the SWAP PROVINCE description and data may be found.

Conservation Unit Description*: Page within PROVINCE CHAPTER on which CONSERVATION UNIT is described.

CWHR Habitat Type*: The California Wildlife Habitat Relationships (CWHR) is a system for classifying California’s wildlife and habitats. These habitat classifications are widely used to map habitat types throughout California. The data in this field come from Calfire’s “FVEG” data, which maps vegetation types throughout the state.

FVEG: A data set created by the California Department of Forestry and Fire Protection (Calfire) which maps all vegetation in California using the best available data for a given area. This data set was used to determine the CWHR HABITAT TYPES, which were then converted to MACROGROUPS.

Habitat Type Group*: a grouping of CWHR habitat types into broad categories which are useful for identifying general groupings and mapping data.

Conservation Target or “Target”*: A TARGET is an element of biodiversity at a project site, which can be a species, habitat/ecological system, or ecological process on which a project has chosen to focus. These targets, which are usually “MACROGROUPS” for terrestrial units, are considered ecologically important in a given CONSERVATION UNIT and are thus “targeted” for conservation with goals and actions (Chapter 5) as well as climate adaptation STRATEGIES (Appendix G, Volume II of the SWAP document). Because of regional variations in species and habitat sensitivity, a macrogroup, ecosystem, or species which is a target in one Conservation Unit may or may not be a target in other conservation units.

Macrogroup: A way of classifying vegetation based on plant cover, floristic composition, and vegetation structure. Defined by the United States National Vegetation Classification Standard (NVCS). SWAP uses macrogroups to define TARGETS. It uses the NVCS classification system, but uses a descriptive common name for those macrogroups instead of the formal NVCS name. You can look up the macrogroup description and name, using the data found in the “Target NVCS Code” field, at “<http://usnvc.org/explore-classification/>”. There is a crosswalk between USNVC names and SWAP Common names, along with additional ecological descriptions, in SWAP 2015, Vol II, Appendix D, Table D-2.

Strategy: The Strategies describe specific actions which will achieve the Conservation objectives. Matching project activities to specific Conservation Actions within Strategies will identify how a particular project supports the SWAP.

Target NVCS Code*: The NVCS code can be used to look up vegetation types typical of a particular “macrogroup” in order to determine if the project area contains TARGETS. See MACROGROUP.

Target Summary Page*: The page on which a summary description of the TARGET can be found.

Target Strategy Page*: The page on which the STRATEGY descriptions begin.

Target Climate Page*: Page on which the climate adaptation strategy is described. (Volume II, Appendix G of SWAP).

All Possible Targets*: This is a summary of the possible TARGETS for the CONSERVATION UNIT in which the project is found. Where habitats are broadly mapped, targets may be present but not described in the GIS data. See Section 3 under “How to use this data set”.

Important Background Information

The FVEG data, which we used to identify the CWHR vegetation types, were collected by patching together the best data available for every region of California. In some cases this data was quite fine, but in others it mapped only the dominant vegetation of a large polygon/area. All data was converted to a 30m x 30m pixel raster data set. Because of the way that the CWHR vegetation data were collected, in some areas the mapped data will closely match the ground data and in others they will not, especially for small or patchy habitats (i.e. meadows, fens), which may have been absorbed into a dominant vegetation type in a larger polygon.

It is necessary to compare your ecosystem type to the macrogroup description (Target Summary) in the SWAP document before determining that you match a Target macrogroup at a given spatial location and to compare your vegetation to the Target macrogroups in your Conservation Unit before eliminating the possibility that you have a Target. Because of regional variations in vegetation type sensitivity, a particular macrogroup which is a Target in one Conservation Unit may or may not be a Target in others.

How to use this data set (all page numbers refer to Vol. I, Chapter 5 of the SWAP, unless otherwise specified)

1. **Locate your region of interest and collect the data.** Click on the data at your region of interest's location. If there is a value other than "No mapped targets" in the "*Target_1*" field at that point, then you may have a mapped Target macrogroup. Some pixels have more than one possible mapped Target (look for values in the "...*Target_2*" or "...*Target_3*" fields). Because your project may have more than one target, it is important to click on all colored pixels within your project area. There are five data pieces to make note of:
 - a. *Conservation Target*: This is the SWAP name of the macrogroup. It will be used to compare your habitat type to the Target macrogroup in the SWAP document.
 - b. *Target NVCS Code*: This is the NVCS (National Vegetation Classification Standard) Macrogroup Code. It can be used to look up further information about the Target macrogroup.
 - c. *Target Summary Page*: This is the Page in the SWAP document for the description of the Target macrogroup (in the "Target Summary" field of the table).
 - d. *Target Strategy Page*: This is the first page in the SWAP document where you will find the conservation strategies for the Target macrogroup.
 - e. *Target Climate Page*: This is the page in the SWAP document where you will find the State and Federal Climate Adaptation Strategies. (Note: This is in SWAP 2015, Volume II, Appendix G).

If you have a possible mapped Target, proceed with step 2. Otherwise skip to Step 3 to look for unmapped Targets.

2. **Identify if your ecosystem type matches the Target Summary of the mapped Target** macrogroup at that point:
 - a. Go to the appropriate sub-chapter of the SWAP Document (<https://www.wildlife.ca.gov/SWAP/Final>).
 - b. Go to the page for the Target Summary which is in the "*Target Summary Page*" field of the data.
 - c. Find the Target name (from the "*Conservation Target*" field in the data) and compare your region of interest to the description in the "Target Summary" in the SWAP document.
 - d. If you aren't sure if your site matches the description, you can compare it to the NVCS description.
 - e. Repeat with "...*Target_2*" and "...*Target_3*", if applicable.

If your entire site is mapped as a target, skip to Step 4, otherwise complete Step 3 to look for unmapped Targets.

3. **Look for unmapped Targets within your Conservation Unit:**
 - a. The possible unmapped Targets for each Conservation Unit are identified in the "*All Possible Targets*" field. The values in parentheses are, in order: The NVCS Code; the SWAP description page, the SWAP Strategies page, and the SWAP Climate Adaptation Strategies page.
 - b. Compare the SWAP and NVCS macrogroup descriptions for these targets with your site.
 - c. NOTE: Your projects' Conservation Unit is identified under "*Conservation Unit*". Be sure you are only comparing within the same Conservation Unit since macrogroups which are Targets in one Conservation Unit may not be Targets in others.

If you match a Target, continue with Step 4. Otherwise, look at the aquatic data and Statewide SWAP strategies, SWAP 2015, Volume I, Chapter 4.

4. **Determine which of the SWAP strategies, goals, and objectives may fit your project:**
 - a. Go to the strategy pages, which are identified in the "*Target Strategy Page*" field of the data attribute table. Each Target, or groups of Targets, has unique strategies. Look at the goals and strategies to see how your project may fit into the SWAP strategies, goals, objectives, and conservation actions. It is possible that none of the strategies apply to your project. If not, review the statewide goals to see if they match.
 - b. Go to the Climate Adaptation Strategy pages, which are identified in the "*Target Climate Page*" field and located in of the SWAP 2015, Volume II, Appendix G to identify if your project fits into the "Climate Adaptation Strategies".