



An Updated Statewide Terrestrial Habitat Connectivity Map for California

Abigail M Pratt, Michael Hardy, and Melanie Gogol-Prokurat

Conservation Analysis Unit, Biogeographic Data Branch, California Department of Fish and Wildlife

ConservationAnalysis@wildlife.ca.gov



Habitat connectivity provides pathways for organisms to move across the landscape critical for maintaining viable populations of wildlife species. The California Department of Fish and Wildlife (CDFW) Areas of Conservation Empasis (ACE) is a suite of geospatial data products that provide information on biodiversity, habitat connectivity, and climate resiliency. In particular, the ACE Terrestrial Connectivity dataset is a compilation of statewide and regional habitat linkage data into one statewide connectivity map. In recent updates, additional regional studies and species-specific data were added. ACE hexes are now tagged with the focal species from regional analyses where they intersect. The ACE Terrestrial Connectivity dataset viewer has been updated with enhanced functionality of the terrestrial connectivity layer within the Biogeographic Information and Observation System (BIOS).

Methods

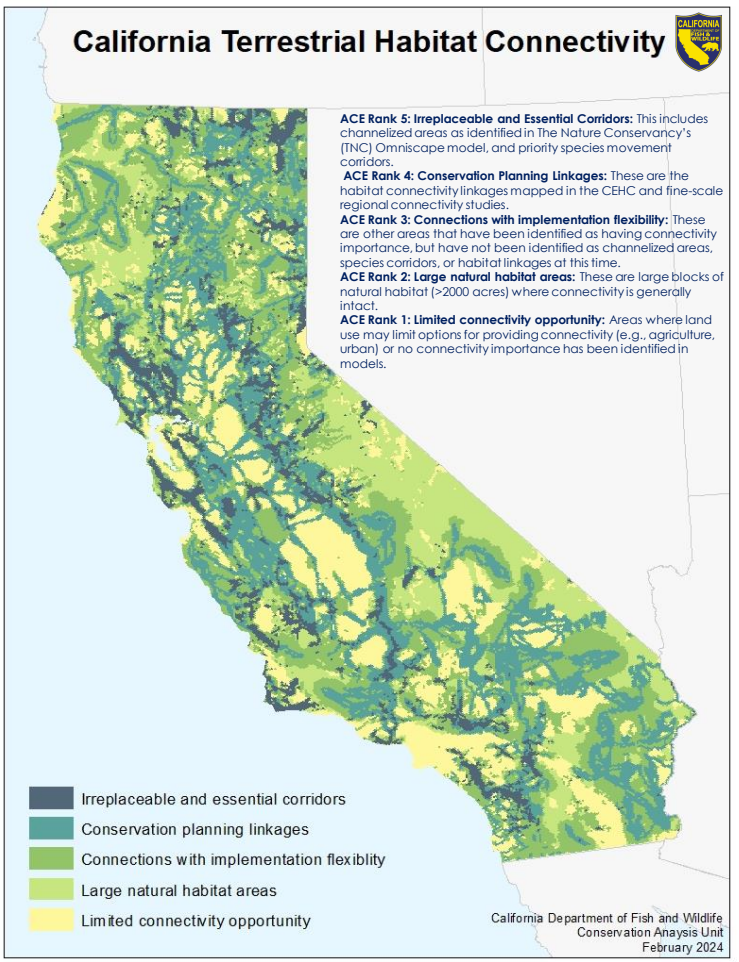
- Summarize existing wildlife and habitat connectivity information in ACE hexagon grid for California (2.5 mile² hexagons)
- See the ACE Terrestrial Connectivity factsheet and the Conservation Analysis Unit web page for details and a full list of data sources.



[ACE Terrestrial Connectivity Factsheet](#)



<https://wildlife.ca.gov/Data/Analysis/Connectivity>



Updates to the Terrestrial Connectivity Layer: Regional Datasets and Species-Specific Data

Modoc Habitat Connectivity (CBI):

- Climate-wise, structural connectivity across the Modoc plateau (Gallo et al. 2019).
- Converted raster output into the top 10% of values from the least cost corridors output and adjusted ACE rankings to incorporate these corridors.

Ungulate Migration Corridors (CDFW):

- 25 ungulate migration datasets: mule deer, elk, and pronghorn.
- Migration corridors, migration stopovers, and winter ranges modeled from GPS collar data were added to the ACE rankings.

Species-Specific Datasets:

- 10/16 regional connectivity datasets are species-specific
- ACE hexes were tagged with the focal species for which each regional linkage was identified: 45 mammals, 41 birds, 17 reptiles, 10 amphibians, 9 fish, 23 invertebrates, and 25 plants.
- Users can now view all focal species associated with linkages in a given hexagon and view all linkages across the state that have been identified for a focal species.

Do you have data to contribute?

Email ConservationAnalysis@wildlife.ca.gov

The updated [Connectivity Viewer](#) allows users to quickly and easily retrieve and explore connectivity datasets for an area of interest:

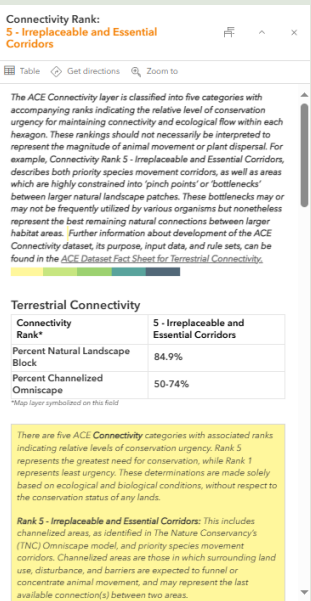
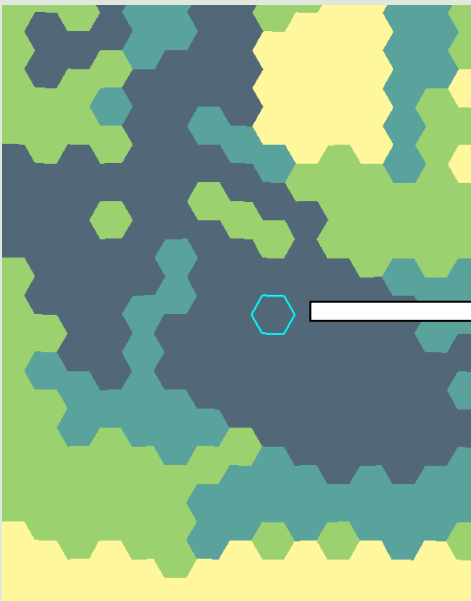
User selects a hexagon of interest.

Pop-up provides key information at a glance.

Scroll further for a deeper dive.

Expand the **Source Datasets** group to overlay **Regional, Statewide, and Ungulate Migration** datasets identified in the pop-up.

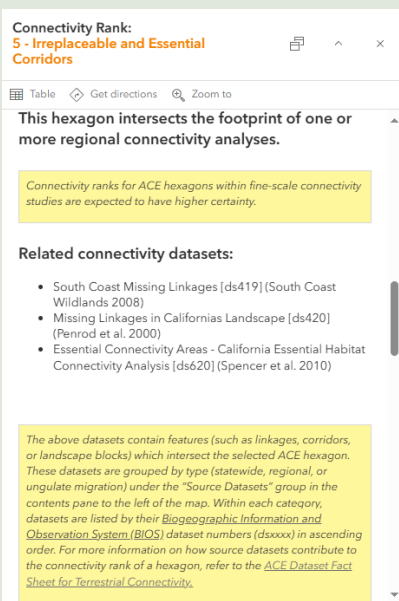
Associated species lists are now also available!



Background and context for the dataset

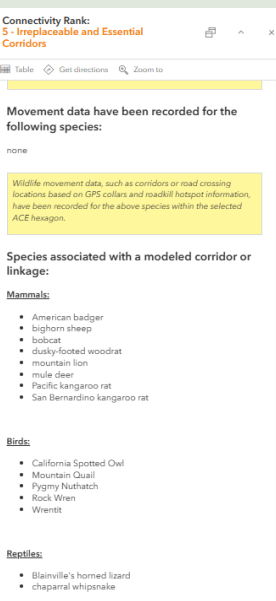
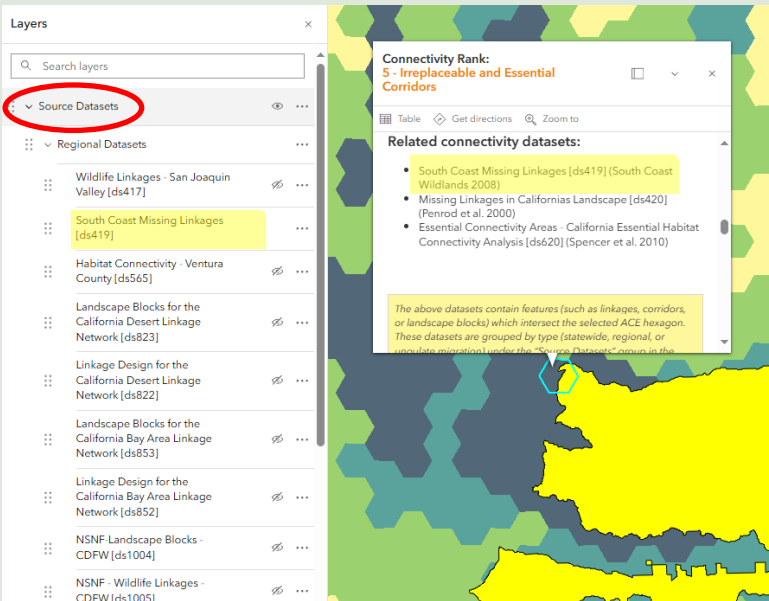
Key summary information

Yellow text boxes aid users with data interpretation



Quickly assess availability of a regional dataset

Identify regional datasets for further exploration



References: Gallo, JA, J. Strittholt, G. Joseph, H. Rustigian-Romsos, R. Degagne, J. Brice, and A. Prsbrey. 2019. Mapping Habitat Connectivity Priority Areas that are Climate-wise and Multi-scale, for Three Regions of California. Conservation Biology Institute. <https://doi.org/10.6084/m9.figshare.7477532>

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