

San Gabriel Mountains Planning Model

Overlay Data	Description	
San Gabriel Parcel Characterization	This parcel layer, shows degrees of overlap with the analysis layers below. Parcels smaller than 1 acre are not included.	
San Gabriel Project Area of Interest	Study are for this project. Boundary created with guidance of The Trist for Public Land Project Managers to reflect where this tool would be most useful to them.	
USGS NHD Named Rivers and Streams	River and Stream layer from USGS. All named rivers and streams selected from source dataset and added to provide reference when using map tool.	
Counties Surrounding Study Area	US Census County boundaries.	
Slopes Greater Than 35 Degrees	USGS National Elevation Data used to determine areas where the slope is greater than 35 Degrees.	
Fire History 2017 CalFire	Boundaries of past fires in the region.	
The Trust for Public Land Completed Projects	The Trust for Public Land Completed projects as of November 2015	
California Conservation Easement Database	GreenInfo's California Conservation Easement Database.	
California Protected Areas Database	GreenInfo's California Protected Areas Database.	
CA Environmental Screen 2.0	<p>Used as source data for DC01: California Environmental Screen priority analysis layer listed below. Scale of 0 - 81, with higher scores representing more Disadvantaged Communities.</p> <p>Pollution Burden Indicators: ozone, particulate matter, diesel particulate matter, drinking water quality, pesticide use, toxic releases from facilities, traffic density, cleanup sites, groundwater threats, hazardous waste facilities and generators, impaired water bodies, solid waste sites and facilities, Scores for pollution burden</p> <p>Population Characteristics: children and elderly, asthma, low birth weight infants, educational attainment, linguistic isolation, poverty, unemployment, Scores for population characteristics</p> <p>The project report can be found here: http://oehha.ca.gov/ej/pdf/CES20FinalReportUpdateOct2014.pdf</p>	

<p>NFHAP Low Disturbance Watersheds in need of Protection</p>	<p>Used as source data for HW01: Protect Healthy Watersheds priority analysis layer listed below</p> <p>National Fish Habitat Action Plan: contains landscape factors representing human disturbances summarized to local and network catchments of river reaches throughout the conterminous U.S. They include land uses, population density, roads, dams, mines, and point-source pollution sites. The source datasets that were compiled and attributed to catchments were identified as being: (1) meaningful for assessing fish habitat; (2) consistent across the entire study area in the way that they were assembled; (3) representative of conditions in the past 10 years, and (4) of sufficient spatial resolution that they could be used to make valid comparisons among local catchment units.</p> <p>We selected spatial datasets that represent anthropogenic disturbances to landscapes that would likely impact stream habitats.</p> <p>http://fishhabitat.org/partnerships</p> <p>Project reports, data, and maps can be found here: http://ecosystems.usgs.gov/fishhabitat/</p>	
<p>NFHAP High Disturbance Watersheds in need of Restoration</p>	<p>Used as source data for HW02: Restore Impaired Watersheds priority analysis layer listed below</p> <p>National Fish Habitat Action Plan: contains landscape factors representing human disturbances summarized to local and network catchments of river reaches throughout the conterminous U.S. They include land uses, population density, roads, dams, mines, and point-source pollution sites. The source datasets that were compiled and attributed to catchments were identified as being: (1) meaningful for assessing fish habitat; (2) consistent across the entire study area in the way that they were assembled; (3) representative of conditions in the past 10 years, and (4) of sufficient spatial resolution that they could be used to make valid comparisons among local catchment units.</p> <p>We selected spatial datasets that represent anthropogenic disturbances to landscapes that would likely impact stream habitats.</p> <p>http://fishhabitat.org/partnerships</p> <p>Project reports, data, and maps can be found here: http://ecosystems.usgs.gov/fishhabitat/</p>	
<p>US Forest Service - Forest to Faucets Drinking Water Index</p>	<p>Used as source data for HW04: Protect Drinking Waters Sources priority analysis layer listed below. Scores watersheds for their importance to drinking water sources.</p> <p>Scale of 0 - 100, with Higher scores representing more important watersheds.</p> <p>Project reports, data, and maps can be found here: http://www.fs.fed.us/ecosystemservices/FS_Efforts/forests2faucets.shtml</p>	
<p>USGS National Hydrography Dataset</p>	<p>Used as source data for HW05: Protect Headwaters priority analysis layer listed below.</p> <p>USGS National Hydrography Dataset shows Rivers and streams across the U.S.</p>	
<p>Riparian Habitat</p>	<p>Used as source data for HW06: Protect Riparian Habitat priority analysis layer listed below.</p>	
<p>USGS National Wetlands Inventory</p>	<p>Used as source data for HW07: Protect Wetlands priority analysis layer listed below.</p>	

USDA SSURGO Permeable Soils	<p>Used as source data for HW08: Permeable Soils priority analysis layer listed below.</p> <p>Group A is sand, loamy sand or sandy loam types of soils. It has low runoff potential and high infiltration rates even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sands or gravels and have a high rate of water transmission.</p> <p>Group B is silt loam or loam. It has a moderate infiltration rate when thoroughly wetted and consists chiefly or moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures.</p>	
USDA Total Carbon Storage	<p>Used as source data for CR01: Protect Carbon Stores priority analysis layer listed below.</p> <p>Areas rated on scale of 0 - 212. Higher scores represent greater expected carbon storage in Megagrams per hectare (MG/ha).</p> <p>Data provided by Forest carbon stocks of the contiguous United States (2000-2009) - USDA Forest Service, Northern Research Station.</p> <p>http://www.fs.usda.gov/rds/archive/Product/RDS-2013-0004</p>	
USFS Wildland Urban Interface	<p>Used as source data for CR02: Mitigate Fire Risk Around Developed Areas priority analysis layer listed below.</p> <p>Shows areas where human development is encroaching on fire prone areas.</p>	
USFS Canopy Bulk Density	<p>Used as source data for CR04: Protect Dense Canopy Forests priority analysis layer listed below.</p> <p>Predicts on scale of 0 - 45, the percent degree of Bulk Canopy Density in the forest. Higher values represent greater canopy density.</p>	
TNC Cool Air Canyons	<p>Used as source data for CR05: Features Critical to Climate Change Adaptation priority analysis layer listed below.</p> <p>RepresentS cooler areas for species to use as surrounding areas get warmer. Follows TNC methodology used in Forecasting the Response of Terrestrial Habitats to Climate Change in the Northern Sierra.</p> <p>https://www.conservationgateway.org/Files/Pages/forecasting-response-terr.aspx</p>	
USGS NHD Seeps and Springs	<p>Used as source data for CR05: Features Critical to Climate Change Adaptation priority analysis layer listed below.</p> <p>RepresentS cooler areas for species to use as surrounding areas get warmer. Follows TNC methodology used in Forecasting the Response of Terrestrial Habitats to Climate Change in the Northern Sierra.</p> <p>https://www.conservationgateway.org/Files/Pages/forecasting-response-terr.aspx</p>	
USFS Predicted Severe Fire Potential	<p>Used as source data for CR06: High Potential for Severe Fire priority analysis layer listed below.</p> <p>Predicts on scale of 0 - 100 the severity of a fire in that area. Higher values have greater chance of severe fire.</p> <p>https://www.firelab.org/project/firesev</p>	

<p>CALFIRE Local Responsibility Fire Hazard Zones</p>	<p>Used as source data for CR07: Local Responsibility High Fire Hazard Areas priority analysis layer listed below.</p> <p>Show degrees of fire hazard for local areas. California Department of Forestry and Fire Protection (CAL FIRE) to identify areas of very high fire hazard severity zones within Local Responsibility Areas (LRA). Mapping of the areas, referred to as Very High Fire Hazard Severity Zones (VHFHSZ), is based on data and models of, potential fuels over a 30-50 year time horizon and their associated expected fire behavior, and expected burn probabilities to quantify the likelihood and nature of vegetation fire exposure (including firebrands) to buildings.</p> <p>http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones</p>	
<p>USFWS Critical Habitat</p>	<p>Used as source data for CC01: Protect USFWS Critical Habitats priority analysis layer listed below.</p> <p>USFWS Designated critical habitat for Threatened and Endangered species.</p>	
<p>CADFW Essential Connectivity Areas</p>	<p>Used as source data for CC02: Conserve Wildlife Corridors priority analysis layer listed below.</p> <p>Scores on scale of 0 - 100 with Higher scores representing greater potential to serve as a wildlife corridor.</p> <p>The Essential Connectivity Areas rate the landscape across California based on it's ability to allow for movement of wildlife. More permeable or free flowing corridors are assigned higher priority. More obstructed areas are lower priority.</p> <p>https://www.wildlife.ca.gov/conservation/planning/connectivity/CEHC</p>	
<p>CADFW Natural Landscape Blocks</p>	<p>Used as source data for CC02: Conserve Wildlife Corridors priority analysis layer listed below.</p> <p>Natural Landscape Blocks areas of minimum 10,000 acres that consist of existing conserved areas and and lands with High Biological Value. These represent "stepping stones" between Essential Connectivity Areas.</p> <p>https://www.wildlife.ca.gov/conservation/planning/connectivity/CEHC</p>	
<p>USFS LEMMA Forest Structure Diversity Score</p>	<p>Used as source data for CR04: Protect Dense Canopy Forests priority analysis layer listed below.</p> <p>Scores on scale of 0 - 8, with higher scores representing forests with greater structural diversity.</p> <p>The forest structural diversity areas are estimated with an estimate on forest stand diversity. Diameter diversity index is a measure of the structural diversity of a forest stand, based on tree densities in different DBH classes. A highly structural diverse forest offers the best opportunity to support a larger number of wildlife and represents a healthier forest.</p> <p>http://lemma.forestry.oregonstate.edu/?project=common&id=mr&model_region=207&ref=nwfp</p>	
<p>USFWS Endangered Species Locations</p>	<p>Used as source data for CC05: Protect Endangered Species Locations priority analysis layer listed below.</p> <p>2014 Endangered Species Occurrence - USFWS</p>	

<p>CADFW Areas of Conservation Emphasis</p>	<p>Used as source data for CC06: Conserve CDFW Areas of Conservation Emphasis (ACE-II) priority analysis layer listed below.</p> <p>Scores on scale of 0 - 5, with higher scores representing areas with greater species richness.</p> <p>The ecoregional analysis combined four biological richness indices, native species richness, rare species richness, "irreplaceability" (i.e., rarity-weighted richness), and the presence of sensitive habitats, in a weighted additive model to produce the ACE II biological index surface. The model results show the areas of highest richness and rarity within each ecoregion of the state. Areas with a high biological index score would be expected to have high conservation value and meet multiple conservation goals, subject to certain assumptions and limitations.</p> <p>Significant Environmental Resource Areas (Malibu Coast Zone): Shows Environmentally Sensitive Habitat Areas for the Santa Monica Mountains, as part of the Malibu Local Coastal Plan adopted in 1986. ESHAs have the highest restrictions, only allowing "Resource Dependent Uses" within their boundaries. The remaining areas within this layer allow some development, but are subject to the Environmental Review Board. Please see the Malibu Land Use Plan on our website: http://planning.lacounty.gov/view/malibu_local_coastal_plan/ (page 27 of the PDF begins the description of these areas, and a table on page 75 lists the permitted uses)</p> <p>https://www.wildlife.ca.gov/Data/Analysis/Ace</p>	
<p>LA County Significant Ecological Areas</p>	<p>Used as source data for CC07: LA County Significant Ecological Areas (SEA) priority analysis layer listed below.</p> <p>SEAs are officially designated areas within the County identified for their biological value. These areas warrant special management because they contain biotic resources that are considered to be rare or unique; are critical to the maintenance of wildlife; represent relatively undisturbed areas of County habitat types; or serve as linkages.</p> <p>http://planning.lacounty.gov/assets/upl/sea/SEA-dev-map_041014.pdf</p>	
<p>LA County Proposed Significant Areas</p>	<p>Used as source data for CC07: LA County Significant Ecological Areas (SEA) priority analysis layer listed below.</p> <p>SEAs are officially designated areas within the County identified for their biological value. These areas warrant special management because they contain biotic resources that are considered to be rare or unique; are critical to the maintenance of wildlife; represent relatively undisturbed areas of County habitat types; or serve as linkages.</p> <p>http://planning.lacounty.gov/assets/upl/sea/SEA-dev-map_041014.pdf</p>	

Analysis Results - these layers use the source data described above, to create different categories of priority.

Areas with a priority level of Moderate (3) or higher are considered places to focus conservation activity. Lower scoring areas are not shown.

Resource Goal	Criteria	Methodology	Data Description and Source
DC: Disadvantaged Communities			
	DC01: California Environmental Screen	A natural breaks slice is used to prioritize the California Environmental Screen overall score which is a combination of pollution burden and population characteristics by census tract.	2015 California Environmental Screen - Cal EPA
HW: Clean and Plentiful Water			
	HW01: Protect Healthy Watersheds	Subwatersheds are ranked based on the National Fish Habitat Action Plan's Subwatershed Cumulative Anthropogenic Disturbance. Subwatersheds with lower anthropogenic disturbance are assigned higher conservation priority. Anthropogenic disturbances include: land uses, population density, roads, dams, mines, and point-source pollution sites. *Scale of priority is relative to the study area, not national values.	Subwatersheds ranked based on anthropogenic disturbances - National Fish Habitat Action Plan
	HW02: Restore Impaired Watersheds	Subwatersheds are ranked based on the National Fish Habitat Action Plan's Subwatershed Cumulative Anthropogenic Disturbance. Subwatersheds with high anthropogenic disturbance are assigned higher conservation priority. Anthropogenic disturbances include: land uses, population density, roads, dams, mines, and point-source pollution sites. *Scale of priority is relative to the study area, not national values.	Subwatersheds ranked based on anthropogenic disturbances - National Fish Habitat Action Plan
	HW04: Protect Drinking Water Sources	A natural breaks slice is used to prioritize the subwatersheds importance to surface drinking water. *Scale of priority is relative to the study area, not national values.	Forest to Facets Index of watersheds importance to surface drinking water - USFS
	HW05: Protect Headwaters	Selected Headwater streams and buffered by 300 feet.	First order streams - USGS NHD Plus

	HW06: Protect Riparian Habitat	Streams are buffered by stream order and assigned high priority (5) if the stream buffers contain forested or wetland landcover. Small streams are buffered by 50 ft., medium-size streams are buffered by 100ft., and large streams are buffered by 200 ft.	Develop model in-house with landcover, streams. - USGS National Land Cover Database and National Hydrography Database
	HW07: Protect Wetlands	All wetlands are assigned high priority (5). *There are gaps in the wetlands data in the US Forest Service managed lands.	Wetlands - USFWS National Wetlands Inventory
	HW08: Permeable Soils	Group A is sand, loamy sand or sandy loam types of soils. It has low runoff potential and high infiltration rates even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sands or gravels and have a high rate of water transmission. Group A is assigned high priority (5). Group B is silt loam or loam. It has a moderate infiltration rate when thoroughly wetted and consists chiefly or moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. Group B is assigned high priority (5).	Hydro groups A and B - NRCS SSURGO Soils
Climate			
	CR01: Protect Carbon Stores	A natural breaks slice is used to prioritize carbon stores. Forests with carbon stocks in top 50% for nation are assigned high priority (5). Forests with carbon stocks in 40th percentile are Moderate to High Priority (4). Forests with carbon stocks in 30th percentile are Moderate Priority (3). Forests with carbon stocks in 20th percentile are Low to Moderate Priority (2). Forests with carbon stocks in 10th percentile are Low Priority (1). *Scale of priority is relative to the nation, not just the study area.	Forest carbon stocks of the contiguous United States (2000-2009) - USDA Forest Service, Northern Research Station
	CR02: Mitigate Fire Risk Around Developed Areas	The Wildland Urban Interface (WUI) is assigned high priority (5).	Wildland Urban Interface - USFS
	CR04: Protect Dense Canopy Forests	Natural breaks slice is used to prioritize forest canopy density. The more dense forests as assigned higher priority. *Scale of priority is relative to the study area, not national values.	2012 Canopy Bulk Density - USFS Landfire
	CR05: Features Critical to Climate Change Adaptation	Identifies cold air drainages, north facing/shaded slopes, seeps and springs and riparian habitat that represent cooler areas for species to use as surrounding areas get warmer. Follows TNC methodology used in Forecasting the Response of Terrestrial Habitats to Climate Change in the Northern Sierra.	

	CR06: High Potential for Severe Fire	USFS Fire Severity Mapping system FIRESEV Provides a by pixel score of the percentage of trees that would burn with high severity of a fire were to occur. Used natural breaks slice on 5 classes, highest severity scores were higher priority.	
	CR07: Local Responsibility High Fire Hazard Areas	Priority is given to local and state fire hazard severity zones. Very high hazard severity = High priority (5) High hazard severity = Moderate to High priority (4) Moderate hazard severity = Moderate priority (3)	California Fire Hazard Severity Zones - The Fire and Resource Assessment Program (FRAP) 2010 Assessment Priority Landscapes
	Connected Wildlife Habitat		
	CC01: Protect USFWS Critical Habitats	USFWS designated Endangered habitats are assigned high priority (5) and threatened habitats are assigned moderate to high priority (4).	Critical Habitats - USFWS
	CC02: Conserve Wildlife Corridors	California Department of Fish and Wildlife Essential Connectivity Areas and Natural Landscape Blocks were used. All these large landscape blocks are High Priority (5).	Wildlife corridors Natural Landscape Blocks - Caltrans and CA Dept. of Fish and Game CA Dept. of Fish and Game
	CC03: High Forest Structural Diversity	USFS Landscape Ecology, Modeling, Mapping and Analysis lab produces structure maps of forests throughout the West. Forest stands with higher ratings of structural diversity are High Priority while lower Diversity stands are lower priority.	Forest Structure Maps - USFS Landscape Ecology, Modeling, Mapping and Analysis lab
	CC05: Protect Endangered Species Locations	Locations identified between 1995 and 2014 are given high priority (5)	2014 Endangered Species Occurrence - USFWS
	CC06: Conserve CDFW Areas of Conservation Emphasis (ACE-II)	Areas with high biological index scores are assigned higher priority.	Biological Richness Index - native species richness, rare species richness, "irreplaceability" (i.e., rarity-weighted richness), and the presence of sensitive habitat - CA Fish and Wildlife
	CC07: LA County Significant Ecological Areas (SEA)	All Significant Ecological Areas are given high priority (5).	Significant Ecological Areas - LA County