

The following **Beneficial Uses** have been designated for some or all of the creeks in the 2019 Basin Plan:

Municipal and Domestic Supply (MUN): Uses of water for community, military, or individual water supply system including, but not limited to, drinking water supply.

Agricultural Supply (AGR): Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

Industrial Process Supply (PROC): Uses of water for industrial activities that depend primarily on water quality (i.e., waters used for manufacturing, food processing, etc.).

Industrial Service Supply (IND): Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.

Groundwater Recharge (GWR): Uses of water for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into fresh water aquifers. Groundwater recharge includes recharge of surface water underflow.

Fresh Water Replenishment (FRSH): Uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity) which includes a waterbody that supplies water to a different type of waterbody, such as, stream that supply reservoirs and lakes, or estuaries; or reservoirs and lakes that supply streams.

Water Contact Recreation (REC-1): Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.

Non-Contact Water Recreation (REC-2): Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Commercial and Sport Fishing (COMM): Uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.

Warm Fresh Water Habitat (WARM): Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Cold Fresh Water Habitat (COLD): Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Estuarine Habitat (EST): Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl shorebirds). An estuary is generally described as a semi-enclosed body of water having a free connection with the open sea, at least part of the year and within which the seawater is diluted at least seasonally with fresh water drained from the land. Included are water bodies which would naturally fit the definition if not controlled by tidegates or other such devices.

Wildlife Habitat (WILD): Uses of water that support terrestrial ecosystems including, but not limited to, preservation or enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

Rare, Threatened, or Endangered Species (RARE): Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

Migration of Aquatic Organisms (MIGR): Uses of water that support habitats necessary for migration or other temporary activities by aquatic organisms, such as anadromous fish.

Spawning, Reproduction, and/or Early Development (SPWN): Uses of water that support high quality habitats suitable for reproduction and early development of fish.

Baseline water quality objectives (**WQOs**) for all inland surface waters, enclosed bays, and estuaries are also established in the Basin Plan. These WQOs apply to all streams within the CWMP area, and include the following:

Color: Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses. Coloration attributable to materials of waste origin shall not be greater than 15 units or 10% above natural background color, whichever is greater.

Tastes and Odors: Waters shall be free of taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.

Floating Materials: Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

Suspended Material: Waters shall not contain suspended materials in concentrations that cause nuisance or adversely affect beneficial uses.

Settleable Material: Waters shall not contain settleable materials, in concentrations that cause nuisance or adversely affect beneficial uses.

Oil and Grease: Waters shall not contain oils, greases, waxes, or other similar materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.

Biostimulatory Substances: Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

Sediment: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Turbidity: Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:

1. Where natural turbidity is between 0 and 50 Nephelometric Turbidity Units (NTUs), increases shall not exceed 20%.
2. Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.
3. Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10%.

Allowable zones of dilution within which higher concentrations will be tolerated will be defined for each discharge in discharge permits.

pH: For waters not mentioned by a specific beneficial use, the pH value shall not be depressed below 7.0 or raised above 8.5.

Dissolved Oxygen (DO): For waters not mentioned by a specific beneficial use, DO concentration shall not be reduced below 5.0 milligrams per liter (mg/L) at any time. Median values should not fall below 85% saturation as a result of controllable water quality conditions.

Temperature¹: Natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.

Toxicity²: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human plant, animal, or aquatic life.

¹ Temperature objectives for Enclosed Bays and Estuaries are specified in the “Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California” including any revisions thereto. This plan is included as Appendix A-3 to the Central Coast RWQCP Basin Plan.

² Compliance with this objective determined by indicator organisms, analyses of species diversity, population density, growth anomalies, toxicity bioassays of appropriate duration, or other appropriate methods as specified by the Regional Board.

Pesticides: No individual pesticides or combination of pesticides shall reach concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations found in bottom sediment or aquatic life. For waters where existing concentrations are presently nondetectable or where beneficial uses would be impaired by concentrations in excess of nondetectable levels, total identifiable chlorinated hydrocarbon pesticides shall not be present at concentrations detectable within the accuracy of analytical methods prescribed in Standard Methods for the Examination of Water and Wastewater, latest edition, or other equivalent methods approved by the Executive Officer.

Chemical Constituents: Where wastewater effluents are returned to land for irrigation uses, regulatory controls shall be consistent with Title 22 of the California Code of Regulations and other relevant local controls.

Other Organics: Waters shall not contain organic substances in concentrations greater than the following:

- Methylene Blue Activated Substances: 0.2 mg/L (milligram per liter)
- Phenols: 0.1 mg/L
- Polychlorinated biphenyls (PCBs): 0.3 µg/L (microgram per liter)
- Phthalate Esters: 0.002 µg/L

Radioactivity: Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life.

The following **pollutants** have been identified within the creeks of the Goleta CWMP area:

Bio-stimulatory substances (SBCK): This refers to substances that stimulate primary productivity within water bodies, and is most directly linked to increased nutrient loading (i.e. nitrogen and phosphorus) which causes algal blooms and can lead to eutrophic conditions (depleted DO concentrations with increased bacteria digestion of dying organic matter). Potential sources include: fertilizers (agriculture, residential, commercial, livestock/equestrienne, cemetery, and golf), leaking septic systems (moderate to low density residential), wastewater treatment plants, and aerial deposition.

Chloride / Sodium (State 303d): Elevated concentrations of chloride and/or sodium for coastal streams is likely associated with salt-water mixing with inland fresh water (e.g., coastal surges) or aerial deposition of salt water (on-shore breezes carrying mist). Other sources could be increased salt concentrations in runoff from agriculture, or contact with geologic formations with high salt concentrations.

Bacteria (State 303d): There are three different indicator bacteria on the State's 303d list: Enterococcus, *Escherichia coli* (*E. Coli*), and Fecal Coliform. All are indicators potential indicators of fecal matter within water, although *E. Coli* and enterococcus are considered better indicators for identifying waste from humans and warm-blooded animals, and enterococcus can survive in salt water. Potential sources include: manure (agriculture, livestock/equestrienne, moderate to low

density residential), pet waste (residential, open space/park, commercial, education), leaking septic systems, wildlife (undeveloped).

Nitrate (State 303d): A common nutrient associated with fertilizers and wastewater. See bio-stimulatory substances for potential sources.

Oxygen (State 303d & SBCK): The biological or chemical oxygen demand (BOD and COD) within the impaired water body exceeds its capacity to maintain its WQO. Primary sources for increased BOD are provided in the bio-stimulatory substances section above, but changes in channel/riparian structure (e.g. increase direct sunlight by removing riparian canopy) can increase primary productivity which increases BOD. Potential sources for increased COD include petroleum hydrocarbons (oil and gas) typically associated with urban land uses, especially industrial, streets, commercial, and airport.

Specific Conductivity (State 303d): Specific conductivity is a measurement of electrical current through water, where increasing conductivity is a result of increasing ions. This measurement serves as an indication of dissolved solids within the water. Freshwater bodies typically have specific conductivity values below 2,000 micro-Siemens per centimeter ($\mu\text{S}/\text{cm}$), while salt water measures greater than 50,000 $\mu\text{S}/\text{cm}$. Potential sources include: saltwater (coastline, estuaries, groundwater intrusion), local geology, fertilizers (agriculture, residential, commercial, livestock/equestrienne, cemetery, and golf), general urban runoff (streets, commercial, industrial, residential), leaking septic systems (moderate to low density residential), wastewater treatment plants, and aerial deposition.

Temperature (State 303d): Water bodies that are not achieving WQOs for temperature. Potential sources include: loss of riparian canopy (concrete lined channels) and broadened/shallow channel bottom.

Toxicity (State 303d): A listing which identifies toxic conditions for aquatic wildlife for either a known or unknown associated pollutant. The two water bodies within the Goleta CWMP area that are listed for Toxicity (Bell Canyon and Glen Annie) are listed for Unknown Toxicity. Potential sources: unknown.

pH (State 303d & SBCK): Water bodies that are not achieving WQOs for pH. Potential sources include: agricultural runoff (if lime used), local geology, concrete production/waste (construction/landfill runoff).

Trash (SBCK): Although trash is a pollutant assessed on the State's 303d list, it was not included for any of the streams within the Goleta CWMP area. SBCK conducted a field survey in 2010 (SBCK, 2016) and identified seven streams within the CWMP area that are impaired for trash.