

Update 2009 Scenario Narratives

Uncertainty Category	"Current Trends"	"Optimistic Outlook"	"Challenging Conditions"
Economic and Financial (E/F)	1 - Population increases as projected by the Department of Finance.	1 - Population increases at a slower rate than projected by the Department of Finance.	1 - Population increases at a faster rate than projected by the Department of Finance
	2 - The California economy continues to be generally robust with periodic down turns. Average household incomes continue to rise. Economic conditions for California tribes continue to improve at a modest rate.	2 - The California economy continues to grow and experiences more moderate down turns, in part due to significant development in "green" technologies and industries. Average household incomes continue to rise, particularly for lower and middle class households. Economic conditions for California tribes continue to improve.	2 - California's economy grows more slowly than in the past and experiences greater swings between boom and bust with. Household incomes rise more slowly than expected, particularly for low and middle income households. California's high cost of living and business results in out-migration of business and a decline in research and development.
	3 - The area of irrigated agricultural land continues to decline at current rate. The intensity of agriculture (e.g. multi-cropping) increases and there are continued shifts to higher value permanent crops.	3 - The area of irrigated agricultural land stabilizes at current acreage, and shifts to more multiple cropping and higher value permanent crops	3 - The area of irrigated agricultural land declines more rapidly than current rate although increases in agricultural intensity (e.g. multi-cropping) and shifts to higher value permanent crops partially compensates economic affects.
	4 - Clean and reliable water supplies continue to be excessively costly or unavailable to some Californians.	4 - Clean and reliable water supplies are affordable and available for all Californians.	4 - Clean and reliable water supplies is excessively costly or unavailable to an increasing number of Californians.
	5 - Total costs (including energy and treatment costs) associated with providing clean and reliable water increase at current rate.	5 - New energy saving and water treatment technologies reduce the total costs of providing clean and reliable water.	5 - Higher than expected energy and water treatment costs increase the total costs of providing clean and reliable water more than under current trends.
	6 - Water resource management and ecosystem restoration is funded at the current rate.	6 - A healthy economy along with strategic use of bond funding results in more stable and higher investment in water resources management and ecosystem restoration.	6 - Less funding for water resources management and ecosystem restoration is available.
	7 - Existing patterns of residential development continue, but on smaller lots, reflecting the increasing cost of buildable land.	7 - Economic opportunities drive a significant shift towards high-density development patterns, lessening the footprint of new urban development.	7 - Trends towards large-lot, decentralized residential development outpace infill and high-density development.
Institutional and Political (I/P)	1 - Agencies continue to enact regulations to promote compact and mixed-use. Some new urban development is designed to be less vulnerable to catastrophic events such as flooding and wildfire.	1 - Agencies enact more significant regulations that promote compact and mixed-use urban development. All new urban development is designed to be less vulnerable to catastrophic events such as flooding and wildfire.	1 - Agencies promote fewer regulations that promote compact and mixed-use urban development. Most new urban development is designed without significant consideration of catastrophic events such as flooding and wildfire.
	2 - Divergent political views about long-term improvements to the State's water management systems and ecosystem restoration continue.	2 - Political consensus is achieved on long-term solutions to improve the State's water management systems and ecosystem restoration.	2 - Political differences significantly hinder initiatives to improve the State's water management systems and ecosystem restoration. Disputes are settled through court.
	3 - Some efforts continue to maintain land in agricultural production through land conservation agreements and modest improvements to the Williamson Act.	3 - New emphasis to maintain land in agricultural production through land conservation agreements and revamping of Williamson Act. Strong policies in place to preserve prime agricultural lands.	3 - Efforts to maintain land in agricultural production through land conservation agreements falters. The Williamson Act is no longer in effect.
	4 - Water planning and management in California becomes more integrated between water supply, water quality, flood protection, ecosystem restoration, climate change, and land use. Agencies are more willing to share information.	4 - Water planning and management in California fully integrates water supply, water quality, flood protection, ecosystem restoration, climate change, and land use. California develops a set of standards and protocols allowing seamless sharing and aggregation of water planning information. Every region in the State has an Integrated Regional Water Management Plan.	4 - There is some integration of regional water management and planning, but not with local land use planning and regional flood planning. Few agencies consider the potential affects of climate change in their water plans. Limited sharing of water management information and analysis among planners.
	5 - State, regional, and local water agencies continue to defer maintenance on infrastructure including the Delta levy system.	5 - State, regional, and local water infrastructure including conveyance systems, water treatment facilities, and Delta levies receives stable funding, meets current engineering and environmental performance standards, and is well maintained.	5 - California agencies find it increasingly difficult to obtain the necessary funding to maintain and operate state, regional, and local water infrastructure.
	6 - Additional water quality regulations are adopted to control runoff from urban areas, agricultural lands, and timbered areas.	6 - Comprehensive non-point source water pollution programs are implemented with state and federal assistance.	6 - Local governments and business continue to oppose new non-point source water pollution regulations through lawsuits due to high implementation costs.
	7 - Stakeholder participation in water management decisions continues to increase. California tribal governments continue to gain greater access to and participation in California's political system.	7 - A larger share of Californians actively participate in water management decisions. California implements a new cabinet-level agency to work directly with California's tribes.	7 - Many California interest groups do not participate actively in water management decisions. Public support of proposed water management actions is limited.

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Natural System (NS)	1 - Air temperature increases throughout the state and precipitation patterns become more variable, as predicted by middle-of-the-road global circulation model predictions (as reported by the IPCC). Loss of mountain snowpack is significant and peak river flows occur earlier in the spring. Groundwater basins in regions that experience drying conditions become more at risk to overdraft.	1 - Air temperature increases throughout the state, but at the lower end of IPCC predictions. Variability of precipitation remains similar to historical patterns. In some regions precipitation increases leading to more reliable local supplies. Loss of snowpack is less severe than anticipated by the IPCC. Precipitation and surface flows over groundwater basins continue to replenish groundwater basins.	1 - Air temperature increases significantly throughout the state, and heat waves become more frequent and severe. Precipitation declines across most of the state, and precipitation events become more concentrated in single large events. There is significant loss in snowpack and peak river flows occurs earlier than middle-of-the-road IPCC projections. Groundwater basins receive less natural replenishment.
	2 - Invasive species continue to be introduced to the state's natural aquatic systems.	2 - Natural ecosystems respond favorably to restoration efforts. Invasive species are more easily controlled. There is greater understanding of ecosystem function and climate change.	2 - Natural ecosystems do not respond favorably to restoration efforts. Invasive species increasingly out-compete local species. Little progress is made in understanding of ecosystem function and the effects climate change on California's aquatic ecosystems.
	3 - Pollution and salt accumulation continue to impact California's surface water and groundwater bodies. There are some local efforts to reduce pollution caused by non-point source pollution from urban areas, agricultural lands, and timber harvest areas.	3 - Improved control of pollution and salt accumulation leads to lower impacts on California's surface water and groundwater bodies. Many areas have reduced non-point source water pollution from urban areas, agricultural lands, and timber harvest areas.	3 - California's surface water and groundwater bodies experience more pollution and salinity than current trend. Non point-source pollution continues to be a serious problem.
	4 - Floodplains management initiatives are moderately successful.	4 - Floodplains management initiatives are extremely successful.	4 - Floodplains management initiatives are not very successful.
Technological (Tech)	1 - Modest advancement in residential appliances and irrigation technology allows for greater water use efficiency.	1 - Significant advances in residential appliances and irrigation technology allows for even greater water use efficiency than in Current Trends.	1 - Limited advances in residential appliances and irrigation technology hinder water use efficiency improvements.
	2 - Modest improvement in water treatment technology allows more cost effective clean up of groundwater and brackish water.	2 - Improvements to water treatment processes allow low cost and quick in-situ groundwater clean-up, wastewater treatment, and allow widespread availability of high quality water for specialized industrial purposes.	2 - Water treatment technology remains at today's level.
	3 - Energy use requirements for water treatment and distribution decrease modestly.	3 - Significant reductions in energy use requirements reduces costs of water treatment and distribution.	3 - Energy saving technology does not significantly improve from today.
	4 - Some agencies starting to use web based technologies to share water management information and analysis.	4 - New technologies enable greater sharing of water management information and analysis through the internet.	4 - Water agencies do not effectively use internet technologies to share water management information.
Cultural Practices (Cul)	1 - People continue to demand housing in coastal and central valley regions.	1 - People continue to demand housing in coastal and central valley regions, but embrace infill projects and high-density development patterns.	1 - People continue to demand housing in previously undeveloped areas of the coastal and central valley regions.
	2 - Strong demand continues for recreational opportunities including water based recreation.	2 - Much greater public demand to visit parks, wildlife areas and heritage sites and engage in outdoor recreation.	2 - Demand for recreational opportunities including water based recreation does not increase beyond current level.
	3 - End users become more receptive to sustainable resource concepts, including high water efficiency appliances and landscaping practices.	3 - End users become more receptive to sustainable resource concepts, including high water efficiency appliances and landscaping practices. Private expenditures on increasing water use efficiency significantly increases.	3 - Consumers do not embrace high water efficiency appliances and landscaping practices, and private investments in increasing water use efficiency is lower than expected.