

****DRAFT** Potential Climate Change Vulnerabilities of Tribal Communities **DRAFT****
Awaiting Comments from TRIBAL SUMMIT April 24-25, 2013
Submit comments at Climate Change Table, via email erin.chappell@water.ca.gov, or 916-376-9633

Drivers									
	Higher Temperatures	Earlier Snowmelt	More rain, less snow	More extreme flood events	Longer, more frequent droughts	Sea Level Rise/ Ocean Acidification	More Erosion	More frequent & intense wildfires	Cumulative Impacts
Subsistence Activities	Shift or loss of traditional aquatic, plant and animal species	Barriers to aquatic species migration/ movement; shift or loss of traditional aquatic, plant, and animal species	Temp impacts on cold-water species; shift or loss of traditional aquatic, plant, and animal species	Reduced water quality; habitat disturbance/loss	Reduced productivity/ greater stress on traditional aquatic, plant, and animal species	Loss of coastal/tidal wetland habitats and species; ocean and estuarine food web changes; loss of shellfish	Reduced water quality; stream channel changes; habitat disturbance/loss	Reduced water quality; increased turbidity and sedimentation in streams; habitat and species disturbance/ loss	Dietary changes; loss of local food resources; change in hunting/ gathering practices; loss of income
Traditional Practices									Loss of traditional medicinal plants and materials for jewelry, sculptures, ceremonial pieces, basketry, nets, and lodgings.
Sacred Sites and Practices	Shift or loss of traditional aquatic, plant and animal species	Reduced streamflows in summer/fall	Reduced streamflows in summer/fall	Damage to sacred sites	Reduction in streamflows; reduced productivity/ greater stress on traditional aquatic, plant, and animal species	Inundation of/ damage to sacred sites; shift or loss of traditional coastal species	Damage to sacred sites	Damage to sacred sites; species disturbance/loss	Loss of traditional materials and other components for ceremonies; loss of sacred sites; changes in traditional timing of spiritual practices
Water Supply	Changes in runoff timing reducing seasonal availability; higher demands	Reduced reliability; less groundwater recharge; decrease in summer/ fall runoff	Changes in runoff timing reducing seasonal availability; less groundwater recharge; upsets the balance	Damage to conveyance infrastructure; increased treatment; service interruptions	Reduced availability and reliability of surface water; less groundwater recharge; increased treatment	Damage to coastal conveyance infrastructure; reduced supplies; increased treatment	Damage to conveyance infrastructure; increased treatment	Damage to conveyance infrastructure; increased treatment; service interruptions; sedimentation	Reduction in water availability; reduced quality or contamination of local surface and/or groundwater supplies; increased in water-related illnesses; potential conflicts over water rights; higher demands reduce water needed for ecosystems/ species
Water Quality	Increase in water-borne illnesses; taste and odor issues; increase in algal blooms; impacts to species	Seasonal changes in quality due to decreased summer/fall runoff	Seasonal changes in quality due to decreased summer/fall runoff	Wastewater spills; contaminated stormwater runoff; turbidity	Increase in water-borne illnesses; taste and odor issues; higher contaminant loading; increase in algal blooms; impacts to species	Increased by-products from treating brackish water; inundation of wastewater treatment facilities or discharge impacts	Damage to conveyance and wastewater infrastructure; increased turbidity	Damage to infrastructure, increased turbidity/ sedimentation	
Health	Increased mortality rates; poor air quality; allergens increase; illnesses ¹ exacerbated; increased health care costs	Reduced water supply reliability and quality	Change in prevalence & spread of disease; reduced water supply reliability and quality	Change in prevalence & spread of diseases; mortality; displacement ²	Change in prevalence & spread of diseases; mortality; reduced water supply reliability; increased malnutrition; increased health care costs	Displacement; illness due to poor water quality; reduced coastal water supply reliability	Displacement; poor water quality; mudslides	Poor air and water quality; displacement; illnesses, esp. respiratory, exacerbated; mortality; mudslides	Overall reduction in community health; increase in chronic and infectious diseases; increased health care costs; impacts associated with displacement

¹Illnesses - includes chronic, infectious, and vector borne diseases

²Displacement - encompasses associated health consequences, including mortality, due to economic disruption, loss of personal income, and disruption of social networks