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## YUROK TRIBE CLIMATE CHANGE ADAPTATION PLAN FOR WATER AND AQUATIC RESOURCES

Adults, elders, and subsistence/commercial fishers have an increased risk of cancer.

#### CANCER

### TRIBAL POPULATION GROUPS



Infants and Children Pregnant

Adults

Elders

Subsistence / Commercial Fishers

Gatherers

Ceremonia Participants















# ENVIRONMENTAL & INSTITUTIONAL FACTORS

Impacts to traditional aquatic foods:

Less access caused by changes in harvesting time differing from traditional knowledge, loss of places to harvest.

As species move with changing climate conditions Tribal members may be unable to move with them due to legal constraints on their fishing and gathering rights.

Less availability because of loss of species habitats resulting in population declines.

Lower quality existing environmental toxins being released into waterways and from overfishing resulting in less mature stocks.

### CLIMATE CHANGE IMPACTS

Warming air temperatures
Warming stream, river, and ocean temperatures
Ocean acidification
More intense periods of droughts
Increasing wildfire risk and more air pollution

### **EXPOSURE PATHWAY**

Less access, availability and quality of traditional aquatic foods.

Less healthy diet due to shift away from from traditional aquatic foods.

Decrease in physical activity will occur over time as species populations and practices decline.

Alcohol consumption increases cancer risk.

# INDIVIDUAL & SOCIAL CONTEXT

Cancer rates among Yurok Tribal members are ~3 times the national average among American Indians / Alaska Natives.

Existing social trends increase cancer risk, including alcohol use, and low income, low education and high unemployment resulting in less access to healthy foods.

Limited access to or distrust of the healthcare system to provided cancer screening and prevention results in less access to necessary preventive care.

### **HEALTH OUTCOME**

Climate change may increase risk of developing cancers of the colon, breast, prostate, and the lining of the uterus, resulting in higher rates of illness and death.



### **ADAPTATION STRATEGIES**

Listed below are strategies that can be implemented to reduce the risk of cancer among Tribal members.

### Institutional

Explore opportunities for "food sovereignty" to return to sustainable food harvesting and replace need for commodity foods.

Expand opportunities for physical activity.

Continue and enhance opportunities for fish sharing, including provision of fish for single or pregnant moms and elders.

Consider improving reporting of cancers through existing health systems to understand the depth of the problem and obtain funds to target these illnesses (cancer burden for Native Americans has been historically underestimated).

Work to increase healthcare funding to expand access for Tribal members.

Consider designing and implementing culturally grounded smoking, alcohol and other cancer risk-prevention education programs.

Consider working to make changes to fire regimes (e.g., cultural burns) to increase access and availability of traditional foods.

### Individual

Consider eating more traditional foods when available, particularly fish, as a high quality protein, low fat option with excellent health-protective components (e.g., Omega 3).

Consider decreasing alcohol consumption to prevent cancer.

Consider seeing a health professional regularly when possible (to catch health problems early).

Consider increasing physical activity to maintain a healthy body weight.

If you are a smoker, consider quitting to eliminate an important risk factor for cancer.

"I cannot see seven generations ahead on this River. I have had three family members die from cancer.

I pray for the River to come back and show my children the way of life, as it did for me."

— Yurok Male, born 1976