



GLOBAL WARMING/CLIMATE CHANGE



By: The Hualapai Department of Natural Resources • Coconino Plateau/Western Grand Canyon - Hualapai Tribe

In 2006, the Region 9 Tribal Operations Committee (ROTC) tasked the Tribal Science Council (TSC) Region 9 ROTC workgroup to look at Global Warming/Climate Change Impacts on Tribes in Region 9. The Region 9 Workgroup is partnering with the National EPA - Tribal Science Council in this endeavor. As part of this project, the Hualapai Tribe has taken a proactive stance regarding global warming/ climate change impacts by initiating mitigation actions.

Global Warming/Climate Change Impacts

The Hualapai Tribe is confronting one of the foremost impacts of global warming/climate change which is an increase of temperatures and reduced precipitation.

Reduced Water Availability

- Decreased carrying capacity for wildlife and cattle - caused herd reductions
- Impacts to water quality
- Impacts to recreation
- Impacts to tourism
- Loss of riparian habitats
- Loss of wetland area
- Impacts to human health (e.g. impacts to air quality)
- Impacts to forest health
- Increased fire danger and wildfire severity
- Impacts to fisheries
- Invasion of non-native plants and animals
- Impacts to water rights - Less water available for tribal water rights
- Increased costs of water systems operations
- Increased costs of water lines, storage tanks, new wells
- Increased costs of water hauling

Mitigation Actions Being Undertaken by the Hualapai Tribe

The Hualapai Tribe is very serious about its water resources in the future. To help conserve our precious water, the Tribe is being creative with water resources and conservation. Some actions are to capture rainwater with construction of water catchments, removal of invasive species which consume precious groundwater, and efforts to bring back endangered fish in the Colorado River.

Construction of water catchments

Nine water catchments have been constructed on the reservation

Construction of water catchments



Removal of non-native tamarisk

- 20 acres of tamarisk have been eradicated
- Over 800 willow trees have been planted
- Nursery developed to produce willows

Removal of non-native tamarisk



Willow Nursery

Willow trees planted



Willow nursery



Development of fish-rearing facility

- Grow out of endangered razorback sucker for repatriation
- Establishment of a genetic refuge for the endangered humpback chub

Fish Rearing Facility



Installation of new wells and pipelines for future water consumption by the tribe and wildlife

- Mud Tank well drilled in 2004
- Construction of a new water pipeline to Westwater
- Replacement of the Thornton Tower water pipeline
- Feasibility study for filtering radioactive well water

New well and pipeline

Mud Tank well



Well pipeline



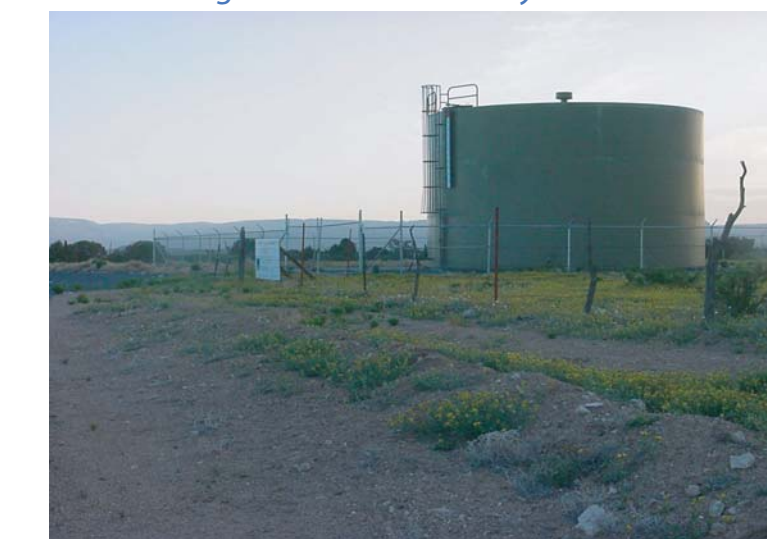
Thornton Tower water pipeline



Deep well at Grand Canyon West



Water storage tank at Grand Canyon West



Sage removal to stimulate native grass growth



Watershed Management Planning

- Nine sub-basins now have watershed management plans
- Wetland Monitoring Program
- Sage removal to stimulate native grass succession

Watershed Management Planning

Wetland Monitoring Program focused from a watershed perspective

