CRISP

Colorado River Innovative Sustainability Plan

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Complete Map



Outline

- Background and history
- Mission Statement
- Current policies and mandates
- Problem and Goal 1
- Problem and Goal 2
- Problem and Goal 3
- Questions



Background & History

- Supplies more than 1 in 10 Americans with their water for municipal use and drinking
- Provides irrigation water to 5.5 million acres of land
- 22 federally recognized Tribes
- 4,200 megawatts of electrical generating capacity—millions supported



Mission Statement

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CRISP's goal is to understand how climate change and additional factors, like drought and contamination, are impacting the health and longevity of the Colorado River Basin in and around the Grand Canyon. CRISP aims to **inform regulatory agencies** on measures to improve and sustain the condition of the Colorado River as to mitigate **adverse effects of climate change**, **uranium contamination**, and **species vulnerability** on the immediate and surrounding ecosystem. This group's goals will be met upon the **reduction of uranium concentrations to the 30 ug/L (ppm) MCL** set by the EPA.





Policies and Mandates

Colorado River Compact of 1922

- Motivation:
 - Hoover Dam and All-American canal approvals
 - 1922 Supreme court ruling: Water Rights Doctrine of Prior Appropriation still holds regardless of state borders
- Results:
 - Guarantees each basin the right to use 7.5 million acre-feet of water each year

Mexican Water Treaty of 1944

 The United States must allow for 1.5 million acre-feet of water to flow down to Mexico each year

Lower Colorado River Multi-species conservation program

- 18 conservation areas protecting 32 species

Minute 323 Agreement

- 2017 agreement between the United States, including the seven states within the basin, and Mexico.
- Increased water storage in Lake Mead through water conservation/development project in Mexico
- Water shortages and surpluses are shared between Mexico and U.S.
- Binational Water Scarcity Contingency Plan: Mexico implements water use reduction initiatives
- Funding of habitat restoration projects in Mexico

Problem 1: Water Shortage

- Rapid decline in water availability caused by climate change effects
 - Persistent drought conditions Ο
- Over-allocation of water rights
 - More water is promised than Ο available
- Reservoir shrinkage: Lake Mead and Lake Powell are at record lows
 - Threatening hydropower Ο generation
- Over-pumping is lowering aguifer levels
 - Population and agricultural needs Ο



Millions of people • across seven connected states



- Long term instability
- **Replenishment is** insufficient
- Surrounding cities, ecosystems, agriculture





Goal 1: Ensure Long-Term Water Security and Resilience





Current: Tier 1 shortage for 2024 Short-term: Conserve water



Future: Stable water resources by 2040

Problem 2- Uranium Levels from Mining

Description

- Increase levels of Uranium in the river through the Grand Canyon
- A Uranium Mine reopened 10 miles outside the Grand Canyon
- Uranium leaches into the groundwater into the River
- Harmful for wildlife
- Impacts the indigenous nations who utilize the river as their water source

Causes

- Increase in Uranium demand
- Lack of water infrastructure at the mines



Goal 2: Removing Uranium







Reverse Osmosis

Distillation

<30 ug/L (ppm) MCL

Problem 3: Threatened Wildlife

- The Colorado River supports over 150 threatened species.
 - 4 threatened or endangered fish species within the Colorado RIver
 - In the LCR, a conservation program covers 32 species ranginging in animal and plant species

- Causes
 - Water shortage
 - Chemical contamination
 - Non-native species
 - Habitat disruption



Goal 3: Support National Park Services







Preserve habitat and native species



Flourishing ecosystem and wildlife presence

Sources

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Questions?