Binational Restoration Efforts to Revive the Colorado River Delta
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The Colorado River Delta

The “American Nile”

- Annual economic impact of $1.4 trillion.
- 16.5 Million acre-feet allocated to the US basin states and Mexico, which is greater than the long-term annual yield of the basin.
- Irrigation of over 5 million acres, using approximately 80% of Colorado River water.
- Municipal water support for an estimated 40 million people.
- One of the most litigated rivers in the world.
- Numerous dams along the mainstem, with the final in the limitrophe, where all water is diverted.
- Approximately 10% of the historic 2 million acres of the Delta remain.
- Dependent on accidental flows, agricultural drainage.

Minute 319 of the US-Mexico Water Treaty

- A 5-year agreement signed in 2012 by the US and Mexico.
- Establishes guidelines for the management of Colorado River water during drought.
- Promotes investments in water conservation projects.
- Dedicates ecological flows to the Colorado River Delta for the first time in history.

Results to Date:
- The pulse flow unexpectedly connected the Colorado River to the Gulf of California.
- Water deliveries resulted in establishment of both native and non-native riparian vegetation.
- A 13-year trend of decline in vegetation greenness was reversed.
- A tremendous positive social response was observed from local to international scales.
- The international scientific team has developed an enhanced understanding of Colorado River Delta hydrology and ecology.

Ongoing:
- Continued analysis of environmental flow effects.
- Active restoration implementation and monitoring.
- Using lessons of Minute 319 to develop recommendations for future environmental water deliveries.

Restoration Design and Implementation

Revitalize the Delta within the realistic constraints of the highly-managed Colorado River.
Create a diversity of habitat types to support wildlife and encourage community engagement.
Optimize water resources to maximize the quality and sustainability of created habitat.
Develop an integrated restoration approach to consider ecologic, abiotic, and public interactions.

Site Selection Considerations
- Existing habitat features.
- Shallow groundwater.
- Acceptable salinity.
- Water delivery feasibility.

Design Components
- A mosaic of diverse habitat types.
- Maximized species diversity.
- Use of both established and newly-developed revegetation techniques.

The Future of the Colorado River Delta

Environmental flows:
- Continue acquisition of long-term water rights.
- Work toward longer-term international agreements.

Restoration:
- Complete implementation at existing concession polygons.
- Secure additional riparian restoration concessions.
- Improve conditions in the Hardy River, a tributary to the Colorado River receiving agricultural return flows and treated wastewater.
- Improve tidal connections in the upper Colorado River estuary, and implement large-scale revegetation.

Monitoring and Adaptive Management:
- Implement ecological monitoring in restoration sites.
- Develop applied research projects to inform long-term restoration site sustainability.

Outreach
- Diversify outreach on the local, national, and international scales.
- Lead tours for audiences ranging from stakeholders and decision-makers to local schools.

Collaboration
- Work with other conservation organizations in the Delta to implement a unified conservation vision.

“On the map the Delta was bisected by the river, but in fact the river was nowhere and everywhere, for he could not decide which of a hundred lagoons offered the most pleasant and least speedy path to the Gulf...For the last word in procrastination, go travel with a river reluctant to lose its freedom to the sea.”
– Aldo Leopold, A Sand County Almanac

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