



HUALAPAI DEPARTMENT OF NATURAL RESOURCES

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Wetland Program Plan for the Hualapai Tribe

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Goals and Time Frame for the Hualapai Wetland Protection Program

The goal of the Wetland Protection Program for the Hualapai Tribe is to maintain or increase wetland area, to maintain or enhance wetland function, to establish wetland parameter data bases and to identify wetland areas in need of protection and/or restoration. This Wetland Program Plan will be implemented from 2011 to 2017.

We will use the products produced during this Wetland Protection Program to identify land use activities that may affect wetland area and health, to identify wetlands for protection and restoration activities and to understand potential effects of climate change on wetland integrity of the Hualapai Reservation.

Activities that are contemplated for this program period include:

- Wetland assessment and monitoring using the Spring Ecosystem Assessment Protocols (SEAP) developed in previous wetland project efforts.
- Development and Expansion of wetland data bases for biotic and abiotic parameters that will be made available on the EPA Network Exchange system <http://www.exchangenetwork.net/>.
- Training of tribal employees in wetland assessment and monitoring activities.
- Implementation of wetland protection and restoration projects where appropriate.
- Educational outreach to the Hualapai and non-Hualapai communities regarding wetland monitoring and improvement activities on the Hualapai Reservation.

Previous Actions and Activities for the Hualapai Wetland Protection Program by Core Element

Final Monitoring Reports are available at the Hualapai Department of Natural Resources' web site at www.hualapai.org.

Core Element: Wetland Monitoring and Assessment

Years: 1991-present

Action: We monitored water quality (pH, temperature, salinity, conductance, dissolved oxygen, turbidity and total dissolved solids) at 47-54 wetland habitats with section 106 funding. We began sampling nitrate, nitrite, phosphorus and *E. coli* in 2008. Product: Annual Water Quality Monitoring Report. [Monitoring, Obj. 2.b]

Year: 1997

Action: We assessed (water quality measurements and wetland plant evaluation) 956 acres of wetland at 29 distinct wetland habitats across the Hualapai Reservation. We delineated wetland perimeters, and photo-documented each wetland. We evaluated impacts from feral livestock. Product: Wetlands Assessment Report and GIS database. [Monitoring, Obj. 2.d]

Years: 2001-2003

Action: We delineated three new wetlands and re-delineated five that were previously delineated and assessed in 1997. We assessed (water quality measurements and wetland plant evaluation) all eight wetlands. We photo-documented each wetland. We entered data into GIS data base. Product: Wetlands Assessment Report and GIS data base. [Monitoring, Obj. 2.b, c & d]

Year: 2003

Action: We developed wetland biomonitoring protocols. Product: Hualapai Wetland Monitoring Protocols. [Monitoring, Obj. 1.a, b, c & d]

Years: 2004-2006

Action: We monitored and assessed (delineations, water quality sampling, vegetation characterizations) 18 wetland habitats. [Monitoring, Obj.2.b]

Years: 2008-2011

Action: We developed and refined Seep/Spring Ecosystem Assessment Protocols (SEAP), and implemented protocols at nine wetland habitats. We are in the process of conducting SEAP training workshops for tribal, state and federal entities. This work was funded under the current wetland demonstration grant. [Monitoring, Obj. 1.a, b, c & d]

Core Element: Wetland Regulation

Year: 1998

Action: Hualapai Wetlands Protection and Preservation Ordinance was adopted by Hualapai Tribal Council. [Regulatory, Obj. 3.e]

Year: 2000

Action: Water Resources Ordinance with water quality standards was adopted into tribal law. [WQS, Obj. 1.a, Regulatory, Obj. 2.a]

Year: 2004

Action: Water Quality Standards were recognized by EPA. [WQS, Obj. 1.a, & b, Regulatory, Obj. 1.a & b]

Core Element: Wetland Voluntary Protection and Restoration.

Years: 2000-2009

Action: We fenced and restored ten wetland habitats across the reservation. We monitored water quality biannually. [Restoration, Obj. 3.a]

Year: 2003

Action: We established the Hualapai Native Tree Nursery for wetland restoration projects. [Restoration, Obj. 3.b]

Action: We removed over 30 acres of tamarisk from three wetland sites. [Restoration, Obj. 3.b]

Action: We planted willow cuttings at three wetland sites [Restoration, Obj. 3.b]

Planned Actions and Activities for the Hualapai Wetland Protection Program by Core Element

Core Element: Wetland Monitoring and Assessment

The wetland monitoring and assessment work proposed for future years serves to implement the SEAP protocols that were developed over the past three years (2009 -2011) and begin to establish a long-term data base on which to base future wetland protection and restoration decisions and policy on. We are hopeful that EPA will provide annual wetland monitoring, protection and restoration funding so that we can continue to maintain and improve the valued wetland habitats on the Hualapai Reservation. If funded annually, we would monitor biotic and abiotic wetland parameters for nine of the 27 wetlands every year (on a revolving schedule) and use the data to dictate future protection and restoration activities.

On an annual basis, we will review water quality data and compare the data to water quality standards, prepare a Wetland Monitoring and Assessment Report and evaluate physical, biological and land use practices for the 27 wetlands to identify the need for protection and/or restoration.

Years: 2011-2017

Action: Monitor wetland size and abiotic characteristics of 27 wetlands alternating a set of nine every year (each wetland every 3 years). These 27 wetlands are a combination of the set of 18 and the set of nine previously monitored between 2004 and 2011. [Monitor, Obj. 2.b., Restoration, Obj. 4.a]

Activities: Test water from nine wetlands each year for temperature, pH, specific conductance, turbidity, dissolved solids, dissolved oxygen, nitrates, nitrites and *E. coli*. GPS perimeter of the nine wetlands and enter into GIS system

Action: Monitor biotic characteristics of nine wetlands each year. [Monitor, Obj. 2.b., Restoration, Obj. 1.b, 2.b]

Activities: Sample macroinvertebrates from nine wetlands, identify and quantify specimens and record in GIS data base. Sample fish, herpetofauna and avifauna, where appropriate.

Action: Prepare periodical Wetland Monitoring and Assessment Report. [Monitor, Obj. 2.e, Restoration, Obj. 1.b, 2.b]

Core Element: Wetland Regulation

Years: 2011-2017

Action: Implement Section 401 Clean Water Act permitting. [Regulatory, Obj. 2.c, 2.g]

Activities: Evaluate field projects (e.g. road construction/maintenance, noxious weed control, juniper removal, ground water pumping, livestock grazing) that may impact wetland habitats or riparian areas on the Hualapai Reservation for the purpose of providing a Section 401 Clean Water Act permit. Provide permits where appropriate.

Action: Enforce wetlands and water quality ordinances across the reservation. [Regulatory, Obj. 1.a & b.]

Core Element: Wetland Voluntary Protection and Restoration.

Years: 2012-2017

Action: Identify wetlands that are in need of protection and/or restoration. [Monitor, Obj. 2.e., Restoration, Obj. 3.a.]

Activities: Evaluate physical and biological data, in addition to land use practices, for the 27 wetlands, and in collaboration with the consultant, identify susceptible or impacted wetlands in need of protection or restoration.

Action: Design and Implement wetland protection and restoration activities. [Restoration, Obj.1.c.]

Activities: On a case by case basis, identify appropriate protection and/restoration activities. Seek funding for implementation of protection/restoration activities. Implement protection/restoration projects.

Core Element: Wetland Water Quality Standards

Years: 2011-2017

Action: Ensure that wetland water quality standards are maintained. [WQS, Obj. 3.b., Regulatory, Obj. 2.a, 2.b]

Activities: Review current water quality standards and compare to water quality data. Identify wetlands not meeting water quality standards and implement protection and/or restoration activities to remedy situation.



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