



desert conservation
PROGRAM

Date: August 29, 2014

TO: DISTRIBUTION

RE: DESERT CONSERVATION PROGRAM PROJECT COMPLETION NOTIFICATION:
MORMON MESA ECOHYDROLOGICAL ASSESSMENT
2011-PIC-915B

The work for the above referenced project has been completed. Please see the attached for all project related information.

The purpose of the above referenced project was:

As a permit requirement of the Clark County Multiple Species Habitat Conservation Plan (MSHCP) and associated Section 10(a)(1)(B) Incidental Take Permit, Clark County owns property with riparian habitat along the lower Virgin River, known as the Virgin River Reserve Unit, Property 1 (Property). This approximately 80-acre parcel of riparian property serves as mitigation for impacts to riparian habitats and avian species covered under the MSHCP. Long-term goals for this property include the restoration and expansion of riparian habitat for covered avian species. To assist with the land management goals for the area, the Clark County Desert Conservation Program (DCP) initiated an ecohydrological assessment of the property and adjacent areas.

The goal of this project was to conduct an ecohydrological assessment and field surveys to develop detailed maps of relative elevation, vegetation canopy height, and field assessment of surface water and soils. This reach-scale assessment will provide an improved understanding of the key factors affecting restoration opportunities and constraints on the Reserve Unit. Results of the assessment will be used to make recommendations on locations and strategies for restoration. The results will also be valuable to the DCP in evaluating additional parcels that might be considered for acquisition in the future for restoration and conservation purposes.

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The major accomplishment or findings of this project include:

Tasks accomplished by the project consultant, Stillwater Sciences, included:

- *Ecohydrological Assessment.* Ecological and hydrological factors affecting river and riparian habitat dynamics were assessed for the Mormon Mesa reach of the Virgin River using geographic information systems (GIS) analysis combined with field survey data.
 - *Relative Elevation Mapping.* A GIS layer representing ground surface height above the low flow water surface of the river was generated from existing high-resolution imagery.
 - *Vegetation Canopy Height.* A GIS layer representing vegetation canopy height was generated using the existing imagery.
 - *Synthesis.* A GIS analysis was conducted using multiple sources to identify different restoration zones within the Property, and restoration strategies appropriate for each zone.
- *Field Surveys.* Field surveys were conducted to help ground-truth the remote sensing data and provide more site-specific information for restoration plan development.
 - *Field-based Vegetation Mapping.* Native and non-native vegetation on the Property were identified and mapped during field surveys. This provided a finer resolution vegetation map for the Property than was currently available.
 - *Field Assessment of Surface Water and Soils.* A focused field assessment of the distribution of surface water, soil moisture, and other soil conditions were conducted in selected sites on the Property.

For more information about this project and/or for other Project Reports or Symposium Reports, please visit our website at: <http://www.clarkcountynv.gov/Depts/dcp/Pages/default.aspx>

If you have any questions, please contact Liz Bickmore at (702) 455-2972.

Sincerely,



Marci D. Henson
Program Manager

cc:

US Fish and Wildlife Service
Board of County Commissioners (7)
Permittees' Executive Committee



desert conservation

PROGRAM

Permittees' Process Management Group

Thomas Boldt, Purchasing

Catherine Jorgenson, District Attorney – Civil Division

Desert Conservation Program Community Advisory Committee

Desert Conservation Program Interested Parties List

Multiple Species Habitat Conservation Plan Implementing Agencies

Science Advisor

SNPLMA Office (for SNPLMA projects)

Congressional Office

DCP Staff

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