

Date of Issuance: June 9, 2022

DESERT CONSERVATION PROGRAM PROJECT COMPLETION SUMMARY:

ASSESSING GENETIC DIVERSITY IN GILA MONSTER

2019-USGS-1997A

The work for the above reference project has been completed. Below is a summary of project related information.

The purpose of the above referenced project was:

The purpose of this project was to describe overall genetics of Gila Monster populations among sites sampled across Nevada and Utah. This was accomplished by describing contemporary patterns of genetic diversity and estimating effective population size for two focal sites in Clark County, Nevada (calico and mccullo), and testing for associations between genetic distance and landscape factors identified in species distribution models across Clark County, Nevada. These factors were used to determine features that may promote or impede genetic connectivity.

The major accomplishments or findings of this project include:

- Development of a genomic dataset with over 2000 nuclear SNP markers to assess genetic patterns was developed.
- Found evidence of moderate population structure throughout Nevada and Utah that partitioned populations into three regional clusters.
- Found that genetic differentiation in the Clark County portion of the species' range appears strongly associated with suitable habitat, habitat fragmentation by presumed barriers to movement (highways and rivers), and clines in climate variables, particularly temperature (minimum temperature of the coldest month and annual temperature range).

For more information about this project and/or for other Project Reports or Symposium Reports, please visit our [website](#)

If you have any questions about this project please contact DCP Project Manager John Ellis at (702) 455-3964.