

SPECIES OF MANAGEMENT CONCERN: A MULTI-AGENCY REPORT

Goodding's Willow
(*Salix gooddingii*)

TWG Meeting
April 9, 2014

PRESENTERS:

**Todd Chaudhry (GRCA), Kerry Christensen (Hualapai Tribe),
Chris Hughes and Lonnie Pilkington (GLCA), Larry Stevens (GCWC)**

TWG SPECIES OF MANAGEMENT CONCERN AD HOC COMMITTEE (SMaCAHG)

Draft Charge: Document the status of species of management concern and habitat restoration activities in the CRE, and report regularly upon those findings to the TWG. The SMCAH will advise the TWG regarding information gaps and potential ways to obtain needed information, and will provide TWG with a review of plans and documents related to CRE population and habitat restoration efforts and progress. Maintain and update the “CRE Taxa of Management Concern” white paper and data tables as information changes.

Establish?: April 9, 2014

Chair?: Larry Stevens

Members?: Shane Capron, Craig Ellsworth, others?

Hidden Slough and Leopard Frog Marsh Aquatic Habitat Enhancement and Restoration Project Glen Canyon National Recreation Area, Arizona

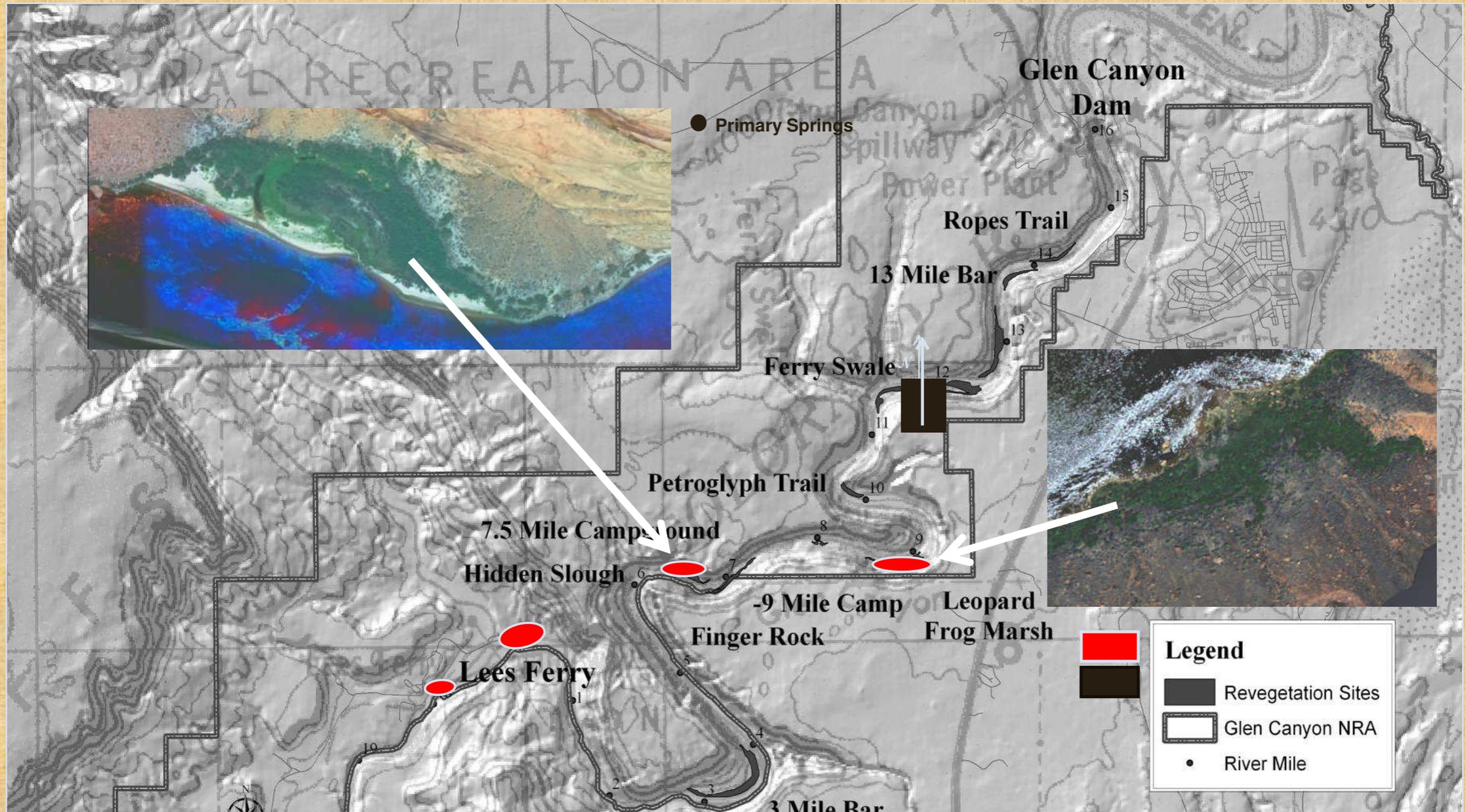


Christopher Hughes – GLCA Chief of Resource Management
Lonnie Pilkington – GLCA Natural Resource Program Manager
Larry Stevens – GCWC Senior Ecologist

30 January 2014



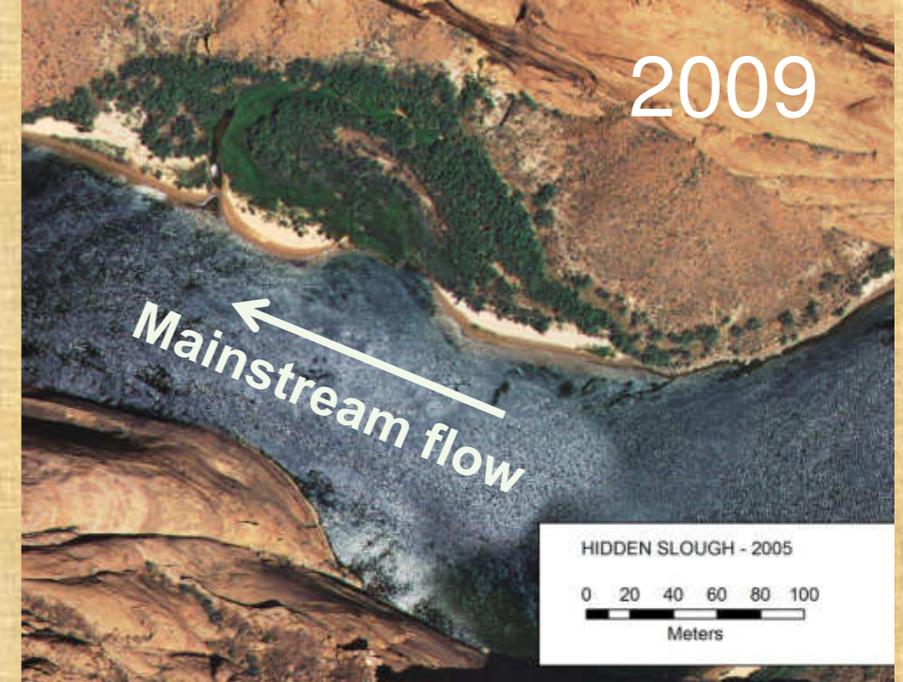
Glen Canyon National Recreation Area Riparian Rehabilitation Sites



Hidden Slough

(Colorado River Mile - 6.5 R)

- **Project Objective (2008 – 2013)**
 - Control invasive non-native plants
 - Restore native plant species, planting and seeding
 - Evaluate site for NLF establishment
- **Accomplishments**
 - Treated 5 ac acres of tamarisk
 - Reveg'd LRZ native plant species (e. g. Goodding's willow, Fremont cottonwood, fourwing saltbush)
- **Lessons Learned**
 - Phreatophytes require water table depths of $\leq 2\text{m}$
 - Beaver fencing is essential
 - At remote sites, planting poles into the water table is more efficient than use of artificial irrigation
 - Upper terrace planting requires irrigation for 2-3 yr



Hidden Slough Continued...

- **Project Objective (2014 – 2017)**
 - Control 0.7 acres of tamarisk and restore native plants to the treated area.
 - Habitat creation and enhancement actions for Northern leopard frogs
 - Excavate two to three open water ponds along the slough to enhance frog habitat.
 - If habitat creation efforts are successful, federal (USFWS and NPS) and state agency (AZGFD) partners may introduce northern leopard frogs at this site.
- **Upcoming Work**
 - Feb-March 2014 GCWC and NPS staff and volunteers invasive plant control
 - Remove irrigation lines

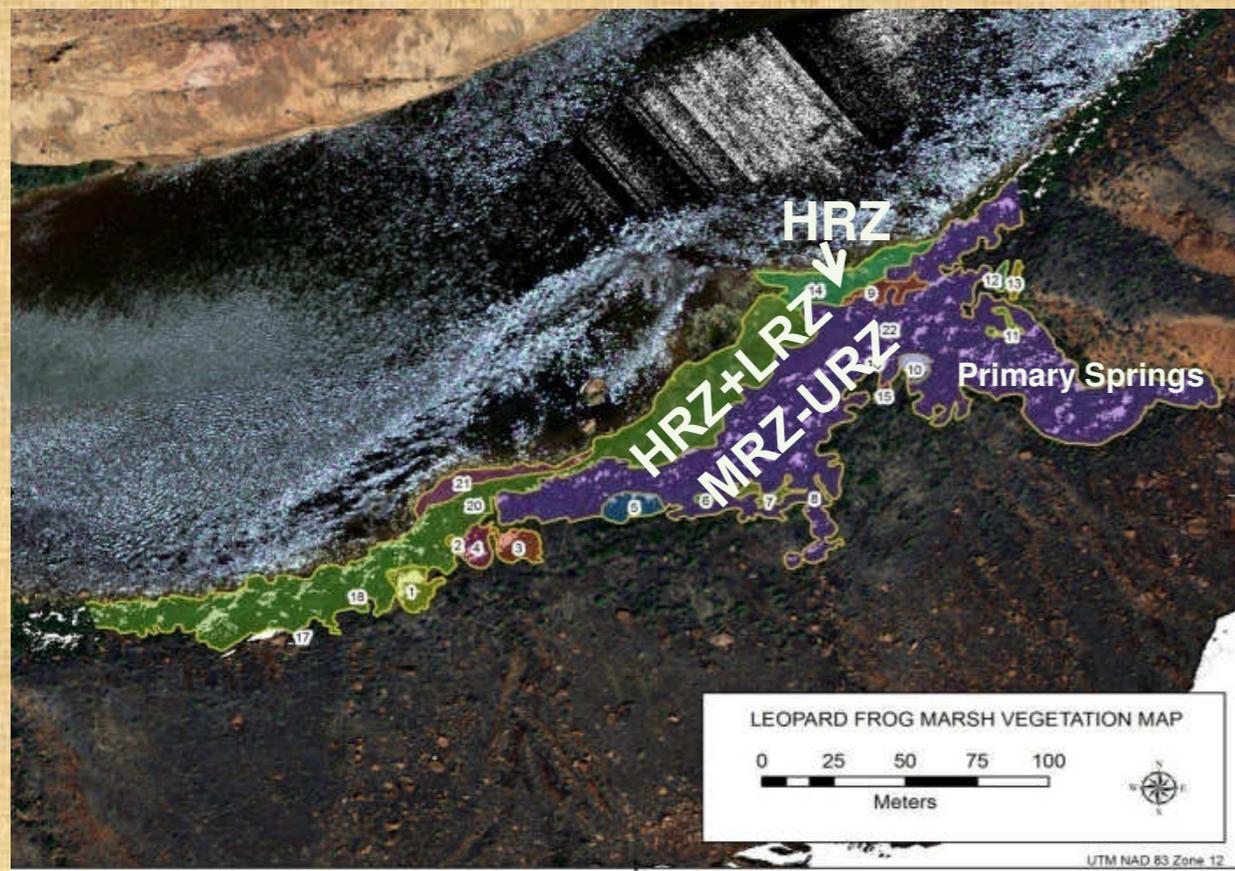


Northern leopard frog (*Lithobates pipiens*)

April 2013 On-site Planning Meeting with GCWC, USFWS, and AZGFD

Leopard Frog Marsh (Colorado River Mi. – 9.0 L)

- **Project Objectives (2011 – 2017)**
 - Map vegetation and assess site rehabilitation options
 - Control invasive NN tamarisk as needed, restore native plants adj. 2.7 ac
 - This site supported Northern leopard frogs until ≈ 1995
 - Create and maintain NLF habitat (AZ special status species)
 - Excavate 4-6 open water ponds where NLF formerly existed
 - Maintain high quality habitat for Niobrara ambersnails (Arizona spec. status)
 - Maintain populations of rare plants
 - If habitat creation efforts are successful, federal (USFWS and NPS) and state agency (AZGFD) partners may reintroduce NLF at this site.



Leopard Frog Marsh – Colorado River Mile – 9.0 L

Species of Management Concern



Leopard Frog Marsh – Colorado River Mile – 9.0 L

- **Project Plan (2011 – 2017)**
 - Control invasive non-native tamarisk as needed, restore native plants on 2.7 acres.
 - Create and maintain NLF habitat while maintaining high quality habitat for Niobrara ambersnails (Arizona special status species). Excavate four to six open water ponds in areas previously known to harbor northern leopard frogs. This site supported Northern leopard frogs until \approx 1995
 - If habitat creation efforts are successful, federal (USFWS and NPS) and state agency (AZGFD) partners may reintroduce Northern leopard frogs at this site.
- **Upcoming Work**
 - Between 03/28/2014 and 03/31/2014, GCWC and NPS staff and volunteers will begin construction of open water ponds.

Granite Camp Rehabilitation Project

Todd Chaudhry
GRCA Restoration Ecologist



- **Tamarisk Removal**
- 28 days on site
- 1662 tamarisk removed
- Selective tamarisk removal
- Avg. canopy cover of tamarisk decrease from 33% to 5%
- River camp- canopy cover decreased from 72% to 30%
- Over 60 people involved on all the trips- mostly volunteers



Tamarisk that remained



• Riparian Species

• Cottonwood

- 24 poles planted
- 6 survived
- 2 trees in Nov. 2013

• Goodding's willow

- 15 poles planted
- 6 survived
- 10 trees in Nov. 2013

– Coyote willow

- 118 poles planted
- 58 survived

• Box elder

- 5 trees planted in Nov. 2013



- Upland Trees
- April 2013
- **Mesquite**
- 45 planted
- 43 survived
- **Acacia**
- 35 planted
- 32 survived
- **Hackberry**
- 5 planted
- 5 survived



- **April 2013**
- 126 shrubs planted
- 108 survived
- **November 2013**
- 26 additional shrubs planted



Encelia farinosa



Datura wrightii



Ephedra species



Bebbia juncea

Pre-work



Post-work



Pre-work



Post-work



Pre-work





Post-work

ZEBRA-TAILED LIZARD TRANSLOCATION AND MONITORING PROJECT – HUALAPAI RESERVATION



Prepared by:

Dr. Kerry Christensen, Hualapai Tribe
Ms. Donata Dupree, Hualapai Tribe
Dr. Larry Stevens, Grand Canyon Wildlands
Council

09/09/2013

Funded by the
Bureau of Reclamation through the Glen
Canyon Dam Adaptive Management Program

Special thanks to Glen Knowles, Marianne
Crawford , and Geoffrey Carpenter

Historical Background

- **Prior to the 1983-4 flood event on the Colorado River in Grand Canyon, zebra-tailed lizards were common at the Diamond Creek dunes on the Hualapai Reservation.**
- **The flood caused river raft operators to drive over the dunes for raft take out and launch**
- **After the flood event (83-4) no more zebra-tailed lizards could be found at the Diamond Creek dunes and they were deemed as extirpated in Grand Canyon**
- **Zebra-tailed lizards, however, were still present farther south in Peach Springs Canyon**
- **Glen Canyon Dam Adaptive Management Program identified zebra-tailed lizard as a species that could likely be re-established in Grand Canyon through a translocation effort**
- **In 2012, Reclamation funded the Hualapai Tribe and Stevens Ecological Consulting to implement a translocation and monitoring effort at the Diamond Creek dunes**

DIAMOND CREEK TRANSLOCATION AND MONITORING AREA



DIAMOND CREEK WASH

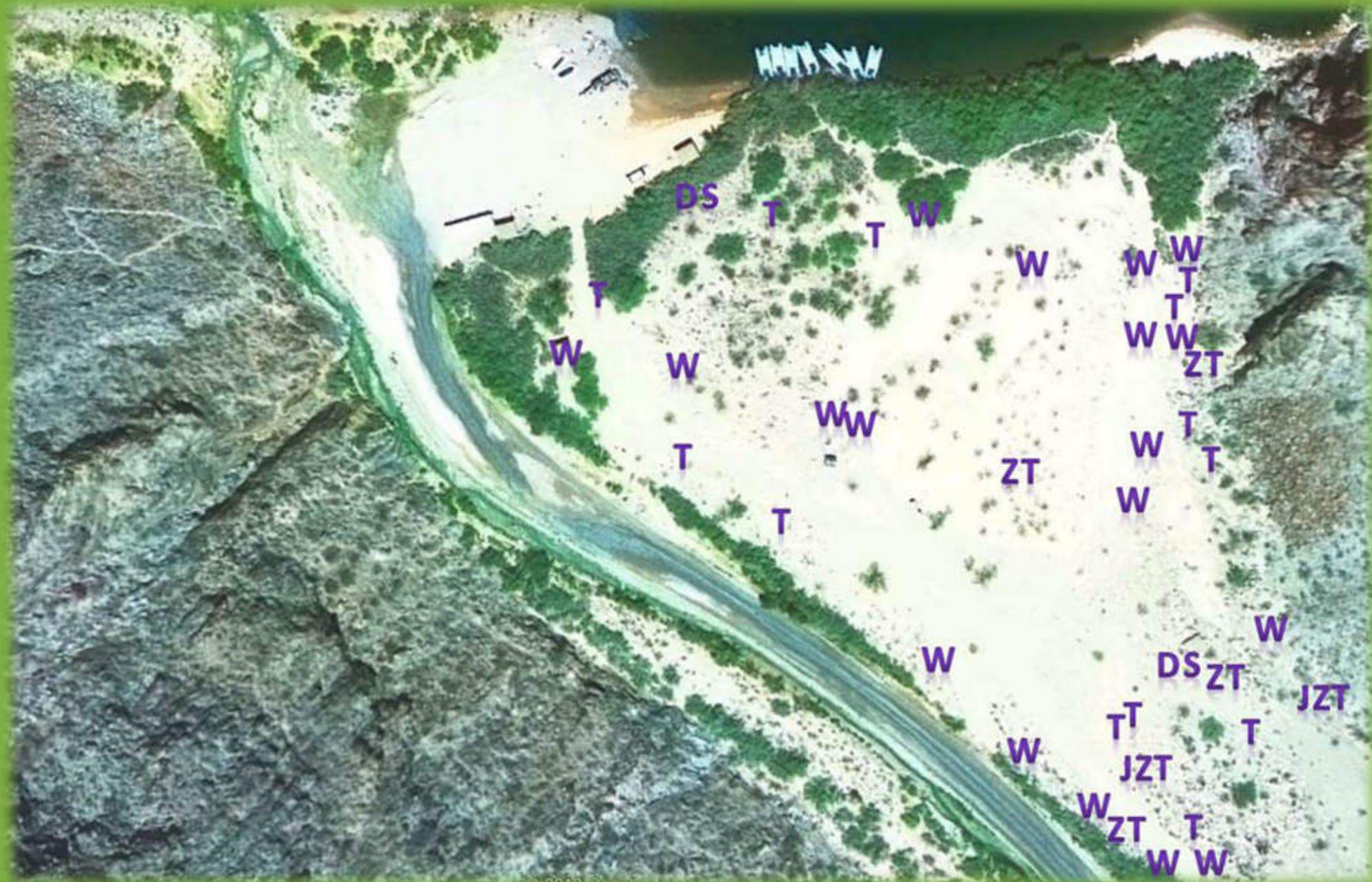


09/09/2013

Project Implementation

- On April 23, 2012, Dr. Larry Stevens, Dr. Geoffrey Carpenter and Dr. Kerry Christensen captured 5 male (1 juvenile) and 5 female ztl in Peach Springs Canyon and transported them to the Diamond Creek dunes.
- The lizards were released at three locations on and around the dunes.
- Monitoring began on May 1, 2012 and continued monthly until October, 2013
- Monitoring consisted of one person (first two surveys) or two persons (remainder of the surveys) walking around the dunes, beach and now, campground area of Diamond Creek looking for lizards for about one hour each survey
- Locations of every species of lizard was identified on an aerial photograph
- When ztl were found, environmental conditions (temp, wind, barometric pressure) were recorded, the animals behavior was noted, the distance to vegetation was noted and the vegetation species was recorded (in addition to plotting the location on the aerial photograph).

Lizard locations on one monitoring survey



Z= zebra-tailed lizard

ZA= adult ztl,

ZJ=juvenile ztl,

T= tree lizard (*Urosaurus ornatus*)

W= whiptail lizard (*Cnemidophorus tigris*)

07/31/2013

Date	# of Observers	# ZTL Located	# Juveniles	Mean Dist. To Veg.	Veg. Type
05/01/12	1	2	1	0.5	Creosote bush
05/15/12	1	3	1	0.7	Arrowweed, rabbit brush
06/26/12	2	6	1	2.5 m	Creosote, mesquite, <i>Baccharis</i>
07/24/12	2	2	0	1.3 m	Creosote, mesquite
09/04/12	2	7	0	1.0 m	Mesquite, four-o'clock, <i>Baccharis</i>, salt bush
04/02/13	2	4	2	1.7	Brittle bush
05/09/13	2	6	1	1.9	Creosote, brittle bush, catclaw
06/12/13	2	5	2	1.2	Creosote, mesquite, <i>Baccharis</i>
07/31/13	2	3	1	1.2	Creosote, brittle bush
09/09/13	2	3	1	1.3	
10/16/13	2	0	0	N/A	N/A

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SMaC-AHG Tasks

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