



Relict Leopard Frog Conservation

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Clark County MSHCP Annual Project Progress Report Symposium
16 August 2012, Project: 2009-NPS-810A



Agreements

- January 2011 MSHCP 810A awarded to NPS
- Subsequent agreement between NPS and UNLV
- NDOW/USFWS 1/3 match awarded to UNLV

Cooperators:

- Bureau of Land Management
- Arizona Game & Fish Dept
- Bureau of Reclamation
- Southern Nevada Water Authority



desert conservation
PROGRAM
respect, protect and enjoy our desert!

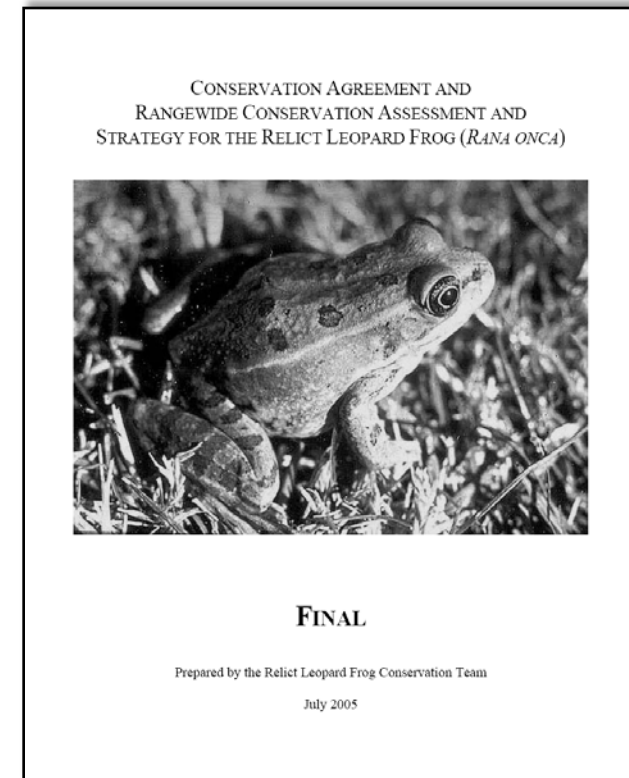


UNLV
UNIVERSITY OF NEVADA LAS VEGAS

Agreements

Implement Voluntary CAS

- Managed by RLFCT
- Monitor populations
- Manage populations & habitats to promote sustainability
- Establish additional populations in existing or created habitat
- Enhance or create habitat
- Investigate species biology & apply findings to management



Outline – Actions over the last year

- Habitat management
- Headstarting and Translocation
 - ✓ Facilities and rearing
 - ✓ New sites
 - ✓ Status of experimental sites
- Monitoring efforts
 - ✓ Visual Encounter Surveys
 - ✓ Population estimates (Mark-Recapture)
- Other actions
 - ✓ *Bd* (chytrids) sampling
 - ✓ Perkins Pond experiment
 - ✓ Las Vegas Springs Preserve

All data presented
is provisional

Habitat Management

Pupfish Refuge Spring

- Third-year completed on a BOR led project to replace tamarisk dominated vegetation



Maintenance by UNLV/NPS crew on important breeding pools, Nov 2011



EPMT crew at Pupfish Refuge Spring, Nov 2010

Habitat Management

Blue Point

- Open-up vegetation
- Maintain and create fish-free breeding pools
 - ✓ Eggs and tadpoles seen in modified habitat
 - ✓ Eggs collected for head-starting from fish-free pool

Minor actions

- Quail (BLM with UNLV)
- Bighorn Sheep (NPS)
- Boy Scout (UNLV)



Vegetation reduction along stream, January 2012

Headstarting and Translocation

Eggs collected from wild, reared to late-stage tadpoles or small frogs, then released



Collecting eggs, Jan 2011

Headstarting and Translocation

Rearing Facilities

Raceways at Lake Mead
State Fish Hatchery, 2012



NPS facility, 2011

Raceway at Willow Beach National
Fish Hatchery, 2012

Headstarting and Translocation

This year:

- 728 late-stage tadpoles & 979 frogs released...
- ...to 6 experimental sites & 1 'natural' site



Young frogs being released, May 2012

Headstarting and Translocations

Three new experimental sites added by BLM:

- Bearpaw Poppy Spring
- Horse Spring
- Lime Spring

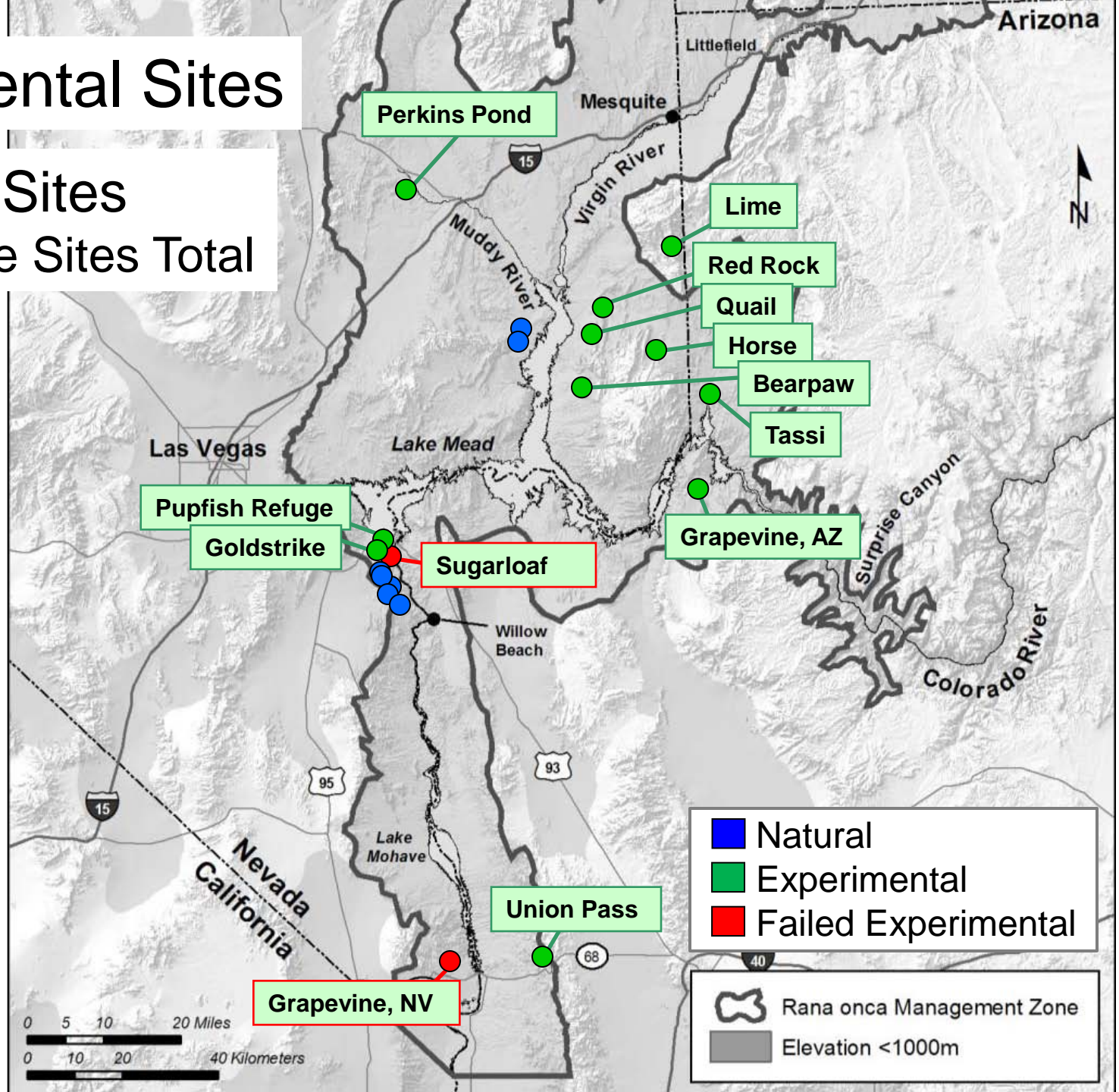
Created pool and fence
at Horse prior to
releases

Fence and pools near
springhead at Bearpaw
prior to releases



Experimental Sites

- 3 New Sites
- 11 Active Sites Total



Status of Experimental Sites

Sites of active augmentations in 2012

Site Name	Release Years	Larva	Frogs	Total	Over-Winter	Breeding	Current Status
Bearpaw*	2012	0	359	359	-	-	Active
Horse*	2012	243	0	243	-	-	Active
Lime	2012	231	68	299	-	-	Active
Union Pass	2011-12	424	240	664	Yes	-	Active
Perkins*	2010-12	1144	410	1554	No?	-	Active
Quail	2008-12	324	273	597	Yes	Yes	Probably Recruiting

* Animals from Lower Blue Point, other sites received Black Canyon animals

Status of Experimental Sites

Augmentations completed

Site Name	Release Years	Larva	Frogs	Total	Over-Winter	Breeding	Current Status
Tassi	2006-10	479	719	1198	Yes	Yes	Recruiting
Grapevine, NV	2006-07	895	250	1145	Yes	-	Failed
Red Rock	2005-10	109	511	620	Yes	Yes	Active
Goldstrike	2004-09	2185	0	2185	Yes	Yes	Recruiting
Grapevine, AZ	2004-09	4640	0	4640	Yes	Yes	Recruiting
Pupfish	2003-08	0	541	541	Yes	Yes	Recruiting
Sugarloaf	2003-05	0	426	426	Yes	Yes	Failed

Augmented 'Natural' Sites

Releases at 'Natural' sites

Site Name	Release Years	Larva	Frogs	Total
Upper Blue Point	2008, 2010	0	165	165
Lower Blue Point	2008, 2010, 2011, 2012	89	411	500
Rogers	2008, 2011	20	69	89

All animals from Lower Blue Point

Monitoring Efforts

Natural sites

Maximum count (VES) of adult & juvenile frogs

Site	Spring 2011	Fall 2011	Spring 2012
Bighorn Sheep	18	16	11
Boy Scout	23	46	34
Dawn's Canyon	8	5	6
Black Canyon	24	20	22
Salt Cedar	11	14	13
Upper Blue Point*	31	22	26
Lower Blue Point*	6	6	12
Rogers*	6	3	14
Totals	127	132	138

* Augmented sites

Monitoring Efforts

Experimental sites

Maximum count (VES) of adult & juvenile frogs

Site	Spring 2011	Fall 2011	Spring 2012
Goldstrike	15	12	30
Grapevine, AZ	148	72	189
Pupfish Refuge	31	25	47
Perkins Pond	0	2	0
Quail	164	96	114
Red Rock	19	16	15
Tassi	81	95	122
Union Pass	intro	-	34
Totals	458	318	551

Monitoring Efforts

Mark-recapture Population estimates

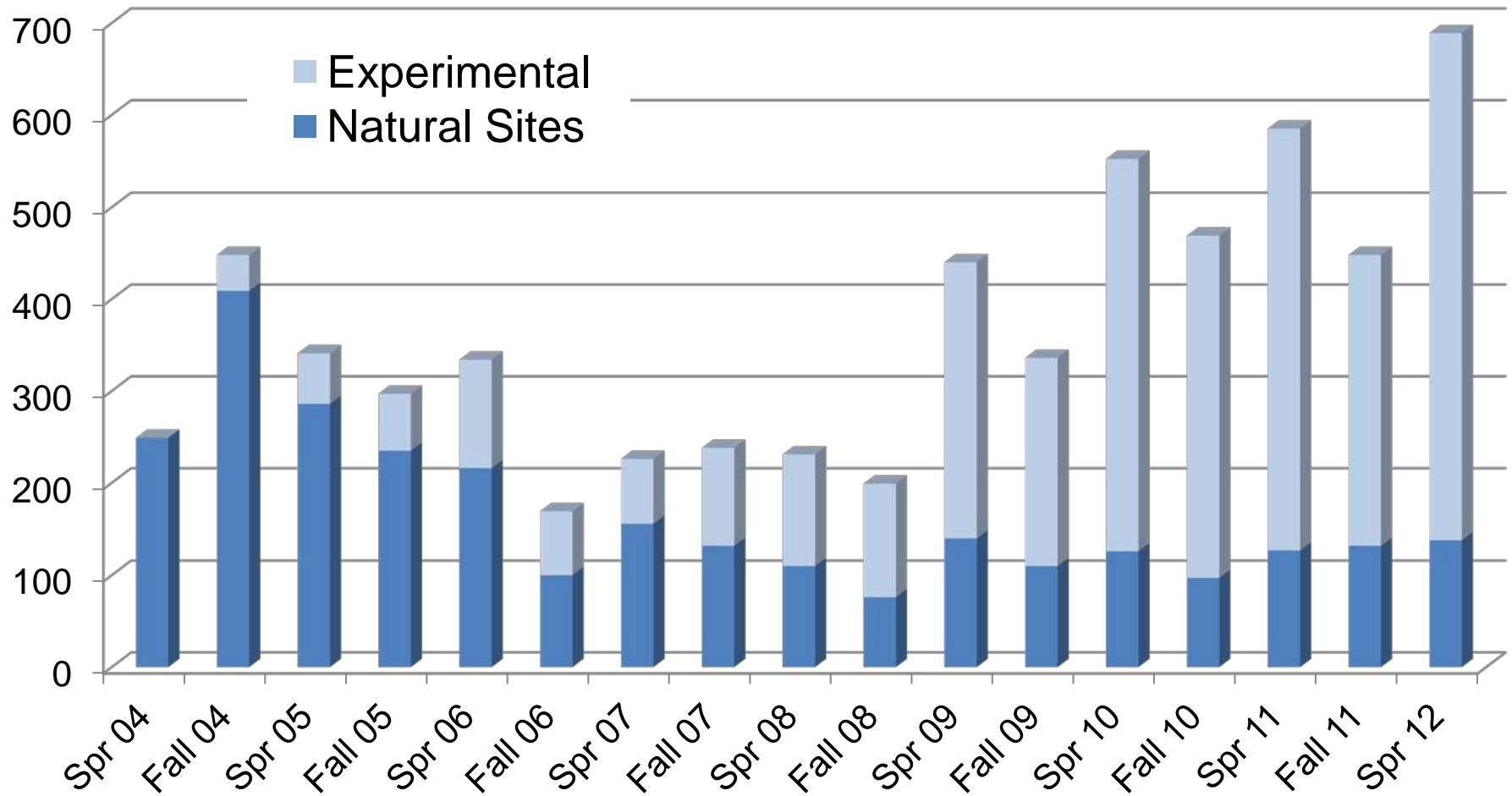
Site	Schnabel Estimate	C.I.	Number Handled	VES Spring 2012
Blue Point*	51	41-68	49	26



UNLV crew conducting mark-recapture survey at Grapevine AZ, April 2012

Monitoring Efforts

Summary (2004–2012) of adult & juvenile frog high counts (VES)



Bd Sampling (*Batrachochytrium dendrobatidis*)

Initial sampling in 2008, sampling with improved protocol 2010-2012

- *Bd* detected on Relict Leopard Frogs at one site
Relict Leopard Frogs tested at 11 sites
- *Bd* detected in other anurans regionally
Muddy River
Spring Range



Perkins Pond Experiment

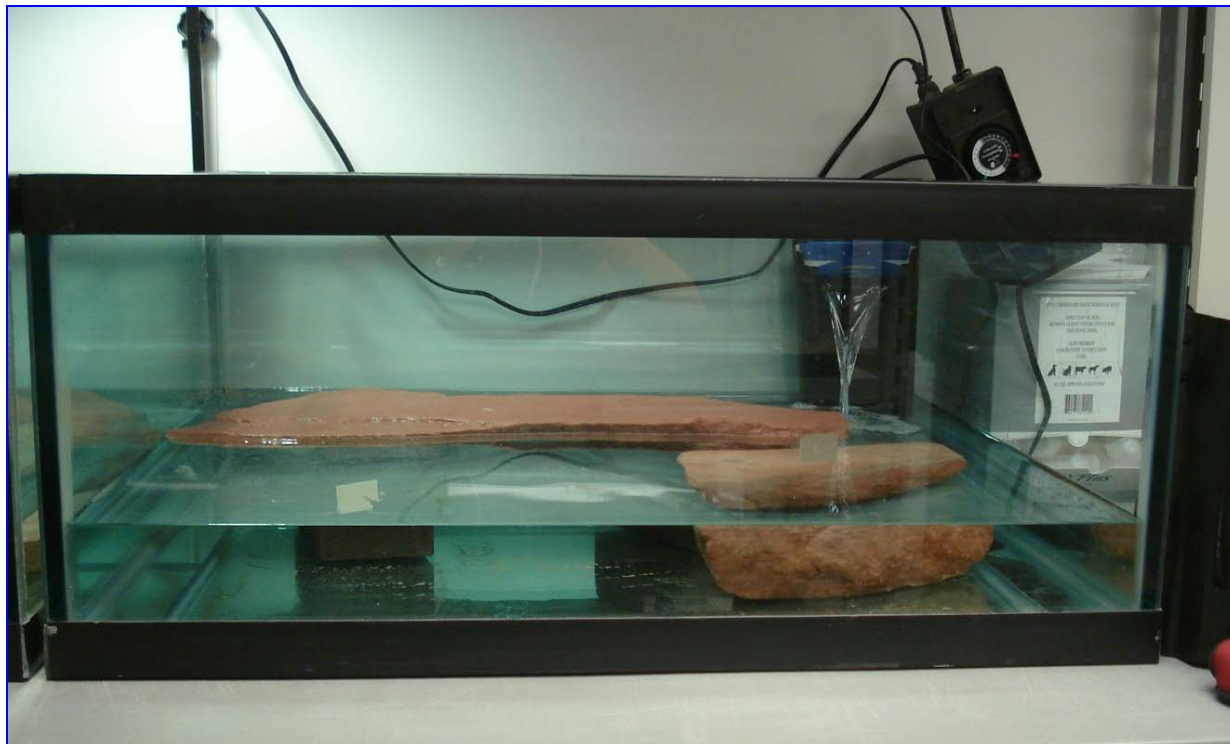
- No overwintering. Concerns about water quality.
- Late-stage tadpoles released into containers
 - ✓ 5 & 6 individuals, conducted late June – early July
- All successfully metamorphosed into frogs



Las Vegas Springs Preserve

Public Display of Relict Leopard Frogs

- 8 captive-reared frogs
- Terrarium exhibit under construction



Quarantine tanks at LVVSP, June 2012

Acknowledgments

Special Mention 2012:

- ✓ Mike Burrell
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- ✓ Everyone on the Relict Leopard Frog Conservation Team
- ✓ ...and many others...



Photos: Jef Jaeger or Rebeca Rivera