

# Relict Leopard Frog Conservation

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# New MSHCP Contract

- Awarded to NPS in early January 2011
- NDOW–USFWS 1/3 match awarded to UNLV

## Background – Voluntary CAS

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

CONSERVATION AGREEMENT AND  
RANGEWIDE CONSERVATION ASSESSMENT AND  
STRATEGY FOR THE RELICT LEOPARD FROG (*RANA ONCA*)



**FINAL**

Prepared by the Relict Leopard Frog Conservation Team

July 2005

# Talk Outline

## Actions to Date

- Habitat management
  - ✓ Lower Blue Point & Other minor actions
- Headstarting and translocation
  - ✓ Facilities, new site, compliance for future sites
  - ✓ Status of experimental sites
- Monitoring efforts
  - ✓ Spring surveys
  - ✓ Mark-recapture
- Bd (chytrids) sampling
- Other actions
  - ✓ RLFCT, Perkins Pond implementation plan...

# Habitat management activities



Fish-free pond created at Lower Blue Point, March 2008

- Pond functioned into early 2010, but overgrown
- Egg masses collected in February & March 2010
- But by late spring 2010, the water intake had filled with debris and the pond was mostly dry

# Habitat management activities



January 2011

- Egg masses collected from the pool in February–March 2011
- But by July, intake had again filled with debris and the pond was mostly stagnant and drying

## Headstarting and translocation activities

- Restructured NPS laboratory (expanding tank capacity)
- Established a raceway at Lake Mead State Fish Hatchery
- Modified protocols and raceway at Willow Beach National Fish Hatchery
- This year's releases:
  - ✓ 1125 late-stage tadpoles and 285 froglets...
  - ...to 3 experimental and 2 natural sites

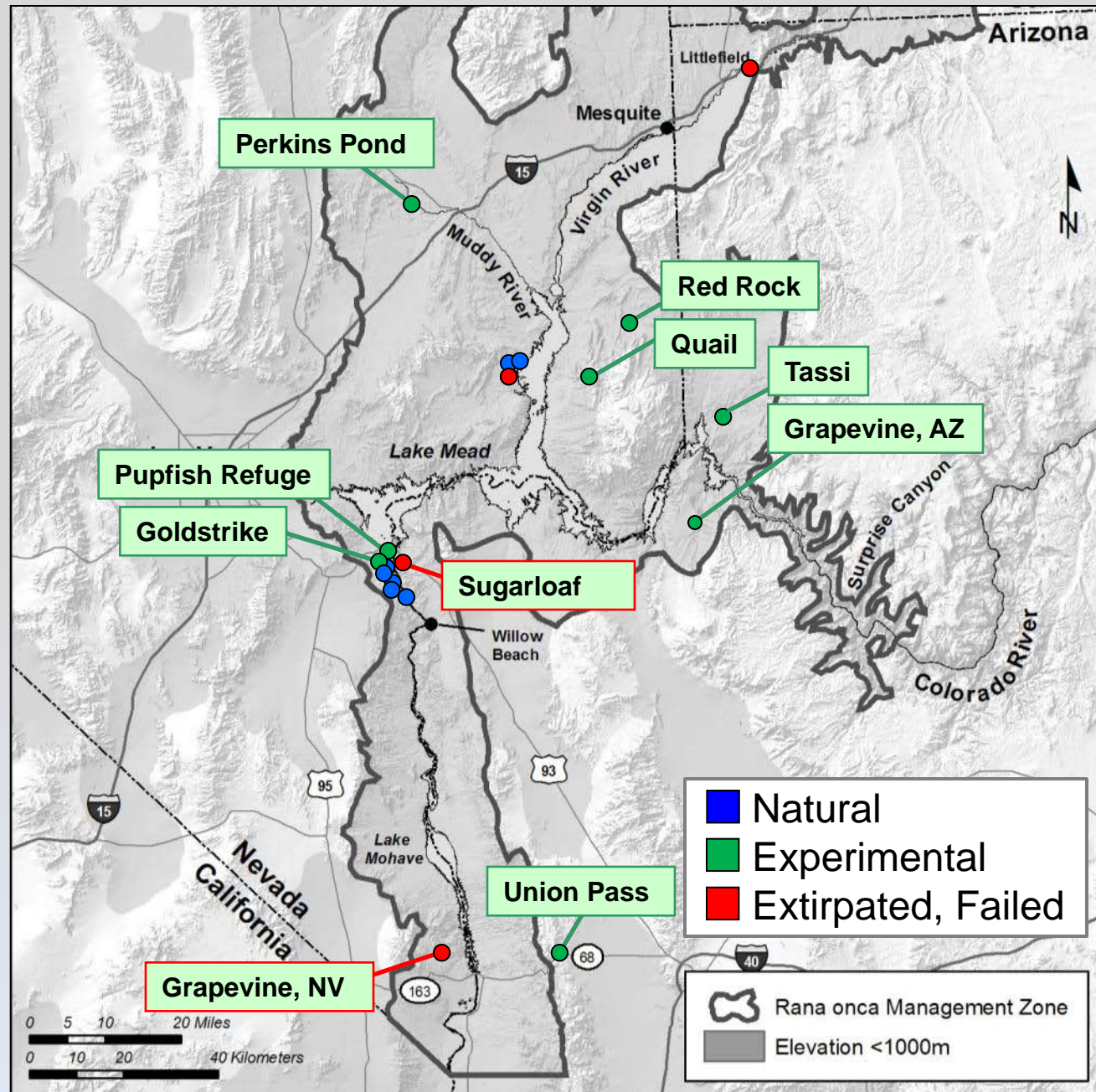
Tanks at NPS facility  
January 2011



# Headstarting and translocation activities

## Status of experimental sites

- 8 active sites (including Union Pass)
- New compliance efforts



# Status of experimental sites

Site Name	Release Years	Totals	Breakdown Larva, Frogs	Over-Winter	Breeding	Current Status
Union Pass	2011	272	242 , 30	?	?	Active
Perkins*	2010-11	1342	1072 , 270	?	?	Active
Quail	2008-11	527	324 , 203	Yes	Yes	Breeding
Tassi	2006-10	1198	479 , 719	Yes	Yes	Recruiting
Grapevine, NV	2006-07	1145	895 , 250	Yes	-	Failed
Red Rock	2005-10	620	109 , 511	Yes	Yes	Breeding
Goldstrike	2004-09	2185	2185 , 0	Yes	Yes	Breeding
Grapevine, AZ	2004-09	4640	4640 , 0	Yes	Yes	Recruiting
Pupfish	2003-08	541	0 , 541	Yes	Yes	Recruiting
Sugarloaf	2003-05	426	0 , 426	Yes	Yes	Failed

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



# Headstarting and translocation activities

## Augmentation of 'natural' sites

Site Name	Release Years	Total Released	Breakdown (Larva, Frogs)
Upper Blue Point	2008, 2010	165	0, 165
Lower Blue Point	2008, 2010, 2011	268	89, 279
Rogers	2008, 2011	89	20, 69

All animals from Lower Blue Point

# Visual Encounter Survey results

- Experimental sites

## Maximum count of frogs

Site	Spring 2010	Fall 2010	Spring 2011
Goldstrike	18	27	15
Grapevine, AZ	132	101	148
Pupfish Refuge	42	38	31
Perkins Pond	intro	17	0
Quail	169	191	164
Red Rock	15	10	19
Tassi	50	5	81
Union Pass	-	-	intro
Totals	426	389	458

# Visual Encounter Survey results

- Natural sites

## Maximum count of adult and juvenile frogs

Site	Spring 2010	Fall 2010	Spring 2011
Bighorn Sheep	25	5	18
Boy Scout	23	20	23
Dawn's Canyon	4	3	8
Black Canyon	25	17	24
Salt Cedar	21	26	11
Upper Blue Point*	30	26	31
Lower Blue Point*	10	3	6
Rogers*	1	2	6
Totals	139	102	127

\* Augmented sites

# Mark-recapture study

Conducted seasonally since 2007

- This spring estimate = 55 frogs  
44–72 ci, minimum = 48
- About half the frogs are counted during the ‘better’ VES at this site (and sometimes far fewer)
- Majority of these frogs were headstarted and released at this site
- No tadpoles seen – little natural recruitment observed



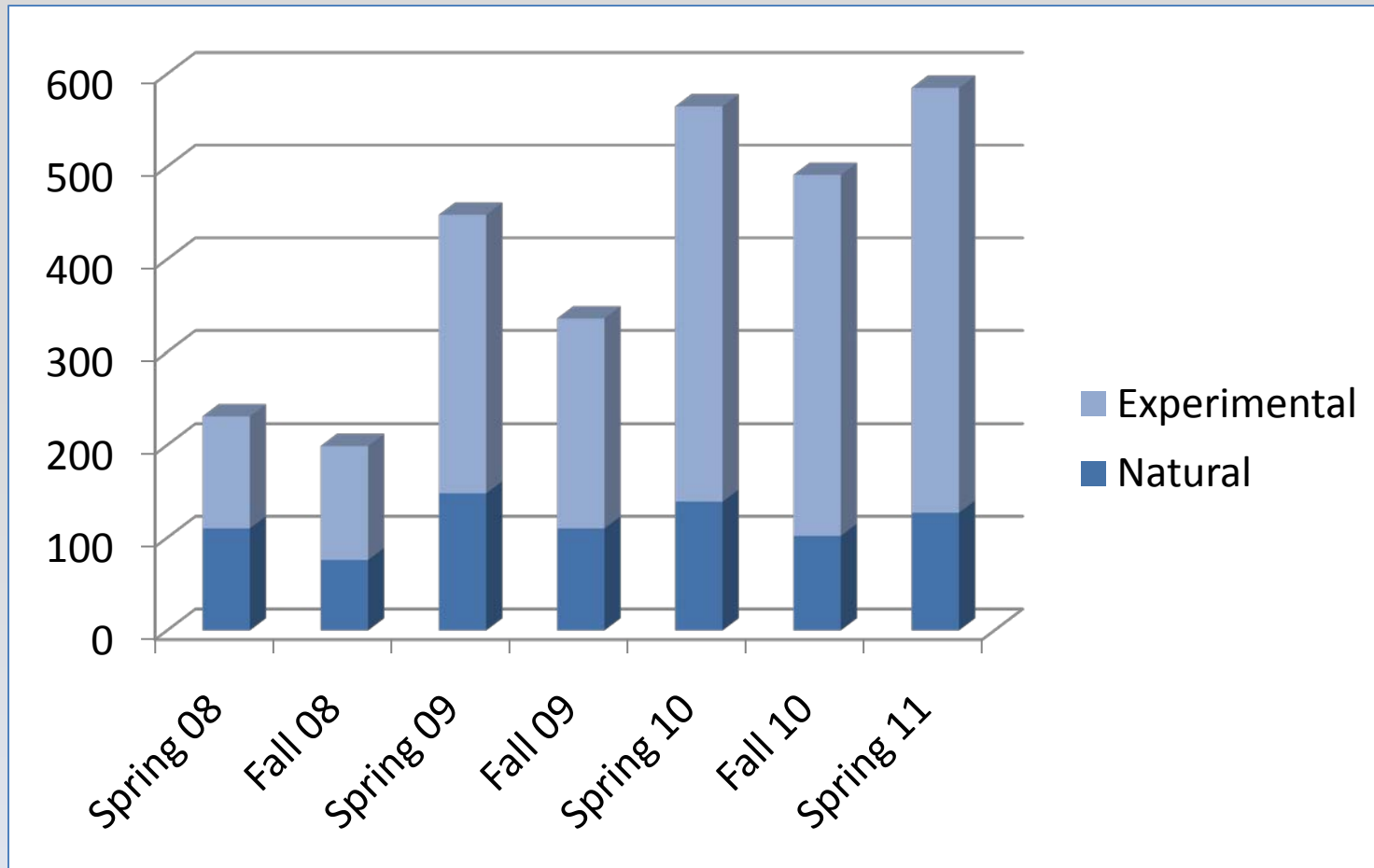
## Bd sampling (*Batrachochytrium dendrobatidis*)

- Initial testing in 2008, protocols modified in 2010 & 2011, continuing into 2012
- To date, 162 samples tested from 10 sites (6 natural, 4 experimental), representing mostly relict leopard frogs
- In related work, bullfrogs also tested on the Muddy River, near Perkins Pond



# Visual Encounter Surveys

## Summary (2008–2011) of adult & juvenile frogs



# Relict Leopard Frog Conservation Acknowledgments

Clark County

Nevada Dept of Wildlife

U.S. Fish & Wildlife Service

School of Life Sciences, UNLV

Arizona Game & Fish Dept

Bureau of Land Management

Willow Beach Nat. Fish Hatchery

Lake Mead State Fish Hatchery

Bureau of Reclamation

## **Special Mention (2011)**

Mike Burrell

Jon Sjoberg

Mike Sredl

Mark Slaughter

Dawn Fletcher

Milind Bunyan

...and many others on  
the Relict Leopard Frog  
Conservation Team...

Photos: Jef Jaeger

All data presented are provisional