

Mammals of the Las Vegas Wash

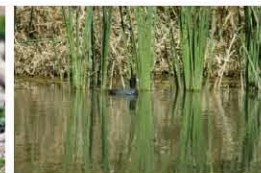
February 2, 2010



Marissa Foster
Southern Nevada Water Authority



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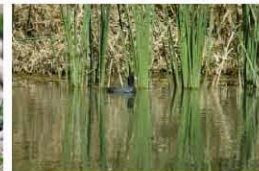


Las Vegas Wash

- The Las Vegas Wash (Wash) is a perennial stream that carries treated wastewater, storm flows, ground water and urban run-off back to Lake Mead from the Las Vegas Valley
- Flows from the Las Vegas Wash make up less than 2% of the water flowing into lake Mead



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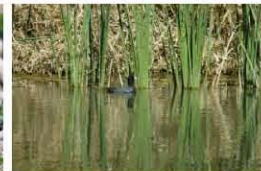


Las Vegas Wash Coordination Committee History

- The Las Vegas Wash Coordination Committee (LVWCC) was established in 1998
- This committee consists of 30 stakeholders
- In 2000 the committee finalized the Las Vegas Wash Comprehensive Adaptive Management Plan (CAMP)
- One of the requirements of the CAMP was to create a long-term fish and wildlife management plan
- The Wildlife Management Plan (WMP) was finalized by the committee in 2008
- One of the recommendations of the WMP was to conduct baseline surveys

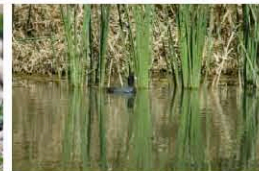
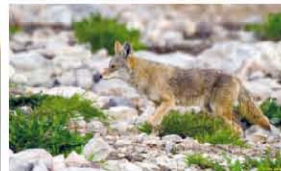


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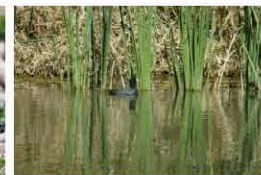
Mammal History

- **Baseline surveys were originally conducted by Bradley and Niles in 1972 (Bradley and Niles 1973)**
- **Large mammal activity was surveyed through observation, tracks and sign**
- **Bats were known through mist netting or shooting**
- **Small mammals were surveyed using snap traps**
- **Small mammals were studied again by UNLV in 2002**



Large Mammals

- Three camera traps were set up in the same site/habitat for a maximum of one week
- One camera baited with food, another had urine as lure and the third had both urine and food as lure
- Cameras are moved to 12 different sites
- 12 sites are repeated each season
- Study began in the middle of November 2009
- 5 large mammals have been identified
 - Striped skunk for the first time since the 1970's
 - First photos of beaver
 - Ring-tailed cat, coyote and cotton tail rabbits

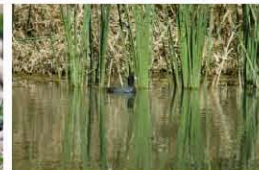


Large Mammals



Small Mammals

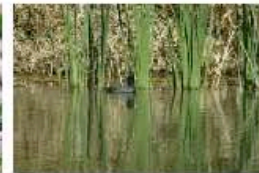
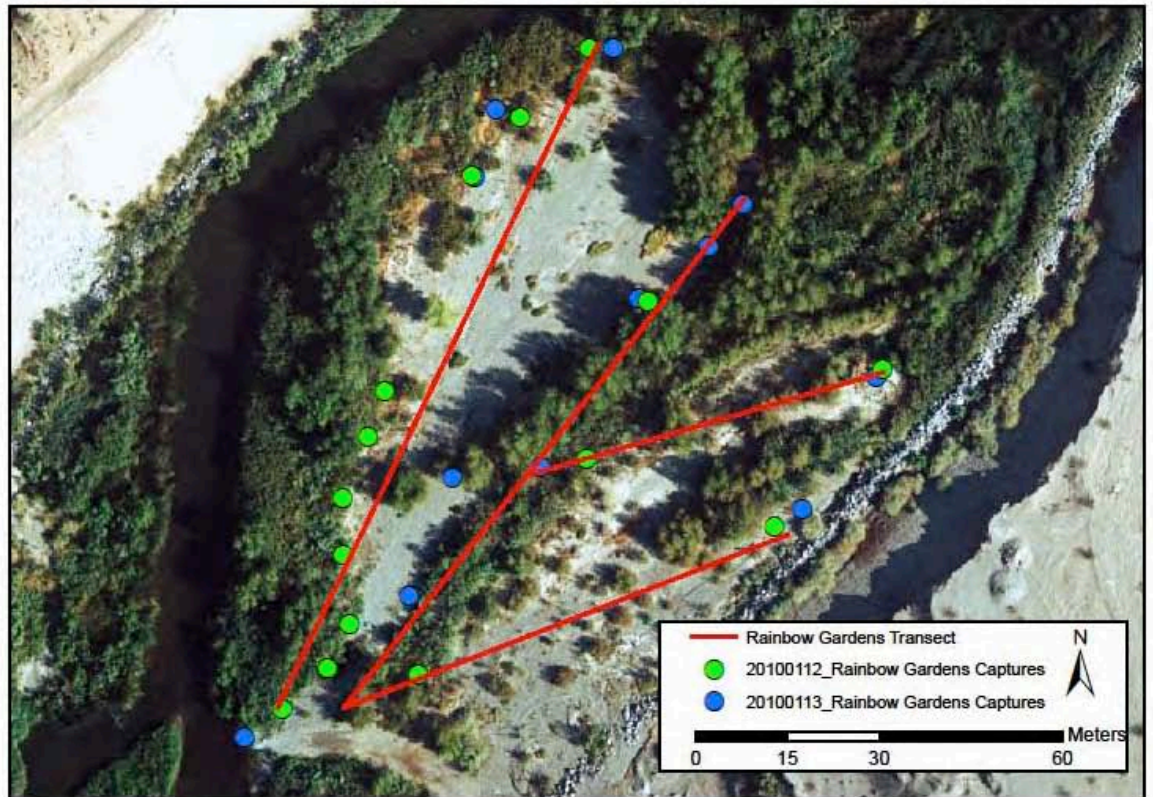
- Study began in August 2009
- 8 study sites
- 9 species have been identified
- Western harvest mouse (*Reithrodontomys megalotis*) has been found on 4 sites
- House Mouse (*Mus musculus*) and the Cactus mouse (*Peromyscus eremicus*) are the two dominant species
- Bot fly larvae found in one male Cactus mouse and one female Cactus mouse
- Both mice were found within a couple traps of each other at Historic lateral and both were recaptured the second night



Small Mammals

- First month of data for Rainbow Garden Islands
- 4 transect, 2 parallel to the Wash with two parallel diagonals attached
- All data collected with a GPS Trimble unit

Small Mammal Transect and Capture Points

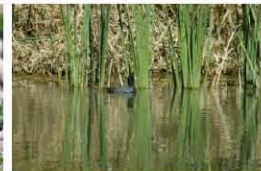


Small Mammals

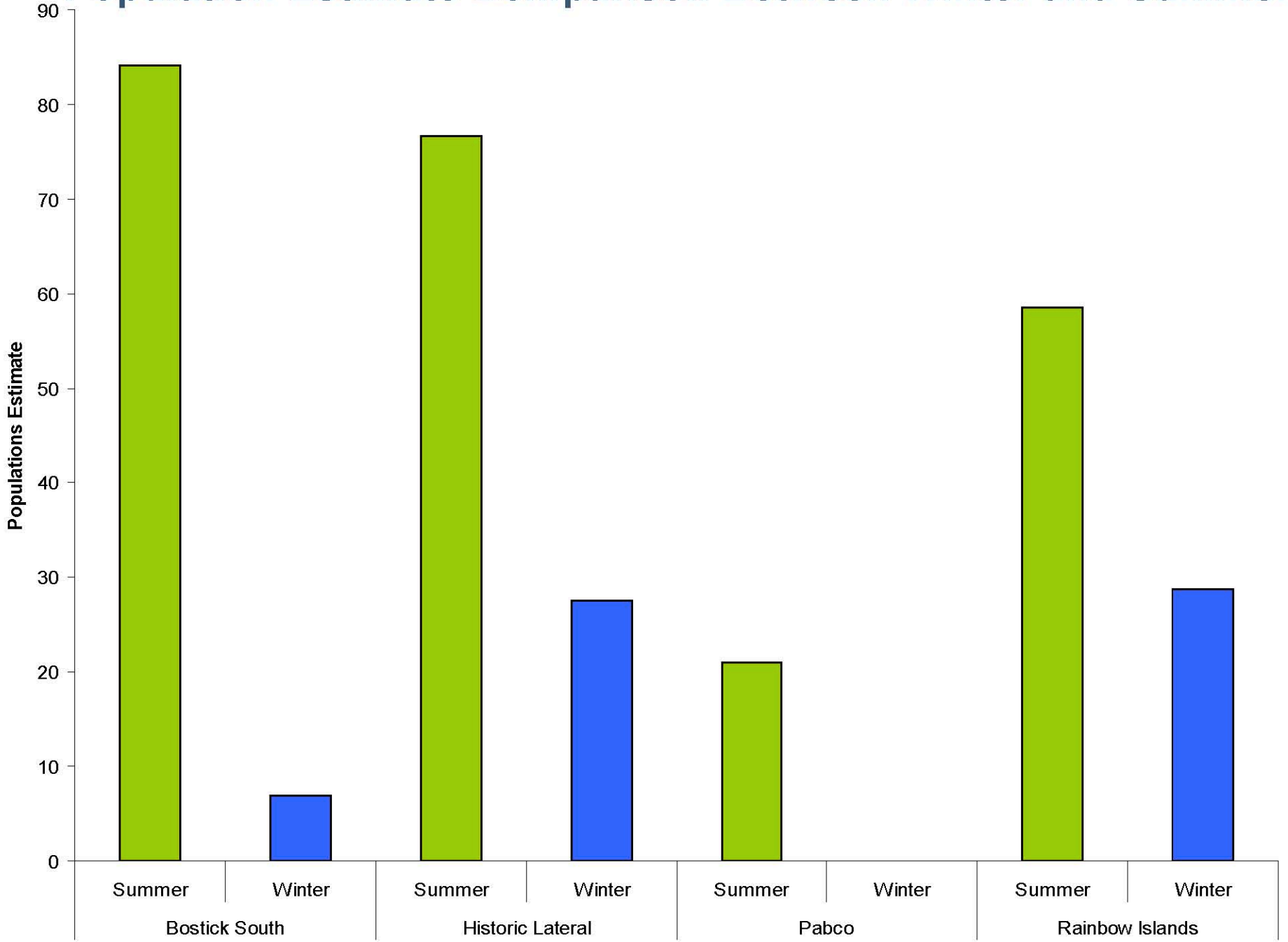
Month	Year	Site	Day 1 (n1)	Day 2 (n2)	Recapture (m2)	LP Pop. Est.	Total Caught	Day 1 Trap total	Day 2 Trap Total	Total Traps	Capture % (total caught/trap total)
August	2009	Bostick South	25	35	10	84	60	72	72	144	42%
August	2009	Rainbow Islands	16	27	7	59	43	42	42	84	51%
August	2009	Historic Lateral	37	46	22	77	83	56	56	112	74%
August	2009	Pabco	10	7	3	21	17	22	22	44	39%
September	2009	Upstream Bostick North	9	10	3	27	19	21	21	42	45%
September	2009	Cottonwood Cell	16	13	3	59	29	53	53	106	27%
September	2009	Pabco North	5	n/a	n/a	n/a	5	32	n/a	32	16%
September	2009	Nature Preserve	15	n/a	n/a	n/a	15	40	n/a	40	38%
January	2010	Bostick South	3	1	0	7	4	54	54	108	4%
January	2010	Rainbow Islands	15	12	6	29	27	39	39	78	35%
January	2010	Historic Lateral	15	15	8	27	30	42	42	84	36%
January	2010	Pabco	0	0	0	0	0	20	20	40	0%



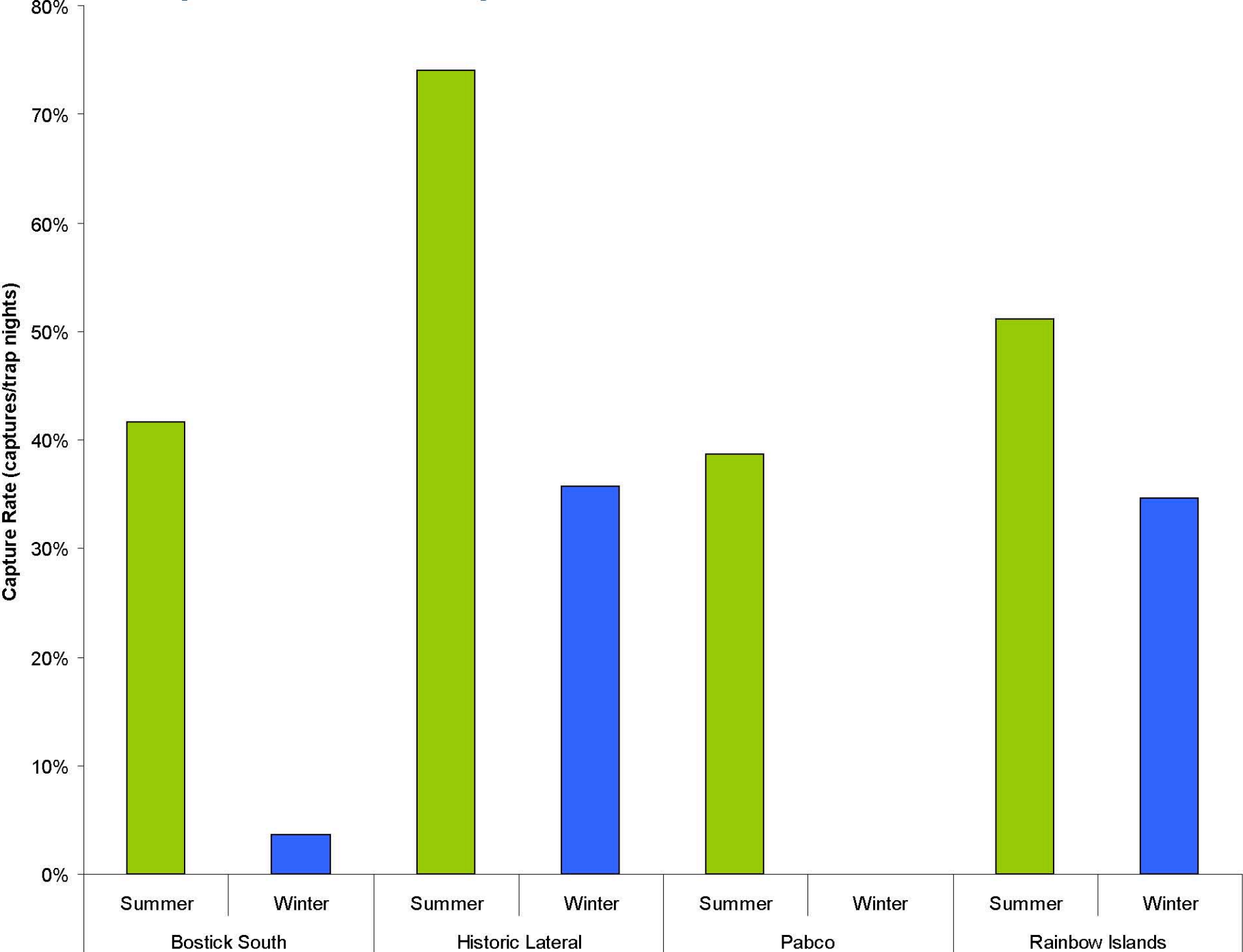
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Population Estimate Comparison Between Winter and Summer

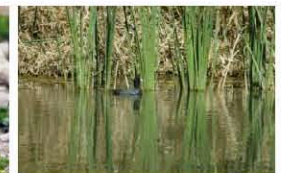
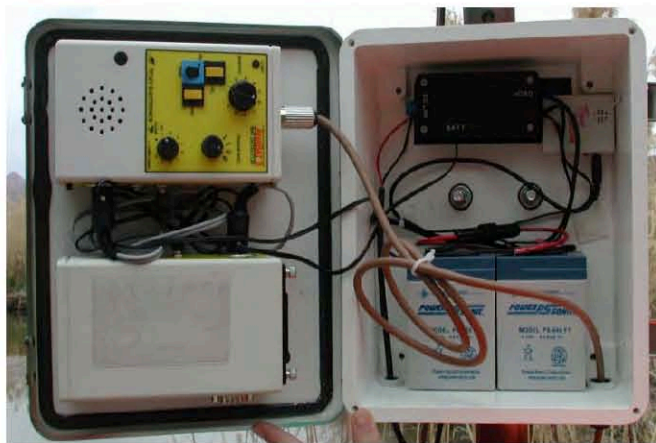


Capture Rate Comparison Between Summer and Winter



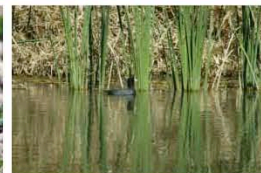
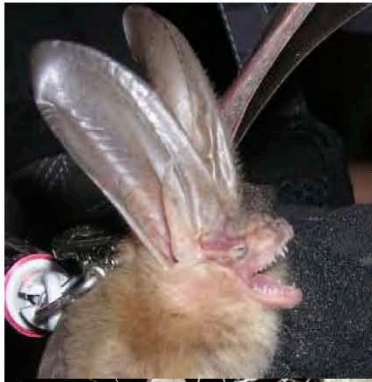
Bat Acoustic

- Three acoustic stations were established in January 2004
- 17 species were recorded from 2004-2005
- Study continued through 2008
- No recordings most of 2009 due to vandalism



Bat Capture

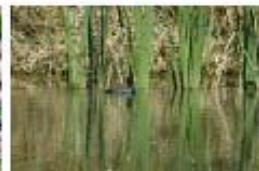
- The capture survey began in June 2008
- 4 repeated capture sites
- Mist nets and Harp traps used
- Main net was a triple high mist net
- Majority of netting was done in revegetation sites
- In two years 8 species were captured
- Weight, ear, tragus and hind foot were all measured
- Sex, sexual reproduction status and age were also recorded



Bat Capture

2008 Bat Capture Summary

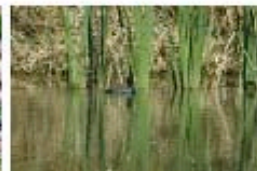
Year	Month	Site	Species	Total
2008	June	Pabco	Antrozous Pallidus, Pallid Bat	13
			Lasiurus Xanthinus, Wester Yellow Bat	1
2008	June	Nature Preserve	Parastrellus Hesperus, Canyon bat	3
			Antrozous Pallidus, Pallid Bat	2
			Lasiurus Xanthinus, Wester Yellow Bat	1
2008	July	Nature Preserve	Parastrellus Hesperus, Canyon bat	1
			Tadarida brasiliensis, Mexica Free-tailed bat	2
			Myotis ciliolabrum, Western small footed bat	1
			Myotis Cal/Cil	1
2008	July	Pabco	Antrozous Pallidus, Pallid Bat	2
			Myotis californicus, California myotis	1
			Lasiurus Xanthinus, Wester Yellow Bat	1
2008	July	LLVMW	Parastrellus Hesperus, Canyon bat	1
			Myotis californicus, California myotis	3
			Antrozous Pallidus, Pallid Bat	1
			Myotis yumanensis, Yuma myotis	1
2008	August	LLVMW	Myotis yumanensis, Yuma myotis	8
			Myotis californicus, California myotis	1
2008	September	Nature Preserve	Myotis yumanensis, Yuma myotis	1
			Myotis californicus, California myotis	1
2008	September	Pabco	Myotis yumanensis, Yuma myotis	1
			Myotis californicus, California myotis	3
			Tadarida brasiliensis, Mexica Free-tailed bat	1
2008	September	Cottonwood Cell	Antrozous Pallidus, Pallid Bat	1
2008	September	LLVMW	Myotis ciliolabrum, Western small footed bat	4
			Myotis yumanensis, Yuma myotis	5
			Myotis californicus, California myotis	6
2008	October	LLVMW	Myotis yumanensis, Yuma myotis	3
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Bat Capture

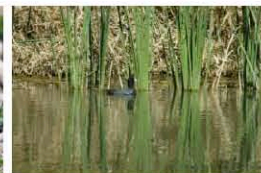
2009 Bat Capture Summary

Year	Month	Site	Species	Total
2009	April	Pabco	Antrozous Pallidus, Pallid Bat	1
2009	May	Nature Preserve	Myotis yumanensis, Yuma myotis	1
2009	May	Pabco	Antrozous Pallidus, Pallid Bat	9
2009	May	Cottonwood Cell	Antrozous Pallidus, Pallid Bat	1
2009	May	LLVMW	Myotis yumanensis, Yuma myotis	3
			Myotis Cal/Cil	2
2009	June	Nature preserve	Antrozous Pallidus, Pallid Bat	1
			Myotis yumanensis, Yuma myotis	1
2009	June	Pabco	Antrozous Pallidus, Pallid Bat	11
2009	June	Cottonwood Cell	Antrozous Pallidus, Pallid Bat	3
2009	July	Nature Preserve	Myotis yumanensis, Yuma myotis	7
2009	July	Pabco	Antrozous Pallidus, Pallid Bat	12
2009	July	Cottonwood Cell	Antrozous Pallidus, Pallid Bat	1
			Myotis Cal/Cil	1
2009	July	LLVWM	Myotis yumanensis, Yuma myotis	37
			Parastrellus Hesperus, Canyon bat	1
			Myotis Cal/Cil	1
2009	August	Pabco	Myotis yumanensis, Yuma myotis	2
			Antrozous Pallidus, Pallid Bat	2
			Parastrellus Hesperus, Canyon bat	1
			Lasiurus Xanthinus, Wester Yellow Bat	1
2009	August	Cottonwood Cell	Tadarida brasiliensis, Mexica Free-tailed bat	1
2009	August	LLVWM	Myotis yumanensis, Yuma myotis	3
			Myotis Cal/Cil	1
2009	September	Nature Preserve	Myotis californicus, California myotis	1
2009	September	Pabco	Antrozous Pallidus, Pallid Bat	3
			Tadarida brasiliensis, Mexica Free-tailed bat	1
			Corynorhinus townsendii, townsend's Big-eared Bat	1
2009	September	LLVMW	Myotis yumanensis, Yuma myotis	13
			Tadarida brasiliensis, Mexica Free-tailed bat	1
			Myotis Cal/Cil	1
				125



6 Year Comprehensive Report

- The comprehensive report will include both acoustic and capture data
- Five years of acoustic data and two years of capture data
- Capture data for the two years has been compiled
- Analysis of acoustic data from 2006 through 2008 is almost complete
- Report should be finalized by the middle of the summer



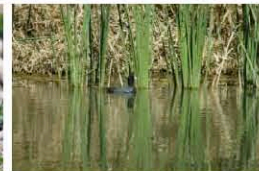
Funding

Bureau of Reclamation - Mammals

Project Name SNWA Staff Use	Funding Agency	Grant Amount	Total Project Budget	Total Spent To Date (w/o salaries)	Salary Total
Acoustic Bat Monitoring	BOR	\$20,000	\$20,000	\$19,969	\$0
Acoustic and Capture Bat Monitoring	BOR	\$68,918	\$68,918	\$14,713	\$0
Bats, Large and Small Mammals	BOR	\$94,689	\$94,689	\$1,082.45	\$4,660



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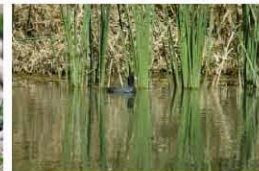


Conclusion

- **Large mammal study began in November 2009 and will continue through November 2010**
- **Small mammal study began in August 2009 and will continue through November 2010**
- **The 6 year comprehensive report will be completed this summer**



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QUESTIONS?



Marissa Foster
702 – 822 – 3382
marissa.foster@snwa.com



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