

12-31-2007

Lake Mead National Recreation Area Sensitive Wildlife Species Monitoring and Analysis: Quarterly Progress Report, Period Ending December 31, 2007

Margaret N. Rees

University of Nevada, Las Vegas, peg.rees@unlv.edu

Follow this and additional works at: https://digitalscholarship.unlv.edu/pli_lake_mead_wildlife



Part of the [Desert Ecology Commons](#), [Environmental Indicators and Impact Assessment Commons](#),
and the [Environmental Monitoring Commons](#)

Repository Citation

Rees, M. N. (2007). Lake Mead National Recreation Area Sensitive Wildlife Species Monitoring and Analysis: Quarterly Progress Report, Period Ending December 31, 2007. 1-10.

Available at: https://digitalscholarship.unlv.edu/pli_lake_mead_wildlife/8

This Report is protected by copyright and/or related rights. It has been brought to you by Digital Scholarship@UNLV with permission from the rights-holder(s). You are free to use this Report in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/or on the work itself.

This Report has been accepted for inclusion in Wildlife Monitoring by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.



QUARTERLY PROGRESS REPORT

University of Nevada, Las Vegas
Period Ending December 31, 2007

Cooperative Agreement Number: H8R07060001
Task Agreement Number: J8R07060012

Monitoring and Evaluation of Sensitive Wildlife at
Lake Mead National Recreation Area

Executive Summary

Project 1. Relict Leopard Frog Monitoring, Management, and Research

- Fall surveys completed at all natural and translocation sites.
- Coordination for a potential translocation site on BLM lands in the Gold Butte area ongoing – the aim is that this site will be ready for translocations in 2008.
- Coordination ongoing for evaluation of a translocation site on BLM lands in the Black Mountains, AZ – the plan is to complete compliance in 2008.
- Coordination and assistance provided to UNLV research efforts on habitat improvements at Blue Point, Rogers, and Pupfish Refuge springs.
- Relict Leopard Frog Conservation Team meeting held in December.
- Draft annual report completed.
- Annual Work Plan and Detailed Timeline associated with MSHCP project completed.
- Data Management Plan associated with MSHCP project completed.

Project 2. Bald Eagle Winter Monitoring and Evaluation

- Technical assistance provided for project consultations with Clark County.
- Preparations for the 2008 winter count initiated.

Project 3. Peregrine Falcon Monitoring and Evaluation

- Technical assistance provided for project consultations with Clark County.
- Peregrine falcon monitoring activities initiated in December to evaluate the onset of courtship activities.
- Preparation for 2008 population surveys initiated.
- Preparations to evaluate call-broadcast methodology initiated.

Project 4. Assessment of Six Covered and Three Evaluation Bird Species

- Technical assistance provided for project consultations with Clark County.
- Annual Work Plan and Detailed Timeline associated with MSHCP project completed.
- Two Data Management Plans associated for companion MSHCP projects completed.
- Selection and evaluation of field sites for intensive monitoring surveys initiated.
- Work on thrasher modeling ongoing.

Project 5. Desert Tortoise Monitoring and Management.

- Compliance activity completed.
- Population surveys removed from a modification of this task agreement.

Project 6. Shorebird Monitoring on Lakes Mead and Mohave

- Twenty-one surveys were conducted this quarter of monitored sites on Lakes Mead and Mohave.

Project 7. Desert Bighorn Sheep Habitat Use Monitoring in Relation to Highway Development.

- GPS collars were released this quarter as programmed; efforts to retrieve these collars have been hampered by battery failures in both satellite and VHF units.

Other Activities

- A part-time research assistant was hired to assist with compiling and assessing historical location data for targeted songbirds.

Program Activities

The task agreement was awarded to the University of Nevada, Las Vegas (UNLV) on October 1, 2006. Research, monitoring, and management activities are conducted primarily by UNLV Public Lands Institute (PLI) employees. During the quarter ending December 31, 2007, activities that have occurred toward meeting deliverables in the statement of work are described below.

Note that several of the projects are now covered under activate agreements between Clark County and Lake Mead National Recreation Area (LAME) under the Multiple Species Habitat Conservation Plan (MSHCP). To assist the NPS with reporting requirements and in consultation with Mr. Ross Haley (Task Agreement ATR) and Mr. Kent Turner (LAME Resource Management Chief), the format for reporting on two of these projects has been modified to match Clark County quarterly report requirements; the same reporting requirements will be initiated for two more projects next quarter.

Hiring and Student Opportunities

Dane Gerace continued as a part-time intern this quarter. Josh Greenwood was hired part-time (as an element of a post-masters research position) to assist with compiling and assessing historical location information on targeted songbirds.

Project 1. Relict Leopard Frog Monitoring, Management and Research

The MSHCP project titled ‘Relict Leopard Frog Monitoring and Management (*Rana onca*)’ (2005-NPS-476-P) was initiated on September 4, 2007. The following information has been formatted to meet Clark County quarterly report requirements.

QUESTION 1: What did you accomplish during this reporting period? How did these accomplishments help you reach the goal of your project? If relevant, what indicators or benchmarks were used to determine your progress?

This quarterly report describes milestones and deliverables as identified and numbered in the Annual Timeline and Work Plan for this project. All milestones and deliverables for this quarter have been accomplished, as summarized below.

Milestone 2. Project Kick-off and Training Meeting

The Project Kick-off and Training Meeting was held on October 2, 2007.

Milestone 3. Start of Coordination of Habitat Management Activities

Habitat management activities were coordinated with NPS, UNLV, and Nevada Conservation Corps (NCC) in November and December 2007. Activities included mechanical vegetation reductions at multiple locations along Blue Point Spring (both upper and lower), Rogers Springs, and the Pupfish Refuge Spring. An experimental controlled burn at Rogers Spring also was monitored.

Milestone 4. Start of Collaboration and Oversight of Population Estimation at Targeted Springs

Surveys to estimate population sizes of Relict Leopard Frogs were conducted this fall with UNLV personnel at upper Blue Point and Rogers springs. Further efforts to estimate populations at Rogers Spring have been suspended due to very poor habitat conditions and a lack of frog sightings.

Milestone 5. Start of Assessment and Coordination of Compliance for Future Translocation Sites

Following spring and summer visits to 13 sites in the Gold Butte area by personnel from UNLV and BLM, as well as one site in the Black Canyon by personnel from UNLV and NDOW (on the recommendation of personnel from NPS), compliance activity for one site in the Gold Butte is currently underway by BLM personnel. UNLV personnel are also coordinating with NPS and BLM to organize a field crew to improve the site as soon as permission to move forward with the plan has been obtained.

Representatives from BLM and AZGFD have surveyed springs in the Black Mountains, AZ, for potential sites that will be reviewed for translocation. A field visit to the most promising site by UNLV personnel is planned in January.

A representative from the Desert Springs Preserve was invited to the Relict Leopard Frog Conservation Team (RLFCT) meeting in December 2007 to discuss the potential of establishing a refuge population of Relict Leopard Frogs at the Desert Springs Preserve. A field visit to the site by UNLV occurred on December 17, and another by RLFCT members is planned for January.

Deliverable 1. Quarterly Progress Report

A quarterly report summarizing initial efforts was submitted to Clark County on October 1, 2007.

Deliverable 2. Annual Work Plan and Detailed Timeline

An Annual Work Plan and Detailed Timeline was completed and submitted to Clark County on October 4, 2007.

Deliverable 3. Data Management Plan

A Data Management Plan was completed and submitted to Clark County on October 31, 2007.

QUESTION 2: What, if any, problems were encountered? Briefly describe those problems and how they were dealt with.

No problems were encountered this quarter.

QUESTION 3: What, if any, proposed activities were not completed? Briefly describe those activities, the reasons they were not completed and your plans for carrying them out.

Efforts to estimate populations at Rogers Spring have been suspended due to very poor habitat conditions and no sightings of frogs.

QUESTION 4: What is the calculated percent of work completed?

There are approximately 14 quarters (some partial) that constitute this project and two have been completed; therefore, approximately 14% of the project has been completed.

QUESTION 5: Do you foresee any upcoming problems with future project activities? If so, how do you propose to overcome those problems?

Identification of appropriate translocation sites within the Potential Management Zone for the Relict Leopard Frog has become a challenge because of the limited availability of appropriate spring sites. Coordination and collaboration through the RLFCT with cosignatory state and federal agencies to the Conservation Assessment Strategy (CAS) is continuing and we expect to complete compliance on two new sites this year.

QUESTION 6: Is there anything else you want to tell the DCP about this project?

Although not identified as a deliverables or milestones under this project, the fall field surveys of all natural and active translocation sites for the Relict Leopard Frog were completed this quarter, and a meeting of RLFCT was organized and held on December 5, 2007.

QUESTION 7: What was produced during the reporting period?

1. The first quarterly report (Deliverable 1)
2. Annual Work Plan and Detailed Timeline (Deliverable 2)
3. Data Management Plan document (Deliverable 3)

Please report on the status of each Milestone and Deliverable, indicate whether they are not started, in progress, or completed and provide comments on the status as necessary:

Milestone 1. Contract Award and Mobilization: completed
Milestone 2. Project Kick-off and Training Meeting: completed
Milestone 3. Start of Coordination of Habitat Management Activities: completed (actions continuing)
Milestone 4. Start of Collaboration and Oversight of Population Estimation at Targeted Springs: completed (actions continuing)
Milestone 5. Start of Assessment and Coordination of Compliance for Future Translocation Sites: completed (actions continuing)
Milestone 6–21: not initiated

Deliverable 1. Quarterly Progress Report: completed
Deliverable 2. Annual Work Plan and Detailed Timeline: completed
Deliverable 3. Data Management Plan: completed
Deliverable 4. Quarterly Progress Report: in progress
Deliverable 5– 34: not initiated

Project 2. Bald Eagle Winter Monitoring and Evaluation

The MSHCP projects, both titled ‘Bald Eagle Monitoring’ (2005-NPS-476-P and associated 2005-NPS-609B-P) are currently being initiated. Dr. Jaeger has been providing technical assistance to Mr. Haley as part of this process. Beginning next quarter, information for quarterly reports will be provided in the Clark County format. A summary of products as described in the task agreement is provided here.

Protocols and a written manual will be developed to improve quality control of data collected – This deliverable was previously completed.

An annual report will be prepared by September 30, 2007 – This deliverable was previously completed.

Yearly winter counts of bald eagles on Lakes Mead and Mojave coordinated and conducted – Preparations for the 2008 winter count were initiated this quarter, and the count was set for January 7 with a backup day planned for January 14, 2008. Actions this quarter included coordinating boats for each route, and identifying and recruiting qualified Lead Observers, Boat Operators, Data Recorders, and other volunteers. A brief training session is planned for Data Recorders to focus on mapping, data recording, and GPS operation.

A quality review of previously collected count data (dating back to the early 1980s) will be undertaken to determine information useful for creating a habitat map of wintering bald eagles on Lakes Mead and Mojave and for incorporation into a regional status report – An initial quality review was performed previously on the historical count data by NPS GIS-Data Managers. Further actions are anticipated as work commences on habitat modeling and mapping.

Project 3. Peregrine Falcon Monitoring and Evaluation

MSHCP projects titled ‘Peregrine Falcon Monitoring’ (2005-NPS-475-P) and the associated project ‘Peregrine Falcon Modeling’ (2005-NPS-609C-P) are currently being initiated. Dr. Jaeger has been providing technical assistance to Mr. Haley as part of this process. Beginning next quarter, information for quarterly reports will be provided in the Clark County format. A summary of products as described in the task agreement is provided here.

An annual report will be prepared by September 30, 2007, to summarize the monitoring data in relationship to previous surveys – The product was previously completed.

Yearly monitoring activities – Passive winter monitoring sessions were initiated in late December at two sites on Lake Mohave and two sites on Lake Mead. This is part of an ongoing effort to evaluate winter site fidelity and establish the onset of courtship activities by resident adults. A total of 10 incidental sightings have been documented since September 2007. Seasonal population surveys for 2008 are expected to begin in late February.

Evaluation of survey protocols – Planning has been initiated to begin testing a new call-broadcast method during the courtship period of the coming breeding season. If this method is proven effective, it will be applied over large areas of LAME to quickly identify early breeding attempts and locate new territories. In general, call-broadcast surveys take much less time than passive surveys and eliminate the need to procure and care for lure birds as with the active method. Results using the active survey protocol will be evaluated against the passive method and call-broadcast method to determine the efficacy of the competing methods.

Conceptual model and predictive GIS-based habitat map – An ongoing literature review has continued on peregrine falcon habitat use, which is reflected in the development of an electronic database of literature on the subject. Joe Barnes (PLI research assistant) has continued coordination with Mark Sappington (NPS, GIS/data management specialist) and other collaborators on the development of a predictive GIS-based habitat model for peregrines within LAME. The plan is to improve a preliminary model to assist with the targeting of the 2008 survey efforts.

Project 4. Assessment of Six Covered and Three Evaluation Bird Species

MSHCP projects titled ‘Historical and Current Assessment of Six Covered and Three Evaluation Bird Species’ (2005-NPS-542-P) and the associated project ‘Conceptual and Habitat Models for Six Covered and Three Evaluation Bird Species’ (2005-NPS-609A-P) have been initiated. Dr. Jaeger provided technical assistance to Mr. Haley as part of this process. The following information has been formatted to match the quarterly report requirements of the Clark County MSHCP.

QUESTION 1: What did you accomplish during this reporting period? How did these accomplishments help you reach the goal of your project? If relevant, what indicators or benchmarks were used to determine your progress?

This quarterly report describes milestones and deliverables as identified and numbered in the Annual Timeline and Work Plan submitted for this project and covers actions conducted on the associated project, 2005-NPS-609A-P, which covers technical aspects of this project. All milestones and deliverables identified for this quarter have been accomplished, as summarized below.

Milestone 1. Contract Award and Mobilization

The original contract award and mobilization occurred on November 6, 2007.

Milestone 2. Project Kickoff and Training Meeting

The kick-off meeting was held on December 4, 2007. Mr. Haley and Dr. Jaeger met with county representatives, Matt Hamilton and Heather Green.

Deliverable 1. Annual Work Plan and Detailed Timeline

An Annual Work Plan and Detailed Timeline was completed and submitted to Clark County on December 6, 2007.

Deliverable 2. Data Management Plan

Two data management plans were completed and submitted to Clark County on December 21, 2007; these plans cover actions under the project, 2005-NPS-542-P, and the associated project, 2005-NPS-609A-P.

QUESTION 2: What, if any, problems were encountered? Briefly, describe those problems and how they were dealt with?

No problems have been encountered.

QUESTION 3: What, if any, proposed activities were not completed? Briefly describe those activities, the reasons they were not completed and your plans for carrying them out.

As defined in the Annual Timeline and Work Plan, all scheduled activities were completed this quarter.

QUESTION 4: What is the calculated percent of work completed?

This project has approximately 13 quarters and we have completed the first quarter, therefore by this assessment approximately 8% of the project has been completed.

QUESTION 5: Do you foresee any upcoming problems with future project activities? If so, how do you propose to overcome those problems?

No problems are foreseen at this time.

QUESTION 6: Is there anything else you want to tell the DCP about this project?

No.

QUESTION 7: What was produced during the reporting period?

1. Annual Work Plan and Detailed Timeline (Deliverable 1)
2. Data Management Plan (Deliverable 2, 2005-NPS-542-P)
3. Data Management Plan (as identified in 2005-NPS-609A-P)

Please report on the status of each Milestone and Deliverable, indicate whether they are not started, in progress, or completed and provide comments on the status as necessary:

Milestone 1. Contract Award and Mobilization: completed
Milestone 2. Project Kickoff & Training Meeting: completed
Milestone 3 – Milestone 15: not initiated

Deliverable 1. Annual Work Plan & Detailed Timeline: completed
Deliverable 2. Data Management Plans: completed
Deliverable 3. Quarterly Progress Report (partial): in progress
Deliverable 4 – Deliverable 30: not initiated

Project 5. Desert Tortoise Monitoring and Management

An agreement between the LAME and Clark County to initiate a project to assess desert tortoise populations on the park has not been initiated, and the project may be further delayed. In consultation with Mr. Haley and Mr. Turner, this project has not been initiated under this task agreement and will be removed in a modification.

Other actions under this project focused on compliance monitoring of desert tortoises and desert tortoise habitats. Deliverables and reporting for compliance monitoring described for Phase I of the task agreement have been previously completed.

Project 6. Shorebird Monitoring on Lakes Mead and Mohave

The following information summarizes products as described in the task agreement.

An annual report will be prepared by September 30, 2007 – This product was previously completed.

Monthly inventory and monitoring surveys – Ongoing monthly surveys were conducted on seven intensively monitored sites on Lakes Mead and Mohave throughout the quarter with a total of 21 surveys completed (Table 1). All data collected during these surveys were entered into a database and have been shared with the GBBO.

Table 1. Survey sites and numbers of surveys conducted for aquatic and shorebirds on Lakes Mead and Mohave since March 2004 and during the current quarter.

Lake and Site	Number of Surveys	
	Mar. 04 – Sep. 07	Oct. 07 – Dec. 07
Lake Mead		
Las Vegas Bay	46	3
Muddy River	44	3
Virgin River	44	3
Grand Wash	26	3
Bonelli Bay	11	0
Misc. sites	11	0
Lake Mohave		
Arizona Bay	44	3
Nevada Bay	44	3
Willow Beach	41	3
Misc. sites	15	0
Total	326	21

Mr. Barnes has continued a literature search and review of snowy plovers since the discovery of breeding on Lake Mead in 2007. He has focused on survey and monitoring techniques, as well as behavior, breeding biology, and habitat use in order to develop a survey and monitoring strategy to evaluate current and future breeding attempts at Lake Mead. The ongoing literature review is reflected in the development of an electronic database of literature on the subject, as well as a database containing a summary of all sources for future reference. Mr. Barnes is working on a draft manuscript describing the discovery of snowy plover breeding on Lake Mead and the significance of this observation.

Water Grab samples – No water samples were requested this quarter.

Project 7. Desert Bighorn Sheep Habitat Use Monitoring in Relation to Highway Development.

The following information summarizes products as described in the task agreement.

GPS location data from collars on sheep will be downloaded weekly and converted into a format recognized by ArcGIS – This quarter, as of December 14, six weeks of data consisting of approximately 55 records were processed on five radio collars still transmitting signals. Although, typically 12 weeks of data are received in a quarter, Argos did not send information for a week in October, two weeks in November, and only a single week of data was received for December. The data transmitted from December contained location information from only a single animal, and because this data turned out to be a bad GPS fix, the location information for the collar was incorrect. Over the past several months, collar malfunctions reduced the number of animals being located, and collars were electronically released from the sheep on November 1, 2007 as scheduled. Retrieval of collars, if possible, will allow a download of all stored data. Once those collars that can be found are retrieved and the onboard data is downloaded, this will complete this deliverable.

Field retrieval of collars will be attempted on all dead animals – Over the past few weeks, time has been spent reviewing the current data sent from Argos in order to identify locations of released collars for retrieval; however, as reported above few data have been transmitted as batteries on the satellite collars failed towards the end of this project. In addition, it appears that the VHF radio units in the collars have also failed, again as batteries life may not have been as long as projected. Without location data or radio signals, retrieval of most of these collars will not be possible.

Provide technical assistance for project assessments and report – No technical assistance was requested this quarter.

Other Activities Under Task Agreement

Additional Efforts (Technical Assistance)

As described above, Dr. Jaeger provided substantial technical assistance to Mr. Haley during project consultations with Clark County.

At Mr. Haley's request, PLI wildlife research assistants (Mr. Barnes and Ms. Drake) provided several days of assistance with fish surveys and fish management activities.

Meetings Attended and Personal Development – The following information comprises professional meetings and trainings attended by PLI personnel during this quarter. These meeting do not include the multiple and varied informal meetings conducted during this quarter with NPS personnel and other collaborators.

Mr. Barnes attended the Nevada Partners in Flight (PIF) meeting in Reno during his personal time on November 1-2, 2007. The meeting was held in The Nature Conservancy offices in the City of Reno municipal building. Work was conducted on landscape analyses of statewide bird data and with the revision of the PIF bird conservation plan.

Professional Presentations and Public Outreach – The following comprise professional dissemination of information by individuals associated with this task agreement (identified by underlining), but do not necessary reflect projects directly covered by this task agreement.

Monitoring and Evaluation of Sensitive Wildlife at Lake Mead National Recreation Area and Surrounding Lands in Southern Nevada. Jaeger JR and Haley RD. Presentation at the Science Meeting of the Joint CESU Meeting of the Great Basin, Desert Southwest and Rocky Mountains. October 18, 2007. University of Utah, Salt Lake City, UT.

Sensitive Wildlife Species of the Eastern Mojave Desert, with a little natural history thrown in... Jaeger JR. Invited lecture at the Nevada Conservation Corps Southern Nevada Orientation. October 23, 2007. Lake Mead National Recreation Area, NV.

Publications – The following comprise professional dissemination of information by individuals associated with this task agreement (identified by underlining), but do not necessary reflect information directly obtained under this task agreement.

Mitochondrial introgression and incomplete lineage sorting through space and time: Phylogenetics of Crotaphytid lizards (2007) McGuire J.A., C.W. Linkem, M.S. Koo, D.W. Hutchison, A.K. Lappin, D.I. Orange, J. Lemos-Espinal, B.R. Riddle, J.R. Jaeger. *Evolution* 61(12)2879-2897.

Submitted by:

Margaret N. Rees, Principal Investigator

12/31/2007

Date