**NPS**

**PROJECT SUMMARY**

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| **Cooperative Ecosystem Studies Unit****Cooperative Agreement Modification**  |
|  FUNDING AGENCY: **National Park Service**  |
|  MODIFICATION NO.: **[CESU info only]**  | COOPERATIVE AGREEMENT NO.:**1200-99-009 (CSU- )** |  FUNDING AMOUNT: **$21,509 (FY04)** |
| INVESTIGATORS Contact Information: **Rod Parnell (PI), (928)523-3329, Roderic.Parnell@nau.edu****Matthew Johnson, Biologist, (928)556-7466 x236, matthew.johnson@nau.edu**  |
| PROJECT TITLE:***Determine Protected Area Centers for Mexican Spotted Owls at Mesa Verde National Park***  |
|  EFFECTIVE DATES**: March 1, 2004 to March 1, 2006**  |
| PROJECT ABSTRACT:Studies in the early 1990's indicate that a small breeding population exists in Mesa Verde's deep sandstone canyons where Douglas-fir stands and pinyon-juniper woodlands provide shady cover and foraging habitat. Other investigations on the Colorado Plateau indicate that more sparsely vegetated sandstone side canyons provide valuable habitat as well, environments that are well represented at Mesa Verde. No investigations of the owls have occurred beyond 1996 and no Protected Activity Centers (PACs) have been established for these birds in Mesa Verde, a species listed as threatened under the Endangered Species Act (ESA). Under the right conditions, however, Mesa Verde's forests are highly vulnerable to devastating wildfires. Since 1934, Mesa Verde has experienced several large wildfires. Over half of the park has burned between 1989 and 2002, with thousands of acres of spotted owl habitat impacted. Preparation for a new Fire Management Plan has begun with ideas for more aggressive treatment of fuels using more prescribed burning and mechanical thinning to create fuel breaks in the park's forests. These activities have the further potential to directly and indirectly impact the park's small population of these protected birds, both negatively and positively. In the event of wildfire in Mexican spotted owl habitat, proper fuel management could help prevent a fire from devastating crucial breeding and foraging habitat. On the other hand, improper fuel cutting could directly disturb the owls, damage breeding habitat, or eliminate roosting trees. In order to comply with the Mexican spotted owl's recovery plan and the ESA, PACs need to be established in the park before fuel treatment prescriptions can be written in spotted owl habitat. Investigators experienced with the Mexican spotted owl are needed to conduct a survey of past breeding areas and potential breeding habitats to identify areas that need to be designated as PACs. Geographic Information Systems will be employed in mapping spotted owl occurrences and nesting areas for the purposes of establishing PACs.Objectives: 1)       Locate and map all historical Mexican spotted owl observations and nesting records (already started by the park).2)       Using GIS, map all potential MSO breeding habitat within Mesa Verde NP.3)       Conduct current MSO surveys in Mesa Verde and document and map all breeding and non-breeding activity during two breeding seasons.4)       Determine appropriate PACs based on the best available data using guidelines established by the US Fish and Wildlife Service in the MSO's recovery plan.5)       Recommend a long-term Mexican spotted owl monitoring strategy for Mesa Verde NP. Deliverables: *Annual Project Report* Investigators will provide reports detailing the results of Mexican spotted owl surveys, including information on other owl species found during the study. This annual report will include details of all survey efforts and sites (GPS coordinates and mapped locations), spotted owl detections, evidence of breeding, and an evaluation of Mexican spotted owl habitat at Mesa Verde NP. The reports will follow the format required by Mesa Verde NP. Draft reports will be reviewed by Mesa Verde NP staff. Any comments by NPS staff will be incorporated into the final reports. Both the park and the CPCESU each would receive at least two hard copies and the digital files (CD-ROM) of versions of the reports - the unabridged version and a version with locality specific MSO geographic details edited out. *GIS Products* 1)       Final GIS map products depicting suitable MSO areas will be delivered in digital form on CD-ROM and hardcopy form in the UTM Zone 12 north map projection, NAD 1983 datum and GRS 1980 spheroid.2)       MSO nest sites, PAC boundaries, and a habitat map will be provided in the aforementioned data formats.3)       ARCGIS shape file (point locations) showing all MSOs.  |
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| ***List of Key Words:***Mexican spotted owl, threatened species, Protected Activity Center, Mapping, GIS, Fire Management Plan |
| ***Agency Manager/Technical Representative from National Park - Include contact information @ Specific Park****:**George L. San Miguel, Natural Resource Manager, Mesa Verde National Park, PO Box 8, Mesa Verde, CO 81330**(970)529-5069, FAX (970)529-5071,*george\_san\_miguel@nps.gov  |
| *Annual Report Received:**Final Report Received:**Publications on File:* |
| *This Modification is subject to all the provisions included in the Cooperative Agreement,****dated 6/22/99.***  |
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*Attach any supporting material as necessary.*