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# NMOS BULLETIN



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THE NEW MEXICO ORNITHOLOGICAL SOCIETY, INC.  
P.O. Box 3068, Albuquerque, NM 87190-3068

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## ABSTRACTS

### BOTTERI'S SPARROW IN NEW MEXICO: RANGE EXTENSION AND HABITAT USE IN RELATION TO FIRE

Williams, Sartor O. III, New Mexico Department of Game and Fish, P. O. Box 25112, Santa Fe, NM 87504 and Patricia Mehlhop, Southwest Natural History Institute, 1819 Meadowview Drive NW, Albuquerque, NM 87104.

Botteri's Sparrow (*Aimophila botterii*) breeds from southern Arizona and southern Texas south to Costa Rica; it winters from Mexico south through the breeding range. The species is a tall-grass specialist; in Arizona, it favors senescent stands of giant sacaton (*Sporobolus wrightii*) with scattered shrubs and small trees. It was first reported in New Mexico near Rodeo in 1977, but was not found there in subsequent years. During 1991-1994, however, several were detected in giant sacaton on private land in the Animas Valley. To evaluate the New Mexico status of the species, in 1995 we initiated long-term studies in the Animas Valley, documenting numbers, distribution, and habitat use and comparing territory numbers with known fire history; in 2000, we initiated vegetation sampling to identify territory habitat characteristics. Additionally, beginning in 1995, we surveyed potential habitat elsewhere in southwestern New Mexico for presence of the species. Surveys through 2000 identified the Animas Valley as the only known New Mexico locale currently capable of supporting a significant population of Botteri's Sparrow, with about 25 territories each year 1996-1999. The population was reduced by half in 2000 due to wildfire that destroyed half of the available habitat. Colonization of the Animas Valley by Botteri's Sparrow appears to have been a recent event; currently occupied habitat there was surveyed for the species in 1980 with negative results. This range extension may have been aided locally by an absence of fire, as available information indicates that prior to discovery in 1991, the last recorded fire there occurred in 1982. Our preliminary data for the Animas Valley suggest that a minimum of 4 years is required for any reoccupancy following fire. To detect minimum vegetation characteristics needed for territory occupancy, in 2000 we compared 10 measurements of territories first occupied following a small fire in 1997 with territories having no documentation of fire for at least 18 years. In subsequent years, we plan to identify optimal fire regimes in giant sacaton necessary to maximize New Mexico's Botteri's Sparrow population over time.

### JUST SAY NYET? BREEDING BIRD USE AND NEST SUCCESS IN EXOTIC RUSSIAN OLIVE

Stoleson, S.H., USDA Forest Service, Rocky Mountain Research Station, Albuquerque, NM 87102-3497

The exotic tree, Russian olive (*Elaeagnus angustifolia*), has invaded riparian zones throughout much of the western United States. Although promoted as a useful species for wildlife because of its abundant edible fruit, evidence for its value to breeding birds remains sparse. We compared relative rates of usage, nest success, and cowbird parasitism of breeding birds in Russian olive versus native species in the Cliff-Gila Valley of New Mexico. Some birds, such as the Mourning Dove (*Zenaida macroura*) and Yellow-breasted Chat (*Icteria virens*), preferentially placed their nests in Russian olive. Others, such as the Black-chinned Hummingbird (*Archilochus alexandri*) and all cavity nesters, appeared to avoid it. Rates of nest success were similar in Russian olive and native species. Nests of the Southwestern Willow Flycatcher (*Empidonax traillii extimus*) were significantly more likely to be parasitized by Brown-headed Cowbirds (*Molothrus ater*) when placed in Russian olive than in native species, although nest success was not significantly affected.

### WHY CROSSBILLS ARE SO DIVERSE BUT NOT SPECIOSE.

Benkman, Craig W., Dept. of Biology, New Mexico State Univ., Las Cruces, NM.

In many regards the different call types of Red Crossbills (*Loxia curvirostra* complex) in North America act like separate species. Call types usually group and pair assortatively. Each call type is specialized on a different species of conifer and behaves like an ecological species. Divergent selection for foraging on the different conifers can explain why each call type is so specialized and why reproductive isolation should arise. However, all genetic analyses to date provide no evidence of reproductive isolation between call types. I will address this paradox by using an empirically derived adaptive landscape for five call types in western North America. I will suggest why the different call types experience high levels of gene flow and why they are unlikely to speciate in the near future.

## FLAMMULATED OWL BANDING IN THE MANZANO MOUNTAINS: RESULTS FROM A PILOT STUDY DURING THE FALL OF 2000

DeLong, John P. HawkWatch International, Inc., 1800 South West Temple, Suite 226, Salt Lake City, UT 84115

During the fall of 2000, a pilot study to investigate the movements of Flammulated Owls (*Otus flammeolus*) through the Manzano Mountains of New Mexico was initiated. Owls were lured into mist-nets using taped playbacks of Flammulated Owl breeding-season calls. During 26 nights and 305 station hours, 93 Flammulated Owls were captured, along with 21 Northern Saw-whet Owls (*Aegolius acadicus*). Most owls were captured in September, especially during the full moon period. Though it is difficult to determine because of extensive inclement weather, there may have been an additional pulse of movements during the full moon period in October. Determining age and sex in Flammulated Owls is difficult as current keys are inadequate and we found evidence that they may also be incorrect. It is unclear what types of movements owls at this site were undertaking during the fall, and additional searches of literature and BBL databases revealed very little evidence that Flammulated Owls are indeed migratory. Continuation of this project may allow us to provide the types of data necessary to describe the Flammulated Owl's migratory status and behavior, as well as to develop better field methods for determining age and sex. The techniques we used for capturing owls seemed effective, but improvements will be employed during the fall 2001 season.

## NEST-SITE CHARACTERISTICS AND BREEDING DENSITY OF COMMON BLACK-HAWKS IN THE CLIFF -GILA VALLEY

Sadoti, Giancarlo, 2314 Hollywood Ave. NW, Albuquerque, NM 87104

In the southwestern United States, the Common Black-Hawk (*Buteogallus anthracinus*) is an obligate riparian nester associated with mature gallery forest corridors along perennial drainages. The few studies conducted on this species have only minimally described nest-site characteristics. During the 2000 breeding season, 19 km of the Gila River and several tributaries in the Cliff-Gila Valley were surveyed for breeding territories. Sixteen active nests were found and their basic features were measured. Additionally, vegetation features were measured in 13 nest plots (0.08 ha circle) and 10 paired non-use plots within nest patches. Nest plots differed significantly from non-use plots with a greater distance to canopy edge, a higher number and proportion of overstory trees, a smaller percentage of trees in the 11-30 cm dbh size class, and a shorter average height of understory trees. Average breeding density in the upper 16 km of the valley (0.67 nests/km) exceeded reports from elsewhere in North America.

## UPDATE OF THE FOSSIL BIRD COLLECTION AT THE NEW MEXICO MUSEUM OF NATURAL HISTORY AND SCIENCE: DIATRYMA RETURNS.

Root, Mary Alice, New Mexico Museum of Natural History and Science, Albuquerque, NM 87104.

New Mexico is a fossiliferous state. Before 1980, New Mexico's fossils were taken to museums and private collections in other states and countries. In order to keep this abundant fossil heritage in New Mexico, the New Mexico Museum of Natural History was approved by the State Legislature in 1983. Since that time, interest has increased in all types of fossils, including birds. The people of New Mexico have shown their interest by supporting and generously contributing to many special projects at the museum. A life-sized cast of the giant Eocene flightless bird, Diatryma, is on order; the down payment provided by interested persons, and by a contribution from the New Mexico Ornithological Society. Diatryma lived here, in what is now New Mexico, some 50 million years ago. This seven-foot-tall predator became active after the demise of the dinosaurs 65 million years ago. The New Mexico Ornithological Society has taken the lead in helping to preserve the avian fossil heritage of our state. When the organization celebrates its 40th anniversary in 2002, the cast of Diatryma will be on display at the New Mexico Museum of Natural History and Science.

## FACTORS THAT INFLUENCE NEST SUCCESS IN BELL'S VIREO

Parody, Jennifer M., Department of Biology, University of New Mexico

I examined the relative influence of habitat selection and seasonal patterns on nest success in Bell's Vireo, a state endangered songbird. Using field data, I compared clutch sizes, nest success, number of fledges, cowbird parasitism and predation pressure on all nests over time and between pairs that nested early and those that nested late. I also looked for differences in habitat

characteristics between these groups. I found that, while the likelihood of nest failure remained constant over the season, clutch sizes declined. In general, the earliest nests yielded significantly more fledglings. Pairs that nested early had a higher chance of fledging at least one brood over the season, but these differences are largely due to increased opportunities for re-nesting. Somewhat surprisingly, habitat differences between groups could not be detected. This suggests that life-history limitations may be more important than finescale habitat variation in determining nest success in these birds. Nevertheless, the relatively high overall success of this population indicates that larger scale habitat protection could be important.

## THE NEW MEXICO NATURAL HERITAGE PROGRAM AND THE BIRDS OF NEW MEXICO

Frazier, C.K. New Mexico Natural Heritage Program, Department of Biology,  
University of New Mexico, Albuquerque, NM 87131

The New Mexico Natural Heritage Program (NMNHP) collects data on the biology, status and location of the state's biological resources. Through our science divisions we do primary research on the conservation biology of these elements; with respect to birds, our most notable project involves study of the Lesser Prairie Chicken. We also maintain our own ranking system for the state's plants, animals and communities with respect to their rarity in New Mexico. In association with the Association for Biological Information, we influence similar rarity ranks for these elements at the National and Global scale. While these ranks have no legal status, management agencies and others use Heritage ranks to trigger changes in legal status and to determine where to direct resources for further study or conservation efforts. The NMNHP maintains a tracking list of about 600 Threatened, Endangered and Sensitive (TES) animal and plant species of particular concern or sensitivity in New Mexico. This list includes 62 taxa of birds. For elements on our tracking list, we actively seek out all information concerning their occurrences (roughly equal to populations) in New Mexico and the status or quality of those occurrences. Information on these TES elements come from a variety of sources including our own field surveys, published and unpublished reports, museum collections, data sets from non-profit organizations and agencies and the scientific literature. Using the Heritage Methodology, we extract and process the information contained in reports, published and unpublished, field surveys, museum collections, data sets from non-profit organizations and agencies and the scientific literature. Our process substantially alters the "raw observation" and increases its conservation value. We currently have almost 1700 occurrence records for NM birds in our database. Only members of the NMNHP have direct access to data contained in the NMNHP BCD; however, information and information products based on our data set are readily available to: 1) Management agencies 2) Environmental Consultants 3) Non-profit Organizations 4) Scientists and students 4) Land-owners 5) Other members of the public. We are currently expanding our efforts to work with partners in order to accumulate, maintain and provide data on a wide-variety of biological elements in New Mexico. In this sense, we hope to act as a clearing-house for information concerning New Mexico's biological resources and provide assistance to our partners in making these data available to the public or available for management or conservation purposes. The core of current work includes developing the NMOS database based on over 30 years of NMOS field notes. Last semester we entered the last 18,000 records of this 58,000 record database. Data from this database were incorporated recently into a report on current and past distribution of the Mt Plover in New Mexico provided to the US Fish and Wildlife Service. The NMOS database added over 200 records for the Mt Plover including the only source for breeding records in three counties. We are also in the process of incorporating the NMOS records to map bird species with high PIF scores for BLM. In order to complete this project we are attempting to incorporate spatial coordinates into the NMOS database. In the future, this may allow map-generation directly from the NMOS database for Web-based presentation. Much work still needs to be done on the NMOS database, however. Records from recently released and future field notes need to be added. The existing data need to be proof-read. And tools need to be developed such that the data can be queried and provided over the internet. Furthermore, policy needs to be developed concerning the sensitivity and proper use of the NMOS database. It is an exciting to be working with this database and to see that this monumental effort is near the point of huge returns for the local and global community of researchers, conservation managers and bird-enthusiasts.

## MANAGING LIVESTOCK GRAZING FOR GRASSLAND BIRDS: A CAUTION AGAINST EXTRAPOLATING RESULTS FROM OUTSIDE THE SOUTHWEST

Zwartjes, P.W., P.L.L. StoIeson, W.c. Haussamen, Jr., and T.E. Crane. USDA Forest Service,  
Rocky Mountain Research Station, 333 Broadway S.E., Suite 115, Albuquerque, NM 87102-3497.

The US Forest Service is currently engaged in a large-scale project to assess the impact of grazing on terrestrial vertebrate species in Arizona and New Mexico (hereafter, "the southwest"), including a variety of grassland bird species. Using the scientific literature to determine whether and under what conditions grazing can be compatible with native species of birds in

the southwest is complicated by a variety of factors. These include a lack of standardized definitions of grazing regimes or intensities, and a lack of studies specific to the southwest that document the response of vegetation to various grazing regimes. These issues become especially important when making grazing

management decisions that consider avian species whose breeding range includes areas (perhaps predominantly) outside of the desert southwest. Reliance on studies that (a) measure grazing intensities in terms of animals per hectare or general qualitative measures such as "heavy", "moderate", and "light"; (b) fail to use quantitative measures of vegetative responses to grazing (such as stubble height or residual vegetation); and (c) were conducted in grasslands with different precipitation patterns, species of grasses, soil composition, etc., can result in grazing practices that degrade the habitat required by these bird species in the southwest. The Eastern Meadowlark (*Stumella magna*) and Cassin's Sparrow (*Aimophila cassinii*) are examples of such species; grazing regimes which have been recommended for other areas would likely have an adverse impact on the habitat required by these species in southwestern grasslands. Managers who utilize the results of grazing-impact studies to develop grazing regimes that consider the habitat needs of grassland birds should critically assess both the locality of these studies and how grazing levels are quantified before extrapolating the results to southwestern grasslands. In addition, further research is needed to assess the response of geographically wide-ranging species of grassland birds specifically to grazing regimes in the southwest.

#### IMPLEMENTING THE EXPANDED PRESCRIBED FIRE PROGRAM ON THE GILA NATIONAL FOREST, NEW MEXICO: IMPLICATIONS FOR SNAG MANAGEMENT

Boucher, Paul F., Gila National Forest, 3005 Camino del Bosque, Silver City NM 88061;  
William M. Block, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station,  
Southwest Forest Science Complex, 2500 Pine Knoll Drive, Flagstaff, AZ 86001; and  
Gary V. Benavidez and L.E. Wiebe, Gila National Forest, 3005 Camino del Bosque, Silver City, NM 88061

Efforts to return natural fire to the Gila National Forest, New Mexico, have resulted in controversy regarding management of snags (standing dead trees). The importance of snags for wildlife, especially cavity-dependent birds, is well documented. Although general uses of snags by birds are known (nesting, roosting, perching, and foraging), we know little about the optimum number of snags that would persist under a natural fire regime. Recently, efforts were initiated to understand relationships among snags, birds, and fire in fire-adapted ponderosa pine forests of the southwestern United States. Preliminary results suggest that fire exclusion has resulted in large numbers of old snags (dead  $\geq 6$  years), but few recent snags (dead  $< 6$  years). In contrast, fewer old snags but more recent snags were found on areas experiencing a recent fire. Understanding snag dynamics under conditions that emulate natural fire regimes is key to understanding the ramifications of management efforts. For example, snags may need to be removed in order to hold a prescribed fire within the maximum manageable area. Although some existing snags are lost, replacement snags are created as a result of the fire. Information that details the range of variation of snag dynamics follow natural fire events may help guide key management decisions made during the fire and satisfy ecological and safety concerns.

#### POSTER PRESENTATIONS

##### USE OF REMOTE SENSING TECHNOLOGY TO MAP WILLOW FLYCATCHER HABITAT IN THE GILA RIVER WATERSHED OF NEW MEXICO

Means, Michael D., Scott H. Stoleson, and Deborah M. Finch, USDA Forest Service,  
Rocky Mountain Research Station, 2205 Columbia SE, Albuquerque, NM 87106

The recovery and management of endangered species requires a clear understanding of their habitat requirements, yet most studies have examined habitat only at a single, local scale. The largest population of the endangered Southwestern Willow Flycatcher occurs in the Gila River Valley of New Mexico. There, flycatchers occur only in a subset of habitat patches, in specific portions of occupied patches, and nest in specific micro sites within occupied subpatches. We are assessing habitat use by flycatchers and associated riparian birds at multiple spatial scales: landscape, stand, and nest site. We are using a combination of aerial photo interpretation and GIS to characterize occupied and unoccupied patches. We are developing maps of stand types within occupied patches using GIS, GPS, and standard vegetation sampling. Individual nest sites and mist net locations were plotted on maps using GPS locations. Preliminary analyses demonstrate that densities of flycatcher nests varied considerably among stand types, but differed from the relative usage of those stands by the birds as indicated by mist net capture rates,

suggesting different patterns of stand use for foraging than for nesting.

CURRENT STATUS OF THE NEW MEXICO BREEDING BIRD ATLAS PROJECT:  
MAY 2001 UPDATE

Project Directors: Fair, J. M., S. M. Fettig, G. Garber, J. Place, C. Rustay, R. Salazar, J. Travis, and R. Wechsler

The purpose of the New Mexico Breeding Bird Atlas Project is to document the current distribution of breeding bird species within the State of New Mexico and to publish the data as a permanent record. The effort is expected to require five to seven years of data collection depending on the level of volunteer participation. Initial planning for New Mexico's atlas started in 1999. In 2000, the New Mexico Breeding Bird Atlas Project was established as a non-profit corporation with an eight-person board of directors. The 2000 breeding bird season was a trial year to test field and computer methods. That summer, atlas volunteers worked 24 blocks and information was provided on another 13 blocks. These volunteers reported 1110 observations involving 194 species in 34 habitats. Of the total, 327 observations confirmed breeding, 191 indicated probable breeding, and 203 observations suggested possible breeding. Volunteers contributed approximately 325 hours of bird observations. In addition, atlasers contributed more than 145 hours and 4,280 miles in transportation to and from their blocks. An example of the results for Mourning Dove show breeding confirmed in 21 blocks with confirmation dates from 5/22/00 to 7/26/00. Based on the Gap Analysis vegetation cover type groups (Muldavin 1994) breeding was confirmed in Chihuahuan Broadleaf Deciduous Desert Scrub, Chihuahuan Broadleaf Evergreen Desert Scrub, Southwest & Plains Forested Wetland, Southwest & Plains Shrub Wetland, and Urban Vegetated. Probable breeding for Mourning Dove was documented in one block on 5/11/00. Possible breeding was recorded in nine blocks between 6/27/00 and 7/28/00. In 2001, statistical priority blocks were established across the state using a systematic pattern with a random starting point. In 2002, another tier of priority blocks based on habitats important to birds, such as riparian areas, will be available for volunteers. The atlas project continues to recruit observers of all birding abilities, as well as regional organizers. Observers are expected to survey an atlas block and produce a comprehensive bird list and confirm breeding of at least 50% of the observed species. This requires about 20-30 hours of careful bird watching and listening during several visits at different times within the breeding season. Regional organizers are also being recruited who have good communication skills, good organizational skills, and be willing to talk with 5-15 other birders two or three times each month throughout the breeding season. Regional organizers will also be responsible for helping other volunteers learn atlas field methods. Overall, this means a commitment of about 4 hours per week during the breeding season. People interested in joining the board of directors are encouraged to contact any board member. New directors should expect to help select habitat priority blocks, help monitor data quality, help promote the project to the public, help raise funds and write grants, and present slide programs to the public, as well as work a block or work as a regional organizer.

New Mexico Ornithological Society  
Financial Statement  
as of 31 December, 2000

Balance as of 12/31/99:	
Checking acct. (12/31/98)	12873.18
Undeposited Checks	1303.75
Certificates of Deposit	15000.00
Petty Cash	75.87
<b>Total</b>	<b>\$29252.80</b>
Net Transactions to 12/31/00:	
Dues	2365.00
NMBSFG	3513.00
NM Field Checklist	199.50
Annual meeting	-65.86
Postage	-623.54
Miscellaneous	-72.78
Research Grants	-500.00
Printing	-2356.68
Rent	-421.00
Interest	695.51
<b>Total</b>	<b>2733.15</b>
Balance as of 12/31/00:	
Checking Account (8/31/00)	16942.08
Uncleared Checks included above	0.00
Undeposited Checks included above	0.00
Certificates of Deposit	15000.00
Petty Cash Balance	43.87
<b>Total</b>	<b>\$31985.95</b>

Petty cash income and disbursements (\$38.00 and \$(70.00)) are included in the income and expense categories above.

Date: 7 March, 2000

Submitted by:

  
Jerry R. Oldenettel, Treasurer



RESEARCH GRANTS

NMOS is now offering two \$1000 research grants to help support research on New Mexico birds. The criteria for the grants are: 1) the grant money must be spent while conducting research on birds in New Mexico; 2) a short research proposal (2 pages maximum) plus names of three references must be submitted describing the nature of the project and how the allocated funds are to be spent (on gas, tape recording, specific equipment, etc.); 3) a recipient must either present their findings at an annual NMOS meeting or have an article on their research published in the *NMOS Bulletin*; and 4) research proposals must be received by July 31, 2001. Please submit your proposal to Dr. Roland Shook, 3306 Royal Drive, Silver City, NM 88061.