



FAWN



FISH AND WILDLIFE NEWS

A NEWSLETTER OF
THE NATIONAL MILITARY FISH AND WILDLIFE ASSOCIATION

VOLUME XVI

NUMBER 2

MAY 1998

THE WILD SIDE

Marjorie McHenry - NMFWA President

It was wonderful to see so many of you again in Orlando after having to miss last years meeting. For those of you who couldn't make it, you missed another outstanding workshop. Mark Hagan developed a very informative program that included numerous aspects of natural resource management. Thank-you, Mark, for your hours of work and dedication. Special thanks are also extended to Pat Walsh and the numerous individuals on the Host Committee who took time beyond their already busy schedules to make the workshop a success. The Awards Banquet, which brought back memories of wild game dinners of my college days, was one of the unique events of the week.

Natural resource conservation within DoD continues to face many uncertainties and challenges. The passage of the Sikes Act was

a great accomplishment. Now comes the challenge of making it a reality on our installations. The DoD policy for implementation has yet to be published, and already there seems to be differences among the Services regarding the actual implementation. Funding is always a concern, and the current pressure for outsourcing and downsizing has already threatened the future of many of our members. It was challenges such as these, which brought about the formation of this Association fifteen years ago. It was the belief of those original members, a belief that continues today, that we CAN meet the challenges and make a difference for natural resource management that makes this Association strong. My challenge to you is to commit your time, expertise, and enthusiasm to the continued growth of the Association. Together we CAN make a difference.

mchenrym@id-ngnet.army.mil

1998 Training Summary.....	2
1998 Technical Sessions Abstracts.....	2
BOD Meeting Minutes (3/23).....	11
Business Meeting Minutes.....	12
BOD Meeting Minutes (3/26).....	13
NMFWA Working Groups.....	14

Herpetology Workshop.....	15
Government Affairs Committee	15
1999 Workshop - Call For Papers.....	15
Outsourcing Position Paper.....	17
Host Committee.....	19
Photo Contest.....	19

1998 NATURAL RESOURCES TRAINING WORKSHOP

The 1998 Natural Resources Training Workshop was a success and well attended. Pat Walsh and the Host Committee did a fantastic job making the necessary arrangements, and the banquet was a high point of the conference. The Session and Workshop chairs, speakers, and Show-and-Tell hosts all did a great job. There was an excellent exchange of information during the Service Break Out sessions. I really appreci-

ate and cannot thank enough all those people who helped make this year's conference a success. For those of you that attended the 1998 workshop and have not turned in an evaluation form, you should send your comments to Dave Tazik, the 1999 Program Chair. He needs all the feedback he can get from this past conference.

Mark Hagan haganm%em@mhs.elan.af.mil

1998 TECHNICAL PRESENTATIONS ABSTRACTS ORLANDO, FLORIDA

Aquatics and Fisheries. Session Chair: Bill Fisher

MITIGATING EFFECTS OF ENVIRONMENTAL DISTURBANCES IN SMALL WATERSHEDS. Miller, A.C. and B.S. Payne. U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS 39180, (601) 634-2141/3837, millera3@ex1.wes.army.mil, payneb@ex1.wes.army.mil

Macroinvertebrates such as immature insects, crustaceans, freshwater mussels, and worms are important components of aquatic ecosystems that provide food for fishes, waterfowl, reptiles, and amphibians. Dredging and disposal of dredged material, water level manipulation, construction of reservoirs, and other disturbances in small watersheds may negatively affect ecologically important organisms. Since 1983, studies have been conducted on the effects of human disturbances on small to medium sized rivers in the Southeast. Projects to mitigate for human disturbances are appropriate for many river habitats, as discussed in this report. Inexpensive habitat improvements can be readily designed to provide appropriate depth, velocity, and substratum that will support dense, species rich macroinvertebrate assemblages.

MODELING AQUATIC COMMUNITIES AT FORT GORDON, GA. Hoover, J.J. and K.J. Killgore. U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS 39180-6199, (601) 634-3996, FAX: (601) 634-3560

Empirical data on fish communities are used to (1) evaluate impacts that may be related to military activities, (2) identify local centers of biodiversity, and (3) develop habitat models for managing sensitive or imperiled species. Data from recent and ongoing surveys of fishes and physical habitat at Fort Gordon are used as examples. Various metrics of species diversity, including log-normal models of species abundance pattern, indicate that the fish fauna of an erosional stream is depauperate, but fauna of other streams, including those impounded or occurring within artillery impact areas, are speciose and similar in composition to an unimpacted stream. Locations

with the greatest number of species and harboring a disjunct population of a highly endemic, endangered fish (bluebarred pygmy sunfish) is a ruined dam, indicating that similar structures may be used to enhance habitat in degraded streams. Multiple regression models of fish abundance (dependent variable) and physical habitat (independent variables) were developed for six species. Fish abundance was negatively correlated with turbidity and positively correlated with several other habitat parameters. Resultant models are compatible with traditional impact evaluation techniques (Habitat Evaluation Procedures, Instream Flow Incremental Methodology) and may be used to quantitatively describe existing habitat and proposed management alternatives for installation streams. Currently, diets of fishes are being studied and larval fishes and invertebrates sampled, so that functional value of individual water bodies, including forested wetlands and vegetated impoundments, may be quantified.

AQUATIC SPECIES AND THEIR HABITATS AT WHITE SANDS MISSILE RANGE, NM. Adams, S.R. and J.J. Hoover. U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS 39180-6199, (601) 634-3526, FAX: (601) 634-3560

Documentation of the poorly known aquatic fauna at White Sands Missile Range is required to assess functional value of desert wetlands, identify species or populations at risk, and to develop management plans. Invertebrate and vertebrate surveys in 1997 are being used to describe fauna at thirteen locations and to evaluate relative importance of biotic and abiotic factors using species-association, food web, and habitat utilization analyses. Bugs (Corixidae, Notonectidae, Belostomatidae), beetles (Dytiscidae, Hydrophilidae), and larval midges (Chironomidae) are nearly ubiquitous. Seed shrimp (Ostracoda), fairy shrimp (Anostraca), water fleas (Cladocera), and scuds (Amphipoda) are characteristic of seasonal playas, small temporary pools, nutrient-enriched playas, and springs, respectively. Tadpoles and larval salamanders inhabit a temporary stream and ponds, respectively. The endemic and endangered White

Sands pupfish (*Cyprinodon tularosa*) occurs in two springs and a intermittent stream. Pupfish abundance was highly variable among locations (15/light-trap in an isolated spring to 69/light-trap in a permanent stream) and among macrohabitats at a single location (0/light-trap in a spring boil to 110/light-trap in a salt marsh). Multiple regression analysis of pupfish abundance (dependent variable) and nine physical habitat parameters (independent variables) indicated that warm, shallow water explained 28% of the variation in pupfish abundance. Habitat models will be developed for other numerically dominant, characteristic, or imperiled species.

ASSESSING RISK AND RECOVERY OF IMPORTANT FISHES. Hoover, J.J., Killgore, K.J. and J.P. Kirk. U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS 39180-6199, (601) 634-3996, FAX: (601) 634-3465

Field and laboratory data have been applied to broad questions in taxonomic resolution, habitat preference, and demography of fishes and later used to identify management priorities. Three approaches were used for assessing southern fish populations: morphomeristic, resource response, and recruitment models. Models listed were used to quantify impacts/benefits of management alternatives and forecast long-term trends in population size of endangered or other special interest fishes. Correlation-based analyses of morphomeristic data confirmed two distinctive forms of paddlefish (*Polyodon spathula*) and showed that pallid sturgeon (*Scaphirhynchus albus*), a federally listed endangered species, is distinctive from the shovelnose sturgeon (*Scaphirhynchus platorynchus*) in the lower Mississippi River. The broad-nosed form of paddlefish is comparatively rare, however, and pallid and shovelnose sturgeons are difficult to distinguish in the field. Resource response curves demonstrated preferential exploitation of very low water velocities (< 10cm/s) by the blackside darter (*Percina maculata*), a regionally imperiled species, and sustained swimming at low water velocities (< 30cm/s) by juvenile pallid sturgeon. Impacts of a navigation project on blackside darter habitat were quantified and importance of low water velocity habitats to rarely collected pallid sturgeon were identified. Mortality-based recruitment models were used to project long term population sizes of triploid grass carp (*Ctenopharyngodon idella*) and Gulf sturgeon (*Acipenser oxyrhynchus desotoi*). Supplemental stocking of grass carp was required in Lake Marion, SC to ensure long term control of hydrilla. Adult recruitment of Gulf sturgeon was low in the Pearl River, LA, which may hamper recovery efforts for this federally endangered species.

BASELINE BIOLOGICAL RISK ASSESSMENT FOR AQUATIC POPULATIONS AT EIELSON AIR FORCE BASE, ALASKA. Dauble, D.D.,

Brandt, C.A., Mueller, R.P. and R. Lewis. Pacific Northwest National Laboratory, 3190 George Washington Way, Richland, WA 99352

Eielson Air Force Base was listed as a superfund site in 1989 with 64 potential source areas of contamination. As part of remedial investigations, baseline risk assessments were conducted to evaluate hazards posed to biological receptors and human health. Fish tissue, aquatic invertebrates, aquatic vegetation, sediment, and surface water data were collected from several surface water bodies in 1993 and 1994. A screening risk assessment indicated that several sites within two creeks flowing through the base had unacceptable risks to aquatic receptors and human health because of DDS. Other contaminants of concern (i.e., PCBs and PAHs) posed risks below screening levels for aquatic organisms, but contributed unacceptable risk to human health. Additional samples were taken to characterize the distribution of contaminants in aquatic biota and sediments. Concentrations of PAHs in these samples were sufficiently low to pose no significant risk to biological receptors. Pesticides or their metabolites were found in all fish tissue samples, indicating these contaminants were prevalent in the environment. Of principle concern were the relatively high concentrations of PCBs detected in fish from Garrison Slough, a main drainage ditch flowing near 16 potential contamination source areas. The pattern of PCB concentrations in arctic grayling (*Thymallus arcticus*) was related to proximity to a sediment source in lower Garrison Slough and indicated that a complete pathway to humans existed. Because of the long half-life of PCBs in aquatic organisms, management actions were needed to reduce the risks to an acceptable level as defined by CERCLA. Specific remediation actions recommended include recreational fishing restrictions, engineered controls to limit fish movement, and sediment/soil excavation. The Air Force plans to monitor PCB concentrations in fish tissue and sediment to evaluate the effectiveness of the cleanup effort.

Natural Resource Education.
Session Chair: Wanda Deal

DEPARTMENT OF DEFENSE PARTNERS IN FLIGHT PROGRAM: INFORMATION AND EDUCATION ASPECTS. Eberly, C. and J. Hautzenroder. Partners in Flight Program, hautzenroderje@hq.navfac.navy.mil

Since the inception of the Neotropical Migratory Bird Management Program (Partners in Flight) in 1991, the Department of Defense (DoD) has invested significant resources to support and promote the initiative. Program acceptance and support are due largely to promotion of the program through the publication of brochures, posters, displays, newspaper articles, feature magazine articles, and conference

and workshop presentations. DoD Regional and Technical Working Group representatives have labored hard to develop various public relations aspects of the program and to promulgate this information to installations in their area. The success of Partners in Flight is due largely to the structure of the overall national program, the initiative of working group representatives, and a better understanding and appreciation by planners and decision makers that the health of neotropical migratory bird populations is a reflection of these stewardship efforts.

ESTABLISHING A COMMUNITY ENVIRONMENTAL EDUCATION OUTREACH PROGRAM: THE PATUXENT RIVER NAVAL AIR STATION EXPERIENCE. Hopkins, T. and D. Lister. Patuxent River Naval Air Station, (301) 342-3670, FAX (301) 342-3141, lister_doug%pax2@mr.nawcad.navy.mil

Environmental education has been part of the Patuxent River Naval Air Station (NAS) Natural Resource Program for over 40 years. This educational outreach started simply as awareness for military members and their families, but by reputation and word of mouth, grew into an educational supplement for the entire southern Maryland region. Developing a successful community outreach program requires support from every level of the chain of command, an aggressive public awareness campaign, and a dedicated staff of professionals and volunteers. The Patuxent River NAS environmental education program has evolved over time, gained command acceptance, involved innovative staffing and partnering that have made this an award winning and unique environmental and natural resource program.

AN ENVIRONMENTAL LEARNING EXPERIENCE-EDUCATION VERSUS REGULATION. Skoglund, M.J. Camp Ripley, MN, (320) 632-7201, FAX: (320) 632-7702, skoglundm@fmo.dma.state.mn.us

The Minnesota National Guard launched an ambitious environmental awareness program in 1988, which initially focused on troops in training at the Camp Ripley Training Site as their primary audience. After nine years, Camp Ripley has become a premier location for training and educating not only soldiers but also thousands of citizens throughout Minnesota. The invaluable natural resource projects that have been accomplished under the Integrated Training Area Management (ITAM) program at Camp Ripley have provided a solid foundation from which soldiers and civilians are educated rather than regulated. There are examples of awareness materials that have proven effective plus recommendations on enhancing existing efforts in natural resource education.

DESERT TORTOISE EDUCATION: IMPLICATIONS FOR ENDANGERED SPECIES MANAGEMENT. Deal, W., Romero, R., Hagan, M., and V. Anderson. AFFTC/EMXC, 5 E Popson Avenue, Edwards AFB, CA

93524-1130, (805) 277-1401, FAX: (805) 277-6145, dealw%em@mhs.elan.af.mil

The Air Force Flight Test Center, Edwards Air Force Base (AFB), conducts many military operations and a variety of support activities. Construction of new facilities, utility corridors, roads, residential housing areas, and shopping centers illustrate some of the activities that support military operations. Edwards AFB encompasses approximately 301,000 acres in the western Mojave Desert. Five distinct plant communities occur on the installation. Desert tortoises (*Gopherus agassizii*) occur throughout 2/3 of the base. The Desert Tortoise Education Program is one element of natural resources management at the installation. The Education Program consists of briefings/talks using videotapes, brochures, decals, and fact sheets. All base personnel and contractors are briefed on requirements to protect the desert tortoise. Presentations are also given to schoolchildren. Collection of desert tortoises has decreased dramatically and reports of observations by base personnel have increased over the same time. The Education Program has proven to be invaluable in the management of the desert tortoise.

Habitat Restoration. Session Chairs: Dave Tazik and Alison Hill

CASE STUDIES OF FORESTED WETLAND RESTORATION ON MINED LAND, FLORIDA. Clewell, A.F. Society for Ecological Restoration, Rt. 7, Box 1195, Quincy, FL, 32351, (850) 875-1848, clewell@mail.ecr.org

Ideally, an ecological restoration project includes (1) baseline ecological inventory of conceptualized reference systems upon which the restoration project is modeled and later evaluated, (2) plans for integration of the project into the regional landscape, (3) development of performance standards for project evaluation, (4) a schedule for project implementation that includes site preparation and control of exotic and nuisance species, (5) introduction of appropriate species and genetic stock, (6) contingency plans, and (7) monitoring protocols suitable for project evaluation. These steps will be illustrated with descriptions of completed forested wetland restoration projects on phosphate mined and reclaimed land in central Florida. The projects feature forest canopies 40 feet tall, a full set of undergrowth species, ample reproduction by many species, soil profile development, and wildlife utilization.

PLANNING AND EVALUATING RESTORATION OF AQUATIC HABITATS. Yozzo, D.J. and J.P. Titre. U.S. Army Corps of Engineers, Waterways Experiment Station, 3909 Halls Ferry Road, Vicksburg, MS 39180, (601) 634-2199, FAX: (601) 634-3726, titrej@mail.wes.army.mil

Environmental restoration is an area of increased emphasis within the Civil Works Program of the U.S. Army Corps of Engineers. New congressional authorities and policy changes are providing more opportunities to pursue initiatives and to develop improved techniques for evaluation and comparison of environmental restoration projects in coastal and inland waters. A completed study identified environmental parameters that should guide restoration projects using ecosystem concepts toward developing objectives and comparing alternative approaches. Three concepts were deemed important to successful restoration: (1) an adaptive management approach to avoid project pitfalls and ensure design flexibility, (2) a systems perspective, and (3) explicit recognition and incorporation of ecosystem spatial and temporal heterogeneity in planning and design of habitat restoration projects. Watershed or bioregional project scales are recommended, where feasible. Also deemed critical are the ability to make modifications to the project based on outputs from ecological models, bench/field scale experimentation, and long term monitoring. These concepts distinguish restoration project planning and implementation from traditional Corps civil works projects. The safe-fail philosophy of adaptive management and incorporation of uncertainty analysis and flexibility in restoration project planning counters traditional linear engineering approaches, but is considered necessary to ensure long term success of habitat restoration projects.

RECOVERING THE LONGLEAF PINE ECOSYSTEM: A REGIONAL CONSERVATION AND RESTORATION EFFORT. Johnson, R. and D. Gjerstad. The Longleaf Alliance, Route 7, Box 131, Andalusia, AL 36420, (334) 222-7779, FAX: (334) 222-0581, johnson@forestry.auburn.edu

The decline of the longleaf pine and its accompanying ecosystem is well known to natural resource professionals, landowners, and managers across the South. Of the estimated 90 million upland acres dominated by longleaf at the time of European settlement, only about 3 million acres are in longleaf today. This rate of decline exceeds that of wetlands by several orders of magnitude. Today, efforts to halt and reverse that trend are firmly in place with considerable success on several fronts. Scientific advances in production of quality seedlings and in handling, planting, and post-planting management have taken away much of the risk associated in establishing longleaf. Public and private landowners have become willing, enthusiastic participants in the movement toward restoration of longleaf on sites for which it is well suited and maintenance of forest ecosystems where it already exists. Military installations across the region have taken a lead role in protecting the longleaf resource and in restoration

of associated plant and animal communities. Other federal agencies have featured longleaf on lands they manage and in their research and outreach programs. Nongovernmental groups also have very active programs involved in cataloging, evaluating, and managing longleaf forests.

LONGLEAF PINE ECOSYSTEM RESTORATION EFFORTS AT FORT STEWART, GEORGIA. Beaty, T. DPW, Fish & Wildlife Branch, HQS 3D IN DIV (MECH) and Fort Stewart, 1557 Frank Cochran Drive, Fort Stewart, GA 31314-4928, (912) 767-7261, FAX: (912) 767-9433, beatyt@emh5.stewart.army.mil

Fort Stewart, the largest Army installation east of the Mississippi River, is home to the Third Infantry Division (Mech). The 279,270 acre installation also represents one of the largest remaining areas of longleaf pine forest. The forest supports over 175 groups of endangered red-cockaded woodpeckers (*Picoides borealis*) and is one of fifteen populations considered essential for recovery of this species. Other listed species found on the installation include the eastern indigo snake (*Drymarchon corais couperi*), bald eagle (*Haliaeetus leucocephalus*), and wood stork (*Mycteria americana*). Numerous species of special concern also occur in the forest. Forest conditions are nearly pristine in some areas, while other areas have been degraded, either by agricultural cultivation prior to federal acquisition, or by military training. The property has been in federal ownership since WW II, and forestry and wildlife management activities have been conducted since the early 1950s. Since 1992, management and restoration of the longleaf/wiregrass ecosystem has been the focus of management efforts. Activities include prescribed burning, reestablishment of longleaf pine by natural seeding or planting, control of undesirable hardwoods, and restoration of wiregrass (*Aristida* spp.). The management program integrates endangered species recovery, ecosystem restoration, commercial timber sales, and game management to create an ecologically sustainable landscape that supports military mission requirements.

RIPARIAN ECOSYSTEM RESTORATION, BEALE AFB, CA. Reinhardt, B.S. and G.A. Treber. 9 CES/CEVA, 6601 B Street, Beale AFB, CA 95903-1708, (916) 634-2643, FAX: (916) 634-2845

Beale AFB is 23,000 acres in size and is located on the eastern edge of the Sacramento Valley and western slope of the Sierra Nevada Mountain Range of California. The predominant vegetation type is annual grassland with associated vernal pools. Other important vegetation types include freshwater marsh, oak woodland, and riparian woodland. The riparian woodland has three specific types: cottonwood-

willow riparian forest, valley oak riparian forest, and mixed riparian forest. As part of a basewide multispecies conservation plan, an 800 acre riparian corridor was identified for preservation and restoration. This would provide protection for several species of concern including the following: northern harrier, white-tailed kite, Cooper's hawk, yellow-breasted chat, and valley elderberry longhorn beetle. The area selected for restoration is 300 acres in size and has been previously cleared for agricultural use. The area is considered to have high potential for restoration because of its location in a floodplain, near-surface groundwater, and presence of remnant riparian habitat. The first phase of the restoration will include planting forty acres of riparian species such as valley live oak, interior live oak, cottonwood, willow, alder, elder, Oregon ash, California buckeye, and redbud. The California State University, Chico Restoration Department, will be planting during the 1997/98 wet season and maintaining and monitoring the restoration site for three years.

ECOSYSTEM RESTORATION AT ORCHARD TRAINING AREA, IDAHO. Quinney, D.L. and J.W. Weaver. Idaho Army National Guard Office of Environmental Management, 4715 S. Byrd Street, Building 518, Boise, ID 83705-8059, (208) 422-4181, FAX: (208) 422-4169, quinneyd@idngnet.army.mil

Orchard Training Area (OTA), Idaho is 138,000 acres of U.S. Department of the Interior, Bureau of Land Management land that has been used for National Guard training since 1953. OTA is the primary annual training site for four western states and offers heavy armor, support, and attack helicopter training. The OTA is inside the Snake River Birds of Prey National Conservation Area; Public Law 103-64 states that all land uses of the area must be "compatible with populations of birds of prey," a mandate for whole ecosystem management. During the past 120 years, OTA lands have been damaged by fire, overgrazing, and military training. Native shrub habitat, in particular, has been eliminated by fire and invasions of exotic weeds. In this arid shrubsteppe, restoration is difficult. OTA natural resources staff have developed methods of ecosystem restoration sensitive both to military trainer's needs and to needs of raptors and their prey. The methods include: compilation of pre-disturbance vegetation data on all OTA lands; collection of annual data documenting current site conditions; broadcast or aerial seeding of native shrub species; broadcast seeding of native grasses; collection of native forb species seed; subsequent broadcast seeding of native forb seed; annual monitoring of representative seeding projects; and testing of new restoration techniques. Descriptions of methods and example analyses of restoration monitoring data will be presented.

Herpetology. Session Chair: John Joyce

MOVEMENT PATTERNS AND HABITAT USE OF THE CANEBRAKE RATTLESNAKE (*CROTALUS HORRIDUS*) ON A NAVAL FACILITY IN SOUTHEASTERN VIRGINIA. Saitzky, A.H. and C.E. Petersen. Department of Biological Sciences, Old Dominion University, Norfolk, VA 23529-0266

The state endangered canebrake rattlesnake (*Crotalus horridus atricaudatus*) reaches the northern limit of its geographic range in southeastern Virginia, where habitat loss is the primary threat to its survival. We have studied the rattlesnake on Naval Security Group Activity Northwest (NSGA), a largely forested facility in the city of Chesapeake, for over two years. Radio transmitters have been implanted in fifteen snakes for periods of up to 28 months, and movements and habitat use have been monitored 4-7 days per week. Most of the snakes movements have been limited to forested environments. However, open habitats (forest edges, clearcuts, and agricultural fields) provide important habitat for behaviors requiring high body temperatures, such as digestion of prey, shedding of skin, and gestation. Because mating follows skin shedding by the female, courtship has also been observed in open habitats. At other times, the snakes appear to avoid open habitats and the size and shape of forest patches probably constrain their movements. Unlike a previously studied population, some snakes at NSGA Northwest did not return to the same hibernation site in succeeding years. The large activity ranges and proximity of the snakes to human activity pose challenges for the management of this population, as does the large interannual variation in movements in these long lived animals.

HABITAT USE AND RELATIVE DENSITY OF REPTILES AND AMPHIBIANS ON MARINE CORPS AIR STATION MIRAMAR. Conkle, T.S. Mand W.E. Haas. MCAS Miramar, Environment and Safety Dept. (5AU/NRTC), Bldg. M311, PO Box 452013, San Diego, CA 92145-2013, (619) 537-6498, FAX: (619) 537-4200, conklet@pendleton.usmc.mil. Varanus Biological Services, Inc., San Diego, CA, (619) 536-8762

Habitat use and relative density of reptile and amphibian species are currently under study on Marine Corps Air Station (MCAS) Miramar. The study area is 23,116 acres all within the city of San Diego, San Diego County, CA. Fieldwork for this project began in October 1995 and will continue until December 1998. Requirements for the study were twofold: (1) Conduct surveys for reptiles and amphibians and (2) provide life history and ecological information for all species found. Sampling is being conducted in ten

habitat types. Sampling methods include visual surveys, audio surveys, pitfall traps with drift fences, breeding surveys, and seining. Currently there are 21 pitfall trap sites composed of a total of 450 pitfall traps. Four species of special concern including western spadefoot toad (*Spea hammondi*), coast horned lizard (*Phrynosoma coronatum blainvillii*), orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*) and coastal whiptail (*Cnemidophorus tigris multiscutatus*) occur on site. To date, MCAS Miramar is known to be home to 7 species of amphibians (two are nonnative) and 23 species of reptiles (9 lizards and 14 snakes).

FIELD TECHNIQUES FOR SURGICALLY IMPLANTING RADIO-TRANSMITTERS IN POISONOUS REPTILES. Bashore, T.L. and T.E. Martin-Bashore. Directorate of Environment, U.S. Army Air Defense Artillery Center and Fort Bliss, Fort Bliss, Texas 79916. COMPA Industries, Inc., 7500 Viscount Blvd., Suite 202, El Paso, Texas 79925

Radio-telemetry is an effective means to locate snake hibernacula for protection as sensitive areas and maximizing troop safety by minimizing intrusion in areas of high concentrations of poisonous snakes during certain times of the year. Radio tracking requires transmitters be surgically implanted in the reptiles. This presentation illustrates implantation techniques that are suitable for both laboratory and remote field locations. Methods are low tech, inexpensive, protect the animal's welfare, and provide a high degree of protection for researchers.

DISTANCE SAMPLING AND DENSITY ESTIMATION OF THE DESERT TORTOISE IN THE MOJAVE DESERT. Evans, R.M. Natural Resources and Environmental Affairs Directorate, Marine Corps Air Ground Combat Center, Twenty-nine Palms, CA

The desert tortoise (*Gopherus agassizii*) is a federally listed threatened species. At present, it is the only nonmigratory, resident species on the Marine Corps Air Ground Combat Center (MCAGCC). The nearly 600,000 acre MCAGCC is the largest U.S. Marine Corps base and has a mission of supporting live fire military training in numerous Combined Arms Exercises annually. Desert tortoise research conducted at MCAGCC and some other installations in the Southwest includes developing a model for estimates using standard line distance sampling methodology. This methodology assumes that all individuals directly on the line are observed. However, as desert tortoises are thought to spend up to 95% of the year in underground burrows, a correction factor (G subzero) is being developed by researchers, to account for ani-

mals on the line that are not seen due to being in burrows.

HERPETOFAUNAL INVESTIGATIONS AT AVON PARK AIR FORCE RANGE: AN OVERVIEW. Holmes, A.M. and R. Franz. Avon Park Air Force Range, FL 33825

Avon Park Air Force Range (APAFR), located in central Florida, is dedicated to enhancing and maintaining natural resources while meeting various management objectives, including military training (e.g., management of wildlife, timber, and rangeland). Currently, there are eleven wildlife research projects being conducted on APAFR. One is a study on the distribution and abundance of sensitive wildlife species including many herpetological species, such as the gopher frog (*Rana capito*), gopher tortoise (*Gopherus polyphettus*), eastern indigo snake (*Drymarchon corias couperi*), and Florida scrub lizard (*Sceloporus woodi*). The purpose of this study is to determine the impacts of all activities, military and nonmilitary, on these species and to provide management recommendations for their long-term survival.

Wetland Management. Session Chair: Chester Martin

RESTORATION OF MANGROVE SWAMP AT HOWARD AIR FORCE BASE, PANAMA. Chavers, J.M. 24 CES/CEVC, Howard AFB, APO, AA, 34001, (507) 284-5165, FAX: (507) 284-5208

The US military has been a major influence in the Republic of Panama since the building of the Panama Canal in the early 1900s. These lands, vital to the people of Panama, are biologically diverse with at least 565 species of birds. Of these, 120 are regularly occurring neotropical migrants with an additional 62 species appearing less frequently. Panama receives an annual income of approximately 30 million dollars per year from the shrimp and lobster industry. These and other crustaceans survive their early life in the rich Panamanian coastal mangrove swamps. Protection of the mangrove swamps is one of the most important challenges of the Panamanian government, but also represents a potential Bird Aircraft Strike Hazard to the Air Force flying mission. Years ago, activities resulted in the deforestation of about 80 acres of the Howard AFB mangrove swamp. This deforestation not only affected the natural ecosystem of the south airfield, but also attracted other birds that feed on insects and small crabs. A recovery project was implemented and decisions made to protect this important ecosystem. Pipes 36 inches in diameter were installed underneath the Approach Lights Maintenance Road to permit balanced water flow at both sides of the south airfield. All mangrove trees previously impacted were allowed to grow to at least

six feet high. This project ensured safety and visibility for flight operations, while also permitting ecosystem restoration. After approximately three years of effort, the south wetlands recovered with healthy, exuberant vegetation and habitat for several species, including threatened and endangered birds.

DELINEATING CLAY PANS AND PLAYAS IN THE ARID SOUTHWEST USING ALGAL CRUSTS AND OTHER UNCONVENTIONAL INDICATORS: A CASE STUDY AT EDWARDS AIR FORCE BASE, CA. Lichvar, R., Brostoff, W. and S. Sprecher. U.S. Army Corps of Engineers, Waterways Experiment Station, 3903 Halls Ferry Road, Vicksburg, MS 39180, (601) 634-2983, (601) 634-3435, (605) 634-3957

Since 1993, a series of multidisciplinary studies were conducted to support base management plans: (1) wetland delineation and characterization, (2) ecosystem and floodplain mapping, and (3) and ecosystem modeling. Delineation of "Waters of the United States" involved development of field indicators for Section 404 of the Clean Water Act. This included multivariate analysis, ranking of indicator reliability, and field verification. Laboratory analysis of algal crusts was used to support the delineation of 24,300 hectares of regulated water resources. Current efforts involve mapping the ecosystem by integrating geomorphic, hydrologic, and vegetation units. Project results include mapped hierarchical classification units describing the ecosystem. The distribution and variation of clay pans and other features are explained in the context of geomorphic and vegetation units. To integrate these ecosystem classification units with ecosystem functions, we initiated a multidisciplinary ecosystem study involving vertebrates and invertebrates, plant distributions, abundances, and physiological status; and soil surface algae, fungi, and bacteria.

INTEGRATION OF PRAIRIE GRASSLAND RESTORATION WITH WETLANDS CREATION. Petersen, D.S. CES/CEVR, 2103 Scott Drive, Ellsworth AFB, SD 57706-4711, (605) 385-2675, FAX: (605) 385-6619

Ellsworth AFB is an Air Combat Command installation located 12 miles east of Rapid City, SD. The installation has been the headquarters for a variety of aircraft as well as missile systems. Presently, the 28th Bombardment Wing (B1-B) is the host unit. The main base covers 5,259 acres within Meade and Pennington counties and includes runways, airfield operations, open land, industrial areas, housing, and recreational facilities. On 30 August 1990, Ellsworth AFB was placed on the National Priorities List, which brought it under federal facility provisions of Section 120 of CERCLA. Cleanup actions at four

former landfills required the placement of vegetative cover to minimize infiltration and provide protection from direct contact of landfill materials and surficial soils. Effective partnerships between the installation, local community, and environmental oversight consultants allowed concurrent design and execution of remedial actions, wetlands mitigation, and prairie restoration. Over 600,000 cubic yards of landfill cover material was excavated and placed, a wetlands restoration area was created, and native plant varieties were reintroduced into areas of the base that had been impacted. Results of the work include substantive protections to human health and the environment, enhanced outdoor recreation, and improved flood control. The Air Force satisfied its lead agency responsibilities under CERCLA while accommodating substantive requirements of other legal mandates.

ECOLOGICAL SURVEYS OF WATERS OF THE U.S. AND ASSOCIATED WETLANDS AT WHITE SANDS MISSILE RANGE, NEW MEXICO: A PRELIMINARY ASSESSMENT. Fischer, R.A., Martin, C.O., Evans, D.E., Burkett, D., and D. Taylor. U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS 39180-6199, (601) 634-3983 FAX: (601) 634-3726. MEVATEC Corporation, White Sands Missile Range, NM. Environmental Services Division (STEWS-NRES-E), White Sands Missile Range, NM

A faunal survey and ecological assessment of selected wetlands and "Waters of the U.S." (WoUS) were conducted at White Sands Missile Range (WSMR), New Mexico, during 1997. Eight WoUS wetland types were selected for sampling. These included permanent streams, intermittent streams, un-vegetated playas, vegetated playas, artesian springs, alkali flats, salt marsh, and an effluent pond. Taxa surveyed included birds, mammals, reptiles and amphibians, fishes, and aquatic invertebrates. This paper presents preliminary results of sampling for birds, mammals, and herpetofauna. Point count sampling was the primary method used for avian surveys; counts were made at approximately 80 lowland and adjacent upland sampling sites at 14 WoUS wetland locations. Small mammal sampling was conducted in February and June 1997 and consisted of four 15-station transects at ten sites; two transects were located in lowlands and two were in adjacent uplands. Surveys for herpetofauna were conducted at 14 sites using 38 drift fence and pitfall arrays open continuously from 1 June through 29 August 1997. Results indicated a diverse vertebrate community in WoUS wetland study areas. During spring migration, 130 avian species were observed using WoUS wetlands and adjacent uplands. Fifty breeding bird species were observed in the same areas during summer. Twenty-two species of mammals were captured, in-

cluding several species captured only in pitfall traps. Twenty-three species of reptiles and amphibians were captured. Vegetation data were also collected at all sample sites. Habitat data and vertebrate species richness are being analyzed and evaluated to assist with WoUS wetland management decisions on the installation.

UPDATE OF DESKTOP WETLANDS MANAGEMENT NOTEBOOK. Sprecher, S. and C. Schneider. U.S. Army Corps of Engineers, Waterways Experiment Station, 3903 Halls Ferry Road, Vicksburg, MS 39180

The Desktop Wetlands Management Notebook was originally written in 1993 to provide technical guidance to military natural resource managers regarding regulatory and stewardship implications of wetlands and other waters regulated by the US Army Corps of Engineers (ACOE). The original document has become dated in several regards and has been recently revised. The update describes changes in the Section 404 program, including revised Nationwide Permits, the Hydrogeomorphic Classification System, new ACOE organization, developments in mitigation banking, wetlands and integrated natural resource management plans, new definitions of dredge and fill, and AR 200-3. The Notebook now includes internet addresses and address changes for federal points of contact for wetland issues. A description of the Notebook and its changes will be followed by an open ended question and answer session about wetlands with the presenters as well as with a representative of the Regulatory Division of the ACOE Jacksonville District.

Field Notes. Session Chairs: Sharon Jones and Don Meuschke

VALIDATION OF THE U.S. AIR FORCE BIRD AVOIDANCE MODEL. Lovell, C.D. and R.A. Dolbeer. USDA/APHIS/WS/National Wildlife Research Center, Ohio Field Station, 6100 Columbus Avenue, Sandusky, OH 44870-9701

Since 1986, bird strikes have caused nearly \$500 million in damage to U.S. Air Force (USAF) aircraft as well as the loss of 33 lives. To reduce these losses, the USAF developed a Bird Avoidance Model (BAM) to evaluate low level training routes for bird strike hazards throughout the contiguous United States. The current BAM, developed in the 1980s, incorporates waterfowl and raptor species that account for the majority of damaging bird strikes to military aircraft. Because changes have occurred to waterfowl and raptor populations throughout North America, there is speculation that the BAM (developed and currently run with historical waterfowl and raptor data) may not accurately predict bird strike hazards. Therefore, we compared bird strike hazards

predicted by the BAM for those low level routes where waterfowl and raptor strikes occurred with a random selection of published low level routes where waterfowl and raptor strikes were not reported. Mean predicted bird strike hazards for both waterfowl and raptors were higher ($P < 0.001$ and $P = 0.02$) for routes where strikes had occurred than for routes where strikes by these species had not occurred. Thus, the BAM has successfully predicted mean bird strike hazards along low level training routes for the military and when properly used can assist with flight planning to minimize waterfowl and raptor strike hazards.

PREDICTING WHERE ENDANGERED SPECIES OCCUR: A MODELING APPROACH USING AVAILABLE FIELD DATA. Brandt, C.A., Rickard, W.H. and J.R. Parrish. Pacific Northwest National Laboratory, 3190 George Washington Way, Richland, WA 99352

Among the challenges facing natural resource managers at many Department of Defense sites are those dealing with endangered species protection and management. This becomes especially problematic for those species that are difficult to detect during preactivity surveys, even by highly trained staff. The Pacific Northwest National Laboratory has assisted the US Army and Air Force in two of these cases by developing models that predict where endangered species are likely to be found. These models use readily available data amenable to analysis on a Geographic Information System (GIS) platform to assign probabilities of a species occurring at any particular position. A model based on a study of the Hawaiian dark-rumped petrel provided sufficient evidence for the US Fish and Wildlife Service (USFWS) to conclude a Section 7 consultation favorable to the Air Force. Subsequent use of the model by the USFWS led to the discovery of new nesting populations of this species, the first such discovery in over 30 years. Another model developed for the US Army at the National Training Center predicts the occurrence of Lane Mountain milk vetch, a plant proposed for listing as endangered, based on dominant shrub cover and stoniness of soil.

ASSIGNING VALUES FOR THE NATURAL RESOURCES ON FEDERALLY OWNED LANDS. Tiller, B.L., Caldwell, L.L., and J.A. Hall. Pacific Northwest National Laboratory, 3190 George Washington Way, Richland, WA 99352. ECO-Solutions, 1301 Buena Court, Richland, WA

As part of the effort to conserve biodiversity on military lands, it has become increasingly important to inventory, monitor, and manage highly valued biological resources. A practical example of this process was developed at the Department of Energy Hanford Site. For any sizable land area protected

from development there is likely to be a broad range of biological resource (species and habitats) values. Federal land managers recognized the need for management actions to be scaled to the resource value. A process termed "Management by Level of Concern" has been developed that defines four levels of resource value. The needs and extent for various required management actions, including monitoring, impact assessment, impact mitigation, and minimum National Environmental Policy Act (NEPA) assessment were distributed according to relative resource value. Values were assigned based on whether the species were recreationally, commercially, or ecologically important, whether they had special protection as migratory species, or fell into one of several categories of either state or federal threatened and endangered species listing. Fundamental to the application of management by level of concern, as with any other management approach, is an adequate inventory of biodiversity and habitat associations.

GEOGRAPHIC INFORMATION SYSTEMS (GIS) FOR ENVIRONMENTAL MANAGEMENT AND MONITORING. Irwin, D. Pacific Northwest National Laboratory, 3190 George Washington Way, Richland, WA 99352

Effective management of US Army training lands requires an understanding and knowledge of the condition of those lands and natural resources and how they change over time. To support the mission of cultural and natural resource managers, the Pacific Northwest National Laboratory developed a customized, user friendly Geographic Information System (GIS) based on commercial, off the shelf software, for the Yakima Training Center, Washington. This Department of Defense (DoD) funded GIS development project enables managers to more effectively understand and analyze spatial data and consequently better monitor the effects of training related activities under their jurisdiction. The development and implementation of this customized GIS at Yakima Training Center can be modified and transferred to other DoD facilities.

NEW BALD EAGLE CHALLENGE FOR DOD LAND MANAGERS. Marcy, J.B., U.S. Army Corps of Engineers, Vicksburg District, CEMVK-OD-M, 4155 Clay Street, Vicksburg, MS 39180-3435, (601) 631-5302, FAX: (601) 631-7133, Julie.B.Marcy@mvmk01.usace.army.mil

U.S. Army Corps of Engineers (USACE) projects in Arkansas are the site of the worst unexplained die off of bald eagles (*Haliaeetus leucocephalus*) in the history of the nation. Since 1994, 59 eagles have died at lakes DeGray and Ouachita from an unknown neurotoxin. The disease also targets American coots (*Fulica americana*) and causes the same lesions in the white matter of their brains that results in

mortality. Affected animals are normally found dead with good body condition and no apparent cause of death. Despite the fact that an occasional sick eagle is found and captured, no successful treatment has yet been discovered to stop the progression of the disease. Extensive research efforts are currently underway to trap/band/radio-tag eagles, and trap/band coots at these projects. This information will be used to determine movement patterns and feeding behavior of the birds. Additional analyses of aquatic plants, water quality, and a mouse bioassay experiment to isolate and identify the toxin are also being pursued. The winter of 1997-98 revealed that the disease is more widespread than originally thought with new confirmed sites in Georgia and North Carolina. Department of Defense land managers who have wintering bald eagles and American coots should familiarize themselves with symptoms of the disease and monitor their populations accordingly. Coordinators in this effort include USACE, US Fish & Wildlife Service, Arkansas Game & Fish Commission, National Wildlife Health Center, and the National Center for Toxicological Research.

U.S. NATIONAL SHOREBIRD CONSERVATION PLAN. Corven, J. Manomet Center for Conservation Sciences, P.O. Box 1770, Manomet, MA 02345, (508) 224-6521, FAX: (508) 224-9220, <http://www.manomet.org/backup/NatPlan.htm>

The National Plan addresses three objectives: (1) a standardized protocol for monitoring and studying shorebird populations for habitat conservation, (2) the principles and practices of shorebird habitat management with multiple species strategies, (3) public awareness and education concerning wetlands and shorebirds. Shorebirds are hemispheric globetrotters, whose migrations include long distance, non-stop flights, often exceeding a thousand miles. To complete these extraordinary flights, shorebirds must lay on enormous fuel reserves at critical wetland habitats. Of the 41 shorebird species which migrate through North America, 5 are projected to decline by 25% or more over the next five years, and 16 others have projected or actual population declines of 5 to 20%. This project incorporates a broad based team that includes local, state, and federal agencies, non-governmental organizations, business related sectors, educators, researchers, and policy makers. The Plan is very closely coordinated with the North American Waterfowl Management Plan and Joint Venture professionals as well as Partners in Flight regional working groups as they concurrently develop their revised national management plans. The development of a scientific habitat based, national plan for the conservation of migratory shorebirds and their habitats will provide land and wildlife managers in all 50 states with a detailed guide for integrating bird habitat management.

Mark Hagan haganm%em@mhs.elan.af.mil

BOARD OF DIRECTORS MEETING MINUTES, 23 MARCH 1998

The National Military Fish and Wildlife Association (NMFWA) Board of Directors (BOD) met in Salon 23 of the Omni-Rosen Hotel, Orlando, Florida. The meeting was called to order by President Rick Griffiths at 1711 on 23 March 1998.

Rick Griffiths provided the following report: The Sikes Act passed and is available from Junior Kerns. Marjorie McHenry also said the Sikes Act is on Gene Stout's web page. The BOD Handbook has been revised, and policy was added, especially regarding financial aspects. Further revisions to the handbook can always be made. The next Wildlife Society (TWS) meeting will be held in Buffalo NY.

Only 85 membership forms included in the September issue of the Fish and Wildlife Newsletter (FAWN) were returned to the BOD. The Membership Committee is going to update the database and add members areas of expertise for improved networking capability.

Revisions to the bylaws will be discussed and voted on at the business meeting. The proposed revisions were mailed out with the ballots.

The BOD discussed changing the names of the NMFWA, FAWN, and our official logo. There was a suggestion to change the title of the annual NMFWA training workshop. The motion passed to retain the name NMFWA, but gradually change the scope of the organization and annual training workshop. It was suggested having a forestry session at the next NMFWA workshop. The motion passed to change the name of the FAWN to National Military Conservation News. The motion passed to bring this proposed change in the newsletter name before the membership for a vote. The motion passed to post nine proposed logos at the registration desk for people to indicate their choice with space for comments. The top 3 logos chosen would then be voted on at the Annual Business Meeting.

Don Meuschke summarized the 20 March 1997 BOD meeting minutes. Committee reports were provided to the BOD. Chairs are needed for the Poster, Resolution, Award, Development, and Membership Committees. The Nomination Committee had difficulty this year getting nominations and only 81 ballots were returned. The BOD discussed the lack of involvement from the membership. Biographies or candidate statements should be included for all candidates running for NMFWA BOD positions. Black and white photographs included with the ballots might also be helpful.

Reports for each BOD position were handed out. The reports were briefly discussed. Mark Hagan provided the BOD the 1998 program. The

conference shifted one day and overlaps with the North American Conference. Major changes for the conference this year include an outdoor banquet, no refreshments during the breaks, and providing T-shirts. Mark Hagan was asked to make some evaluation forms for the conference and pass them out. Rick Griffiths volunteered to work on the membership committee.

The BOD discussed the point paper prepared by Dave Tazik regarding the National Defense Industrial Association (NDIA) versus the North American Conference. The BOD discussed what participation, if any, does NMFWA want to provide to the NDIA. It was noted that not all NMFWA members would be able to attend the NDIA because of the nature of the meeting. There was discussion regarding NMFWA involvement with Wildlife Management Institute (WMI) or meeting in conjunction with another association/symposium. The motion passed to have the president attend, or send someone to the NDIA and the association will pay for it. Based on what is learned, the BOD will determine what involvement, if any, is appropriate for future NDIA meetings.

Jim Beemer will present the topic of forming working groups at the Annual Business Meeting. He will poll the membership about forming working groups within NMFWA or under TWS.

The BOD discussed the Legacy Program and the fact that Department of Defense (DoD) has not been officially requesting funds the last 3-4 years. Funds that are received by DoD are not being used for projects at the installation level. The motion passed to develop an emergency resolution regarding the Legacy Program and associated funding aspects so it can be voted on during the Annual Business Meeting.

The BOD discussed the issue of contracting out natural resource management. This item was laid on the table until the next BOD meeting.

Venders have been asking if they can provide support for our Show-and-Tell. The BOD discussed accepting commercial support for activities such as Show-and-Tell. The motion passed to allow commercial support after guidelines have been established by the BOD.

The BOD discussed the development and maintenance of a Web Page, listserver, or e-mail system. Don Meuschke and Tammy Conkle volunteered to develop a proposal and present it at the next BOD meeting.

The meeting was adjourned at 1900.

Don Meuschke meuschkd@ces509.whiteman.af.mil

BUSINESS MEETING MINUTES, 25 MARCH 1998

The Annual Business Meeting of the National Military Fish and Wildlife Association (NMFWA) was held in Salons 3 and 4 of the Omni-Rosen Hotel, Orlando, Florida. The meeting was called to order by President Rick Griffiths at 1500 on 25 March 98.

The motion passed to approve the minutes of the last annual business meeting, as published in the Fish and Wildlife Newsletter (FAWN). Don Meuschke provided the treasurer's report and noted the beginning balance was \$18,695.26, and the ending balance was \$17,175.40 for 1997. These figures do not include \$3900.00 of income for the 1997 Law Enforcement Course because it was received in 1998. It was also reported that there were 176 attendees at the conference this year.

Rick Griffiths provided a summary of the NMFWA committees. He noted there were approximately 800 members in the membership database that is currently being updated. Input for the Awards Committee and the FAWN are needed from NMFWA members. The 1997 Law Enforcement Course made a profit. The 1998 course will be held in May, at Fort Carson, Colorado. The Program Chair, Dave Tazik, needs ideas and topics for the conference next year.

Each of the Directors provided a brief report on their activities during the past year. Dave Tazik developed a point paper regarding the annual conference and meeting in conjunction with other associations. He also assisted in the 1998 training workshop. Don Pitts has been working on Bird Aircraft Strike Hazard (BASH) and National Environmental Policy Act (NEPA) issues. Chester Martin and Sharon Jones provided assistance with the 1998 training workshop. Scott Smith has been working with Air Combat Command on privatization and outsourcing issues.

Jim Beemer presented two options for developing working groups. One option is to form a working group under The Wildlife Society (TWS) and the other is to establish a working group within NMFWA. Forming a working group under TWS would require ten active TWS members and an approved charter. There was discussion on the two options and there was general consensus not to pursue a TWS working group at this time. The motion, as amended, passed to establish a working group within the NMFWA.

Tom Poole provided the Nominations Committee report. A total of 81 ballots were returned out of 440 mailed out. It was stated that not enough people are volunteering to become officers or to hold positions in the NMFWA. There were difficulties in providing biographies for the candidates running for positions on the Board of Directors (BOD). Those persons

elected to the BOD this year will have an opportunity to have their biographies printed in the FAWN. Every effort will be made to have biographies included with the ballots in future elections.

Tom Poole proposed several amendments to the constitution and bylaws which were mailed out with the election ballots. Each of the following proposed amendments were discussed and voted on:

1. The motion passed to amend the bylaws by replacing "fish and wildlife" with "natural" throughout the bylaws.

2. The motion passed to amend the preamble so that it reads "The National Military Fish and Wildlife Association is dedicated to providing for natural resource management on the Department of Defense's, hereinafter referred to as DoD, lands in support of the military mission of the Armed Services that operate on these lands by utilizing sound natural resource management principles drawn from the full spectrum of natural resource management disciplines and implemented under the direction of professionally trained natural resources personnel."

3. The motion did not pass to change the name of the Association if and when the members vote to approve a name change.

4. The fourth proposed amendment involved changes to voting members basically from "biologists" to "natural resource" personnel. The original motion, as amended, would change Article III, Section 3, to read "Membership in the Association shall be open to all persons dedicated to the objectives of the Association. Voting members are limited to those persons employed as full-time DoD personnel assigned professional and technical natural resource management duties at, or in direct support of a military reservation or installation. Specific questions on assignments qualifying for voting membership shall be referred to the Membership Committee. Membership shall be by written application to the Membership Committee." The motion, as amended, was laid on the table.

5. The motion passed to add Audit and Government Affairs to the list of standing committees and moving Special Committees to Section 12. Section 10 reads "The Audit Committee Chair shall be appointed by the President. The Chairperson solicits two members of the Association who are not officers or Board members to assist him/her. The Audit Committee reviews the financial records of the Association at least once a year. The committee shall furnish a written report of their findings to the Board immediately following the conclusion of their review." Section 11

reads "The Government Affairs Committee Chair shall be appointed by the President. The Chairperson is responsible for obtaining additional members as needed. This committee is responsible for identifying points of contact within State and Federal Agencies and the United States Congress for the purpose of communicating with them. This committee shall establish and maintain contact with members of these agencies and the Congress as directed by the President and the Board."

6. The motion passed to change the terms of office for Director positions on the BOD to two year terms with half of them elected every year. Beginning with the fourth sentence of Article IV, Section 2, it now states "The term of Office shall be until the conclusion of the next Business Meeting for the President, President-elect, and Past President. The terms of office for the Secretary/Treasurer and the Board members (Directors) shall be through two consecutive business meetings. One half of the Board members (one eastern and one western Regional Director and one At-large Director) shall be elected annually or prior to each Business Meeting in the event that the interval between Business Meetings exceeds one year."

7. The motion passed to clarify that the President-elect assumes the office of President when the Presi-

dent's term expires. The second sentence of Article VII, Section 3 now reads "This person shall assume the duties of President in the event that the President is unavailable or loses status as a voting member or upon the completion of the President's term of office."

8. The motion did not pass to delete Fish and Wildlife News as the name of the newsletter thereby allowing the use of any name adopted by the membership for the newsletter without further change to the Bylaws.

9. The motion passed to consider adopting a new logo for the NMFWA. The motion passed to submit the proposed new logo to the membership for review and approval.

An emergency resolution was proposed regarding the Legacy Resource Management Act and funding aspects of this program. After discussion the motion, as amended, passed to adopt the emergency Legacy Resolution. The motion passed to have the BOD consider Outsourcing and Privatization at the next BOD meeting and take appropriate action.

Rick Griffiths turned the gavel over to the new president, Marjorie McHenry.

The meeting was adjourned at 1715.

Don Meuschke meuschkd@ces509.whiteman.cf.mil

BOARD OF DIRECTORS MEETING MINUTES, 26 MARCH 1998

The National Military Fish and Wildlife Association (NMFWA) Board of Directors (BOD) met in Salon 22 of the Omni-Rosen Hotel, Orlando, Florida. The meeting was called to order by President Marjorie McHenry at 1115 on 26 March 1998.

The BOD voted by ballot to fill the vacant At-Large-Director position. The two individuals that were not elected during the regular elections and still interested in this position were Scott Smith and Sharon Jones. Sharon Jones was elected by the BOD to fill the vacant At-Large Director position.

The motion passed to meet with the Wildlife Management Institute (WMI) for the next three years. NMFWA will send WMI a letter with written commitment for three years, provided the WMI and NMFWA sessions do not overlap. The next four WMI meetings will be held in San Francisco, CA in 1999, Chicago, IL in 2000, Washington, D.C. in 2001, and probably in Dallas TX in 2002. There was some discussion about the hotel costs usually not being within the per diem rate. Other discussion involved meeting in conjunction with other symposia, such as National Defense Industrial Symposium. It was noted that attendance at the WMI

sessions was low and the overall applicability of papers were questionable.

Rick Griffiths stated he is waiting on the status of the logo before proceeding with printing the brochure. The members will be asked to vote on the logo in the May issue of the Fish and Wildlife Newsletter (FAWN).

The amendment to the bylaws that dealt with the terms of office for the Director positions on the BOD was clarified:

1. Tammy Conkle, Western Regional Director will be a one year term.
2. Don Pitts, Western Regional Director will be a two year term.
3. Jim Beemer, Eastern Regional Director will be a two year term.
4. Steve Shea, Eastern Regional Director will be a one year term.
5. Pat Walsh, At-Large Director will be a two year term.

6. Sharon Jones, At-Large Director will be a one year term.

Don Meuschke stated the Secretary/Treasurer should be split into two different BOD positions. It was requested that Rick Griffiths provide the BOD with the newly revised BOD handbook. It was also requested that the Secretary/Treasurer make changes to the bylaws based on the voting at the Annual Business Meeting and send the revised bylaws to all BOD members. Marjorie McHenry will send a revised BOD listing of names, addresses and phone numbers. Tom Warren might be willing to chair the Bylaws Committee, which would then consider splitting the Secretary/Treasurer into two BOD positions.

Marjorie McHenry mentioned there were two bills pending in Congress on outsourcing as many federal jobs as possible, not just Department of Defense (DoD). She provided two handouts on these pending bills to BOD members. The BOD discussed the issue of outsourcing and appropriate courses of action to take. It was stated that information needs to be distributed to all DoD installations and headquarters. Scott Belfit has been working on a background paper dealing with outsourcing. Junior Kerns passed out the beginning of a draft resolution on outsourcing and Alan Schultz also passed out a draft background

paper. The BOD discussed contacting other agencies and enlisting their support. The information also needs to be provided to DoD operations and training personnel. Main themes include the importance of natural resource management provided by government personnel, the inherent governmental function of natural resource management, the conflict between laws and policies regarding outsourcing natural resource management functions, and the need to consolidate information and materials and then distribute them to DoD and other agencies. The motion passed to have the Government Affairs Committee begin combining information into one position paper and begin contacting other agencies. Marjorie McHenry appointed Mark Hagan as the chair of the Government Affairs Committee (GAC). A sign up sheet for membership and involvement in the GAC was passed around to those present.

Steve Shea and the Law Enforcement Committee will be drafting a resolution on law enforcement and the retirement system. Tammy Conkle and Don Meuschke volunteered to develop a web page and make a proposal to the BOD, which will include cost and maintenance requirements of a web site.

The meeting was adjourned at 1300.

Don Meuschke *meuschkd@ces509.whiteman.af.mil*

NMFWA WORKING GROUPS

At the Business Meeting of the Association in Orlando, the membership voted to establish the framework for creating working groups within NMFWA. The establishment of working groups within NMFWA shall be to (1) provide members a forum to interact and share knowledge, skills, and ideas on a particular topic and address issues related to that topic that are common to installations, (2) encourage and increase the networking among installations within all branches of the Armed Services, (3) provide an opportunity for those NMFWA members unable to attend Annual Meetings to be active within NMFWA, (4) provide a body of expertise for NMFWA to draw on with regard to the issues associated with any working group that is established, and (5) provide an opportunity for NMFWA members to further their professional development.

The range of subjects that could be the focus that a particular working group could be established for will not be limited by the by-laws or this framework.

ESTABLISHMENT OF A WORKING GROUP. NMFWA members wishing to establish a working group for a particular topic can solicit interest from other members either through THE FAWN or

through other avenues of communications. DoD personnel that are not NMFWA members can be recruited, provided a NMFWA Membership application is completed for each individual. Non-NMFWA members may only serve in an advisory capacity on a NMFWA Working Group. Once a particular topic has at least ten committed members, the group shall make written application to the NMFWA Board of Directors requesting that the working group be officially sanctioned and recognized. If approved, the new working group would have six months to develop a charter to be submitted to the Board for approval. The charter must contain the stated objectives of the established working group. A working group must also either elect or appoint a chair and a recording secretary.

RESPONSIBILITIES & ACCOUNTABILITY. A working group must conduct at least one activity, project, or event annually in order to maintain official recognition from NMFWA. Such events could include a newsletter, an e-mail discussion forum, sponsor a session at the Annual Meeting/Training Workshops, conduct a meeting either at the Annual Meeting or at another time and location, conduct a training workshop or seminar for the working group's members. A written report

detailing the working group's activities for the previous year needs to be submitted to the Board of Directors before the completion of the Annual Meeting/Training Workshop. Minutes of any meetings held must also be sent to the Board.

A working group shall not represent NMFWA in any official capacity unless directed to do so by the Board of Directors.

ORGANIZATION SUPPORT. A Working Group can apply in writing to the Board for financial support for proposed working group activities. The Board will determine if funds are available and

whether support is proper. Some possible uses of the funds: a newsletter, a training workshop, or seminar.

DISSOLUTION OF WORKING GROUPS. The NMFWA Board of Directors can withdraw recognition of any working group that misrepresents NMFWA or causes harm to the organization and its members. Because of the various responsibilities all NMFWA members have, a working group that is inactive for one year shall be granted a one-year grace period in writing by the Board. Should the group remain inactive for that grace period, the Board shall dissolve the working group.

James Beemer myj69936@exmall.usma.army.mil

HERPETOLOGY WORKING GROUP

Herptile species can present many challenges to DoD resource managers. Human perceptions, biology, and habitat requirements for herps can be effectively dealt with to ensure a species' survival while an installation's mission is met. If any NMFWA

member is interested in forming a herpetology working group to share information on population monitoring, management strategies, and educational efforts, contact Jim Beemer at (914) 938-2314, DSN 688-2314.

James Beemer myj69936@exmall.usma.army.mil

GOVERNMENT AFFAIRS COMMITTEE

The newly formed Government Affairs Committee currently has five members and eight volunteers. The committee is already working on three tasks: Legacy funding, Outsourcing and Downsizing, and improving our communication with the Conservation Committee members. The committee intends to make rapid progress on Legacy funding and Outsourcing/Downsizing.

Please get involved, or send comments to the committee. Please send any other issues or items you think the committee should be working on. I will send along any and all information I receive from you. I can be reached at (805) 277-1418 or DSN 527-1418.

Mark Hagan haganm%em@mhs.elan.af.mil

1999 NMFWA ANNUAL TRAINING WORKSHOP CALL FOR PAPERS

The 1999 annual training workshop is scheduled for March 1999, in San Francisco, California. This is a first call for topics, workshops, and papers. The topics listed below have been suggested for inclusion in the 1999 program. Please contact the appropriate session chair if you are interested in presenting a paper. If you don't have a paper to present, please consider lending a hand to the host committee and contributing to the Show & Tell reception. Contact the program chair, Dave Tazik, if you have any suggestions for a Sunday workshop.

Technical Sessions

Innovative Wildlife Management Techniques Developed on DoD Installations - Stephen Shea, SheaS@fw.tyndall.af.mil, 850-283-2641, DSN: 523-2641, FAX: 4560.

Many military bases have developed new and unique wildlife management strategies to address natural

resource management concerns unique to their area. In Florida, Eglin AFB, Avon Park Bombing Range, and Tyndall AFB all have developed unique management techniques that have been very successful in managing specific species, vegetative communities, or mission related impacts. Some of these management solutions have been used as the framework for managing wildlife on other State and Federal lands in Florida and the Southeast. I'm sure similar management strategies are being developed on other installations across the nation. Let's use this session to blow DoD's horn.

Working with the US Fish and Wildlife Service - Slader Buck, bucksl@pendleton.usmc.mil, 760-725-4637, DSN: 365-4637, FAX: 3528.

We will open with comments regarding experiences in southern California and the experience of other agency biologists. We will attempt to highlight "concepts" and differences in an evenhanded way.

One obvious example is that the USFWS is set up to manage resources as a primary mission and we are not. A USFWS representative will be invited to provide the Service perspective. We want all to recognize that we have real problems to overcome, but follow this with very specific ideas as to how we can best address the challenges. Military papers will follow covering case histories that give the good, the bad, and the absurd -- when it worked, when it did not and why.

Southwest Desert and Arid Lands Management Session - Bill Fischer, wsfisher@efdswest.Navfac.navy.mil, 619-532-1488, DSN: 522-1488, FAX: 3782

This session will focus on desert wildlife management, arid lands restoration, multiple agency cooperation in ecosystem management, and research and management of threatened and endangered species. Papers should focus on "how to" and "lessons learned."

Monitoring of DoD Activities to Meet Regulatory Requirements - Nancy Read, ReadN@comm2.Vafb.af.mil, 805-734-8232 (x58399), DSN: 276-8399, FAX: 1399

Most, if not all, installations supporting significant natural resources must monitor the impact of land use activities on threatened/endangered species or other sensitive/protected natural resources to fulfill conditions in U.S. Fish and Wildlife Service Biological Opinions, ACOE permits, National Marine Fisheries Service authorizations, and other regulatory documents. This session will address the types of requirements installations must consider and the methodologies used. For example, how do DoD activities affect protected resources and does the monitoring program satisfy regulatory concerns? Although the idea is to emphasize military activities, discussion of selected nonmilitary activities may also be applicable.

Managing Forested Ecosystems - Bill Woodson, woodso@aec.apgea.army.mil, 410-612-7080, DSN: 584-7080, FAX: 1680

For about three decades (1960 to 1980) the DoD conservation program depended heavily on the proceeds from timber sales, permits to hunt and fish, and agricultural and grazing outleases. The resulting conservation actions were conducted independently of the military mission. Increases in environmental legislation that began in the 1970's, red-cockaded woodpecker challenges on Army installations in the south, the concept of Integrated Training Area Management, the Legacy Program, ecosystem management, and inclusion of environmental doctrine as part of The National Security Strategy all contributed to a new emphasis on conservation in the DoD. Important work is being done at installations to sustain and manage forests for the mission. Topics addressing forest management to enhance mission

requirements, improve endangered species habitat, and encourage biodiversity are especially solicited. There are also new concerns in monitoring forest conditions that deserve attention. We wish to hear installation experiences in achieving mission support, biodiversity enhancement, and forest harvesting concurrently.

Riparian Corridors and Buffers - Chester Martin, martinc@ex1.wes.army.mil, 601-634-3958, FAX: 3726.

Riparian corridors are considered important natural resource features on DoD lands throughout the United States. Although riparian zones typically comprise only a small part of the total land surface on DoD installations, they are rich in plant and animal life and are critical to the environmental quality of the regional landscape. Additionally, these zones are considered important because they provide erosion control, buffer the impacts of adjacent land uses and activities, enhance water quality, provide numerous wildlife benefits, and contribute to the biodiversity of an area. The papers presented in this session will discuss the status of riparian habitats on DoD installations and describe strategies and techniques that are being used to manage these ecosystems to enhance training realism and provide a variety of ecological benefits. Papers are encouraged from both eastern and western settings.

Integrated Natural Resources Management Planning - Session chair to be determined. Contact Dave Tazik if you have an interest in this topic either as a session chair or presenter.

This topic may be timely given recent DoD policy and Sikes Act requirements for INRMPs. Potential topics, among others, include successful frameworks for INRMPs, foundations for integration (i.e., how to make integration a functional reality), integrating T&E management plans within the INRMP, and relationship to ecosystem management. We are particularly interested in sharing specific installation experiences, but will also consider broader critiques and discussions.

Show & Tell Reception - Norma Brossa, brossan@pendleton.usmc.mil, 760-725-8584, DSN: 365-8584, FAX: 8460

Host Committee Chair - Julie Eliason, 805-238-8265, DSN: 949-8265, FAX: 8155

Program Chair - Dave Tazik, tazikd@ex1.wes.army.mil, 601-634-2610, FAX: 3726

Guidelines for Submitting Abstracts for Technical Sessions: (1) Length: 100 and 250 words in length, (2) Format: WORD 6.0, WordPerfect 6.1, or ASCII text, and (3) Submit via 3.5" diskette or e-mail. Additional format guidance will be available from your session chair. Deadline: Draft abstract due to the appropriate session chair by 30 September 1998.

Dave Tazik tazikd@ex1.wes.army.mil

NATIONAL MILITARY FISH AND WILDLIFE ASSOCIATION DRAFT POSITION PAPER ON OUTSOURCING NATURAL RESOURCES MANAGEMENT

This draft position paper represents a compilation of papers and ideas on the governmental nature of natural resources management. It includes both a legal summary and a list of arguments as to why these outsourcing laws and guidelines are necessary. This issue is extremely important to the management of military natural resources.

Please provide any comments to this paper to Mark Hagan as soon as possible.

The control and management of federal resources, including military natural resources are inherently governmental functions. Hence, laws and regulations have been passed to exempt or strictly limit natural resources outsourcing actions. DoD natural resource programs require planning, implementation, and oversight by government employed professionals with training and experience in biology, forestry, wildlife management, fisheries, botany, agronomy, and other closely related fields.

Natural resources management is too complex to implement by contract. The scope of work, complications in quality control, and scheduling modifications required in military natural resource management generally make contracting impossible. When certain labor-intensive natural resources management activities can be contracted, the oversight of those contracts must be done by installation staff with specific training and experience in that field. In addition, experienced and dedicated installation staff maintain program continuity, have a strong land stewardship commitment, and understand military missions. It is this installation staff that can best integrate sound natural resources management with military readiness.

1. Laws and regulations that exempt or strictly limit natural resources outsourcing actions:

a. DoD Instruction 4715.3, Environmental Conservation Program, signed by the Undersecretary of Defense for Acquisition and Technology on 3 May 1996, specifically states, "*The management and conservation of natural and cultural resources under DoD control, including planning, implementation and enforcement functions, are inherently governmental functions that shall not be contracted.*"

b. The Congress of the United States, as part of the 1986 reauthorization of the Sikes Act (P.L. 99-561), clearly stated its intention that natural resources management is an inherently governmental function.

Then, in 1997 Congress reaffirmed this by including restrictions on contracting in Public Law 105-85.

c. 16 USC 670a states, "*(d) Implementation and enforcement of integrated natural resources plans. With regard to the implementation and enforcement of cooperative plans agreed to under subsection (a) of this section, (1) neither Office of Management and Budget Circular A-76 nor any successor circular thereto applies to the procurement of services that are necessary for that implementation and enforcement, and (2) priority shall be given to the entering into of contracts for the procurement of such implementation and enforcement services with Federal and State agencies having responsibility for conservation and management of fish and wildlife.*"

d. To preclude any misunderstanding or misinterpretation of the Sikes Act, Congress included the following statement in the Committee report for Public Law 99-561, "*While certain labor-intensive activities can be performed effectively by the private sector, fish and wildlife management and policy related activities are inherently governmental responsibilities.*"

e. 32 CFR, Part 190, Natural Resources Management states, "the management and conservation of the natural resources under DoD stewardship is an inherently governmental function." Therefore, 32 CFR part 169 [CA program] does not apply to the management, implementation, planning, or enforcement of DoD natural resources programs. However, support to the natural resources program when it is severable from management of natural resources may be subject to 32 CFR Part 169."

f. 32 CFR Part 169 Commercial Activities Program, states, "*Natural resources planning and management is a governmental function and will not be reported.*"

g. DODD 4100.15 Commercial Activities Program states, "*This Directive does not apply to DoD governmental functions as defined in enclosure 2...Certain functions that are inherently governmental in nature, and intimately related to the public interest, mandate performance by DoD personnel only. These functions are not in competition with commercial sources; therefore, these functions shall be performed by DoD personnel.*" Enclosure 2 states, "*regulation of the use of natural resources and management of natural resources on Federal property*" is an "act of governing" and "the discretionary exercise of governmental authority."

h. OFPP Policy Letter 92-1, referenced in OMB Circular A-76, Appendix A lists functions considered inherently governmental and states, *"determining what Government property is to be disposed of and on what terms, determining what supplies or services are to be acquired by the administering and terminating contracts."* Due to natural resource commodity sales and administration of labor intensive service contracts, this policy clearly defines natural resource management as an inherently governmental function.

2. Military installation natural resources are public assets. Control and management of federal resources, both financial and natural, are inherently governmental functions. Many natural resource programs are commodity based and generate fees. Funds generated by commodity extraction go through major claimants but ultimately back to the natural resource programs and the managers who decide how much to log, mine, farm, or shoot. These decisions require very long-term planning and resistance to temptation to over-utilization of resources for short-term gains. The control of these commodities must be an inherently governmental function.

3. Adaptive natural resource management is too complex to contract. A DoD natural resource manager may control millions of acres and thousands of species of plants and animals. A manager may be required to coordinate activities with extensive military training missions, tens of thousands of soldiers, thousands of hunters and fisherman, and a host of special interest and other public groups. Both politically and ecologically, natural resource management objectives are constantly becoming more complex. Ecological science is continuing to demonstrate that every management decision, from a major policy change by an administrator, to a technician's selection of a single tree or shrub to be removed from a forest, can have incredibly complex influences on our ecological systems. This complexity dictates the need for government employees to manage natural resources for several reasons:

a. The knowledge of an experienced, government employed natural resource manager is a valuable public asset. Conversion of any government natural resource position to a contract position would represent an irreplaceable waste of human resources. Total Quality Management and other management systems assert that an individual doing a job is the best qualified to improve on it. This is especially true for natural resource management work because it is complex, adaptive, and frequently experimental. All qualified DoD natural resource management personnel acquire invaluable insight towards the difficult challenges encountered while integrating

natural resource management and the military missions. Government employees, more than contractors, share this insight, cycle it back, and maintain program continuity.

b. There is no simple work, and there are no simple jobs in natural resource management. Laborers, technicians, and equipment operators, who are often the first targeted to be replaced by contractors, can have the greatest and longest lasting influence on the ecological health of DoD lands. Policy guidance, standard operating procedures, and contractual mandates cannot override the fact that an individual with a drip torch, tree marking gun, or herbicide applicator is the one painting the natural landscape. The moment by moment decisions of a field technician can drastically alter hydrology or habitats and determine the fate of hundreds, and potentially thousands of species on a piece of land for decades. Only laborers and technicians hired in career government positions can be selected and trained with an adequate knowledge of local ecology, local flora and fauna, complicated management objectives, legal management requirements, and the full complexity of management actions. A determination that any natural resource work is simplistic enough to be contracted represents a misunderstanding of the complexity of natural systems and the ecological consequences of management decisions.

c. Effective quality control of complex natural resource management is contractually impossible. Ecological interactions are far too complex and too little understood to develop realistic and measurable means to design and/or inspect contract work. The myriad of immeasurable consequences of management decisions and actions make selection of effective quality control measures impossible. Additionally, the frequently large acreage of treatments makes effective inspections of natural resource work logistically excessive.

d. Government employees are flexible to the diverse scope of natural resource management work and the variable requirements of work assignments and project schedules. Forest fire control, military training schedules, and many other factors can alter work assignments daily or even hourly. Work schedules and project activities have to be modified regularly. Many natural resource managers are on call for fire control or emergency response. Government employees provide the flexibility required of diverse natural resource management work.

4. DoD natural resources are better managed by government employees due to employee commitment and pride. There are always exceptions,

but government natural resource employees, more than contractors, feel ownership and pride in the land they manage. Managing thousands, or sometimes millions of acres can at times feel like thankless work. Some of the results and benefits of natural resource management actions are subtle, dispersed over large or inaccessible areas, manifested by unexpected benefits to non-target species, and may require decades to take effect. Individuals who conduct management projects may never see or appreciate all of the results of their labors. Consequently, the only way DoD can maintain a hard

working and dedicated work force is with government employees who feel ownership and pride in the land they manage. A site visit with any natural resource government employee will confirm this commitment. It will be clear that the individual really cares about stewardship of the land and the species that utilize it. Despite normal frustrations about their program limitations, government natural resource personnel invariably demonstrate a deep level of concern, conviction, and even passion for their land. This intangible will be lost in any conversion to contracting.

Alan Schultz schultz@bragg.army.mil

HOST COMMITTEE MEMBERS WANTED

I was selected as the Host Committee Chair for the 1999 NMFWA conference in Burlingame, California. I would like to take this opportunity to solicit help from the membership in helping to organize next year's conference. I am particularly interested in help from members who are near the

San Francisco Bay Area, since it is a 4 1/2 hour drive to Burlingame from my place of residence. If you live near the Bay Area and can help with errands, hotel arrangements, activity planning, etc., please call Julie Eliason ASAP at CML (805) 238-8265 or DSN 949-8265. I will appreciate your help!

Julie Eliason

ATTENTION SHUTTERBUGS - NMFWA PHOTO CONTEST

Are you a budding or experienced shutterbug? Do you have photographs of your favorite wildlife species or field activity you are dying to show off? How about entering them in a photo contest at the 1999 NMFWA conference to get the recognition you deserve? You just might win a prize that would make the effort all worth while! Here are the rules:

1. Photos must be taken by the participant. Anyone registered at the NMFWA conference is eligible to enter.
2. Photos must be mounted on stiff backing (photo board, art board, foam board, etc.). Each photo must have the name and address of the photographer clearly marked on the back, along with the entry category. Matting is optional. Do not submit photos in glass frames.
3. Photos must be at least 5 by 7 inches and no larger than 11 by 14 inches. Color or black and white prints are acceptable. Slides will not be accepted.

4. Each photo must qualify under one of the following categories: (a) wildlife, (b) installation field activities (photo must have been taken at a DoD installation or project site to qualify for this category), (c) landscapes (any location is acceptable), and (d) humor/fun (includes wildlife or people in humorous poses, people taking part in fun activities, studio shots, etc.).

5. Each participant may enter up to two photos in each category. One prize will be awarded in each category. Winners will be honored at the annual banquet.

6. If you wish to mail photos in advance, you may send them to Julie Eliason, California Army National Guard, Western Mobilization and Training Complex, ATTN: WMTC-PW-EV, Camp Roberts, CA 93451-5000. Otherwise, bring them to the conference with you and submit them before the show and tell reception. Details on where to submit the photos will be provided with your registration materials.

Julie Eliason

THE SEPTEMBER 1998 FAWN

I've already received a few articles for the September 1998 issue of the FAWN, but I still need more. I hope to print lots of good stuff about your conservation projects in our next issue. NMFWA members are interested in natural resources management on your installations, and the FAWN is the perfect avenue for getting the word out about what a good job you're doing to conserve resources and support the military

training mission. Please convert Word and Word Perfect articles to text and send them to me by e-mail as an attachment or copy/paste into the body of the message.

Don't forget to send the enclosed questionnaire to Jim Beemer.

Rick Bunn rlbunn@mindspring.com