



2009 Annual Conference

The Western Section of The Wildlife Society



Plenary Theme

**The View from the Future:
Wildlife Management Challenges and Opportunities
of the Next 100 Years**



Program and Abstracts

**January 21-24, 2009
Sheraton Grand Hotel
Sacramento, California**

CONCURRENT SESSION CHAIRS

| | |
|----------------------------------------------------------------------|--------------------------------------------------------------------------|
| Coastal Resources Management | Rhys Evans Vandenberg Air Force Base |
| Wildlife in Coniferous Forest Ecosystems | Lowell Diller Green Diamond Resource Company |
| | Keith Slauson USDA Forest Service - Redwood Sciences Lab |
| Wildlife in Riparian and Aquatic Habitats | Brad Valentine California Department of Fish and Game |
| Wildlife in Desert Ecosystems | Kathy Buescher Simon Ironwood Consulting, Inc. |
| Wildlife in Human-altered Ecosystems | Stephen Juarez California Department of Fish and Game |
| | Lorna Dobrovolny California Department of Fish and Game |
| Wildlife in Other Habitats | J. Tim Belton Vandenberg Air Force Base |
| Electronic Technology and Field Studies | Joe Szewczak Humboldt State University |
| Wildlife Diseases | Mourad Gabriel U.C. Davis |
| | Richard Brown Humboldt State University |
| Hunting and Trapping and Wildlife Conservation and Management | Craig Stowers California Department of Fish and Game |
| Genetics Techniques in Wildlife Research and Management | Craig Stowers California Department of Fish and Game |
| Posters | Amy Fesnock Bureau of Land Management, California State Office |

WORKSHOP INSTRUCTORS

| | |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Orienteering with Map, Compass, and GPS: | Katie Moriarty , Oregon State University Darla DeRuiter , Feather River College |
| Résumé Workshop: | Barbara Peters , Humboldt State University Career Center |

Concurrent Session 1: Wildlife in Desert Ecosystems

Wednesday afternoon, January 21 2009

Third Floor Rooms (enter and exit session via Baker)

Chair: **Kathy Buescher Simon**, Ironwood Consulting, Inc.

| | |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1:15 to 1:20 pm | Session introduction and announcements |
| 1:20 to 1:40 pm | Climate and the Evolution of Cooperation Among Queens of the California Seed-Harvesting Ants, <i>Pogonomyrmex californicus</i> Kelly Herbinson (<i>Student Paper</i>) |
| 1:40 to 2:00 pm | Movement Patterns And Population Dynamics Of Greater Sage-Grouse In Mono County, California Lief Wiechman*, Kerry Reese, and Scott Gardner (<i>Student Paper</i>) |
| 2:00 to 2:20 pm | Patterns of Genetic Variation in Populations of the Pygmy Rabbit in Nevada and California Eveline Larrucea*, Mary Peacock, Evon Hekkala, and Peter Brussard |
| 2:20 to 2:40 pm | Restoration of Wildlife Habitat at the Morning Star Mine in the Mojave National Preserve Mari Quillman* and Brad Burkhart |
| 2:40 to 3:00 pm | An Abbreviated Permitting Strategy for Protecting Tortoises During the Oro Grande Mine Reclamation Doug Sprague* and Mari Quillman |
| 3:00 to 3:20 pm | Alternative Energy Projects in the California Deserts Kathy Simon |

PLEASE SILENCE YOUR CELL PHONE AND OTHER ELECTRONIC DEVICES BEFORE ENTERING ANY SESSION...

Concurrent Session 10: Wildlife Diseases

Friday Afternoon, January 23 2009

Magnolia Room

Chairs: **Mourad Gabriel**, U.C. Davis, and **Richard Brown**, Humboldt State University

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|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:55 to 3:00 pm | Session introduction and announcements |
| 3:00 to 3:20 pm | Wildlife Reintroductions: a Review of Disease Issues and Implications Mourad Gabriel*, Greta Wengert, and Ben Sacks (<i>Student Paper</i>) |
| 3:20 to 3:40 pm | Avian Influenza Surveillance in California Waterfowl Krysta Rogers |
| 3:40 to 4:00 pm | Bacterial Diversity and Prevalence of <i>Batrachochytrium dendrobatidis</i> and Ranavirus Within and Between Ranid Populations in Northern California Greta Wengert*, Mourad Gabriel, and Janet Foley (<i>Student Paper</i>) |
| 4:00 to 4:20 pm | It's the Foam: a Novel Harmful Algal Bloom that Produced a Surfactant Wetting Agent Affecting Marine Birds David A. Jessup*, Melissa Miller, Raphael Kudela, Abdu Mekebri, and David Crane |
| 4:20 to 4:40 pm | <i>Toxoplasma gondii</i> in Coastal Terrestrial Hosts: Linking Land to Sea Elizabeth Van Wormer*, Jonna Mazet, Michael Grigg, Daniel Rejmanek, Patricia Conrad, Ann Melli, Melissa Miller, and Richard Ostfeld |

**Join us as the Western Section hosts
The Wildlife Society's 16th Annual Conference
Monterey, California September 20 – 24, 2009**

**See you next year in Visalia at the
Western Section 2010 Annual Conference**

Poster Session

Wednesday Evening 6:00 – 7:45 pm, January 21 2009
Magnolia Room

Chair: Amy Fesnock, Bureau of Land Management – California State Office

Burrowing Mammal Population Suppression to Enhance Airport Safety does not Enhance Airport Safety but may Negatively Impact the California Tiger Salamander (*Ambystoma californiense*), Edwin F. Allert and Raymond A. Hasey

A Method to Discourage Long-Billed Curlews from Utilizing Airport Flightline Habitat, Edwin F. Allert, Raymond A. Hasey, Greg Burdick, and Brian Camp

A Parsimony Key to the Garter Snakes (*Thamnophis*) of California, Jeff A. Alvarez and Jackson Shedd

Sonoma Tree Vole Habitat on Managed Redwood and Douglas-Fir Forestlands in North Coastal California, Sal Chinnici and Dave Bigger

Catching Thermals and Sharing Cliffs: Balancing Climbing Activities and Raptor Nesting at Pinnacles National Monument, Gavin Emmons

How Much Can You Learn From Scat? The Use of Scat Detector Dogs to Monitor Fisher Ecology in the Sierra National Forest, Jim Garner, Rebecca Green, Craig Thompson, and Kathryn Purcell

Using Flight Initiation Distance to Predict Success of a Contraceptive Darting Program, Lacey Hughey and Natalie Gates

Inhibition and Effect of Silt/ESA Fencing on Amphibian Migration, Derek Jansen

Bats and People Sharing a Cave at Pinnacles National Monument, Paul Johnson

Riparian Landbird Monitoring in San Luis Obispo County: An Ongoing Effort, Ronald E. Melcer, Jr.

Waterfowl response to hunting and other recreational disturbance at a coastal California wetland, K. Ryan, A.C. Knox, A. Armstrong, C. Smith, M. Younkin, and J.M. Black (*Student Poster*)

Home Range Size of Ringtails (*Bassariscus astutus*) in the Sutter Buttes, Sutter County, California, David Wyatt, Chandra Jenkins, Michael Starkey, and Matt Beyers

Conservation Research on Lands Managed by the Hollister Field Office, Bureau of Land Management, Michael F. Westphal

explosive charge ("shot-hole"). We examined the effects vibroseis and shot-hole techniques on kangaroo rats (*Dipodomys* spp.) at a site in northern Kern County, California. Three species of kangaroo rat were present on this site, including endangered giant kangaroo rats (*D. ingens*), Heermann's kangaroo rats (*D. heermanni*), and short-nosed kangaroo rats (*D. nitratoides brevinasus*). We established 3 grids of 60 traps each. Trapping was conducted for 4 nights just prior to vibroseis and shot-hole activities, 2 nights immediately after, and 4 nights 4 weeks after. Numbers of unique individuals captured during the 3 trapping sessions included: 12, 12, and 15 on the vibroseis plot; 21, 34, and 34 on the shothole plot; and 34, 39, and 37 on the control plot. The proportions of animals marked during the first session that were recaptured during the third session were: 58 for the vibroseis plot, 47 for the shothole plot, and 67 for the control plot. The population data do not provide evidence of an adverse impact associated with seismic survey energy sources. Recaptures rates of marked animals were more ambiguous.

Wildlife in Human-altered Ecosystems

Wildfire and Other Factors Influencing California Gnatcatcher Distribution through Time on Marine Corps Base Camp Pendleton

Andrew Fisher*, EDAW, Inc., 1420 Kettner Blvd, Suite 500, San Diego, CA 92101, 619 937 1086, andrew.fisher@edaw.com; **Nick Jansen**, EDAW, Inc., 1420 Kettner Blvd, Suite 500, San Diego, CA 92101, 619 233 1454, nick.jansen@edaw.com

Abstract: Within San Diego County, the federally threatened coastal California gnatcatcher (*Polioptila californica californica*; CAGN) occurs in suitable coastal sage scrub habitat. The CAGN is a year-round obligate resident of coastal sage scrub, a rapidly dwindling habitat within southern California. The study area across Marine Corps Base Camp Pendleton in northwestern San Diego County contains one of the largest intact populations of CAGN within California. Frequent fire disturbance has impacted CAGN habitat facilitating metapopulation dynamics within the study area. A habitat-based model was used to define suitable CAGN habitat across Camp Pendleton. Previous CAGN data collected over the past 10 years was evaluated to determine locations of occupied habitat. Biologists conducted six successive protocol surveys in suitable habitat to compare distribution and habitat-use of the CAGN between areas of known occupancy with areas of potentially suitable habitat. Mobile GIS, ArcGIS, and statistical analyses were used to model and analyze CAGN movement across fire ecotones. Survey data was used in conjunction fire disturbance data to analyze the distribution of the CAGN over time.

Wildlife in Other Habitats

Monitoring Wildlife Diversity in Sierran Montane Conifer Habitats

Brett J. Furnas*, **Reginald H. Barrett**, University of California at Berkeley, Department of Environmental Science, Policy and Management, 137 Mulford Hall #3114, Berkeley, CA, 94720, USA, 530/225-3221, bfurnas@nature.berkeley.edu

Abstract: In 1977 the University of California at Berkeley began wildlife surveys at 10 California study areas. The surveys include avian point counts, camera stations and live traps.

Vegetation data were also collected. We present results on birds, meso-carnivores and small mammals from 1993 and 1994 during which time 80 plots were surveyed at each of 3 west side, montane conifer study areas in the southern Cascades and central and southern Sierra. We compare community structure between the 3 study areas, and use the subset to assess the value of long term monitoring of climate change and land use effects on terrestrial biodiversity in California montane conifer habitats.

Wildlife in Coniferous Forest Ecosystems

Wildlife Reintroductions: a Review of Disease Issues and Implications

Mourad Gabriel*, UC Davis, Graduate Group of Comparative Pathology, 1 Shields Ave/Old Davis Road, Davis, CA 95616, 530.754.7392, mwgabriel@ucdavis.edu; **Greta Wengert**, UC Davis, Graduate Group of Ecology, 1 Shields Ave/Old Davis Road, Davis, CA 95616, 530.754.7392, gmwengert@ucdavis.edu; **Ben Sacks**, UC Davis, Veterinary Genetics Laboratory, 1 Shields Ave/Old Davis Road, Davis, CA 95616, 530.754.7392, bnsacks@ucdavis.edu

Abstract: Enhancing biodiversity by re-establishing species in their historic ranges has been regularly attempted over the past century with mixed success. The field of reintroduction biology involves multiple determinates that influence a program's outcome, one of which is the health and disease status of both the founder individuals and the established biological community at release sites. The use of a priori and post hoc research on pathogenic exposure is essential in determining potential disease risk to reintroduced individuals and developing adaptive management or re-establishing populations. We review a series of reintroduction programs and their outcomes that employed a wide spectrum of pre-introduction screening and monitoring of founder animals, the biological communities and environment at the release site before and after reintroductions. We recommend that health and disease screening for zoonotic, domestic animal, and wildlife pathogens is pertinent to ensure the success of reintroduction programs.

Wildlife Diseases

Student Paper

How Much Can You Learn From Scat? The Use of Scat Detector Dogs to Monitor Fisher Ecology in the Sierra National Forest.

Jim Garner, Pacific Southwest Research Station, 54325 McKinley Grove Rd, Shaver Lake, CA 93664, 559-841-6318, jdgarner@fs.fed.us; **Rebecca Green**, Pacific Southwest Research Station, 54325 McKinley Grove Rd, Shaver Lake, CA 93664, 559-841-6318, rebeccagreen@fs.fed.us; **Craig Thompson**, Pacific Southwest Research Station, 2081 E. Sierra Avenue, Fresno, CA 93710-4639, 559-868-6296, **Kathryn Purcell**, Pacific Southwest Research Station, 2081 E. Seirra Avenue, Fresno, CA 93710-4639, 559-868-6233

Abstract: In February 2007, the USFS Pacific Southwest Research Station initiated a large-scale research program investigating the distribution, behavior, and habitat use of fishers (*Martes pennanti*) in the Kings River Project area of the Sierra National Forest. As part of this program, in June 2007 we began biannual scat detector dog surveys covering fifteen adjacent hexagonal grids, each 12 km², representing an average female fishers' home range. Four survey seasons of

Fisher Population Monitoring in the Southern Sierra Nevada: 2002 - 2008

Richard Truex*, USDA Forest Service, 2480 Carson Rd., Placerville, CA 95667, 530 621-6883, rtruex@fs.fed.us; **William Zielinski**, USDA Forest Service, 1700 Bayview Dr., Arcata, CA 95521, 707 825-2959, bzielinski@fs.fed.us; **Jessica Bolis**, USDA Forest Service, 57003 Road 225, North Fork, CA 93643, 559 877-2218, jbolis@fs.fed.us; **Jody Tucker**, USDA Forest Service, 800 E. Beckwith Ave, Missoula, MT 59801, 406 542-4179, jtucker@fs.fed.us

Abstract: During 2002 the US Forest Service initiated a regional monitoring program to track trends in the small, isolated southern Sierra fisher (*Martes pennanti*) population. The primary objective of the program is to use presence / absence sampling to detect a 20% decline in relative abundance of the population with 80% statistical power. The proportion of sites occupied (ψ) is estimated annually by deploying sample units comprised of 6 track-plate stations at 5 km intervals. Sample units encompass ~1.2 km² and are surveyed for 10 consecutive days, checked every 2 days. The same locations are resampled annually or bi-annually and sampling occurs June through October. During the first 7 years of the monitoring program annual sampling effort has varied from 110 to 190 sample units, requiring the efforts of >23 field employees and approximately \$550,000 funding per year. Fishers have been detected at 23% - 27% of sample units annually. Occupancy modeling techniques will be used to explore the effects of various survey and ecological characteristics influencing detection probability (P) and ψ . Estimates of ψ from the best fitting annual models will be used to assess population trend and results for the 2002 – 2008 monitoring period will be presented.

Wildlife in Coniferous Forest Ecosystems

Using Landscape Genetics to Assess the Genetic Structure and Population Connectivity of Fishers in the Sierra Nevada

Jody Tucker*, U.S Forest Service, 800 E. Beckwith, Missoula, MT 59834, 406/542-4179, jtucker@fs.fed.us; **Richard Truex**, U.S. Forest Service, 2480 Carson Road, Placerville, CA 95667, 530/621-6883, rtruex@fs.fed.us; **Jessica Bolis**, U.S. Forest Service, 57003 Road 225, North Fork, CA 93643, 559/877-2218, jbolis@fs.fed.us; **Michael Schwartz**, U.S. Forest Service, 800 E. Beckwith, Missoula, MT 59801, 406/542-4161, mkschwartz@fs.fed.us, **Fred Allendorf**, University of Montana, 32 Campus Drive, Missoula, MT 59812, 406/243-5122, fred.allendorf@umontana.edu

Abstract: The emerging field of landscape genetics combines landscape ecology, population genetics, and spatial statistics to examine how landscape features affect genetic connectivity. Previous genetic studies have found the Sierra Nevada fisher (*Martes pennanti*) population to have extremely low genetic diversity and high genetic structure, indicating that the population may be divided into two or more isolated subpopulations. Through an ongoing U.S. Forest Service carnivore monitoring program we have collected a large, geographically representative set of genetic samples from this population. Genetic material was collected non-invasively from 2006–2008 using barbed wire hair snares installed at baited track-plate stations. Individuals and gender were identified using 10 microsatellite loci and a y-linked gender specific marker. To date we have successfully genotyped 163 hair samples and identified 90 individuals (50 male

and 40 female) from 65 sample units across the southern Sierra Nevada. We conducted a landscape genetics analysis to assess population structure and identify landscape features correlated with high and low levels of gene flow. Our analysis confirms that this population of fishers has relatively low genetic diversity but also finds that there is far greater genetic connectivity throughout the population than has been previously reported.

Wildlife in Coniferous Forest Ecosystems

Student Paper

***Toxoplasma gondii* in Coastal Terrestrial Hosts: Linking Land to Sea**

Elizabeth Van Wormer*, **Jonna Mazet**, **Michael Grigg**, Wildlife Health Center, TB 128, Old Davis Road, School of Veterinary Medicine, University of California, Davis, CA 95616; **Daniel Rejmanek**, **Patricia Conrad**, **Ann Melli**, Department of Pathology, Microbiology and Immunology, 1 Shields Avenue, School of Veterinary Medicine, University of California, Davis, CA 95616; **Melissa Miller**, California Department of Fish and Game, Marine Wildlife Veterinary Care and Research Center, 1451 Shaffer Road, Santa Cruz, CA 95060; **Richard Ostfeld**, Institute of Ecosystem Studies, Box AB, Millbrook, NY 12545;

Abstract: *Toxoplasma gondii*, a globally distributed protozoan parasite, infects a wide range of birds and mammals, including humans. Identified as a significant cause of mortality in the threatened California Southern sea otter population, *T. gondii* also presents an important public health concern. The terrestrial shedding of *Toxoplasma* by wild and domestic felids and evidence of infection in marine mammals suggest land to sea pathogen transmission along California's coast. High risk sites for marine exposure to *T. gondii* have been identified, but parasite burden in the terrestrial environment is not well characterized. Current limitations of molecular tests prevent direct measurement of *Toxoplasma* in water and soil. Our collaborative, interdisciplinary team aimed to evaluate terrestrial host exposure to and shedding of *T. gondii* as predictors of environmental parasite loading. We hypothesized that the genotypes of *Toxoplasma* infecting terrestrial mammals are similar to those infecting threatened California sea otters and that risk factors for environmental parasite accumulation can be identified. Identifying these risk factors would facilitate the development and implementation of improved management strategies to reduce exposure of humans and sensitive wildlife species to this zoonotic pathogen.

Wildlife Diseases

Bacterial Diversity and Prevalence of *Batrachochytrium dendrobatidis* and Ranavirus Within and Between Ranid Populations in Northern California

Greta Wengert*, U.C. Davis, Graduate Group in Ecology, One Shields Ave, Davis, CA 95616, 530-754-7932, gmwengert@ucdavis.edu; **Mourad Gabriel**, U.C. Davis, Graduate Group in Comparative Pathology, One Shields Avenue, Davis, CA 95616, 530-754-7932, mwgabriel@ucdavis.edu; **Janet Foley**, U.C. Davis, Department of Medicine and Epidemiology, One Shields Avenue, Davis, CA 95616

Abstract: Amphibian populations have recently been declining world-wide. One documented cause of decline and local extinctions in some populations is infectious disease, specifically chytridiomycosis and ranavirus. Little is known about the transmission risk of these diseases

between populations in distinct watersheds. The objectives of this study were to screen populations of two species of sensitive frogs, *Rana muscosa* and *Rana boylei*, for *Batrachochytrium dendrobatidis* (the pathogen causing chytridiomycosis) and ranavirus, and to assess the risk of transmission between populations by characterizing and comparing Gram-negative bacteria associated with frog communities. Frogs from several California sites in Plumas and Six Rivers National Forests were sampled using standard isolation and characterization techniques. We assessed diversity and variation in bacteria existing on sampled frogs to determine prevalence within and among populations. We examine whether comparisons of variation among certain bacteria can be used to test the likelihood of transmission within and among frog populations. We also analyze bacterial diversity and variation between Ranids and sympatric amphibians, Pacific tree-frog (*Pseudacris regilla*) and Sierra newt (*Taricha torosa sierrae*), to assess the likelihood of pathogen transmission between species.

Wildlife Diseases

Student Paper

Conservation Research on Lands Managed by the Hollister Field Office, Bureau of Land Management

Michael F. Westphal, Bureau of Land Management, Hollister Field Office, 20 Hamilton Court, Hollister, CA 95023, , 831-630-5023, mwestpha@blm.gov

Abstract: Hollister Field Office of the Bureau of Land Management is responsible for almost 300,000 acres of undeveloped lands in coastal Central California and in the northern San Joaquin Valley. Conservation of natural habitat requires reconciling diverse uses such as grazing, off-road-vehicle recreation, mineral extraction, and hunting with conservation goals. Our lands are therefore a natural laboratory for learning important lessons about balancing resource use with habitat preservation. Projects underway include expanding habitat for a endangered primrose endemic to serpentine soils; restoring degraded dunes in an inland dune system that provides habitat for rare beetles; creating habitat for a disjunct population of California red-legged frogs; inventorying populations of Foothill Yellow-legged frogs in the Clear Creek management area, a region impacted by heavy off-road vehicle use; and monitoring populations of Federally-listed San Joaquin kit fox, blunt-nosed leopard lizard, and giant kangaroo rat in the Panoche/Coalinga Area of Critical Environmental Concern, where grazing and oil extraction occurs. Data from all these projects will assist the BLM and other land stewardship agencies, as well as private landowners, in preserving wildlife habitat in California in the face of continuing population growth and development.

Poster Session

Movement Patterns and Population Dynamics of Greater Sage-Grouse in Mono County, California

Lief Wiechman*, University of Idaho, University of Idaho, Department of Fish & Wildlife Resources, Moscow, ID 83844-1136, 970.232.8919, liefwiechman@vandals.uidaho.edu; **Kerry Reese**, University of Idaho, University of Idaho, Department of Fish & Wildlife Resources, Moscow, ID 83844-1136, , kreese@uidaho.edu; **Scott Gardner**, California Department of Fish and Game, 1812 Ninth Street,, Sacramento, CA 95814, 916.801.6257, SGardner@dfg.ca.gov

Abstract: Recent research has shown that greater sage-grouse (*Centrocercus urophasianus*) along the California-Nevada border in Mono County are genetically and geographically isolated from populations in the rest of the species range. Furthermore, breeding populations within Mono County may be geographically isolated, with smaller populations at risk of extirpation. The goals of this study are to determine demographic rates (survival, productivity), movement patterns, and habitat selection of sage-grouse in the county. This study is also investigating sage-grouse movement corridors, which will provide understanding of the connectivity or lack thereof, between sage-grouse breeding populations in Mono County. To accomplish these objectives, movements of radio-marked birds are being monitored year-round to evaluate habitat use, movements between discrete populations, and to determine survival and mortalities including those deaths attributed to West Nile virus.

While most habitat requirements of sage-grouse have been described, nocturnal roost site selection has been largely overlooked. This study is investigating nocturnal roost site selection of broods as they move from nesting habitat to late brood-rearing habitat. The goal of this research is to aid in the ongoing development of conservation strategies necessary for the long-term persistence of sage-grouse in the bi-state area. Preliminary results, including production and survival from data collected in 2007 and 2008 will be presented.

Wildlife in Desert Ecosystems

Student Paper

Western Pond Turtle Populations and Radiotracking at Spenceville Wildlife Area

David H. Wright*, California Dept. of Fish and Game, North Central Region, Resources Assessment, 1701 Nimbus Rd, Suite A, Rancho Cordova, CA 95670, 916 358 2900, dwright@dfg.ca.gov; **Canh Nguyen**, California Dept. of Fish and Game, North Central Region, Resources Assessment, 1701 Nimbus Rd, Suite A, Rancho Cordova, CA 95670, 916 358 2900, cvnguyen@dfg.ca.gov; **Chris L. Ball**, California Dept. of Fish and Game, North Central Region, Resources Assessment, 1701 Nimbus Rd, Suite A, Rancho Cordova, CA 95670, 916 358 2900, cball@dfg.ca.gov

Abstract: Capture-mark-recapture studies and radio telemetry of western pond turtles (*Actinemys marmorata*) (WPT) were conducted at CDFG's Spenceville Wildlife Area (WA), 2006-2007. We marked 288 turtles and found WPT to be widely distributed at Spenceville WA in Dry Creek, Nichols Creek, and pond habitats. Eighty percent of turtles caught appeared sexually mature. Sex ratio among captured turtles was skewed: 1.66 males to 1.00 females. Males on average weighed slightly more than females. Population densities appeared higher and turtles more sedentary at the two pond habitats sampled in detail: Horseshoe Pond and Lower Wood Duck Pond (LWD Pond). Survival was high on a monthly basis, but annual rates were not precisely estimated. There was evidence of predation attempts in the form of bite marks and puncture wounds. A total of 13 adult and 6 juvenile turtles fitted with radio transmitters were tracked approximately every 4 days. Only a few telemetry locations were away from water. At LWD Pond, turtles appeared to cluster in areas with woody debris and no algal mats. Along creeks, more turtle telemetry locations occurred within 50 m of habitats with deep water and soft bottom. Basking sites (as perceived by human observers) and canopy cover showed little relation to turtle use along creeks. Movements showed a winter period of low activity, and greatest travel during March through June 2007. Males traveled more and earlier than females