

APPENDIX K

2005 WILDLIFE ACTION PLAN INFORMATION

2005 WAP Development and Review Process

Public Involvement and Partnerships

A series of public scoping meetings were held throughout the state in February, 2003. Presentations were made in Reno, Las Vegas, and Elko to introduce Nevadans to the concept and opportunity of the WAP. Over 100 invitations were sent out to agencies, NGOs, and, hunting, fishing, and environmental groups. Attendance to these initial presentations was very light, but the themes that emerged from the discussions were very useful in guiding the WAP development strategy. Attendees were supportive of an inclusive, collaborative approach to developing the Strategy, they advocated the integration of existing and ongoing planning efforts into the WAP, and they advocated the sharing and consolidation of data into comprehensive databases.

The next step in collaborative planning for the WAP was taken in August, 2003 when NDOW commissioned a working group of active individuals from the conservation community to work on alternative funding for the Wildlife Diversity program. This working group met several times in the next two years and provided input and guidance into the process.

WAP Development Team members attended a Rural Planning Conference on January 20, 2005, to introduce the Strategy to county planners and solicit their attendance and participation in the upcoming round of open houses across the state. Following the development of a series of draft analytical products, the WAP Development Team took the draft analysis on the road for a seven-city tour of Nevada to receive a second round of input. The meetings were held in open-house format in Reno, Carson City, Las Vegas, Tonopah, Ely, Elko, and Winnemucca between March 16 and 31, 2005. The open house meetings were held between 1 p.m. and 7 p.m. in cities where the maximum access to federal land management agency district offices could be most efficiently achieved. The WAP tour was advertised in the media and invitations were sent out to hundreds of contacts representing all possible conservation partners that could be identified, including federal and state resource agencies, county governments, tribes, sportsmen's groups, agricultural and mining industry representatives, environmental groups, conservation organizations, recreation groups, university personnel, and others.

In addition to the eight open houses, invitations were sent to 27 sportsmen's and environmental organizations offering a special appointment presentation of the WAP to their organization. As a result of the focus group invitations, eight meetings were held with specific focus groups comprised of organization members (Lahontan Audubon Society, the Fallon Chapter of Nevada Bighorns Unlimited, the Reno Chapter of the Mule Deer Foundation, University of Nevada Natural Resources and Environmental Sciences Department) or representatives from several organizations (Coalition For Nevada's Wildlife, a southern Nevada Sportsman's Caucus, and a waterfowl hunter focus group). In addition, Eureka County personnel invited the WAP team to make a two-hour evening presentation to Eureka residents on April 27, 2005. In all, attendance to all the WAP open houses and workshops exceeded 150 individuals representing over 60 organizations. Attendees viewed a PowerPoint presentation outlining the rationale and approach of the WAP, inspected a series of draft analytical products, including the Species of Conservation Priority lists, the proposed ecological frameworks for both terrestrial and aquatic species, the proposed "key habitat strategy groups" developed from Southwest ReGAP, and responded to a short series of inventory questions, including the following five:

- Are these the right Species of Conservation Priority?
- Does this habitat classification system and geographic framework make sense to you?
- What are the most serious conservation challenges facing us over the next ten years?
- What are your organization's top priorities for the next ten years?
- What are the opportunities to work together to achieve significant wildlife conservation in the next ten years?

Input received during this draft analytical review was not only incorporated into the strategies of the Draft Plan, but also influenced future data analysis and organizational structure of the Draft Plan.

A final partnership group was convened May 3-4, 2005, consisting of implementation partners from the Governor's Sage Grouse Conservation Team. This group included representatives from the Nevada Farm Bureau, Nevada Department of Agriculture, U.S. Fish and Wildlife Service, U.S. Forest Service, Bureau of Land Management, Nevada Mining Association, and Nevada Cooperative Extension. The group focused on developing a set of "guiding principles" for the WAP writing team to consider while preparing the Draft Plan, as mentioned in prior sections of this document.

Coordination with Agencies & Tribes

The Nevada WAP Development Team stayed in close contact with agency personnel throughout development of the Draft Plan. Coordination was maintained with the USFWS offices in Reno and Las Vegas, the BLM State Office, and the Humboldt-Toiyabe National Forest's Supervisor's Office. Multiagency and non-governmental organization feedback was received through several Nevada Partners In Flight meetings dating back to 2002. Nevada PIF provided expert assistance in the development of bird species assemblages at their Spring, 2005 meeting. Another expert committee was convened to receive assistance in the development of mammal and reptile species assemblages, and that workshop was also well attended.

Because of the short review interval, limited personnel availability, and budget constraints, it was impossible for the WAP Development Team to hold individual workshops with all the district offices of BLM, USFWS, USFS, USBR, state agencies, and others. This is why the expanded-format open house in strategically selected cities across the state was selected as the method of draft product review and inventory. The desired outcome of the open houses was to provide agency employees and private citizens with adequate opportunity to visit the open house sometime during the afternoon or early evening. The open house strategy was fairly successful – BLM employees attended all seven; USFS employees attended six of seven; USFWS employees attended three of seven; and Nevada Division of Forestry, Natural Heritage Program, Department of Agriculture, Division of State Lands employees, Naval Air Station Fallon, and USBR employees each attended one open house.

One of the primary strategies of the WAP is to integrate its objectives and actions with other agency planning processes to foster synergistic achievement of wildlife management objectives at a statewide scale. Currently in Nevada, the BLM Resource Management Plan process is in a renewal cycle and both the Humboldt-Toiyabe and Lake Tahoe Basin Management Unit Forest Plans are in revision. The involvement of The Nature Conservancy members of the WAP Development Team in the conservation design of the Humboldt-Toiyabe Forest Plan has resulted in a particularly tight integration between the two planning efforts – one that is expected to make each effort stronger and more effective. Similar opportunities to provide WAP products and services to the Lake Tahoe Basin Management Unit Forest Plan revision and the ongoing round of BLM Resource Management Plan revisions will be sought as major deliverables of the WAP.

Other opportunities to integrate into resource planning efforts include the NRCS Nevada WHIP Plan and the various Habitat Conservation Plans in place or being developed (Clark County, Lincoln County, Colorado River, Virgin River, and Nye County). During Phase II of WAP implementation, the Development Team anticipates partnering with Nevada Division of State Lands to build integration products and services for other county planning efforts, including resource plans, open space plans, recreation plans, and Quality of Life evaluations.

The coordination of the Nevada WAP with tribal lands management strategies is particularly important now with the advent of the federal Tribal Wildlife Grant (TWG) program. Tribal coordination will be facilitated through the Nevada Indian Commission, which maintains liaison with all the Native American tribes in Nevada. An introductory meeting was held in July 2005 during which the WAP program was presented to tribal representatives and a strategy for proceeding with a WAP/TWG partnership was commissioned. The WAP Development Team will extend its planning experience to tribes wishing to access TWG funds to assist them in identifying priorities, program and project design and development, and provide grant application training and start-up assistance, with the objective of integrating tribal wildlife priorities and management approaches into the Nevada WAP to achieve synergy between the two sister Federal Aid programs.

Identifying Species of Conservation Priority-2005

The Species of Conservation Priority identification process for nongame terrestrial vertebrates (birds, mammals, and reptiles) began in July, 2002. After initially gathering input from partner land management agency personnel at the field level, a Species Priority Matrix (see Appendix A.) was developed using standard species conservation prioritization methodology (Natural Heritage Scorecard; Panjabi et al. 2001). A separate prioritization process was developed for fish, amphibians, and mollusks by the NDOW Fisheries Bureau in December, 2004, and the NDOW Game Bureau designed and executed the Game Animals prioritization process in early 2005.

Birds

The species priority processes identified 72 bird species as Species of Conservation Priority, including 4 upland game birds and four hunted waterfowl species (Table 1.) Of the total, there are 25 species of water birds, 8 birds of prey, and 39 other land birds. Two species, Yuma Clapper Rail and Southwestern Willow Flycatcher are listed as Endangered under the Federal Endangered Species Act, the Bald Eagle is federally listed as Threatened, and the Yellow-billed Cuckoo is federally listed as a Candidate Species and is also listed as a Sensitive Species in Nevada. Three species are listed as State Sensitive – Northern Goshawk, Loggerhead Shrike, and Brewer’s Sparrow. The availability and productivity of water, wetlands and riparian areas loom large as influential in the prioritization of species in Nevada. Twenty-five priority species are associated with open water or wetlands, while another 20 land birds are predominantly associated with riparian habitats. Twelve priority species are primarily found in the Mojave Desert, which translates toward higher area responsibility for Nevada since it shares the Mojave Desert with only three other states. Six species are coniferous forest dwellers – a habitat type of restricted distribution in the state.

Table 1. Nevada Species of Conservation Priority - Birds

Species Common Name	Scientific Name
Common Loon	<i>Gavia immer</i>
Eared Grebe	<i>Podiceps nigricollis</i>
Western Grebe	<i>Aechmophorus occidentalis</i>
Clark's Grebe	<i>Aechmophorus clarkii</i>
American White Pelican	<i>Pelecanus erythrorhynchos</i>

Western Least Bittern
Snowy Egret
White-faced Ibis
Northern Pintail
Cinnamon Teal
Canvasback
Redhead
Bald Eagle (contiguous U.S. pop)
Northern Goshawk
Swainson's Hawk
Ferruginous Hawk
Peregrine Falcon
Mountain Quail
Blue Grouse
Columbian Sharp-tailed Grouse
Greater Sage-Grouse
Yuma Clapper Rail
Greater Sandhill Crane
Western Snowy Plover
Black-necked Stilt
American Avocet
Willet
Long-billed Curlew
Least Sandpiper
Long-billed Dowitcher
Red-necked Phalarope
Franklin's Gull
Forster's Tern
Black Tern
Western Yellow-billed Cuckoo
Western Burrowing Owl
California Spotted Owl
Short-eared Owl
White-throated Swift
Costa's Hummingbird
Rufous Hummingbird
Lewis' Woodpecker
Red-breasted Sapsucker
White-headed Woodpecker
Olive-sided Flycatcher
Willow Flycatcher
Mountain Willow Flycatcher
Southwestern Willow Flycatcher
Black Phoebe

Ixobrychus exilis
Egretta thula
Plegadis chihi
Anas acuta
Anas cyanoptera
Aythya valiseneria
Aythya americana
Haliaeetus leucocephalus
Accipiter gentilis
Buteo swainsoni
Buteo regalis
Falco peregrinus
Oreortyx pictus
Dendragapus obscurus
Tympanuchus phasianellus
Centrocercus urophasianus
Rallus longirostris yumanensis
Grus canadensis
Charadrius alexandrinus
Himantopus mexicanus
Recurvirostra americana
Catoptrophorus semipalmatus
Numenius americanus
Calidris minutilla
Limnodromus scolopaceus
Phalaropus lobatus
Larus pipixcan
Sterna forsteri
Chlidonias niger
Coccyzus americanus
Athene cunicularia
Strix occidentalis
Asio flammeus
Aeronautes saxatalis
Calypte costae
Selasphorus rufus
Melanerpes lewis
Sphyrapicus ruber
Picoides albolarvatus
Contopus borealis
Empidonax traillii adastus
Empidonax traillii brewsteri
Empidonax traillii extimus
Sayornis nigricans

Mammals

Sixteen priority mammal species have “protected” status in Nevada. Of those, eight species are further listed as “Sensitive,” and one species (spotted bat) is further listed as “Threatened” under Nevada Administrative Code. Three species (Ash Meadows montane vole, Hidden Forest Uinta chipmunk, and Sierra Nevada red fox) may be

extinct in Nevada. Thirteen of Nevada's 23 bat species made the priority list, reflecting a recent intensity of focus associated with the drafting of the Nevada Bat Conservation Plan. Seven species of shrews made the list because so little is known about their status and distribution in the state. Sixteen priority rodent species exist in Nevada in fragmented populations, and as such may require local conservation action to maintain them.

Table 2. Nevada Species of Conservation Priority – Mammals

Species Common Name	Scientific Name
Merriam's shrew	<i>Sorex merriami</i>
Trowbridge's shrew	<i>Sorex trowbridgii</i>
vagrant shrew	<i>Sorex vagrans</i>
montane shrew	<i>Sorex monticolus</i>
Inyo shrew	<i>Sorex tenellus</i>
water shrew	<i>Sorex palustris</i>
Preble's shrew	<i>Sorex preblei</i>
broad-footed mole	<i>Scapanus latimanus</i>
California leaf-nosed bat	<i>Macrotus californicus</i>
little brown myotis	<i>Myotis lucifrugus</i>
fringed myotis	<i>Myotis thysanodes</i>
western small-footed myotis	<i>Myotis ciliolabrum</i>
long-eared myotis	<i>Myotis evotis</i>
cave myotis	<i>Myotis velifer</i>
Allen's big-eared bat	<i>Idionycteris phyllotis</i>
western red bat	<i>Lasiurus blossevillii</i>
hoary bat	<i>Lasiurus cinereus</i>
western yellow bat	<i>Lasiurus xanthinus</i>
spotted bat	<i>Euderma maculatum</i>
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>
big free-tailed bat	<i>Nyctinomops macrotis</i>
American pika	<i>Ochotona princeps</i>
pygmy rabbit	<i>Brachylagus idahoensis</i>
Aplodontia	<i>Aplodontia rufa</i>
mountain pocket gopher	<i>Thomomys monticola</i>
Fish Spring pocket gopher	<i>Thomomys bottae abstrusus</i>
San Antonio pocket gopher	<i>Thomomys bottae curtatus</i>
desert pocket mouse	<i>Chaetodipus pencillatus</i>
Fletcher dark kangaroo mouse	<i>Microdipidops megacephalus</i>
Desert Valley kangaroo mouse	<i>Microdipidops megacephalus nasutus</i>
pale kangaroo mouse	<i>Microdipidops pallidus</i>
California kangaroo rat	<i>Dipodomys californicus</i>
desert kangaroo rat	<i>Dipodomys deserti</i>
brush mouse	<i>Peromyscus boylei</i>
Ash Meadows montane vole	<i>Microtus montanus nevadensis</i>
Pahranagat Valley montane vole	<i>Microtus montanus fucosus</i>
sagebrush vole	<i>Lemmiscus curtatus</i>
Wyoming ground squirrel	<i>Spermophilus elegans nevadensis</i>
Allen's chipmunk	<i>Tamias senex</i>
Humboldt yellow-pine chipmunk	<i>Tamias amoenus celeris</i>
Hidden Forest Uinta chipmunk	<i>Tamias umbrinus nevadensis</i>
Palmer's chipmunk	<i>Tamias palmeri</i>

northern flying squirrel
 western jumping mouse
 Sierra Nevada red fox
 kit fox
 ringtail
 American marten
 northwestern river otter
 mule deer
 Nelson bighorn sheep
 California bighorn sheep

Glaucomys sabrinus
Zapus princeps
Vulpes vulpes necator
Vulpes macrotis
Bassariscus astutus
Martes americana
Lontra canadensis
Odocoileus hemionus
Ovis canadensis nelsoni
Ovis canadensis canadensis

Reptiles

Eighteen reptiles were identified as priority species through the Species Priority Matrix process. Two more species, western diamondback rattlesnake and Panamint alligator lizard, were added during stakeholder review, bringing the priority reptile total to 20 (Table 3). The desert tortoise is listed as Threatened under the Endangered Species Act. The banded Gila monster is protected in Nevada under NAC 503. Although its origin cannot be absolutely determined, the northwestern pond turtle may be Nevada’s only native aquatic turtle, and it now persists only in small populations in the Truckee and Carson Rivers. The Sonoran mountain kingsnake occurs in what are thought to be very small fragmented populations in east-central Nevada. These populations appear not to be connected to the species’ larger range in central Utah.

Little is known about the population dynamics of the remaining priority reptiles, arousing concerns over various population pressures from excessive specimen collection to habitat loss.

Table 3. Nevada Species of Conservation Priority – Reptiles

Species	Common Name	Scientific Name
	northwestern pond turtle	<i>Clemmys marmorata</i>
	desert tortoise	<i>Gopherus agassizii</i>
	western banded gecko	<i>Coleonyx variegatus</i>
	common chuckwalla	<i>Sauromalus obesus</i>
	desert iguana	<i>Dipsosaurus dorsalis</i>
	Great Basin collared lizard	<i>Crotaphytus bicynctores</i>
	Long-nosed leopard lizard	<i>Gambelia wislezenii</i>
	desert horned lizard	<i>Phrynosoma platyrhinos</i>
	greater short-horned lizard	<i>Phrynosoma hernandesi</i>
	pygmy short-horned lizard	<i>Phrynosoma douglasii</i>
	desert night lizard	<i>Xantusia vigilis</i>
	long-tailed brush lizard	<i>Urosaurus graciosus</i>
	Gilbert's skink	<i>Eumeces gilberti</i>
	Sierra alligator lizard	<i>Elgaria coerulea shastensis</i>
	Shasta alligator lizard	<i>Elgaria coerulea palmeri</i>
	Panamint alligator lizard	<i>Elgaria panamintina</i>
	banded Gila monster	<i>Heloderma suspectum cinctum</i>
	Sonoran mountain kingsnake	<i>Lampropeltis pyromelana</i>
	Sonoran lyre snake	<i>Trimorphodon biscutatus</i>
	western diamondback rattlesnake	<i>Crotalis atrox</i>

Fishes

The species priority process identified 40 fish species and subspecies as Species of Conservation Priority, including 23 minnows and carp, 7 splitfins (springfishes and poolfishes), 5 suckers, 3 pupfishes and 2 salmonids. Of these, 32 are listed as Sensitive Species in Nevada; 25 are also listed as Endangered (19) or Threatened (6) under the Endangered Species Act. More so than terrestrial wildlife species, the taxonomic diversity and distribution of Nevada's fishes are influenced by our state's geologic and hydrographic history (Hubbs and Miller 1948; Hubbs et al. 1974). Throughout the Great Basin ecoregion, glacial and postglacial changes in climate and hydrology have alternately connected and isolated hydrologic systems and their associated biota, creating a globally unique endemic aquatic fauna of surprising diversity. Of the 41 fish Species of Conservation Priority, 32 are endemic to Nevada. The state plays a critical role in species conservation for another 6 fish, though the species' ranges extend beyond Nevada's borders. Most fish populations in Nevada are isolated geographically; and 32 of the Species of Conservation Priority have disjunct or fragmented habitat (no significant connection between multiple locations, or only one location) and another 3 have a fair degree of habitat fragmentation. Other endemic fishes with lower conservation need rankings remain important elements of Nevada's native biota and diversity, and active conservation is essential for all of these species to ensure their persistence for future generations. Table 5 contains only those fish species deemed of greatest conservation priority (Species of Conservation Priority); a complete list of fish species is found in Appendix H (Comprehensive Nevada Species List), and information about conservation actions for those with lower rankings can be found in the Implementation, Effectiveness Monitoring, and Adaptive Management Section, Aquatics Sub-section.

Table 4. Nevada Species of Conservation Priority – Fishes

Common Species Name	Scientific Name
Ash Meadows Amargosa pupfish	<i>Cyprinodon nevadensis mionectes</i>
Ash Meadows speckled dace	<i>Rhinichthys osculus nevadensis</i>
Big Smokey Valley speckled dace	<i>Rhinichthys osculus lariversi</i>
Big Smokey Valley tui chub	<i>Gila bicolor</i> ssp. (unnamed)
Big Spring spinedace	<i>Lepidomeda mollispinis pratensis</i>
Bonytail	<i>Gila elegans</i>
Bull trout	<i>Salvelinus confluentus</i>
Clover Valley speckled dace	<i>Rhinichthys osculus oligoporus</i>
Cui-ui	<i>Chasmistes cujus</i>
Desert dace	<i>Eremichthys acros</i>
Devils Hole pupfish	<i>Cyprinodon diabolis</i>
Diamond Valley speckled dace	<i>Rhinichthys osculus</i> ssp. (unnamed)
Fish Lake Valley tui chub	<i>Gila bicolor</i> ssp. (unnamed)
Flannelmouth sucker	<i>Catostomus latipinnis</i>
Hiko White River springfish	<i>Crenichthys baileyi grandis</i>
Independence Valley speckled dace	<i>Rhinichthys osculus lethoporus</i>
Independence Valley tui chub	<i>Gila bicolor isolata</i>
Lahontan Cutthroat Trout - Quinn/BlackRock and Upper Humboldt Distinct Population Segment	<i>Oncorhynchus clarkii henshawi</i>
Lahontan Cutthroat Trout - Western Distinct Population Segment	<i>Oncorhynchus clarkii henshawi</i>
Moapa dace	<i>Moapa coriacea</i>
Moapa speckled dace	<i>Rhinichthys osculus moapae</i>
Moapa White River springfish	<i>Crenichthys baileyi moapae</i>
Monitor Valley speckled dace	<i>Rhinichthys osculus</i> ssp. (unnamed)

Moorman White River springfish	<i>Crenichthys baileyi thermophilus</i>
Oasis Valley speckled dace	<i>Rhinichthys osculus</i> ssp. (unnamed)
Pahrnagat roundtail chub	<i>Gila robusta jordani</i>
Pahrnagat speckled dace	<i>Rhinichthys osculus velifer</i>
Pahrump poolfish	<i>Empetrichthys latos latos</i>
Preston White River springfish	<i>Crenichthys baileyi albivallis</i>
Railroad Valley springfish	<i>Crenichthys nevadae</i>
Railroad Valley tui chub	<i>Gila bicolor</i> ssp. (unnamed)
Razorback sucker	<i>Xyrauchen texanus</i>
Virgin River chub	<i>Gila seminuda</i>
Virgin spinedace	<i>Lepidomeda mollispinis mollispinis</i>
Wall Canyon sucker	<i>Catostomus</i> sp.
Warm Springs pupfish	<i>Cyprinodon nevadensis pectoralis</i>
White River desert sucker	<i>Catostomus clarkii intermedius</i>
White River speckled dace	<i>Rhinichthys osculus</i> ssp. (unnamed)
White River spinedace	<i>Lepidomeda albivallis</i>
White River springfish	<i>Crenichthys baileyi baileyi</i>
Woundfin	<i>Plagopterus argentissimus</i>

Amphibians

Seven amphibian species were designated Species of Conservation Priority, including four frogs and three toads. Of these, three are Candidates for ESA listing. The main factors are urban development, water diversions, and introduced species, especially bullfrogs. Habitat connectivity is especially important for amphibians since they need both aquatic habitats (at a minimum for breeding) and terrestrial habitats to complete their life cycle. Aquatic habitats are often in a state of flux (e.g. beaver dam complex successional processes) and may disappear for a variety of reasons. In order for a population to survive, there must be the ability to move to a new site; habitat fragmentation prevents this necessary movement.

Table 5. Nevada Species of Conservation Priority – Amphibians

Species Common Name	Scientific Name
Amargosa Toad	<i>Bufo nelsoni</i>
Great Basin Columbia Spotted Frog - NE sub-population	<i>Rana luteiventris</i>
Great Basin Columbia Spotted Frog - Toiyabe sub-population	<i>Rana luteiventris</i>
Great Plains Toad	<i>Bufo cognatus</i>
Mountain Yellow-Legged Frog	<i>Rana muscosa</i>
Northern Leopard Frog	<i>Rana pipiens</i>
Relict Leopard Frog	<i>Rana onca</i>
Southwestern Toad (aka Arizona Toad)	<i>Bufo microscaphus</i>

Bivalves

There are two scientific orders of bivalves in Nevada, the Unionoida (freshwater mussels) and the Veneroida (fingernail clams). The latter do not need a host and appear to be relatively ubiquitous in Nevada. Only one species of freshwater mussels (the California floater) was selected as a Species of Conservation Priority,

although all the native freshwater mussel species in Nevada face the same threats, and others are even more sensitive to a decrease in water quality. An example is the Western Ridged Mussel, which has been extirpated elsewhere in its native range. Species of freshwater mussels that occur (or have occurred) in Nevada have been eliminated from portions of rivers and even entire watersheds in their western United States range through the combined effects of habitat loss, pollution, blockage of anadromous fish, and introduced species. Nearly three-quarters of all 297 native freshwater mussel species in North America are imperiled and nearly 35 went extinct in the last century. They are one of the most endangered groups of animals on Earth, yet little is known about their life history, habitat needs, or even how to distinguish different species - especially in western North America. Their lifecycle is closely linked to fish species, so impacts to fish also impact these bivalves. Without adequate knowledge of their current and historic distributions, most of the Nevada bivalves remain unranked. Information about conservation actions for the 4 freshwater mussel species not listed as Species of Conservation Priority (see Appendix H for a complete list) can be found in the Implementation, Effectiveness Monitoring, and Adaptive Management Section, Aquatics Sub-section.

Table 6. Nevada Species of Conservation Priority – Bivalves

Species Common Name	Scientific Name
alifornia Floater	<i>Anodonta californiensis</i>

Gastropods

There are 74 gastropods (snails) on the list of Species of Conservation Priority, the vast majority of which are springsnails, and one, the Elongate mud meadows Pyrg – *Pyrgulopsis notidicola*) which is an ESA Candidate species. None are currently on NDOW’s protected list . Most springsnail populations are highly isolated because springs and seeps are widely dispersed and disconnected. Indeed, many species’ entire range is in just one small spring. A number of springsnail populations are declining, almost faster than we can learn about them. Their aquatic habitats are rare and sensitive to drought and to the manner in which water resources are used.

Terrestrial mollusks and crustaceans, arachnids, and insects were not included in the species prioritization process for the initial round of planning. NDOW has statutory management responsibility for mammals, birds, reptiles, amphibians, fishes, mollusks and crustaceans, but does not have statutory management responsibility for other invertebrate families, including arachnids and insects. Statutory management responsibility for the management of insects in Nevada belongs to the NDOA, but to date, there has been very little state focus on the conservation of rare insects beyond participation in management strategy development for endangered butterflies which as a result of their federal listing have become the primary responsibility of the USFWS. The Nevada WAP Development Team contacted its key conservation partners in the management of terrestrial invertebrates with the intent of developing a conservation strategy, but the supporting biological information was insufficient to support moving forward before the WAP deadline. The WAP Team will convene an expert working group to construct a conservation strategy as a priority task in a future phase of WAP development and implementation. Key conservation partners will include the Biological Resources Research Center of the University of Nevada, Reno, Great Basin College, and the USFWS.

Table 7. Nevada Species of Conservation Priority – Gastropods

Common Name	Scientific Name	Common Name	Scientific Name
Hydrobe, Steptoe	<i>Eremopyrgus eganensis</i>	Springsnail, Lake Valley	<i>Pyrgulopsis sublata</i>
Juga, smooth	<i>Juga interioris</i>	Springsnail, Landyes	<i>Pyrgulopsis landeyi</i>

Common Name	Scientific Name	Common Name	Scientific Name
Pebblesnail, Ash Meadows	<i>Pyrgulopsis erythropoma</i>	Springsnail, large gland	<i>Pyrgulopsis basiglans</i>
Pebblesnail, Moapa	<i>Pyrgulopsis avernalis</i>	Springsnail, Lockes	<i>Pyrgulopsis lockensis</i>
Pebblesnail, Pahranaagat	<i>Pyrgulopsis merriami</i>	Springsnail, longitudinal	<i>Pyrgulopsis anguina</i>
Pebblesnail, Pyramid Lake	<i>Fluminicola dalli</i>	Springsnail, median-	<i>Pyrgulopsis pisteri</i>
Pebblesnail, Turban	<i>Fluminicola turbiniformis</i>	Springsnail, Moapa	<i>Pyrgulopsis carinifera</i>
Pebblesnail, Virginia	<i>Fluminicola virginicus</i>	Springsnail, neritiform	<i>Pyrgulopsis neritella</i>
Snail, Badwater	<i>Assiminea infima</i>	Springsnail, northern	<i>Pyrgulopsis militaris</i>
Springsnail, Antelope Valley	<i>Pyrgulopsis pellita</i>	Springsnail, northern	<i>Pyrgulopsis serrata</i>
Springsnail, bifid duct	<i>Pyrgulopsis peculiaris</i>	Springsnail, northwest	<i>Pyrgulopsis variegata</i>
Springsnail, Big Warm	<i>Pyrgulopsis papillata</i>	Springsnail, Oasis Valley	<i>Pyrgulopsis micrococcus</i>
Springsnail, Butterfield	<i>Pyrgulopsis lata</i>	Springsnail, ovate Cain	<i>Pyrgulopsis pictilis</i>
Springsnail, Camp Valley	<i>Pyrgulopsis montana</i>	Springsnail, Pleasant	<i>Pyrgulopsis aurata</i>
Springsnail, carinate	<i>Pyrgulopsis carinata</i>	Springsnail, Sada's	<i>Pyrgulopsis sadai</i>
Springsnail, Carlin	<i>Pyrgulopsis bryantwalkerii</i>	Springsnail, small gland	<i>Pyrgulopsis bifurcata</i>
Springsnail, Corn Creek	<i>Pyrgulopsis fausta</i>	Springsnail, southeast	<i>Pyrgulopsis turbatrix</i>
Springsnail, Crittenden	<i>Pyrgulopsis lentiglans</i>	Springsnail, southern	<i>Pyrgulopsis anatina</i>
Springsnail, Crystal Spring	<i>Pyrgulopsis crystalis</i>	Springsnail, southern	<i>Pyrgulopsis umbilicata</i>
Springsnail, distal-gland	<i>Pyrgulopsis nanus</i>	Springsnail, southern	<i>Pyrgulopsis sulcata</i>
Springsnail, Dixie Valley	<i>Pyrgulopsis dixensis</i>	Springsnail, Spring	<i>Pyrgulopsis deaconi</i>
Springsnail, Duckwater	<i>Pyrgulopsis aloba</i>	Springsnail, squat Mud	<i>Pyrgulopsis limaria</i>
Springsnail, Duckwater	<i>Pyrgulopsis villacampae</i>	Springsnail, sterile basin	<i>Pyrgulopsis sterilis</i>
Springsnail, Elko	<i>Pyrgulopsis leporina</i>	Springsnail, sub-globose	<i>Pyrgulopsis orbiculata</i>
Springsnail, elongate Cain	<i>Pyrgulopsis augustae</i>	Springsnail, transverse	<i>Pyrgulopsis cruciglans</i>
Springsnail, elongate Mud	<i>Pyrgulopsis notidicola</i>	Springsnail, Twentyone	<i>Pyrgulopsis millenaria</i>
Springsnail, elongate-gland	<i>Pyrgulopsis isolata</i>	Springsnail, upper	<i>Pyrgulopsis hovinghi</i>
Springsnail, Emigrant	<i>Pyrgulopsis gracilis</i>	Springsnail, Vinyard's	<i>Pyrgulopsis vinyardi</i>
Springsnail, Fairbanks	<i>Pyrgulopsis fairbanksensis</i>	Springsnail, White River	<i>Pyrgulopsis sathos</i>
Springsnail, Fish Lake	<i>Pyrgulopsis ruinosa</i>	Springsnail, Wong's	<i>Pyrgulopsis wongi</i>
Springsnail, Flag	<i>Pyrgulopsis breviloba</i>	Tryonia, Amargosa	<i>Tryonia variegata</i>
Springsnail, flat-topped	<i>Pyrgulopsis planulata</i>	Tryonia, desert	<i>Tryonia porrecta</i>
Springsnail, Fly Ranch	<i>Pyrgulopsis bruesi</i>	Tryonia, grated	<i>Tryonia clathrata</i>
Springsnail, Hardy	<i>Pyrgulopsis marcida</i>	Tryonia, minute	<i>Tryonia ericae</i>
Springsnail, Hubbs	<i>Pyrgulopsis hubbsi</i>	Tryonia, Monitor	<i>Tryonia monitorae</i>
Springsnail, Humboldt	<i>Pyrgulopsis humboldtensis</i>	Tryonia, Point of Rocks	<i>Tryonia elata</i>
Springsnail, Kings River	<i>Pyrgulopsis imperialis</i>	Tryonia, sportinggoods	<i>Tryonia angulata</i>