Pipilo aberti, Abert's Towhee

Recommendation: Reclassify to Species of Conservation Concern (Tier II)

Rationale: Habitat loss, range restriction, population decline

Species status statement. Abert's Towhee is currently a Tier III species (or "Watch List" species) in the state's Wildlife Action Plan, and the species is classified as a Critically Imperiled S1 species by the Utah Natural Heritage Program due to its extreme rarity and vulnerability to extirpation within the state.

Almost all (82%) of the Abert's Towhee's population occurs within the Sonoran Desert Bird Conservation Region (BCR), which includes portions of Utah, Nevada, Arizona, California, and northern Mexico. Utah represents the northern most extent of the species' range, and Breeding Bird Survey (BBS) data indicate a non-significant positive population trend in that BCR.

Even so, the distribution and abundance of Abert's Towhee are known to be declining precipitously in Utah. Once a resident in the Beaver Dam Wash in Washington County, the species no longer occurs in that area. It formerly was also common and occurred widely in the Virgin River valley in southwestern Utah but is now limited to one isolated location along the Virgin River below La Verkin and to one other location along Santa Clara Creek below Gunlock Reservoir. It is estimated that the "Utah population has declined by 50% in the last 20 years because of habitat loss" (Tweit and Finch 1994). Nevertheless, Abert's Towhee is not considered a Species of Conservation Concern by the U. S. Fish and Wildlife Service (USFWS 2002), nor does the species have any other special status under Federal rules.

Statement of habitat needs and threats for the species. Formerly, Abert's Towhee was a year-round resident in well-developed desert riparian woodlands (cottonwood–willow or mesquite) with dense under story of shrubby

vegetation at elevations below 1,300 m (4,265 ft) (Tweit and Finch 1994; Parrish et al. 2002). Most of this habitat in Utah has been modified or eliminated within the species range, and distribution is now limited to cottonwood-willow remnants, exotic vegetation such as salt cedar, and mixed exotic/native habitat (Parrish et. al. 2002). Habitat loss (e.g., from urban and suburban development and from conversion to agriculture) and habitat degradation (e.g., from livestock grazing and from invasive exotic plants such as tamarisk) are the greatest threats to the species both in Utah and throughout its limited global range (Tweit and Finch 1994; Parrish et al. 2002). Implementing conservation measures in suitable habitat where the species remains in Utah could slow or halt observed declines and result in population increases within 10 years (Parrish et al. 2002).

Further, Tweit and Finch (1994) stressed the need for "assessment of the effects of climatic change due to global warming on this species and its habitat. Continuing increases in temperatures and changes in rainfall patterns or amounts could hasten declines and have severe impacts (Tweit and Finch 1994). On this basis, severe and extended drought, coupled with extensive wildfires in Washington County, have likely contributed to a decline of the species in Utah.

Anticipated costs and savings. Currently, there are no management actions underway that are specific to Abert's Towhee. The statewide riparian monitoring program conducted annually since 1992 includes one site located within the species' range in Utah. However, no detections of Abert's Towhee have been recorded to date.

A statewide status assessment of Abert's Towhee is needed to more adequately determine current distribution and trends within the Utah portion of the species' range. Similar assessments are underway for Tier II avian species but not Tier III's. A current status assessment for the species is crucial in determining the need for dedicated monitoring, or conservation easements, habitat initiatives, or other actions that will help to ensure the long-term conservation of Abert's Towhee in Utah.

Considering that no costs are currently being expended towards Abert's Towhee, then any dedicated action towards the species will require budgeting of allocated resources and additions to Regional Sensitive Species Biologists' work plans.

Rationale for designation. Abert's Towhee tied with Lewis's Woodpecker as the top Utah Partners in Flight Priority Species for conservation action (Parrish et al. 2002). Because of the precipitous decline of the Utah population and reduction of its Utah distribution, Abert's Towhee is seriously imperiled in Utah and should be designated a Species of Concern (Tier II). Moreover, Abert's Towhee has one of the smallest global distributions of any bird species that occurs in Utah, which renders the state's population of greater importance to the species' continued global survival.

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Haliaeetus leucocephalus, Bald Eagle

Recommended Action: Retain on Utah's Sensitive Species List

Rationale: small nesting population in Utah, threatened by disturbance/inadequate safeguards, post-delisting monitoring needs

Species Status Statement. The Bald Eagle, one of Utah's largest birds, occurs throughout North America, including Alaska, Canada, and Mexico (Buehler 2000). The species was listed as endangered under the Endangered Species Act in most of the lower 48 states until 1994 when its status was changed to threatened. In 2007 the U. S. Fish and Wildlife Service (USFWS) removed the Bald Eagle from the Endangered Species List throughout its range. Due to the federal delisting action, the Bald Eagle is no longer listed as a priority species in the Utah Wildlife Action Plan. The species is classified as a Critically Imperiled S1 species by the Utah Natural Heritage Program due to its extreme rarity and vulnerability to extirpation as a breeding bird within the state. The species retains federal protection under both the Bald and Golden Eagle Protection Act (a.k.a. "The Eagle Act:), the Migratory Bird Treaty Act, and Utah State Code.

Less than 10 pair of Bald Eagles are known to nest annually in Utah (Parrish and Walters 2005). While we have few nesting pairs of Bald Eagles in the state, Utah hosts one of the largest state populations of these birds in the winter months (i.e., November – March)(Swisher 1964; Platt 1976; Parrish and Walters 2005; UDWR unpubl. data). In fact, it is estimated that 25 – 30% of the entire wintering population of Bald Eagles west of the Rocky Mountains call Utah home during the winter, indicating the significance of Utah's winter habitat (Parrish and Walters 2005). Most of these winter birds breed in areas as far away as northern Canada, yet return each year during winter. Wintering eagles can be found in each of Utah's ecoregions, and their numbers and distribution varies with the severity of the winter both here and further north.

While Utah typically hosts large numbers of Bald Eagles in winter, it is not known if Bald Eagles that nest in Utah and/or their young remain in the state during the winter (e.g., are year-round residents). In other parts of the species' range, young eagles move locally to occupy vacant nesting territories, which may also be occurring in Utah.

Statement of Habitat Needs and Threats for the Species. Most of the known Bald Eagle nests occur in southern portions of the state. Nests are typically placed in cottonwood or conifer forests near open water. Large winter concentrations of Bald Eagles occur along the shores of the Great Salt Lake, in associated roost sites of the Wasatch Mountains, in the desert valleys of northcentral Utah, and along the major rivers in eastern and southern Utah. Foraging preferences in Utah are unknown, although in general eagles primarily feed on fish and waterfowl and will also scavenge dead fish and mammals, including rabbits and deer.

Human activities are the most significant source of Bald Eagle mortality (Buehler 2000). The primary threat to nesting Bald Eagles in Utah is loss of nest sites and disturbance during the nesting season. The USFWS has recommended spatial buffers for activities occurring in the vicinity of known nests during the breeding season (USFWS 2005), but in the past these buffers are not regularly maintained or enforced by USFWS. Neither Utah State Code nor Federal rule allow a "take" of nesting Bald Eagles to occur, but these buffers exist only as recommendations and do not carry the force of rule or law. Consequently, communication towers were recently erected well within the recommended buffer of an active Bald Eagle nest in northern Utah. During winter, loss or disturbance of known roost locales in the state would le detrimental to the continued use of these sites by the wintering birds and thus could effect breeding populations elsewhere.

Anticipated costs and savings. The USFWS has issued a draft post-delisting monitoring plan for the Bald Eagle (USFWS 2007). The Service's intent is to use the States' monitoring capabilities and expertise to implement an efficient and effective post-delisting monitoring program. However, there is no Federal funding available to the states to assist with implementation of the post-delisting plan.

Monitoring of nesting and wintering Bald Eagles as a Tier I species has been part of the annual work plans for Regional Sensitive Species and Salt Lake Office Biologists. Continued monitoring of Bald Eagles in Utah will net a savings long-term in the event the species is again petitioned for listing under the Endangered Species Act. This is not anticipated, although continued monitoring is needed to verify the secure status of the species as a nesting bird in the state. Current monitoring of nesting Bald Eagles costs $3,500 - $5,000 annually within the Wildlife Section, and the Conservation Outreach Section incurs additional costs associated with monitoring. The cost of implementing the USFWS post-delisting monitoring plan are unknown due to the fact that specifics of the plan that pertain to Utah have yet to be completed.

Rationale for proposeddesignation. Continued monitoring of nesting Bald Eagles is crucial for determining the post-delisting status of the species in the state. A permanent loss of Tier status will effect the ability of our biologists to e monitoring nesting and wintering Bald Eagles, since federal agency partners only cost-share on projects that involve Tier I or Tier II species. A complete loss of Tier status for the Bald Eagle would preclude the opportunity to cost-share current and future costs which may eventually result in no monitoring of nesting and wintering for Bald Eagles occurring in the state. In addition, opportunities to determine post-fledging behavior of young Bald Eagles may also be limited should the loss of Tier status be retained.

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Centrocercus minimus, Gunnison sage-grouse

Recommendation: Retain on Utah's Sensitive Species List

Rationale: habitat loss, degradation and fragmentation

Species status statement. Until its dramatic decline, Gunnison Sage-grouse provided hunting opportunity for Utah sportsmen, but now occupies approximately 27% of its historic range in the state. The species was a Candidate for listing under the Endangered Species Act until 2006. Formerly, a Tier I species, the Gunnison Sage-grouse is no longer listed as a priority species in the Utah Wildlife Action Plan, due to removal of the species as a Candidate species by the U. S. Fish and Wildlife Service (USFWS), Even so, the species is classified as a Critically Imperiled S1 species by the Utah Natural Heritage Program due to its extreme rarity and vulnerability to extirpation within the state. In addition, Gunnison Sage-grouse remains a USFWS Region 6 Species of Conservation Concern (USFWS 2002).

Gunnison Sage-grouse has undergone an extreme decline in both its geographic distribution and population levels range wide. It currently survives only in southwestern Colorado (vicinity of Dove Creek) and southeastern Utah (vicinity of Monticello in San Juan County) though it is believed historically to have occurred also in north-central New Mexico and northeastern Arizona and possibly as far east as Kansas and Oklahoma. There now exist only 7 populations in Utah and Colorado and a total global population of approximately 3,200 breeding individuals (GSRSC 2005).

The Utah distribution has been drastically reduced. Annual lek (breeding ground) counts of strutting males in Utah have declined to about one-half of historic size from the mid-70's through the mid-80's but have maintained a stable trend since. The current Utah population (as of 2005) is approximately 235 individuals, which represents a decline of 68% from the historical Utah population highs of the 1970s (Lupis 2005). Based on population viability analysis, populations of fewer than 500 breeding individuals of this species are not

considered to be secure (i.e., 95% probability of stable persistence for 50 years) (Miller 2005, GSRSC 2005).

Statement of habitat needs and threats for the species. This species requires a variety of areas and habitats to meet its life history needs and moves seasonally between these required habitats. Lek sites are typically located on ridge tops with sparse grass and forb cover, near or surrounded by sagebrush. Nesting occurs 1–8 km from the leks. Suitable nesting habitat consists of sagebrush stands that are taller (>38 cm) and denser (>25% canopy cover) than average. Brood-rearing habitat is generally in moist situations such as in drainages and often is at habitat interfaces of wet meadows with stands of sagebrush or willow and alder. Hens and their broods move an average of 2.4 km from nest sites in the 3 months after hatching (Young 1994). Wintering habitat is typically within 9.6 km of the nearest lek consisting of sagebrush that is not completely covered by snow during average winters (usually 40–55 cm in height) and that provides 30–40% canopy cover (GSRSC 2005).

The greatest threats to the continuing existence of this species are the loss, degradation, and fragmentation of sagebrush habitat resulting from urban expansion, conversion to agriculture, and ranching (Lupis 2005, GSRSC 2005) Additional issues identified in Gunnison Sage-grouse conservation planning groups include drought, predation, powerline collisions, habitat conversion (e.g., 3 leks lost to conversion of sagebrush to agricultural uses), chick survival and recruitment, low genetic diversity, sagebrush quality and quantity, grazing management practices, and climate change. Most nesting areas in the vicinity of Mnonticello are in poor condition due to lack of herbaceous cover as a result of drought and grazing management practices.

In addition, oil, gas, and wind energy leasing on both state and BLM lands continues in San Juan County. The production potential for these energy resources is deemed as moderate while the impact to the local leks is extremely high. Suitable habitat exists on private lands in San Juan County that are under management as CRP lands. However, the CRP program increases rangeland

acreage but as grasslands (i.e., crested wheat grass or native plants) and not sagebrush (T. Wright and G. Wallace, UDWR pers. comm.). There is current interest and speculation in wind energy development on GUSG habitat in the Monticello area. A wind test tower (anemometer) has been erected at a site approximately 1.5 miles from a lek site. Power company contractors about leases for wind power development have contacted several landowners in the area.

Anticipated costs and savings. The UDWR is signatory to the multi-state, multi-agency Rangewide Conservation Plan which includes a Conservation Agreement. This agreement commits the state of Utah to take specific actions to address the identified threats to the Gunnison Sage-grouse. To date, actions taken by UDWR include 1.) Acquisition of the Adams conservation easement in 2000 (2,244 acres; cost $377,000), 2) Acquisition of approximately 2,700 acres in perpetual easements in the Monticello area (jointly with BLM; cost – unknown); 3.) Sagebrush bareroot stock planting on State Trust Lands and Conservation Reserve Program lands (ongoing; cost approximately 10 – 12,000/yr)]; 3.) Collection of sagebrush seed for Lone Peak Nursery for production of bareroot stock (ongoing; cost unknown). 4.) Impoundment of water to enhance brood habitat (ongoing; cost unknown), 5.) Construction and maintenance of water guzzlers (ongoing) 4.) Funding 4 years of research projects (ongoing), 4). Sponsorship of public lek viewing events (ongoing; cost unknown).

Rationale for designation. Despite the fact that the Gunnison Sage-grouse is critically imperiled and very likely to go extinct if additional conservation measures are not taken, the USFWS surprisingly removed the species from candidate status in 2007. Gunnison Sage-grouse is arguably the most imperiled animal that occurs in Utah and should be retained as a Species of Conservation Concern (Tier II) in the Utah Wildlife Action Plan.

UDWR is a signatory to the San Juan Co. Gunnison Sage-Grouse Conservation Plan (2000). Under this plan, the UDWR is a member of the Monticello-Dove Creek local working group, which meets 3 times yearly to direct

progress towards meeting the goals of the range wide and local plans. The UDWR also participates in a Transplant sub-committee that deliberates on how to maintain genetic diversity within populations of Gunnison sage-grouse and the potential to restore the species to areas from which it has disappeared.

A current lawsuit seeks to return the Gunnison sage-grouse to the status of a candidate species for federal listing. If Utah and Colorado cannot demonstrate an effective program of protection is in place for this species, Federal listing may well occur. There could be significant economic impacts in San Juan Co. if the state of Utah cannot manage this species under the Utah Wildlife Action Plan with a Tier II designation.

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Charadrius montanus, Mountain Plover

Recommendation: Add to Species of Conservation Concern List (Tier II)

Rationale: extremely limited distribution, extremely low population numbers, specific breeding habitat requirement

Species Status Statement. Mountain Plover is a rare, geographically limited (Uinta Basin), breeding species in Utah. Breeding has been documented in Duchesne and Uinta counties (Woodbury 1949, Day 1994, Manning and White 2001a). The species is currently a Tier III species (or "Watch List" species) in the state's Wildlife Action Plan and is classified as a Critically Imperiled S1 species by the Utah Natural Heritage Program due to its extreme rarity and vulnerability to extirpation within the state. A proposal to list the Mountain Plover as a threatened species under the Endangered Species Act was withdrawn by the U. S. Fish and Wildlife Service (USFWS 2003) in 2004. Nevertheless, the species is listed as a Bird of Conservation Concern for the USFWS Mountain-Pacific Region (USFWS 2002).

The Mountain Plover has been declining over the whole of its breeding range since the 1960's (White 2002). Breeding populations of Mountain Plovers are somewhat fragmented throughout the west; and the Utah population appears to be discontinuous, if not isolated, from breeding populations in neighboring states. Currently, there is no reliable means of estimating population trends of breeding plovers across their range (USFWS 2003). However, intensive breeding season surveys have been conducted in known Utah locales over the past decade and indicate the species has drastically declined since 1993.

In 1993, a total of 31 Mountain Plovers were recorded including 15 young/sub-adults. By 1999, the adult population was reduced by half with only three young produced. By 2002, no Mountain Plovers were sighted in Utah despite intensive survey efforts (White2002, Parrish et al. 2002); only one Mountain Plover was reported in Utah in 2003, none in 2004, one in 2005, none in 2006, and none in 2007 during the breeding season. However, individuals were sighted during spring (2004, n=10) and fall (2006, n=3) migration periods. (B. Maxfield, UDWR-NERO, pers. comm.).

Statement of Habitat Needs and Threats for the Species. Across most of its breeding range, the Mountain Plover is dependant on shortgrass prairie habitat (Graul 1975); however, in Utah Mountain Plovers nest in shrubsteppe habitats dominated by black sagebrush (*Artemisia nova*) and shadscale (*Atriplex* spp.) (Manning and White 2001b). Nest sites are typically associated with prairie dogs (*Cynomys* spp.) both in Utah (Manning and White 2001b) and across the species' range (Knopf 1996). In Utah, nesting is in areas with maximum vegetation height of 3–60 cm (mean 23.1 cm) and total rock cover of 15–99% (mean 61.1%). Average total plant cover at nests in Utah is 29.6%; i.e., there is about 70% open, bare ground. Nests are often situated near mounds of the white-tailed prairie dog. Most Utah nests are at the top of or at the base of slopes or are near large rocky outcroppings (Day 1994, Manning and White 2001b).

The historical use of specific areas in Utah for breeding indicates the relative importance of protecting these nesting grounds from further impacts. Habitat alterations from anthropogenic factors and range management practices have lead to the loss of Mountain Plover nesting habitat in several areas across the species' range (USFWS 2003). Changes in grazing regimes from the loss of native grazers (Knopf 1996) and conversion of native grasslands to croplands can adversely impact breeding habitats. However, livestock grazing can be used to maintain suitable breeding habitat, and Mountain Plovers can successfully nest in some croplands when nests are not destroyed by agricultural activities (USFWS 2003).

Mountain Plover breeding habitats in Utah coincide with areas of existing and anticipated oil and gas development. Impacts from construction and maintenance of oil and gas infrastructure are unknown, but may impact breeding Mountain Plovers depending on project size, density, frequency of maintenance and operation, and proximity to nesting birds (USFWS 2003). If destruction of nesting habitat and disturbance to nesting birds can be avoided, and if areas altered by construction activities can be rapidly reclaimed to favor Mountain Plover nesting and foraging, the threat from oil and gas development on Mountain Plovers can likely be minimized. However, a Conservation Strategy is needed to provide guidance and effect appropriate management actions for Mountain Plovers.

Additional threats include drought, shooting (or "plunking", mountain plovers being extremely unwary and approachable), pesticide usages, persecution of prairie dogs (which maintain suitable habitat for the mountain plover), and loss or degradation of habitat (Knopf 1996, Manning and White 2001a, 2001b,).

Anticipated costs and savings. Anticipated costs of conserving the Mountain Plover would involve reclamation of habitat loss due and protection of nesting sites during the breeding period (April through June). Federal listing of this species would likely fiscally impact oil and gas development and may impact some agricultural practices in the Uintah Basin. Transfer of management authority (e.g., under the Endangered Species Act) would reduce management options and elevate costs.

Rationale for proposed designation. The Mountain Plover appears to be on the brink of extirpation from the state, yet there is currently no program addressing the status, trend, and habitat needs for this species in Utah. Breeding habitat in Utah is subject to numerous impacts that threaten the species' continued existence if not properly managed. Conversely, oil and gas, rangeland, and agricultural activities can be managed to minimize impacts to nesting plovers and potentially enhance nesting and foraging habitats. Because the Utah breeding population is extremely small, threats to reproductive failure and adult survival have important implications for population viability in the state. In order to effect more meaningful conservation actions toward restoring Mountain Plover populations in Utah, the species should be designated a Species of Concern (Tier II).

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Falco peregrinus, Peregrine Falcon

Recommendation: Add to the Species of Conservation Concern List (Tier II)

Rationale: low population in Utah, stagnant/declining numbers of nesting birds in Northern Utah

Species Status Statement. Peregrine Falcon populations have rebounded since the late 1960s, particularly after 1985. This population recovery has been so dramatic that the species has recently been removed from the federal Threatened and Endangered Species list (USFWS 1999). Utah's population has increased, though there are still fewer than 200 known Peregrine Falcon nest sites in Utah (USFWS 2003). Of 40 nest sites randomly sampled in 2003, occupancy was very good at 94%, but productivity was low at 1.2 young/active nest (UDWR unpublished data). The Peregrine is currently a Tier III species (or "Watch List" species) in the state's Wildlife Action Plan, and the species is classified as an Imperiled S2 species by the Utah Natural Heritage Program due to its restricted range and very few populations within the state.

Utah's Peregrine Falcon distribution appears to have shifted from northern to southern Utah. In northern Utah, the Peregrine Falcon population is stagnant (when including artificial nest sites) to declining (when considering only natural sites) when compared to the 1970's population (Porter and White 1973, Kozlowski et al. 2002). Recent intensive ground and aerial surveys in northeastern Utah revealed only 13 occupied nests, 8 of which were on artificially maintained towers (Kozlowski et al. 2002); these surveys also revealed that Peregrine Falcon pairs have not reoccupied the 26 historic northern Utah nest sites documented by Porter and White (1973). In southern Utah, the known number of nesting Peregrine Falcons has apparently increased greatly, though historic distribution is less well documented in the remote reaches of southern Utah than in the northern portion of the state (Howe 1998).

Statement of Habitat Needs and Threats for the Species. In Utah, Peregrine Falcon breeding sites occur in the Utah Mountains (i.e., Wasatch and

Uinta Mountains), Basin and Range, Mojave Desert, and Colorado Plateau ecoregions though nesting is limited primarily to cliffs near water (Howe 1998). The largest concentrations of breeding sites are in the major river drainages of the southern half of the state. Peregrine Falcons also breed in small numbers near the Great Salt Lake in northern Utah, though a gap exists between the Great Salt Lake population and other Peregrine Falcon populations (Howe 1998, White et al. 2002).

Peregrine Falcons nest on tall cliffs (usually below 6000 ft elevation) near and often directly above streams, rivers, or reservoirs, though some sites can be several miles from water (Howe 1998). Nests are placed in cracks, holes, and small caves on cliff faces. Peregrine Falcons forage on a variety of birds that are associated with open water, streamside, wetland, cliff, and open meadow habitats; typical prey items includes waterfowl, shorebirds, doves, swallows, swifts, and meadowlarks (Porter and White 1973).

Several threats still exist to the Peregrine Falcon in Utah. The primary threat is loss of foraging habitat and disturbance of nest sites associated with urban encroachment along the Wasatch Front. Also, increased outdoor recreation poses a potential threat to nest sites even in remote locations of Utah (Howe 1998). Outbreaks of botulism, a disease that can cause adult Peregrine Falcon mortality, regularly occur in the wetlands (primary foraging areas) around the Great Salt Lake (Aldrich and Paul 2002). And, although the use of organochlorines has been banned on the breeding grounds, Peregrine Falcons are exposed to a variety of pesticides, including organochlorines, on their wintering grounds (west Mexico and possibly portions of Central and South America). Peregrine Falcons are also exposed to several pesticides and other contaminants on breeding season foraging areas, the effects of such exposure are not well understood (USFWS 2003).

Anticipated costs and savings. The Peregrine Falcon is perhaps the highest profile “success story” for recovering and delisting a federal endangered

species. It is a widely recognized bird, popular with wildlife watchers, and the public still closely scrutinizes its status. Conservation costs would be relatively low and include continued population monitoring, reduction of human disturbance at nest sites, and limited habitat restoration. Relisting of the Peregrine Falcon would impact energy development in many parts of the state and would also impact a variety of recreational activities throughout Utah.

Rationale for proposed designation. Although Peregrine Falcon populations are on the rebound, threats still persist in Utah (e.g., loss of foraging habitat, and disturbance of nesting sites). The current Peregrine Falcon population along the Wasatch Front is stagnant or declining when compared to the historic (shortly before federal listing) population. In central and northern Utah, many historic nest sites remain unoccupied and populations have not rebounded. Despite population increases, Peregrine Falcons are still relatively rare in Utah with less than 200 breeding pairs statewide. For these reasons, the Peregrine Falcon should be designated as a Species of Concern and assigned a Tier II classification under the Utah Wildlife Action Plan.

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Lepidomeda aliciae, Southern leatherside chub

Recommendation: Retain leatherside chub on the list and split into two different species on the Species of Conservation Concern List (Tier II)

Rationale: Recent genetic research has split the species into a northern and sourthen species in Utah; local conservation teams treat these species differently as they have different threats and concerns

Species status statement. The leatherside chub, formerly *Gila copei*, is a member of the minnow family (Cyprinidae) that occurs in pools and low-velocity runs of creeks and small- to medium-sized rivers. Recent research indicates that leatherside chub is composed of two distinct species. Genetic and ecological analyses by Johnson and Jordan (2000), Dowling et al. (2002), and Johnson et al. (2004) support two evolutionary distinct species of leatherside chub. These species consist of the northern leatherside chub, *Lepidomeda copei*, located in the Snake River and Bear River drainages and the southern leatherside chub, *Lepidomeda aliciae,* located in the Utah Lake and Sevier River drainages.

The historical range of southern leatherside chub encompasses the southeastern margins of the Bonneville Basin in Utah (Baxter and Simon 1970, Sigler and Sigler 1987, Johnson et al. 1995) including the American Fork, Provo River, and Spanish Fork drainages of the Utah Lake system and the San Pitch River, East Fork Sevier River, Beaver River and the lower, middle and upper Sevier River drainages of the Sevier River system. However, current distribution is limited to tributaries of the Spanish Fork, Provo River, and Sevier River drainages.

Statement of habitat needs and threats to the species. Southern leatherside chub inhabit desert streams that have a broad range of widely varying physical conditions including high variability of stream flow, annual precipitation, gradient, elevation, conductivity, and pH (Wilson and Belk, 1996; 2001) and substrates dominated by coarse fines with lower percentages of sand-silt and gravel (Wilson and Belk 1996). Loss of habitat heterogeneity (i.e., low-velocity refugia within high-gradient streams) caused by erosion, removal of riparian vegetation, and channelization creates unfavorable conditions for southern leatherside chub. Other significant threats to

southern leatherside chub populations are stream dewatering and stream barriers, which interrupt stream flow and isolate populations within stream reaches, causing population fragmentation (Wilson and Belk 1996). Predation by nonnative fish (particularly brown trout, *Salmo trutta*) is an additional factor threatening southern leatherside chub (Walser et al.1999).

Anticipated costs and savings. Preventing southern leatherside chub from being listed under the Endangered Species Act could reduce the need to mitigate water development and agricultural activities in the counties in which the fish occurs. Protection and enhancement of populations of southern leatherside chub should also allow continued nonnative sport fishing opportunities within the range of the southern leatherside chub in Utah. Engaging in proactive conservation actions to protect southern leatherside chub populations decreases the likelihood and magnitude of mitigation costs to communities and the State.

Rationale for Designation. Drought, stream dewatering, reservoirs, and introduced predatory species have isolated southern leatherside chub populations within streams (Wilson and Belk 1996). Range-wide habitat fragmentation, threats posed by nonnative predators, and the division of the species into two species warrant listing southern leatherside chub a Species of Concern. Currently a range wide southern leatherside chub Conservation Agreement and Strategy is proposed and in review by all participating agencies.

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Lepidomeda copei, Northern leatherside chub

Recommendation: Retain leatherside chub on the list and split into two different species on the Species of Conservation Concern List (Tier II)

Rationale: Recent genetic research has split the species into a northern and sourthen species in Utah; local conservation teams treat these species differently as they have differing threats and habitats

Species status statement. The leatherside chub, formerly *Gila copei*, is a member of the minnow family (Cyprinidae) that occurs in pools and low-velocity runs of creeks and small- to medium-sized rivers. Recent research indicates that leatherside chub is composed of two distinct species. Genetic and ecological analyses by Johnson and Jordan (2000), Dowling et al. (2002), and Johnson et al. (2004) support two evolutionary distinct species of leatherside chub. These species consist of the northern leatherside chub, *Lepidomeda copei*, located in the Snake River and Bear River drainages and the southern leatherside chub, *Lepidomeda aliciae,* located in the Utah Lake and Sevier River drainages.

The historical range of northern leatherside chub encompasses the northeastern margins of the Bonneville Basin in Utah, Idaho and Wyoming, and, within the Pacific Basin, Goose Creek, and Wood and Raft Rivers in Idaho and the Snake River above Shoshone Falls in Idaho and Wyoming (Baxter and Simon 1970, Simpson and Wallace 1982, Sigler and Sigler 1987, Johnson et al. 1995). However, current distribution is limited to a few tributaries of the Bear River including Twin Creek (Wyoming), Mill Creek, Hayden Fork, Yellow Creek, Thief Creek, and the East Fork of the Bear River.

Statement of habitat needs and threats to the species. Northern leatherside chub inhabit desert streams that have a broad range of widely varying physical conditions including high variability of stream flow, annual precipitation, gradient, elevation, conductivity, and pH (Wilson 1996, Wilson and Belk 2001) and substrates dominated by coarse fines with lower percentages of sand-silt and gravel (Wilson and Belk 1996). Loss of habitat heterogeneity (i.e., low-velocity refugia within high-gradient streams) caused by erosion, removal of riparian vegetation, and channelization creates unfavorable conditions for leatherside chub. Other significant threats to northern

leatherside chub populations are stream dewatering and stream barriers, which interrupt stream flow and isolate populations within stream reaches, causing population fragmentation (Wilson and Belk 1996). Predation by nonnative fish (particularly brown trout, *Salmo trutta*) is an additional factor threatening the northern leatherside chub (Walser et al.1999).

Anticipated costs and savings. Preventing northern leatherside chub from being listed under the Endangered Species Act could reduce the need to mitigate water development and agricultural activities in the counties in which the fish occurs. Protection and enhancement of populations of northern leatherside chub should also allow continued nonnative sport fishing opportunities within the range of the northern leatherside chub in Utah. Engaging in proactive conservation actions to protect northern leatherside chub populations decreases the likelihood and magnitude of mitigation costs to communities and the State.

Rationale for Designation. Drought, stream dewatering, reservoirs, and introduced predator species have isolated northern leatherside chub populations within streams (Wilson and Belk 1996). Range-wide habitat fragmentation, threats posed by nonnative predators, and the division of leatherside chub, formerly *Gila copei*, into two species warrant listing northern leatherside chub a Species of Concern. Currently a range wide northern leatherside chub Conservation Agreement and Strategy is proposed and in review by all participating agencies.

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Bufo cognatus, Great Plains toad

Recommendation: Move from UDWR watch list (Tier III) to the Species of Conservation Concern List (Tier II)

Rationale: Due to formerly known location sites for toad have diminished after study

Species status statement. This species was formerly rare in Utah and has not been detected in many years. Although it has been reported from 12 localities in Utah, most of these have been considered suspect or questionable in a recent evaluation of the status of the species in Utah by herpetologists at Utah State University (Mulcahy et al. 2002). Mulcahy et al. (2002) regarded only two localities for this species in Utah as "legitimate, verified records", both of these being in the vicinity of the town of Green River, Emery County. They did note, however, three other reported localities (Krupa 1990)—one in western Grand County (presumably not far from the town of Green River) and two in San Juan County—for which they were unable to locate voucher specimens and thus could draw no conclusions about the validity of the records. The most recent valid Utah record of this species for which the date is known is from 1962, but no adequate effort has been made to look for it since that time.

Statement of habitat needs and threats for the species. This species is an inhabitant of prairies and deserts. In addition to grasslands, it occurs in creosote bush scrub, mesquite woodlands, desert riparian situations, and sagebrush steppe. Its elevational range is from near sea level to around 8,000 ft. It breeds in shallow, temporary pools formed after heavy rains and in quiet waters of streams, marshes, irrigation ditches, and flooded fields (Stebbins 2003). Threats to the species have not been reported but almost certainly include several diseases known to have devastating effects on populations of a variety of amphibians, including other species of toads, in Utah and adjacent states. These diseases and their causative pathogens include chytridiomycosis (chytrid fungus, *Batrachochytridium dendrobatidis*) and red-leg (bacterium, *Aeromonas hydrophila*). Illegal transport, by people, of other species of amphibians may also be a threat to this species, as it is to other amphibians of

conservational concern in Utah, resulting in predation, competition, and spread of amphibian diseases.

Anticipated costs and savings. If federal attention (e.g., under the Endangered Species Act) were directed toward this species, whether through federal listing or through a Conservation Agreement with the state, management options would be reduced, and costs associated with management would greatly increase, as they have with all other federally listed or Conservation Agreement species in Utah.

Rationale for designation. Declines in populations of amphibians, reductions of their ranges, and extinctions of amphibian species have been documented worldwide in recent years. Utah, being the second driest or most arid of the 50 American states, has a naturally depauperate amphibian fauna. One Utah amphibian has already become extirpated from the state, and federal listing, under provisions of the Endangered Species Act, of two amphibian species in Utah has been circumvented only through formal Conservation Agreements between the Utah Division of Wildlife Resources and the U. S. Fish and Wildlife Service. Existing evidence indicates that the Great Plains toad is imperiled in this state. Since, in addition to the state's management of its wildlife resources, many of the federal resource management agencies in Utah use the state's Sensitive Species list to guide and prioritize their own management activities, inclusion of this species in the state list can be anticipated to benefit the species conservationally. Also, the Great Plains toad is quite distinct, morphologically and systematically, from other toads, particularly all others that occur in Utah, and it is arguably the most beautiful of Utah toads (notwithstanding the fact that "beauty is in the eye of the beholder") and should be regarded as a valued part of the natural heritage of the state and its citizens.

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