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THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
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May 15, 2013

Apache-Sitgreaves National Forests
Plan Revision Team
PO Box 640
Springerville, AZ 85938

Re: Proposed Land Management Plan and Programmatic DEIS

Dear Plan Revision Team:

The Arizona Game and Fish Department (Department) has reviewed the Proposed Land Management Plan (Plan) and Programmatic Draft Environmental Impact Statement for the Apache-Sitgreaves National Forests Land Management Plan (DEIS) dated January 2013. The Department understands that the Plan is strategic in nature, providing broad guidance and information for future project and activity decision making on the Apache-Sitgreaves National Forests (A-S). Once completed, it will replace the current plan, written in 1987, and serve to guide management on the A-S for the next 10 to 15 years. The Department further understands that decisions for specific land management activities will be made later with additional opportunity for Department and public involvement.

Lands administered by the A-S play a vital role in providing wildlife habitat as well as opportunities for wildlife related recreation in north-eastern Arizona. Public lands, managed under the principle of multiple use, form the cornerstone of wildlife habitat and are essential for maintaining Arizona's wildlife heritage and wildlife recreational opportunities into the future. As Arizona's human population continues to grow throughout the life of this Plan and adjacent lands become increasingly impacted by development it is anticipated that wildlife and the public will become increasingly dependent on lands administered by the A-S. It is therefore essential that the next forest plan not only adequately address current wildlife habitat and recreational needs, but also provide for the high quality habitat and the maintenance of wildlife connectivity both within and across the A-S that will be essential for sustaining healthy populations of wildlife within a more fragmented Arizona landscape.

The Department is therefore pleased with the Plan's stated emphasis on the maintenance and improvement of ecosystem health. We agree that sustainable supplies of resources, recreation, and wildlife habitat are byproducts of healthy functioning ecosystems. Based on the overall benefits to wildlife and their habitats, the balanced mix of public recreational and access opportunities (see attached Arizona Game and Fish Commission Policy related to access), the

Arizona Game and Fish Department Comments – A-S Plan and DEIS
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Department generally supports the Proposed Alternative with consideration of our comments below.

For your consideration the Department offers the following comments:

Wildlife Quiet Areas

In the summer of 1984, Department and A-S personnel initiated the identification of Wildlife Quiet Areas (WQAs) for public motorized vehicle access closures. The accumulation of past activities on forest lands had resulted in a vast network of roads, with extensive portions of the A-S having three or more miles of road per square mile of forest land. Studies had shown that vehicular traffic on forest roads evokes an avoidance response by elk, resulting in reduced habitat effectiveness (Hershey and Leege 1976, Lyon 1979, 1983, Marcum 1976, Perry and Overly 1976, Rost and Bailey 1979, Thomas, et al 1979, Witmer and deCalesta 1985) Studies With such an extensive road network and increasing use of recreational vehicles on the A-S, Department biologists identified the opportunity to designate quiet areas as an approach to mitigate impacts of vehicular traffic on wildlife while still allowing necessary wildlife and habitat management activities.

Resulting from these efforts are the eight current WQAs (Beaver Turkey Ridge, Hulsey Bench, Middle Mountain, Open Draw, St. Peters Dome, Upper Coyote, Willow Springs-Horse Trap, and Woolhouse), and two additional areas (Palomino and Carr Lake) that have been managed as WQAs but that have not been officially designated as such. The Department considers the WQAs to have succeeded in addressing the initial purposes for which they were developed, with no additional impediments to the Department's ability to manage wildlife in these areas. The Department supports these areas for their benefits to wildlife as well as the hunting and wildlife viewing public.

It has been noted by Department wildlife biologists familiar with these areas that the amount and proximity of vehicular traffic to big game species influences their activity levels and behaviors (M. Godwin and B. Birkeland, personal communication). During times when all forest use is reduced, such as in late winter; elk, deer and pronghorn are commonly seen in more open areas in clear view of roads, and are not as commonly observed in these areas during higher forest use periods. During higher forest use times, elk, deer and pronghorn can be observed more often in open spaces away from roads within the WQAs, and it is not uncommon to encounter these animals loafing and feeding in the open during daylight hours.

Current observations and field contacts by Department personnel confirm that a specific segment of the hunting public seek out these WQAs (M. Godwin, B. Birkeland, and D. Cagle, personal communication). In the early through late-1990's, elk hunter check stations were operated during most Game Management Unit (GMU) 4A elk hunts. Over those years several hundred hunters were contacted. The check station operators noted hunters that used these WQAs encountered more bull elk and bears than hunters who hunted areas outside the WQAs (D. Cagle, personal communication). Hunters also often noted increased elk rutting behavior observed within these WQAs than in areas more accessible to motorized travel (M. Godwin and D. Cagle, personal communication).

A specific example is the Woolhouse WQA located in GMU 3B adjacent the towns of Show Low and Pinetop-Lakeside. It is a popular hunting area for late bull and cow elk hunters. This area is known as a consistent elk wintering location, and 30 to 40 vehicles may be parked along the area's perimeter on opening weekend mornings.

In addition to the eight designated WQAs proposed for retention in the Plan, the Department requests that the Carr Lake and Palomino areas be officially designated as WQAs as well. Although not designated as such, these areas have been closed to public motorized use and have been managed as WQAs for at least the past 20 years. Located within the high use Rim Lakes Recreation corridor, they provide significant benefits to wildlife and the public, including a nearby place for wildlife to retreat from the high levels of vehicular traffic and recreational use which occur throughout most of the summer and fall months. They also provide an easily accessible location for visitors to the Rim Lakes Recreational Area to go who desire to experience a less crowded and noisy environment where there is a high probability of observing wildlife. In addition, officially designating these areas as WQAs would preserve a popular hunting area for hunters who seek out and have grown accustomed to a hunting experience away from motorized vehicles. The Department supports the inclusion of these areas as WQAs given the current management of these areas and given this designation would not impede the Department's ability to actively manage wildlife in the area.

The Plan also includes designation of two additional WQAs (Cottonwood and Bear Springs). In the interest of improving the hunting experience in these areas, the Department supports such designation. These portions of the Black Mesa Ranger District are located in GMU 3C along the Mogollon Rim and border the Fort Apache Indian Reservation (FAIR). This area is heavily roaded, and also experiences significant utilization by woodcutters in the fall. Hunters in the field contacted by Department personnel have routinely brought up the issue of too many OHV's and roads in these areas negatively impacting the quality of their hunts (B. Birkeland, personal communication). Most hunters also reported that shortly after sunrise there were woodcutters scattered throughout the woods and in densities so high that it was often difficult to be in an area and not hear, or have wildlife disturbed by the sound of chainsaws. It is also not uncommon for hunters to state that due to all of the disturbance occurring in GMU 3C in the fall, game animals are being pushed and staying on the FAIR during this time period where they remained inaccessible to these hunters. It should be noted that this portion of the FAIR has fewer roads and OHVs are not allowed. Having two small WQA's totaling 5,799 acres in this portion of GMU 3C would help meet the needs of these hunters who are seeking a quieter and more secluded hunting experience. Due to the size and configuration of these areas, they would remain easily accessible by foot to hunt, with the majority of the area within a mile from the nearest road. In addition to the benefit to an important segment of hunters, game species including deer, turkey, elk, bear, and mountain lion will benefit by having an area of less disturbance.

The Department thanks the A-S for working with our Regional Staff throughout the Forest Plan Revision process to identify these areas. The Department looks forward to working with the A-S to emphasize the importance of these critical areas through the creation and installation of additional interpretive and regulatory signage.

Wilderness Areas

The Department recognizes the long-term value to wildlife and the public that wilderness designations may provide, as long as the ability to actively manage wildlife is maintained in these areas. Impacts from the continued and irreversible loss of habitat resulting from development and transportation infrastructure is a major concern to the Department, and is the leading challenge facing the Department in maintaining Arizona's wildlife heritage and wildlife recreational opportunities into the future. The Department is not opposed to wilderness designations that do not affect our ability to manage wildlife, the public's ability to access public lands, or limits multiple use on public lands.

Also of concern, however, is the continued ability of the Department to adequately manage Arizona's wildlife. As wildlife habitat becomes more restricted and fragmented, the Department will need to provide a more proactive approach to wildlife management in an effort to maintain and improve declining populations of game and nongame species. A strictly hands-off approach to maintenance of biological diversity and long-term species viability is no longer a feasible option.

Although a wilderness designation offers much value, the Department has experienced significant restrictions in its ability to fulfill its public trust responsibilities resulting from such special land use designations. The Department therefore requests that full consideration be given to, and provisions provided, that ensure the ability of the Department to fulfill its public trust responsibilities through active wildlife management within wilderness areas. Specific management actions which may be necessary, and may necessitate the use of motorized equipment include, but are not restricted to: periodic fish surveys and non-native fish removal utilizing nets or battery and gas powered electrofishing equipment, construction or maintenance of fish barriers, chemical stream renovations, fish stocking, low-level aerial wildlife surveys, research, and law enforcement flights, wildlife capture, construction of temporary release pens, construction and maintenance of wildlife waters, providing salt and mineral supplements, depredation, and wildlife mortality investigations.

Currently, there are three designated wilderness areas within the A-S (Mount Baldy, Escudilla, and Bear Wallow) totaling 23,234 acres. The Plan includes preliminary administrative recommendations for two additions to existing wilderness areas. These are the 6,813 acre Escudilla Wilderness addition, and the 261 acre Bear Wallow Wilderness addition, which would, if designated by Congress, increase total acres of designated wilderness to 30,308.

Site Specific Comments

Chevelon Lake: Although not included in the Proposed Alternative, the Department does not support the inclusion of Chevelon Lake as a recommended wilderness. As discussed in the DEIS, this inclusion would pose significant impacts on current public recreational opportunities as well as the Department's ability to manage this important sportfish area and assure public safety. Chevelon Lake offers boating and fishing recreation, where gas motors up to 10hp are allowed. A Chevelon Lake wilderness designation would compromise the public's ability to continue these boating uses and would further limit the Department's ability to invest in associated boating facilities. In addition to the recreational impacts, the ability of the Department to manage sportfish populations and

angling/boating recreation on this lake would be adversely impacted. Standard lake population surveys are completed annually to inform management of lake fish populations, with these surveys requiring the use of motorized boats. Additionally, the Department must maintain motorized access to and around the dam to adequately monitor and maintain this structure. Inadequate maintenance of this dam can create a safety issue to those using the lake and those downstream of the lake, and presents liabilities that the Department is not willing to assume.

Wild and Scenic Rivers

Although there are no designated wild and scenic rivers on the A-S, approximately 339 miles of 23 rivers are eligible to be included in the National Wild and Scenic Rivers System. The Department requests that the A-S coordinate closely with the Department regarding any development of management direction for these areas to ensure that full consideration is given to the potential impacts on the ability of the Department to continue to manage fish and wildlife resources, and thus maintain and enhance those identified values. Specific management actions which may be necessary to maintain and enhance fisheries values including such activities as periodic fish surveys and non-native fish removal utilizing nets or battery and gas powered electrofishing equipment, construction or maintenance of fish barriers, and chemical renovations.

These areas also possess outstandingly remarkable wildlife related recreational values. The Department believes that hunting, fishing, and watchable wildlife opportunities are key components of these values, and that future management of these areas should allow for the continued use of these areas by the public for wildlife related recreational activities.

Fish Barrier Maintenance: The Department is concerned, however, about how certain rivers were analyzed and classified in the 2009 Eligibility Report for the National Wild and Scenic River System, Apache-Sitgreaves National Forests, which excluded portions of several rivers around man-made fish barriers. Those portions were classified as not eligible because they were described as no longer flowing in a natural condition due to the existence of structures which had modified the waterway. This approach was requested and supported by A-S and Department fish biologists at the time, with these barriers being identified as necessary for native fish recovery efforts undertaken on A-S.

For the 2009 analysis, two segments of two streams, Fish Creek and East Fork Lower Colorado River (LCR) were requested to be excluded and classified as not eligible for WSR designation given the same conditions involving existing man-made fish barriers, but were not. The Department is concerned that the eligibility and suitability of these segments and the associated management that is required to maintain and possibly modify barriers will conflict with and hinder the ability to secure the major investment and accompanying biological objectives represented in these man-made structures as watershed conditions change. For example, hydrologic changes in some watersheds following the Wallow Fire have triggered a need to modify several Apache trout fish barriers to handle the increased flood flows. Maintaining the Fish Habitat outstanding remarkable value (ORV) of these streams can only happen by ensuring that those barriers do not fail.

For Fish Creek, there was no excluded section for the fish barrier. Instead, the segments changed because of the fish barrier, but did not exclude it, thus the location of that barrier falls within the recreational segment. The 2009 analysis stated that there is a low, naturalized fish barrier, which is inaccurate. That barrier did include an original boulder drop, but was significantly modified with a wall of gabions. This barrier has since been significantly damaged by extreme flood flows immediately following the Wallow Fire in 2011, impairing the Apache trout Fish Habitat ORV in Fish Creek. Long term plans are to replace this barrier.

The East Fork LCR, included an excluded segment for two gabion fish barriers, but did not include an exclusion for another fish barrier upstream at Colter Dam. Colter Dam was originally built for irrigation storage and consists of a moderately large earthen dam. It has since been abandoned for irrigation use. Currently all streamflow in the East Fork LCR at this point must drop through an 18-20 inch outlet pipe, which has a 5-6 foot vertical drop before coming out the bottom side of Colter Dam. This vertical drop through the pipe currently acts as a fish barrier even though it was not designed nor built for that purpose. This is a positive feature for Apache trout above Colter Dam because the two gabion fish barriers further downstream are currently not effective. Work is in progress to seal these gabion barriers, but they may always be suspect because of their flawed design. Colter Dam would be a positive feature to maintain on the East Fork LCR for Apache trout recovery, as it has functioned as a very effective fish barrier. The classification of the East Fork LCR is Scenic, which by definition is free of impoundments. The Department contends that Colter Dam is an impoundment, and that the 2009 analysis overlooked this feature

Aspen

Aspen is an important component of forest vegetation communities due to its role in providing for greater wildlife diversity. The Department has noted its concerns relative to the decline of aspen on the A-S and supports a holistic approach to address this issue. Such an approach must principally focus on forest health and restoration on a landscape scale (e.g. mechanical vegetation treatments and planned and unplanned fire), while also addressing the multiple factors which can lead to excessive ungulate browsing. Recent large fire events, such as the Three Forks, Chitty, K-P Thomas Complex, and most recently the Wallow Fire, demonstrate the utility of landscape scale treatments in promoting aspen regeneration. In these burn areas, the Department has observed considerable aspen regeneration with corresponding minimal impacts from herbivory. The Department supports further research and monitoring to improve understanding of the complex relationship among aspen and other biotic and abiotic factors, and to support the development of management responses that adequately consider and address these factors over time..

The Department does not support the general representation made in the DEIS (pages 138 and 139) that, in the wet mixed conifer and spruce-fir community, there is an overrepresentation of vegetation structural states that are lacking aspen regeneration due to elk browsing. There is no question that, absent areas impacted by large fire events, aspen regeneration is lacking in these areas. This condition, however, is likely due to numerous and interrelated factors beyond a single factor such as elk browsing. The representation of low/lacking aspen regeneration being solely attributable to a single wildlife species is

unsubstantiated by data and fails to acknowledge and consider multiple factors impacting aspen regeneration.

Motorized Opportunities

The Department appreciates the immense challenge faced by the A-S in reaching an appropriate balance between public motorized travel, resource and wildlife protection, and non-motorized recreational uses of A-S lands. The Department recognizes the negative impacts on wildlife and wildlife habitat from unrestricted cross-country motorized travel, and therefore supports the proposed prohibition of motorized cross-country travel, except where authorized. The Department looks forward to continued coordination with the A-S on the Travel Management Plan. A critical component of which will be the continued availability of the variety of outdoor activities currently found on the A-S, including motorized big game retrieval.

General Comments

- Although collectively, many of the desired conditions, guidelines, standards, and objectives included in the Plan would help support and improve wildlife habitat and wildlife recreational opportunities on the A-S, the Department is concerned that the Plan relies too heavily on desired conditions. As defined in the Plan, desired conditions are normally expressed in broad, general terms, have no specific date by which they are to be completed, and are aspirations and not commitments. As such, the Department questions how these desired conditions will translate into the necessary implementable management actions that are vital to making significant progress toward realizing the Plan's emphasis of ecological restoration. The Department therefore recommends translation of these desired conditions into more actionable standards or guidelines, where doing so, would better enable achievement of the ecological restoration identified in the plan.

- The Department strongly supports Plan objectives of treating on average up to 35,000 acres of forest per year, up to 15,000 acres of woodlands per year, and up to 25,000 acres of grasslands per year. The Plan should, however more clearly stress the need and intent to focus mechanical thinning efforts on the overabundant small diameter trees within the forested vegetation types.

- The Department understands the unique and vital role that fire plays in the maintenance of wildlife habitat within fire adapted ecosystems, and acknowledges the need to restore natural fire regimes on the A-S. The Department therefore supports the proposed desired conditions, standards, guidelines, and management approaches that enhance the ability of fire (both planned and unplanned ignitions) to function in its natural ecological role.

- The Department supports the objective of establishing forage reserves as opportunities arise. Such reserves can significantly aid in the facilitation of forest and grassland restoration activities, such as the application of prescribed fire, by providing forage to livestock and wildlife where such activities would impact localized, short-term forage availability. The A-S should also consider allowing for the utilization of forage reserves by permittees conducting habitat restoration on their Arizona State Land Department leases and private grazing lands when conducted as part of a landscape scale restoration project.

- Monitoring is mentioned numerous times throughout the DEIS and Plan, thus highlighting its importance. The Department agrees that monitoring is critical to future adaptive management, and without which the A-S will not know if movement toward desired conditions is needed or being achieved. Unfortunately, insufficient detail is provided in the Plan, including Chapter 5 - Monitoring Strategy, and the DEIS for the reader to evaluate the sufficiency of the proposed monitoring. The Department recommends that additional detail be provided on monitoring implementation.

Page Specific Comments (suggested edits are indicated in italics and strikethrough)

- Plan, 6th Level HUC Watershed Scale Desired Conditions, page 23: "Streamflow provide connectivity among fish populations and provide unobstructed routs critical for fulfilling needs of aquatic, riparian dependent, and many upland species of plants and animals *except as needed for native species recovery and management.*" Recovery of native fishes would not be possible in most locations on the A-S without the use of man-made fish barriers (in the absence of a natural emigration barrier).

- Plan, 6th Level HUC Watershed Scale Desired Conditions, page 23: "Water quality meets the needs of *all desirable* aquatic species, *including* ~~such as~~ the California floater, northern and Chiricahua leopard frog, and invertebrates that support fish populations."

- Plan, Background for Aquatic Habitat and Species, page 25: The Department is only aware of 23 nonnative fishes that are currently found on the A-S, not 25. There have been others that were stocked many years ago, but did not establish and do not persist on the A-S today. The Department also recommends characterizing the lower elevation warm water habitat as "cyprinid and catostomid (minnow and sucker families) streams" instead of only cyprinid. Mineral Creek should be added to the list of streams that are totally diverted.

- Plan, Desired Conditions for Aquatic Habitat and Species, 4th and 5th Level HUC Watershed Scale Desired Conditions, page 25: "Streamflows, habitat, and water quality support native *and desirable nonnative* aquatic and riparian-dependent species and habitat."

- Plan, Desired Conditions for Aquatic Habitat and Species, 6th Level HUC Watershed Scale Desired Conditions, page 25: "Habitat and ecological conditions are capable of providing for self-sustaining populations of native *and desirable nonnative*, riparian dependent plant and animal species."

- Plan, Desired Conditions for Aquatic Habitat and Species, 6th Level HUC Watershed Scale Desired Conditions, page 26: "Desirable nonnative fish species, *and native fish species (ie. Apache trout, Gila trout, roundtail chub)* provide recreational fishing in waters where those opportunities are not in conflict with recovery of native fish species."

- Plan, Guidelines for Aquatic Habitat and Species, page 26: "To prevent degradation of native species habitat and the incidental or accidental introduction of diseases or nonnative species, *when transferring* aquatic species ~~should not be transferred~~ through management activities from one 6th code watershed to another. *Measures should be taken*

to prevent the spread of non-target fish species, invasive species, parasites, or diseases." As written, this did not allow critical management actions to recover rare species such as T&E fish and candidate species. Preventing the introduction of diseases and undesirable nonnative species is important, but it should not preclude necessary conservation actions, or even desired recreational wildlife management actions, when these actions are supported by recovery, conservation, or management plans.

- Plan, Guidelines for Aquatic Habitat and Species, page 26: "Projects and activities should avoid damming or impounding free-flowing waters to provide streamflows needed for aquatic and riparian-dependent species, *except as needed for native species recovery and management, or instream structures that improve stream functionality and stability or improve aquatic habitat conditions for aquatic species.*"

- Plan, Management Approaches for Aquatic Habitat and Species, page 27: "The Apache-Sitgreaves NFs cooperate with the Arizona Game and Fish Department (AZGFD), *the state wildlife agency with authority over wildlife management in Arizona* to protect and reintroduce native aquatic species where appropriate and control or eradicate nonnative species *where appropriate*." The Department recommends the proceeding edits to clarify the Department's wildlife management authority, and that control or eradiation of nonnative species on the A-S is not an appropriate management action in all circumstances.

- Plan, Desired Conditions for All PNVTs, Landscape Scale, page 29: "Herbivory is in balance with available forage (i.e., grazing and browsing by authorized *and unauthorized* livestock, wild horses, *feral horses and hogs*, and wildlife do not exceed available forage production within established use levels)."

- Plan, Desired Conditions for All PNVTs, Landscape Scale, page 29: Add "*The A-S is free of unauthorized, feral, and trespass livestock.*" The Department has become increasingly concerned over the negative impacts of unauthorized, feral, and trespass livestock on wildlife habitat. Department personnel have noted significant increases in the numbers of these animals over recent years, and expects this nearly exponential growth to continue. The Department urges the A-S to include the above Desired Condition and to take prompt, substantive action to address this growing threat to ecosystem health on the A-S.

- Plan, Desired Conditions for All PNVTs, Fine Scale Desired Conditions, page 30: "Herbaceous vegetation amount and structure (e.g. plant density, height, litter, seed heads) provides habitat to support *wildlife, including* prey species." Plan, page 30, All PNVTs, Fine scale.

- Plan, Mid-Scale Desired Conditions for Riparian Areas, page 34: "Willows (e.g. Bebb, Geyer, Arizona) are *free of disease, and* reproducing with all age classes present." The Department believes that the A-S has failed to acknowledge the significant role that disease has played in the loss of willows across the A-S.

- Plan, Mid-Scale Desired Conditions, page 34: Within the Plan it states that treated wastewater may be used to provide wetland habitats. However the value of treated wastewater is not mentioned as a desired condition for riparian values. The Department recommends that the following desired condition be incorporated into the Plan.

"Wetlands created with treated wastewater from municipalities provide additional critical wildlife habitat."

- Plan, Objectives for Riparian Areas, page 34: "Within the planning period, relocated, repair, improve, or decommission a minimum of 4 miles of National Forest Systems roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. *These activities should promote adequate trail access that addresses public recreational access needs (e.g. fishing and hiking) and minimizes creation of additional unauthorized trails."*

- Plan, Management Approaches for Riparian Areas, page 35: In the last paragraph the word "elk" should be replaced with "ungulate". In addition, the preceding paragraph should more strongly emphasize the need for landscape scale restoration treatments within the context of riparian area management.

- Plan, Pinon-Juniper Savanna, Landscape scale, page 54: Scattered shrubs and a continuous herbaceous understory, including native grasses, forbs, and annuals, are present to support a natural fire regime *and provide for wildlife needs*.

- Plan, Pinon-Juniper – Persistent Woodland, Mid-scale, page 54: "Grass and forb cover is maximized, based on site capability, to protect and enrich soils *and provide for wildlife needs*.

- Plan, Desired Conditions for Grasslands, Landscape scale, page 56: "*Herbaceous vegetation and* litter provides for and maintains the natural fire regime (fire regime I)…".

- Plan, Background for Wildlife and Rare Plants, page 59: In the last paragraph it states that "Other species have been introduced, such as Rocky Mountain elk and crayfish." The Department considers elk to be a native Arizona species. Although it is likely that Merriam's elk, which were present in Arizona prior to the Yellowstone introductions of Rocky Mountain elk had been extirpated from the state, the genetic differences, and the significance of these differences between the two populations (based on very limited samples) is uncertain at this time. Accordingly, the Department views it wholly inappropriate to present elk, a desired native species that provides significant economic and social benefits to the forest and local communities, in the same context as crayfish, which is a clearly undesirable and destructive nonnative species.

- Plan, Background for Wildlife and Rare Plants, page 59: Although the Plan briefly discusses and makes mention of the economic importance of forest products, including timber and livestock, the significant economic contribution to the local communities and counties provided by wildlife residing on the A-S is lacking. The Department recommends that the A-S acknowledge the economic contribution of wildlife (hunting, fishing, wildlife viewing) and provide such information within the Background for Wildlife and Rare Plants section. The Department looks forward to working with the A-S to provide additional detailed information regarding the economic benefits of wildlife.

- Plan, Background for Wildlife and Rare Plants, page 60: The reference to "Mexican wolf" should be changed to "Mexican gray wolf".

- Plan, Guidelines for Wildlife and Rare Plants, page 60: Add *"Right-of-way fencing where pronghorn antelope may be present should be placed and constructed in a manner that considers maximizing fence and road permeability for pronghorn antelope while addressing public safety concerns."*

- Plan, Guidelines for Wildlife and Rare Plants, page 61: "Prairie dog controls should not be authorized except when consistent with approved State of Arizona Gunnison's prairie dog conservation strategies, *or as authorized by the Arizona Game and Fish Commission.*" It should be clear that this guideline does not apply to hunting activities as authorized by the Arizona Game and Fish Commission.

- Plan, Guidelines for Wildlife and Rare Plants, page 61: "The needs of localized species (e.g. New Mexico meadow jumping mouse, Bebb willow, White Mountain paintbrush) should be considered and provided for during project activities to ensure their limited or specialized habitats are not lost *or degraded.*

- Plan, Management Approaches for Wildlife and Rare Plants, page 62: Reference is made to the Arizona Wildlife and Fisheries Comprehensive Plan. This is an outdated plan. A more appropriate reference would be the State Wildlife Action Plan as well as the Wildlife 20/20 Arizona Game and Fish Department's Strategic Plan.

- Plan, Management Approaches for Wildlife and Rare Plants, page 63: Promoting healthy population of predators while, reducing livestock conflicts with wildlife is discussed. It should be noted that predator control may also be required to reduce conflict and meet management objectives for wildlife prey species such as pronghorn, especially where degraded habitat conditions or other factors influence the natural predator prey relationship.

- Plan, Objectives for Invasive Species, page 64: Eradication of cowbirds is included as an objective in this section. Please note that such actions need to be coordinated with the Department and appropriate permitting obtained.

- Plan, Guidelines for Invasive Species, page 64: "Projects and activities, *except as needed for wildlife conservation and management projects (i.e. native species recovery and management, and sportfish stocking)*, should not transfer water between drainages or between unconnected water bodies within the same drainage to avoid spreading disease and aquatic invasive species. *For projects and activities where water transfers will occur, measures should be taken to prevent the spread of non-target fish species, invasive species, parasites, or diseases.*"

- Plan, Guidelines for Landscape Scale Disturbance Events, page 66: "Erosion control mitigation features should be implemented to protect significant resource values and infrastructure such as stream channels, roads, structures, threatened and endangered species, and cultural resources. *The use of nonnative grass seed for aerial seeding should be discouraged.*" The Department is concerned with the use by the A-S of "non-persistent" nonnative grass seed to mitigate wildfire impacts. Although the Department acknowledges the need for erosion control mitigation following a large fire event, the use of nonnative seed, as occurred following the Wallow Fire, has resulted in unintended consequences. These include concentrating elk within seeded locations, discouraging

normal daily and seasonal movement patterns, outcompeting native forbs and grasses, and impacting aspen regeneration.

- Plan, Background for Overall Recreational Opportunities, page 68: Add boating to the list of primary recreational activities. Kayaking and canoeing are becoming very popular activities on some lakes such as Fool Hollow, Bear Canyon, and Woods Canyon, in addition to some motorized boating recreation.

- Plan, Background for Developed Recreation, page 72: In addition to the A-S and State Parks, Fool Hollow Lake Recreation Area is operated through a partnership with the Arizona Game and Fish Department and the City of Show Low.

- Plan, Background for Motorized Opportunities, page 73: The final sentence in this paragraph states "These roads and trails are also needed for forest management." It is unclear if the A-S is also considering unauthorized roads (user-created) as being needed for forest management. The Department recommends clarification.

- Plan, Desired Conditions for Motorized Opportunities, page 73: "*Open NFS roads and* motorized trails are easily identified on the ground (e.g., well marked, *and marked open unless closed*).

- Plan, Standards for Motorized Opportunities, page 74: "Motorized vehicle travel shall be managed to occur only on the designated system of NFS roads and motorized trails and designated motorized areas." It should be made clear in this standard that there will be authorized exemptions, including motorized big game retrieval.

- Plan, Standards for Motorized Opportunities, page 74: "Unless specifically authorized, motorized cross-country travel shall be managed to occur only in designated motorized areas." It should be made clear in this standard, that motorized big game retrieval is included in the activities that are specifically authorized.

- Plan, Management Approaches for Motorized Opportunities, page76: "The Apache-Sitgreaves NFs coordinate with Federal Highways Administration, *Arizona Game and Fish Department*, and ADOT to facilitate transportation needs, planned improvements, and transportation conditions. Apache-Sitgreaves NFs work with ADOT *and Arizona Game and Fish Department* to alleviate concerns with scenic resources; maintenance activities; use of herbicides; use of deicing agents; and creation of turnouts, parking lots, and wildlife crossings."

- Plan, Desired Conditions for Livestock Grazing, page 95: "Livestock grazing is in balance with available forage (i.e. grazing and browsing by authorized *and unauthorized* livestock, wild horses, *feral horses and hogs*, and wildlife do not exceed available forage production within established use levels)"

- Plan, Desired Conditions for Livestock Grazing, page 95: Add "Livestock Grazing does not negatively affect wildlife habitat and populations." This mirrors a desired condition under Managed Recreation on page 69.

- Plan, Standards for Livestock Grazing, page 96: "New or reconstructed fencing shall allow for wildlife passage, except where specifically intended to exclude wildlife (e.g. elk). *Construction of new fences parallel to existing fences shall not be allowed unless there is concurrent removal of the existing unneeded fence.*"

- Plan, Guidelines for Livestock Grazing, page 96: "New livestock watering facilities shall be designed to allow wildlife access and escape. *Existing livestock watering facilities shall be modified as opportunities arise to allow for wildlife access and escape.*"

- Plan, Guidelines for Livestock Grazing, page 96: "Efforts (e.g. temporary fencing, increased herding, herding dogs) should be made to prevent transfer of disease from domestic sheep and goats to bighorn sheep wherever bighorn sheep occur. Permit conversions to domestic sheep or goats should not be allowed in areas *adjacent to or* inhabited by bighorn sheep *or areas identified by the Arizona Game and Fish Department for bighorn sheep reintroductions.*"

- Plan, Desired Conditions for Community-Forest Intermix, page 106: "Native grasses, forbs, shrubs, and litter (i.e., fine fuels) are abundant enough to maintain and support natural fire regimes, protect soils, *provide for wildlife needs*, and support water infiltration."

- Plan, Guidelines for Energy Corridors, page 110: "Energy corridors should be managed as nonmotorized areas ~~to avoid~~ *where* conflicts with corridor maintenance needs *exist*, ~~although maintenance activities may use motorized equipment~~." The Department believes that utilizing energy corridors for motorized use, where these uses can be compatible, can limit additional habitat degradation by helping to meet motorized recreational demands while reducing the need for additional NFS motorized roads and trails in less disturbed areas.

- Plan, Desired Conditions for Wild Horse Territory, page 111: "Grazing is in balance with available forage (i.e., grazing and browsing by authorized *and unauthorized* livestock, wild horses, *feral horses and hogs*, and wildlife do not exceed the available forage production within established use levels)."

- Plan, Background for Recommended Research Natural Areas, page 118: The recommended Sandrock Research Natural Area is described as having been excluded from domestic grazing for 25 years. Though the intent was to exclude livestock grazing for the period described, livestock were present on Sandrock throughout the entire period.

- Plan, Desired Conditions for Recommended Research Natural Areas, page 118: "The Three Forks Closure Area (30 acres) of the recommended Three Forks RNA is free from human trampling and other disturbances to protect very sensitive and unique species, such as the Three Forks springsnail, California floater, New Mexico meadow jumping mouse, *and* Chiricahua leopard frog, ~~and loach minnow~~." Loach minnow have never been documented within the actual closure area. Loach minnow have been documented within the mainstem of the East Fork Black River, which runs parallel to but not within or through the closure area. Designated Critical Habitat for loach minnow also exists on the East Fork Black River but not within the closure area.

- Plan, Background for Wilderness, page 120: Add to the first paragraph regarding Mt. Baldy wilderness. "The East Fork Little Colorado River and West Fork Little Colorado River originate on Mt. Baldy and flow throughout the year through this wilderness, providing habitat for the threatened Apache trout." This language mirrors language provided for the Bear Wallow Wilderness and Bear Wallow Creek.

- Plan, Standards for Wilderness, page 121: "Party size of 12 persons and/or 12 head of stock for *recreational* hiking and riding groups in Mount Baldy Wilderness shall not be exceeded. A party size of 6 persons for overnight *recreational* camping shall not be exceeded." This standard should not apply to wildlife and fisheries management activities (e.g. stream renovation and fish restocking activities).

- Plan, Standards for Wilderness, page 121: "Party size of 12 persons and/or 15 head of stock for *recreational* hiking and riding groups in Escudilla and Bear Wallow Wilderness and the Blue Range Primitive Area shall not be exceeded." This standard should not apply to wildlife and fisheries management activities (e.g. stream renovation and fish restocking activities).

- Plan, Motorized Use Suitability, page 131: The footnote for table 8 describes exemptions per the Travel Management Rule. The Department requests the allowances for motorized big game retrieval be included within this footnote.

- Plan, Motorized Use Suitability, page 132: Table 9 indicates that NFS motorized trails <50" are not suitable within energy corridors. The Department believes that utilizing energy corridors for motorized use, where these uses can be compatible, can limit additional habitat degradation by helping to meet motorized recreational demands while reducing the need for additional NFS motorized roads and trails in less disturbed areas.

- Plan, Programmatic Agreements, page 255: Add to the list of agreements: Memorandum of Understanding between the Apache-Sitgreaves National Forests, Arizona Game and Fish Commission, U.S. Fish and Wildlife Service, Arizona Trout Unlimited, Federation of Fly Fishers, and Wildlife Conservation Council for the restoration of native trout on the Apache National Forest.

- DEIS, Impacts Associated with Nonnative Fish Species, pages 132-133: The wording used to describe impacts of nonnative fish on page 132 and of fish stocking on page 133 is inappropriate and disproportionate to the descriptions given to other impacts on native fish species. The statement that the Department continues to impact native fish throughout the A-S through stocking and management of nonnative fish is misleading and unnecessarily confrontational. The Department does not dispute that nonnative fish are a major cause of the current status of many native fishes on the A-S. However, the impact is not at the level that it used to be decades ago. There are numerous processes in place to minimize additional impacts of nonnative fishes, especially fish stocking. The Department goes through intensive consultation with the U.S. Fish and Wildlife Service on all stocking activities to determine impacts on native wildlife and to gain associated clearances for those stocking activities. In most cases, there are no impacts or it is minimal, and in those few cases where an impact to native wildlife has been identified, the Department actively mitigates those impacts. The Department therefore asks that a

more pragmatic and balanced discussion of nonnative fish and fish stocking exist by replacing current narrative with language similar to that within the Livestock Grazing impacts section on page 130, which states that livestock grazing activities can have numerous impacts…, and that livestock also have the potential to introduce nonnative species.

- DEIS, Pronghorn Antelope, page 249: "Semi-desert grasslands which on the forests occurs below the Mogollon Rim is isolated by topography and dense woodlands, supports limited numbers of pronghorn, and is not currently managed for the species by the AZGFD." This is not correct. Although pronghorn numbers may be limited, this area is currently managed for pronghorn. In fact, the Department has worked with the A-S and NGOS to fund habitat improvement projects in the semi-desert grasslands with pronghorn as one of the focus species for the work.

In addition to the comments above, the Department would like to highlight its support for the inclusion of the following desired conditions, guidelines, and standards.

- Plan, Standards for Water Resources, page 23: "Consistent with existing water rights, water diversions or obstructions shall at all times allow sufficient water to pass downstream to preserve minimum levels of waterflow that maintain aquatic life and other purposes of national forest establishment."
- Plan, Guidelines for Water Resources. Page 24: "Short-term impacts in watersheds containing Outstanding Arizona Waters may be allowed when long-term benefits to water quality, riparian areas, and aquatic resources would occur."
- Plan, Desired Conditions for All PNVTs, Landscape Scale Desired Conditions, page 28: "Fire (planned and unplanned ignitions) maintains and enhances resources and, as nearly as possible, is allowed to function in its natural ecological role."
- Plan, Desired Conditions for All PNVTs, Landscape Scale Desired Conditions, page 28: "Vegetative connectivity provides for species dispersal, genetic exchange, and daily and seasonal movements across multiple spatial scales."
- Plan, Desired Conditions for All PNVTs, Landscape Scale Desired Conditions, page 28: "Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth forests."
- Plan, Desired Conditions for All PNVTs, Landscape Scale Desired Conditions, page 29: "Old or large trees, multistoried canopies, large coarse woody debris, and snags provide the structure, function, and associated vegetation composition as appropriate for each forested and woodland PNVT."
- Plan, Desired Conditions for All PNVTs, Landscape Scale Desired Conditions, page 29: "Vegetation provides products such as wood fiber or forage to help meet local and

regional needs in a manner that is consistent with other desired conditions on sustainable basis within the capacity of the land."

- Plan, Desired Conditions for All PNVTs, Mid-Scale Desired Conditions, page 29: "Vegetation conditions provide hiding and thermal cover in contiguous blocks for wildlife. Native plant species are present in all age classes and are healthy, reproducing, and persisting."

- Plan, Desired Conditions for All PNVTs, Mid-Scale Desired Conditions, page 29: "Grasses, forbs, shrubs, and litter are abundant and continuous to maintain and support natural fire regimes."

- Plan, Desired Conditions for Riparian Areas, Fine Scale Desired Conditions, page 34: "Floodplains and wet meadows provide sufficient herbaceous cover (55 percent of greater) and height (9 inches or longer) to trap sediment, mitigate flood energy, and provide wildlife cover."

- Plan, Guidelines for Riparian Areas, page 35: "Wet meadows and active floodplains with riparian-obligate species should provide sufficient herbaceous cover (55 percent of greater) and height (6 to 9 inches or longer) to trap sediment, mitigate flood energy, stabilize banks, and provide for wildlife and plant needs."

- Plan, Desired Conditions for Forests: Ponderosa Pine, Landscape Scale Desired Conditions, page 40: "Grasses, forbs, shrubs, needles, leaves, and small trees support the natural fire regime. The greater proportion (60 to 85 percent or greater) of soil cover is composed of grasses and forbs as opposed to needles and leaves."

- Plan, Desired Conditions for Forests: Ponderosa Pine, Landscape Scale Desired Conditions, page 40: "Frequent, low to mixed severity fires (fire regime I), occurring approximately every 2 to 17 years, are characteristic in this PNVT."

- Plan, Desired Conditions for Forests: Ponderosa Pine, Fine Scale Desired Conditions, page 41 "Trees typically occur in irregularly shaped groups and are variably spaced with some tight clumps. Crowns in the mid- to old-aged groups are interlocking or nearly interlocking providing for species such as Abert's squirrel."

- Plan, Desires Conditions for Grasslands, Landscape Scale Desired Conditions, page 56: "Prairie dogs are present and support healthy grassland soil development and the diversity of other species associated with them such as western burrowing owl."

- Plan, Desires Conditions for Grasslands, Fine Scale Desired Conditions, page 57: "During the critical pronghorn fawning period (May through June), cool season grasses and forbs provide nutritional forage; while shrubs and standing grass growth from the previous year provide adequate hiding cover (10 to 18 inches) to protect fawns from predation." Please see attached white paper for further detail.

- Plan, Guidelines for Grasslands, page 57: "Grassland and openings should provide for sufficient vegetative cover [...] to prevent accelerated erosion, dissipate rainfall, facilitate the natural fire regime, and provide wildlife and insect habitat."

- Plan, Guidelines for Grasslands, page 57: "New fence construction or reconstruction where pronghorn antelope may be present should have a barbless bottom wire which is 18 inches from the ground to facilitate movement between pastures and other fenced areas. Pole and other type of fences should also provide for pronghorn antelope passage where they are present."

- Plan, Guidelines for Wildlife and Rare Plants, page 61: "Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives."

- Plan, Standards for Developed Recreation, page 72: "Where trash facilities are provided, they shall be bear resistant."

- Plan, Desired Conditions for Motorized Opportunities, page 74: "The location and design of roads and trails does not impede wildlife and fish movement."

- Plan, Guidelines for Motorized Opportunities, page 75: "Roads and motorized trails should be designed and located so as to not impede terrestrial and aquatic species movement and connectivity."

- Plan, Standards for Livestock Grazing, page 96: "New or reconstructed fencing shall allow for wildlife passage, except where specifically intended to exclude wildlife (e.g. elk fencing)."

- Plan, Guidelines for Special Uses, page 101: "Target ranges may be appropriate in the General Forest or Community-Forest Intermix Management Areas because of the wide spectrum of recreation opportunities that can be provided in these areas. Other areas should be avoided."

- Plan, Guidelines for Wild Horse Territory, page 112: "When wild horse populations exceed the appropriate management level, horses should be removed in accordance with the "Heber Wild Horse Territory Management Plan" (when completed)." The Department urges the A-S to prioritize the completion of the Heber Wild Horse Territory Management Plan, as it will be an essential component in helping the A-S achieve ecological restoration and meet Desired Conditions.

- Plan, Guidelines for Wilderness, page 121: "Planned ignitions should be considered to create favorable conditions that enable naturally occurring fires to return to their historic role or to achieve wilderness conditions."

The Department would like to thank the A-S for this opportunity to provide comment, as well as your efforts throughout the planning process to engage the Department and the public. In addition to the comments provided above, the Department has provided written comment to the A-S regarding various aspects of the forest plan revision in letters dated July 8, 2007; October 16, 2008; February 18, 2009; August 31, 2009; January 29, 2010; and May 5, 2010. We request that those previous comments be incorporated here by reference. We look forward to continued cooperation and coordination with the A-S. If you have any questions concerning this letter,

please contact Dave Dorum, Habitat Program Manager for the Pinetop Region at 928-367-4281 or ddorum@azgfd.gov.

Thank you,

Chris Bagnoli

Chris Bagnoli
Pinetop Regional Supervisor

cc: Joyce Francis, Habitat Branch Chief
Laura Canaca, Projects Evaluation Program Supervisor

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Approved Commission Policy

A 2.38. Travel Management and Access upon Arizona's Public Lands for the Enjoyment of Arizona's Wildlife Resources and Outdoor Recreation

Effective: *03/09/2013*
Policy Process Owner: *Habitat Branch Chief*

The Arizona Game and Fish Department is responsible for management of all wildlife on public lands. Wildlife is held in trust for the public and access should not be denied or restricted without cause.

The Arizona Game and Fish Commission recognizes and promotes multiple use on public lands managed by the US Forest Service and the Bureau of Land Management. Every citizen should have access to their multiple use public lands unless there are reasons to deny access founded in sound science and affirmative analysis, and not a presumption of harm.

It is the policy of the Arizona Game and Fish Commission to place a high priority on conserving existing access and modes of access for hunting, fishing, trapping, shooting, wildlife watching, OHV use, dispersed camping and other responsible forms of outdoor recreation; and to place a high priority on improving access upon such lands in areas of the State where access is currently difficult or nonexistent.

It is unacceptable for a federal multiple use land management agency to establish regulations that the public cannot understand; that the federal land manager cannot effectively enforce; or that the land manager imposed upon state and local enforcement authorities an unreasonable and unenforceable mandate that denies reasonable and sufficient access to citizens. The Department will actively advocate for access issues and seek to maintain the Commission's legal standing to seek remedies for decisions that injure the Department's ability to meet the Commission's strategic objectives for wildlife management or management of recreational activities under the Commission's jurisdiction.

Forest Plan Preferred Alternative proposed desired condition on grasslands and pronghorn fawning cover

The Apache-Sitgreaves National Forest has released the draft Environmental Impact Statement (DEIS) and the Proposed Land Management Plan. AGFD's Pinetop Region has received comments of concern relative to the habitat parameters stated within the proposed forest plan referring to "*desired condition*" of grassland habitats. Specifically the comments related to the content of Chapter 2, Forest Direction, pages 55-57, and were specific to vegetative heights described within the "*Fine-Scaled Desired Condition*" (less than 10 acres). The "*desired condition*" described in this subsection was stated as follows;

> *"During the critical pronghorn fawning period (May through June), cool season grasses and forbs provide nutritional forage; while shrubs and standing grass growth from the previous year provide adequate hiding cover (10 to 18 inches) to protect fawns from predation"*

This specific reference is made to fine scale (less than 10 acres) and, again, describes the "*desired condition*". This desired condition term is used throughout the plan as a goal without a timeline, and without defined plan objectives in place to attempt to achieve the desired condition. The proposed Forest Plan Chapter 1, "Background" on page 6 defines desired conditions as:

"Desired Conditions"

> *Desired conditions set forth the desired social, economic, and ecological attributes of the Apache-Sitgreaves NFs. They attempt to paint a picture of what we (the public and Forest Service) desire the forests to look like or the goods and services we desire them to provide. Desired conditions are normally expressed in broad, general terms and are timeless in that there is no specific date by which they are to be completed. Desired conditions may only be achievable over a long timeframe (in some cases, several hundred years). In some cases, a desired condition matches the current condition, so the goal is to maintain the existing condition. Desired conditions are aspirations and are not commitments or final decisions approving projects.*
>
> *To be consistent with the desired conditions of the plan, a project or activity, when assessed at the appropriate spatial scale described in the plan (e.g., landscape scale), must be designed to meet one or more of the following conditions:*
>
> - *Maintain or make progress toward one or more of the desired conditions of a plan without adversely affecting progress toward, or maintenance of, other desired conditions; or*
> - *Be neutral with regard to progress toward plan desired conditions; or*
> - *Maintain or make progress toward one or more of the desired conditions over the long term, even if the project or activity would adversely affect progress toward or maintenance of one or more desired conditions in the short term; or*
> - *Maintain or make progress toward one or more of the desired conditions over the long term, even if the project or activity would adversely affect progress toward other desired conditions in a negligible way over the long term.*
> - *The project documentation should explain how the project is consistent with desired conditions and describe any short-term or negligible long-term adverse*

effects the project may have concerning the maintenance or attainment of any desired condition."

Pinetop Regional Discussion:
Two publications (listed below) were reviewed in the Pinetop Region's discussion of pronghorn grasslands habitat. There are a number of research and habitat investigations that are cited within these two wildlife publications with substantial data supporting characteristics described within many pronghorn habitats.

Pronghorn: Ecology and Management, Bart W. O'Gara and Jim D. Yoakum, 2004.
A Field Guide to Pronghorn Management: Biological and management principles and practices designed to sustain pronghorn populations from Canada to Mexico, Compiled by E.I. Anthonise, R.E. Autenrieth, D.E. Brown, J. Cancino, R.M. Lee, R.A. Ockenfels, B.W. O'Gara, T.M. Pojar, and J.D. Yoakum, 2006

The information found within the reference materials seem to support at least three substantial influences on pronghorn fawn survival which include; quality of forage available to pronghorn does during late gestation through early lactation, vegetative cover available to fawns for concealment, and predation. These factors are not independent of each other and are interconnected in terms of the survivability of pronghorn fawns. Other habitat and landscape characteristics beyond vegetation can be attributed to hiding or concealment cover and include: rocks, natural and manmade depressions, and the general characteristics of the terrain flow and slope.

Vegetation characteristics for higher elevation grassland habitats that pronghorn use and that exist on the Springerville Ranger District of the Apache-Sitgreaves National Forest in east central Arizona are generally providing fawning cover under current management approaches. Fawn survival and pronghorn recruitment are better on these areas of the A-S Forest pronghorn habitats than all other pronghorn habitats found within Game Management Unit 1 of the Pinetop Region. This is evidenced by the recruitment documented by wildlife manager surveys across the last several years.

The Region supports a desired condition in the forest plan that indicates the important factors in fawn survival including:

1. Quality of forage available to pronghorn does during late gestation through early lactation
2. Vegetative cover available to fawns for concealment
3. Predation
4. That critical period for fawns being from birth to 14 days when they are more dependent on hiding cover than their ability to flee from predators (this reference was first found in work conducted in central Arizona pronghorn habitats by Ockenfels et al., 1992 as cited in Home Ranges, Movement Patterns, and Habitat Selection of Pronghorn in Central Arizona, March 1994)
5. That fawning on the A-S Forest generally takes place from late April through early June

The desired condition should include adequate forage to meet nutritional needs of does and residual and current year's growth of new forage to provide for fawning cover.

The Management direction for the grasslands habitat should be crafted to consider:

1. The Arizona Game and Fish Department will be working toward identifying fawning areas over the life of the Forest Plan
2. AZGFD will be evaluating affinity to fawning areas within the pronghorn habitats of the eastern half of the A-S forest south to Black River throughout the life of the Forest Plan.
3. Habitat characteristics of fawning areas that pronghorn does have demonstrated at least some affinity by repeated selection for during the fawning period should begin to be quantitatively and qualitatively described for future management considerations.

The Pinetop Region did reference habitat characteristics for fawning areas measured over many habitats and two general habitat types as listed in the table below taken from the *Habitat Characteristics and Requirements* chapter of **Pronghorn: Ecology and Management** literature referenced above.

Characteristics of vegetation at pronghorn fawn bedding areas in shrubsteppe and grassland habitats

		Percent of cover type			Height in inches	
Biome	Location	Shrub	Grass	Forb	(avg)	Source
Shrubsteppe	Montana	21	32	14	12	Pyrah (1974)
	Idaho	21	-	16*	16	Autenrieth (1976)
	Oregon	17	11	8	15	Trainer et al. (1983)
Grassland	Alberta	3	66	3	19	Barrett (1982)
	Texas	3	16	3	22	Canon and Bryant (1997)
	Arizona	8	13	7	16	Ticer and Miller

*Grasses and forbs data combined

The original comments provided to the A-S biologists supported a fawning area cover guideline of 10-18". This guideline was based on the best available scientific information, much of which was derived from the above referenced research materials and the supporting research referenced within those documents.

In addition, after discussions relative to these guidelines took place the region initiated an inquiry statewide with pronghorn managers, game specialists and Habitat Program Managers. There was a unanimous support for the forest plan desired conditions currently stated with specific supporting information forwarded by three individuals and agreed upon and supported by all other comments from all that returned comments. It was clear there is statewide support for those general guidelines. The information provided included previously reference materials and specific information not previously referenced from the 22nd Annual Pronghorn Proceedings relative to work conducted by Dana Warnecke.

Other information provided indicated that similar guidelines are being currently used in other forests including the Kaibab National Forest.

There is no direct comparison between these habitats and those that exist on the A-S Forest. However, one can generally surmise fawning cover is a quantifiable characteristic of pronghorn

habitats. Management direction should lead the forest to evaluating these habitats across the life of the plan in conjunction with AZGFD data on fawning areas.

The best advice may have been found in the Pronghorn: Ecology and Management,

...too little or too much of any environmental component can be a limiting factor affecting a species' survival or occupancy of a habitat.... However, pronghorn fawning areas with limited herbaceous plants or shrub cover afford insufficient cover to conceal neonates effectively from predation. Conversely, an overabundance of shrubs can provide more stalking cover for predators, thereby increasing fawn losses to predators (Bodie 1978). Security cover requirements for pronghorn on grasslands are not the same on shrubsteppes. Care should be exercised in applying cover standards in one area to other habitats.

It is clear that cover for fawn concealment is critical but exactly what that looks like or what the composition of that concealment has not been evaluated for the variety of pronghorn habitats found on the A-S Forest. What does not seem to be in question is that adequate fawn recruitment is essential for maintaining healthy pronghorn populations, and that nutrition and fawn hiding cover are crucial factors in promoting fawn survival and recruitment.