

## ***Conservation Plans***

Even though the present regulatory climate has brought sage grouse to the brink of extinction, neither federal nor state agencies have altered regulatory mechanisms within the range of the bird. Instead, federal or state agencies have begun to implement "conservation plans." State personnel admit that a major goal of such conservation plans is to "try to prevent Federal action concerning the grouse" (Wait 1997). If state wildlife agencies had made good faith efforts to actually conserve sage grouse populations attempts to write conservation plans with a goal to prevent Federal listing would not be needed.

To date, only a few conservation plans have been written (Braun 1996a). Indeed, there is still "reluctance" to "fully implement" conservation actions regarding grazing on some allotments in the Gunnison Basin (Braun 1996a). The conservation plans avoid conflicts over grazing by simply ignoring the issue. Instead, they assume that increased grass and forb production will – somehow – magically provide adequate habitat for both cattle and sage grouse. Conservation plans must be "exposed to public notice and comment" to be valid (Save Our Springs v. Babbitt, Civ. No. MO-96-CA-168 (W.D.Tex. 1997) at 9). Moreover, conservation plans must include "tangible steps to reduce the immediate threat to the species," and cannot rely on "promises of proposed future action" to preclude a listing (*id.*).

The Gunnison Basin, Colorado conservation plans form a framework for developing conservation actions. These consist of public education, research into causes of sage grouse declines, monitoring of populations, mapping and inventory of habitat, and similar assessments (Gunnison Basin Sage Grouse Conservation Plan 1997, p. 18). The conservation plans are thus useful tools to organize data collection and research, and may function to educate the public. They fall far short, however, of what is required to avoid a listing under the ESA. These conservation actions and conservation plans are not regulatory mechanisms, the actions do not yet exist, and both the plans and actions they contemplate are inadequate to insure conservation of the species. They thus fail each test for adequacy when considering a listing under the ESA.

The conservation plans do not themselves require the implementation of any actions, and needed actions have not been implemented. For example, the Gunnison Basin Sage Grouse Conservation Plan (GBCP) contemplates that implementation of actions under the plan will not be completed for 15 years (Gunnison Basin Sage Grouse Conservation Plan, GBCP 1997, p. 18). By then, Gunnison sage grouse will likely either be extinct or will be present in such small, scattered populations that it will not be possible to prevent the extinction of the species. The GBCP itself recognizes this time lag problem with conservation measures, although it does nothing to alleviate the problem. The plan states, "it may take several years for an actual increase in cover, and the establishment of desirable species" after implementing a "vegetation management plan" (GBCP 1997, p. 19). The plans even admit that some actions could prove ineffective. For example, "a drought could negate or reduce the positive effects" of "vegetation management through improved livestock grazing" (GBCP 1997, p. 19). Despite this recognition, the plans do not provide for any safety margins or "fall-back" options in such cases. The San Miguel Basin Conservation Plan (SMBCP 1998) is so far merely an "outline of the Draft Conservation plan" (SMBCP 1998, front cover), and does

not even estimate a time when conservation measures will be fully implemented except to note that it will "require a lengthy period" (SMBCP 1998, p. 16). The San Miguel plan merely establishes a wholly voluntary "process" and "framework" in which, someday perhaps, a true plan will be implemented. Similarly, participation by private landowners in the Crawford Area Conservation Plan (CACP) "will be strictly on a volunteer basis" (CACP 1998, p. iii). While these rosy speculations are appropriate for a children's fairy tale, they will not conserve the sage grouse. Such vague agreements require nothing, and have been uniformly rejected by every court that has examined the issue.

The conservation plans make no requirements on private landowners; instead, such action is purely voluntary (GBCP 1997, p. 19; SMBCP 1998, p. 3 "strictly voluntary"; CACP 1998, p. 3 "strictly voluntary"). Even if private lands are needed for conservation of the species, all land uses will be permitted, apparently including subdivision, because landowner participation is strictly voluntary.

Nor do the plans even assure funding for conservation actions: for example, the GBCP specifically contemplates that "[i]nadequate funding may preclude the completion of an action in a given period." In such cases, the "implementation sequence" would be adjusted – that is, deferred (GBCP 1997, p. 19). The plans explicitly defer on the ground actions. For example, increased attempts to reduce poaching will not begin until 2009 (GBCP 1997, p. 20). Mitigation of utility corridors – which already exist – will not begin until 2006 (GBCP 1997, p. 20). Again, this deferral of action may itself be deferred if funding is inadequate (GBCP 1997, p. 19).

The plans are not regulatory mechanisms in any sense. "The process or mechanism [to implement the plan] is generally to rely on each [working group] member or entity to implement to the best of their ability actions for which they have responsibility." (GBCP 1997, p. 19). Thus, the actions in the plans are voluntary even if they are not explicitly deferred by the plan's timetable, or implicitly deferred by "inadequate funding." They will doubtless be deferred by the plans reliance on each entity being able to explain that they couldn't complete the actions for which they were responsible, but to the best of their ability, they did whatever they wanted. This is not a regulatory mechanism. The San Miguel Plan mentions the authority of the county to regulate land use but does not explain the limits of that authority or the degree to which it has been exercised in the past (SMBCP 1998, p. 29-30). In fact, one of the chief dangers to the bird is development (Braun 1998a). The county's authority over land development has not proven effective in the past. Thus, even if the authority to control land use were truly a regulatory mechanism, it has been shown inadequate. Without true regulations on land use, there is no guarantee that the county will exercise its authority in the future. The San Miguel Basin plans other assumptions also fail as adequate regulatory mechanisms. The plans impose no new regulatory scheme, instead relying on the same regulatory mechanisms – or lack thereof – that have allowed the severe declines in Gunnison sage grouse. The San Miguel Basin plan does mention the authority of the FWS under the ESA, but this presupposes that the bird has been listed (SMBCP 1998, p. 30). Thus, the plans cannot function as adequate regulatory mechanisms sufficient to prevent listing of the bird – the only true regulatory mechanism is listing under the ESA. The San Miguel Basin plan also notes the establishment of Memoranda of Agreement and of Memoranda of Understanding among various federal agencies and between FWS and the state of Colorado (SMBCP 1998, p. 30). None of these qualify as regulatory

mechanisms as a matter of law. Nor have the programs contemplated by the Memoranda even been drawn up and agreed to, much less implemented. The only regulatory program discussed at all by the San Miguel Basin plan is the ability of the Colorado Div. of Wildlife to regulate poaching and harassment (SMBCP 1998, p. 29). This has been ineffective to conserve the Gunnison sage grouse as seen by the severe declines in the bird. Moreover, it can only address one of many threats.

Even if all of the conservation plans were completely implemented immediately, they would prove inadequate to conserve the Gunnison sage grouse. The Gunnison Basin plan contemplates a minimum spring population goal of 867 males for a total of population of 2,601 grouse. The plan contemplates an "optimum" spring population goal of 1,200 males for a total of population of 3,600 grouse (GBCP 1997, p. 37). There are numerous problems with this scheme. First, although the plan acknowledges that the best scientific data now show that minimum viable population sizes of 5,000 are required to ensure against species extinction (GBCP 1997, citing Lande 1995), it does not incorporate this finding into its goals. Even the "optimum" of 3,600 birds is far short of an adequate population size, being only 72% of that number. The plan even acknowledges that in the past there may have been 10,000 birds in the Gunnison Basin, twice the number estimated in 1969 (GBCP 1977, p. 37). Thus, the 1969 population was already greatly reduced from its historic numbers and may have not been large enough to assure viability in any event. The San Miguel Basin plan does not contemplate that population size will reach that of a viable population from the already extremely small population present there (SMBCP 1998, p. 7). The San Miguel Basin plan hopes to achieve only 480 birds, even after 15 years. Even if it did achieve that goal, the genetic bottleneck effect found in small populations is likely to cause depressed reproductive success.

Second, the plans ignore effective population size ( $N_e$ ) arising from the variance in reproductive contributions among male birds. As discussed previously,  $N_e$  for sage grouse is far lower than that for populations with random mating. This is well established in the scientific literature, and even appears in undergraduate textbooks, yet the plans do not account for this factor in their goals, even though the GBCP acknowledges that inbreeding depression is likely in Gunnison sage grouse (GBCP 1997, p. 6). Oddly, the San Miguel Basin plan, although written later than the Gunnison Basin plan, does not even acknowledge the reduction in effective population size. Instead, the San Miguel Basin plan makes an error in the opposite direction: it assumes that actual population sizes will be larger than the counted population because there are about "2 females for every male" (SMBCP 1998, p. 6). But the studies it bases this assertion on are not cited. The Crawford Area Conservation plan repeats this estimate, asserting that "studies across western North America" have found this to be the approximate sex ratio in spring (CACP 1998, p. 2). But, again no citations to the literature are given, and sex ratios of 1:1 are more likely in adult, breeding populations that are not hunted. It is not appropriate to use spring breeding numbers in any event as not all those grouse will breed.

Third, the plans make optimistic assumptions about the relation of the numbers of grouse counted to the actual numbers. As explained in the Methodology section above, Jenni and Hartzler (1978) cautioned that evening counts at leks do not properly represent morning lek counts, yet the plans do not specify when lek counts will be made. Jenni and Hartzler (1978) also cautioned that hens visit multiple leks, multiple times, and thus

counts of hens will generate overly optimistic population estimates. Counts of males at leks will not correctly represent population sizes (Jenni and Hartzler 1978, yet the plans all assert that their census numbers are conservative estimates.

Fourth, the plans rely on spring population sizes only. Not all grouse will mate, and not all females will successfully raise broods. Thus, spring population size alone is not an adequate measure of population viability; instead, spring census estimates represent the maximum number of birds present including "floaters" and other surplus birds from an evolutionary standpoint.

Fifth, the plans incorrectly assume that if a certain number of birds are present in a vast geographic area such as the Gunnison Basin, then those birds exist in a single population linked by gene flow. It is highly unlikely, however, that the grouse in the Gunnison Basin are a single population. Instead, they are almost surely fragmented into numerous small population isolates. In discussing "population" goals, the plans make no allowances for effects of habitat fragmentation on the birds, and instead only call for "well distributed" lek areas (GBCP 1997, p. 37). It is not the distribution of lek areas that is the problem. As explained above, a major problem causing endangerment is the fragmentation of habitat causing fragmentation of populations into small, isolated groups of birds that no longer experience gene flow with other isolates. The plans have not adopted any goals to reduce habitat fragmentation, and thus will surely fail to conserve the Gunnison sage grouse.

The ineffectiveness of these conservation plans, and their inadequacy as regulatory mechanisms is evident when viewing what the advocates of these plans list as their accomplishments. For example, the table of accomplishments for the plans lists few on the ground actions to restore habitat or even arrest the imminent and ongoing threats to the bird (Gunnison Sage Grouse Conservation Plan Accomplishments 1998). Instead, the type of accomplishments listed in this table include such things as selling T-shirts, lecturing to kindergarten and elementary school students, paying ranchers not to graze small areas of the public's land, mapping vegetation, and printing color brochures. Most of these are fun and worthwhile activities, but rather than act to conserve the grouse, they merely distract from needed actions. As such, they could form a useful adjunct to recovery plans once the species is listed – they cannot substitute for a listing. Much hard work and negotiation has gone into these plans. Yet, far from assuring the conservation of the species, the Sage Grouse Conservation Plans are plans for extinction of the sage grouse, simply because they are so ineffective.

In general, all of these conservation plans read as though they were concocted to advocate for minimal effects on established interest groups, and to paint the rosier possible picture of the Gunnison sage grouse. The conservation plans do not present a sober assessment of the population status of the grouse, nor do they propose effective measures to arrest its alarming decline. In fact, at least some plans have "the potential for more harm than good" for sage grouse (Braun 2002a). This Plan identifies hunting, predators, and lack of grazing as threats, while it "turns a blind eye" to real threats, such as "housing developments, oil production, roads, timing of grazing, more fencing, more power lines, ... Tebuthiuron, etc." (Braun 2002a). The North Park "Conservation" Plan "will not do any good" (Braun 2002a). Conservation Plans for Gunnison sage grouse are better, but have come "too late for Dove Creek, Glade Park/Pinon Mesa, and Poncha Pass" (Braun 2002a).

Taken together, or considered separately, the conservation plans for the sage grouse are inadequate to conserve the species; because of their lack of enforceability and emphasis on protecting vested interests rather than protecting the grouse, they represent extinction plans for the sage grouse. Even worse, even if each conservation plan were completely effective, the extinction risk for the sage grouse would still be high. None of the conservation plans would provide connections among the isolated populations that are the subject of each individual plan. Thus, at best, the sage grouse would eventually consist of isolated and non-viable populations, each of which would then become extinct. As Storch (1997) noted in a study of several grouse species closely related to sage grouse: “attempts to stabilize a population below minimum viable population size will fail unless dispersal from neighboring populations occurs.” Unfortunately, “travel corridors for sage grouse throughout their range are becoming restricted” thus preventing gene flow among these scattered isolates (Braun 1999a, p. 3).

Ultimately, conservation plans are literally that – mere plans. Actions on the ground must be taken if sage grouse are to be conserved. Importantly, the success of these actions must be quantitatively monitored if the effectiveness of the actions is to be assessed. Yet, land management agencies and wildlife agencies do not have adequate data collected to determine whether planned actions would be effective or not. As Lord Kelvin (the 19<sup>th</sup> Century scientist who united heat theory) once said: “when you measure ... you know.” The converse is also true.