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# State of Nevada Assembly

**“Raven numbers have increased 1500% in areas of the western United States within an approximate 25 year time period.” – Idaho State University, 2005**

## RAVENS AND SAGE GROUSE

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**SAGE GROUSE DECLINE:** Populations of sage grouse have been in decline for several decades and “habitat loss” is as a rule blamed. Today they are being seriously considered for placement on the “endangered species” list by the Federal Government. Even in states with excellent habitat available – such as Nevada – bird numbers have shown a similar trend.

As several studies have noted adult sage grouse survival is generally not a problem. Recruitment – how many young birds join existing adult populations – has been documented to be poor. Consequently several recent studies, including two especially pertinent for Nevadans conducted in Elko County, have attempted to address why. “Predator control” is today a major topic of debate. The idea of removing predators, once the catch-all answer for downward trends in wildlife populations, is today regarded by college educated wildlife biologists as an anachronism, a holdover of a less educated past. Consequently most modern wildlife biologists seem to go to great lengths to avoid even discussing using predator control as a tool in their management arsenal. Yet, examples of predators having long term impacts can be substantial and documented. When for example a primary food source is supplied unintentionally by man, secondary food sources can suffer catastrophic declines without a corresponding decline in the predator’s population.

The increase in ravens in the western United States has been nothing short of phenomenal. A 300% increase in general has been noted, with 1500% increases documented in certain areas. Much of this increase has come about from man-supplied food sources.

This trend was noted in one of the Elko studies: *“Generalist predators [ravens] that reach high numbers in human altered habitats are of great concern because they can reduce prey populations [such as sage grouse] and these predators have been shown to continue depredating bird nests even at low prey densities.”*

In plain English, even when sage grouse decline sharply in numbers because the ravens are eating them, as long as the ravens have other food sources, the raven populations are not affected by the declines in sage grouse.

The impacts ravens have on sage grouse is in truth old news. A 1948 study conducted by the Oregon State Game Commission concluded: *“The greatest single limiting factor of sage grouse is nest predation by ravens. While other predators do contribute to their toll, this study showed that the raven was the single greatest limiting factor and the control of winged predators is an essential element in sage grouse management”*.

The 1948 Oregon study, in brief, had a “control” area in quality sage grouse habitat where raven populations were substantially reduced. Another very similar area was left alone with no raven removal. The results: *“Ravens again proved to be the chief limiting factor of sage grouse, and raven control the most feasible management method on increasing grouse populations. Five and five-tenths percent nesting success on an uncontrolled area as compared to a 51.2% success on an area where ravens and other avian predators were controlled is a strong indication of the raven’s effect on this species.”*

History repeats itself: the 2005 Elko study, conducted by Idaho State University, while couched in more “politically correct” jargon, reached very similar conclusions, again using the control/no control methodology: *“Sage grouse nest failure and observed raven predation of sage grouse nests were associated with indices of raven abundance...our findings should raise some conservation concern considering that raven abundance has increased an estimated 300% in the past 27 years in the United States including reports of 1500% increases within an approximate 25 year period in areas of the western United States”*.

Clel Georgetta, writing about the domestic sheep industry in his Western history classic “Golden Fleece in Nevada” made an interesting observation. Written in 1968, he stated *“The crow [raven] is a newcomer. He is not a native of the state. It is believed there was not a crow in all Nevada until after the First World War when automobiles began crossing the country. All along the road jackrabbits were killed by cars. The crows followed from one rabbit to the next one, all the way out west. Now Nevada has many thousands of crows and they form one of the greatest pests at lambing time.”*

Georgetta is wrong on no ravens in Nevada as their presence was well noted by the early immigrants for similar reasons – they followed the emigrant trail eating dead draft animals and livestock. Nevertheless his observation, from a man native to eastern Nevada, whose father was head of one of the pioneer ranching families of this State, shows they were very scarce.

Interestingly, the time frame he notes for the raven showing up in Nevada, WWI, which ended in 1918, matches almost exactly the date for an overall decline in sage grouse populations in the Oregon study mentioned earlier. They noted a gradual decline beginning in 1919 which continued to the years of their study, 1946-1947.

Incidentally, most people in Nevada, including myself, cannot distinguish a “crow” from a “raven” although they are two distinct species. Thus people like Georgetta lump them together.

**STUBBLE HEIGHT AND PREDATION:** One of the new theories on protecting sage grouse nests from avian predators is to leave “stubble”, i.e. unconsumed grass and weeds, among the sage brush plants sage grouse typically nest under to provide cover for the nests to be concealed in.

While sounding at first as plausible, this is probably the worst possible thing we could do, and I highly suspect the motive for pushing this particular pseudo-solution is a back-door attempt to remove livestock from the ranges.

It is a terrible idea in that if carried out, the fire danger would increase exponentially; the bulk of the grasses and forbs today are combined with cheatgrass or in reality are totally composed of cheatgrass. Once you start leaving the recommended minimum height of eight-inch-high dry cheatgrass stubble, you virtually guarantee fire will sweep through that sage brush community, destroying the habitat completely for sage grouse. In short, no sage, no grouse.

It should be noted as well that the peak historic sage grouse populations in Nevada, when descriptions of “clouds of birds” and “thousands of sage hen” were noted was also the time frame of unlimited and totally unrestricted grazing by - no exaggeration here - millions of sheep and hundreds of thousands of cattle and horses. If “stubble height” is so critical for protection, how did they survive and actually prosper in the very same time frame that by all accounts Nevada was so severely overgrazed?

The 2010 Elko study, again conducted by Idaho State University, discovered that increased stubble height actually **increased predation** of nests by non-avian predators. *“We also found that badger predation increased at nests with greater visual obstruction. [After ravens, badgers were found to be the most destructive predator of nests, eggs and young birds]. Other studies have found negative or no relationships between nest survival and grass height, grass cover, shrub height, canopy cover, understory cover, and species of nesting shrub”.*

In truth, not only does stubble increase fire danger, but aids additional predation as well. Hardly a well thought out “solution”.

In conclusion the logical steps to help restore sage grouse populations is to reduce raven numbers, by first doing what is practical, i.e. cover or destroy man-provided food sources; second to use selective predator control in key sage grouse habitat, probably through USDA provided professional trappers; and three, allowing and encouraging shooting and hunting seasons for crows, even possibly a bounty system of some type, while looking to get out of or get variances on the international 1918 Migratory Bird Treaty, which calls for raven protection.

To my recollection, crow hunting as a means of protecting sage grouse started in the 1980s. Idaho was one of the first states to legalize it. The obvious question: how can you tell unprotected crows from protected ravens?

My good friend Mike Meizel, an avid trapper and outdoorsman and former Chief of Buildings and Grounds for the State of Nevada, posed that question to an Idaho Game Warden in the late 1980s. This particular Warden, blessed with good old common sense and aware of the damage ravens were causing, wryly noted “crows are the ones that hit the ground”!

Beware of the simplistic response you will get from certain biologists when raven removal is suggested. “Yes” they will say, “we know ravens eat the eggs and removal helps with that but the *problem* is the *juveniles* that survive past nesting are not surviving to full adulthood. Something in the *habitat* is the problem.”

Ok, then what is that *problem* specifically? The tangible discussion typically ends about there and a series of nebulous theories – none of which seem to focus on the likelihood of *additional predation* – takes over. Not a single study I have read has suggested

starvation as the cause of juvenile grouse not making it to full adulthood. In fact food studies for sage grouse state the opposite; there is a bit of a mystery why there are not many times more grouse as the studies show they eat only token amounts of their potential food supply. "Habitat" per se is NOT the problem.

Currently thanks to the mental roadblock the words "predator control" causes among most of today's wildlife biologists, virtually every possible scenario, no matter how outlandish or poorly thought out, is placed ahead of predator removal on the "to-do" list. Indeed, several proposals call for removing from the public domain sage grouse population enhancement tools, most notably livestock grazing and agriculture despite strong evidence these greatly increased sage grouse populations in Nevada.

As I have documented in other papers, sage grouse were all but non-existent when white man first arrived in Nevada. Following the introduction of landscape modifying and landscape enhancing changes, especially the introduction of the livestock range industry and all that came with it – including predator control - sage grouse populations exploded.

Based on early explorer journals describing Indian diet and wildlife they observed, two of my earlier reports detailed the fact Nevada had next to no sage grouse comparatively speaking. For additional facts based on Indian diet, I have completed a careful review of Julian Steward's 1938 report on Indian practices, including food sources, before white contact. Taken from interviews Steward did with older Indians in the 1920's and 30's, and covering virtually all of Nevada, it is a wealth of first hand information from the Indians themselves and the results on sage grouse will be of interest to those seeking facts rather than fables presented by some about the "good old days!"

I will report on that soon. I will also be reporting on the impacts on sage grouse populations caused by crested wheat seedings.

Please feel free to contact me about any aspects of these reports, copies of past reports and feel free to circulate them as you see fit.

In the meantime, we need to give raven removal a strong seat at the "save the sage grouse" table. I strongly believe that not only can we stop the decline in their populations, but using the past as our guide, begin rebuilding. Nevada could be a model for enhancing sage grouse populations. We simply need the leadership to boldly experiment and challenge the bureaucratic choke-hold on methodology. Rather than wringing our hands over "saving" some token remnant, why don't we focus on what works?

Sincerely,  
Assemblyman Ira Hansen  
District 32