

## Greater Sage-grouse Conservation

### Background

According to a 2021 U.S. Geological Survey study,<sup>1</sup> Greater Sage-grouse (“sage-grouse”) populations across the West have declined significantly over the past six decades, dropping 80% since 1965, and another 40% since 2002. The decline of sage-grouse populations has spurred certain individuals and organizations to again call for the listing of this iconic sagebrush steppe species under the Endangered Species Act. This is in spite of the fact that, according to the 2015 findings of the U.S. Fish and Wildlife Service (FWS), the sage-grouse “remains relatively abundant and well-distributed across the species’ 173-million-acre range and does not face the risk of extinction now or in the foreseeable future.”<sup>2</sup> Humboldt County concurs with the FWS’s findings. Furthermore, while it is clearly necessary to stabilize declining sage-grouse populations, it is also critical 1) to understand the historical context of sage-grouse population fluctuations to ensure sage-grouse population targets are *achievable* and *sustainable*, and 2) to assimilate the most recent scientific research into ongoing conservation efforts.

Sage-grouse conservation must be scientifically grounded, outcome oriented, and practical. The inflated populations of sage-grouse of the 1880s and the mid-20<sup>th</sup> century—attained during the era of aggressive predator eradication—cannot today be reproduced and did not in any case reflect a natural balance in the sagebrush steppe ecosystem. To a significant extent, though not entirely, the decline noted in sage-grouse populations from the 1950s to the present must be credited to a natural rebalancing of the sage-grouse population as predators were allowed to reestablish.<sup>3</sup> Yet continually declining numbers clearly indicate there are more pressures on sage-grouse that need to be addressed. Major threats to sage-grouse survival—wildfire, spread of invasive vegetative species, unremediated development and habitat fragmentation<sup>4</sup>—must be differentiated from perceived threats that are the product of presumption or bias. Notably, current range science is now revealing that effective conservation of the sage-grouse is not achieved by attempting to manage at the “micro-” level of stubble heights and individual nesting sites, but at the landscape level. Productive conservation approaches must therefore refocus on a

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<sup>1</sup> Coates, P.S., Prochazka, B.G., O’Donnell, M.S., Aldridge, C.L., Edmunds, D.R., Monroe, A.P., Ricca, Gregory, M.A., Wann, T., Hanser, S.E., Wiechman, L.A., and Chenaille, M.P. Range-wide Greater Sage Grouse Hierarchical Monitoring Framework: Implications for Defining Population Boundaries, Trend Estimation, and a Targeted Annual Warning System. U.S. Geological Survey Open File Report 2020-1154, 2021.

<sup>2</sup> “The status review conducted by the Service has found that the greater sage-grouse remains relatively abundant and well-distributed across the species’ 173-million acre range and does not face the risk of extinction now or in the foreseeable future. The Service’s decision follows an unprecedented conservation partnership across the western United States that has significantly reduced threats to the greater sage-grouse across 90 percent of the species’ breeding habitat. The Service has determined that protection for the greater sage-grouse under the Endangered Species Act is no longer warranted and is withdrawing the species from the candidate species list.” <https://www.fws.gov/greatersagegrouse/findings.php>

<sup>3</sup> And—in the case of corvids—to subsequently exceed their populations in the 1960s by an estimated 1500% in certain parts of the West. See FN 37.

<sup>4</sup> “Habitat loss, due to wildfire, development, and fragmentation are the most significant threats to the greater sage-grouse...” Department of Interior Manual 604 DM 2: Conservation and Restoration of the Sagebrush Biome, p. 1.

“macro-” issues: Fire resistant and resilient landscapes, control and eradication of invasive vegetation, targeted control of inflated predator populations, and maintaining and restoring intact sagebrush landscapes.

Humboldt County has further found that locally tailored and executed conservation efforts, as opposed to one-size-fits-all federal dictates, prove a more effective means of conserving this species and are essential for recruiting voluntary landowner support. The County supports the 2018 Nevada Greater Sage-Grouse Conservation Plan,<sup>5</sup> the Nevada Conservation Credit System, the Northwest Nevada Sage Grouse Working Group, and voluntary landowner conservation tools such as CCAs and CCAAs and the NRCS Working Lands for Wildlife conservation programs. Only with federal, state, and local stakeholder cooperation can we ensure that the sage-grouse, the sagebrush ecosystem, and local communities that depend on public lands all have healthy and productive futures within Humboldt County.

1. Historical Context:

A. Pre-Settlement:

The earliest records of wild game in Humboldt County and the surrounding region come from the trapping era between 1828-1840 in the journals of Jedediah Smith, Peter Skeen Ogden, John Work, and others. Later, between 1843-1864, explorers and leaders of military expeditions and surveys—Capt. John C. Fremont, Capt. E.G. Beckwith, Capt. James H. Simpson, Col. C.S. Drew, etc.—also recorded extensive information about native wildlife and game. According to “Enhancing Sage Grouse Habitat: A Nevada Landowner’s Guide,” Northwest Nevada Sage Grouse Working Group:

“[a] review of historic information in personal journals, newspapers and publications by Robert McQuivey, retired Nevada Division of Wildlife biologist of Reno, Nev., found few references of abundant sage grouse during exploration and emigration in the 1840s and 1850s or early settlement following 1860. More common was recording of game scarcity.”<sup>6</sup>

It has been observed that Fremont, Beckwith, Simpson, and Drew all noted the existence of either “sage cock” or “sage hen” in northern Nevada, but their sightings of sage-grouse were seldom and sage-grouse were never reported in abundance. To the contrary, prior to settlement a general privation of game in the Humboldt County region was widely recorded, leading several expeditions to slaughter and eat their horses, indicating that sage-grouse were not an abundant or readily available food source at that time.

In the years 1867-1872, Clarence King lead a scientific expedition across the 40<sup>th</sup> parallel, from the Sierra Nevada to the western slope of the Rockies, crossing much of what is now Humboldt County in 1867-1868. The expedition recorded not only the geological and topographical character of the northern Great Basin, but also closely

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<sup>5</sup> With certain exceptions. See FN 27.

<sup>6</sup>Klebenow, D., “Enhancing Sage Grouse Habitat: A Nevada Landowner’s Guide.” Northwest Nevada Sage Grouse Working Group, 2002.

examined the animal and plant life of the region. Zoologist Robert Ridgeway produced an ornithological report as part of the official *Report of the Geological Exploration of the 40<sup>th</sup> Parallel*,<sup>7</sup> where he wrote of the sage-grouse:

“...we saw it so seldom that little was learned of its habits, particularly during the breeding season. It came under our notice only late in the summer and during the autumn, when it was found to be abundant in certain localities, but by no means uniformly distributed.”<sup>8</sup>

#### B. Settlement and Grazing:

The first cattle herds were driven into northwest Nevada to graze during California’s drought of 1862-63. The post-Civil War years then saw rapid growth in the numbers of cattle and sheep in Humboldt County. By the 1880s, the multi-state Miller and Lux operation was grazing cattle on millions of acres across northern Nevada including Humboldt County, with many smaller family ranches establishing in the area, as well. From the late 1920s through the mid-20<sup>th</sup> century, cattle numbers fluctuated between lows of 47,000+ (1920s) to a high of over 89,000 (1964).<sup>9</sup>

While it is now widely recognized that the era of unregulated grazing caused damage to the range, it also introduced changes to the landscape that may have favored sage-grouse populations in many areas: water development, removal of high, dense sage brush and establishment of irrigated meadows (creating a mosaic of different vegetation heights and types), a potential increase in the forbs<sup>10</sup> and diverse insect species that form an essential part of the sage-grouse chicks’ spring diet, and predator control.

“Since about 1860, settlement led to changes in plant communities that favored increased sage grouse populations. Some populations grew during the 1870s with increased reports of birds harvested by hunters. During the 1880s, sage grouse numbers probably reached their highest peak and then declined. During that era, market hunting also peaked. Hunting laws began around 1890 with liberal seasons and bags.”<sup>11</sup>

#### C. Predator Control:

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<sup>7</sup> Vol. IV, Part III. Government Printing Office. Washington D.C., 1877.

<sup>8</sup> As quoted in Klebenow, 2002.

<sup>9</sup> Smith, R.C., McGuckian Jones, P., Roney, J.R., Pedrick, K.E. Prehistory and History of the Winnemucca District: A Cultural Resources Literature Review. Bureau of Land Management, Cultural Resources Series No. 6., 1983, pp. 142-3.

<sup>10</sup> A 1985 study on the Sheldon Wildlife Refuge demonstrated a positive relationship between cattle grazing on meadows and the presence of sage grouse as a result of increased forb production. See Evans, C. The relationship of cattle grazing to sage grouse use of meadow habitat on the Sheldon National Wildlife Refuge. M.Sc. Thesis, University of Nevada, Reno. 1985.

<sup>11</sup> Klebenow, 2002, p. 2.

“Predator control” is a misnomer. From the late 1800s through the mid-20<sup>th</sup> century, the United States Government was implementing a policy of wholesale extermination of “noxious animals” across the West, with extinction of many species being the stated aim. Governments offered bounties to the public for the carcasses of dead crows and ravens, hawks, eagles, owls, small fur-bearing mammals, coyotes, fox, wolves, mountain lions, and bear, as well as employing government trappers and hunters. Between 1885 and 1895, \$26,831 (approximately \$820,000 today) for predator bounties were distributed in Nevada alone,<sup>12</sup> an extraordinary amount considering that corvids like magpies were commonly bountied at .10 cents a head.<sup>13</sup>

The following statement in the USDA *Yearbook of Agriculture* (1896) gives a sense of the wholesale, systematic approach the federal government took to predator control:

“Any scheme intended to bring about the extermination of a species must fulfill certain conditions before it can prove successful in practice: (1) It must be applied over a wide area practically covering the range of the species, otherwise the animals will increase in the unprotected region; (2) it should be uniform (i.e., the [bounty] rates should be the same) in all localities; (3) it should provide some inducement for carrying out its provisions; (4) it should be economical, for if expensive, the cost will exceed the losses which it seeks to avert; (5) it should provide so far as possible against fraud or the misappropriation of public funds,”<sup>14</sup> (brackets added).

The USDA Division of Biological Survey was the federal agency specifically tasked with carrying out the predator eradication policy. Its remit included employing trappers, distributing bounties, and providing poisons like strychnine for “lacing” carcasses; in some states, strychnine was distributed for free or could be obtained cheaply at local drug stores. Hosts of poisoned scavenging birds and predators could be found surrounding strychnine-laced cow and horse carcasses.

In 1915 and after, repeated rabies epidemics spread by wild animals to cattle, domestic dogs, and humans caused increased urgency in the predator extermination regime:

“In 1915, according to the United States Biological Survey, epizootics, or severe outbreaks, among wild animals, especially coyotes, appeared in Oregon, California,

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<sup>12</sup> T.S. Palmer, “Extermination of Noxious Animals by Bounties,” in U.S. Dept. of Agriculture *Yearbook of Agriculture*, 1896. Washington D.C., 1897, p. 55-68.

<sup>13</sup> “Crows, ravens, magpies, kingfishers, pelicans, cormorants, herons, gulls, great horned owls, golden eagles, wolves, coyotes, bobcats, lynx and cougar were unprotected and killed indiscriminately year around. Actually wolves were eliminated before 1939 but remained classified as predators. Winter loss of big game was still attributed to the abundance of predators on winter range. Relating to upland bird predation, crow and magpie roost rookeries were dynamited and the birds were pen-trapped and bounties were paid. In 1940, 55,675 magpies were bountied and 143,250 in 1941. As a teenager then I raided many a magpie nests in the Lower Payette at two-cents a head. The magpie bounty was paid through 1950 with adult magpies bringing ten-cents a head.” Morache, M. Idaho Fish and Game Dept. (retired). Fifty Years of Game Management (1938-1988) in Idaho.

<sup>14</sup> Palmer, 1896, p. 56.

Nevada, and Idaho. In one feed lot alone, a single rabid coyote bit and caused the loss of 27 steers. There were further outbreaks in 1921 to 1928, and more or less serious outbreaks have been reported since that time... The problem of the control of rabies in wildlife has aspects different from those in the control of rabies in dogs. As the first step, it is necessary to reduce the number of wild animals in the area, particularly the affected species, by trapping, poisoning, and other means. Effective cooperation between Federal, State, and local agencies and the public at large is an essential feature of control of the disease.”<sup>15</sup>

Later developments in predator eradication included the M44 gun trap, which “blew up when a predator bit the bait, the gun firing a cyanide shell directly into the animal's mouth,”<sup>16</sup> strychnine-laced fat cubes used to seed roadkill and other carcasses, and wide-spread use of sodium monofluoroacetate (“Compound 1080”). Use of these products across the sage grouse’s range began declining in the early 1960s and ended with the general ban on systematic predator control by President Richard Nixon in 1972.<sup>17</sup>

#### D. Boom and Bust:

The effect of changes in the sage-grouse’s habitat due to anthropogenic influences, in addition to the sage-grouse’s naturally cyclical population changes, has clearly been one of boom and bust. According to Klebenow, sage-grouse numbers exploded in the late 1800s, peaking in the late 1880s, then declined for several decades before hitting another peak in the 1950s.<sup>18</sup> Consistent with this narrative, Hornaday (1916)<sup>19</sup> clearly indicates that the pressure of excessive hunting was causing steep declines in sage-grouse numbers by the early 20<sup>th</sup> century. Notably, in 1916, Nevada had a four and a half month grouse hunting season, starting in mid-July when chicks were only just able to fly. Nevada’s daily bag limit was ten birds. Other states had even higher bag limits—South Dakota topped the list with a daily bag limit of 25 birds (over a one-month season). Colorado was second with a twenty bird a day limit (over a one-month season). Idaho allowed

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<sup>15</sup> Shoening, H.W. *USDA Yearbook of Agriculture, 1942*, Washington D.C. Printing Office, p. 111.

<sup>16</sup> Gulliford, A., *Looking Back on a Century of Poisoning Predators*, High Country News, Nov. 14<sup>th</sup>, 2015.

<sup>17</sup> See Executive Order 11643, “Environmental Safeguards on Activities for Animal Damage Control on Federal Lands.”

<sup>18</sup> “Since about 1860, settlement led to changes in plant communities that favored increased sage grouse populations. Some populations grew during the 1870s with increased reports of birds harvested by hunters. During the 1880s, sage grouse numbers probably reached their highest peak and then declined. During that era, market hunting also peaked. Hunting laws began around 1890 with liberal seasons and bags. As time passed and bird populations decreased, there were reductions of hunting seasons length and bag limits beginning around 1900, continuing until the late 1920s. More recently, sage grouse numbers peaked in the 1950s followed by a general and continued decline in numbers.” Klebenow, 2002.

<sup>19</sup> Hornaday, W.T., *Save the Sage Grouse from Extinction: A Demand from Civilization to the Western States*. Permanent Wildlife Protection Fund, Bulletin No. 6. New York Zoological Park, December 1, 1916, pp. 185-7.

twelve birds a day (over a 3 ½ month season). The introduction of the automobile also allowed many more hunters to access sage-grouse areas, and automobiles themselves were liberally used as tools to flush sage-grouse. Bird mortality was also significantly increased by the introduction of the repeating shotgun. In contrast to the extraordinary bag limits and seasons widely in use, Hornaday recommended that the most hunting a stabilized sage-grouse population could withstand was a bag limit of three birds a day over a two-week season beginning in September. However, he recommended a six-year halt on all hunting to ensure populations restablized. Otherwise,

“[i]n several of the states still inhabited by sage grouse, that species unquestionably is in great danger of extinction in the very near future.”<sup>20</sup>

Pleas in the early 1900s like Hornaday’s for protection of the sage-grouse preceded a near prohibition on sage-grouse hunting throughout the 1930s and 40s, with only scattered hunts through the 1950s. In a survey of sage-grouse hunting laws from the late 1800s onward, Dinkins et. al. observe:

“Our summary shows that state and provincial wildlife agencies, in response to scrutiny over declining sage-grouse populations, took extreme efforts to reduce hunting seasons during the 1930s and 1940s and again started a continually more conservative approach to hunting seasons from the mid-1980s, especially 1995, onward.”<sup>21</sup>

The multi-decade ban on sage-grouse hunting across all of its range, coupled with an ongoing predator eradication program, provides explanatory context for the second population boom of the sage-grouse in the mid-twentieth century noted by Klebenow as well as by Crawford (1985).

“[F]rom the late 1950’s (*sic*) to the early 1980’s spring (males / lek) and summer (birds / 16 km) indices to abundance declined 58% and 63% respectively (Table 1). There was a major decline during the mid-1940’s, followed by a peak population in 1949. Similar population changes were reported in a number of other states during this decade (Edminster, 1954).”<sup>22</sup>

## E. Historical Summary

The point of the foregoing history is not to argue for a return to systematic predator extermination or for a return to unregulated grazing, both of which Humboldt County oppose. However, it is critical that, in approaching sage-grouse conservation, federal, state, and local land managers have a clear and unbiased understanding of the historical context of sage-grouse population boom and bust cycles. Contrary to what some have suggested, sage-grouse were clearly not abundant at the time of the arrival of Anglo-

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<sup>20</sup> *Id.*, p. 208.

<sup>21</sup> Dinkins, Jonathan B., Courtney J. Duchardt, Jacob D. Hennig, and Jeffery L. Beck. *Changes in Hunting Season Regulations (1870-2019) Reduce Harvest Exposure on Greater and Gunnison Sage-Grouse*. PLoS One, 10(16): e0253635. Oct. 5<sup>th</sup>, 2021.

<sup>22</sup> Crawford, J.A., Lutz, R.S., *Sage Grouse Population Trends in Oregon, 1941-1983*. The Murrelet, Vol. 66, No. 3. Autumn 1985, pp. 69-74.

American settlers. Moreover, far from experiencing a gradual, steady decline since the introduction of cattle grazing and settlement, the sage-grouse experienced two major boom and bust cycles interspersed with natural cyclical fluctuations. Both population highpoints (1880s and 1949) were concurrent with settlement, widespread grazing, and aggressive predator eradication. The crash of sage-grouse numbers in the early 20<sup>th</sup> century was concurrent with extremely aggressive and almost entirely unregulated hunting.

Several lessons may be drawn from this history. First, sage-grouse populations should not be expected to return to the inflated populations levels of the 1880s or the mid-20<sup>th</sup> century when the ecosystem was stripped of predators; predator eradication is widely recognized to strongly favor inflated populations of avian prey species.<sup>23</sup> Second, the correlation between the presence of cattle grazing and periodic high sage-grouse populations must be noted and factored into future conservation strategies. While unregulated or improper grazing is not ecologically sustainable, the historic ability of sage-grouse to thrive in the presence of wide-spread cattle grazing cannot be ignored. Politically motivated biases against cattle grazing must give way to clear-sighted approaches that identify primary threats to sage-grouse survival and acknowledge the potential benefits of properly managed cattle grazing to control fire, reduce invasive vegetation, maintain open space, and provide the necessary mosaic habitat, water, and food sources (arthropods and forbs) sage-grouse require to thrive.

## 2. Livestock Grazing and Sage Grouse

### A. Recent Scientific Developments:

Since 2010, the USDA's NRCS Sage Grouse Initiative (SGI)<sup>24</sup> has been at the forefront of developing and communicating new science aimed at protecting sage-grouse with a focus on landscape-scale conservation. In their recent publication *A Decade of Science Support in the Sagebrush Biome*, SGI has documented important developments pertaining to the effects of cattle grazing on sage-grouse survival.

For many years, one common assumption among biologists and land managers was that livestock grazing negatively affected sage-grouse by reducing grass cover around nesting sites, leaving nests more vulnerable to predators. Consequently, many agencies (including the BLM in its

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<sup>23</sup> See Smith, R.K., Pullin, A. Stewart, G.B., Sutherland, W.J. *Effectiveness of Predator Removal for Enhancing Bird Populations*. *Conservation Biology* 24(3): 820-9, June 2010.

<sup>24</sup>“One excellent demonstration of the benefit of the application of research and science to management, in the context of our efforts to conserve the greater sage-grouse, has been the success of the NRCS Sage-Grouse Initiative (SGI). Land managers, landowners, and other stakeholders rely on scientific information to improve their ability to reduce the threat of fires and restore rangeland habitats. Considerable research is underway to address rangeland health, habitat, and fire effects. Successful application of that science in the field is crucial to enhance and improve success across the landscape in fuels management, rehabilitation, and restoration efforts.” *An Integrated Rangeland Fire Management Strategy: Final Report to the Secretary of Interior*. May, 2015, p. 16.

Habitat Assessment Framework or “HAF”)<sup>25</sup> recommend bunch grass “stubble height” minimums (typically 18 cm) and other metric limits to cattle grazing usage based on the “Connelly Guidelines”<sup>26</sup> for fine-scale nesting habitat.<sup>27</sup> However, more recent studies indicate that specific grass height around nesting sites is a weak indicator for nest success at a landscape scale. According to a summary of these studies by the NRCS:

“...coproduced science does not always yield anticipated outcomes, but forces conservationists to think differently about perceived threats. Such was the case when pastures rested from domestic grazing did not benefit sage grouse populations as originally hypothesized.<sup>28,29</sup> Outcome assessments found no evidence that rest from grazing ( $\geq 12$  months) increased daily nest survival rates. Rotational grazing systems and rest had negligible effects on herbaceous vegetation height and cover relative to other grazing strategies. Nest survival was comparable to range-wide averages, suggesting concealing cover for nests is unlikely to be limiting population growth regardless of grazing strategy. In response, the USDA’s Natural Resources Conservation Service (NRCS) adjusted the delivery of conservation practices to de-emphasize financial incentives for extended rest within rotational grazing systems.”<sup>30</sup>

Additionally, an entomological study carried out on the same landscapes “showed arthropods consumed by sage grouse were twice as prevalent in grazed shrublands than in nearby pastures that had been idled without domestic grazing for more than a decade,”<sup>31</sup> suggesting the presence of cattle has a positive effect on the availability of insects which form an essential component of the diet of early-stage sage-grouse chicks.

Beyond finding that fine-scale vegetative “requirements” widely incorporated into management policies (like those of the BLM and Forest Service) are poor predictors of sage-grouse nest success, the NRCS has further noted that the most widely-used metric for sage-grouse

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<sup>25</sup> Stiver, S., Rinkes, E.T., and Naugle D.E. Sage-Grouse Habitat Assessment Framework: Multi-scale Habitat Assessment Tool. August, 2010, p. II-13.

<sup>26</sup> Connelly, J. W., M. A. Schroeder, A. R. Sands, and C. E. Braun. 2000. Guidelines to manage sage grouse populations and their habitats. *Wildlife Society Bulletin* 28(4):967-985.

<sup>27</sup> At the time the Nevada Greater Sage-Grouse Conservation Plan was drafted, the shortcomings of 18-cm metric as an objective for perennial bunchgrass stubble height were not yet known, and were therefore incorporated into the Plan. Due to more recent scientific developments that have shown this metric to be of little to no use in predicting nest success, Humboldt County does not support or agree with the Nevada Greater Sage-Grouse Conservation Plan’s use of this outdated data.

<sup>28</sup> Smith, J.T., J.D. Tack, L.I. Berkeley, M. Szczypinski, and D.E. Naugle. 2018. Effects of rotational grazing management on nesting greater sage-grouse. *Journal of Wildlife Management* 82:103–112.

<sup>29</sup> Smith, J.T., J.D. Tack, L.I. Berkeley, M. Szczypinski, and D.E. Naugle. Effects of livestock grazing on nesting sage grouse in central Montana. 2018. *Journal of Wildlife Management* 82:1503–1515.

<sup>30</sup> A Decade of Science Support in the Sagebrush Biome, USDA NRCS, 2021, pp. 15-16.

<sup>31</sup> *Id.*, pp. 16-17. See Goosey, H.B., J.T. Smith, K.M. O’Neill and D.E. Naugle. 2019. Ground-dwelling arthropod community response to livestock grazing: Implications for avian conservation. *Environmental Entomology* 48:856–866.

conservation—perennial bunch grass stubble height (typically 18 cm)—has been overemphasized due to a confirmation bias built into many previous studies. A meta-analysis looked at existing datasets covering >800 sage-grouse nests from three independent studies across the sage grouse’s range. According to the NRCS, the study shows that “commonly used methodologies are inherently biased, misrepresenting the relationships between habitat structure and sage grouse nest success.”<sup>32</sup>

Specifically, the meta-analysis determined that:

- ❖ “A growing body of the literature has found that widely used field methods can produce misleading inference on the relationship between grass height and nest success;”
- ❖ “Specifically, it has been demonstrated that measuring concealment following nest fate (failure or hatch) introduces a temporal bias whereby successful nests are measured later in the season, on average, than failed nests;”
- ❖ “Correcting for phenology produced equivocal relationships between grass height and sage-grouse nest survival. Viewed in total, evidence for a ubiquitous biological effect of grass height on sage-grouse nest success across time and space is lacking. In light of these findings, a reevaluation of land management guidelines emphasizing specific grass height targets to promote nest success may be merited.”<sup>33</sup>

A second range-wide meta-analysis corroborated these findings, showing that grass height around nests is a weak indicator of nest selection, and has no relationship with nest success:

“None of the tested vegetation characteristics were related to variation in nest success, suggesting nesting habitat–fitness relationships have been inappropriately extrapolated in developing range-wide habitat management objectives. Our findings reveal surprising flexibility in habitat use for a species often depicted as having very particular fine-scale habitat requirements, and cast doubt on the practice of adopting precise management objectives for vegetation structure based on findings of individual small-scale field studies.”<sup>34</sup>

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<sup>32</sup> A Decade of Science Support in the Sagebrush Biome, USDA NRCS, 2021, p. 17.

<sup>33</sup> Smith, J.T., J.D. Tack, K.E. Doherty, B.W. Allred, J.D. Maestas, L.I. Berkeley, S.J. Dettenmaier, T.A. Messmer, and D.E. Naugle. 2018. Phenology largely explains taller grass at successful nests in greater sage–grouse. *Ecology and Evolution* 8:356–364. See also: Gibson, Daniel, E.J. Blomberg, & J.S. Sedinger. Evaluating vegetation effects on animal demographics: the role of plant phenology and sampling bias. *Ecology and Evolution* 2016; 6(11): 3621–3631. See also: Written Testimony of Dr. David E. Naugle, Professor, Representing Wildlife Biology Program, University of Montana Missoula, MT, Before the House Committee on Natural Resources - Subcommittee on Federal Lands. *The Essential Role of Livestock Grazing on Federal Lands and its Importance to Rural America*, July 12, 2018.

<sup>34</sup> Smith, J.T., Allred, B.W., Boyd, C.S., Carlson, J.C., Davies, K.W., Hagen, C.A., D.E. Naugle, A.C. Olsen, and J.D. Tack. 2020. Are sage–grouse fine–scale specialists or shrub–steppe generalists? *Journal of Wildlife Management* 84:759–774.

## B. Proper Grazing as a Conservation Tool

Humboldt County supports properly-managed cattle grazing as a sage-grouse conservation tool (see Chapter XX Rangeland Health; Chapter XX Wildfire Prevention and Management). Proper grazing can support conditions that favor sage-grouse survival by creating mosaic landscapes, promoting the growth (and regrowth) of forbs and a diverse population of arthropods, and providing water and wet meadow environments. Grazing also helps to maintain fire resistant and resilient landscapes by controlling fine fuels and invasive vegetation,<sup>35</sup> while ranchers themselves are critical partners in early wildfire response and private land conservation. Humboldt County’s position supporting properly-managed grazing as a sage-grouse conservation tool is consistent with the findings of the U.S. Fish and Wildlife Service:

“Livestock grazing is the most widespread land use in the sagebrush ecosystem. Improper grazing (by domestic livestock and free-roaming horses and burros) can have negative impacts to sagebrush and greater sage-grouse at local scales. However, in 2010, the Service did not find that this was a principal factor affecting the status of the species. Livestock grazing may positively or negatively affect the structure and composition of greater sage-grouse habitat, depending on the intensity and timing of grazing, and local climatic and ecological conditions. Properly-managed grazing may benefit greater sage-grouse by maintaining perennial vegetation that provides important food and cover for greater sage-grouse and by helping to control invasive annual grasses and woody plant encroachment...”<sup>36</sup> (emphasis added).

These findings corroborate a 2011 literature review in which Davies et al. concluded:

“[M]oderate levels of grazing with periods of rest and/or growing season deferment do not negatively impact sagebrush plant communities (West et al., 1984; Courtois et al., 2004; Manier and Hobbs, 2006). Properly managed livestock grazing can also decrease risk, size, and severity of wildfires (Diamond et al., 2009; Davies et al., 2010a) and thereby decrease the risk of post-fire exotic annual grass invasion (Davies et al., 2009). Though appropriately managed grazing is critical to protecting the sagebrush ecosystem, livestock grazing per se is not a stressor threatening the sustainability of the ecosystem. Thus, cessation of livestock grazing will not conserve the sagebrush ecosystem.”<sup>37</sup>

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<sup>35</sup> Davies, K. et al., *Long-term moderate livestock grazing reduces the risk, size, and severity of wildfires*. Oregon State University Beef Research Report, 15-17 (2010); Diamond, J.M., *Effects of targeted cattle grazing on fire behaviour of cheatgrass-dominated rangeland in the northern Great Basin, USA*. International Journal of Wildland Fire, 944-950 (2009); Davies, K. W., T.J. Svegear, J.D. Bates. 2009. *Interaction of historical and non-historical disturbances maintains native plant communities*. Ecological Applications 19:1536-1545; Davies, K.W., J.D. Bates, T.J. Svegear, C.S. Boyd. 2010. *Effects of long-term livestock grazing on fuel characteristics in rangelands: an example from the sagebrush steppe*. Rangeland Ecology & Management 63:622-669.

<sup>36</sup> <https://www.fws.gov/greatersagegrouse/findings.php>

<sup>37</sup> Davies, K., Boyd, C., Beck, J., Bates, J., Svegear, T., & Gregg, J. (2011). *Saving the Sagebrush Sea: An Ecosystem Conservation Plan for Big Sagebrush*. Biological Conservation. 144:2573-2584, p. 2575.

Humboldt County also notes that Executive, Secretarial, and Interagency mandates have identified active management of sagebrush steppe landscapes—including managed grazing—as a primary tool for reducing the likelihood, size, and intensity of wildfire:

- ❖ “It is the policy of the United States to protect people, communities, and watersheds and to promote healthy and resilient forests, rangelands, and other Federal lands by actively managing them through partnerships with States, tribes, communities, non-profit organizations, and the private sector.” (E.O. 13855)
- ❖ The Secretaries of Interior and Agriculture are directed to:  
“Develop recommended actions and incentives to expand uses, markets, and utilization of forest products resulting from restoration and fuel reduction projects in forests, rangelands, and other Federal lands...” (E.O. 13855)
- ❖ “[A]ll Department land use plans ... (collectively, “Land Management Plans”) that are currently under revision, and all future Land Management Plans, shall incorporate, as appropriate, the principles of active management to facilitate wildfire prevention, suppression, and recovery planning measures...” (Sec. Order 3372).
- ❖ “As Bureaus and appropriate offices incorporate wildfire best management practices into their Land Management Plans, they shall incorporate the use of any land and vegetation management techniques that are appropriate for the landscape, produce the desired result of reducing fuel loads, and are supported by the best available science.” (Sec. Order 3372).
- ❖ “Fire Management and Ecosystem Sustainability: The full range of fire management activities will be used to help achieve ecosystem sustainability, including its interrelated ecological, economic, and social components. “Full range of fire management activities” may include any vegetative management treatment.” (Interagency Guidance,<sup>38</sup> p. 10.)

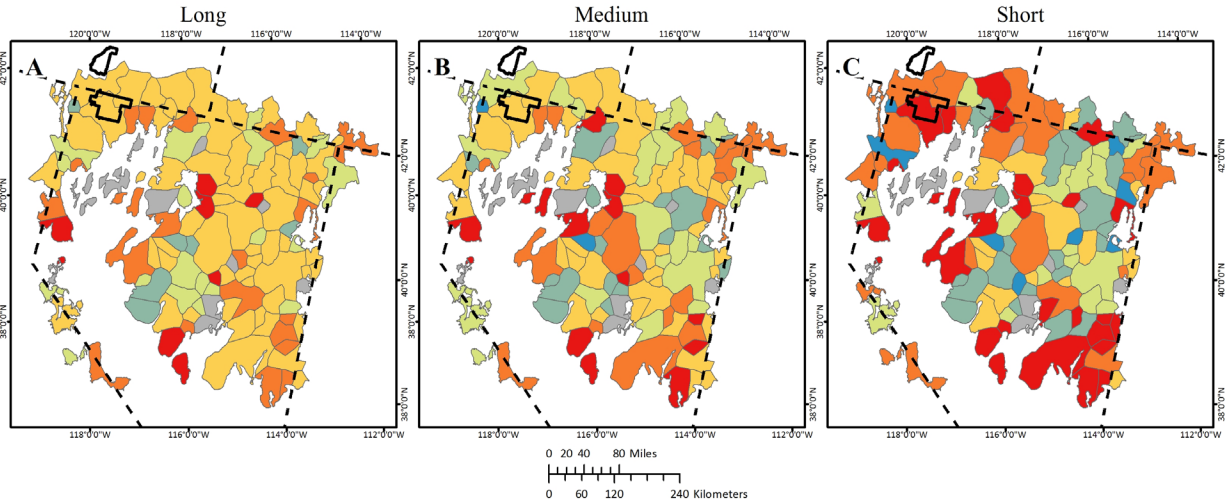
### C. Case Study: Sheldon Wildlife Refuge

The false contention that properly-managed cattle grazing significantly contributes to declining sage-grouse numbers—despite extensive evidence to the contrary—has persisted due to a desire in certain communities to use the general sage-grouse population decline as a false pretext for eliminating grazing on western landscapes. Perhaps nowhere is this guileful contention shown to be more misguided than on the Sheldon National Wildlife Refuge, located primarily in Humboldt County. Cattle were permanently removed from the Refuge in 1994 after being present on this landscape for over 100 years. Today, after 27 years of rest and “recovery” from cattle grazing, the Sheldon Wildlife Refuge—and also the nearby Hart Mountain Refuge in Oregon, from which grazing was permanently removed in 1991—represent ideal laboratories for confirming or denying the claim that modern cattle grazing is negatively impacting sage-grouse populations.

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<sup>38</sup> Guidance for Implementation of Federal Wildland Fire Management Policy (Applies to all federal agencies. Interagency Wildland Fire Leadership Council. Feb. 13, 2009.)

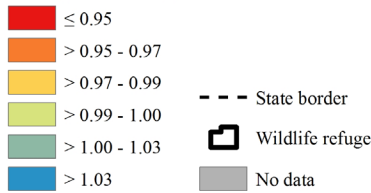
# Humboldt County Policy Plan for Public Lands – Sage Grouse Conservation - APPROVED



**Modified from Coates et al. 2021**  
**EXPLANATION**

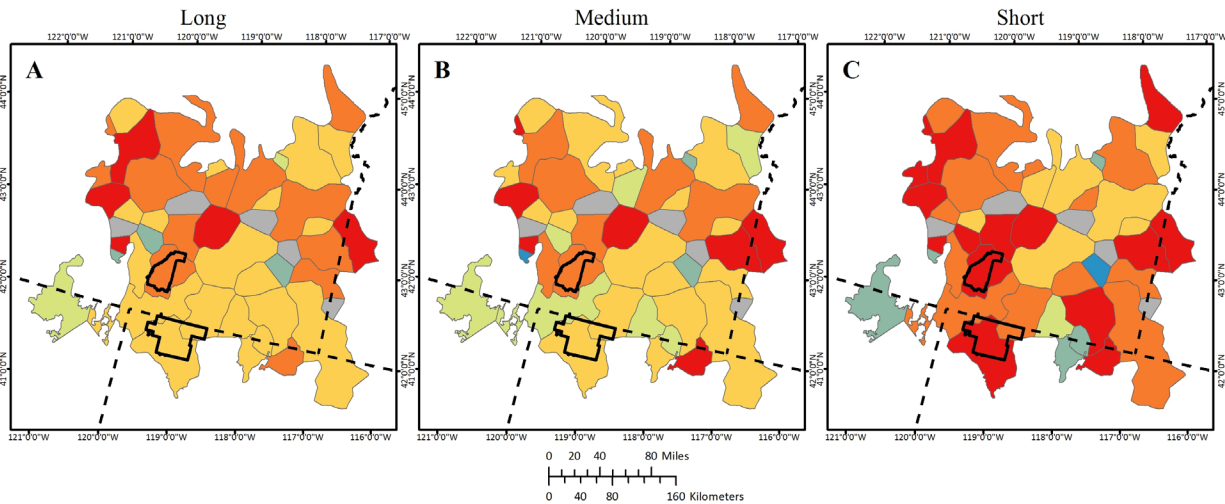
Neighborhood clusters (Level 2) intersecting Nevada: polygon colors represent average lambda values for sage-grouse populations over varying lengths of time (long, medium, short). Symbols are based on a range-wide distribution of values and all may not be represented here. The Sheldon National Wildlife Refuge and Hart Mountain National Antelope Refuge are outlined in black.

**Average lambda ( $\hat{\lambda}$ )**



Coordinate System: Albers  
Projection: Albers  
Datum: WGS 1984  
false easting: 0.0000  
false northing: 0.0000  
central meridian: -96.00000  
standard parallel 1: 29.50000  
standard parallel 2: 45.50000  
latitude of origin: 23.00000  
Units: Meter

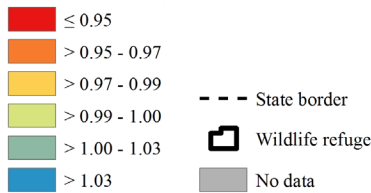
Data Credits:  
Sources: USGS, USFWS, Esri



**Modified from Coates et al. 2021**  
**EXPLANATION**

Neighborhood clusters (Level 2) intersecting Oregon: polygon colors represent average lambda values for sage-grouse populations over varying lengths of time (long, medium, short). Symbols are based on a range-wide distribution of values and all may not be represented here. The Sheldon National Wildlife Refuge and Hart Mountain National Antelope Refuge are outlined in black.

**Average lambda ( $\hat{\lambda}$ )**



Coordinate System: Albers  
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false easting: 0.0000  
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latitude of origin: 23.00000  
Units: Meter

Data Credits:  
Sources: USGS, USFWS, Esri

The 2021 USGS study<sup>39</sup> indicates that:

- ❖ With some exceptions, sage-grouse populations are declining across the landscape.
- ❖ After “recovering” from cattle grazing for 27 years (Sheldon) and 30 years (Hart Mountain) respectively, average sage-grouse population trends on the two refuges over the long (53 year) and medium (33 year) term do not exceed trends on the surrounding grazed landscapes.
- ❖ After “recovering” from cattle grazing for 27 years (Sheldon) and 30 years (Hart Mountain) respectively, average sage-grouse population trends on the two refuges over the short (17 year) term—during which both Hart and Sheldon were entirely ungrazed—are *worse* than the majority of the surrounding grazed landscape.

The results of the 2021 USGS study serve to further confirm the position held by the FWS<sup>40</sup> and others: properly-managed cattle grazing is not a meaningful causal factor in sage-grouse population decline. Had it been so, removing cattle from the Sheldon landscape for 27 years and from the Hart Mountain landscape for 30 years would have significantly improved sage-grouse populations compared to the surrounding grazed landscapes. It did not. In fact, considering sage-grouse population trends over the last 17 years, the opposite has occurred—sage-grouse population trends are declining faster on the two ungrazed refuges than on much of the surrounding grazed landscape. This finding lends additional support to the FWS’s contention that proper grazing can provide important benefits that support sage-grouse populations.

#### D. Cooperative Conservation with Ranchers

In addition to potential benefits provided by grazing, ranchers provide other vital conservation benefits to sage-grouse on both public and privately-owned lands. Their many efforts include, but are not limited to: enrolling in CCA, CCAAs, and Safe Harbor Agreements; formation of Rangeland Fire Protection Agencies (RFPAs) and rural fire departments; fence tagging; providing water access for wildlife; and the development of economically and ecologically sustainable grazing systems in partnership with federal agency personnel.

Because most of the undeveloped private lands in Humboldt County are owned by ranchers, it is essential to consider how these private lands may continue to be conserved as sage-grouse habitat. One recent study<sup>41</sup> hypothesized that restricting grazing on public lands—a key

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<sup>39</sup> Coates, et al., 2021, pp. 124 & 146. See FN 1.

<sup>40</sup> See FN 34.

<sup>41</sup> Runge, C.A., A.J. Plantinga, A.E. Larsen, D.E. Naugle, K.J. Helmstedt, S. Plasky, J.P. Donnelly, J.T. Smith, T.J. Lark, J.J. Lawler, S.M. Martinuzzi, and J. Fargoine. 2019. Unintended habitat loss on private land from grazing restrictions on public rangelands. *Journal of Applied Ecology* 56:52–62.

component of most ranching operations throughout the West—would have the unintended consequence of reducing the amount of private lands available as sage-grouse habitat.

“We predict that restricting grazing of public lands by 50% would result in the loss of an additional 171,400 ha of sage-grouse habitat on private lands by 2050, on top of the 842,000 ha predicted to be lost under business as usual. Most of this conversion would affect sage-grouse mesic habitat, 75% of which occurs on private land and is vital to the species during brood rearing. Under such policy changes, we estimate that an additional 105,700 ha (3.24%) of sage-grouse mesic habitat held on private land in the study region would be directly lost by 2050, and the cumulative area affected by fragmentation would be much higher.

By considering the human and ecological links between public and private land, we show that attempts to improve habitat on public lands via grazing restrictions could result in greater system-wide fragmentation of sage-grouse habitat from unintended habitat loss on private lands.”<sup>42</sup>

In short, when public lands ranching is no longer feasible as an economic land use due to major grazing restrictions (which evidence suggests do not benefit the sage-grouse in any case) ranchers naturally turn to other uses—such as crop cultivation or subdivision and development—that convert and fragment sage-grouse habitat. The study concludes that:

“Restricting grazing on US public lands is likely to increase habitat loss on private lands and reduce community support for sage grouse conservation. Policy that manages resources on public lands while also supporting sustainable, economically viable ranching operations on private lands is a promising approach to maximizing sage grouse habitat.”<sup>43</sup>

### 3. Managing Primary Threats

These recent findings necessitate reconsideration of what kinds of conservation actions actually benefit sage-grouse, and what actions have negligible, or possibly even negative, effects.<sup>44</sup> Generally speaking, these findings suggest that a result-oriented approach will look far less to regulatory mechanisms designed to micro-manage fine vegetative structures, and refocus on collaborative conservation that: maintains large, intact tracts of sagebrush habitat across ownership boundaries; minimizes the occurrence of wildfire; ensures resilience when wildfire does occur; and provides resistance against degradation by invasive vegetative species like cheat grass (*bromus tectorum*) and pinion and juniper. Possible benefits provided by livestock, including increased forbs, arthropods, mosaic vegetative landscape structure, and wet meadows should also be considered. Humboldt County strongly agrees with the Department of Interior’s

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<sup>42</sup> *Id.*

<sup>43</sup> *Id.*

<sup>44</sup> Also see: Boyd, C.S., D.D. Johnson, J.D. Kerby, T.J. Svejcar, and K.W. Davies. *Of Grouse and Golden Eggs: Can Ecosystems Be Managed with a Species-Based Regulatory Framework?* Rangeland Ecological Management, 67:358–368, July 2014.

collaborative approach to sage-grouse conservation as stated in the Department of Interior Manual 604 DM 2, Conservation and Restoration of the Sagebrush Biome:

“The conservation and restoration of the sagebrush biome are critical resource and fire management priorities for the Department of the Interior (Department). The Department has identified the greater sage-grouse as a focal species for the sagebrush biome and is working closely with other federal, state, tribal, and local partners and stakeholders to conserve the greater sage-grouse and the sagebrush biome. **Habitat loss, due to wildfire, development, and fragmentation are the most significant threats to the greater sage-grouse** and the more than 350 other plant and animal species in the sagebrush biome. The effects of these threats are compounded by the increased frequency, size and severity of rangeland fire, increased abundance and scale of invasive nonnative plant species, and large-scale development. Critical elements for conserving and restoring the sagebrush biome include: improved management of rangeland vegetation; restoration of native plant communities, including the increased use of native plant materials; strategies that focus development activities in appropriate areas to avoid and minimize habitat loss; a reversal in the spread of invasive nonnative plants through better control mechanisms; and increasing the capability and capacity of fire prevention, suppression, and post-fire rehabilitation actions. A policy that addresses threats to the health of the sagebrush biome will result in conserving and restoring the sagebrush biome for the benefit of all.”

604 DM 2 (emphasis added).

#### A. Wildfire

The 2018 Martin Fire destroyed some 680 square miles of prime sage-grouse habitat across Humboldt and Elko Counties. This ecological calamity represents an irrefutable example of how sage-grouse habitat is imperiled at the landscape scale by overgrowth of fine fuels. Consistent with 604 DM 2, Executive Order 13855,<sup>45</sup> and Secretarial Order 3372,<sup>46</sup> Humboldt County strongly supports maintaining fire resilient and resistant landscapes as a primary sage-grouse conservation approach, using all available tools including well-managed cattle grazing—the only existing landscape-scale fine fuels treatment—as well as targeted grazing, fuel breaks, and coordination with Rangeland Fire Protection Associations and rural fire departments (see Chapter XX Wildfire Prevention and Management).

#### B. Invasive Vegetative Species

Conversion of sagebrush steppe landscapes into monocultures of invasive species like cheat grass destroys sage-grouse habitat and contributes to an accelerated fire cycle. Humboldt County strongly supports the strategic treatment of encroaching invasive species with all feasible approaches (including but not limited to targeted and treatment grazing, herbicides, biological controls, biocides, and reseeded) and active restoration of landscapes likely to respond to treatment (see Chapter XX Rangeland Health; Chapter XX Invasive Species).

#### C. Major Surface Disturbances

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<sup>45</sup> Promoting Active Management of America’s Forests, Rangelands, and Other Federal Lands to Improve Conditions and Reduce Wildfire Risk (Dec. 21, 2018).

<sup>46</sup> Reducing Wildfire Risks on Department of the Interior Land Through Active Management (Jan. 2, 2019).

Oil and gas extraction pose the greatest potential for surface disturbance to sage-grouse habitat. At present, there is no oil or gas extraction in Humboldt County. By contrast, hard rock mining has a much smaller footprint than oil and gas development and constitutes a critical component of the Humboldt County economy. Humboldt County realizes that major surface disturbances—mining, renewable and non-renewable energy development, utility transmission corridors, and other major infrastructure critical to the County—can impact sage-grouse behavior and habitat quality. Such projects should therefore be reviewed and authorized according to the mitigation hierarchy developed in the 2019 Nevada Greater Sage-grouse Conservation Plan<sup>47</sup> (avoid where possible, then minimize, then mitigate impacts) in consultation with the Sagebrush Ecosystem Technical Team (SETT) with a project goal of no net loss of sage-grouse habitat.

Agricultural infrastructure (including but not limited to fencing, water storage and development, irrigation, etc.) should not be considered a major surface disturbance.

#### D. Predators

Nest failure is a primary cause of sage-grouse mortality across its range, and the common raven (*Corvus corax*) is a primary predator of sage-grouse eggs. In recent decades, raven populations have exploded across the West. According to one study, the USGS North America Breeding Bird Survey and other sources have found that:

“Raven abundance has tripled in the past 40 years throughout North America (Sauer et al. 2004), and increased as high as 1,500% since the 1960s in portions of the western United States (Boarman 1993, Sauer et al. 2004).”<sup>48</sup>

Ravens are not the only species to prey on sage-grouse eggs, but evidence suggests they are responsible for more nest depredations than any other species; one NDOW study in Nevada’s Virginia Mountains found ravens to be responsible for 46.7% of all sage grouse nest depredations.<sup>49</sup> Frequent raven depredations of sage-grouse nests is not surprising in view of their unprecedented abundance. Surging raven populations have been supported by human subsidies like increase of roads and roadkill, roadside stops, agriculture, and the increasing presence of artificial roosting and nesting substrates like powerlines, overpasses, and similar structures.<sup>50</sup> As development and fragmentation of the sagebrush steppe has negatively impacted sage-grouse, it has notably benefited ravens and thereby created an inflated population of highly effective nest predators that imperil sage-grouse recovery efforts:

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<sup>47</sup> See Chapter 7.6 *Anthropogenic Disturbances*, 2019 Nevada Greater Sage-grouse Plan, p. 76.

<sup>48</sup> Coates, P.S., Spencer Jr., J.O., and Delehanty, D.J. Efficacy of CPTH-Treated Egg Baits for Removing Ravens. *Human–Wildlife Conflicts* 1(2):224–234, Fall 2007, p. 226.

<sup>49</sup> Coates, P.S., Casazza, M.L., Espinosa, S., and Delehanty, D.J. Greater Sage-Grouse Nest Predators in the Virginia Mountains of Northwestern Nevada. *Journal of Fish and Wildlife Management* (2013) 4 (2): 242–255.

<sup>50</sup> Coates, Spencer Jr., et al. 2007, p. 224.

“Concern that subsidized increases in raven abundances are adversely affecting sensitive species is growing because ravens are effective predators of many threatened and endangered species (Boarman and Heinrich 1999).”<sup>51</sup>

Despite unnaturally high raven populations, and despite the fact that ravens are a primary predator of sage-grouse and other endangered and sensitive species, ravens are protected under the Migratory Bird Treaty Act.<sup>52</sup> Clearly, it is necessary to review the raven’s status as a protected species. Consistent with Nevada State Assembly Joint Resolution No. 2,<sup>53</sup> Humboldt County finds that the federal government must take immediate action to rebalance the ecosystem by allowing all necessary means to reduce raven populations, including lethal control. The use of CPTH-treated eggs has been shown effective in treating raven densities where they are impacting sage-grouse populations<sup>54</sup> and should be explored, as well as allowing managed shooting of ravens and other possible lethal methods. Non-lethal controls such as immediate removal of roadkill, securing waste disposal receptacles at rest areas, and discouraging ravens from roosting and nesting on structures should also be aggressively pursued.

#### E. Wild Horses and Burros

Nevada has more wild horses and burros than any other state; as of March, 2020, the BLM estimated 51,528 wild horses and burros (“wild horses”) roamed on public lands in the State of Nevada. By contrast, the ecologically sustainable “Appropriate Management Level” (AML) of wild horses for Nevada is 12,811, indicating an overpopulation at the time of over 400%. Humboldt County is a strong advocate of using proper, managed grazing as a sage-grouse conservation tool. However, wild horses—unlike cattle—are not herded, rotated, or annually removed from the landscape.<sup>55</sup> Wild horses also reproduce at approximately 20% annually, causing a constant need for the removal of excess horses from the landscape. Wild horse populations above AML are by definition ecologically unsustainable, and represent a clear example of improper grazing. Any serious sage-grouse conservation effort must therefore include maintaining wild horse populations within AML over the long term (see Chapter XX Wild Horses and Burros).

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<sup>51</sup> Coates, Spencer Jr., et al. 2007, p. 224.

<sup>52</sup> 16 U.S.C. §§ 703-712.

<sup>53</sup> ASSEMBLY JOINT RESOLUTION—Urging the United States Congress and the United States Fish and Wildlife Service to take certain actions to reduce the impact of common ravens on the greater sage grouse and desert tortoise populations in this State (2015).

<sup>54</sup> Coates, Spencer Jr., et al. 2007, p. 224.

<sup>55</sup> Davies, K.W., Boyd, C.S. “Ecological Effects of Free-Roaming Horses in North American Rangelands,” *BioScience*, Volume 69, Issue 7, July 2019, pp. 558–565; Boyd, C.S., K.W. Davies, and G.H. Collins "Impacts of Feral Horse Use on Herbaceous Riparian Vegetation within a Sagebrush Steppe Ecosystem," *Rangeland Ecology and Management* 70(4), 411-417, (1 July 2017).

#### 4. Legal History and Future Direction:

In 2010 the U.S. Fish and Wildlife Service determined that a listing of the sage-grouse was “warranted but precluded,” and through a court settlement agreed to make a final determination regarding the sage grouse by 2015. On September 16<sup>th</sup> and 21<sup>st</sup> of 2015 respectively, the BLM and Forest Service released the ROD for multi-state Sage Grouse Plan Amendments, which introduced new regulatory mechanisms for conserving the sage-grouse in Nevada and other western states. On September 22<sup>nd</sup>, 2015, the FWS issued a decision stating that a listing of the sage-grouse was not warranted, citing sufficient regulatory mechanisms having been put in place as the result of a massive, multi-level conservation effort that comprised federal, state, and local efforts, which included new state sage-grouse conservation plans and many voluntary landowner initiatives, such as the CCA and CCAA programs.

In Nevada, Humboldt County and several other counties found that the final EIS of the BLM and Forest Service Nevada Sage Grouse Plan Amendment had inappropriately designated areas of land as “sage grouse focal areas” (SFAs). The BLM recommended these SFAs for mineral withdrawal and other substantive use restrictions absent allowing opportunity for public comment. In a lawsuit brought against the Department of Interior in Nevada Federal District Court (*Western Exploration, LLC et al. v. United States DOI*, 250 F. Supp. 3d 718) Humboldt County and Eureka County were ultimately granted summary judgment on their complaint that the agencies had failed to comply with NEPA.<sup>56</sup> The Court remanded the ROD for the Nevada portion of the plans back to the agencies to prepare a supplemental EIS (SEIS) for public comment, and took particular care to note that many SFAs designated in the FEIS—which carried significant use restrictions—were indisputably in non-habitat areas.<sup>57</sup>

Following the administrative shift that came with the Trump presidency, the 2015 BLM and Forest Service Sage Grouse Plan Amendments were completely revised and reissued March 15<sup>th</sup>,

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<sup>56</sup> “The FEIS designated 2.8 million acres as SFA, which caused an additional 722,800 acres to be designated as PHMA, turned 436,000 acres of GHMA into PHMA, turned 211,100 acres of OHMA into PHMA, and turned 75,100 acres of non-habitat into PHMA. (NV 5523.) Defendants admit that approximately 21,611 acres were identified in the DEIS as non-habitat and then became SFA in the FEIS. (ECF No. 75 at 59.) The Agencies based their changes and additions of what lands were designated as sage-grouse habitat on data presented to them by FWS. (Id.) Defendants contend that the use of new information to adjust the number of acres subject to different management regimes does not require an SEIS. (See id. at 63.) The Court disagrees.” *Western Exploration LLC et al. v. United States DOI*, p. 37.

<sup>57</sup> “The public should have had an opportunity to review FWS’s determinations and comment on the decision to change or add new designations. In fact, the public could not have “reasonably anticipated” the Agencies to be considering developed areas as priority habitat or transforming low priority habitat and non-habitat into SFA. Particular lands, no matter how few, that prior to publication of the FEIS were not subject to any type of management decisions became subject to the most extreme of management decisions in the final Plan Amendments. For example, the change in designation from the DEIS to the FEIS resulted in the apparently erroneous and undisputed designation of the town of Eureka as PHMA. Moreover, Eureka County asserts, and Defendants do not dispute, that Eureka County’s landfill, power lines, subdivisions of homes, farms with alfalfa fields and irrigation systems, hay barns, and important portions of the Diamond Valley area, are now classified as PHMA.” *Western Exploration LLC et al. v. United States DOI*, p. 37.

2019. These revised plans were later enjoined in Idaho Federal District Court on October 15<sup>th</sup>, 2019, in a lawsuit brought by Western Watersheds Project (*Western Watersheds Project v. Schneider*, 417 F.Supp. 3d 1319, Oct. 2019). From the beginning of the Biden administration in January 2021, the BLM and Forest Service Sage Grouse Plan Amendments have been undergoing a third drafting. At the time of the writing of this Plan (the **Humboldt County Policy Plan for Public Lands**) the third iterations of the BLM and Forest Sage Grouse Plan Amendments have not yet been released.

While Humboldt County strongly supports cooperative and effective sage-grouse conservation, the preceding legal history demonstrates that the 2015 BLM and Forest Service Sage Grouse Plan Amendments for Nevada were fundamentally flawed. Subsequent federal sage-grouse conservation plans must follow the public processes legally mandated under NEPA and FLPMA. Moreover, they must ensure that prime habitat designations, like SFAs and PHMAs are based on scientifically accurate data. Humboldt County finds that federal sage-grouse conservation plans and special designations should focus on primary threats to the sage-grouse; federal plans should not reduce or eliminate grazing when grazing has been found by the US Fish and Wildlife Service not to be a principal factor impacting sage grouse populations.<sup>58</sup> Management of mining and other surface disturbances should follow the direction of Department of Interior Manual 604 DM 2: “Work with all parties to reduce habitat fragmentation and protect key habitat areas while focusing development and uses in less ecologically and culturally sensitive areas, *when possible*,” (emphasis added). Where avoidance is not possible, impacts to sage-grouse and habitat should be minimized and mitigated to ensure no net loss of habitat<sup>59</sup> while maintaining the economic stability and sustainability of rural communities.

In summary, Humboldt County prides itself on continuing to support effective, cooperative conservation of the sage-grouse through restoring ecosystem function at scales meaningful to sage-grouse, managing wildfire, invasive annual grasses, and expanding conifer populations, and by mitigating major surface disturbances that impact sagebrush habitats. However, the County will continue to oppose regulatory actions that are arbitrary, ineffective, unscientific, or fail to address the primary threats to sage-grouse: wildfire, invasive vegetation, predation, and unremediated habitat development or fragmentation.

## County Sage-Grouse Goals and Objectives:

### Goals:

- ❖ Stabilization of current sage grouse populations is achieved and maintained over the long-term, obviating an ESA listing now and in the future.

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<sup>58</sup> See FN 32.

<sup>59</sup> See Chapter 7.6 *Anthropogenic Disturbances*, 2019 Nevada Greater Sage-grouse Plan, p. 76.

## Humboldt County Policy Plan for Public Lands – Sage Grouse Conservation - APPROVED

- ❖ Sage grouse conservation efforts are focused on primary threats: wildfire, invasive vegetation, overpopulation of predators, and unremediated development and fragmentation of sage grouse habitat.
- ❖ Mining, energy, and other major surface disturbances are authorized on the principle of “avoidance, minimization, and mitigation” under the 2019 Nevada Greater Sage-grouse Conservation Plan, with a view to no net loss of sage grouse habitat.
- ❖ Predator populations—in particular, corvids—are controlled to ensure a healthy ecological balance.
- ❖ Federal, State, and local governments work collaboratively to ensure ongoing stability of sage-grouse populations in a multiple-use setting.
- ❖ Voluntary conservation efforts by landowners and permittees (including firefighting and fine fuels control) are actively incentivized, recognized, and rewarded by federal and state government agencies.

### Objectives:

- ❖ Work with agencies to ensure habitat assessments and monitoring incorporate site-specific ecological site description and potential and focus on landscape-scale objectives.
- ❖ As appropriate, support participation in voluntary landowner conservation initiatives.
- ❖ Work with the FWS to ensure all conservation efforts are recognized and rewarded.
- ❖ Increase number of, and participation in, RFPAs and rural fire departments.
- ❖ Work with agencies to ensure habitat monitoring programs are effective and ongoing.

### Positions and Policies:

#### **Coordination, Cooperation, and Consultation:**

##### Federal Land Use Planning and Management:

It is the policy of Humboldt County to coordinate and consult with all relevant federal agencies on sage-grouse conservation planning and management actions. Humboldt County will coordinate its planning and policies for sage-grouse conservation and management with BLM land use planning and management [consistent with 43 U.S.C §

1712(c)(9) and 43 CFR § 1601.0-5(c)] and with Forest Service land use planning [consistent with 16 U.S.C. § 1604(a), 36 CFR § 219.4, and 36 CFR § 212.53] to seek maximum consistency. Humboldt County expects that all such requirements for intergovernmental coordination will be affirmatively met by federal agencies, consistent with the applicable authority. (See Section XX Framework, Coordination).

NEPA:

Humboldt County expects early notification by all federal agencies to participate in NEPA project teams as a cooperating agency. Humboldt County shall participate as a cooperating agency on all federal agency NEPA analyses for land use plans or other projects pertinent to sage-grouse and/or habitat conservation and expects that EISs shall include a consistency review with this and other relevant elements of the Humboldt County Master Plan pursuant to 40 CFR § 1502.16(a)(5) and 40 CFR § 1506.2(d). (See Section XX Framework, NEPA).

ESA:

Humboldt County expects that any considerations by the Secretary of Interior to list the sage-grouse under the Endangered Species Act (ESA) shall be made “solely on the basis of the best scientific and commercial data available,” and only after “taking into account those efforts ... being made by any State ... or political subdivision of a State ... to protect such species, whether by predator control, protection of habitat and food supply, or other conservation practices, within any area under its jurisdiction...” (16 U.S.C. 1533 Section 4(b)(1)(a)). Further, Humboldt County expects that the conservation efforts of individuals, organizations, associations (including but not limited to RFPAs and rural fire departments) and other entities will be affirmatively considered by the Secretary under the U.S. Fish and Wildlife Policy Regarding Prelisting Conservation Actions prior to considering a listing and the Policy for Evaluating Conservation Efforts (“PECE”) prior to a listing determination.

**Sage Grouse Conservation:**

- ❖ Sage-grouse target populations should not be expected to reach populations achieved during—or recently following—periods of predator eradication (1950s-1970s). Stability of current populations should represent an achievable and desirable goal for sage-grouse recovery.
- ❖ Sage-grouse conservation efforts of federal and state agencies must target primary threats: Wildfire, invasive vegetation, predation, and habitat loss through unremediated development and/or disturbance.

## Humboldt County Policy Plan for Public Lands – Sage Grouse Conservation - APPROVED

- ❖ Consistent with U.S. Fish and Wildlife Service findings,<sup>60</sup> properly-managed grazing is not a primary threat to sage-grouse. Therefore, eliminating managed grazing is not a sage-grouse conservation measure, and should not be included in sage-grouse plan amendments or other sage-grouse conservation efforts.
- ❖ Properly-managed grazing is the only landscape-scale fine fuels treatment, and can also help reduce the spread of invasive vegetation. Managed grazing should therefore be considered a sage-grouse habitat conservation tool as it helps to control primary threats to sage-grouse habitat loss.
- ❖ Federal agency sage-grouse conservation efforts should be guided by the best available science, including ongoing research provided by the USDA NRCS Sage Grouse Initiative (SGI).
- ❖ The BLM should not designate any ACECs without fully coordinating with Humboldt County and its Master Plan under FLPMA. Humboldt County opposes the designation of ACECs as a means of conserving sage-grouse habitat. Conservation of sage-grouse habitat necessarily takes place at the landscape scale; ACECs are by definition *not* landscape-scale tools. Any ACEC proposed on the basis of conserving sage-grouse habitat will be strictly reviewed for relevance, importance, and special management attention criteria (43 CFR 1601.0-5(a)). ACECs must not be designated where site-specific planning under the Land Use Plan is sufficient for protecting the resource. ACECs must not be used as a false pretext for impeding active management (e.g. livestock grazing) that improves landscape-scale wildfire resistance and resilience.
- ❖ The BLM should not rely on the Habitat Assessment Framework (HAF) to provide a habitat-wide standard for rangeland health standards and GRS habitat suitability. In its place, the BLM should allow vegetation monitoring to be left to the individual Districts provided the selected methodology is conducted consistently, measures trend (change) in appropriate habitat indicators, and takes into account site-specific ecological potential and desired conditions.
- ❖ Corvids are prime predators of sage-grouse eggs and are extremely overpopulated across the West. Moreover, predator control is recognized in the ESA as a primary means of conservation of imperiled species [Sec. 4 (b)(1)(A)]. Therefore, Congress should amend the Migratory Bird Treaty Act to allow control of corvids. Any control of corvids currently permissible within the MBTA should be undertaken immediately by the appropriate state and federal agencies.

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<sup>60</sup> “Livestock grazing is the most widespread land use in the sagebrush ecosystem. Improper grazing (by domestic livestock and free-roaming horses and burros) can have negative impacts to sagebrush and greater sage-grouse at local scales. However, in 2010, the Service did not find that this was a principal factor affecting the status of the species. Livestock grazing may positively or negatively affect the structure and composition of greater sage-grouse habitat, depending on the intensity and timing of grazing, and local climatic and ecological conditions. Properly-managed grazing may benefit greater sage-grouse by maintaining perennial vegetation that provides important food and cover for greater sage-grouse and by helping to control invasive annual grasses and woody plant encroachment...” <https://www.fws.gov/greatersagegrouse/findings.php>

- ❖ Special habitat designations (PHMAs, SFAs) should be made on the basis of best available science, in coordination with local governments and with legally mandated public input. Special designations should prevent primary threats—wild fire, invasive vegetation, excessive predators, and unremediated disturbances while providing for fire resilient and resistant landscapes through active management and remediated and mitigated development.
- ❖ Recommendations to withdraw certain areas of sage-grouse habitat from mining location and entry should only be made in close coordination with local governments. Withdrawals should only be considered when the mitigation hierarchy provided by the 2019 Nevada Greater Sage-grouse Conservation Plan is jointly determined by federal, state, and local governments to be inadequate as a means of offsetting the impacts of surface disturbance in a particular area. All recommended withdrawals should be for the smallest size necessary to accomplish their purpose.
- ❖ Mining and other major development and infrastructure (e.g. renewable and non-renewable energy, transmission conduits, cell towers, etc.) should be authorized by the Nevada Sagebrush Ecosystem Technical Team (SETT) according to standards articulated in the 2019 Nevada Greater Sage-grouse Conservation Plan, section 7.6 “Anthropogenic Disturbances.”<sup>61</sup> Major disturbances and infrastructure should be authorized on the basis of the “avoid, minimize, mitigate” standard, with a view to maintaining no net loss of sage grouse habitat. Application of the Conservation Credit System (CCS) should be used to offset habitat impacts as appropriate.
- ❖ Discretionary impacts to the sage grouse caused by Department of Defense uses such as Special Use Airspace, bombing ranges, etc. should not result in or otherwise influence a listing of the sage grouse under the ESA.
- ❖ Humboldt County strongly supports, and will facilitate where appropriate, voluntary conservation efforts by landowners to conserve sage grouse. Such efforts include, but are not limited to: CCAs, CCAAs, Safe Harbor Agreements, RFPAs and rural fire departments, NRCS Working Lands for Wildlife efforts, sage grouse working groups, and other public-private partnerships. Humboldt County expects that all conservation efforts of individuals, organizations, associations (including RFPAs and rural fire departments) and other entities will be affirmatively considered by the Secretary under the U.S. Fish and Wildlife Policy Regarding Prelisting Conservation Actions, and the Policy for Evaluating Conservation Efforts (“PECE”).

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<sup>61</sup> 2018 Nevada Greater Sage-grouse Conservation Plan, p. 68.