May 2012 WY Oil & Gas Lease Sale - *Preliminary*

Total # of parcels offered = 252

Parcel numbers are WY-1205-__

IBA = Important Bird Area

		Additional Concerns:		
Located Within Core Area (n=144) - listed by parcel #	BLM Field Office	*Located* Within an Audubon IBA (n=82)	South of Rawlins (n=21)	Southwest of Lander (n=73)
4	Rawlins			
5	Rawlins			
6	Rawlins			
7	Rawlins			
8	Rawlins		X	
9	Rawlins		X	
10	Rawlins		X	
11	Rawlins		X	
12	Rawlins		X	
13	Rawlins		X	
14	Rawlins		X	
15	Rawlins		X	
16	Rawlins		X	
17	Rawlins		X	
18	Rawlins		X	
19	Rawlins		X	
21	Rawlins			
22	Rawlins			
25	Rawlins		X	
26	Rawlins		X	
27	Rawlins		X	
28	Rawlins		X	
29	Rawlins		X	
30	Rawlins	X		
32	Rawlins	X		
33	Rawlins		X	
37	Rawlins		X	
38	Rawlins		X	
40	Rawlins		X	
47	Rawlins	X		
48	Rawlins	X		
49	Rawlins	X		
50	Rawlins	X		

		Additional Concerns:		
Located Within Core Area (n=144) - listed by parcel #	BLM Field Office	*Located* Within an Audubon IBA (n=82)	South of Rawlins (n=21)	Southwest of Lander (n=73)
51	Rawlins	X		
52	Rawlins	X		
53	Rawlins	X		
57	Rawlins	X		
58	Rawlins	X		
59	Rawlins	X		
60	Rawlins	X		
61	Rawlins	X		
69	Rock Springs			
72	Rock Springs			
73	Rock Springs			
74	Rock Springs			
75	Rock Springs			
76	Rock Springs			
78	Rock Springs	X		X
79	Rock Springs	X		X
80	Rock Springs	X		X
81	Rock Springs	X		X
82	Rock Springs	X		X
83	Rock Springs	X		X
84	Rock Springs	X		X
85	Rock Springs	X		X
86	Rock Springs			X
87	Rock Springs			X
88	Rock Springs			X
89	Rock Springs			X
90	Rock Springs	X		X
91	Rock Springs			X
92	Rock Springs	X		X
93	Rock Springs			
94	Rock Springs			
95	Rock Springs			
96	Rock Springs	X		X
97	Rock Springs	X		X
98	Rock Springs	X		X
99	Rock Springs	X		X
100	Rock Springs	X		X

		Additional Concerns:		
Located Within Core Area (n=144) - *listed* by parcel #	BLM Field Office	*Located* Within an Audubon IBA (n=82)	South of Rawlins (n=21)	Southwest of Lander (n=73)
101	Rock Springs	X		X
102	Rock Springs	X		X
103	Rock Springs	X		X
104	Rock Springs	X		X
105	Rock Springs	X		X
106	Rock Springs	X		X
107	Rock Springs	X		X
108	Rock Springs	X		X
109	Rock Springs	X		X
110	Rock Springs			
112	Rock Springs	X		X
113	Rock Springs	X		X
114	Rock Springs	X		X
115	Rock Springs	X		X
116	Rock Springs	X		X
117	Rock Springs	X		X
118	Rock Springs	X		X
119	Rock Springs	X		X
120	Rock Springs	X		X
121	Rock Springs	X		X
122	Rock Springs	X		X
123	Rock Springs	X		X
124	Rock Springs	X		X
125	Rock Springs	X		X
126	Rock Springs	X		X
127	Rock Springs	X		X
128	Rock Springs	X		X
129	Rock Springs	X		X
130	Rock Springs	X		X
131	Rock Springs	X		X
132	Rock Springs	X		X
133	Rock Springs	X		X
134	Rock Springs	X		X
135	Rock Springs	X		X
136	Rock Springs	X		X
137	Rock Springs	X		X
138	Rock Springs	X		X

		Additional Concerns:		
Located Within Core Area (n=144) - listed by parcel #	BLM Field Office	*Located* Within an Audubon IBA (n=82)	South of Rawlins (n=21)	Southwest *of* Lander (n=73)
139	Rock Springs	X		X
140	Rock Springs	X		X
141	Rock Springs	X		X
142	Rock Springs	X		X
143	Rock Springs	X		X
144	Rock Springs	X		X
145	Rock Springs	X		X
146	Rock Springs	X		X
147	Rock Springs	X		X
148	Rock Springs	X		X
149	Rock Springs	X		X
150	Rock Springs	X		X
151	Rock Springs	X		X
152	Rock Springs	X		X
153	Rock Springs	X		X
154	Rock Springs	X		X
155	Rock Springs	X		X
168	Rock Springs			
169	Rock Springs			
170	Rock Springs			
190	Rock Springs			
203	Kemmerer			
204	Kemmerer			
211	Kemmerer			
212	RS & K			
215	Kemmerer			
217	Kemmerer			
220	Kemmerer			
221	Kemmerer			
222	Kemmerer			
223	Kemmerer			
225	Kemmerer			
226	Kemmerer			
227	Kemmerer			
232	Kemmerer			
233	Kemmerer			
252	Rawlins			

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Expert Comments of Alison Holloran

Director of Science – Rocky Mountain Region

Audubon Rockies

Regarding Proposed May 2012 BLM Wyoming State Office

Oil & Gas Lease Sale

As an 11-year employee of Audubon Rockies I oversee issues related to avian species in the rocky mountain region. Prior to working for Audubon, I received my Master's degree in Wildlife Management from the University of Wyoming's Cooperative Fish and Wildlife Research Unit studying the Effects of Oil and Gas Development on Greater Sage-grouse on the Pinedale Anticline. Since that time I have specialized in Sagebrush Steppe avian species management within my position with Audubon.

As set forth in our comment letter, Audubon Rockies is formally disputing the May 2012 sale of parcels within the sage-grouse core areas and we are greatly concerned about potential irreversible impacts to high profile wildlife species, most notably Greater Sage-grouse.

Overall, Audubon strongly advises that the BLM adhere to their science-based commitment, echoed in the U.S. Fish and Wildlife Service's (USFWS) 12-month Findings, to protect important sage-grouse habitat has resulted in wind development being prohibited in Wyoming's sage-grouse core areas. In addition, based on the known negative impacts that oil and gas development has on Greater Sage-grouse, and the extent of energy development in Wyoming, certain areas should also be designated as unavailable for energy development. Specifically, the May 2012 lease sale with the 144 parcels within the designated Greater Sage-grouse Core Area are unacceptable and should be withdrawn from the sale.

According to the grouse density maps the parcels for sale located just southwest of Lander, WY (includes parcels 78-155) are not only located within the designated core sage-grouse habitat but are in an area that has some of the most dense populations of Greater Sage-grouse in the state of

Wyoming. In addition, the area which holds most of these parcels is also an Important Bird Area; designated solely on the basis of the grouse populations within the area.

It is my professional opinion that these parcels should be withdrawn from the sale due to the dense grouse populations that are known to inhabit the area. Based on scientific studies documenting the negative effects of oil and gas development has on sage-grouse, if this area and these parcels are sold and developed, the grouse populations would potentially greatly diminished and suffer immense population losses due to disturbance, habitat fragmentation and direct loss. Moreover, the areas surrounding the proposed lease sales have already been heavily developed for oil and gas (i.e. Pinedale Anticline, Jonah Field and Atlantic Rim (on-going) making the parcels for sale even more critical to the existing sage-grouse population's landscape scale use of the habitat.

Due to these overwhelming factors; established scientific evidence of the effects of oil and gas development on Greater Sage-grouse, combined with the density of grouse inhabiting in the areas for sale as well as the established development that surrounds the area, we conclude that if this area is sold and developed, it would have devastating effects on the grouse population in the state and therefore may trigger a listing by the USFWS. These parcels appear to be in an area of little leasing and may well qualify under the 11 contiguous sections ruling that states that areas of this size, if not leased should not be leased. In order to protect first our grouse populations and their habitat and second the lively hoods of the people of Wyoming, these parcels should be permanently withdrawn from oil and gas lease sales.

In addition, in my expert opinion, the parcels (# 9-20, 23-29, 31 and 33-40) also included in the May 2012 lease sales located southwest of Rawlins, Wyoming should be withdrawn from the sale. First, the parcels are again located in core sage-grouse habitat as designated by state and federal entities. Moreover, wind development to the north of the area makes these parcels even more critical to the grouse populations in the area for breeding, brood rearing and wintering.

Given the magnitude of the proposed Chokecherry and Sierra Madre Wind farm Audubon wants assurances that adjacent lands will not be available to new energy development activities, as the size and nature of this proposed project will cause considerable strain on the ability of the area's habitat to support healthy wildlife populations. Our support of a project of this size and scale, especially in high quality habitat, is subject to fulfillment of recommended improvements and assurances that adjacent lands will not be available for new energy development. Additional future projects could threaten the viability of this landscape as habitat for sensitive wildlife populations. Regarding sage-grouse, additional projects could present unacceptable risks for local populations and habitat.

The proposed development due to the sales will also put at risk not only the Wyoming grouse population but also Colorado's North Park grouse population as the area serves as a genetic connection between the two populations. If this area is developed, it will not only negatively influence the Wyoming grouse population but could also negatively impact an already greatly

compromised Colorado population of grouse. Any development in the area would compromise the critical habitat needed by Greater Sage-grouse (as determined by the Core Areas designation) and therefore both Wyoming and Colorado populations.

Also of great concern in any landscape committed to oil and gas development is the inevitable consequence of the colonization by invasive, non-native species. In the sagebrush-steppe community, in addition to the slow regeneration of sagebrush, the biggest threat is the invasion of cheatgrass (*Bromus tectorum*). Even assuming re-vegetation was successful, there is an increased risk of predation on ground nests by newly accommodated synanthropic predators. Raven, coyotes and other opportunistic predators will benefit from an open corridor, putting sagebrush obligate species at further risk. The introduction of aggressive fauna and flora invasive species are often linked to human disturbances, such as new roads and construction of facilities associated with these proposed parcel sales and later development.

In conclusion, regarding the application of both sale areas mentioned above, the FEIS should recognize that future energy development would be incompatible with 1) other multiple use goals, and 2) the overarching commitment of BLM and the USFWS to implementing protective management strategies designed to obviate the need for listing the grouse when its status is reconsidered in 2015. The cumulative impacts of additional operations in both areas would be unacceptable. This applies to not only oil and gas drilling but the associated infrastructure such as roads, pipelines and related infrastructure.

Sincerely,

Alison Holloran

Director of Science – Rocky Mountain Region

Audubon Rockies

Exhibit C: WY BLM Lease Sale (May 2012)

(Highlighting Parcels Within Core Areas and Within 25% Breeding Density Polygons)

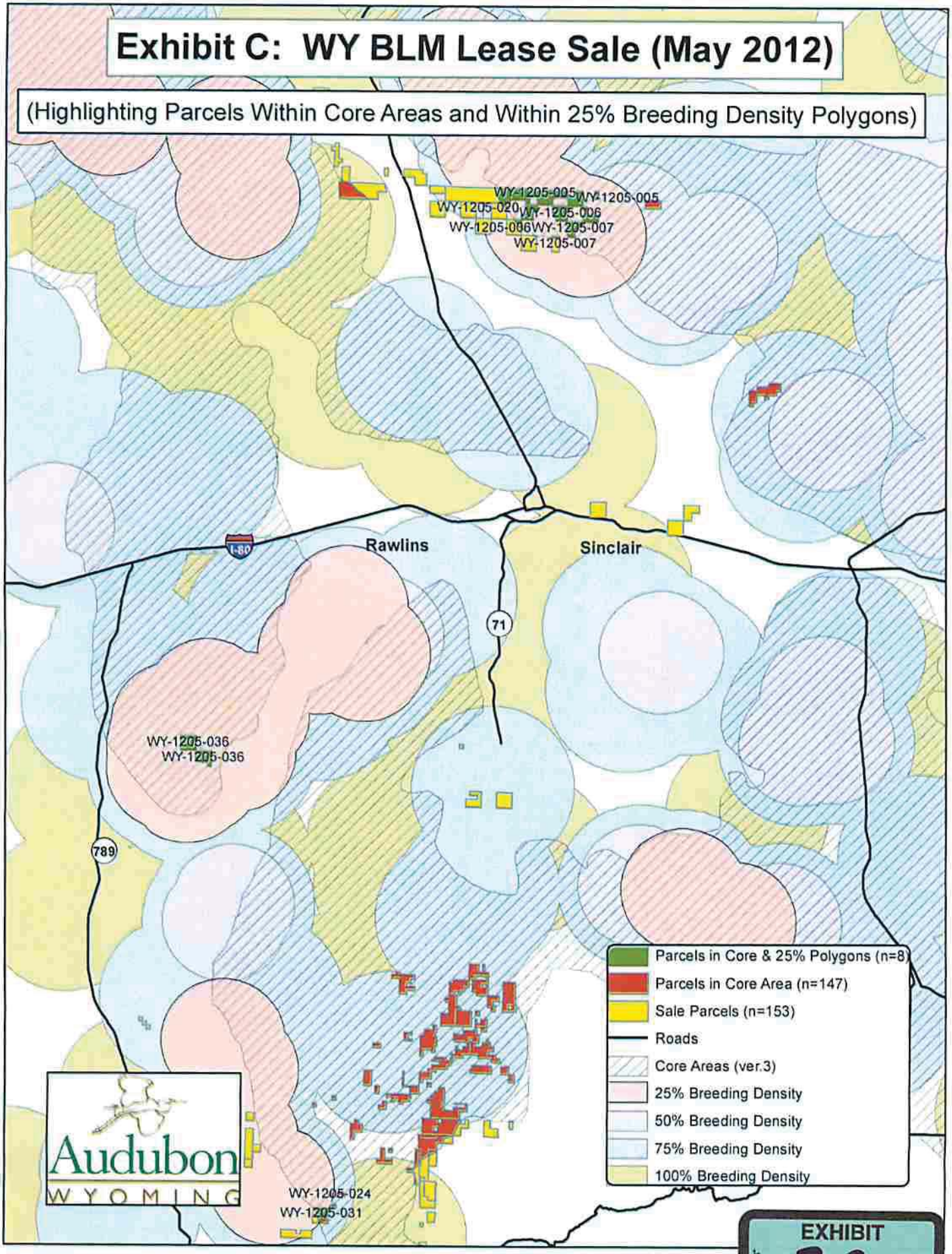

EXHIBIT
3C

AUDUBON WYOMING * NEVADA WILDERNESS PROJECT
THE WILDERNESS SOCIETY * WYOMING OUTDOOR COUNCIL
NATIONAL WILDIFE FEDERATION * OREGON NATURAL DESERT ASSOCIATION
THE WILD UTAH PROJECT * AUDUBON SOCIETY OF PORTLAND
NATIONAL AUDUBON SOCIETY * AUDUBON CALIFORNIA * AUDUBON COLORADO
SPOKANE AUDUBON SOCIETY * WESTERN RESOURCE ADVOCATES
ROCKY MOUNTAIN WILD * MONTANA AUDUBON * AUDUBON SOCIETY OF NEVADA
IDAHO CONSERVATION LEAGUE * COLORADO ENVIRONMENTAL COALITION

August 27, 2011

Secretary Ken Salazar
United States Secretary of the Interior
Department of the Interior
1849 C Street, N.W.
Washington DC 20240

Via U.S. Postal and email (exsec@ios.doi.gov)

Re: Conservation community's interest in range-wide conservation of Greater Sage-Grouse

Dear Secretary Salazar,

We are a consortium of conservation organizations that is interested in establishing effective, proactive management actions, long-term habitat protections and funding mechanisms that will bolster sage-grouse populations and eliminate the need to federally list this iconic species. On behalf of our organizations and our concerned members across the region, we appreciate Interior's recent efforts to coordinate resources and develop strategies for sage-grouse conservation. Two things are clear: 1) past efforts have failed to sufficiently conserve sage-grouse and their habitat, resulting in the 2010 finding that listing the Greater Sage-Grouse is "warranted but precluded"; and 2) there is an urgent need to develop and implement substantive conservation measures between now and 2015, when the U.S. Fish and Wildlife Service (USFWS) will reconsider the status of the bird.

We are encouraged by the Bureau of Land Management's (BLM) announcement of a regional strategy that focuses on the conservation of sage-grouse and the protection of their habitat. This strategy, which includes both short-term and long-term approaches, must result in the **consistent application of adequate regulatory mechanisms that are scientifically defensible**. Given the expanse of sage-grouse habitat managed by the BLM and the short timeline proposed for this regional planning effort, inconsistent application of regulatory protections within states and across the sage-grouse's range could be detrimental to sage-grouse conservation efforts.

As our nation's energy demands fuel the continued push for development on western lands, we are concerned that BLM field offices will continue to make decisions that could further degrade remaining sage-grouse crucial habitat. We ask that the agency follow the precautionary principle of **developing conservative interim guidelines** for all field offices that clearly specify actions that are appropriate and inappropriate in sage-grouse habitat. Furthermore, **decisions that could**

push the species closer to a full listing should be avoided. Pending final decisions on RMP amendments and the regional planning process, BLM *must at least preserve or improve the status quo of habitat conditions for sage-grouse* -- to avoid dooming conservation efforts from the start.

High priority areas for conservation and restoration **should be designated by BLM's planning process across the range as core areas.** Management actions within these core areas should focus on maintaining and enhancing grouse habitats and viable populations. **However, populations that are small and isolated** (such as along the periphery of their range or on seasonal **habitats) must also be included in the planning process and given special management considerations.**

We applaud recognition by the BLM of the urgency for rapid and meaningful, landscape scale sage-grouse conservation actions. However, effectiveness and public support should not be undermined by the urgent need for such action. The composition of the planning teams needs to be carefully considered. The National Technical team should be composed of sage-grouse and sagebrush experts, including state game and fish agency personnel, who provide recommendations based on peer-reviewed science. The **Policy, Regional, and State teams** ***should include broad stakeholder involvement, including representatives from the conservation community.*** Careful consideration of team compositions and processes used will be essential for ensuring credibility and public support. As this planning effort moves forward at a rapid pace, communication with the public will be critical. Thus, **elements of a successful strategy should include** 1) sustained outreach to stakeholders (including but not limited to public comment under the National Environmental Policy Act); 2) the adoption and implementation of new policies; 3) rigorous monitoring and adaptive management; and 4) enforcement. For specifics, we feel at a minimum the Department should undertake the attached guidelines (*see Appendix)* to ensure that the Greater Sage-grouse is not federally listed and adequate guidance for managers is in place.

Finally, we hope that as the BLM proceeds in its regional conservation efforts, the **process will be open and transparent.** We recognize that because of the large range occupied by sage-grouse, all stakeholders have an interest in seeing this effort be successful. Success will depend on BLM-wide and interagency commitments, using MOUs or other appropriate means, to ensure requisite conservation measures are adopted as federal policy. Our organizations look forward to remaining engaged and providing assistance as the BLM develops its regional sage-grouse conservation strategy.

Sincerely,

Brian Rutledge
Executive Director/ VP Intermountain West
Audubon Wyoming

On behalf of:

John Tull
Conservation Director
Nevada Wilderness Project

Mike Chiropolos
Lands Program Director
Western Resource Advocates

Nada Culver
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The Wilderness Society

Lara Rozzell
Public Lands Energy Fellow
Idaho Conservation League

Kathleen C. Zimmerman
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Audubon Society of Nevada

Steve Hoffman
Executive Director
Montana Audubon

Luke Schafer
West Slope Campaign Coordinator
Colorado Environmental Coalition

Cc:

U.S. Department of Interior
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David Hayes, DOI Deputy Secretary
Michael Bean, DOI Counselor to Assistant Secretary for Fish and Wildlife and Parks
Marcilynn Burke, DOI Acting Assistant Secretary for Land and Minerals Management
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U.S. Fish & Wildlife Service
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Steve Guertin, USFWS Regional Director Mountain Prairie Region (Region 6)

U.S. Fish & Wildlife Service ***(continued)***
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Don Simpson, Wyoming State Director

U.S. Forest Service
Tom Tidwell, USFS Chief

Natural Resources Conservation Service
David White, NRCS Director
Tim Griffiths, NRCS Sage-grouse Initiative Coordinator

APPENDIX

Incorporating science-based conservation measures is a critical *first* step in conserving the necessary habitat to preclude the need to list the Greater Sage-Grouse. Goals should include *adequate minimum standards across the region* and *landscape-scale management strategies*, which states or field offices should seek to exceed where conditions are appropriate. The following guidelines concerning management of sagebrush habitat and sage-grouse should be considered the ***minimum*** needed to ensure adequate regulatory mechanisms are in place -- one of the concerns specified in the USFWS' March 2010 Finding.

- The interim guidelines, programmatic EISs, and RMP amendments should ensure that each BLM field office manages sagebrush and sage-grouse in a **consistent manner.**
- The National **Technical Team**, composed of sage-grouse and sagebrush experts, **should consider existing state and federal resources and significantly improve upon these by incorporating the latest scientific information.** Understanding the failures of these well-intentioned efforts will help the BLM develop its new regional strategy, which should include range-wide prescriptions, restrictions, and stipulations developed by the national technical committee.
- **State game and fish agency personnel provide extensive local knowledge.** We encourage coordination with state agencies, which may provide the best information on local sage-grouse populations and help ensure management consistency within each state. As species managers, they should be full partners in the regional planning process and implementation.
- As planning moves forward, **sufficient funding must be secured not only to meet the immediate needs of this range-wide strategy but also to ensure long-term success.** A consistent and long-term commitment must be made to ensure species maintenance and recovery. Efforts should be focused not only on core populations, which will require monitoring to determine successes and address failures, but also on smaller critical populations located in the periphery of the range.
- **Core areas** delineate high priority areas for sage-grouse conservation and restoration and thus **should be** designated by **BLM's planning process.** The Sage-Grouse Breeding Density Map, spearheaded by the BLM, is the first cooperative federal-state-private effort that looks at sage-grouse densities in a consistent manner across the West. This tool provides a peer-reviewed, scientifically defensible foundation for important range-wide focal areas having high densities of Greater Sage-Grouse, thus allowing for the establishment of priority conservation areas range-wide.
  - **Development should be avoided in core areas, unless it can be demonstrated that the activity will not cause declines in sage-grouse populations.** Stipulations, based on best available science, should be applied as a means to minimize impacts.
  - BLM should **conduct an inventory of each core area – documenting vegetation, land ownership, existing disturbances, etc.** This knowledge is critical for establishing baseline data and enabling effective review of proposed actions.
  - Particular sage-grouse core areas should be designated as **Areas of Critical Environmental Concern** (ACEC – 43 U.S.C. 1702). This would allow for special management to protect and prevent irreparable damage to important wildlife habitat. This type of progressive and sound management would protect high quality sage-grouse habitat, sage-grouse populations, and the several hundred other species that depend on sagebrush habitats.
- In addition to core areas, managers should concentrate on protecting **important seasonal habitat** for sage-grouse and recognize the value of **connectivity** to maintaining genetic viability. Additional effort is needed to identify these areas and to collect baseline data

(both on the species and the existing land use pressures). With compromised populations or during extreme weather conditions, these habitats become even more critical.

- **Development activities should generally be directed to already-disturbed areas (avoiding intact habitat),** in areas with the fewest environmental impacts, and be subject to science-based project design and stipulations that minimize impacts to sage-grouse. Energy development activities should be located as close to target human population centers as possible.
- **Energy Development**
  - **Identify areas not available for leasing or exclusion areas** (oil and gas leasing, wind energy development, solar, geothermal, transmission) to maintain quality habitat for sage-grouse. All alternatives except no-action should propose designating enough lands in such areas to ensure conservation of the species. Excluding priority sage-grouse habitat from energy development projects will allow land managers to take meaningful conservation actions. As recognized by IM 2010-071, the Mineral Leasing Act vests absolute discretion in the Secretary over mineral leasing decisions. The same legal authority extends to renewable energy and transmission projects
  - **Refrain from leasing inside core areas unless those leases contain appropriate, science-based stipulations that have been demonstrated to adequately protect sage-grouse populations and habitat from the impacts of development.** We are concerned that the BLM's reliance on conditions of approval (COA) as a surrogate for appropriate lease stipulations could lead to legal challenges, particularly in instances where such COAs are applied on a broad scale. We believe a more prudent approach is to defer all leasing within core habitat **until the RMP amendments incorporating new science-based stipulations have been completed.**
  - **Consider lease deferral for small parcels of known important sage-grouse habitat,** such as wintering habitat, breeding grounds or leks, nesting, and brood-rearing habitat. These areas can be extremely important to specific populations of sage-grouse during critical times of the year, especially if they are experiencing population pressures in surrounding areas.
  - Sagebrush landscapes, upon which sage-grouse depend, consist of few naturally occurring vertical structures. Therefore, **vertical structures** (such as *transmission lines, wind turbines, meteorological towers, and fences*) are **problematic for sage-grouse and their use should be avoided in important habitats.** Impacts to sage-grouse include *direct mortality* from collisions and *indirect impacts*, such as avoidance of an area, habitat disruption/degradation/fragmentation, reduced nesting/breeding density, habitat loss (abandonment, unsuitability), mortality from avian and synanthropic predators (i.e., predators that live near and benefit from an association with humans), and behavioral effects. These impacts can be avoided or reduced, however, with proper siting, operation and mitigation. Important habitat, such as core areas and critical seasonal habitats, should be avoided until research on the impact of vertical structures is completed and means for effectively minimizing these impacts are identified.
  - Avoid siting new temporary meteorological (met) towers near leks and other important sage-grouse habitat. Where wind turbines or met towers are considered appropriate, guy wires should be marked with recommended bird deterrent devices.
  - **Route transmission projects** to avoid priority sage-grouse habitats.
  - **Limit the density of cumulative disturbances** on the landscape to a scientifically-justifiable threshold of impacts, especially in all nesting, early brood rearing and winter habitats.
  - **Identify areas containing large, contiguous unleased Federal minerals.** These areas, especially in important sage-grouse habitat, should remain unleased and

undeveloped. Criteria for determining size of area needed for sustaining sage-grouse populations should be based on best available science and take into account current site-specific conditions (e.g. size and movement patterns of existing sage-grouse populations, surrounding landscape pressures) and recommendations of qualified biologists.

- **Close important habitat to future leasing when existing leases in sage-grouse habitat expire.**
- Base management on defensible and current science where leasing is permitted. **Effective best management practices (BMPs) and new stipulations,** based on best available science, need to be included in the amended RMPs and applied uniformly to all ground-disturbing activities across the region. Existing stipulations that have no scientific merit, such as providing only a 0.25 mile buffer around leks, should not be used. Enforceable BMPs should be applied at the initiation of projects, at the exploratory/planning stage, and throughout production.
- Where leasing is permitted, implement **site-specific conditions of approval,** that include location, design and timing of operations to avoid, minimize and mitigate impacts at all phases of development.

- **Grazing**
  - Facilitate and promote **voluntary permit retirement range-wide** and within individual RMP amendments for *sage-grouse habitat areas identified as incompatible with grazing.*
  - Where livestock-related activities occur, develop appropriate standards to maintain a healthy rangeland. **Grazing management practices and/or facilities** (such as fences and water development) should occur in a manner that maintains or promotes the physical and biological conditions necessary to sustain healthy sage-grouse populations. Grass banking and herd reductions should be considered in certain situations. Monitoring should allow for identification of disruption to sage-grouse populations and impacts to native vegetation and soil stability. Adaptive management should be addressed early and used to avoid negative impacts to sage-grouse populations.
- **Fences**
  - Carefully evaluate new fences for sage-grouse collision risks and site fences in locations away from leks, nesting areas, ridge tops etc.
  - Require an equal amount of fence removal if new fence is approved within sage-grouse habitat.
  - Identify priority areas for flagging or marking existing fences to avoid collisions and recommend the use of sage-grouse fence diverters in these areas.
- **Climate Change**
  - The increase of severe droughts throughout the West, associated with climate change, will exacerbate fire frequency and intensity in the sagebrush ecosystem. Managers and researchers also predict that cheatgrass and other harmful invasive species will increase, further degrading the sagebrush steppe. These threats, acting independently and synergistically, are predicted to cause a 30-80% reduction of sagebrush habitat, depending on the extent of green-house gas emissions. A warming climate will make it more challenging to restore degraded habitat and plan for habitat connectivity amongst grouse populations. Therefore, on-the-ground implications of a warming climate must be incorporated in all of the strategies used to secure a sustainable future for this species.

- **West Nile virus**
  - West Nile Virus can have deleterious impacts on small and isolated populations of sage-grouse. **Limit man-made water developments** in mosquito breeding areas in sage-grouse habitat. Where this cannot be avoided, design water developments to inhibit growth of mosquitoes by reducing shallow stagnant water, sedimentation and vegetation growth. Focus on controlling mosquito populations in close proximity to sage-grouse leks rather than endorsing a broad use of adulticides.
- **Invasive species**
  - **Invasive species** are problematic for both native species and domestic livestock. The biggest threat to the sagebrush-steppe community, in addition to the slow regeneration of sagebrush, is the invasion of **cheatgrass** (*Bromus tectorum*). Cheatgrass has the potential to completely alter the ecosystem it invades, increase fire frequency, and prevent the establishment of sagebrush and native grass and forb understory. Activities that introduce and spread invasive species must be addressed and mitigated. Additionally, projects that use other non-natives such as crested wheatgrass to control faster-spreading species such as cheatgrass and medusahead, must be conducted very carefully and have long-term plans in place for eventual sagebrush and native grass restoration.
- **Fire**
  - The presence of fire on the landscape has a large impact on the probability of lek abandonment (Knick and Hanser 2009). Managers who use fire as a treatment for juniper control, invasive species and overall ecosystem health will need to have standards in place to determine where and when different types of fire management, such as broadcast burning, jackpot burning, spot treatments, are and are not appropriate in sage grouse habitat.
- **Project Analysis**
  - For the purpose of **effects analysis for a proposed action**, a sage-grouse habitat evaluation shall extend, at minimum, *out to 4 miles* from relatively small individual proposed actions and shall extend, at minimum, out 11 miles from the project boundary for large-scale proposed actions. This reflects the most current research that shows impacts to Greater Sage-Grouse leks from energy development are discernable out to a minimum of four miles (Holloran 2005, Walker et al. 2007, Walker 2008) and that 11 miles encompasses a significant portion of the seasonal habitats that will be affected. However, the scale of annual habitat needed is likely to be site dependent. Given that these data were based on research conducted in Wyoming, the area may need to be adjusted for site-specific conditions.
  - BLM should have a **standard review process for parcels proposed for development** (including fossil fuel, renewable, transmission, livestock management, water development), thus providing upfront clarity and certainty for all stakeholders. The process should incorporate: 1) participation by qualified sage-grouse biologists; 2) site-specific analysis including field visits to inform decisions; 3) projects impacting core areas should be postponed until the necessary stipulations can be added to the RMP governing the area.
  - **Comprehensive cumulative impact analysis will be key to sage-grouse conservation in the face of multiple threats.** Management decisions should be based on an evaluation of cumulative impacts *over a landscape*. Not only does this refer to the many types of energy development but also to other land use pressures, including efforts to manage other species/suppress undesirables. An example includes spraying diflubenzuron, carbaryl, and possibly malathion on sage-grouse habitat for grasshopper/mormon cricket suppression. This particular action leads to

wide scale reduction in insect numbers, an important food source for juvenile sage-grouse, thus leading to negative population level impacts.

- **Habitat Improvement, Reclamation and Restoration**
  - Sage-grouse populations are dependent upon healthy sagebrush. So called "**habitat improvement**" projects (e.g. mechanical sagebrush treatments) can be detrimental to sagebrush obligate species, such as sage-grouse. Scientifically defensible research is needed to **determine which activities are beneficial.** This information should be *maintained in a single database.*
  - Reclaiming or recovering sagebrush habitats is extremely challenging. Efforts should be directed towards **improving our ability to effectively reclaim degraded habitat,** which requires gathering site-specific baseline (pre-treatment) data to adequately evaluate success. **Reclamation should be *mandatory*** and managers must recognize that **methods for achieving success vary by region and are site-specific.** Reclamation efforts should be *monitored* and *results maintained in a single database* to improve our understanding and effectiveness. In addition, a process should be established to identify and address failed reclamation projects.
  - As the large landscapes required to sustain grouse populations become further fragmented by the **increasing frequency of wildfires, focus on restoration will become more important.** Sage-grouse have evolved in habitat that has extremely infrequent wildfires, enabling them to benefit from mature sagebrush stands. Habitat fragmentation and alteration due to fire may influence distribution (including lek abandonment) or migratory patterns. We suggest that a funded program be dedicated to identifying sagebrush landscapes at risk and that field offices be prepared with a response plan to avoid the conversion of compromised landscapes to invasive species following fires.
- **Mitigation**
  - **Mitigation,** to be meaningful in sage-grouse habitat, *must* create a *net increase* in sage-grouse habitat and be a *net benefit* to the local population.
- **Federal Ownership**
  - BLM should set forth a policy to retain important (core and non-core) **sage-grouse habitat in federal ownership.**
- **Terminology**
  - We urge BLM to develop a **formal set of definitions** for frequently used language to avoid inconsistent use of terminology, such as "suitable habitat" and "functional habitat." A glossary of terms, to be used throughout the interim guidelines and planning process, would help to ensure a uniform understanding of expected outcomes. Furthermore, we suggest BLM establish a general policy that if a parcel is located within a designated core area, it is presumed to contain (or be within) suitable sage-grouse habitat.
- **Monitoring and Adaptive Management**
  - Implementation of an effective monitoring and adaptive management process with performance based standards for each RMP is critical to the success of this effort. In addition to developing management prescriptions for sage-grouse, the technical committee should recommend triggers for adaptive management throughout the range and clearly specify the consequences that will result if triggers are reached. Triggers could include sage-grouse population target ranges, target levels of survival and recruitment in particular areas, measures of the cumulative level of surface disturbance and well density in core areas etc. Consequences that would result if triggers are reached would include increases in protective measures. Monitoring should be required and adequately funded.

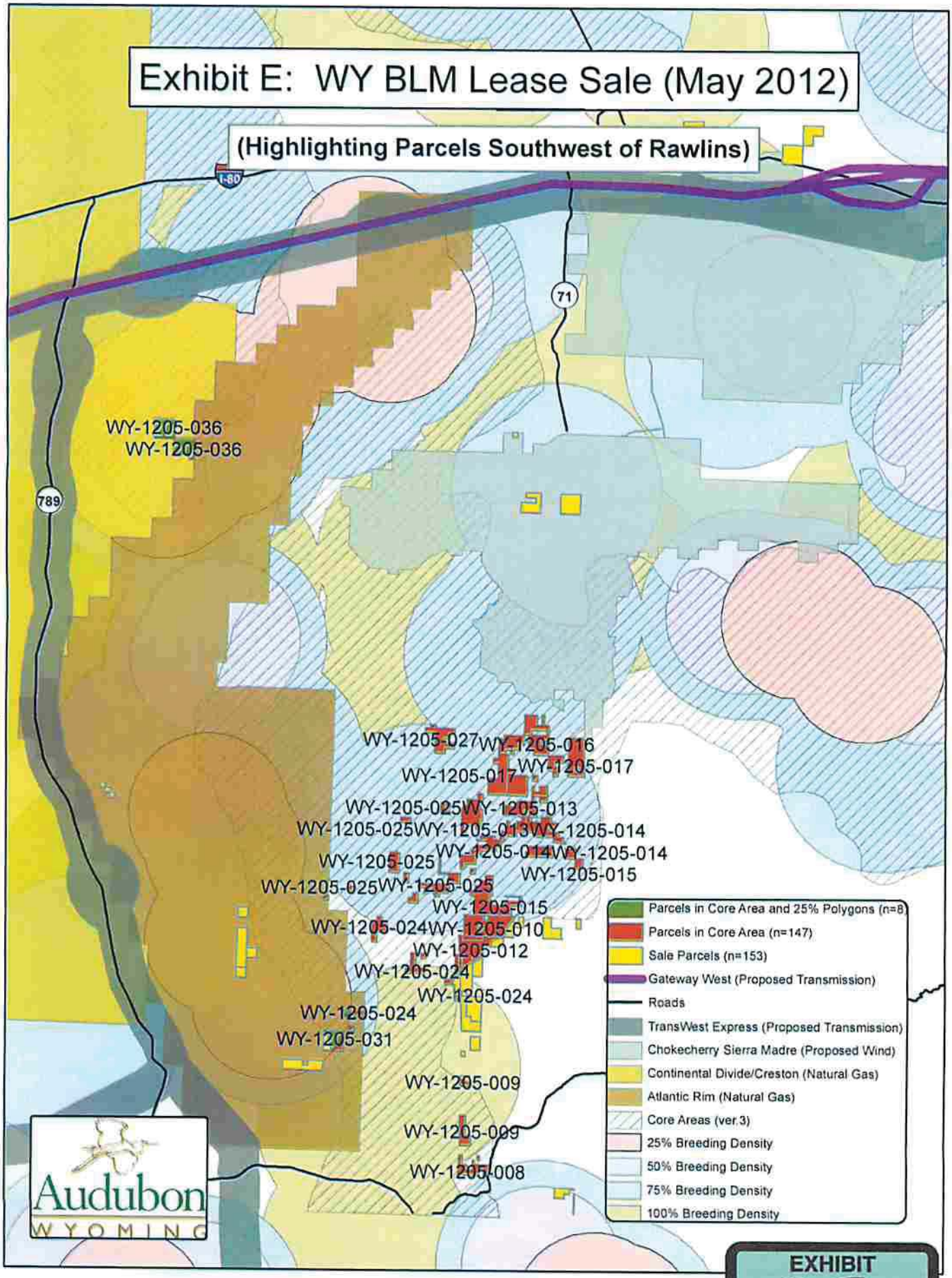
Exhibit E: WY BLM Lease Sale (May 2012)
(Highlighting Parcels Southwest of Rawlins)
I-80
71
789
WY-1205-036
WY-1205-036
WY-1205-027
WY-1205-016
WY-1205-017
WY-1205-017
WY-1205-025
WY-1205-013
WY-1205-025
WY-1205-013
WY-1205-014
WY-1205-014
WY-1205-014
WY-1205-025
WY-1205-015
WY-1205-025
WY-1205-025
WY-1205-015
WY-1205-024
WY-1205-010
WY-1205-012
WY-1205-024
WY-1205-024
WY-1205-024
WY-1205-031
WY-1205-009
WY-1205-009
WY-1205-008
Parcels in Core Area and 25% Polygons (n=8
Parcels in Core Area (n=147)
Sale Parcels (n=153)
Gateway West (Proposed Transmission)
Roads
TransWest Express (Proposed Transmission)
Chokecherry Sierra Madre (Proposed Wind)
Continental Divide/Creston (Natural Gas)
Atlantic Rim (Natural Gas)
Core Areas (ver.3)
25% Breeding Density
50% Breeding Density
75% Breeding Density
100% Breeding Density
Audubon
WYOMING
EXHIBIT
3E