



August 13, 2018

Via facsimile and hand delivery

U.S. Bureau of Land Management  
Wyoming State Office  
Attn. Mary Rugwell, State Director  
P.O. Box 1828  
Cheyenne, WY 82003  
Fax: (307) 775-6203

**Re: Protest of BLM Wyoming Third Quarter 2018 Competitive Oil and Gas Lease Sale**

Dear Ms. Rugwell:

Pursuant to 43 C.F.R. § 3120.1-3, The Center for Biological Diversity, Sierra Club, Upper Green River Network, Western Watersheds Project, and WildEarth Guardians submit the following protest of the U.S. Bureau of Land Management's ("BLM's") decision to approve three Environmental Assessments and Findings of No Significant Impact ("FONSI") in support of its September 18-20, 2018 (Wyoming Third Quarter) competitive oil and gas lease sale for multiple fields offices in Wyoming. The agency is proposing to lease 350 parcels totaling approximately 355,819 acres.

This protest is authorized to be filed on behalf of The Center for Biological Diversity, Sierra Club, Upper Green River Network, Western Watersheds Project, WildEarth Guardians and their members. The mailing address to which correspondence regarding this protest should be directed is as follows:

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On behalf of Upper Green River Network  
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WildEarth Guardians  
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Energy Campaign Coordinator  
Western Watersheds Project  
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[kfuller@westernwatersheds.org](mailto:kfuller@westernwatersheds.org) | (928) 322-8449

For the reasons set forth below, the undersigned organizations protest the lease parcels, as numbered in the Final Sale Notice, WY-183Q-1 through WY-183Q-350, inclusive:

| Lease Serial # | Acres    | County   | Field Office/ Area |
|----------------|----------|----------|--------------------|
| WY-183Q-001    | 160.000  | Niobrara | Newcastle          |
| WY-183Q-002    | 1111.220 | Niobrara | Newcastle          |
| WY-183Q-003    | 240.000  | Niobrara | Newcastle          |
| WY-183Q-004    | 160.000  | Niobrara | Newcastle          |
| WY-183Q-005    | 280.000  | Niobrara | Newcastle          |
| WY-183Q-006    | 40.000   | Niobrara | Newcastle          |
| WY-183Q-007    | 1560.000 | Niobrara | Newcastle          |
| WY-183Q-008    | 1449.660 | Niobrara | Newcastle          |
| WY-183Q-009    | 368.020  | Niobrara | Newcastle          |
| WY-183Q-010    | 720.000  | Niobrara | Newcastle          |
| WY-183Q-011    | 400.000  | Niobrara | Newcastle          |
| WY-183Q-012    | 200.000  | Niobrara | Newcastle          |
| WY-183Q-013    | 360.000  | Niobrara | Newcastle          |
| WY-183Q-014    | 1890.360 | Niobrara | Newcastle          |
| WY-183Q-015    | 640.000  | Niobrara | Newcastle          |
| WY-183Q-016    | 1680.000 | Niobrara | Newcastle          |
| WY-183Q-017    | 80.380   | Niobrara | Newcastle          |
| WY-183Q-018    | 80.000   | Crook    | Newcastle          |
| WY-183Q-019    | 481.220  | Converse | Casper             |
| WY-183Q-020    | 798.170  | Converse | Casper             |
| WY-183Q-021    | 240.000  | Converse | Casper             |
| WY-183Q-022    | 38.780   | Converse | Casper             |
| WY-183Q-023    | 245.730  | Campbell | Buffalo            |
| WY-183Q-024    | 245.830  | Campbell | Buffalo            |
| WY-183Q-025    | 534.340  | Campbell | Buffalo            |
| WY-183Q-026    | 1066.910 | Campbell | Buffalo            |
| WY-183Q-027    | 363.960  | Campbell | Buffalo            |
| WY-183Q-028    | 1117.320 | Campbell | Buffalo            |
| WY-183Q-029    | 82.560   | Campbell | Buffalo            |
| WY-183Q-030    | 158.890  | Campbell | Buffalo            |
| WY-183Q-031    | 198.540  | Campbell | Buffalo            |
| WY-183Q-032    | 1424.170 | Campbell | Buffalo            |
| WY-183Q-033    | 1877.960 | Campbell | Buffalo            |
| WY-183Q-034    | 1419.080 | Campbell | Buffalo            |
| WY-183Q-035    | 492.840  | Campbell | Buffalo            |
| WY-183Q-036    | 1363.070 | Campbell | Buffalo            |

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| WY-183Q-037 | 201.880  | Campbell | Buffalo |
| WY-183Q-038 | 40.510   | Campbell | Buffalo |
| WY-183Q-039 | 44.060   | Campbell | Buffalo |
| WY-183Q-040 | 124.140  | Campbell | Buffalo |
| WY-183Q-041 | 38.960   | Converse | Casper  |
| WY-183Q-042 | 1221.540 | Campbell | Buffalo |
| WY-183Q-043 | 1061.300 | Converse | Casper  |
| WY-183Q-044 | 1969.080 | Converse | Casper  |
| WY-183Q-045 | 550.640  | Converse | Casper  |
| WY-183Q-046 | 40.000   | Campbell | Buffalo |
| WY-183Q-047 | 281.060  | Campbell | Buffalo |
| WY-183Q-048 | 51.250   | Campbell | Buffalo |
| WY-183Q-049 | 830.780  | Converse | Casper  |
| WY-183Q-050 | 152.600  | Converse | Casper  |
| WY-183Q-051 | 1345.200 | Converse | Casper  |
| WY-183Q-052 | 1141.430 | Campbell | Buffalo |
| WY-183Q-053 | 1478.090 | Converse | Casper  |
| WY-183Q-054 | 598.790  | Converse | Casper  |
| WY-183Q-055 | 160.000  | Converse | Casper  |
| WY-183Q-056 | 80.000   | Natrona  | Casper  |
| WY-183Q-057 | 240.000  | Converse | Casper  |
| WY-183Q-058 | 640.000  | Natrona  | Casper  |
| WY-183Q-059 | 120.000  | Natrona  | Casper  |
| WY-183Q-060 | 40.000   | Converse | Casper  |
| WY-183Q-061 | 240.000  | Natrona  | Casper  |
| WY-183Q-062 | 240.000  | Natrona  | Casper  |
| WY-183Q-063 | 426.310  | Natrona  | Casper  |
| WY-183Q-064 | 309.610  | Natrona  | Casper  |
| WY-183Q-065 | 160.000  | Natrona  | Casper  |
| WY-183Q-066 | 80.000   | Natrona  | Casper  |
| WY-183Q-067 | 560.000  | Converse | Casper  |
| WY-183Q-068 | 80.000   | Converse | Casper  |
| WY-183Q-069 | 160.000  | Converse | Casper  |
| WY-183Q-070 | 2541.800 | Natrona  | Casper  |
| WY-183Q-071 | 120.000  | Natrona  | Casper  |
| WY-183Q-072 | 80.000   | Johnson  | Buffalo |
| WY-183Q-073 | 1229.670 | Natrona  | Casper  |
| WY-183Q-074 | 1031.420 | Natrona  | Casper  |
| WY-183Q-075 | 320.000  | Natrona  | Casper  |

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| WY-183Q-076 | 640.000  | Natrona     | Casper    |
| WY-183Q-077 | 1665.480 | Natrona     | Casper    |
| WY-183Q-078 | 1200.000 | Natrona     | Casper    |
| WY-183Q-079 | 960.000  | Natrona     | Casper    |
| WY-183Q-080 | 318.130  | Johnson     | Buffalo   |
| WY-183Q-081 | 200.000  | Sheridan    | Buffalo   |
| WY-183Q-082 | 239.710  | Natrona     | Casper    |
| WY-183Q-083 | 1056.940 | Fremont     | Lander    |
| WY-183Q-084 | 880.800  | Fremont     | Lander    |
| WY-183Q-085 | 1360.000 | Fremont     | Lander    |
| WY-183Q-086 | 1280.000 | Fremont     | Lander    |
| WY-183Q-087 | 2046.850 | Fremont     | Lander    |
| WY-183Q-088 | 433.600  | Fremont     | Lander    |
| WY-183Q-089 | 2552.080 | Sweetwater  | Lander    |
| WY-183Q-090 | 1275.870 | Sweetwater  | Lander    |
| WY-183Q-091 | 1277.020 | Sweetwater  | Lander    |
| WY-183Q-092 | 2559.040 | Sweetwater  | Lander    |
| WY-183Q-093 | 640.000  | Sweetwater  | Lander    |
| WY-183Q-094 | 641.400  | Fremont     | Lander    |
| WY-183Q-095 | 1161.600 | Fremont     | Lander    |
| WY-183Q-096 | 946.470  | Fremont     | Lander    |
| WY-183Q-097 | 150.470  | Hot Springs | Worland   |
| WY-183Q-098 | 2560.000 | Fremont     | Lander    |
| WY-183Q-099 | 2321.240 | Fremont     | Lander    |
| WY-183Q-100 | 2560.000 | Fremont     | Lander    |
| WY-183Q-101 | 1400.000 | Fremont     | Lander    |
| WY-183Q-102 | 1560.000 | Fremont     | Lander    |
| WY-183Q-103 | 683.760  | Big Horn    | Worland   |
| WY-183Q-104 | 280.000  | Fremont     | Lander    |
| WY-183Q-105 | 341.190  | Campbell    | Buffalo   |
| WY-183Q-106 | 493.910  | Niobrara    | Newcastle |
| WY-183Q-107 | 728.010  | Niobrara    | Newcastle |
| WY-183Q-108 | 80.000   | Niobrara    | Newcastle |
| WY-183Q-109 | 1280.000 | Niobrara    | Newcastle |
| WY-183Q-110 | 680.000  | Niobrara    | Newcastle |
| WY-183Q-111 | 167.820  | Niobrara    | Newcastle |
| WY-183Q-112 | 689.180  | Niobrara    | Newcastle |
| WY-183Q-113 | 325.440  | Weston      | Newcastle |
| WY-183Q-114 | 479.110  | Niobrara    | Newcastle |

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| WY-183Q-115 | 917.720  | Niobrara             | Newcastle |
| WY-183Q-116 | 358.090  | Niobrara             | Newcastle |
| WY-183Q-117 | 360.000  | Niobrara             | Newcastle |
| WY-183Q-118 | 160.000  | Niobrara             | Newcastle |
| WY-183Q-119 | 80.000   | Niobrara             | Newcastle |
| WY-183Q-120 | 40.000   | Niobrara             | Newcastle |
| WY-183Q-121 | 440.520  | Niobrara             | Newcastle |
| WY-183Q-122 | 120.000  | Weston               | Newcastle |
| WY-183Q-123 | 320.020  | Weston               | Newcastle |
| WY-183Q-124 | 240.000  | Weston               | Newcastle |
| WY-183Q-125 | 80.000   | Weston               | Newcastle |
| WY-183Q-126 | 480.000  | Niobrara &<br>Weston | Newcastle |
| WY-183Q-127 | 280.000  | Niobrara             | Newcastle |
| WY-183Q-128 | 480.000  | Weston               | Newcastle |
| WY-183Q-129 | 236.140  | Niobrara             | Newcastle |
| WY-183Q-130 | 720.000  | Weston               | Newcastle |
| WY-183Q-131 | 161.450  | Weston               | Newcastle |
| WY-183Q-132 | 2160.440 | Weston               | Newcastle |
| WY-183Q-133 | 199.970  | Weston               | Newcastle |
| WY-183Q-134 | 240.000  | Weston               | Newcastle |
| WY-183Q-135 | 80.000   | Niobrara             | Newcastle |
| WY-183Q-136 | 40.000   | Niobrara             | Newcastle |
| WY-183Q-137 | 240.000  | Weston               | Newcastle |
| WY-183Q-138 | 600.000  | Weston               | Newcastle |
| WY-183Q-139 | 160.000  | Weston               | Newcastle |
| WY-183Q-140 | 1180.420 | Crook                | Newcastle |
| WY-183Q-141 | 1050.640 | Crook                | Newcastle |
| WY-183Q-142 | 1305.520 | Weston               | Newcastle |
| WY-183Q-143 | 1664.470 | Weston               | Newcastle |
| WY-183Q-144 | 960.000  | Weston               | Newcastle |
| WY-183Q-145 | 1526.710 | Crook                | Newcastle |
| WY-183Q-146 | 1653.240 | Crook                | Newcastle |
| WY-183Q-147 | 1213.240 | Crook                | Newcastle |
| WY-183Q-148 | 1517.570 | Crook                | Newcastle |
| WY-183Q-149 | 1739.900 | Crook                | Newcastle |
| WY-183Q-150 | 364.040  | Crook                | Newcastle |
| WY-183Q-151 | 40.000   | Converse             | Casper    |
| WY-183Q-152 | 120.000  | Converse             | Casper    |

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| WY-183Q-153 | 2000.000 | Converse | Casper    |
| WY-183Q-154 | 2184.330 | Weston   | Newcastle |
| WY-183Q-155 | 2000.000 | Weston   | Newcastle |
| WY-183Q-156 | 1435.980 | Weston   | Newcastle |
| WY-183Q-157 | 120.000  | Weston   | Newcastle |
| WY-183Q-158 | 1713.060 | Weston   | Newcastle |
| WY-183Q-159 | 1376.380 | Crook    | Newcastle |
| WY-183Q-160 | 41.210   | Crook    | Newcastle |
| WY-183Q-161 | 775.830  | Crook    | Newcastle |
| WY-183Q-162 | 40.660   | Crook    | Newcastle |
| WY-183Q-163 | 880.310  | Crook    | Newcastle |
| WY-183Q-164 | 628.530  | Crook    | Newcastle |
| WY-183Q-165 | 40.400   | Crook    | Newcastle |
| WY-183Q-166 | 157.860  | Crook    | Newcastle |
| WY-183Q-167 | 80.000   | Converse | Casper    |
| WY-183Q-168 | 200.000  | Converse | Casper    |
| WY-183Q-169 | 243.760  | Campbell | Buffalo   |
| WY-183Q-170 | 240.000  | Converse | Casper    |
| WY-183Q-171 | 80.000   | Converse | Casper    |
| WY-183Q-172 | 160.000  | Converse | Casper    |
| WY-183Q-173 | 1981.440 | Campbell | Buffalo   |
| WY-183Q-174 | 98.650   | Converse | Casper    |
| WY-183Q-175 | 1867.670 | Campbell | Buffalo   |
| WY-183Q-176 | 1250.500 | Campbell | Buffalo   |
| WY-183Q-177 | 1160.000 | Converse | Casper    |
| WY-183Q-178 | 40.000   | Converse | Casper    |
| WY-183Q-179 | 493.150  | Campbell | Buffalo   |
| WY-183Q-180 | 39.400   | Campbell | Buffalo   |
| WY-183Q-181 | 39.670   | Campbell | Buffalo   |
| WY-183Q-182 | 280.000  | Campbell | Buffalo   |
| WY-183Q-183 | 20.940   | Campbell | Buffalo   |
| WY-183Q-184 | 280.000  | Converse | Casper    |
| WY-183Q-185 | 40.000   | Campbell | Buffalo   |
| WY-183Q-186 | 81.640   | Campbell | Buffalo   |
| WY-183Q-187 | 18.960   | Campbell | Buffalo   |
| WY-183Q-188 | 80.000   | Converse | Casper    |
| WY-183Q-189 | 1560.000 | Converse | Casper    |
| WY-183Q-190 | 40.090   | Johnson  | Buffalo   |
| WY-183Q-191 | 3.110    | Sheridan | Buffalo   |

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| WY-183Q-192 | 1954.320 | Natrona    | Casper  |
| WY-183Q-193 | 1120.000 | Natrona    | Casper  |
| WY-183Q-194 | 638.710  | Johnson    | Buffalo |
| WY-183Q-195 | 721.420  | Johnson    | Buffalo |
| WY-183Q-196 | 560.280  | Johnson    | Buffalo |
| WY-183Q-197 | 374.030  | Sheridan   | Buffalo |
| WY-183Q-198 | 1818.710 | Sheridan   | Buffalo |
| WY-183Q-199 | 120.010  | Johnson    | Buffalo |
| WY-183Q-200 | 1158.180 | Sheridan   | Buffalo |
| WY-183Q-201 | 1120.000 | Natrona    | Casper  |
| WY-183Q-202 | 471.930  | Natrona    | Casper  |
| WY-183Q-203 | 2400.000 | Natrona    | Casper  |
| WY-183Q-204 | 1240.000 | Natrona    | Casper  |
| WY-183Q-205 | 920.000  | Natrona    | Casper  |
| WY-183Q-206 | 40.000   | Sheridan   | Buffalo |
| WY-183Q-207 | 150.200  | Natrona    | Casper  |
| WY-183Q-208 | 1873.950 | Natrona    | Casper  |
| WY-183Q-209 | 160.000  | Natrona    | Casper  |
| WY-183Q-210 | 2524.240 | Natrona    | Casper  |
| WY-183Q-211 | 1320.000 | Natrona    | Casper  |
| WY-183Q-212 | 960.000  | Natrona    | Casper  |
| WY-183Q-213 | 629.840  | Natrona    | Lander  |
| WY-183Q-214 | 1920.200 | Sweetwater | Rawlins |
| WY-183Q-215 | 640.000  | Sweetwater | Rawlins |
| WY-183Q-216 | 2355.590 | Sweetwater | Rawlins |
| WY-183Q-217 | 1435.320 | Sweetwater | Rawlins |
| WY-183Q-218 | 1920.000 | Sweetwater | Rawlins |
| WY-183Q-219 | 1911.500 | Sweetwater | Rawlins |
| WY-183Q-220 | 1932.740 | Sweetwater | Rawlins |
| WY-183Q-221 | 2240.000 | Sweetwater | Rawlins |
| WY-183Q-222 | 2080.000 | Sweetwater | Rawlins |
| WY-183Q-223 | 2398.600 | Sweetwater | Rawlins |
| WY-183Q-224 | 2560.000 | Sweetwater | Rawlins |
| WY-183Q-225 | 2072.000 | Sweetwater | Rawlins |
| WY-183Q-226 | 2400.000 | Sweetwater | Rawlins |
| WY-183Q-227 | 1146.550 | Fremont    | Lander  |
| WY-183Q-228 | 2080.000 | Sweetwater | Rawlins |
| WY-183Q-229 | 1280.000 | Sweetwater | Rawlins |
| WY-183Q-230 | 1280.000 | Sweetwater | Rawlins |

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| WY-183Q-231 | 560.000  | Fremont     | Lander  |
| WY-183Q-232 | 2560.000 | Washakie    | Worland |
| WY-183Q-233 | 600.000  | Washakie    | Worland |
| WY-183Q-234 | 48.120   | Big Horn    | Worland |
| WY-183Q-235 | 80.000   | Big Horn    | Worland |
| WY-183Q-236 | 160.000  | Big Horn    | Worland |
| WY-183Q-237 | 40.000   | Big Horn    | Worland |
| WY-183Q-238 | 160.000  | Big Horn    | Worland |
| WY-183Q-239 | 80.000   | Washakie    | Worland |
| WY-183Q-240 | 160.000  | Washakie    | Worland |
| WY-183Q-241 | 480.000  | Washakie    | Worland |
| WY-183Q-242 | 750.390  | Washakie    | Worland |
| WY-183Q-243 | 40.000   | Washakie    | Worland |
| WY-183Q-244 | 2400.000 | Washakie    | Worland |
| WY-183Q-245 | 440.000  | Washakie    | Worland |
| WY-183Q-246 | 200.000  | Washakie    | Worland |
| WY-183Q-247 | 39.970   | Washakie    | Worland |
| WY-183Q-248 | 40.000   | Big Horn    | Worland |
| WY-183Q-249 | 120.000  | Big Horn    | Worland |
| WY-183Q-250 | 57.370   | Big Horn    | Worland |
| WY-183Q-251 | 440.000  | Hot Springs | Worland |
| WY-183Q-252 | 2157.350 | Washakie    | Worland |
| WY-183Q-253 | 923.910  | Washakie    | Worland |
| WY-183Q-254 | 1722.060 | Washakie    | Worland |
| WY-183Q-255 | 2038.920 | Washakie    | Worland |
| WY-183Q-256 | 2360.000 | Washakie    | Worland |
| WY-183Q-257 | 2139.420 | Washakie    | Worland |
| WY-183Q-258 | 2360.420 | Washakie    | Worland |
| WY-183Q-259 | 1960.000 | Washakie    | Worland |
| WY-183Q-260 | 1520.100 | Washakie    | Worland |
| WY-183Q-261 | 640.000  | Washakie    | Worland |
| WY-183Q-262 | 2080.000 | Big Horn    | Worland |
| WY-183Q-263 | 1120.870 | Sweetwater  | Rawlins |
| WY-183Q-264 | 1597.730 | Sweetwater  | Rawlins |
| WY-183Q-265 | 1513.200 | Sweetwater  | Rawlins |
| WY-183Q-266 | 899.150  | Hot Springs | Worland |
| WY-183Q-267 | 532.580  | Hot Springs | Worland |

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| WY-183Q-268 | 549.130  | Hot Springs | Worland      |
| WY-183Q-269 | 1248.680 | Hot Springs | Worland      |
| WY-183Q-270 | 80.000   | Sweetwater  | Rawlins      |
| WY-183Q-271 | 2401.170 | Sweetwater  | Rock Springs |
| WY-183Q-272 | 1600.000 | Sweetwater  | Rock Springs |
| WY-183Q-273 | 1923.760 | Sweetwater  | Rock Springs |
| WY-183Q-274 | 440.000  | Hot Springs | Worland      |
| WY-183Q-275 | 440.000  | Hot Springs | Worland      |
| WY-183Q-276 | 160.000  | Hot Springs | Worland      |
| WY-183Q-277 | 1920.000 | Sweetwater  | Rock Springs |
| WY-183Q-278 | 1924.450 | Sweetwater  | Rock Springs |
| WY-183Q-279 | 1923.230 | Sweetwater  | Rock Springs |
| WY-183Q-280 | 1921.600 | Sweetwater  | Rock Springs |
| WY-183Q-281 | 2560.000 | Sweetwater  | Rock Springs |
| WY-183Q-282 | 1920.000 | Sweetwater  | Rock Springs |
| WY-183Q-283 | 1921.200 | Sweetwater  | Rock Springs |
| WY-183Q-284 | 2560.000 | Sweetwater  | Rock Springs |
| WY-183Q-285 | 2560.000 | Sweetwater  | Rock Springs |
| WY-183Q-286 | 1921.680 | Sweetwater  | Rock Springs |
| WY-183Q-287 | 2560.000 | Sweetwater  | Rock Springs |
| WY-183Q-288 | 1922.480 | Sweetwater  | Rock Springs |
| WY-183Q-289 | 1897.720 | Sweetwater  | Rock Springs |
| WY-183Q-290 | 2548.680 | Sweetwater  | Rock Springs |
| WY-183Q-291 | 2480.000 | Sweetwater  | Rock Springs |
| WY-183Q-292 | 2147.260 | Sweetwater  | Rock Springs |
| WY-183Q-293 | 1760.000 | Sweetwater  | Rock Springs |
| WY-183Q-294 | 2400.000 | Sweetwater  | Rock Springs |
| WY-183Q-295 | 1600.000 | Sweetwater  | Rock Springs |
| WY-183Q-296 | 2246.850 | Fremont     | Rock Springs |
| WY-183Q-297 | 1900.440 | Fremont     | Rock Springs |
| WY-183Q-298 | 2080.000 | Fremont     | Rock Springs |
| WY-183Q-299 | 1920.000 | Fremont     | Rock Springs |
| WY-183Q-300 | 1800.000 | Fremont     | Rock Springs |
| WY-183Q-301 | 2160.430 | Sweetwater  | Rock Springs |
| WY-183Q-302 | 513.700  | Sweetwater  | Rock Springs |
| WY-183Q-303 | 695.110  | Sweetwater  | Rock Springs |

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| WY-183Q-304 | 2384.930 | Sweetwater | Rock Springs |
| WY-183Q-305 | 2227.040 | Sweetwater | Rock Springs |
| WY-183Q-306 | 1763.620 | Sweetwater | Rock Springs |
| WY-183Q-307 | 2558.500 | Sweetwater | Rock Springs |
| WY-183Q-308 | 640.000  | Sweetwater | Rock Springs |
| WY-183Q-309 | 1590.100 | Sweetwater | Rock Springs |
| WY-183Q-310 | 1640.000 | Sweetwater | Rock Springs |
| WY-183Q-311 | 160.000  | Sweetwater | Rock Springs |
| WY-183Q-312 | 920.000  | Sweetwater | Rock Springs |
| WY-183Q-313 | 320.000  | Sweetwater | Rock Springs |
| WY-183Q-314 | 1240.000 | Fremont    | Rock Springs |
| WY-183Q-315 | 2558.630 | Fremont    | Rock Springs |
| WY-183Q-316 | 2280.000 | Fremont    | Rock Springs |
| WY-183Q-317 | 1920.000 | Fremont    | Rock Springs |
| WY-183Q-318 | 1000.180 | Sweetwater | Rock Springs |
| WY-183Q-319 | 1640.260 | Sweetwater | Rock Springs |
| WY-183Q-320 | 2314.520 | Sweetwater | Rock Springs |
| WY-183Q-321 | 320.000  | Sweetwater | Rock Springs |
| WY-183Q-322 | 320.000  | Sweetwater | Rock Springs |
| WY-183Q-323 | 398.530  | Sweetwater | Rock Springs |
| WY-183Q-324 | 2474.420 | Sweetwater | Rock Springs |
| WY-183Q-325 | 2229.480 | Sweetwater | Rock Springs |
| WY-183Q-326 | 2551.720 | Sweetwater | Rock Springs |
| WY-183Q-327 | 2553.200 | Sweetwater | Rock Springs |
| WY-183Q-328 | 1921.860 | Sweetwater | Rock Springs |
| WY-183Q-329 | 2547.810 | Sweetwater | Rock Springs |
| WY-183Q-330 | 2560.000 | Sweetwater | Rock Springs |
| WY-183Q-331 | 2560.000 | Sweetwater | Rock Springs |
| WY-183Q-332 | 2553.700 | Sweetwater | Rock Springs |
| WY-183Q-333 | 1720.000 | Sweetwater | Rock Springs |
| WY-183Q-334 | 1677.120 | Sweetwater | Rock Springs |
| WY-183Q-335 | 1279.840 | Sweetwater | Rock Springs |
| WY-183Q-336 | 2386.810 | Sublette   | Rock Springs |
| WY-183Q-337 | 2560.000 | Sublette   | Rock Springs |
| WY-183Q-338 | 800.000  | Sublette   | Rock Springs |
| WY-183Q-339 | 2528.240 | Sublette   | Rock Springs |
| WY-183Q-340 | 129.750  | Sublette   | Pinedale     |
| WY-183Q-341 | 2442.110 | Lincoln    | Pinedale     |
| WY-183Q-342 | 1160.000 | Lincoln    | Pinedale     |

|             |          |            |           |
|-------------|----------|------------|-----------|
| WY-183Q-343 | 1119.600 | Lincoln    | Pinedale  |
| WY-183Q-344 | 1680.280 | Lincoln    | Pinedale  |
| WY-183Q-345 | 600.000  | Lincoln    | Pinedale  |
| WY-183Q-346 | 1258.090 | Lincoln    | Pinedale  |
| WY-183Q-347 | 240.000  | Weston     | Newcastle |
| WY-183Q-348 | 80.000   | Sweetwater | Lander    |
| WY-183Q-349 | 640.000  | Sweetwater | Lander    |
| WY-183Q-350 | 793.480  | Fremont    | Lander    |

### **INTERESTS OF THE PROTESTING PARTIES**

The Center for Biological Diversity is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center also works to reduce greenhouse gas emissions to protect biological diversity, our environment, and public health. The Center has over 1.6 million members and on-line activists, including those living in Wyoming and neighboring states who have visited public lands management area for recreational, scientific, educational, and other pursuits and intend to continue to do so in the future, and are particularly interested in protecting the many native, imperiled, and sensitive species and their habitats that may be affected by the proposed oil and gas leasing.

The Upper Green River Network is a Waterkeeper Alliance Affiliate Program of the Colorado Riverkeeper and Living Rivers based in Laramie, Wyoming. The Upper Green Network is a member of the Waterkeeper Alliance Network and provides a presence in Wyoming as the headwaters of the Green River. The program is dedicated to research, education, mobilization, and public involvement in Wyoming with the goal of conserving the naturally diverse values within the Green River Basin.

The Sierra Club was founded in 1892 and is the nation's oldest and largest grassroots environmental organization with more than 779,000 members nationwide and 1,152 for the Wyoming Chapter. Sierra Club's mission is to explore, enjoy and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; and to educate and enlist humanity to protect and restore the quality of the natural and human environments. Sierra Club Wyoming Chapter has over 5,000 members and supporters who regularly use and enjoy lands that may be affected by the proposed lease sale. Sierra Club members and supporters live, work and recreate in the potentially affected area, using it for activities such as hiking, backpacking, camping, fishing, hunting, and wildlife viewing, as well as for business, scientific, spiritual, aesthetic and environmental purposes.

Western Watersheds Project is a non-profit organization headquartered in Idaho with more than 5,000 members and supporters. WWP's mission is to protect and restore western watersheds and wildlife through education, public policy initiatives and legal advocacy. Western Watersheds Project has staff and members in Wyoming who use and enjoy America's lands and

their wildlife, cultural and natural resources for health, recreational, scientific, spiritual, educational, aesthetic and other purposes. WWP also has a direct interest in mineral development that occurs in areas with sensitive wildlife populations and important wildlife habitat, as well as long-standing interests in preserving and conserving greater sage-grouse populations and habitat in Wyoming.

WildEarth Guardians is a nonprofit environmental advocacy organization dedicated to protecting the wildlife, wild places, wild rivers, and health of the American West. On behalf of our members, Guardians has an interest in ensuring the BLM fully protects public lands and resources as it oversees the oil and gas industry's plans to lease publicly-owned minerals. More specifically, Guardians has an interest in ensuring the BLM meaningfully and genuinely takes into account the air, water, and climate implications of its oil and gas decisions, including objectively and robustly weighing the costs and benefits of authorizing the release of more greenhouse gas emissions known to contribute to global warming.

For the reasons set forth below, this EA does not satisfy the requirements of NEPA, and the proposed lease sale would therefore violate the National Environmental Policy Act ("NEPA"), the Mineral Leasing Act ("MLA"), and the Federal Lands Policy and Management Act ("FLPMA"). BLM should produce a full Environmental Impact Statement ("EIS") for the lease sale. In particular, BLM's EAs for the proposed lease sale, fail to comply with NEPA's obligation to consider direct, indirect and cumulative impacts, especially with respect to air and climate pollution, fails to meet its obligations to consider foreseeable environmental impacts to greater sage-grouse, including consideration of relevant and readily available scientific information, and the proposed alternative does not conform to the requirement of the Buffalo, Casper, Newcastle, Lander, Bighorn Basin, Worland, Cody, Rawlins, Green River, and Pinedale Resource Management Plans ("RMPs") to prioritize oil and gas leasing outside of Priority and General Habitat Management Areas designated for the greater sage-grouse.

Therefore, protesting parties request that the BLM refrain from offering all the parcels up for lease unless and until it completes its requirements under the National Environmental Policy Act of 1976 ("NEPA"), 42 U.S.C. §§ 4321–4370h, NEPA regulations promulgated thereunder by the White House Council on Environmental Quality ("CEQ"), 40 C.F.R. § 1500, *et seq.*, and the Federal Land Policy and Management Act of 1976 ("FLPMA"), 43 U.S.C. §§ 1701–1787.

#### **I. The EAs Improperly Limit Analysis of Reasonably Foreseeable Environmental Impacts.**

NEPA demands that a federal agency prepare an EIS before taking a "major [f]ederal action[] significantly affecting the quality of the environment." *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1067 (9th Cir. 2002). In order to determine whether a project's impacts may be "significant," an agency may first prepare an EA. 40 C.F.R. §§ 1501.4, 1508.9. If the EA reveals that "the agency's action may have a significant effect upon the . . . environment, an EIS must be prepared." *Nat'l Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 730 (9th Cir. 2001) (internal quotations omitted). If the agency determines that no significant impacts are possible, it must still adequately explain its decision by supplying a "convincing statement of reasons" why the action's effects are insignificant. *Blue Mountains Biodiversity Project v.*

*Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998). Further, an agency must prepare all environmental analyses required by NEPA at “the earliest possible time.” 40 C.F.R. § 1501.2. “NEPA is not designed to postpone analysis of an environmental consequence to the last possible moment,” but is “designed to require such analysis as soon as it can reasonably be done.” *Kern*, 284 F.3d at 1072.

BLM has unlawfully restricted its NEPA analysis by arbitrarily limiting the scope of its analysis of oil and gas activity that may result from the lease sale and by failing to analyze sufficiently site-specific impacts. NEPA regulations and caselaw require that BLM evaluate all “reasonably foreseeable” direct and indirect effects of its leasing. 40 C.F.R. § 1508.8; *Davis v. Coleman*, 521 F.2d 661, 676 (9th Cir. 1975); *Center for Biological Diversity v. Bureau of Land Mgmt.*, 937 F. Supp. 2d 1140 (N.D. Cal. 2013) (holding that oil and gas leases were issued in violation of NEPA where BLM failed to prepare an EIS and unreasonably concluded that the leases would have no significant environmental impact because the agency failed to take into account all reasonably foreseeable development under the leases).

BLM, in its September 2018 Part 2 lease sale EA, arbitrarily refuses to consider sufficiently site-specific impacts. BLM indicates it does not have to consider some, or perhaps all, site-specific impacts because the exact extent of those impacts is unknown at this stage and subject to regulation at a later date. EA at 1-5. The federal courts, however, have repeatedly clarified in numerous cases that site-specific impacts can and should be analyzed at the leasing stage. See *Pennaco Energy, Inc. v. U.S. Dep’t of Interior*, 377 F.3d 1147, 1160 (10th Cir. 2004) (requiring analysis of coalbed methane development impacts at the oil and gas leasing stage). The Tenth Circuit in *New Mexico ex rel. Richardson v. BLM*, 565 F.3d 683 (10th Cir. 2009), explained in detail the extent of BLM’s obligations at the leasing stage:

Taken together, [*Park County* and *Pennaco Energy*] establish that there is no bright line rule that site-specific analysis may wait until the APD stage. Instead, the inquiry is necessarily contextual. Looking to the standards set out by regulation and by statute, assessment of all “reasonably foreseeable” impacts must occur at the earliest practicable point, and must take place before an “irretrievable commitment of resources” is made. 42 U.S.C. § 4332(2)(C)(v); *Pennaco Energy*, 377 F.3d at 1160; *Kern*, 284 F.3d at 1072; 40 C.F.R. §§ 1501.2, 1502.22. Each of these inquiries is tied to the existing environmental circumstances, not to the formalities of agency procedures. Thus, applying them necessarily requires a fact-specific inquiry.

*Id.* at 717-18.

The proposed lease sale would result in impacts that BLM will not be able to avoid once the lease sale is finalized because the agency’s ability to prevent lessees from engaging in lawful activities on issued leases will be limited. BLM regulations provide that lessees “have the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold subject to” limited conditions, including lease stipulations, “specific, nondiscretionary statutes,” and limited “reasonable measures” that do not preclude all development activities. 43 C.F.R. § 3101.1-2. Under *Pennaco Energy* and *New Mexico v. BLM*, BLM cannot simply assert that site-specific analysis may wait until the APD

stage, but most consider whether non-“no surface occupancy” leases constitute an irretrievable commitment of resources, and whether development impacts are reasonably foreseeable, in the context of known fuel supply, industry plans, and existing and ongoing development.

NEPA requires that an agency conduct all environmental analyses at “the earliest possible time.” 40 C.F.R. § 1501.2; *see also New Mexico*, 565 F.3d at 718. Here, this means that BLM must analyze all site-specific impacts now, before it has leased the land and is unable to prevent environmental impacts.

**B. The BLM’s Reliance on IM 2018-034 violates the National Environmental Policy Act, Federal Land Policy and Management Act, and Administrative Procedure Act by unlawfully limiting public participation.**

On January 31, 2018—without any public notice, comment, or environmental review—BLM issued Instruction Memorandum 2018-034, directing BLM offices to sharply limit public involvement in oil and gas leasing decisions. The IM lists public involvement as an “unnecessary impediment” to domestic energy production and imposes new barriers to public input in the leasing process. These include making comment periods optional at the discretion of BLM field staff and restricting the former 30-day protest period to just 10 days. To the extent that the September lease sale implements IM 2018-034, including abbreviated comment and protest periods and the addition of substantial new acreage without time for adequate analysis, the lease sale is unlawful.

These changes unreasonably inhibit protestors—and all Americans—from weighing in on decisions affecting their public lands. They are also unlawful, for three reasons. First, BLM promulgated IM 2018-034 without notice-and-comment rulemaking required under the Federal Land Policy and Management Act (FLPMA), National Environmental Policy Act (NEPA), and Administrative Procedure Act (APA). Second, the revised procedures disregard BLM’s obligations, under both FLPMA and NEPA, to allow for public participation in land management decisions. Third, BLM failed to provide a reasoned explanation for its elimination of long-standing public comment and protest periods, violating its obligation to engage in well-reasoned, non-arbitrary decisionmaking under the APA.

FLPMA Section 309(e) requires that the public be allowed meaningful participation in public lands management decisions. *See* 43 U.S.C. § 1739(e). It provides:

In exercising his authorities under this Act, the Secretary, *by regulation*, shall establish procedures . . . to give the Federal, State, and local governments and the public adequate notice and an opportunity to comment upon the formulation of standards and criteria for, *and to participate in*, the preparation and execution of plans and programs for, and the management of, the public lands.

43 U.S.C. § 1739(e) (emphasis added). FLPMA Section 310 further directs BLM to follow traditional APA rulemaking procedures in promulgating rules and regulations under FLPMA, without regard to APA’s “public property” exemption which allowed BLM avoid rulemaking in the past. *See* 43 U.S.C. § 1740. Also, FLPMA Section 102 reiterates that “it is the policy of the

United States that [the Secretary of Interior] be required to establish comprehensive rules and regulations *after considering the views of the general public[.]*” 43 U.S.C. § 1701(a). FLPMA thus mandates that DOI and BLM involve the public in the “actual management of public lands.” *Donald K. Majors*, 123 IBLA 142, 147 (1992). BLM violated these FLPMA mandates in adopting IM 2018-034 without undertaking notice-and-comment rulemaking, and in applying IM 2018-034 to exclude or sharply limit public participation in BLM oil and gas leasing decisions.

NEPA is designed to ensure that federal agencies “will have available, and will carefully consider, detailed information concerning significant environmental impacts” of their actions before they occur. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989); 40 C.F.R. § 1500.1(c). NEPA “also guarantees that the relevant information will be made available to the larger [public] audience that may also play a role in both the decision-making process and the implementation of that decision.” *Robertson*, 490 U.S. at 349; 40 C.F.R. § 1500.1(b).

Under the CEQ regulations, federal agencies may adopt their own agency-specific procedures for fulfilling their NEPA obligations. *See* 40 C.F.R. § 1507.3. Agencies must consult with CEQ while developing these procedures and publish the proposed regulations in the Federal Register for public review and comment. *Id.* § 1507.3(a). Agencies must also “continue to review their policies and procedures and in consultation with the [CEQ] to revise them as necessary to ensure full compliance with the purposes and provisions of the Act.” *Id.* In adopting IM 2018-034, BLM violated NEPA and the CEQ regulations by adopting IM 2018-034 without undertaking notice-and-comment rulemaking or conferring with CEQ, thereby excluding or sharply limiting public participation in BLM’s NEPA evaluations of proposed oil and gas leasing decisions.

By, under IM 2018-034, providing the public with only a 10-day protest period, on a Determination of NEPA Adequacy addressing proposed oil and gas leases involving substantial uncertainties and potential impacts, BLM is violating the APA, NEPA, and FLPMA.

IM 2018-034 is procedurally invalid under FLPMA, NEPA, and the APA. First, as noted above, FLPMA section 309(e) provides that:

In exercising his authorities under this Act, the Secretary, *by regulation*, shall establish procedures . . . to give the Federal, State, and local governments and the public adequate notice and an opportunity to comment upon the formulation of standards and criteria for, and to participate in, the preparation and execution of plans and programs for, and the management of, the public lands.

43 U.S.C. § 1739(e) (emphasis added). FLPMA Section 310 further directs BLM to follow APA rulemaking procedures. *See* 43 U.S.C. § 1740.

Where Congress has explicitly directed an agency to proceed “by regulation” on some subject, the agency has no discretion to use a less formal method. Here, IM 2018-034 falls within the scope of FLPMA Section 309, because it establishes procedures for public participation in oil

and gas leasing, a BLM management decision. Yet BLM adopted IM 2018-034 by fiat, without notice-and-comment rulemaking as required by FLPMA and the APA. Accordingly, BLM's issuance of IM 2018-034 was procedurally invalid.

Second, BLM's issuance of IM 2018-034 also violated its obligation to proceed by notice-and-comment rulemaking when updating its NEPA procedures. As noted above, the CEQ regulations direct federal agencies to adopt and revise their own agency-specific NEPA procedures through consultation with CEQ, and by publishing the proposed regulations in the Federal Register for public review and comment. *See* 40 C.F.R. § 1507.3; *see also* 40 C.F.R. § 1506.6 ("Agencies shall: . . . (a) Make diligent efforts to involve the public in preparing . . . their NEPA procedures"). Here, BLM used IM 2018-034 to revise its NEPA procedures for oil and gas leasing, without publishing the proposed changes in the Federal Register for public comment, in violation of the CEQ regulations and NEPA. BLM's failure to follow proper procedures to adopt the changes to its oil and gas leasing process as required by the CEQ regulations compounds its FLPMA violations

Third, BLM's elimination of critical opportunities for public participation in leasing decisions is arbitrary, capricious, and contrary to law. In FLPMA Section 102, Congress declared: "it is the policy of the United States that" the Secretary of Interior be required to "assure adequate third party participation." 43 U.S.C. § 1701(a). To achieve this objective, as quoted above, FLPMA Section 309(e) requires that the Secretary of Interior must "*give . . . the public adequate notice and an opportunity to comment* upon the formulation of standards and criteria for, and to participate in, the preparation and execution of plans and programs for, and the management of, the public lands." 43 U.S.C. § 1739(e) (emphasis added). FLPMA Section 103 further defines "public involvement" as "the opportunity for participation by affected citizens in rule making, decision making, and planning with respect to the public lands, including public meetings or hearings held at locations near the affected lands, or advisory mechanisms, or such other procedures as may be necessary to provide public comment in a particular instance." 43 U.S.C. § 1702(d). Oil and gas leasing decisions fall into the "management" category of Section 309(e). Therefore, under FLPMA, public participation is required for such decisions, and IM 2018-034 violates this mandate.

*First*, by removing the term "will" and replacing it with a "may," *see* IM 2018-034 § III.C.5., BLM has granted itself impermissible discretion in determining whether to involve the public in oil and gas leasing decisions. *Second*, by declaring that public comment is not required in lease sales supported by a DNA and making no provision for public comment in lease sales supported by an EA, IM 2018-034 fails satisfy BLM's obligation to provide, at a bare minimum, an opportunity for public comment in leasing decisions. *Third*, by relegating public input to the adversarial protest and appeals process for many lease sales, BLM has deprived the public of meaningful involvement in the formulation of BLM leasing decisions. *Fourth and finally*, the unreasonably short comment and protest deadlines inhibit the public's ability to meaningfully review and comment on BLM oil and gas leasing decisions. The public receives no notice when specific parcels are nominated for leasing. This means that BLM's publication of a Draft EA or Sale Notice is often the public's first indication of which lands will be up for auction. In a matter of 10 or 15 calendar days—which amounts to just 6 to 11 working days—would-be commenters and protesters must scramble to prepare their submissions.

## **II. The EAs Fail to Adequately Disclose or Analyze the Leasing Decision's Impact on Climate Change.**

Meaningful consideration of greenhouse gas emissions (GHGs) is clearly within the scope of required NEPA review. *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9<sup>th</sup> Cir. 2008). As the Ninth Circuit has held, in the context of fuel economy standard rules:

The impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct. Any given rule setting a CAFE standard might have an "individually minor" effect on the environment, but these rules are "collectively significant actions taking place over a period of time" *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1216 (9<sup>th</sup> Cir. 2008)(quoting 40 C.F.R. § 1508.7).

The courts have ruled that federal agencies consider indirect GHG emissions resulting from agency policy, regulatory, and leasing decisions. For example, agencies cannot ignore the indirect air quality and climate change impact of decisions that would open up access to coal reserves. *See Mid States Coal. For Progress v. Surface Transp. Bd.*, 345 F.3d 520, 532, 550 (8<sup>th</sup> Cir. 2003); *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F.Supp. 3d 1174, 1197-98 (D.Colo. 2014).

The EA fails to fully and accurately analyze the impacts of increased oil and gas development on greenhouse gas (GHG) emissions and climate change based on this particular Wyoming oil and gas lease sale. See, e.g., Part 2 EA at 4-6 to 4-13. Failure to fully account for the full downstream emissions that will foreseeably result from oil and gas development and resulting combustion, particularly within the Buffalo Field Office, violates the March 2018 order of the U.S. District Court in *Western Organization of Resource Councils v. BLM*, No. 4:16-cv-0021 (D. Mont. March 23, 2018). In that case, the court found that the BLM's Buffalo RMP EIS had failed to conduct a full and fair analysis of the cumulative emissions and climate impacts of that Field Office's fossil fuel leasing activities. Until those deficiencies are corrected, BLM cannot rely on the Buffalo RMP and accompanying EIS to justify new oil and gas leasing.

NEPA requires "reasonable forecasting," which includes the consideration of "reasonably foreseeable future actions...even if they are not specific proposals" *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1079 (9<sup>th</sup> Cir. 2011) (citation omitted). That BLM cannot "accurately" calculate the total emissions expected from full development is not a rational basis for cutting off its analysis. "Because speculation is . . . implicit in NEPA," agencies may not. "shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as crystal ball inquiry." *Id.* Indeed, the EA for a recent lease sale in Utah undercuts BLM's assertion here that GHGs cannot be quantified at the leasing stage<sup>1</sup>. *See High*

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<sup>1</sup> U.S. Bureau of Land Management, Environmental Assessment for West Desert District, Fillmore Field Office, August 2015 Oil and Gas Lease Sale, pp. 57-58 (Dec. 2015); U.S. Bureau of Land Management, Greenhouse Gases Estimate (West Desert District Nov 2015 Lease Sale), [http://www.blm.gov/style/medialib/blm/ut/natural\\_resources/airQuality.Par.38](http://www.blm.gov/style/medialib/blm/ut/natural_resources/airQuality.Par.38)

*Country Conservation Advocates v. United States Forest Serv.*, 52 F. Supp. 3d 1174, 1196 (D. Colo. 2014) (decision to forgo calculating mine's reasonably foreseeable GHG emissions was arbitrary "in light of the agencies' apparent ability to perform such calculations").

It is reasonably foreseeable, as opposed to speculative, that this lease sale will induce oil and natural gas production, transmission and ultimate end-user climate change impacts. The effects of this induced production must be considered in the EA, and in fact, necessitate a more robust review under an EIS. See, e.g., *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1081-82 (9th Cir. 2011) (finding that NEPA review must consider induced coal production at mines, which was a reasonably foreseeable effect of a project to expand a railway line that would carry coal, especially where company proposing the railway line anticipated induced coal production in justifying its proposal); *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549-50 (8th Cir. 2003) (environmental effects of increased coal consumption due to construction of a new rail line to reach coal mines was reasonably foreseeable and required evaluation under NEPA). The development of an area for lease and subsequent oil and gas production would certainly result in combustion of the extracted product, which the EA acknowledges. As courts have held in similar contexts, combustion emissions resulting from opening up a new area to development are "reasonably foreseeable," and therefore a "proximate cause" of the leasing. See *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549 (8th Cir. 2003) (holding that agency violated NEPA when it failed to disclose and analyze the future coal combustion impacts associated with the agency's approval of a railroad line that allowed access to coal deposits); *High Country Conserv'n Advocates v. United States Forest Serv.*, 52 F. Supp. 3d 1174, 1197 (D. Colo. 2014) (same with respect to GHG emissions resulting from approval of coal mining exploration project).

In both *Mid States Coalition* and *High Country*, the courts rejected the government's rationale that increased emissions from combustion of coal was not reasonably foreseeable because the same amount of coal would be burned without opening up the areas at issue to new coal mining. Both courts found this argument "illogical at best" and noted that "increased availability of inexpensive coal will at the very least make coal a more attractive option to future entrants into the utilities market when compared with other potential fuel sources, such as nuclear power, solar power, or natural gas." See *High Country*, 52 F. Supp. 3d at 1197 (quoting *Mid States Coalition*, 345 F.3d at 549). "On similar grounds, the development of new wells over the proposed areas for lease will increase the supply of [oil and natural gas]. At some point this additional supply will impact the demand for [oil and gas] relative to other fuel sources, and [these minerals] that otherwise would have been left in the ground will be burned. This reasonably foreseeable effect must be analyzed, even if the precise extent of the effect is less certain." *Id.* See also *WildEarth Guardians v. United States Office of Surface Mining, Reclamation & Enft.*, 104 F. Supp. 3d 1208, 1229-30 (D. Colo. 2015) (coal combustion was indirect effect of agency's approval of mining plan modifications that "increased the area of federal land on which mining has occurred" and "led to an increase in the amount of federal coal available for combustion.")

Even if it were true that potential emissions cannot reasonably be estimated, or estimated with a high degree of accuracy, it is possible for BLM to identify significant sources of greenhouse gas emissions, which would enable the identification of specific measures to reduce

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emissions and an understanding of the extent to which certain emissions are avoidable. The extreme urgency of the climate crisis requires BLM to pursue all means available to limit the climate change effects of its actions. Any emissions source, no matter how small, is potentially significant, such that BLM should fully explore mitigation and avoidance options for all sources.

BLM suggests that quantification of GHGs would occur when actual drilling is proposed. EA at 3-18. But by delaying quantification until after a lease is issued, BLM may prejudice the consideration of alternatives or leasing stipulations that would avoid or reduce greenhouse gas emissions to an extent not otherwise available after leasing. BLM has long (but incorrectly) maintained that leasing stipulations can only be imposed with the issuance of the lease. Thereafter, purportedly, its authority to condition drilling is limited to “reasonable measures” or “conditions of approval” that may not be “[in]consistent with lease rights granted.” 43 C.F.R. § 3101.1-2. Cost-prohibitive measures could therefore potentially be barred. Further, measures to “minimize” impacts may be imposed, but those may not necessarily avoid impacts altogether. *Id.* Waiting until the drilling stage could also be too little too late, as various other actions may occur between leasing and drilling, such as the execution of unit agreements, or construction of roads or pipelines, all of which may narrow mitigation options available at the drilling stage. *See William P. Maycock et al.*, 177 I.B.L.A. 1, 20-21 (Dec. Int. 2008) (holding that unit agreements limit drilling-stage alternatives).

The Leasing EA’s failure to accurately quantify reasonably foreseeable GHG emissions that could result from new leasing within the multiple areas of Wyoming covered by the proposed lease sale—including lifecycle emissions from construction, operating fossil-fuel powered equipment during production, reclamation, transportation, processing and refining, and combustion of the extracted product—is unlawful and unsupported by evidence or reasoned analysis.

### **III. The EA Fails to Disclose and Analyze Impacts of Oil and Gas Development and Hydraulic Fracturing on Humans, Aquatic Species, and the Environment**

Many of the Wyoming September 2018 Third Quarter Lease Sale parcels bring forth concerns regarding abundance and quality of water resources. The Great Divide Basin is an endorheic, or closed basin, meaning water does not flow out of the watershed where the majority of the water originates. Inflowing water into the barred geology of the Great Divide Basin eventually evaporates leaving behind higher concentrations of minerals and other sediment that would otherwise continue downstream. Because of these high evaporation and seepage rates, endorheic water bodies can be more sensitive to pollutants.<sup>2</sup> Further, the basin is quite arid and only receives 7 to 10 inches annually<sup>3</sup>.

Oil and gas development further depletes currently stressed streams and aquifers, has the potential to introduce pollutants into the water, and may increase sediment loads, which may

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<sup>2</sup> United Nations Environment Program. “The Watershed: Water from the Mountains into the Sea.” Lakes and Reservoirs vol. 2.

<sup>3</sup> Western Regional Climate Center. Climate of Wyoming. [https://wrcc.dri.edu/Climate/narrative\\_wy.php](https://wrcc.dri.edu/Climate/narrative_wy.php) (Last accessed December, 27).

affect aquatic species. Research has shown that even trace amounts of chemicals used in fracking can harm the gills and livers of fish species.<sup>4</sup> Fracking chemical spills are not uncommon, therefore can relatively easily harm fish. Additionally, farm animals may graze on lands that are also in close proximity to fracking wells and be susceptible to water contamination. Researchers at Cornell found a correlation between fracking wastewater spills and dying calves<sup>5</sup>. Fish and wildlife provide sustainable economic, cultural, and aesthetic benefits to the state of Wyoming and therefore should under any circumstances be a viable externality for the short-term benefits of oil and gas extraction.

#### IV. The EAs Fail to Disclose New Scientific Information, Engage in Site-Specific Analysis, or Conform to Governing RMPs Regarding Conservation of Greater Sage-Grouse.

##### Specific Parcels Protested:

WY-183Q-10; WY-183Q-11; WY-183Q-12; WY-183Q-14; WY-183Q-15; WY-183Q-16; WY-183Q-19; WY-183Q-20; WY-183Q-24; WY-183Q-26; WY-183Q-28; WY-183Q-34; WY-183Q-43; WY-183Q-44; WY-183Q-45; WY-183Q-49; WY-183Q-51; WY-183Q-53; WY-183Q-54; WY-183Q-55; WY-183Q-56; WY-183Q-57; WY-183Q-58; WY-183Q-59; WY-183Q-60; WY-183Q-61; WY-183Q-62; WY-183Q-63; WY-183Q-64; WY-183Q-65; WY-183Q-66; WY-183Q-67; WY-183Q-68; WY-183Q-69; WY-183Q-73; WY-183Q-74; WY-183Q-75; WY-183Q-76; WY-183Q-77; WY-183Q-78; WY-183Q-79; WY-183Q-80; WY-183Q-82; WY-183Q-89; WY-183Q-90; WY-183Q-91; WY-183Q-92; WY-183Q-93; WY-183Q-98; WY-183Q-99; WY-183Q-100; WY-183Q-101; WY-183Q-102; WY-183Q-104; WY-183Q-105; WY-183Q-111; WY-183Q-115; WY-183Q-116; WY-183Q-117; WY-183Q-118; WY-183Q-120; WY-183Q-121; WY-183Q-122; WY-183Q-123; WY-183Q-124; WY-183Q-125; WY-183Q-126; WY-183Q-127; WY-183Q-129; WY-183Q-130; WY-183Q-131; WY-183Q-132; WY-183Q-133; WY-183Q-134; WY-183Q-135; WY-183Q-136; WY-183Q-137; WY-183Q-138; WY-183Q-139; WY-183Q-142; WY-183Q-143; WY-183Q-144; WY-183Q-145; WY-183Q-146; WY-183Q-147; WY-183Q-148; WY-183Q-152; WY-183Q-153; WY-183Q-154; WY-183Q-155; WY-183Q-156; WY-183Q-157; WY-183Q-158; WY-183Q-159; WY-183Q-160; WY-183Q-164; WY-183Q-167; WY-183Q-170; WY-183Q-173; WY-183Q-192; WY-183Q-193; WY-183Q-195; WY-183Q-201; WY-183Q-202; WY-183Q-203; WY-183Q-204; WY-183Q-205; WY-183Q-207; WY-183Q-208; WY-183Q-209; WY-183Q-210; WY-183Q-211; WY-183Q-212; WY-183Q-213; WY-183Q-214; WY-183Q-215; WY-183Q-216; WY-183Q-217; WY-183Q-218; WY-183Q-219; WY-183Q-220; WY-183Q-221; WY-183Q-222; WY-183Q-223; WY-183Q-224; WY-183Q-225; WY-183Q-226; WY-183Q-227; WY-183Q-228; WY-183Q-229; WY-183Q-230; WY-183Q-232; WY-183Q-263; WY-183Q-264; WY-183Q-266; WY-183Q-268; WY-183Q-269; WY-183Q-270; WY-183Q-271; WY-183Q-272; WY-183Q-274; WY-183Q-275; WY-183Q-276; WY-183Q-277; WY-183Q-296; WY-183Q-297; WY-183Q-298; WY-183Q-299; WY-183Q-300; WY-183Q-301; WY-183Q-302; WY-183Q-303; WY-183Q-304; WY-183Q-305; WY-183Q-306; WY-183Q-307; WY-183Q-308; WY-183Q-309; WY-183Q-310; WY-183Q-311; WY-183Q-312; WY-183Q-313; WY-183Q-314; WY-183Q-315; WY-183Q-316; WY-183Q-317;

<sup>4</sup> Weber, Bob. Alberta research shows fracking fluids can cause harm to fish. *CBC News*. <http://www.cbc.ca/news/canada/edmonton/alberta-research-shows-fracking-fluids-cause-significant-harm-to-fish-1.3950539> (2017).

<sup>5</sup> Oswald, Robert and Bamberger, Michelle. Impacts of Gas Drilling on Human and Animal Health. *SAGE Journals*. (2016).

WY-183Q-319; WY-183Q-320; WY-183Q-321; WY-183Q-322; WY-183Q-323; WY-183Q-324; WY-183Q-325; WY-183Q-326; WY-183Q-327; WY-183Q-328; WY-183Q-329; WY-183Q-330; WY-183Q-331; WY-183Q-332; WY-183Q-333; WY-183Q-334; WY-183Q-335; WY-183Q-336; WY-183Q-337; WY-183Q-338; WY-183Q-339; WY-183Q-340; WY-183Q-341; WY-183Q-342; WY-183Q-343; WY-183Q-344; WY-183Q-345; WY-183Q-346; WY-183Q-347; WY-183Q-348; WY-183Q-349; WY-183Q-350

Wyoming supports 35-40% of the entire population of greater sage-grouse and is a source population for the more isolated grouse populations in Montana and the Dakotas.<sup>6</sup> Since 2007, there has been an increase in the number of known inactive leks statewide, while the number of active leks has remained constant. At the same time, there has been a 60% decrease in the average number of males counted per lek statewide, indicating an overall statewide population decline of 60% from 2007 to 2013. This is cause for extreme concern, especially given the fact that there have been many wet springs during this period with above-average forb and cover production, which should have resulted in increases in sage grouse population numbers. This inadequacy is confirmed by Copeland et al. (2013), who projected further statewide declines across Wyoming with the implementation of current conservation strategies.<sup>7</sup>

Despite the fact that highly sensitive sage-grouse habitat would be threatened by new leasing, the three EAs fail in four major respects to disclose or analyze indirect and cumulative impacts of leasing on greater sage-grouse. They fail to meaningfully inform the reader or the decision-maker of the extent of new leasing within priority and general habitat management areas, both in this lease sale and cumulatively in lease sales since the finalization of the sage-grouse RMP amendments. Second, they tier to and rely on RMP decisions for management of Wyoming greater sage-grouse habitat that do not address the most recent and best available science regarding measures necessary to ensure the survival and recovery of the species. Third, the proposed leasing action violates FLPMA by failing to conform to a key management prescription of the still-operative Wyoming 2015 plan amendments – the obligation to “prioritize the leasing and development of fluid mineral resources outside GRSG habitat.” Because the proposed leases are not in conformance with the 2015 RMP amendments and undermine significant assumptions of their accompanying FEISs (i.e., that new oil and gas development will be prioritized outside of greater sage-grouse habitat), the EA cannot tier to or rely on those EISs. Fourth, the EAs fail to consider any reasonable alternatives other than the leasing of all proposed parcels, including alternatives that would meet the plan requirement of prioritizing leasing and development outside of sage-grouse habitats.

#### **A. The EA Fails to Conduct Site-Specific Analysis of Sage-Grouse Impacts**

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<sup>6</sup> See Upper Snake River Basin Sage –grouse Local Working Group, Upper Snake River Basin Sage-Grouse Conservation Plan (2014) (draft), *available at*: [http://wgfd.wyo.gov/web2011/Departments/Wildlife/pdfs/SG\\_USRBASIN\\_DRAFT0005199.pdf](http://wgfd.wyo.gov/web2011/Departments/Wildlife/pdfs/SG_USRBASIN_DRAFT0005199.pdf).

<sup>7</sup> Copeland, H. E. et al., Measuring the effectiveness of conservation: a novel framework to quantify the benefits of sage-grouse conservation policy and easements in Wyoming, 8 PLoS ONE 6: e67261, doi:10.1371/journal.pone.0067261 (2013).

The proposed lease sale, however, is particularly damaging to the future viability of greater sage-grouse because it would allow for new leasing of sage-grouse habitat both without site-specific analysis of impacts, and without complying with the revised Wyoming RMPs' mandate to prioritize leasing outside of both priority and general habitat. The proposed lease sale includes 199 parcels containing Priority and/or General Habitat Management areas within Wyoming version 4 Core Areas.<sup>8</sup> The EAs are completely lacking, however in any meaningful description of the habitats and populations affected, visual depiction of the extent or siting of affected parcels, or analysis of the particular breeding populations that will be affected.

The body of the EAs fail completely to quantify or otherwise disclose the affected acreage, map the affected populations, or assess existing levels of disturbance within those populations. Without this information, it is impossible for either BLM or the public to understand whether new leasing—in light of land ownership and use, existing leases, and existing development—can meet the disturbance and density objectives of the Wyoming sage-grouse amendments.

The lease sale EAs do not contain sufficient site-specific analysis to satisfy the requirements of NEPA and its implementing regulations. Instead, they tier to the Bighorn Basin, Buffalo, Casper, Cody, Green River, Lander, Newcastle, Pinedale, Rawlins, Rocky Mountain Region, Rock Springs, and Worland Resource Management Plans (RMPs) and/or Records of Decision (RODs). In addition, the lease sale EAs tier to the 2015 Wyoming Greater Sage-Grouse Proposed Land Use Plan Amendment and Final Environmental Impact Statement (WY LUPA FEIS) and its RMP and ROD. However, the greater sage-grouse analysis in these tiered-to documents is also insufficient.

First, several of the tiering documents from the individual field office and district offices are 10 years or more old and contain sage-grouse NEPA analysis that is now outdated and incomplete.<sup>9</sup> Second, the NEPA analysis in the more recent Final Environmental Impact Statement for the Wyoming ARMPA (WY ARMPA FEIS) is not in itself enough to meet BLM's NEPA obligations for this lease sale because it does not contain site-specific analysis and is outdated. Third, even the most recent of the NEPA analyses for individual field offices were completed in 2013 and 2015.<sup>10</sup> The lease sale EAs do not bring these past NEPA analyses up-to-date with current sage-grouse information, even though it is readily available to BLM from Wyoming Game and Fish Department.

The WY ARMPA FEIS's general analysis of Wyoming's greater sage-grouse populations derives from the 2013 Conservation Objectives Team Report (COT Report),<sup>11</sup> which was

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<sup>8</sup> See Attachment A, Map of Wyoming Third Quarter Lease Sale Parcels Within Greater- Sage-Grouse Habitat.

<sup>9</sup> The Wyoming Field Offices in this lease sale with RMPs that have Final EIS analyses which are 10 years or older are Casper (2007), Newcastle (1999), Pinedale (August 2008), Rawlins (January 2008), and Rock Springs (a.k.a. Green River, 1996).

<sup>10</sup> These are the Proposed RMP and Final EISs for Bighorn Basin (2015, Cody and Worland Field Offices), Buffalo (2015), and Lander (2013).

<sup>11</sup> The WY ARMPA FEIS describes the COT Report as follows: "In 2012, the Director of the Fish and Wildlife Service asked the Conservation Objectives Team (COT), consisting of state and US Fish and Wildlife Service representatives, to produce recommendations regarding the agree to which the threats need to be reduced or ameliorated to conserve Greater Sage-Grouse so that it would no longer be in danger of extinction or likely to

published five years ago. For example, the WY ARMPA FEIS asserts, concerning the Wyoming portion of the Wyoming Basin population:

This large population covers approximately two-thirds of the State of Wyoming... The population is separated from adjacent populations by distance and topography (Garton et al. 2011). Sage-grouse habitats are expansive and relatively intact outside of areas of energy development. Despite the long-term declines in populations, implementation of the Wyoming Governor's Executive Order for sage-grouse may help alleviate these declines. The primary threats to this portion of the population are energy development and transfer, including both renewable and non-renewable resources, long-term drought, and brush eradication programs. Declines of sage-grouse near oil and gas fields in this area have been well documented (Lyon 2000; Holloran 2005; Holloran and Anderson; Kaiser 2006).<sup>12</sup>

However, the Wyoming Basin population of greater-sage grouse is not the only population that uses habitat in the parcels proposed for this lease sale. The Northeast Wyoming population also uses lease sale parcel habitat, but the Wyoming ARMPA FEIS does not provide even a general level of population trend analysis for that population. In contrast, the Wyoming Game and Fish Department's 2016-2017 Sage-grouse Job Completion report provides statewide population information and is readily available online.<sup>13</sup> BLM can also obtain detailed lek counts and other sage-grouse population data from Wyoming Game and Fish Department, more quickly and in greater detail than the public can, yet this information is missing from the lease sale EAs.

In addition, the WY ARMPA FEIS states that it lacks information on greater sage-grouse winter concentration areas, connectivity habitat, and nesting/early brood-rearing habitat. As a result, "Subsequent project-level analyses will provide the opportunity to collect and examine site-specific inventory data necessary to determine the appropriate application of the LUP-level guidance."<sup>14</sup> However, the lease sale EAs do not provide this additional information or even discuss whether it is available.

Regarding greater sage-grouse in the Casper Field Office planning area, the 2015 WY ARMPA FEIS states:

Presently, there are approximately 200 Greater Sage-Grouse leks documented throughout the field office, primarily in Natrona and Converse counties, with the highest densities of leks occurring in larger tracts of sagebrush shrublands. The largest Greater Sage-Grouse lek complexes are found in Bates Hole, the Shirley Basin, the Rattlesnake Hills, the South Bighorns, and the Laramie Range foothills. Occupied habitat is fairly contiguous throughout much of Bates Hole and the Shirley Basin. Habitats within the Rattlesnake Hills and the South Bighorns are more fragmented by changes in habitat type and land

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become in danger of extinction in the foreseeable future. The COT Report provides objectives based upon the best scientific and commercial data available at the time of its release." WY ARMPA FEIS at 3-239.

<sup>12</sup> WY ARMPA FEIS at 3-239.

<sup>13</sup> See Tom Christiansen (Wyoming Game and Fish Department), Statewide Sage-grouse Job Completion Report 2016, June 2016-May 2017. Available at [https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/JCRS/2016-17\\_SG\\_JCR\\_Complete.pdf](https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/JCRS/2016-17_SG_JCR_Complete.pdf).

<sup>14</sup> WY ARMPA FEIS at 4-3.

use practices. Greater Sage-Grouse habitats in the Laramie Range are primarily limited to the portion of the west slope of the Laramie Range. Large contiguous blocks of sagebrush and grassland communities east of the Laramie Range have, for the most part, been eliminated. Specific wintering concentration areas of Greater Sage-Grouse within the field office are not widely documented to date.”<sup>15</sup>

This WY ARMPA FEIS text was copied and pasted nearly word for word from the 2007 Casper RMP FEIS:

Presently, there are approximately 200 greater sage-grouse leks documented throughout the planning area, primarily in Natrona and Converse counties, with the highest densities of leks occurring in larger tracts of sagebrush shrublands (Map 19). The largest greater sage-grouse lek complexes are found in Bates Hole, the Shirley Basin, the Rattlesnake Hills, the South Bighorns, and the Laramie Range foothills. Occupied habitat is fairly contiguous throughout much of Bates Hole and the Shirley Basin. Habitats within the Rattlesnake Hills and the South Bighorns are more fragmented by changes in habitat type and land use practices. Greater sage-grouse habitats in the Laramie Range are primarily limited to the portion of the west slope of the Laramie Range. Large contiguous blocks of sagebrush and grassland communities east of the Laramie Range have, for the most part, been eliminated. Specific wintering concentration areas of greater sage-grouse within the planning area are not widely documented to date.<sup>16</sup>

Thus, this Casper Field Office information that the lease sale EAs tier to does not actually date from 2015, but from 2007, making the lease sale EAs’ lack of current site-specific sage-grouse NEPA analysis all the more concerning.

Similarly, the WY ARMPA FEIS states:

The following discussion of the Greater Sage-Grouse population trend within the [Casper] field office is summarized from Greater Sage-Grouse Assessment Input to Bureau of Land Management Casper Field Office Resource Management Plan Revision (WGFD 2005b). The WGFD and the BLM have annually surveyed and monitored Greater Sage-Grouse leks since the 1950s. Male attendance on leks is utilized by the WGFD to provide an index of relative change in population abundance in response to environmental conditions over time. The number of males observed per lek has decreased by more than 31% since 1958. More recently, the number of males counted per lek increased through the 1980s, peaked in 1992, dramatically declined through the early 1990s, came to an all-time low between 1994 and 1997, and has since recovered to a level similar to the early 1980s. Since data collection was standardized in 1996, the number of males counted on leks has exhibited some recovery.<sup>17</sup>

Again, this 2015 WY ARMPA FEIS discussion of greater sage-grouse is very nearly copied and pasted from the 2007 Casper RMP and FEIS, which states:

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<sup>15</sup> WY ARMPA FEIS at 3-286.

<sup>16</sup> Proposed Casper RMP and Final EIS at 3-73.

<sup>17</sup> WY ARMPA FEIS at 3-286.

The following discussion of the greater sage-grouse population trend within the planning area is summarized from WGFD 2005e and reproduced in entirety in Appendix E. The WGFD and the BLM have annually surveyed and monitored greater sage-grouse leks since the 1950s. Male attendance on leks is utilized by the WGFD to provide an index of relative change in population abundance in response to environmental conditions over time. The number of males observed per lek has decreased by more than 31 percent since 1958. More recently, the number of males counted per lek increased through the 1980s, peaked in 1992, dramatically declined through the early 1990s, came to an all-time low between 1994 and 1997, and has since recovered to a level similar to the early 1980s. Since data collection was standardized in 1996, the number of males counted on leks has exhibited some recovery.<sup>18</sup>

Therefore, the statement that “the numbers of males counted on leks has exhibited some recovery,” dates to 2005, which was 13 years ago. The EAs for this lease sale do not update this 13 year old information. Thus BLM is relying on outdated NEPA analysis for a BLM sensitive species that was a candidate for listing under the Endangered Species Act only three years ago and which could become a candidate for listing again, given continuing population declines and habitat loss. In contrast, the Wyoming Game and Fish Department’s 2016-2017 Sage-grouse Job Completion report provides statewide population information and is readily available online.<sup>19</sup> BLM can also obtain detailed lek counts and other sage-grouse population data from Wyoming Game and Fish Department, more quickly and in greater detail than the public can, yet this information is missing from the lease sale EAs.

In regard to greater sage-grouse in the Newcastle Field Office planning area, the WY ARMPA FEIS states:

There are 104 known sage-grouse leks in the field office. Big sagebrush shrublands are the second most abundant vegetative type in the planning unit accounting for about 0.25 of the vegetative types. Sage-grouse populations in the Newcastle Field Office have been cyclic in the last 30 years (Figure 3-48). Average peak male attendance has not been higher than 25 with a low of four.<sup>20</sup>

However, the WY ARMPA FEIS does not identify the source of this information, so it is impossible to know if this is 2015 information or if comes from an earlier source, as, for example, the Casper information in the WY ARMPA FEIS does. (The Newcastle FEIS and Proposed RMP (1999) does not provide sage-grouse population data). Even if the Newcastle information in the WY ARMPA FEIS is from 2015, the Wyoming Game and Fish Department’s 2016-2017 Sage-grouse Job Completion report provides more recent, highly detailed sage-grouse

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<sup>18</sup> Proposed Casper RMP and Final EIS at 3-73.

<sup>19</sup> See Tom Christiansen (Wyoming Game and Fish Department), Statewide Sage-grouse Job Completion Report 2016, June 2016-May 2017. Available at [https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/JCRS/2016-17\\_SG\\_JCR\\_Complete.pdf](https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/JCRS/2016-17_SG_JCR_Complete.pdf).

<sup>20</sup> WY ARMPA FEIS at 3-289.

population information and is readily available online.<sup>21</sup> BLM can also obtain detailed lek counts and other sage-grouse population data from Wyoming Game and Fish Department, more quickly and in greater detail than the public can, yet this information is missing from the lease sale EAs.

It is especially important that BLM uses the most recent data available when analyzing potential oil and gas leasing on greater sage-grouse habitat in the Newcastle Field Office planning area, which is used by the Northeast Wyoming sage-grouse population. The 2016-2017 Sage-grouse Job Completion Report states:

Northeast Wyoming has the lowest average male lek attendance in the state, averaging 18 males per active lek in 2017 compared to the statewide average of 32 males per active lek (Figure 5). Most leks in northeast Wyoming are small with less than 20 males. In years when grouse are at the peak of their population cycle less than 10% of the active leks have greater than 50 males at peak count. Twelve leks exceeded 50 males in 2017 with the largest being 86 males.

Average male lek attendance in northeast Wyoming has decreased significantly over the years. Figure 6 shows the average number of males per active lek by decade since monitoring efforts began. Average male attendance has decreased by more than one-half over the last thirty years. A slight upswing occurred from 2000-2009, however, the long-term trend remains a concern.<sup>22</sup>

....  
Figure 9 shows the average number of males/active lek for lek counts and all lek monitoring (counts and surveys) combined from 1967 to 2017 for the NEWLWGA. If the average number of males/active lek is reflective of the sage-grouse population, the trend suggests about a 10- year cycle of periodic highs and lows. Of concern, however, is that with the exception of the most recent cycle, subsequent peaks in the average male lek attendance are usually lower than the previous peak. Additionally, periodic lows in the average male attendance are generally lower than the previous low. The long term trend suggests a steadily declining sage-grouse population.<sup>23</sup>

Given the precarious state of the Northeast Wyoming greater sage-grouse population and the ready availability of detailed population and trend data about it, the lease sale EAs should have discussed which proposed lease sale parcels are in the Northeast Wyoming greater sage-grouse population area. The lease sale EAs should also have analyzed the potential effects of additional oil and gas development on that declining sage-grouse population, such as the

<sup>21</sup> See Tom Christiansen (Wyoming Game and Fish Department), Statewide Sage-grouse Job Completion Report 2016, June 2016-May 2017. Available at [https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/JCRS/2016-17\\_SG\\_JCR\\_Complete.pdf](https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/JCRS/2016-17_SG_JCR_Complete.pdf).

<sup>22</sup> Tom Christiansen (Wyoming Game and Fish Department), Statewide Sage-grouse Job Completion Report 2016, June 2016-May 2017 at 199. Available at [https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/JCRS/2016-17\\_SG\\_JCR\\_Complete.pdf](https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/JCRS/2016-17_SG_JCR_Complete.pdf).

<sup>23</sup> Tom Christiansen (Wyoming Game and Fish Department), Statewide Sage-grouse Job Completion Report 2016, June 2016-May 2017 at 204-205. Available at [https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/JCRS/2016-17\\_SG\\_JCR\\_Complete.pdf](https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/JCRS/2016-17_SG_JCR_Complete.pdf).

possibility of soft or hard trigger criteria of the BLM Wyoming sage-grouse plan being met and whether soft or hard trigger criteria have already been met since its 2015 publication.

Furthermore, greater sage-grouse in the Buffalo Field Office planning area are part of the small and isolated Northeast Wyoming population.<sup>24</sup> The Buffalo Proposed RMP and FEIS states that it is in danger of extirpation.<sup>25</sup> The Buffalo RMP and FEIS also states the number of active leks, but does not discuss field office specific lek counts and population trends. In contrast, the 2016-2017 Sage-grouse Job Completion Report provides this information for sage-grouse throughout the state and is readily available. BLM can also obtain detailed lek counts and other sage-grouse population data from Wyoming Game and Fish Department, more quickly and in greater detail than the public can, yet this information is missing from the lease sale EAs.

In regard to greater sage-grouse in the Pinedale Field Office planning area, the WY ARMPA FEIS takes its population data from the Upper Green River Basin section of a Wyoming Fish and Game 2010 Sage-grouse Job Completion Report. This is outdated information because newer versions of that report are available online. The same section of the most recent Sage-grouse Job Completion Report (2016-2017) states:

The last peak in male attendance occurred in 2007 and was the highest level ever recorded for the area. Since 2007, the observed average peak male has declined through 2010, stabilized from 2011-2014, and increased in 2015-2016 (Figure 1). The 2017 male lek attendance is 20% lower compared to the peak in 2007 using all occupied leks within the UGRBWGA. This trend is likely a combination of the cyclic nature of sage-grouse populations (Fedy and Doherty 2010) and drought combined with documented influences from habitat fragmentation in the Upper Green River Basin.<sup>26</sup>

In addition, the 2016-2017 Sage-grouse Job Completion report states that a lek analysis to assess natural gas development impacts in the Pinedale area found higher rates of decline at leks within roughly one mile of gas field development in the Pinedale Anticline and Jonah project areas.<sup>27</sup> Furthermore, the same study found

The Disturbed Leks show activity levels declining from an average of 86% (1997-2001) to 45% by 2016 (occupied leks only). The Undisturbed Leks<sup>28</sup> show activity levels changing very little with an average of 81% (1997-2001) to 84% by 2016, see Figure 5. In addition, a much higher proportion of leks are currently unoccupied (abandoned or destroyed) within or near the PAPA [Pinedale Anticline Project Area] and Jonah gas

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<sup>24</sup> The Buffalo Proposed RMP and FEIS uses the name "Powder River Basin" to describe greater sage-grouse in the Buffalo Field Office planning area.

<sup>25</sup> Proposed RMP and FEIS for the Buffalo Field Office Planning Area at 511.

<sup>26</sup> Tom Christiansen (Wyoming Game and Fish Department), Statewide Sage-grouse Job Completion Report 2016, June 2016-May 2017 at 254. Available at [https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/JCRS/2016-17\\_SG\\_JCR\\_Complete.pdf](https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/JCRS/2016-17_SG_JCR_Complete.pdf).

<sup>27</sup> Tom Christiansen (Wyoming Game and Fish Department), Statewide Sage-grouse Job Completion Report 2016, June 2016-May 2017 at 255.

<sup>28</sup> The study characterized greater sage-grouse leks within or near gasfield development as Disturbed and leks further away as Undisturbed. "Near gasfield development" means within roughly one mile. WFGD 2016-2017 Sage-grouse Job Completion Report at 255.

fields (Disturbed Leks) at 42% compared to 10% outside the PAPA and Jonah as fields (Undisturbed Leks).<sup>29</sup>

This information from the 2016-2017 report updates the WY ARMPA FEIS's description of an earlier period in this same study (1997 to 2008), showing that the lek declines within one mile of the Pinedale Anticline and Jonah gas fields that were detected in 2008 were still occurring in 2016.

The 2016-2017 report also states:

Lek monitoring in the UGRBWGA showed a 146% increase in the peak number of males per lek from 2003 to 2007 as males increased from 28 males/lek to 69 males/lek. This trend reversed after 2007, as the number of males/lek declined by 48% dropping to 36 males/lek by spring of 2014. During 2015, lek counts showed a 47% (53 males/lek) increase followed by an 8% increase in 2016 and 4% decrease in 2017. Sage-grouse leks within developing gas fields continue to show declines and lek abandonment regardless of lek trends outside of gas development, indicating negative impacts to leks and populations in and near natural gas fields. Several leks exist within non-core habitats and within identified and exiting gas development fields that will be subject to further impacts.<sup>30</sup>

This information is highly relevant to the BLM's decision whether to offer additional parcels for oil and gas lease sale in the Pinedale planning area, but it was not included in the lease sale EAs although it is more recent than the information in the previous NEPA analyses tiered to by the lease sale EAs. Instead, BLM is basing its decision whether to offer lease parcels in the Pinedale planning area based on lek and population data in prior NEPA analyses that is a minimum of eight-10 years old, even though more recent information about sage-grouse in the Pinedale planning area is readily available.<sup>31</sup> In addition to the most recent Sage-grouse Job Completion Report, BLM can also obtain detailed lek counts and other sage-grouse population data from Wyoming Game and Fish Department, more quickly and in greater detail than the public can.

In regard to greater-sage grouse in the Rock Springs Field Office planning area, the WY ARMPA FEIS states:

Data collected in 2003 by the WGFD compared to data collected by Patterson (1952) from sage-grouse leks surveys in the planning area have shown a 70% decline in the numbers of males attending leks since 1952. If information from the adjacent private lands is included, the decline reaches 90%. Although no single or combination of causes have been proven, the decline in Greater Sage-Grouse populations is thought to be

<sup>29</sup> Tom Christiansen (Wyoming Game and Fish Department), Statewide Sage-grouse Job Completion Report 2016, June 2016-May 2017 at 256.

<sup>30</sup> Tom Christiansen (Wyoming Game and Fish Department), Statewide Sage-grouse Job Completion Report 2016, June 2016-May 2017 at 262.

<sup>31</sup> There is detailed sage-grouse population information in the 2008 Proposed Resource Management Plan and Final Environmental Impact Statement for the Pinedale Field Office, but this document is even more outdated than the information in the WY ARMPA FEIS.

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attributed to a multitude of factors which include, but are not limited to: drought; oil and gas wells and their associated infrastructure; power lines; mammalian and avian predators; and a decline in the quantity and quality of sagebrush habitat resulting from livestock grazing, range management treatments, and development activities (Connelly et al. 2000).<sup>32</sup>

Thus, the WY ARMPA FEIS's greater sage-grouse population data for the Rock Springs Field Office planning area dates to 2003, rather than 2015, so is 15 years old. The Green River Proposed RMP and FEIS (1996) also notes that planning area greater sage-grouse are in a population decline and that in 1968, there were approximately 133 active "strutting grounds" (leks) within and adjacent to the planning area, but by 1992, there were fewer than 92.<sup>33</sup> In contrast to BLM's 15 and 22 year old prior NEPA analyses, the 2016-2017 Sage-grouse Completion Report provides current sage-grouse population data and is readily available. BLM can also obtain detailed lek counts and other sage-grouse population data from Wyoming Game and Fish Department, more quickly and in greater detail than the public can, yet this information is missing from the lease sale EAs.

Greater sage-grouse population data specific to the Rawlins planning area are not included in the lease sale EAs, nor in the WY ARMPA FEIS. The Rawlins RMP and FEIS (2008) is 10 years old and other than a generalized map of lek locations, offers only general information about greater sage-grouse, not Rawlins-specific information about population, lek counts, trends, use of seasonal habitat, etc. In contrast, the 2016-2017 Sage-grouse Job Completion Report provides current sage-grouse population data and is readily available. BLM can also obtain detailed lek counts and other sage-grouse population data from Wyoming Game and Fish Department, more quickly and in greater detail than the public can, yet this information is missing from the lease sale EAs.

#### **B. The EA Fails to Acknowledge New and Relevant Scientific Information**

Recent peer-reviewed scientific publications have reviewed Greater Sage-Grouse population response to oil and gas management measures in Wyoming, and re-confirmed lek attendance by male sage-grouse declines approximately 2.5% per year in response to oil and gas development, and that attendance declines as development increases, even where well pad density is limited.<sup>34</sup> In light of this information, BLM cannot continue to assume, against scientific evidence, that the management measures in the 2015 RMP amendments will be sufficient to stem sage-grouse population decline.

Holloran (2005) found that sage grouse avoided habitats within 3.1 miles of active oil and gas drilling operations, and within 2 miles of roads or wellpads during the

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<sup>32</sup> WY ARMPA FEIS at 3-298.

<sup>33</sup> Green River Proposed RMP and FEIS at 350. The Rock Springs Field Office is preparing an EIS for an RMP revision that when completed, will replace this document, but it is not yet available.

<sup>34</sup> Green, Adam et al., Investigating Impacts of Oil and Gas Development on Greater Sage-Grouse, *Journal of Wildlife Management*, doi: 10.1002/jwmg.21179 (2016).

production phase of oil and gas extraction.<sup>35</sup> How many acres of habitat within 5.3 miles of a lek, the habitat where nesting occurs, occur on the leases in question? How many acres of identified sage-grouse winter range occur on the leaseholds in question? The failure to consider the acreage of habitat lost due to abandonment of otherwise suitable habitats adjacent to roads and wellsites, and the failure to even quantify the amount of habitats critical to the life cycles of sage-grouse that occur on individual leases (much less evaluate the site-specific topography and how that might mitigate or exacerbate impacts of oil and gas development), constitute failures of NEPA's hard look requirements.

More recent scientific study confirms the established finding that sage-grouse lek attendance is negatively related to oil and gas density, regardless of sagebrush cover and participation.<sup>36</sup> Green et al. examined greater sage-grouse lek attendance, oil and gas well, and habitat and precipitation data from Wyoming over the period 1984 to 2008, and, consistent with numerous prior studies, that lek attendance declines are closely associated with the density of oil and gas development:

Oil and gas development correlates well with sage-grouse population declines from 1984 to 2008 in Wyoming, which is supported by other findings (Doherty et al. 2010b, Harju et al. 2010, Hess and Beck 2012, Taylor et al. 2013, Gregory and Beck 2014). As with other studies, we also found support for 4-year lag effects of oil and gas development on lek attendance (Walker et al. 2007, Doherty et al. 2010a, Harju et al. 2010, Gregory and Beck 2014). This result suggests that development likely affects recruitment into the breeding population rather than avoidance of wells by adult males or adult survival. Adult sage-grouse are highly philopatric to lek sites (Dalke et al. 1963, Wallestad and Schladweiler 1974, Emmons and Braun 1984, Dunn and Braun 1985, Connelly et al. 2011a), and males typically recruit to the breeding population in 2–3 years. We would expect a delayed response in lek attendance if development affects recruitment, either by reducing fecundity or avoidance of disturbance by nesting females, as adult males die and are not replaced by young males.

On average, lek attendance was stable when no oil and gas development was present within 6,400m (Fig. 4). However, attendance declined as development increased.<sup>37</sup>

This is a level of protection far greater than that provided by the BLM's 2015 Wyoming Sage-Grouse Plan Amendments. Importantly, Green et al. confirmed that declines in sage-grouse populations may continue even within Wyoming's "core areas," where density of wells is limited to approximately one pad per square mile.

<sup>35</sup> Holloran, Matthew, Greater Sage-Grouse (*Centrocercus urophasianus*) Population Response to Natural Gas Field Development in Western Wyoming (2005).

<sup>36</sup> Green, Adam et al., Investigating Impacts of Oil and Gas Development on Greater Sage-Grouse, *Journal of Wildlife Management*, doi: 10.1002/jwmg.21179 (2016).

<sup>37</sup> Green et al. at 9.

As noted in one recent peer-reviewed study analyzing sage-grouse persistence under mitigation measures in Wyoming similar to those in the BLM sage-grouse plans:

Energy development has been shown to specifically impact male sage-grouse lek attendance, lek persistence, recruitment of yearling male and female grouse to leks, nest initiation and site selection, nest survival, chick survival, brood survival, summer survival of adult females, early brood-rearing habitat selection, adult female summer habitat selection, and adult female winter habitat selection<sup>38</sup>.

Other new scientific information has reaffirmed the harmful impacts of oil and gas development on greater sage-grouse. This research was summarized in a 2018 U.S. Geological Survey (USGS) publication as follows:

Before implementation of the State of Wyoming's Core Area<sup>39</sup> Strategy, lek attendance was correlated negatively with density of oil and gas wells (Green and others, 2017). Sage-grouse respond to development densities at multiple spatial scales surrounding leks with a 1- to 4-year time lag between oil and gas development and lek decline (Green and others, 2017). A possible explanation for a delayed response is that oil and gas development negatively affects sage-grouse recruitment into a breeding population (Green and others, 2017; but see Zabihi and others, 2017) rather than causing avoidance of an area or negatively affecting survival. Increasing density of oil and gas wells was correlated with decreasing lek attendance and effects on lek attendance were observed at a distance of 6.4 km from leks. Lek attendance was stable when no wells were present within 6.4 km of a lek and began declining after the addition of the first well. Allowable well densities that average one well pad per 640 acres within Core Areas may only be sufficient for limiting population declines to current rates but not for reversing the trend (Green and others, 2017). These analyses corroborated the findings of Gregory and Beck (2014) that suggested a maximum development density of one well pad within 2 km of leks to avoid measurable effects within 1 year and less than six well pads within 10 km of leks to avoid delayed effects. Other recent publications corroborated the negative relation between oil and gas development and sage-grouse populations or important life-history behaviors (Fedy and others, 2015a; Kirol and others, 2015a, b; Edmunds and others, 2017; Spence and others, 2017).<sup>40</sup>

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<sup>38</sup> Gamo, R. Scott & Beck, Jeffrey L., Effectiveness of Wyoming's Sage-Grouse Core Areas: Influences on Energy Development and Male Lek Attendance, 59 Environmental Management, 189–203, doi: 10.1007/s00267-016-0789-9 (2017).

<sup>39</sup> Wyoming Core Areas roughly correlate to BLM's greater sage-grouse Priority Habitat Management Areas (PHMA).

<sup>40</sup> Hanser, S.E., et al., Greater sage-grouse science (2015–17)—Synthesis and potential management implications: U.S. Geological Survey Open-File Report 2018–1017, 46 p., <https://doi.org/10.3133/ofr20181017> (2018).

One study that has important implications for the BLM's leasing decision but was not incorporated in this lease sale's NEPA analysis is Smith et al. (2016), which found "use of winter habitats occurred over a longer period than current Core Area winter timing stipulations and a substantial amount of winter habitat outside of Core Areas was used by individuals that bred in Core Areas, particularly in smaller Core Areas."<sup>41</sup> Sage-grouse moved from their fall to winter habitat earlier and moved from their winter to breeding habitat later than current seasonal restrictions. In addition, in the Bighorn Basin, more than a third of the winter locations of GPS-marked female grouse that nested in Core Areas were outside Core Areas.<sup>42</sup> This means there is significant use of non-Core Areas in the Bighorn Basin as sage-grouse winter habitat. However, the lease sale EAs do not identify these areas or discuss sage-grouse use of them, and the WY ARMPA FEIS explicitly states that it lacks information on winter concentration areas.<sup>43</sup>

Smith et al. also identify an important failure of the Wyoming Core Area Strategy that BLM did not account for in its lease sale EA analysis:

Land-use decisions that influenced Core Area boundaries resulted in removing some areas used by female sage-grouse from Core Area protection. Many areas outside of Core Areas identified as winter habitats contain breeding habitats, but were not included in Core Area designations to avoid existing development. The size and shape of constrained Core Areas relative to available sage-grouse breeding habitat in these areas resulted in more grouse locations falling outside Core Area protection during the breeding (15 Mar to 30 Jun) and winter (1 Dec to 15 Mar) seasons. This suggests seasonal use restrictions and potentially other means to avoid impacts should be afforded to winter habitats outside designated Core Areas, particularly in the Bighorn Basin where 17.6% of sage-grouse did not winter in designated Core Areas and only 62.5% of their winter locations fell within Core Areas. The amount and arrangement of winter habitats that fall outside of Core Areas dictates a need to assess Wyoming's Core Area Policy for future sage-grouse conservation. While Core Areas function as protection areas across a significant portion of sage-grouse breeding and nesting habitats throughout Wyoming, limited protection during other seasons does not support comprehensive sage-grouse conservation.<sup>44</sup>

Spence et al. (2017) is one of two studies summarized in the 2018 USGS research review as supporting the conclusion that "overall the Wyoming Governor's Executive Order is helping safeguard critical sage-grouse habitats at the State-wide scale Wyoming Core Area Strategy."<sup>45</sup> This quotation from the USGS summary appears in the Part 2 Lease Sale EA,<sup>46</sup> but it appears without a key qualifier in the Spence et al. study that has significant management implications: "Collectively, these data suggest that the Wyoming Core Area Strategy has benefited sage-

<sup>41</sup> See page 585 at Smith, K.T., et al, Does Wyoming's Core Area Policy Protect Winter Habitats for Greater Sage-Grouse? Environmental Management (2016) 58:585–596. DOI 10.1007/s00267-016-0745-8.

<sup>42</sup> Smith et al. at 193.

<sup>43</sup> See WY ARMPA FEIS at 4-3.

<sup>44</sup> Smith et al. at 593-594.

<sup>45</sup> See page 14 at Hanser, S.E. et al., Greater sage-grouse science (2015–17)—Synthesis and potential management implications: U.S. Geological Survey Open-File Report 2018–1017, 46 p., <https://doi.org/10.3133/ofr20181017> (2018).

<sup>46</sup> See page 3-22 at U.S. Bureau of Land Management (2018) Third Quarter 2018 (Part 2) Competitive Oil and Gas Lease Sale BLM Wyoming Environmental Assessment DOI-BLM-WY-0000-2018-0003-EA.

grouse and sage-grouse habitat conservation; *however, additional guidelines limiting development densities adjacent to Core Areas may be necessary to effectively protect Core Area populations.*<sup>47</sup> Spence et al. studied lek collapse<sup>48</sup> and found “an average 10.9% probability of lek collapse in Core Areas and an average 20.4% probability of lek collapse outside Core Areas.”<sup>49</sup> However, the study also found that the density of oil and gas development influenced lek collapse inside Core Areas: “Specifically, probability of collapse among leks >4.83 km from inside Core Area boundaries was significantly related to well density within 1.61 km (1-mi) and 4.83 km (3-mi) outside of Core Area boundaries.”<sup>50</sup> This means that there is an oil and gas development edge effect that current regulatory restrictions do not alleviate. Nor are this edge effect’s potential impacts to sage-grouse considered in the BLM’s NEPA analysis for this lease sale.

Gamo and Beck (2017)<sup>51</sup> is the other study referenced in the in the 2018 USGS research review quotation that appears in the Part 2 Lease Sale EA. Similar to Spence et al., the Gamo and Beck study is not an unqualified cheer for the Wyoming Core Area Strategy. It points out something important that should have been included in the BLM’s NEPA analysis for this lease but was not. The study found oil and gas well pads increased at a lesser rate in Wyoming in Core Areas after the implementation of the Wyoming Governor’s Executive Order (2009-2014) than in non-core areas. It also found population increases statewide and in Management Zone II that were significantly higher in Core Areas than non-core areas, and that in Management Zone II population variation was less in Core Areas than in non-core Areas. However, in Management Zone I, the study found that trends in peak male attendance at leks were not greater in Core Areas than in non-core areas. Gamo and Beck state, “However, despite implementation of the SGEO [Sage-Grouse Executive Order], we are concerned with the relatively poorer performance of sage-grouse populations in MZ I. Garton et al. (2011) developed a predictive model suggesting continued declines in MZ I potentially leading to extinction in 2107 if projected trends continue.”<sup>52</sup> In other words, in Management Zone I, the Wyoming Core Area strategy does not seem to be working to protect greater sage-grouse. Management Zone I is home to the small and isolated northeastern Wyoming sage-grouse population. BLM has proposed leasing parcels on habitat used by that vulnerable population as part of this sale, without considering the implications of Gamo and Beck’s study for that population in its NEPA analysis. This is of even greater concern because oil development in the Powder River Basin is poised to increase

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<sup>47</sup> Emphasis added. See page 1/15 at Spence E.S., et al., Probability of lek collapse is lower inside sage-grouse Core Areas: Effectiveness of conservation policy for a landscape species. PLoS ONE 12(11): e0185885, available at: <https://doi.org/10.1371/journal.pone.0185885> (2017).

<sup>48</sup> The study defines lek collapse as “a lek where zero birds were observed at the lek site for three consecutive years; i.e., if there were more than zero birds counted on a particular lek in any of the three years in question, that lek was not collapsed.” Spence et al. at 5/15.

<sup>49</sup> Spence et al. at 1/15.

<sup>50</sup> Spence et al. at 1/15.

<sup>51</sup> Gamo, R.S. and J.L. Beck. Effectiveness of Wyoming’s Sage-Grouse Core Areas: Influences on Energy Development and Male Lek Attendance. Environmental Management (2017) 59:189–203 DOI 10.1007/s00267-016-0789-9.

<sup>52</sup> Gamo and Beck at 201.

dramatically in the near future, as shown by much increased energy company interest and a drilling permit backlog.<sup>53</sup>

In addition, the findings of Spence et al. and Gamo and Beck need to be considered in light of evidence that oil and gas development inside Core Areas is reasonably foreseeable to increase. In 2018, BLM has repeatedly offered parcels for lease inside sage-grouse PHMA, including in this lease sale. A map published by the Casper Star Tribune that overlays BLM's 2018 Quarter 2, 3, and 4 lease parcels onto designated greater sage-grouse habitat shows many of them are in PHMA, which roughly correspond to Wyoming Core Areas.<sup>54</sup> Furthermore, as of March 2018, the State of Wyoming had a five-year backlog of oil and gas drilling permit applications, which means that over time, there will be increased oil and gas development, not just leasing, as the state processes the permits.<sup>55</sup>

Finally, Cross et al. (2018) identified locations that are important for maintaining the genetic connectivity of greater sage-grouse.<sup>56</sup> In Wyoming, places important to local connectivity are the Big Horn Lake watershed. Places important to network-wide connectivity include the Crazy Woman, Middle-North Platte Casper, and Upper Green-Slate watersheds. Places important for both local and network-wide connectivity are the Middle North Platte-Casper and Sweetwater watersheds. Places that act as a bridge between parts of the network and so are important not to lose include points in the Crazy Woman, Middle North Platte-Casper, and Upper Green-Slate watersheds. Wyoming locations that act like "hubs" connecting Wyoming and Montana greater sage-grouse populations were found in the Big Horn Lake watershed (north central Wyoming) and the Crazy Woman watershed (northeastern Wyoming). This research corroborates another study (Fedy 2017)<sup>57</sup> that found genetic differentiation between greater sage-grouse in Wyoming's Bighorn and Powder River Basins and between sage-grouse in the northern and southern parts of Wyoming.

Cross et al. also identifies Wyoming watersheds that link together greater sage-grouse populations in several states:

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<sup>53</sup> See, for example, Addison, Velda. August 3, 2018. EOG Adds To Resource Potential In Powder River Basin, available at: <https://www.epmag.com/eog-adds-resource-potential-powder-river-basin-1711691>. See also Richards, Heather. May 5, 2018. Oil and gas firms doe-eyed on Powder River Basin. Casper Star Tribune. Available at [https://trib.com/news/state-and-regional/oil-and-gas-rms-doe-eyed-on-powder-river-basin/article\\_1d641e25-d986-5978-bc8c-2e3fa0b1555e.html](https://trib.com/news/state-and-regional/oil-and-gas-rms-doe-eyed-on-powder-river-basin/article_1d641e25-d986-5978-bc8c-2e3fa0b1555e.html).

<sup>54</sup> See page 6 at Richards, Heather. June 20, 2018. Wyoming drilling interests overlap with protected sage grouse habitat. Casper Star-Tribune. Available at [https://trib.com/business/energy/wyoming-drilling-interests-overlap-with-protected-sage-grouse-habitat/article\\_bbe4f5cd-b448-5c91-b2af-da436d343ce3.html](https://trib.com/business/energy/wyoming-drilling-interests-overlap-with-protected-sage-grouse-habitat/article_bbe4f5cd-b448-5c91-b2af-da436d343ce3.html). Since this map was published, BLM has deferred a few of the lease parcels.

<sup>55</sup> Richards, Heather. March 13, 2018. State regulators rework priorities to face Wyoming's oil and gas backlog. Casper Star Tribune. Available at [https://trib.com/business/energy/state-regulators-rework-priorities-to-face-wyoming-s-oil-and/article\\_b3dec7e2-63b0-58d0-a69d-1a17a290f9df.html](https://trib.com/business/energy/state-regulators-rework-priorities-to-face-wyoming-s-oil-and/article_b3dec7e2-63b0-58d0-a69d-1a17a290f9df.html).

<sup>56</sup> Todd B. Cross et al., The genetic network of greater sage-grouse: Range-wide identification of keystone hubs of connectivity, *Ecology and Evolution* 2018;8:5394-5412 (2018), DOI:10.1002/ece3.4056.

<sup>57</sup> Fedy, B.C., Row, J.R. & Oyler-McCance, Integration of genetic and demographic data to assess population risk in a continuously distributed species, *Conservation Genetics* 18: 89 (2017), <https://doi.org/10.1007/s10592-016-0885-7>

The Green River Basin of Wyoming (Upper Green and Upper Green-Slate watersheds) sits just west of a low section of the North American Continental Divide connecting the Upper Snake Basin and Great Basin to the rest of Wyoming and farther up into the northeastern part of the species range. The Green River Basin also sits just north of the Yampa and White River Basins in Colorado (Little Snake watershed), and the Bear River Basin in Utah (Upper Bear watershed), both connected by low valleys to the south. Similarly, the Powder and Tongue River Basins of Wyoming (Crazy Woman watershed) connect to the north with both of the Dakotas and eastern Montana. The Bighorn River Basin, which ranks lower for other connectivity indices, connects to the southeastern-west subpopulation in the Yellowstone River Basin of Montana (Cross et al., 2016)—nodes in the Big Horn Lake watershed anchor both basins.<sup>58</sup>

Based on this new information, prior to authorizing new leasing in particular in the Green River Basin and Powder and Tongue River Basins, BLM must examine the potential for ensuing development to affect connectivity between genetically distinct populations of greater sage-grouse.

### **C. BLM's Proposed Alternative Does Not Conform with the Amended BLM Wyoming Resource Management Plans**

Even under the BLM's own determinations, the proposed action is directly in conflict with a core provision of the 2015 sage-grouse RMP amendments. All the Wyoming Rocky Mountain Region RMPs (with the exception of the previously-adopted Lander RMP) are subject to the following measure for both priority and general habitat management areas:

*Prioritization Objective*—In addition to allocations that limit disturbance in PHMAs and GHMAs, the ARMPs and ARMPAs prioritize oil and gas leasing and development outside of identified PHMAs and GHMAs. This is to further limit future surface disturbance and encourage new development in areas that would not conflict with GRSG. This objective is intended to guide development to lower conflict areas and as such protect important habitat and reduce the time and cost associated with oil and gas leasing development by avoiding sensitive areas, reducing the complexity of environmental review and analysis of potential impacts on sensitive species, and decreasing the need for compensatory mitigation.<sup>59</sup>

In the BLM's response to protestors' earlier comments, the agency asserts that "the EA address the prioritization objective in the approved RMPs (at pages 3-22 through 3-23)." Response to Comments at 16 (response No. 25). That document in turn relies on Washington

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<sup>58</sup> See pages 5408 to 5409 in Cross TB, Schwartz MK, Naugle DE, Fedy BC, Row JR, Oyler-McCance SJ. The genetic network of greater sage-grouse: Range-wide identification of keystone hubs of connectivity. *Ecol Evol.* 2018;8:5394–5412. <https://doi.org/10.1002/ece3.4056>.

<sup>59</sup> U.S. Bureau of Land Management, Record of Decision and Approved Resource Management Plan Amendments for the Rocky Mountain Region, Including the Greater Sage-Grouse Sub-Regions of Lewiston, North Dakota, Northwest Colorado, Wyoming and the Approved Resource Management Plans for Billings, Buffalo, Cody, HiLine, Miles City, Pompeys Pillar National Monument, South Dakota, Worland, U.S. Department of the Interior, Washington, D.C. (2013) at 1-25.

Office Instruction Memorandum 2016-143 to claim that “[t]he GRSG plans established an objective to prioritize oil and gas leasing and development outside of GRSG habitat management areas, but to allow for leasing with appropriate stipulations on all BLM mineral estate designated in the GRSG Plans as “open” for leasing. In effect, the BLM does not need to lease and develop outside of GRSG habitat management areas before considering any leasing and development within GRSG habitat. This policy should allow for the BLM to efficiently conduct lease sales and permit oil and gas development while still protecting GRSG and GRSG habitat.” EA DOI-BLM-WY-0000-2018-0003-EA at 3-22 to 3-23. The EA further notes that, between 2008 and 2017, there was an overall decline in greater sage-grouse core areas held by production. *Id.* at 3-23. Neither of these factors authorizes BLM to disregard the binding requirement of the 2015 approved RMP amendments.

The BLM is subject to clear direction in the RMP amendments that its greater sage-grouse RMP plans and conservation strategy rely not only on stipulations within designated habitats (stipulations acknowledged as insufficient, in Wyoming, to result in a net conservation gain for general habitat, *see* 2015 RMPA ROD at 1-30 to 1-31, but also on a larger strategy of prioritizing development outside of all sage-grouse habitats. The proposed leasing decision, consisting of 209,294.5622 acres within Wyoming (version 4) Core Areas, fails completely to provide a reasonable explanation of how this meets BLM’s prioritization objective.

An apparent BLM policy of leasing parcels all within sage-grouse habitat is not only inconsistent with the RMPs and FLPMA’s consistency requirement, it also undermines a fundamental assumption of the RMP Amendment EISs – as well as the U.S. Fish and Wildlife Service’s determination that listing the greater sage-grouse under the Endangered Species Act was “not warranted.” That assumption is that the measures adopted in the RMP Amendments will result in oil and gas development tending to occur outside of greater sage-grouse habitat. Proposing a lease sale for over 200,000 acres of Core Area habitat strongly undermines that assumption. It further undermines the assumption in the Fish and Wildlife Service’s “not warranted” finding for the greater sage-grouse that federal and state implementation of the “Wyoming Plan” for fluid minerals will continue the 2012-15 pattern of reduced drilling within core areas. If BLM is not actually going to give meaningful content to its plan direction to prioritize leasing outside of sage-grouse habitats, it cannot rely on FEISs, such as the Wyoming Sage Grouse RMP FEIS, that assume the effectiveness of that plan direction.

#### **D. The BLM Fails to Consider Reasonable Alternatives Prioritizing Leasing Outside of All Designated Sage-Grouse Habitat**

The “heart” of NEPA is an agency’s obligation, in evaluating the environmental impacts of its actions, whether by EA or EIS, to consider all reasonable alternatives to those actions. *See Center. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008) (citing 40 C.F.R. § 1502.14(a)). The three September 2018 leasing EAs fail to meet this core NEPA obligation by arbitrarily excluding from consideration any alternative that could meaningfully preserve BLM Wyoming offices’ authority to adopt effective and scientifically credible conservation measures for greater sage-grouse.

The September leasing EAs considers only the no-action and proposed alternatives. The BLM should consider an alternative, regularly considered and adopted by other field offices,

would defer all remaining parcels located within sage grouse “Priority Habitat Management Areas” and “General Habitat Management Areas,” until new information regarding sage-grouse populations and the effectiveness of mitigation measures can be analyzed and applied. We request that BLM give consideration to such a habitat prioritization alternative. Agencies may not reject an otherwise reasonable alternative out of hand simply because it shares some characteristics with the no-action alternative. *See Colorado Environmental Coalition v. Salazar*, 875 F. Supp.2d 1233, 1248-50 (D. Colo. 2012). Indeed, the EA improperly relies on an Instruction Memorandum to effectively re-write, without FLPMA compliance, the 2015 Approved Resource Management Plan Amendments, and FLPMA itself, to prioritize oil and gas development over sage-grouse conservation and all other resource values.

**V. The EA Fails to Analyze Site-Specific Impacts to Mule Deer, Pronghorn, and other Big Game Habitat**

**Specific Final Sale Notice Parcels Protested: WY-183Q-1 through -6; -10; -13 through -16; -19 through -20; -22 through -23; -25 through -28; -34; -40 through -70; -73 through -93; -95 through -96; -98 through -105; -111; -113 through -116; -119 through -123; -128; -130 through -133; -137 through -148; -149 through -150; -153 through -154; -156; -158 through -159; -161 through -171; -173 through -177; -179; -182 through -183; -185 through -187; -190 through -195; -197; -198; -200 through -232; -233 through -290; -296; and -298 through -350.**

Despite the deferral of a small number of parcels and the addition of a lease sale notice that simply reiterates existing BLM regulations, the vast majority of the proposed parcels will have adverse effects on mule deer and pronghorn seasonal and migration habitats.<sup>60</sup> The EAs provide only cursory analysis of the impacts of oil and gas development on pronghorn antelope and mule deer, and lacks any site-specific analysis. Wyoming supports some of the largest and most diverse ungulate populations in North America.<sup>61</sup> Over 50% of pronghorn populations have historically occurred in Wyoming, while large concentrations of mule deer occur here.<sup>62</sup> The viability of these populations depends largely “on their ability to seasonally migrate from low-elevation winter ranges to high-elevation summer ranges, where they convert abundant forage to fat reserves necessary to survive the long Wyoming winters.”<sup>63</sup>

The long-distance migrations of pronghorn and mule deer herds are truly remarkable. Pronghorn travel a 100-mile route from the upper Green River Basin to Grand Teton National Park.<sup>64</sup> The Sublette herd of mule deer living near Rock Springs journeys on the longest migration ever recorded in the Lower 48 from the Red Desert’s sage-brush steppe to the Hoback

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<sup>60</sup> See Attachments B and C, Maps of Wyoming Third Quarter Lease Sale and Mule Deer and Pronghorn Habitats.

<sup>61</sup> Sawyer, Hall et al., Red Desert to Hoback Mule Deer Migration Assessment, University of Wyoming, 3 (2014) (“Sawyer 2014”), available at:

[http://migrationinitiative.org/sites/migration.wygisc.org/themes/responsive\\_blog/images/RDH\\_Migration\\_Assessment\\_Final.pdf](http://migrationinitiative.org/sites/migration.wygisc.org/themes/responsive_blog/images/RDH_Migration_Assessment_Final.pdf).

<sup>62</sup> Reinking, Adele K. et al., Intrinsic, environmental, and anthropogenic factors related to pronghorn summer mortality, 82 Journal of Wildlife Management, 608-617, doi.org/10.1002/jwmg.21414 (2018) (“Reinking 2018”).

<sup>63</sup> Sawyer 2014.

<sup>64</sup> *Id.* at 3.

Basin's mountain meadows: the herd migrates a one-way distance of 150 miles, climbing 3,000 to 4,000 feet in elevation.<sup>65</sup> Recently, a doe from this herd traveled the longest-distance spring migration route ever to be documented in a mule deer--242 miles in less than three months from southwest Wyoming to Island Park, Idaho.<sup>66</sup>

Given these epic migrations, any barriers to migratory corridors or reductions in winter habitat pose a significant threat to these herds. Development that blocks or hinders their migration or alters their behavior (e.g., by reducing stopover time for foraging, or causing avoidance of developed but otherwise more hospitable areas) effectively reduces their habitat or its functionality, and limits areas for foraging.<sup>67</sup> Further, these herds are "especially vulnerable to deep snow that makes forage inaccessible and movement difficult."<sup>68</sup> Accordingly, access to areas with more hospitable conditions during winter is critical to their survival.

Increasing habitat fragmentation, along with increasing weather extremes due to climate change, are expected to cause population declines.<sup>69</sup> Indeed, research shows that residential and energy development has reduced all ungulates across the West. The low-elevation valleys and mountain foothills, once important habitat for ungulates, are filled with cities and towns.<sup>70</sup> The same is true particularly on winter ranges.<sup>71</sup> For example, between 1980 and 2010, western Colorado saw a 37% increase in residential land-use in mule deer habitat, primarily on their winter range.<sup>72</sup> The resulting lack of high-quality winter range is limiting robust mule deer population growth.<sup>73</sup> In the Red Desert of south-central Wyoming, where many of the lease parcels are located, pronghorn herds have diminished up to 30 percent over the last two decades.<sup>74</sup> These declines have occurred concurrently with expanding energy development and prolonged drought.<sup>75</sup> Similarly, a rapid decline in pronghorn abundance in western North Dakota occurred between 2008 and 2012, as road and oil and gas well density exponentially increased with the fracking boom.<sup>76</sup>

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<sup>65</sup> *Id.*

<sup>66</sup> UW Navigation, Mule Deer Doe's Epic Migration, Reappearance Stun UW researchers, University of Wyoming, April 9, 2018, *available at*: [http://www.uwyo.edu/uw/news/2018/04/mule-deer-does-epic-migration-reappearance-stun-uw-researchers.html?utm\\_source=Buckrail.com&utm\\_medium=buckrail-click&utm\\_campaign=Buckrail-Content](http://www.uwyo.edu/uw/news/2018/04/mule-deer-does-epic-migration-reappearance-stun-uw-researchers.html?utm_source=Buckrail.com&utm_medium=buckrail-click&utm_campaign=Buckrail-Content).

<sup>67</sup> Sawyer 2014 at 5, 16.

<sup>68</sup> Sawyer 2014 at 16; *see also* Christie, K.S. et al., Long-term changes in pronghorn abundance index linked to climate and oil development in North Dakota, 192 Biological Conservation, 445-453, [doi.org/10.1016/j.biocon.2015.11.007](https://doi.org/10.1016/j.biocon.2015.11.007) (2015) ("Christie 2015").

<sup>69</sup> Christie 2015; *see also* John, Julia, JWM: Winter conditions stress pronghorn the next summer, The Wildlife Society, Feb. 22, 2018, *available at*: <http://wildlife.org/jwm-winter-conditions-stress-pronghorn-the-next-summer/> ("John 2018"); Reinking 2018.

<sup>70</sup> Polfus, J. L., and P. R. Krausman, Impacts of residential development on ungulates in the Rocky Mountain West, 36 Wildlife Society Bulletin (2012).

<sup>71</sup> Johnson, H.E., et al., Increases in residential and energy development are associated with reductions in recruitment for a large ungulate, Global Change Biology, [doi: 10.1111/gcb.13385](https://doi.org/10.1111/gcb.13385) (2016) ("Johnson et al. 2016").

<sup>72</sup> Johnson et al. 2016.

<sup>73</sup> Bergman, E. J. et al., Density dependence in mule deer: a review of evidence, 21 Wildlife Biology (2015); Johnson et al. 2016.

<sup>74</sup> John 2018; *see also* Reinking 2018.

<sup>75</sup> *Id.*

<sup>76</sup> Christie 2015.

BLM's EA fails to take a hard look at significant new research showing adverse effects to mule deer and pronghorn habitat use, migration corridors, and ultimately survival and abundance resulting from indirect effects of energy development, and the compounding effects of climate change. The EA further fails to justify BLM's refusal to engage in actual site-specific assessment of effects on particular deer and pronghorn subpopulations, winter use areas, and/or migration corridors. Merely describing "the *category* of impacts anticipated from oil and gas development" fails to meet NEPA's hard look requirement when it is reasonable for BLM to do more. *See New Mexico ex rel Richardson v. BLM*, 565 F.3d 683, 707 (10<sup>th</sup> Cir. 2009) (emphasis in original). "NEPA does not permit an agency to remain oblivious to differing environmental impacts, or hide these from the public, simply because it understands the general type of impact likely to occur. Such a state of affairs would be anathema to NEPA's 'twin aims' of informed agency decisionmaking and public access to information." *Id.*

## **VI. The EA Fails to Disclose and Analyze Impacts to Big Game Species and Habitat**

### **A. Background: Impacts to Mule Deer Migration**

Wyoming is home to the longest and most spectacular mule deer migration corridors in the entire country. Energy development has substantial impacts on habitat and species abundance in Wyoming. The Red Desert near Rock Springs and Superior is a critical winter range for mule deer and other ungulate species. A recent study regarding mule deer and development in the Upper Green River Basin in Wyoming explicitly show that mule deer consistently avoided energy infrastructure – further, mule deer abundance showed a decline of 36% during the 15-year development period.<sup>77</sup> Overall, energy development reduce available habitat for ungulate species and affect population abundance by displacement. Additional studies support this assessment and bring particular attention to the survival rate of fawns. If natural gas development reduces the capacity of the winter range by habitat loss or human disturbances mule deer will suffer.<sup>78</sup>

Based on these studies, we have identified parcels that are directly in the current high use regions as identified by Wyoming Game and Fish as well as research out of the Wyoming Fish and Wildlife Cooperative Unit.<sup>79</sup> We request the following parcels be deleted as full and are removed from the forthcoming lease sale due to unacceptable and un-mitigatable effects on mule deer migration:

**WY-183Q-290, -291, -296, -298, -299, -300, -302, -303, -304, -305, -306, -307, -308, -309, -310, -312, -313, -315, -316, -318, -319, -320, -321, -322, -323, -328, -331, -336, -337, -338, and -339**

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<sup>77</sup> Sawyer, Hall, et al., Mule deer and energy development – long term trends of habituation and abundance, *Global Change Biology*. 23:4521-4529 (2017).

<sup>78</sup> Sawyer et al. 2002. Potential Effects of Oil and Gas Development on Mule Deer and Pronghorn Populations in Western Wyoming. *U.S. Bureau of Land Management Papers*.

<sup>79</sup> Wyoming Migration Initiative, Red Desert to Hoback Migration Assessment, *available at*: <http://migrationinitiative.org/content/red-desert-hoback-migration-assessment>.

## B. The EAs Fail to Provide Site-Specific Information Regarding Impacts to Big Game

The EA provides only cursory analysis of the impacts of oil and gas development on pronghorn antelope and mule deer, and lacks any site-specific analysis. *See, e.g.* Part 2 EA at 4-21. BLM's EAs fail to take a hard look at significant new research showing adverse effects to mule deer and pronghorn habitat use, migration corridors, and ultimately survival and abundance resulting from indirect effects of energy development, and the compounding effects of climate change. The EA further fails to justify BLM's refusal to engage in actual site-specific assessment of effects on particular deer and pronghorn subpopulations, winter use areas, and/or migration corridors. Merely describing "the category of impacts anticipated from oil and gas development" fails to meet NEPA's hard look requirement when it is reasonable for BLM to do more. *See New Mexico ex rel Richardson v. BLM*, 565 F.3d 683, 707 (10<sup>th</sup> Cir. 2009) (emphasis in original). "NEPA does not permit an agency to remain oblivious to differing environmental impacts, or hide these from the public, simply because it understands the general type of impact likely to occur. Such a state of affairs would be anathema to NEPA's 'twin aims' of informed agency decisionmaking and public access to information." *Id.*

The EA acknowledges multiple lease sale parcels overlap or immediately abut the known Sublette mule deer migration corridor. Part 2 EA at 3-24 to 3-26. The EAs fail to acknowledge, however, the significant scientific literature showing that oil and gas development, even with stipulations such as timing limitation stipulations, results in alterations in behavior, long-term habitat loss, and loss of habitat functionality (as further detailed in the literature review below), and fails to quantify the potential habitat loss or analyze its significance.

Further, the EA does not discuss the significance of such habitat loss in the context of existing crucial winter range and migratory corridor conditions and their importance, increasing stresses from private development and climate change, and declining mule deer and pronghorn population trends. BLM has acknowledged in documents prepared to inform revision of the Rock Springs Field Office RMP that "migratory routes are extremely fragile and once severed are difficult, if not impossible, to replicate,"<sup>80</sup> and that "[m]any migratory big game herds could face severe reductions in populations if migration routes are functionally cut off by energy development, large-scale mining, fences, and other developments."<sup>81</sup> The EA fails to disclose any information regarding patterns of ungulate migration and winter range habitat use within the affected area (except that such habitat exists on certain parcels, EA at 3-25), and the extent to which migratory routes and crucial winter range for pronghorn and mule deer are already limited, and could be functionally cut off or lost by new development. Absent disclosure and analysis of migration routes and winter habitat use, BLM can neither take a hard look at the effects of proposed development on these habitats, nor engage in effective mitigation of potential adverse effects.

Nor does the EA address what the loss of such irreplaceable routes or crucial winter range would mean for existing herds and for populations range-wide. Recent, peer-reviewed research

<sup>80</sup> U.S. Bureau of Land Management, Rock Springs Field Office, Summary of the Analysis of the Management Situation, Rock Springs Resource Management Plan Revision, 85 (Aug. 2013).

<sup>81</sup> *Id.* at 95.

show that these displacement and stress effects cause significant, measureable decreases in not just habitat use, but in population abundance. The following literature review details those effects.

### *1. Energy Development Significantly Reduces Pronghorn Habitat and Abundance*

Pronghorn exhibit avoidance of areas with high levels of disturbance from oil and gas development. In a study analyzing the effects of gas field infrastructure on pronghorn in the Upper Green River Basin, researchers detected avoidance of patches with high levels of disturbance.<sup>82</sup> Over a five year period, patches classified as very high use for pronghorn declined by 82%, resulting in “a significant loss of high value winter habitat for pronghorn.”<sup>83</sup> The study suggests these behavior impacts could presage “negative demographic impacts in this population as the human-footprint grows in the UGRB.”<sup>84</sup>

Another study found that steep declines in pronghorn populations from 2008 to 2012 could be explained primarily by winter weather conditions, and by land-use related to oil and gas development, which increased rapidly in the later years of the study.<sup>85</sup> The study observes declines from increased development are “likely due to a combination of increased vehicle traffic and habitat fragmentation associated with oil development. Parts of North Dakota with high oil-well densities have extremely high traffic volume, thereby posing a barrier to seasonal movements as well as a source of additional mortality.”<sup>86</sup> It further notes the “interactive effects of severe winters and increased fragmentation of the landscape by well pads and associated roads may be significant, and are cause for concern for pronghorn”:

In winters with heavy snowfall or extreme temperatures, pronghorn populations are buffered by their tendency to migrate to areas with more accessible forage, warmer temperatures, and/or less snow. However, in areas with high densities of wells and roads, their migration may be impeded and the total area of winter habitat available to them is reduced.<sup>87</sup>

Another recent study found increased summer mortality of female pronghorn following harsh winters.<sup>88</sup> While the study did not observe an indirect effect of oil and gas development on summer mortality of female pronghorn, it noted that “any negative influences of oil and natural gas development on pronghorn fitness may lag behind the observed behavioral changes in resource selection and movement associated with infrastructure” (which have been documented), such that a longer monitoring period may be needed to detect demographic effects.<sup>89</sup> It further emphasized the importance of pronghorn access to high-quality resources “during periods of high energetic demand or harsh environmental conditions,” which roads and fences could prevent. Moreover, “[t]he ability to move to areas that offer better resources, such as higher

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<sup>82</sup> Beckmann, Jon P., et al., Human-mediated shifts in animal habitat use: Sequential changes in pronghorn use of a natural gas field in Greater Yellowstone, *Biological Conservation* 147 (2012) 222-233 at 230.

<sup>83</sup> *Id.* at 231-232.

<sup>84</sup> *Id.* at 230.

<sup>85</sup> Christie 2015 at 449-450.

<sup>86</sup> *Id.* at 451.

<sup>87</sup> *Id.* at 451.

<sup>88</sup> Reinking 2018.

<sup>89</sup> *Id.* at 614.

quality forage, may be even more important for pronghorn, as an animal potentially employing more of an income strategy (Clancey et al. 2012), than many other ungulates in western North American that may rely more heavily on previously accrued energy reserves.”<sup>90</sup>

The EA should evaluate each of these studies regarding the effects of oil and gas development on pronghorn behavior, habitat loss, and abundance.

## *2. Mule Deer Habitat Loss and Population Declines Are Well Documented*

Although an earlier lack of high-quality, long-term, and controlled studies made it difficult to evaluate with precision the role of oil and gas development in mule deer habitat and population decline,<sup>91</sup> newer studies show a clear link between oil and gas development, displacement from habitat, and population abundance. Empirical data clearly shows mule deer avoid roads and oil and gas infrastructure by an average of 913 meters: “Mule deer consistently avoided energy infrastructure through the 15-year period of development and used habitats that were an average of 913 m further from well pads compared with predevelopment patterns of habitat use.”<sup>92</sup> Clearly, mule deer demonstrate avoidance of roads and oil and gas infrastructure, with as-yet inadequately-understood consequences for migration, energy budgets, adult and fawn survival, and population.<sup>93</sup>

Some of the best available long-term, controlled studies evaluate mule deer population density before and after oil and gas development in the Sublette mule deer herd.<sup>94</sup> The Sublette mule deer study has compared mule deer density in control and development zones, and found mule deer densities declined 30% in the development area, as opposed to 10% in the control area.<sup>95</sup> Sawyer and Strickland found that “the observed decline of mule deer in the treatment area was likely due to gas development, rather than drought or other environmental factors that have affected the entire Sublette Herd unit.”<sup>96</sup>

The Sublette example is particularly important when considering energy development’s effects on mule deer populations, their winter range, and their migration patterns in sagebrush habitats of the west. For example, even in its relatively early stages compared to Wyoming, the most recent spatial analysis of already-occurring effects on mule deer in western Colorado finds energy development has the second-largest effect on deer recruitment, exceeded only by residential development.<sup>97</sup>

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<sup>90</sup> *Id.*

<sup>91</sup> Hebblewhite, Mark. 2011. Effects of Energy Development on Ungulates. *Energy Development and Wildlife Conservation in Western North America* 71-94. Island Press, Washington D.C.

<sup>92</sup> Sawyer, Hall et al., Mule Deer and Energy Development—Long-term trends of habituation and abundance, *Global Change Biology* 2017:1-9, available at <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13711/epdf>

<sup>93</sup> Hebblewhite 2011; Sawyer, H., et al. 2013. A framework for understanding semi-permeable barrier effects on migratory ungulates. *Journal of Applied Ecology* 2013:50, doi:10.1111/1365-2664.12013; Lendrum, P.E. et al. 2012. Habitat selection by mule deer during migration: effects of landscape structure and natural-gas development. *Ecosphere* 3(9):82.

<sup>94</sup> Sawyer, H., R. Nielson, and D. Strickland. 2009. Sublette Mule Deer Study (Phase II): Final Report 2007. Western Ecosystems Technology, Inc. Cheyenne, Wyoming, USA.

<sup>95</sup> *Id.*

<sup>96</sup> *Id.*

<sup>97</sup> Johnson et al. 2016.

Most recently, Hall Sawyer and colleagues published their conclusions from seventeen years of telemetry data on mule deer exposed to energy development in Pinedale area, and found that, despite the use of timing stipulations and other, more aggressive, mitigation measures, development of oil and gas infrastructure within seasonal habitat and migration corridors has massive and long-term adverse effects on mule deer population levels:

Mule deer consistently avoided energy infrastructure through the 15-year period of development and used habitats that were an average of 913 m further from well pads compared with predevelopment patterns of habitat use. Even during the last 3 years of study, when most wells were in production and reclamation efforts underway, mule deer remained >1 km away from well pads. The magnitude of avoidance behavior, however, was mediated by winter severity, where aversion to well pads decreased as winter severity increased. Mule deer abundance declined by 36% during the development period, despite aggressive onsite mitigation efforts (e.g. directional drilling and liquid gathering systems) and a 45% reduction in deer harvest. Our results indicate behavioral effects of energy development on mule deer are long term and may affect population abundance by displacing animals and thereby functionally reducing the amount of available habitat.<sup>98</sup>

It is demonstrated that oil and gas development affects mule deer habitat use and migration patterns by causing site avoidance, particularly in daytime,<sup>99</sup> and creating “semi-permeable” barriers to migration routes.<sup>100</sup> In addition, it is well-documented that human development causes direct habitat loss and fragmentation through the construction of infrastructure, and indirect habitat loss through deer avoidance of infrastructure and related activities; these consequences likely reduce the carrying capacity of the landscape.<sup>101</sup> A recent study shows that oil and gas development causes significant habitat loss:

Energy development drove considerable alterations to deer habitat selection patterns, with the most substantial impacts manifested as avoidance of well pads with active drilling to a distance of at least 800 m. Deer displayed more nuanced responses to other infrastructure, avoiding pads with active production and roads to a greater degree during the day than night. In aggregate, these responses equate to alteration of behavior by human development in over 50% of the critical winter range in our study area during the day and over 25% at night.<sup>102</sup>

Mule deer require migration corridors that are protected from human development. An ongoing mule deer study by members of the Wyoming Migration Initiative has found that mule deer migration patterns are altered by human development – herds will move faster, stop less to feed, and detour around developed portions of their route.<sup>103</sup> A newly published study that builds upon this previous research makes similar findings. In an area where road and well-pad density more

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<sup>98</sup> Sawyer, Hall et al., Mule Deer and Energy Development—Long-term trends of habituation and abundance, *Global Change Biology* 2017:1-9, available at <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13711/epdf>.

<sup>99</sup> Lendrum 2012.

<sup>100</sup> Sawyer et al. 2013.

<sup>101</sup> Johnson et al. 2016.

<sup>102</sup> Northrup, J. M. et al. Quantifying spatial habitat loss from hydrocarbon development through assessing habitat selection patterns of mule deer, *Global Change Biology* (Aug. 2015), available at: <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13037/epdf>.

<sup>103</sup> Sawyer 2013.

than tripled from 0.56 km/km<sup>2</sup> (0.77 wells/km<sup>2</sup>) in 2005 and 2006 to around 1.92 km/km<sup>2</sup> (2.82 wells/km<sup>2</sup>) in 2009 and 2010, these land-use changes “increased movement rates, altered stopover use, and in a few cases, resulted in a loss of fidelity.”<sup>104</sup> Overall, mule deer had strong fidelity to migration routes, but “[g]iven this high fidelity, the increased movement rates and selection of undisturbed habitat...likely comes at a cost of lost foraging opportunities.”<sup>105</sup> This increased physiological stress and reduced access to highest-quality forage, particularly during harsh winters, will foreseeably affect deer and pronghorn survival, reproduction, and ultimately abundance.

The study notes more rapid landscape changes in the study area (such as from oil and gas development) seemed to elicit stronger behavioral changes than other study areas that had experienced more gradual landscape changes.<sup>106</sup> Accordingly, the authors recommend that the pace of development (in addition to density and configuration) should be taken into account when designing conservation strategies to protect migration routes.<sup>107</sup>

Additionally, mule deer may suffer higher mortality rates in developed landscapes because of increased vehicle collisions and accidents (i.e., entrapment in fences); moreover, increased road densities expose mule deer to more hunters, poachers and predatory domestic pets.<sup>108</sup>

#### A. Lease Stipulations Do Not Adequately Protect Winter and Migratory Habitat

The sale notice fails to include adequate stipulations for the protection of pronghorn and mule deer crucial winter range, as well as migratory routes for these species.

##### 1. *Timing Limitations for Crucial Winter Range Are Inadequate*

Numerous proposed parcels include a timing limitation stipulation prohibiting surface use during winter (November 15 – through April 30), although an exception is made for operation and maintenance of production facilities. *See* Stipulation WY\_BFO\_TLS\_BGCWEC. This stipulation therefore only prohibits surface use during the winter months for exploration, construction, and well development activities. As scoping comments for the Rock Springs Field Office’s revision of the Green River RMP submitted by Wyoming Outdoor Council note, this timing limitation does not adequately protect wintering ungulates:

These stipulations apply only during the development phase and do not mitigate harm to wintering ungulates during operations. Once an area is developed, wintering ungulates may be adversely affected by increased surface disturbance and loss of forage plants, increased human activity, increased noise, increased air pollution, increased winter access for poachers, and increased risk of collisions with vehicles. To address these potential harms, we believe BLM should analyze

<sup>104</sup> Wyckoff, Teal B., et al., Evaluating the influence of energy and residential development on the migratory behavior of mule deer, *Ecosphere* 9(2):e02113. 10.1002/ecs2.2113 (2018).

<sup>105</sup> *Id.* at 10.

<sup>106</sup> *Id.* at 9.

<sup>107</sup> *Id.*

<sup>108</sup> Johnson et al. 2016.

options that better protect crucial winter range habitat for ungulates, including a withdrawal of winter ranges from development availability.<sup>109</sup>

WYGFD has echoed these concerns: “When they are consistently applied, seasonal use restrictions are a valuable tool for limiting disturbance to wildlife at sensitive times of year. However, seasonal restrictions are currently limited to exploration and drilling phases of oil field development. Oil and gas operations also disturb and displace wildlife through a production life of up to 40 years and longer.”<sup>110</sup> WYGFD points out the importance of applying “effective mitigation throughout the production phase, because production usually results in substantial, long-term loss of habitat functions”; it observes, however, that for federal wells, mitigation “has generally not been required during the production phase, as evidenced in prior NEPA documents.”<sup>111</sup>

BLM should not lease any of these parcels containing crucial winter range habitat for pronghorn and mule deer, given the potential for long-term loss of this important habitat. In the alternative, it should require NSO stipulations on crucial winter range of these parcels. Or, at minimum, it should modify the timing limitation to prohibit vehicle traffic, noise, and other activities that disturb wintering ungulates during winter months.

BLM should defer these lease parcels containing crucial winter range until each of these suggested alternatives are properly considered in an EIS.

## *2. Lease Parcels Containing Migratory Routes Lack Any Protections*

The EA acknowledges that “[i]f the proposed parcels located in the known and mapped mule deer migration corridors are leased, and if operations are authorized by the BLM, oil and gas activities may adversely affect use of the migration corridors by mule deer.” EA at 4-21. Based on published studies and data, we have identified parcels that are directly in the current high use regions as identified by Wyoming Game and Fish as well as research out of the Wyoming Fish and Wildlife Cooperative Unit.<sup>112</sup> These parcels include:

**WY-183Q-290, -291, -296, -298, -299, -300, -302, -303, -304, -305, -306, -307, -308, -309, -310, -312, -313, -315, -316, -318, -319, -320, -321, -322, -323, -328, -331, -336, -337, -338, and -339**

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<sup>109</sup> U.S. Bureau of Land Management, Final Scoping Report for the Rock Springs RMP Revision, Appendix A-Comments Summary (Jan. 2012), *available at*: [https://eplanning.blm.gov/epl-front-office/projects/lup/13853/30654/31855/RS-RMP\\_Final-Scoping-Report\\_Appendix\\_A\\_CommentsSummary.pdf](https://eplanning.blm.gov/epl-front-office/projects/lup/13853/30654/31855/RS-RMP_Final-Scoping-Report_Appendix_A_CommentsSummary.pdf), p. A-19.

<sup>110</sup> WYGFD, Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats, Version 6.0, 13 (April 2010) (“WYGFD Recommendations”).

<sup>111</sup> *Id.*

<sup>112</sup> Wyoming Migration Initiative, Red Desert to Hoback Migration Assessment, *available at*: <http://migrationinitiative.org/content/red-desert-hoback-migration-assessment>.

The EA should be corrected to fully disclose, and avoid, all of the parcels containing migratory routes, not just those few parcels where 90% or more of the parcel is within a documented migration route.

Moreover, proposed stipulations are grossly inadequate to avoid impairment of migration routes. As WYGFD has noted, "the sensitivity of migratory segments to oil and gas disturbance can reduce their effective use of winter ranges, thereby canceling the advantages of migratory behavior."<sup>113</sup> Accordingly, WYGFD recommends that "[w]ithin narrow migration corridors or 'bottlenecks' of less than 0.5 mile width (Sawyer et al. 2005, 2006, 2008), the management prescription for oil and gas development should be 'no surface occupancy' (NSO)."<sup>114</sup> For migration corridors exceeding 0.5 miles in width, WYGFD recommends: "maintain[ing] options for animal movement along the corridor and avoid[ing] further constricting the corridor such that a bottleneck is created. Well field developments should not exceed 4 well pad locations or 60 acres of disturbance per square mile. Fences, expansive field developments, and other potential impediments to migration should not be constructed."<sup>115</sup> However, BLM has not imposed such stipulations on lease parcels containing migratory routes, or performed site-specific analysis to evaluate whether any of the parcels need stipulations to protect migratory corridors.

While certain parcels contain a "special lease notice" suggesting that recommendations from WYGFD to mitigate impacts to migratory corridors and crucial winter range could eventually be imposed, the notice provides no assurance that adequate mitigation (such as the above WYGFD recommendations) will actually be required. The special notice only provides BLM will consider, not apply, WYGFD recommendations:

This parcel is located within areas of delineated crucial winter range and/or identified migration corridors. BLM will consider recommendations received by the Wyoming Game and Fish Department, generally contained within a document entitled "Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats" ([http://wgfd.wyo.gov/web2011/Departments/Wildlife/pdfs/HABITAT\\_OILGASRECOMMENDATIONS0000333.pdf](http://wgfd.wyo.gov/web2011/Departments/Wildlife/pdfs/HABITAT_OILGASRECOMMENDATIONS0000333.pdf)) if and when development of this lease is proposed. BLM will encourage the use of Master Development Plans in accordance with Onshore Order #1, on this lease parcel to the extent possible.

In sum, BLM should withdraw all parcels containing migratory corridors until it has prepared an EIS evaluating the condition and width of each migratory route on the parcels identified above, evaluated the recommended WYGFD measures in an EIS, and required the appropriate NSO or CSU stipulation on parcels containing migratory routes.

### *3. Sage-Grouse Stipulations Are Inadequate to Protect Wintering Habitat and Migratory Corridors*

<sup>113</sup> WYGFD Recommendations at 12.

<sup>114</sup> *Id.* a 40.

<sup>115</sup> *Id.*

BLM relies on various stipulations formulated specifically for the protection of sage grouse habitat, as mitigation for impacts on crucial winter range and migratory routes for pronghorn, mule deer, and other ungulate species. BLM's reliance on these stipulations lacks factual support showing these stipulations will adequately protect big game habitat.

*a. Site-specific analysis is required to show sage-grouse stipulations will protect big game*

A number of parcels that contain pronghorn and mule deer crucial range habitat include stipulations for the protection of sage grouse. As discussed above, it is unclear the extent to which these stipulations would also protect pronghorn and mule deer crucial range habitat on these parcels. No site-specific analysis shows that restricted areas for the protection of sage grouse on the proposed lease parcels encompass crucial winter range habitat. Even where timing limitation stipulations for the protection of sage-grouse are required on parcels containing crucial range habitat, such stipulations do not apply throughout the full winter season (November 15 to April 30). TLS for winter concentration areas apply December 1 to March 14; TLS for PHMA applies March 15 to June 30; TLS for GHMA within 2 miles of an occupied lek applies March 15 to June 30.

It is also unclear the extent to which stipulations for the protection of sage-grouse would protect migratory corridors. Again, no site-specific analysis shows that restricted areas for the protection of sage grouse on proposed lease parcels encompass migratory corridors.

BLM should defer all parcels with pronghorn and mule deer migratory routes and crucial winter range until it has conducted site-specific analysis disclosing the effect of sage-grouse stipulations and any other applicable mitigation measures on these big game habitats.

*b. Density restrictions for the protection of sage-grouse do not fully protect winter range habitat*

BLM also fails to show how a CSU stipulation for the protection of sage-grouse limiting density in leased areas within PHMA to an average of one disturbance location per 640 acres (one square mile) avoids impacts to pronghorn and mule deer. While a number of parcels containing crucial winter range include this stipulation, many parcels containing such habitat lack this stipulation.

For oil and gas development in pronghorn crucial winter ranges, WYGFD recommends that "well field developments not exceed 4 well pad locations per square mile..., because it is unlikely habitat effectiveness can be maintained at higher densities."<sup>116</sup> Prohibiting development in winter crucial winter range (or requiring an NSO in this habitat) would be an even better alternative, but at minimum, BLM should consider imposing a stipulation limiting density to 4 well pad locations per square mile on the 19 parcels identified above.

In mule deer crucial winter ranges, WYGFD recommends "well field developments not exceed 1 well pad location per square mile within mule deer crucial winter ranges because it is unlikely

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<sup>116</sup> WYGFD Recommendations at 30.

habitat effectiveness can be maintained at higher densities.”<sup>117</sup> Again, while withdrawal of these areas from leasing or requiring an NSO would be more protective of winter range habitat, BLM should at least consider imposing a stipulation limiting density to 1 well pad location per square mile on the four parcels identified above.

**A. BLM Should Defer Leasing of Parcels Containing Crucial Winter Range Habitat and Migratory Habitat Until it Complies with Secretarial Order 3362**

BLM should also defer all parcels containing crucial winter range and migratory corridors (as identified above), in light of a new directive from the Secretary of Interior requiring that BLM’s land use plans for western states contain habitat management objectives for big game. Under Secretarial Order 3362, BLM and other Department agencies are required to work with State agencies “to conserve and/or improve priority western big-game winter range and migration corridors in sagebrush ecosystems,” including in Wyoming.<sup>118</sup> At the national level, these agencies are essentially required to ensure that their land use plans accomplish habitat objectives for the protection of big game winter range habitat and migratory corridors with measureable outcomes. 7

Specifically, BLM is required to provide to an appointed Coordinator information regarding “[w]hether consideration of winter range and corridors is included in appropriate bureau land (or site) management plans,” “[b]ureau management actions used to accomplish habitat objectives in these areas,” and “[t]he location of areas that have been identified as a priority for conservation and habitat treatments,” among other information. Sec. 4 (a)(2). If land use plans consistent with the Secretarial Order are not already established, BLM must “develop an Action Plan” that summarizes the above identified information and “establishes a clear direction forward with each state.” *Id.* at Sec. 4(a)(3). While the directive does not specifically identify what constitutes a land use plan consistent with the Secretarial Order, these criteria are implicit in the Order’s specific requirements for an Action Plan. The Action Plan must include “(i) [h]abitat management goals and associated actions as they are associated with big game winter range and migration corridors; and (ii) measureable outcomes.” *Id.*

BLM does not appear to have any specific habitat objectives for crucial winter range or migratory corridors within any of its land use plans for the Rawlins, Kemmerer, Rock Springs, or Uinta field offices. For example, the plans fail to address management objectives concerning which specific crucial winter ranges or migratory corridors should be preserved, and for which herds, and in what condition; how much winter range acreage should remain functional, and what population level should this acreage support; how wide should migratory corridors be; and to what extent should migratory corridors and crucial winter range be buffered from development. Until BLM has prepared Action Plans and revised management plans addressing specific habitat management objectives with measurable outcomes for big game habitat within these field offices, it should not allow any oil and gas leasing in areas containing winter range

<sup>117</sup> *Id.* at 25.

<sup>118</sup> Secretarial Order No. 3362, Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors, section 3, p. 2 (Feb. 9, 2018).

and migratory corridors. Accordingly, all parcels containing crucial winter range habitat and migratory corridors should be deferred.

Relatedly, BLM is currently in the midst of revising the 1997 Green River RMP for the Rock Springs Field Office, which contains significant wintering habitat for pronghorn. Leasing parcels within crucial winter range habitat before the revision of the plan is completed would prejudice the consideration of specific habitat management objectives that should be considered for the protection of this habitat, in compliance with Secretarial Order 3362, including alternatives prohibiting or limiting oil and gas activities within this habitat (beyond simply imposing timing limitations). Public input on the revision of the RMP strongly indicates a need to prohibit these activities within crucial range winter habitat, or, at a minimum, restrict such activities during the winter season. Until BLM has completed the RMP revision, it should also defer all parcels within the Rock Springs Field Office containing pronghorn winter crucial range habitat.

## **VII. The EA Fails to Disclose or Analyze Foreseeable Impacts to Recreational Values, Scenic Landscapes, and Wild Places**

By giving only cursory and general information regarding large areas of proposed leasing, BLM's Round 2 September 2018 EA fails to convey significant site-specific information regarding wildlife, recreational, scenic, and wilderness values for several significant landscapes that will be affected by the proposed action. These areas include the Big Sandy Foothills, Northern Red Desert, and Southern Red Desert.

### **A. The Big Sandy Foothills**

The Big Sandy Foothills rise up to meet the southern Wind River Range, providing some of the best basin-to-mountain wildlife habitat and scenic views in western Wyoming. This landscape is so rich in biodiversity and contains such important habitat that local wildlife managers quietly refer to it as the Golden Triangle. This iconic Wyoming sagebrush steppe gives way to aspen groves and pines on Prospect Mountains, across which thousands of mule deer semi-annually trek as they follow the Red Desert to Hoback migration corridor through the area. Most of the area is core sage grouse habitat. Along with impressive elk herds, Brewer's sparrows, sage sparrows, sage thrashers, golden eagles, badgers, coyotes, red fox, ground squirrels, and more call these wild sagebrush hills home.

Sierra Club Wyoming Chapter staff and volunteers spent several weeks in the field in the Big Sandy Foothills in 2017, performing field assessments of motorized road location, density, and condition. One Sierra Club member observed more sage grouse in 2017 in the Big Sandy Foothills than she had seen anywhere in Wyoming in the past 20 years. BLM should take into account evidence that the birds are doing reasonably well in that area, unlike elsewhere in the state, and consider the consequences of authorizing roads and oil and gas development in this rich habitat.

Lease parcels WY-183Q-336, -337, -338, and -339 lie right in the middle of the Big Sandy Foothills, just a few miles south of the Prospect Mountains. These parcels lie within 0.6

mile of at least three active sage grouse leks, and the entire parcel block lies within the more scientifically defensible four mile buffer around active grouse leks. The parcel block is completely surrounded by a high density of active leks, and at least 10-12 leks would be directly impacted by development of access roads to reach this parcel block. Almost no roads, even two-tracks, exist within the parcel block, there is no access from the west due to private and state land along Little Sandy Creek and no crossings of the creek on public land, and only minimal access exists from the east.

## **B. The Northern Red Desert**

The northern Red Desert is an area characterized by lofty buttes, extensive colorful badlands, sweeping sagebrush grasslands with Wyoming big sage growing to 10-12 feet tall in the draws, and seemingly endless open spaces. Incredible herds of desert elk roam the northern Red Desert, along with pronghorn antelope, sage grouse, migratory songbirds, raptors, and a full complement of other mammalian species. The recently discovered Red Desert to Hoback mule deer migration corridor stretches more than 150 miles across the Red Desert, and is the longest known mule deer migration route in North America. Much of the reason this area is so rich in wildlife is due to the large swaths of the landscape that have remained, up to now, largely undeveloped and unroaded.

Regarding this whole area, Wyoming residents often call it "The Big Empty". Framed by the famous Oregon Buttes, Continental Peak and Honeycomb Buttes to the north, the wild Joe Hay Rim to the west, and Steamboat Mountain and the Killpecker Sand Dune complex to the south, and stretching 80 miles eastward to Green Mountain - this is one of the most spectacular landscapes in the intermountain West. While many other areas of the Red Desert have been industrialized with oil and gas development, pipelines, a power plant, coal mines, an interstate highway, and the railroad, the Northern Red Desert still looks much as it did when the first emigrants traveled across its northern expanse in the 19th century. It hosts a diverse variety of native wildlife, both seasonally and throughout the year. It is truly a place too special to drill.

### **1. Parcels WY-183Q-315, -316, and -317:**

This is outstanding wildlife habitat because it has virtually no road access other than the State Highway 28, which diagonally runs through the northwest portion of parcel WY-183Q-316. None of the roads showing on BLM maps as crossing Pacific Creek from north to south actually exist on the ground. This means the routes in this lease block are only accessible via long, almost impassable roads from other southern access.

Because of the lack of intrusion, mule deer, elk, antelope, greater sage grouse, horses, and countless other species of wildlife utilize this entire areain spring, summer, and fall, with many species (especially the elk, antelope and sage grouse) finding critical habitat in the harsh winter months as well.

The Wyoming Migration Initiative has identified this area as a critical portion of the mule deer annual migration corridor from the southern Red Desert to the Hoback drainage and back. The full width identified as high-use corridor is entirely encompassed within this proposed

lease block. Development in this corridor will further interrupt and interfere with those animals as they traverse these ancient trails.

Historic emigrant trails pass through this entire block, paralleling but well south of Highway 28. The cultural and historic value of these trails would be severely impacted by oil and gas exploration, development, and production activities. While this segment has not yet been heavily used by trail buffs, it still has much significance, with cultural artifacts that have yet to be documented.

This area currently offers outstanding opportunities for solitude in a truly spectacular natural and mostly undeveloped landscape. It is one part of the amazing Northern Red Desert landscape - an area that has largely escaped industrial development to this date. Any oil and gas development in a sensitive area like one encompassed by lease parcels #354-7 would impact the whole region by breaking up one of the largest undeveloped areas of high desert in the United States.

## **2. Parcels WY-183Q-307:**

Protestors appreciate the deferral of preliminary parcel 345. The neighboring parcel WY-183Q-307, however, also has outstanding wildlife habitat. Elk, mule deer, antelope, greater sage grouse, and a full compliment of sagebrush steppe wildlife live here and in the surrounding area. Large herds of elk use this area along the side drainages of Rock Cabin Creek for birthing grounds, as well as year around secure habitat. Raised levels of activity will lessen their ability to use this habitat.

While the BLM maps indicate a fairly heavy road density, careful road inventory work north of the Dry Creek Road, and in the side draws falling east into Rock Cabin Creek has documented that most of those roads are either unused, impassable or no longer exist. There is very little vehicle activity in this area: a Sierra Club member who spent several days walking and camping there in the summers of 2016 and 2017, doing road inventory work, usually saw no vehicles all day, even on the main road, the Dry Creek Road. This lack of disturbance is exactly why the wildlife is thriving here.

These proposed lease parcels span the famous Red Desert-to-Hoback mule deer migration corridor, and in fact encompass the entire width of the high-use segment of that corridor as identified by the Wyoming Migration Initiative. The Initiative has identified two critical "Stopover Areas" in the area of these lease blocks, on the north border of parcel WY-183Q-307. The deer making this perilous 150 mile journey twice per year can not tolerate disturbance at these critical rest and recharge areas. Exploration and development of oil and gas resources in this area will damage or destroy this unique wildlife behavior.

Another additional value of this area is the opportunity it affords for solitude in an outstanding natural and mostly as yet undeveloped landscape. It is another part of the amazing Northern Red Desert landscape - an area that has largely escaped industrial development to this date. Any oil and gas development in a sensitive area like one represented by lease parcel 307 would impact the whole region by breaking up one of the largest undeveloped areas of high desert in the entire United States.

### **3. Parcels WY-183Q-288, -289, 290, and -291**

This area includes Little Bar X Draw as well as other-worldly alkali springs and deposits. These four parcels lie south and west of the Oregon Buttes Road. There is only one road crossing the whole block of parcels, and that is the north-south route, a portion of the Point of Rocks Stage route. The rest of the roads shown on BLM maps do not exist on the ground. This whole block, containing a total of 13 sections, or about 8300 acres, is presently un-roaded except for the Point of Rocks Stage route, and as such offers miles of secure habitat for pronghorn, horses, elk and deer.

An additional value of this area is the opportunity it affords for solitude in an outstanding natural and mostly as yet undeveloped landscape. It is another part of the amazing Northern Red Desert landscape - an area that has largely escaped industrial development to this date. Any oil and gas development in a sensitive area like the ones in lease parcels WY-183Q-288 through -291 would impact the whole region by breaking up one of the largest undeveloped areas of high desert in the United States.

### **4. Parcel WY-183Q-279**

This parcel along the south side of Bear Creek is mostly sand dunes covered with greasewood shrubs. Elk love this place, and use it extensively for calving and hiding. Greater Sage Grouse use the area extensively, nesting and raising chicks throughout this unique greasewood shrub land. There is only one dead-end road that crosses part of Section 4 T25N R99W. This lack of intrusions is largely why wildlife use this area so extensively.

### **5. Parcels WY-183Q-271, -272, -273, -278, -281, -284, -285, and -287**

This whole block of parcels is very remote, with virtually no passable roads at present. The lack of disturbance along the Bear Creek drainage makes the entire area outstanding habitat for elk, deer, pronghorn and sage grouse. None of the roads shown on some maps around Brannon Reservoir are used or passable, as documented by route inventory work in that area completed by Sierra Club Wyoming Chapter in 2016 and 2017.

An additional value of this area is the opportunity it affords for solitude in an outstanding natural and mostly as yet undeveloped landscape. It is one part of the amazing Northern Red Desert landscape - an area that has largely escaped industrial development to this date. Any O&G development in a sensitive area like the ones in lease parcels **WY-183Q-271, -272, -273, -278, -281, -284, -285, and -287** impacts the whole region by breaking up one of the largest undeveloped areas of high desert in the United States.

### **6. Parcels WY-183Q-282 -283, and -286**

While a portion of the area where these parcels are located is bisected by the Oregon Buttes Road, the majority of the area remain unroaded, and provide secure elk, deer, pronghorn, horse, sage grouse, and other wildlife habitat. Any development in this area will permanently

diminish wildlife habitat quality and alter the nature of the entire region by breaking up one of the largest undeveloped areas in the lower 48 states.

Focusing on the large swath of parcels south of the Oregon Buttes and Honeycomb Buttes and north of Steamboat Mountain, this block includes some parcels that have been partially deleted and others that are proposed to be fully available for leasing. All of these lease parcels are inappropriate for leasing due to exception wildlife, recreational, and wildlands value, and should be deleted from consideration for leasing.

Sierra Club Wyoming Chapter staff and volunteers spent many weeks in the field in the Northern Red Desert during 2016 and 2017, performing field inventories of lands with wilderness characteristics and motorized roads. Last summer, while doing field work in this area, including the areas mentioned above as well as the area encompassed by parcels WY-183Q-315 through -317, staff and volunteers saw incredible herds of elk in the desert terrain, including one bunch of at least 150 cows and calves, dozens of elk every day, mule deer and pronghorn antelope, spade foot toads (an amphibian of unknown rarity), and mountain plover with chicks on high rims sparsely vegetated with cushion plant communities. These areas of the Northern Red Desert are incredibly rich biologically, and also incredibly sensitive to development pressure. They are rich because there are few passable roads and little human intrusion. Biological diversity will be damaged if oil and gas development is allowed, and the scenic beauty will be permanently diminished.

### **C. Southern Red Desert**

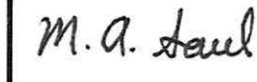
Lease parcels WY-183Q-324 through -327 lie just three miles south of the Boar's Tusk, an ancient volcanic plug that just nearly 400 feet above the relatively flat surrounding landscape. This rare feature is one of the most prominent and well-known features of the Red Desert. While the Boar's Tusk isn't remote or nearly as pristine as the other areas further north, oil and gas development within direct view of and so close to the Tusk certainly would diminish its appeal and visual impact.

### **VIII. Conclusion**

For the foregoing reasons, the protesting parties hereby request that the proposed lease parcels be withdrawn from competitive sale.

Submitted, as authorized representative, on behalf of Center for Biological Diversity, Sierra Club, Upper Green River Network, WildEarth Guardians and Western Watersheds Project by:

Sincerely,

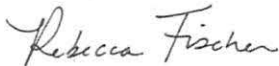


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