

---

# Appendix 9

Tables and Figures

This page intentionally left blank.

---

## TABLE OF CONTENTS

Appendix

Page

---

|                                             |            |
|---------------------------------------------|------------|
| <b>APPENDIX 9. TABLES AND FIGURES .....</b> | <b>9-1</b> |
| 9.1 Chapter 3 Tables .....                  | 9-1        |
| 9.2 Chapter 4 Tables .....                  | 9-18       |
| 9.3 Chapter 3 Figures .....                 | 9-25       |

---

## TABLES

Page

---

|      |                                                                                                                                                                                    |      |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 3-2  | Vegetation Communities within GRSG HMAs By State .....                                                                                                                             | 9-1  |
| 3-3  | Wild Horse and Burro Herd Management Areas Populations by State.....                                                                                                               | 9-1  |
| 3-4  | Acres of Wild Horse and Burro Herd Management Areas in GRSG Habitat<br>Management Areas .....                                                                                      | 9-2  |
| 3-5  | Count of Allotments with at least 15% PHMA in Alternative 1 by Land Health Standard<br>Category .....                                                                              | 9-2  |
| 3-6  | Estimated Acres of Disturbance Associated with Transmission Lines, Railroads, and<br>Roads in the Planning Area.....                                                               | 9-3  |
| 3-7  | Acres of Solar Facilities and ROWs in the Planning Area .....                                                                                                                      | 9-4  |
| 3-8  | Acres of Wind Turbines and ROWs in the Planning Area.....                                                                                                                          | 9-4  |
| 3-9  | Wind Potential in the Planning Area.....                                                                                                                                           | 9-5  |
| 3-10 | Solar PEIS - Reasonably Foreseeable Development Scenarios .....                                                                                                                    | 9-5  |
| 3-11 | Locatable Mineral Types in the Planning Area.....                                                                                                                                  | 9-6  |
| 3-12 | Vegetation Types Found in the 15 Oregon Key RNAs .....                                                                                                                             | 9-6  |
| 3-13 | Vegetation Types Found in the 15 Oregon Key RNAs That Are Important Habitats to<br>Greater Sage-Grouse at Some Point in Their Life Cycle (e.g. Nesting and Brood<br>Rearing) ..... | 9-7  |
| 3-14 | Criteria Air Pollutant Nonattainment Areas within the Planning Area.....                                                                                                           | 9-9  |
| 3-15 | Criteria Air Pollutant Maintenance Areas within the Planning Area.....                                                                                                             | 9-10 |
| 3-16 | Ozone, PM <sub>10</sub> , and PM <sub>2.5</sub> Air Quality Monitoring Data by Planning Area County<br>(2020-2022).....                                                            | 9-11 |
| 3-17 | 2020 Emissions Inventory by Source (tons per per year).....                                                                                                                        | 9-14 |
| 3-18 | Climate Trends and Projections for Planning Area States.....                                                                                                                       | 9-14 |
| 3-19 | Greenhouse Gas Emission by Economic Sector (million metric tons per year) .....                                                                                                    | 9-16 |
| 3-20 | Federally Recognized Native American Tribes Associated with the Planning Area.....                                                                                                 | 9-16 |
| 4-2  | Average Annual Criteria Air Pollutant and HAP Emissions from Oil and Gas<br>Development in the Planning Area (tons per year).....                                                  | 9-18 |
| 4-3  | Average Annual GHG Emissions from Oil and Gas Development in the Planning Area<br>(metric tons per year) .....                                                                     | 9-21 |
| 4-4  | OHV Designations in Colorado, Idaho, Montana/Dakotas, and Wyoming .....                                                                                                            | 9-23 |
| 4-5  | Nevada/California OHV Designations by Alternative.....                                                                                                                             | 9-24 |
| 4-6  | Oregon OHV Designations by Alternative .....                                                                                                                                       | 9-24 |
| 4-7  | Utah OHV Designations by Alternative.....                                                                                                                                          | 9-24 |

| <b>FIGURES</b>                                                                                 | <b>Page</b> |
|------------------------------------------------------------------------------------------------|-------------|
| 3.1 Cumulative Acres Burned by State within the Planning Area, Alternative I (2012-2021) ..... | 9-25        |
| 3.2 Acres Burned by Year within the Planning Area, Alternative I (2012-2021) .....             | 9-25        |

# Appendix 9. Tables and Figures

## 9.1 CHAPTER 3 TABLES

**Table 3-2. Vegetation Communities within GRSG HMAs By State**

| State HMA          | Acres of Sagebrush | Acres of Sagebrush-Associated | Acres of Non-Sagebrush |
|--------------------|--------------------|-------------------------------|------------------------|
| California         | 1,993,000          | 185,000                       | 7,188,000              |
| Colorado           | 3,033,000          | 1,603,000                     | 10,562,000             |
| Idaho              | 14,950,000         | 1,631,000                     | 22,973,000             |
| Montana            | 16,204,000         | 19,160,000                    | 37,762,000             |
| Nevada             | 24,860,000         | 6,088,000                     | 29,891,000             |
| North Dakota       | 43,000             | 569,000                       | 351,000                |
| Oregon             | 14,027,000         | 1,793,000                     | 15,855,000             |
| South Dakota       | 550,000            | 6,573,000                     | 4,177,000              |
| Utah               | 8,490,000          | 6,398,000                     | 33,289,000             |
| Wyoming            | 24,981,000         | 8,905,000                     | 20,142,000             |
| <b>Grand Total</b> | <b>109,131,000</b> | <b>52,905,000</b>             | <b>182,190,000</b>     |

Source: LANDFIRE 2023

**Table 3-3. Wild Horse and Burro Herd Management Areas Populations by State**

| State        | Acres of Wild Horse and Burro HMAs | Statewide "High" Allowable Management Level (AML) | Estimated Current Population | Percent Above AML |
|--------------|------------------------------------|---------------------------------------------------|------------------------------|-------------------|
| California   | 2,053,082                          | 2,200                                             | 7,183                        | 227%              |
| Colorado     | 365,988                            | 827                                               | 1,322                        | 60%               |
| Idaho        | 383,894                            | 617                                               | 489                          | 0%                |
| Montana      | 27,094                             | 120                                               | 198                          | 65%               |
| Nevada       | 14,032,947                         | 12,811                                            | 38,023                       | 197%              |
| Oregon       | 2,733,577                          | 2,700                                             | 5,154                        | 91%               |
| Utah         | 2,154,458                          | 1,956                                             | 4,305                        | 120%              |
| Wyoming      | 3,644,013                          | 3,795                                             | 10,264                       | 170%              |
| <b>Total</b> | <b>25,395,053</b>                  | <b>25,026</b>                                     | <b>66,938</b>                | <b>167%</b>       |

Source: BLM 2024a

**Table 3-4. Acres of Wild Horse and Burro Herd Management Areas in GRSG Habitat Management Areas**

| <b>State</b> | <b>PHMA Acres</b> |
|--------------|-------------------|
| California   | 601,000           |
| Colorado     | 384,000           |
| Idaho        | 418,000           |
| Montana      | 38,000            |
| Nevada       | 13,850,000        |
| Oregon       | 2,820,000         |
| Utah         | 2,473,000         |
| Wyoming      | 4,781,000         |
| <b>Total</b> | <b>25,365,000</b> |

Source: BLM GIS 2023

**Table 3-5. Count of Allotments with at least 15% PHMA in Alternative I by Land Health Standard Category**

| <b>Land Health Evaluation Reporting Category</b>                                                                                                                                                                                                    | <b>Total # Allotments</b> | <b>% of Total</b> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------|
| Total number of allotments evaluated (Category E)                                                                                                                                                                                                   | 7,027                     | 72.69%            |
| Category A: Rangelands meeting all standards or making significant progress toward meeting the standard                                                                                                                                             | 5,140                     | 53.17%            |
| Category B: Rangelands not meeting all standards or making significant progress toward meeting the standards, but appropriate action has been taken to ensure significant progress toward meeting the standards (livestock is a significant factor) | 911                       | 9.42%             |
| Category C: Rangelands not meeting standards or making significant progress toward meeting the standards, and no appropriate action has been taken to ensure significant progress toward meeting the standards (livestock is a significant factor)  | 95                        | 0.98%             |
| Category D: Rangelands not meeting all standards or making significant progress toward meeting the standards due to causes other than livestock grazing                                                                                             | 742                       | 7.68%             |
| Category F: Rangelands not meeting standards or making significant progress, but determination of causal factor(s) has not been completed                                                                                                           | 139                       | 1.44%             |
| Unevaluated: Rangelands that have not been evaluated.                                                                                                                                                                                               | 1,958                     | 20.25%            |
| No information available: Allotments not found in master land health status dataset                                                                                                                                                                 | 682                       | 7.05%             |

Source: BLM GIS 2023

**Table 3-6. Estimated Acres of Disturbance Associated with Transmission Lines, Railroads, and Roads in the Planning Area**

| <b>State</b>        | <b>Transmission Lines</b> | <b>Railroads<sup>1</sup></b> | <b>Roads<sup>1</sup></b> |
|---------------------|---------------------------|------------------------------|--------------------------|
| <b>Colorado</b>     | <b>33,000</b>             | <b>2,000</b>                 | <b>158,000</b>           |
| PHMA                | 3,700                     | 100                          | 22,600                   |
| GHMA                | 5,000                     | 300                          | 18,900                   |
| LCHMA               | 2,500                     | 100                          | 4,200                    |
| UDH                 | 100                       | 0                            | 400                      |
| Outside of HMAs     | 22,000                    | 1,600                        | 111,600                  |
| <b>Idaho</b>        | <b>109,000</b>            | <b>5,900</b>                 | <b>354,000</b>           |
| PHMA                | 5,600                     | 100                          | 21,200                   |
| GHMA                | 16,000                    | 400                          | 25,000                   |
| IHMA                | 9,800                     | 200                          | 22,900                   |
| Outside of HMAs     | 77,000                    | 5,200                        | 241,000                  |
| <b>Montana</b>      | <b>124,000</b>            | <b>9,900</b>                 | <b>482,000</b>           |
| PHMA                | 6,900                     | 200                          | 39,100                   |
| GHMA                | 29,000                    | 1,700                        | 95,700                   |
| RHMA                | 800                       | 0                            | 2,000                    |
| Outside of HMAs     | 87,000                    | 7,900                        | 348,000                  |
| <b>Nevada</b>       | <b>91,000</b>             | <b>5,400</b>                 | <b>268,000</b>           |
| PHMA                | 8,400                     | 200                          | 37,000                   |
| GHMA                | 7,400                     | 600                          | 240,100                  |
| OHMA                | 9,000                     | 500                          | 22,100                   |
| Outside of HMAs     | 66,000                    | 4,000                        | 186,000                  |
| <b>North Dakota</b> | <b>2,300</b>              | <b>100</b>                   | <b>8,700</b>             |
| PHMA                | 1,000                     | 100                          | 3,900                    |
| GHMA                | 600                       | 0                            | 2,200                    |
| Outside of HMAs     | 700                       | 0                            | 2,600                    |
| <b>California</b>   | <b>21,000</b>             | <b>2,200</b>                 | <b>137,600</b>           |
| PHMA                | 600                       | 0                            | 3,900                    |
| GHMA                | 2,900                     | 200                          | 12,000                   |
| OHMA                | 3,800                     | 500                          | 12,900                   |
| Outside of HMAs     | 14,000                    | 1,600                        | 108,400                  |
| <b>Oregon</b>       | <b>45,000</b>             | <b>3,100</b>                 | <b>362,000</b>           |
| PHMA                | 3,800                     | 0                            | 49,600                   |
| GHMA                | 7,200                     | 0                            | 60,900                   |
| Outside of HMAs     | 34,000                    | 3,000                        | 252,000                  |
| <b>South Dakota</b> | <b>23,000</b>             | <b>1,500</b>                 | <b>100,000</b>           |
| PHMA                | 200                       | 0                            | 5,300                    |
| GHMA                | 700                       | 0                            | 5,200                    |
| Outside of HMAs     | 22,000                    | 1,500                        | 78,200                   |
| <b>Utah</b>         | <b>111,000</b>            | <b>7,700</b>                 | <b>402,000</b>           |
| PHMA                | 11,000                    | 600                          | 43,800                   |
| GHMA                | 5,300                     | 400                          | 18,700                   |
| Outside of HMAs     | 95,000                    | 6,700                        | 338,000                  |
| <b>Wyoming</b>      | <b>120,000</b>            | <b>8,800</b>                 | <b>377,000</b>           |
| PHMA                | 21,000                    | 600                          | 82,500                   |
| GHMA                | 75,000                    | 5,500                        | 205,000                  |
| Outside of HMAs     | 24,000                    | 2,700                        | 89,800                   |
| <b>Total</b>        | <b>679,300</b>            | <b>46,600</b>                | <b>2,649,300</b>         |

Source: BLM GIS 2023

<sup>1</sup>Acres have been calculated per the direct area of influence in **Table 7-4** in **Appendix 7**.

**Table 3-7. Acres of Solar Facilities and ROWs in the Planning Area**

| State <sup>1</sup> | Acres of Solar Facilities <sup>2</sup> | Acres of Solar ROWs <sup>2</sup> |
|--------------------|----------------------------------------|----------------------------------|
| <b>Idaho</b>       | <b>1,000</b>                           | <b>0</b>                         |
| PHMA               | 0                                      | 0                                |
| GHMA               | 0                                      | 0                                |
| Outside of HMAs    | 1,000                                  | 0                                |
| <b>Nevada</b>      | <b>1,200</b>                           | <b>3,600</b>                     |
| PHMA               | 0                                      | 0                                |
| GHMA               | 0                                      | 0                                |
| Outside of HMAs    | 1,200                                  | 3,600                            |
| <b>Oregon</b>      | <b>300</b>                             | <b>0</b>                         |
| PHMA               | 0                                      | 0                                |
| GHMA               | 0                                      | 0                                |
| Outside of HMAs    | 300                                    | 0                                |
| <b>Utah</b>        | <b>800</b>                             | <b>6,200</b>                     |
| PHMA               | 0                                      | 0                                |
| GHMA               | 0                                      | 10                               |
| Outside of HMAs    | 800                                    | 6,190                            |
| <b>Wyoming</b>     | <b>0</b>                               | <b>500</b>                       |
| PHMA               | 0                                      | 0                                |
| GHMA               | 0                                      | 500                              |
| Outside of HMAs    | 0                                      | 0                                |

Source: BLM GIS 2023

<sup>1</sup> States for which there are no solar facilities or solar ROWs are not included in the table.<sup>2</sup> Acres have been calculated per the direct area of influence in **Table 7-4** in **Appendix 7**.**Table 3-8. Acres of Wind Turbines and ROWs in the Planning Area**

| State <sup>1</sup>  | Acres of Wind Turbines <sup>2</sup> | Acres of Wind ROWs <sup>2, 3</sup> |
|---------------------|-------------------------------------|------------------------------------|
| <b>Idaho</b>        | <b>1,600</b>                        | <b>40</b>                          |
| PHMA                | 0                                   | 0                                  |
| IHMA                | 0                                   | 40                                 |
| GHMA                | 100                                 | 0                                  |
| Outside of HMAs     | 1,500                               | 0                                  |
| <b>Montana</b>      | <b>2,200</b>                        | <b>0</b>                           |
| PHMA                | 300                                 | 0                                  |
| GHMA                | 300                                 | 0                                  |
| RHMA                | 100                                 | 0                                  |
| Outside of HMAs     | 1,500                               | 0                                  |
| <b>Nevada</b>       | <b>210</b>                          | <b>8,500</b>                       |
| PHMA                | 0                                   | 0                                  |
| GHMA                | 40                                  | 1,900                              |
| OHMA                | 130                                 | 5,400                              |
| Outside of HMAs     | 40                                  | 1,200                              |
| <b>North Dakota</b> | <b>40</b>                           | <b>0</b>                           |
| PHMA                | 40                                  | 0                                  |
| GHMA                | 0                                   | 0                                  |
| Outside of HMAs     | 0                                   | 0                                  |
| <b>Oregon</b>       |                                     | <b>100</b>                         |
| PHMA                | 20                                  | 0                                  |
| GHMA                | 190                                 | 100                                |

| State <sup>1</sup> | Acres of Wind Turbines <sup>2</sup> | Acres of Wind ROWs <sup>2, 3</sup> |
|--------------------|-------------------------------------|------------------------------------|
| Outside of HMAs    | 1,920                               | 0                                  |
| South Dakota       | 120                                 | 0                                  |
| PHMA               | 0                                   | 0                                  |
| GHMA               | 60                                  | 0                                  |
| Outside of HMAs    | 60                                  | 0                                  |
| Utah               | 530                                 | 6,900                              |
| PHMA               | 0                                   | 0                                  |
| GHMA               | 10                                  | 0                                  |
| Outside of HMAs    | 520                                 | 6,900                              |
| Wyoming            | 4,300                               | 34,400                             |
| PHMA               | 0                                   | 700                                |
| GHMA               | 3,900                               | 33,700                             |
| Outside of HMAs    | 400                                 | 0                                  |

Source: BLM GIS 2023

<sup>1</sup> States for which there are no acres of wind turbines or wind ROWs are not included in the table.

<sup>2</sup> Acres have been calculated per the direct area of influence in **Table 7-4** in **Appendix 7**.

<sup>3</sup> Wind energy testing (Type 2) ROWs are not included; Development (Type 3) ROWs are included.

**Table 3-9. Wind Potential in the Planning Area**

| Wind Speed<br>(meters per second) | Acres within<br>Planning Area |
|-----------------------------------|-------------------------------|
| Greater than 5.8                  | 36,243,000                    |
| Less than 5.8                     | 33,740,000                    |

Source: BLM GIS 2023

**Table 3-10. Solar PEIS - Reasonably Foreseeable Development Scenarios**

| State        | Estimated BLM-Administered<br>Acres Developed by<br>2045 under RFDs | Estimated Non-BLM-<br>Administered Acres<br>Developed by 2045<br>under RFDs |
|--------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Arizona      | 198,210                                                             | 66,070                                                                      |
| California*  | 109,972                                                             | 413,706                                                                     |
| Colorado     | 45,207                                                              | 15,069                                                                      |
| Idaho        | 89,574                                                              | 29,858                                                                      |
| Montana      | 5,387                                                               | 1,796                                                                       |
| Nevada       | 48,119                                                              | 16,040                                                                      |
| New Mexico   | 11,123                                                              | 3,708                                                                       |
| Oregon       | 51,387                                                              | 17,129                                                                      |
| Utah         | 39,793                                                              | 13,264                                                                      |
| Washington   | 71,781                                                              | 23,927                                                                      |
| Wyoming      | 27,255                                                              | 9,085                                                                       |
| <b>TOTAL</b> | <b>697,809</b>                                                      | <b>326,865</b>                                                              |

Source: BLM 2024

\* To account for exclusion of the Desert Renewable Energy Conservation Plan (DRECP) area in California, the proportion of BLM-administered lands outside of the DRECP area (28%) was applied to the estimated RFDs development acres. It is estimated that 282,787 acres of BLM-administered land within the DRECP planning area would be developed by 2045 under the RFDs.

**Table 3-11. Locatable Mineral Types in the Planning Area\***

| <b>States</b> | <b>Precious and Base Metals</b>                                                                         | <b>Industrial Minerals</b>                                                                                             |
|---------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Colorado      | Gold, Molybdenum, and Uranium                                                                           | Gypsum                                                                                                                 |
| Idaho         | Gold, Silver, Copper, Lead, Iron, Molybdenum, Beryllium, Uranium, and Vanadium                          | Limestone, Bentonite, High-alumina clay, and Gypsum                                                                    |
| Nevada        | Gold, Silver, Copper, Lithium, Galena, Iron, Zinc, Cobalt, Vanadium, Tungsten, Antimony, and Molybdenum | Gypsum, Limestone, Diatomite, Bentonite, Silica Sand, Magnesium, and Barite                                            |
| Montana       | Gold, Silver, Mercury                                                                                   | Bentonite, Diamonds                                                                                                    |
| Oregon        | Gold, Silver, Lead-silver-zinc, Copper, Uranium, Iron, Arsenic                                          | Borax, Dimension stone, Mercury, Limestone, Diatomaceous earth, Zeolites, Kaolinite, Perlite, Gemstones, and Bentonite |
| Utah          | Gold, Silver, Copper, Lead, Iron, Molybdenum, Beryllium, Uranium, and Vanadium                          | Limestone, Bentonite, High-Alumina Clay, and Gypsum                                                                    |
| Wyoming       | Uranium, Gold, Titanium, Lithium, Rare earths                                                           | Limestone, Marble, Bentonite, Jade                                                                                     |

Source: Bureau of Land Management and Forest Service 2015, Muntean et. al 2022, USGS 2023a, USGS 2023b

\*This list includes locatable minerals commonly known to exist in the planning area, it is not an exhaustive list of all locatable minerals in the planning area. Inclusion on this list does not imply that these metals and minerals are being developed or extracted.

**Table 3-12. Vegetation Types Found in the 15 Oregon Key RNAs<sup>1</sup>**

| <b>Vegetation Type</b>                            | <b>Research Natural Area</b>                                                                                                                                                                                           |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cool-Moist Sagebrush                              | East Fork Trout Creek, Fish Creek Rim, Mahogany Ridge, Rahilly-Gravelly, South Bull Canyon, Spring Mountain, Toppin Creek Butte                                                                                        |
| Ecotone between Cool-Moist and Warm-Dry Sagebrush | Black Canyon, Mahogany Ridge, North Ridge Bully Creek, South Bull Canyon, South Ridge Bully Creek,                                                                                                                     |
| Warm-Dry Sagebrush                                | Black Canyon, Dry Creek Bench, Foley Lake, Foster Flat, Guano Creek-Sink Lakes, Lake Ridge, North Ridge Bully Creek, Rahilly-Gravelly, South Bull Canyon, South Ridge Bully Creek, Spring Mountain, Toppin Creek Butte |
| Shallow-Dry Sagebrush                             | Black Canyon, Dry Creek Bench, Fish Creek Rim, Foley Lake, Foster Flat, Guano Creek-Sink Lakes, Rahilly-Gravelly, Spring Mountain                                                                                      |
| Mountain Brush                                    | Dry Creek Bench, East Fork Trout Creek, Fish Creek Rim, Mahogany Ridge, Rahilly-Gravelly, Spring Mountain                                                                                                              |
| Riparian-Wetland                                  | Black Canyon, East Fork Trout Creek, Fish Creek Rim, Guano Creek-Sink Lakes, Lake Ridge, Spring Mountain                                                                                                               |
| Playa                                             | Foley Lake, Foster Flat, Guano Creek-Sink Lakes, Toppin Creek Butte                                                                                                                                                    |

<sup>1</sup> Table 4-3 from the 2018 Oregon GRSG RMP Amendment FEIS.

**Table 3-13. Vegetation Types Found in the 15 Oregon Key RNAs That Are Important Habitats to Greater Sage-Grouse at Some Point in Their Life Cycle (e.g. Nesting and Brood Rearing) <sup>2</sup>**

| <b>Vegetation Type</b>                            | <b>Plant Communities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cool-Moist Sagebrush                              | Mountain big sagebrush/Idaho fescue<br>Mountain big sagebrush-antelope bitterbrush/Idaho fescue<br>Mountain big sagebrush-mountain mahogany/slender wheatgrass-bluebunch wheatgrass<br>Mountain big sagebrush-antelope bitterbrush-mountain snowberry/Thurber's needlegrass<br>Mountain big sagebrush-mountain snowberry/Idaho fescue<br>Low sagebrush/Idaho fescue<br>Wyoming big sagebrush-antelope bitterbrush/Idaho fescue                                                                      |
| Ecotone between Cool-Moist and Warm-Dry Sagebrush | Mountain big sagebrush/bluebunch wheatgrass<br>Wyoming big sagebrush/Idaho fescue<br>Wyoming big sagebrush-antelope bitterbrush/bluebunch wheatgrass<br>Wyoming big sagebrush-threetip sagebrush/Idaho fescue<br>Wyoming big sagebrush-wild crab apple/Idaho fescue<br>Wyoming big sagebrush-threetip sagebrush/bluebunch wheatgrass<br>Threetip sagebrush/Idaho fescue<br>Threetip sagebrush-wild crab apple/Idaho fescue<br>Threetip sagebrush/bluebunch wheatgrass                               |
| Warm-Dry Sagebrush                                | Basin big sagebrush/Nevada bluegrass<br>Basin big sagebrush/bluebunch wheatgrass<br>Basin big sagebrush-Wyoming big sagebrush/bluebunch wheatgrass<br>Wyoming big sagebrush/Idaho fescue-bottlebrush squirreltail<br>Wyoming big sagebrush/needle-and-thread<br>Wyoming big sagebrush/Thurber's needlegrass<br>Low sagebrush/bottlebrush squirreltail-Idaho fescue<br>Low sagebrush/bluebunch wheatgrass<br>Low sagebrush/Idaho fescue-Thurber's needlegrass<br>Low sagebrush/Thurber's needlegrass |
| Shallow-Dry Sagebrush                             | Low sagebrush/Sandberg bluegrass<br>Stiff sagebrush/Sandberg bluegrass<br>Black sagebrush/Sandberg bluegrass                                                                                                                                                                                                                                                                                                                                                                                        |
| Mountain Brush                                    | Mountain mahogany-mountain snowberry/Idaho fescue<br>Mountain mahogany-mountain big sagebrush/Idaho fescue<br>Serviceberry-snowberry-mountain big sagebrush<br>Snowberry-bittercherry complex<br>Mountain big sagebrush-mountain snowberry/Idaho fescue<br>Mountain mahogany-Oregon grape<br>Mountain big sagebrush-mountain snowberry-wild crab apple<br>Mountain mahogany-chokecherry scrub                                                                                                       |

<sup>2</sup> Table 4-4 from the 2018 Oregon GRSG RMP Amendment FEIS

| <b>Vegetation Type</b> | <b>Plant Communities</b>                                                                                                                                                         |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Riparian-Wetland       | Willow-mixed shrub<br>Scouler's willow-aspen<br>Wet meadow<br>Aspen-white fir-ponderosa pine<br>Willow<br>Pond                                                                   |
| Playa                  | Silver sagebrush/Sandberg bluegrass<br>Silver sagebrush/Nevada bluegrass<br>Silver sagebrush-green rabbitbrush<br>Silver sagebrush/Baltic rush<br>Silver sagebrush-basin wildrye |

**Table 3-14. Criteria Air Pollutant Nonattainment Areas within the Planning Area**

| State      | Pollutant <sup>1</sup>           | Nonattainment Area                                                                                              | Classification <sup>2,3,4,5</sup> | Date of Designation |
|------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------|
| California | 8-Hour Ozone (2015)              | Nevada County (western part)                                                                                    | Serious                           | 8/3/2018            |
| Colorado   | 8-Hour Ozone (2015)              | Larimer County portion of the Denver-Boulder-Greeley-Ft. Collins nonattainment area                             | Moderate                          | 7/20/2012           |
|            | 8-Hour Ozone (2008)              | Larimer County portion of the Denver/North Front Range nonattainment area                                       | Severe-15                         | 6/3/2018            |
| Idaho      | PM <sub>10</sub> (1987)          | Fort Hall Indian Reservation (parts of Bannock and Power Counties)                                              | Moderate                          | 11/15/1990          |
| Montana    | PM <sub>10</sub> (1987)          | Rosebud County (part)                                                                                           | Moderate                          | 11/15/1990          |
| Utah       | 8-Hour Ozone (2015)              | Northern Wasatch Front nonattainment area (Davis and Salt Lake Counties and part of Tooele and Weber Counties)  | Moderate                          | 6/3/2018            |
|            |                                  | Southern Wasatch Front nonattainment area (Part of Utah County)                                                 | Marginal                          | 6/3/2018            |
|            |                                  | Uinta Basin nonattainment area (Parts of Duchesne and Uintah Counties)                                          | Marginal                          | 6/3/2018            |
|            | 24-hour PM <sub>2.5</sub> (2006) | Provo (Part of Utah County)                                                                                     | Serious                           | 12/14/2009          |
|            |                                  | Salt Lake City nonattainment area (David, Salt Lake Counties and part of Box Elder, Tooele, and Weber Counties) | Serious                           | 12/14/2009          |
|            | Sulfur Dioxide (1971)            | Salt Lake County and part of Tooele County                                                                      | —                                 |                     |
| Wyoming    | 8-Hour Ozone (2008)              | Upper Green River Basin nonattainment area (Sublette County and part of Lincoln and Sweetwater Counties)        | Marginal                          | 07/20/2012          |

Source: EPA 2023a

<sup>1</sup> Shows the pollutant and the year of the final rule/decision that established the standard that was exceeded. In 2015, the EPA changed the 8-hour ozone standard from the 2008 standard of 0.075 parts per million to 0.070 parts per million.

<sup>2</sup> Classifications of 8-hour ozone (2008) – Extreme: Area has a design value of 0.175 ppm and above; Severe 17: Area has a design value of 0.119 up to but not including 0.175 ppm; Severe 15: Area has a design value of 0.113 up to but not including 0.119 ppm; Serious: Area has a design value of 0.100 up to but not including 0.113 ppm; Moderate: Area has a design value of 0.086 up to but not including 0.100 ppm; Marginal: Area has a design value of 0.076 up to but not including 0.086 ppm.

<sup>3</sup> Classifications of 8-hour ozone (2015) – Extreme: Area has a design value of 0.163 ppm and above; Severe 17: Area has a design value of 0.111 up to but not including 0.163 ppm; Severe 15: Area has a design value of 0.105 up to but not including 0.111 ppm; Serious: Area has a design value of 0.093 up to but not including 0.105 ppm; Moderate: Area has a design value of 0.081 up to but not including 0.093 ppm; Marginal: Area has a design value of 0.071 up to but not including 0.081 ppm.

<sup>4</sup> Classifications of PM<sub>10</sub> (1987) – Extreme: Area has a design value of 0.175 ppm and above; Severe 17: Area has a design value of 0.119 up to but not including 0.175 ppm; Severe 15: Area has a design value of 0.113 up to but not including 0.119 ppm; Serious: Area has a design value of 0.100 up to but not including 0.113 ppm; Moderate: Area has a design value of 0.086 up to but not including 0.100 ppm; Marginal: Area has a design value of 0.076 up to but not including 0.086 ppm.

<sup>5</sup> Classifications of 24-hour PM<sub>2.5</sub> (2006) – Extreme: Area has a design value of 0.175 ppm and above; Severe 17: Area has a design value of 0.119 up to but not including 0.175 ppm; Severe 15: Area has a design value of 0.113 up to but not including 0.119 ppm; Serious: Area has a design value of 0.100 up to but not including 0.113 ppm; Moderate: Area has a design value of 0.086 up to but not including 0.100 ppm; Marginal: Area has a design value of 0.076 up to but not including 0.086 ppm.

**Table 3-15. Criteria Air Pollutant Maintenance Areas within the Planning Area**

| State    | Pollutant <sup>1</sup>           | Maintenance Area                                                                                         | Date of Redesignation                                |
|----------|----------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Colorado | PM <sub>10</sub> (1987)          | Pitkin County (part)<br>Routt County (part)                                                              | 07/14/2003<br>11/24/2004                             |
| Idaho    | Carbon Monoxide (1971)           | Ada County (part)                                                                                        | 12/27/2002                                           |
|          | PM <sub>10</sub> (1987)          | Ada County (part)<br>Bannock County (part)<br>Bonner County (part)<br>Power County (part)                | 11/26/2003<br>08/14/2006<br>05/03/2013<br>08/14/2006 |
|          | PM <sub>2.5</sub> (2006)         | Franklin County (part)                                                                                   | 06/21/2021                                           |
| Montana  | CO (1971)                        | Billings (Part of Yellowstone County)                                                                    | 04/22/2002                                           |
|          | Sulfur Dioxide (1971)            | Billings (Part of Yellowstone County)                                                                    | 06/09/2016                                           |
| Nevada   | Carbon Monoxide (1971)           | Lake Tahoe (Parts of Carson City, Douglas, and Washoe Counties)<br>Reno area (Part of Washoe County)     | 02/13/2004<br>08/04/2008                             |
|          | PM <sub>10</sub> (1987)          | Reno planning area (Part of Washoe County)                                                               | 01/07/2016                                           |
|          | Sulfur Dioxide (1971)            | Central Steptoe Valley (Part of White Pine County)                                                       | 06/11/2002                                           |
| Oregon   | PM <sub>10</sub> (1987)          | Lake County (part)<br>Union County (part)                                                                | 07/19/2006<br>07/19/2006                             |
| Utah     | Carbon Monoxide (1971)           | Salt Lake City (Part of Salt Lake County)<br>Provo (Part of Utah County)<br>Ogden (Part of Weber County) | 03/22/1999<br>01/03/2006<br>05/08/2001               |
|          | 24-hour PM <sub>2.5</sub> (2006) | Logan, Utah-Idaho (Part of Cache County)                                                                 | 06/18/2021                                           |
|          | PM <sub>10</sub> (1987)          | Salt Lake County<br>Utah County<br>Ogden (Part of Weber County)                                          | 03/27/2020<br>03/27/2020<br>03/27/2020               |
| Wyoming  | PM <sub>10</sub> (1987)          | Sheridan County (part)                                                                                   | 05/04/2018                                           |

Source: EPA 2023a

<sup>1</sup> Shows the pollutant and the year of the final rule/decision that established the standard that was exceeded. In 2015, the EPA changed the 8-hour ozone standard from the 2008 standard of 0.075 parts per million to 0.070 parts per million.

**Table 3-16. Ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> Air Quality Monitoring Data by Planning Area County (2020-2022)**

| State      | Planning Area County | 8-hour Ozone (ppm)<br>(Standard: 0.070 ppm) |              |              | 24-hour PM <sub>10</sub> (µg/m <sup>3</sup> )<br>(Standard: 150 µg/m <sup>3</sup> ) |            |      | Annual PM <sub>2.5</sub> / 24-Hour PM <sub>2.5</sub><br>(Standard: 12.0 (µg/m <sup>3</sup> ) / 35 µg/m <sup>3</sup> ) |                   |          |
|------------|----------------------|---------------------------------------------|--------------|--------------|-------------------------------------------------------------------------------------|------------|------|-----------------------------------------------------------------------------------------------------------------------|-------------------|----------|
|            |                      | 2020                                        | 2021         | 2022         | 2020                                                                                | 2021       | 2022 | 2020                                                                                                                  | 2021              | 2022     |
| California | Nevada               | <b>0.078</b>                                | <b>0.090</b> | –            | –                                                                                   | –          | –    | –                                                                                                                     | 8.7 / <b>65</b>   | –        |
|            | Placer               | <b>0.083</b>                                | <b>0.085</b> | <b>0.075</b> | <b>213</b>                                                                          | 137        | –    | <b>12.4 / 93</b>                                                                                                      | 11.3 / <b>57</b>  | –        |
|            | Plumas               | –                                           | –            | –            | –                                                                                   | –          | –    | <b>12.5 / 40</b>                                                                                                      | <b>16.4 / 70</b>  | –        |
| Colorado   | Boulder              | <b>0.076</b>                                | <b>0.082</b> | <b>0.072</b> | 74                                                                                  | 51         | –    | 10.1 / <b>52</b>                                                                                                      | 10.8 / <b>54</b>  | 6.8 / 25 |
|            | Garfield             | 0.063                                       | 0.065        | –            | –                                                                                   | –          | –    | –                                                                                                                     | –                 | –        |
|            | Larimer              | <b>0.075</b>                                | <b>0.085</b> | <b>0.073</b> | –                                                                                   | –          | –    | 8.1 / <b>47</b>                                                                                                       | 8.5 / 29          | 6.5 / 17 |
|            | Mesa                 | 0.065                                       | 0.068        | –            | 50                                                                                  | 40         | 72   | 6.1 / 20                                                                                                              | 6.2 / 18          | 5.2 / 15 |
|            | Rio Blanco           | 0.065                                       | 0.070        | 0.062        | –                                                                                   | –          | –    | 8.4 / 23                                                                                                              | 9.5 / 26          | –        |
|            | Routt                | –                                           | –            | –            | 69                                                                                  | 69         | –    | –                                                                                                                     | –                 | –        |
| Idaho      | Ada                  | 0.065                                       | 0.069        | 0.068        | 95                                                                                  | 84         | –    | 5.7 / 17                                                                                                              | 6.4 / 20          | –        |
|            | Bannock              | 0.059                                       | 0.069        | 0.057        | 90                                                                                  | 147        | –    | –                                                                                                                     | –                 | –        |
|            | Butte                | 0.056                                       | 0.070        | 0.060        | –                                                                                   | –          | –    | –                                                                                                                     | –                 | –        |
|            | Canyon               | –                                           | –            | –            | 96                                                                                  | 97         | –    | 7.8 / 23                                                                                                              | –                 | –        |
|            | Caribou              | –                                           | –            | –            | –                                                                                   | –          | –    | –                                                                                                                     | –                 | –        |
|            | Franklin             | –                                           | –            | –            | –                                                                                   | –          | –    | 5.2 / 15                                                                                                              | 5.7 / 19          | –        |
|            | Lemhi                | –                                           | –            | –            | –                                                                                   | –          | –    | 8.6 / 28                                                                                                              | 7.1 / 20          | –        |
| Montana    | Custer               | –                                           | –            | 0.058        | –                                                                                   | –          | –    | –                                                                                                                     | –                 | –        |
|            | Fergus               | 0.057                                       | <b>0.073</b> | 0.057        | 35                                                                                  | 27         | –    | 3.7 / 11                                                                                                              | 4 / 10            | –        |
|            | Gallatin             | –                                           | –            | –            | –                                                                                   | –          | –    | <b>2.3 / 40</b>                                                                                                       | 5.7 / 34          | –        |
|            | Phillips             | 0.052                                       | 0.064        | 0.051        | 150                                                                                 | 57         | –    | –                                                                                                                     | –                 | –        |
|            | Powder River         | 0.060                                       | 0.069        | 0.059        | –                                                                                   | –          | –    | 5.6 / 14                                                                                                              | 5.5 / 12          | –        |
|            | Richland             | 0.054                                       | 0.070        | 0.054        | –                                                                                   | 72         | –    | 4.1 / 10                                                                                                              | 4.2 / 11          | –        |
|            | Rosebud              | 0.059                                       | 0.066        | –            | –                                                                                   | –          | –    | –                                                                                                                     | –                 | –        |
|            | Silver Bow           | –                                           | –            | –            | 55                                                                                  | 64         | –    | 6.5 / 21                                                                                                              | 7.5 / 22          | –        |
| Nevada     | Yellowstone          | –                                           | –            | –            | –                                                                                   | –          | –    | 5.8 / 13                                                                                                              | 7 / 16            | –        |
|            | Carson City          | 0.069                                       | 0.067        | –            | –                                                                                   | –          | –    | 5.6 / 28                                                                                                              | 5.9 / 27          | –        |
|            | Churchill            | 0.065                                       | 0.066        | –            | <b>210</b>                                                                          | –          | –    | –                                                                                                                     | –                 | –        |
|            | Douglas              | –                                           | –            | –            | –                                                                                   | –          | –    | 5.7 / 23                                                                                                              | 6.3 / 26          | –        |
|            | Elko                 | –                                           | –            | –            | 120                                                                                 | 120        | –    | –                                                                                                                     | –                 | –        |
|            | Lyon                 | 0.066                                       | –            | –            | –                                                                                   | –          | –    | –                                                                                                                     | –                 | –        |
|            | Nye                  | –                                           | –            | –            | 130                                                                                 | 123        | –    | –                                                                                                                     | –                 | –        |
|            | Washoe               | <b>0.079</b>                                | <b>0.08</b>  | <b>0.074</b> | <b>220</b>                                                                          | <b>284</b> | –    | 11.1 / <b>75</b>                                                                                                      | <b>12.4 / 105</b> | –        |
|            | White Pine           | 0.070                                       | 0.068        | 0.061        | –                                                                                   | –          | –    | –                                                                                                                     | –                 | –        |

| State        | Planning Area County | 8-hour Ozone (ppm)<br>(Standard: 0.070 ppm) |              |              | 24-hour PM <sub>10</sub> (µg/m <sup>3</sup> )<br>(Standard: 150 µg/m <sup>3</sup> ) |            |      | Annual PM <sub>2.5</sub> / 24-Hour PM <sub>2.5</sub><br>(Standard: 12.0 (µg/m <sup>3</sup> ) / 35 µg/m <sup>3</sup> ) |                  |                 |
|--------------|----------------------|---------------------------------------------|--------------|--------------|-------------------------------------------------------------------------------------|------------|------|-----------------------------------------------------------------------------------------------------------------------|------------------|-----------------|
|              |                      | 2020                                        | 2021         | 2022         | 2020                                                                                | 2021       | 2022 | 2020                                                                                                                  | 2021             | 2022            |
| Oregon       | Harney               | –                                           | –            | –            | –                                                                                   | –          | –    | 11.9 / 61                                                                                                             | 11.2 / 47        | –               |
|              | Umatilla             | 0.056                                       | 0.065        | 0.064        | –                                                                                   | –          | –    | –                                                                                                                     | –                | –               |
|              | Union                | –                                           | –            | –            | 39                                                                                  | 42         | –    | –                                                                                                                     | –                | –               |
| South Dakota | Bookings             | 0.064                                       | 0.070        | –            | 95                                                                                  | 119        | –    | 4.4 / 16                                                                                                              | 6.7 / 29         | –               |
|              | Brown                | –                                           | –            | –            | 75                                                                                  | 89         | –    | 5.6 / 15                                                                                                              | 6.7 / 30         | –               |
|              | Clay                 | –                                           | –            | 0.062        | –                                                                                   | –          | –    | –                                                                                                                     | –                | –               |
|              | Codington            | 0.057                                       | 0.066        | 0.066        | 129                                                                                 | 143        | –    | 6.7 / 16                                                                                                              | 9.2 / 29         | –               |
|              | Custer               | 0.063                                       | 0.065        | –            | 55                                                                                  | 59         | –    | 3.3 / 16                                                                                                              | 4.8 / 22         | –               |
|              | Hughes               | –                                           | –            | –            | –                                                                                   | –          | –    | 4 / 13                                                                                                                | 3.8 / 17         | –               |
|              | Jackson              | 0.061                                       | 0.054        | 0.065        | 43                                                                                  | 77         | –    | 4.2 / 17                                                                                                              | 5.9 / 22         | –               |
|              | Meade                | 0.062                                       | <b>0.072</b> | 0.059        | 63                                                                                  | 63         | –    | –                                                                                                                     | –                | –               |
|              | Minnehaha            | 0.064                                       | 0.065        | –            | 71                                                                                  | –          | –    | 6.8 / 17                                                                                                              | –                | –               |
|              | Pennington           | –                                           | –            | –            | 124                                                                                 | <b>168</b> | –    | 6.8 / 23                                                                                                              | 8.1 / <b>168</b> | –               |
| Utah         | Union                | 0.063                                       | 0.065        | –            | 88                                                                                  | –          | –    | 6.1 / 17                                                                                                              | –                | –               |
|              | Davis                | <b>0.08</b>                                 | <b>0.082</b> | <b>0.075</b> | 52                                                                                  | 77         | 53   | 8.9 / 33                                                                                                              | 9.4 / <b>36</b>  | 7.2 / 27        |
|              | Duchesne             | 0.064                                       | <b>0.072</b> | 0.066        | –                                                                                   | –          | 97   | 7.5 / 23                                                                                                              | 7.5 / 27         | 6.2 / 21        |
|              | Garfield             | 0.060                                       | 0.069        | –            | –                                                                                   | –          | –    | –                                                                                                                     | –                | –               |
|              | Iron                 | 0.061                                       | 0.065        | 0.061        | –                                                                                   | –          | –    | 5.4 / 17                                                                                                              | 6.5 / 21         | 5.7 / 12        |
|              | Salt Lake            | <b>0.08</b>                                 | <b>0.087</b> | 0.076        | 106                                                                                 | 103        | 152  | 10.5 / <b>37</b>                                                                                                      | 11 / <b>49</b>   | 9.9 / <b>40</b> |
|              | Tooele               | 0.070                                       | <b>0.075</b> | 0.070        | –                                                                                   | –          | –    | 6.7 / 24                                                                                                              | 8.1 / <b>37</b>  | 6.8 / 28        |
|              | Uintah               | 0.066                                       | <b>0.072</b> | 0.064        | –                                                                                   | –          | –    | 6.6 / 22                                                                                                              | 7.3 / 27         | 5.1 / 17        |
|              | Utah                 | 0.070                                       | <b>0.077</b> | <b>0.074</b> | 90                                                                                  | 100        | 88   | 9.1 / 32                                                                                                              | 8.2 / <b>36</b>  | 7.2 / 25        |
|              | Weber                | <b>0.074</b>                                | <b>0.077</b> | <b>0.071</b> | 77                                                                                  | 86         | 67   | 6.7 / 22                                                                                                              | 8.1 / 32         | 6.7 / 27        |

| State   | Planning Area County | 8-hour Ozone (ppm)<br>(Standard: 0.070 ppm) |              |       | 24-hour PM <sub>10</sub> (µg/m <sup>3</sup> )<br>(Standard: 150 µg/m <sup>3</sup> ) |            |      | Annual PM <sub>2.5</sub> / 24-Hour PM <sub>2.5</sub><br>(Standard: 12.0 (µg/m <sup>3</sup> ) / 35 µg/m <sup>3</sup> ) |                 |      |
|---------|----------------------|---------------------------------------------|--------------|-------|-------------------------------------------------------------------------------------|------------|------|-----------------------------------------------------------------------------------------------------------------------|-----------------|------|
|         |                      | 2020                                        | 2021         | 2022  | 2020                                                                                | 2021       | 2022 | 2020                                                                                                                  | 2021            | 2022 |
| Wyoming | Albany               | 0.066                                       | <b>0.072</b> | 0.067 | <b>184</b>                                                                          | <b>230</b> | —    | 4.9 / 25                                                                                                              | —               | —    |
|         | Big Horn             | 0.058                                       | 0.067        | 0.057 | —                                                                                   | —          | —    | —                                                                                                                     | —               | —    |
|         | Campbell             | 0.061                                       | <b>0.075</b> | 0.061 | 149                                                                                 | 154        | —    | —                                                                                                                     | —               | —    |
|         | Carbon               | —                                           | —            | —     | 83                                                                                  | —          | —    | —                                                                                                                     | —               | —    |
|         | Converse             | 0.070                                       | <b>0.080</b> | 0.059 | 68                                                                                  | 125        | —    | —                                                                                                                     | —               | —    |
|         | Johnson              | 0.064                                       | <b>0.074</b> | 0.058 | 67                                                                                  | 64         | —    | —                                                                                                                     | —               | —    |
|         | Laramie              | 0.060                                       | <b>0.075</b> | —     | 127                                                                                 | 63         | —    | 4.2 / 21                                                                                                              | 5.1 / 27        | —    |
|         | Lincoln              | —                                           | —            | —     | 91                                                                                  | 97         | —    | —                                                                                                                     | —               | —    |
|         | Natrona              | 0.066                                       | <b>0.071</b> | 0.060 | 56                                                                                  | —          | —    | 4.1 / 17                                                                                                              | 4.5 / 21        | —    |
|         | Sheridan             | —                                           | —            | —     | 52                                                                                  | —          | —    | 6.7 / 34                                                                                                              | —               | —    |
|         | Sublette             | 0.069                                       | <b>0.071</b> | 0.062 | 63                                                                                  | 59         | —    | 2.8 / 17                                                                                                              | 4.4 / 24        | —    |
|         | Sweetwater           | 0.063                                       | 0.070        | 0.061 | <b>301</b>                                                                          | <b>162</b> | —    | —                                                                                                                     | —               | —    |
|         | Teton                | 0.066                                       | 0.067        | 0.058 | 34                                                                                  | —          | —    | 4.5 / <b>48</b>                                                                                                       | 5.1 / <b>36</b> | —    |
|         | Uinta                | 0.066                                       | —            | —     | 47                                                                                  | —          | —    | —                                                                                                                     | —               | —    |
|         | Weston               | 0.066                                       | 0.068        | 0.058 | —                                                                                   | —          | —    | —                                                                                                                     | —               | —    |

Source: EPA 2023b

Values in bold are above the level of the respective air quality standard; exceptional events have been excluded.

= no monitoring data collected

**Table 3-17. 2020 Emissions Inventory by Source (tons per per year)**

| Source                                                    | Carbon Monoxide  | Nitrogen Oxides | PM <sub>10</sub> | PM <sub>2.5</sub> | Sulfur Dioxide | VOCs             |
|-----------------------------------------------------------|------------------|-----------------|------------------|-------------------|----------------|------------------|
| Area source (excluding livestock production) <sup>1</sup> | 611,136          | 46,391          | 625,555          | 168,916           | 6,679          | 292,114          |
| Livestock production and waste                            | 0                | 0               | 148,799          | 30,225            | 0              | 15,972           |
| Oil and gas <sup>2</sup>                                  | 20,933           | 18,993          | 870              | 868               | 1,173          | 129,634          |
| Mobile sources <sup>3</sup>                               | 1,169,806        | 239,286         | 834,905          | 94,381            | 495            | 108,615          |
| Point source <sup>4</sup>                                 | 126,082          | 147,845         | 50,532           | 22,005            | 68,623         | 89,468           |
| Biogenics <sup>5</sup>                                    | 373,990          | 117,066         | 0                | 0                 | 0              | 1,939,722        |
| Wildfires                                                 | 6,126,624        | 71,800          | 612,720          | 519,254           | 42,434         | 1,442,166        |
| <b>Total</b>                                              | <b>8,428,571</b> | <b>641,381</b>  | <b>2,273,381</b> | <b>835,650</b>    | <b>119,404</b> | <b>4,017,692</b> |

Source: EPA 2023c

<sup>1</sup> Area sources are stationary sources that are too small or too numerous to be treated as individual point sources. Source categories include agricultural and prescribed burning, outdoor grilling and residential wood combustion, trains and commercial marine vessels, and other sources not covered by the point source category.

<sup>2</sup> Oil and Gas includes oil and exploration and production.

<sup>3</sup> Mobile sources include off-road equipment and vehicles (e.g., construction, agriculture, industrial, lawn and garden, commercial, logging, recreational vehicles, some recreational marine vehicles, and underground mining equipment) that do not operate on roads; on-road highway vehicles; and fugitive dust from paved and unpaved roads.

<sup>4</sup> Point sources include individual facilities such as large energy and industrial sites (e.g., petroleum refineries, electric generating utilities, and manufacturing facilities), smaller point sources included voluntarily by state, local, and Tribal agencies (e.g., crematoria, dry cleaners, and gas stations), airport operation and aircraft landing and take-off emissions, and locomotive missions within railyards.

<sup>5</sup> Natural (nonanthropogenic) emissions from forests, vegetation, and soils

**Table 3-18. Climate Trends and Projections for Planning Area States**

| State      | Climate Trends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| California | The average annual temperatures in California have increased by nearly 3°F since the beginning of the 20th century. Multiple record warm years have been recorded in the last decade, and the most recent 10-year period (2011-2020) was the warmest on record. Since 1995, California has experienced a below normal number of cold nights and its highest number of very warm nights over the historical record (NOAA 2022). The record warmth, in combination with multiple years of below average precipitation, including the driest year, led to the most severe drought of the past 1,200 years (Griffin and Anchukaitis 2014). Precipitation and snowpack vary greatly from year to year. Statewide April 1 snowpack has averaged about 10% lower during the first two decades of the 21st century as compared with the last two decades of the 20th century, with 2015 likely featuring the lowest snowpack in the Sierra Nevada in the last 500 years (Belmecheri et al. 2015). |
| Colorado   | The rugged topography of western Colorado causes large variations in climate within short distances, and few climatic generalizations apply to the whole area. Temperatures in Colorado have risen about 2.5°F since the beginning of the 20th century and have remained above the long-term average since 1998. Six of the eight warmest years on record have occurred since 2012, and warming has been seen in all four seasons. Long-term average annual precipitation has been variable. Unlike many areas of the United States, Colorado has not seen an increase in the frequency of heavy precipitation events (NOAA 2022).                                                                                                                                                                                                                                                                                                                                                        |
| Idaho      | Idaho experiences dramatic seasonal temperature differences due to its northerly latitude and interior location, with cold winters and warm summers. Temperatures have risen almost 2°F since the beginning of the 20th century. For the 126-year record, there has been significant variation in precipitation across the state, but no overall trend. However, since 2000, the number of 1-inch extreme precipitation events has been increasing and has been above average for the last 16 years. Snowfall is highly variable from year to year and has generally decreased since the middle of the 20th century. Extreme weather and weather-related events in Idaho include severe winter storms, wildfires, floods, droughts, and heat and cold waves (NOAA 2022).                                                                                                                                                                                                                  |

| State                  | Climate Trends                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Montana                | Due to its diverse geography and extensive altitudinal range, Montana experiences significant climatic variations. Since the turn of the century, temperatures in Montana have increased by almost 2.5°F. Warming has occurred in most parts of the state and during all seasons. Montana's topographic variety generates significant regional variances in precipitation; however, there is no clear long-term trend in precipitation. Frequent thunderstorms during the summer months can produce hail, lightning, and strong winds. Precipitation events in the spring can cause severe flooding (NOAA 2022). Rising temperatures and recent droughts have killed many trees by drying out soils, increasing the risk of forest fires, or enabling outbreaks of forest insects (BLM 2020).                                                                                                                                                                           |
| Nevada                 | Nevada is mostly a dry state with a wide range of elevations and a very variable climate. Since the beginning of the 20th century, temperatures in Nevada have increased by about 2.4°F. The total annual precipitation has been around or below the average since 2000, but there has been no overall trend over the 126-year period of record. Throughout the state, there are different seasonal patterns of precipitation, but in most places, the winter is when it rains the most. Drought poses a serious climatic threat to Nevada. Since 2004, the state has experienced multiple severe wildfire and flooding events (NOAA 2022).                                                                                                                                                                                                                                                                                                                             |
| North and South Dakota | The Dakotas have significant temperature extremes as a result of their location in the middle of the North American continent, distant from the oceans' climate-moderating influence. Temperatures in North Dakota have risen more than 2.6°F since the beginning of the 20th century, while temperatures in South Dakota have risen almost 2°F. Most precipitation falls between late spring and early summer, when the number of thunderstorms is at its peak. The strongest thunderstorms have the potential to create hail, tornadoes, or destructive straight-line winds that reach 75 mph. Compared to other northern states, North Dakota receives less annual snowfall. Conversely, South Dakota is particularly vulnerable to heavy snowfall, strong winds, and low wind chill temperatures, although, snowfall totals are highly variable from year to year. Both North and South Dakota are highly prone to the hazards of flooding and drought (NOAA 2022). |
| Oregon                 | Oregon's climate varies widely from the eastern to western regions of the state. Since the beginning of the 20th century, temperatures in Oregon have increased by around 2.5°F, with the highest temperatures recorded in the last 30 years. The amount of precipitation differs considerably from year to year and across the state, with areas west of the Cascades also experiencing significant seasonal variations in rainfall. Compared to many other parts of the country, Oregon has not seen an increase in the frequency of extreme precipitation events (NOAA 2022; Fleishman 2023).                                                                                                                                                                                                                                                                                                                                                                        |
| Utah                   | With forested, alpine, and desert areas, Utah has a diverse geographic landscape contributing to its variable climate. Utah has had a temperature increase of over 2.5°F since the turn of the century, and the early 21st century has been the warmest period on record. The past three decades have seen a decrease in the frequency of very cold nights and an increase in very warm nights (NOAA 2022). There has been no statistically significant trend in precipitation. As the state has warmed, the percentage of precipitation falling as snow during the winter has decreased, as has snow depth and snow cover (BLM 2020).                                                                                                                                                                                                                                                                                                                                  |
| Wyoming                | Wyoming's interior, mid-latitude location and exposure to sporadic storm systems results in a primarily semiarid climate. Temperatures have increased by around 2.5°F since the beginning of the 20th century. Warming is most noticeable during winter, as seen by a generally below-average number of extremely cold days since 2000 (NOAA 2022). There is no long-term trend in annual mean precipitation. Summer thunderstorms are common, which can bring about hail, lightning, and powerful winds, and the state is prone to the effects of winter storm systems, such as significant snowfall, strong winds, and low wind chill temperatures (BLM 2020; NOAA 2022).                                                                                                                                                                                                                                                                                             |

Sources: BLM 2020; NOAA 2022; Fleishman 2023; Griffin and Anchukaitis 2014; Belmecheri et al. 2015

**Table 3-19. Greenhouse Gas Emission by Economic Sector (million metric tons per year)**

| Source                         | Methane      | CO <sub>2</sub> | N <sub>2</sub> O | CO <sub>2</sub> e <sup>*</sup> |
|--------------------------------|--------------|-----------------|------------------|--------------------------------|
| Livestock grazing <sup>1</sup> | 0.0          | 64.9            | 3.8              | 2,970.2                        |
| Other agriculture <sup>2</sup> | 10.0         | 3.9             | 74.3             | 20,403.4                       |
| Commercial <sup>3</sup>        | 50.1         | 16.4            | 5.0              | 1,899.7                        |
| Industry <sup>4</sup>          | 352.9        | 48.0            | 5.2              | 3,207.0                        |
| Residential <sup>5</sup>       | 60.9         | 0.8             | 0.1              | 118.7                          |
| Transportation <sup>6</sup>    | 301.8        | 0.3             | 1.9              | 837.1                          |
| <b>Total</b>                   | <b>775.7</b> | <b>134.2</b>    | <b>90.3</b>      | <b>29,436.1</b>                |

Source: EPA 2024

\* 100-year time horizon global warming potentials applied are CO<sub>2</sub> = 1; methane = 29.8; nitrous oxide = 273, from the IPCC Sixth Assessment Report (IPCC 2021).

<sup>1</sup> Enteric fermentation and manure management.

<sup>2</sup> All agriculture (e.g., agricultural field burning, fertilization, soil management, cultivation, and other fuel combustion) excluding livestock grazing.

<sup>3</sup> Composting, landfills, stationary combustion, and wastewater treatment.

<sup>4</sup> Electric power industry, mining (including oil and gas development), and production.

<sup>5</sup> Stationary combustions.

<sup>6</sup> Mobile combustion and non-energy use of fuels.

**Table 3-20. Federally Recognized Native American Tribes Associated with the Planning Area**

| Tribe                                                                 |
|-----------------------------------------------------------------------|
| Alturas Indian Rancheria                                              |
| Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation      |
| Battle Mountain Band of the Te-Moak Tribe of Western Shoshone Indians |
| Blackfeet Tribe                                                       |
| Burns Paiute Tribe                                                    |
| Cedarville Rancheria                                                  |
| Chippewa Cree                                                         |
| Cheyenne River Sioux Tribe                                            |
| Cheyenne-Arapaho Tribes of Oklahoma                                   |
| Coeur d'Alene Tribe                                                   |
| Confederated Salish and Kootenai Tribes                               |
| Confederated Tribes of the Colville Reservation                       |
| Confederated Tribes of the Goshute Indian Reservation                 |
| Confederated Tribes of the Umatilla Indian Reservation                |
| Confederated Tribes of the Warm Springs Reservation                   |
| Crow Creek Sioux Tribe                                                |
| Crow Tribe                                                            |
| Duckwater Shoshone Tribe                                              |
| Eastern Shoshone Tribe of the Wind River Reservation                  |
| Elko Band of the Te-Moak Tribe of Western Shoshone Indians            |
| Ely Shoshone Tribe                                                    |
| Flandreau Santee Sioux Tribe                                          |
| Fort Belknap Indian Community                                         |
| Fort Bidwell Indian Community                                         |
| Fort McDermitt Paiute and Shoshone Tribes                             |
| Greenville Rancheria                                                  |

| Tribe                                                            |
|------------------------------------------------------------------|
| Hopi Tribe of Arizona                                            |
| Kaibab Band of Paiute Indians                                    |
| Klamath Tribes                                                   |
| Kootenai Tribe                                                   |
| Lovelock Paiute Tribe                                            |
| Lower Brule Sioux Tribe                                          |
| Lower Sioux Indian Community                                     |
| Mandan, Hidatsa & Arikara Nation                                 |
| Modoc Tribe of Oklahoma                                          |
| Navajo Nation                                                    |
| Nez Perce Tribe                                                  |
| Northern Arapaho Tribe                                           |
| Northern Cheyenne Tribe                                          |
| Northwestern Band of Shoshoni Nation                             |
| Oglala Sioux Tribe                                               |
| Omaha Tribe of Nebraska                                          |
| Paiute Indian Tribe                                              |
| Paiute-Shoshone Tribe of the Fallon Reservation                  |
| Pit River Tribe                                                  |
| Pyramid Lake Paiute Tribe                                        |
| Reno-Sparks Indian Colony                                        |
| Rosebud Sioux Tribe                                              |
| Santee Sioux Nation                                              |
| Shoshone-Bannock Tribes of the Fort Hall Reservation             |
| Shoshone-Paiute Tribes of the Duck Valley Reservation            |
| Sisseton-Wahpeton Oyate                                          |
| Skull Valley Band of Goshute Indians                             |
| South Fork Band of the Te-Moak Tribe of Western Shoshone Indians |
| Southern Ute Indian Tribe                                        |
| Spirit Lake Tribe                                                |
| Standing Rock Sioux Tribe                                        |
| Summit Lake Paiute Tribe                                         |
| Susanville Indian Rancheria                                      |
| Te-Moak Tribe of Western Shoshone Indians                        |
| Turtle Mountain Band of Chippewa Indians                         |
| Upper Sioux Community                                            |
| Ute Indian Tribe of the Uintah and Ouray Reservation             |
| Ute Mountain Tribe                                               |
| Walker River Paiute Tribe                                        |
| Washoe Tribe                                                     |
| Wells Band of the Te-Moak Tribe of Western Shoshone Indians      |
| White Earth Band of the Minnesota Chippewa Tribe                 |
| Winnemucca Indian Colony                                         |
| Yankton Sioux Tribe                                              |
| Yerington Paiute Tribe                                           |
| Yomba Shoshone Tribe                                             |

Source: BLM GIS 2023

## 9.2 CHAPTER 4 TABLES

**Table 4-2. Average Annual Criteria Air Pollutant and HAP Emissions from Oil and Gas Development in the Planning Area (tons per year)**

| State                 | Carbon Monoxide | Nitrogen Oxides | PM <sub>10</sub> | PM <sub>2.5</sub> | Sulfur Dioxide | VOCs          | HAPs         |
|-----------------------|-----------------|-----------------|------------------|-------------------|----------------|---------------|--------------|
| <b>Alternative 1</b>  |                 |                 |                  |                   |                |               |              |
| Colorado <sup>1</sup> | 10,514          | 12,119          | 390              | 370               | 368            | 16,423        | 2,570        |
| Montana               | 957             | 797             | 18               | 18                | 81             | 4,652         | 483          |
| North Dakota          | 378             | 149             | 13               | 12                | 118            | 1,406         | 144          |
| South Dakota          | 136             | 293             | 45               | 45                | 3              | 304           | 178          |
| Utah                  | 52              | 22              | 1                | 1                 | 3              | 2,650         | 165          |
| Wyoming               | 4,382           | 6,537           | 255              | 255               | 3,189          | 34,272        | 2,732        |
| <b>Total</b>          | <b>16,419</b>   | <b>19,917</b>   | <b>722</b>       | <b>701</b>        | <b>3,762</b>   | <b>59,707</b> | <b>6,272</b> |
| <b>Alternative 2</b>  |                 |                 |                  |                   |                |               |              |
| Colorado <sup>1</sup> | 10,591          | 12,207          | 393              | 373               | 371            | 16,542        | 2,589        |
| Montana               | 957             | 797             | 18               | 18                | 81             | 4,652         | 483          |
| North Dakota          | 378             | 149             | 13               | 12                | 118            | 1,406         | 144          |
| South Dakota          | 136             | 293             | 45               | 45                | 3              | 304           | 178          |
| Utah                  | 52              | 22              | 1                | 1                 | 3              | 2,650         | 165          |
| Wyoming               | 4,382           | 6,537           | 255              | 255               | 3,189          | 34,272        | 2,732        |
| <b>Total</b>          | <b>16,495</b>   | <b>20,005</b>   | <b>725</b>       | <b>704</b>        | <b>3,765</b>   | <b>59,826</b> | <b>6,291</b> |
| <b>Alternative 3</b>  |                 |                 |                  |                   |                |               |              |
| Colorado <sup>1</sup> | 7,607           | 8,899           | 288              | 273               | 273            | 10,960        | 1,845        |
| Montana               | 555             | 436             | 10               | 10                | 56             | 3,013         | 299          |
| North Dakota          | 320             | 126             | 11               | 10                | 100            | 1,190         | 121          |
| South Dakota          | 134             | 289             | 45               | 45                | 3              | 300           | 176          |
| Utah                  | 47              | 20              | 1                | 1                 | 2              | 2,413         | 150          |
| Wyoming               | 2,791           | 4,107           | 163              | 163               | 1,993          | 19,581        | 1,655        |
| <b>Total</b>          | <b>11,454</b>   | <b>13,877</b>   | <b>518</b>       | <b>502</b>        | <b>2,427</b>   | <b>37,457</b> | <b>4,246</b> |

| State                 | Carbon Monoxide | Nitrogen Oxides | PM <sub>10</sub> | PM <sub>2.5</sub> | Sulfur Dioxide | VOCs          | HAPs         |
|-----------------------|-----------------|-----------------|------------------|-------------------|----------------|---------------|--------------|
| <b>Alternative 4</b>  |                 |                 |                  |                   |                |               |              |
| Colorado <sup>1</sup> | 10,944          | 12,570          | 405              | 384               | 381            | 17,403        | 2,680        |
| Montana               | 957             | 797             | 18               | 18                | 81             | 4,652         | 483          |
| North Dakota          | 378             | 149             | 13               | 12                | 118            | 1,406         | 144          |
| South Dakota          | 136             | 293             | 45               | 45                | 3              | 304           | 178          |
| Utah                  | 52              | 22              | 1                | 1                 | 3              | 2,650         | 165          |
| Wyoming               | 3,545           | 5,260           | 207              | 207               | 2,561          | 26,607        | 2,168        |
| <b>Total</b>          | <b>16,012</b>   | <b>19,091</b>   | <b>689</b>       | <b>667</b>        | <b>3,147</b>   | <b>53,022</b> | <b>5,818</b> |
| <b>Alternative 5</b>  |                 |                 |                  |                   |                |               |              |
| Colorado <sup>1</sup> | 10,944          | 12,570          | 405              | 384               | 381            | 17,403        | 2,680        |
| Montana               | 957             | 797             | 18               | 18                | 81             | 4,652         | 483          |
| North Dakota          | 378             | 149             | 13               | 12                | 118            | 1,406         | 144          |
| South Dakota          | 136             | 293             | 45               | 45                | 3              | 304           | 178          |
| Utah                  | 52              | 22              | 1                | 1                 | 3              | 2,650         | 165          |
| Wyoming               | 4,245           | 6,327           | 247              | 247               | 3,085          | 32,985        | 2,638        |
| <b>Total</b>          | <b>16,712</b>   | <b>20,158</b>   | <b>729</b>       | <b>707</b>        | <b>3,671</b>   | <b>59,400</b> | <b>6,288</b> |
| <b>Alternative 6</b>  |                 |                 |                  |                   |                |               |              |
| Colorado <sup>1</sup> | 10,944          | 12,570          | 405              | 384               | 381            | 17,403        | 2,680        |
| Montana               | 957             | 797             | 18               | 18                | 81             | 4,652         | 483          |
| North Dakota          | 378             | 149             | 13               | 12                | 118            | 1,406         | 144          |
| South Dakota          | 136             | 293             | 45               | 45                | 3              | 304           | 178          |
| Utah                  | 52              | 22              | 1                | 1                 | 3              | 2,650         | 165          |
| Wyoming               | 4,220           | 6,288           | 246              | 246               | 3,066          | 32,716        | 2,620        |
| <b>Total</b>          | <b>16,687</b>   | <b>20,119</b>   | <b>728</b>       | <b>706</b>        | <b>3,652</b>   | <b>59,131</b> | <b>6,270</b> |

| State                         | Carbon Monoxide | Nitrogen Oxides | PM <sub>10</sub> | PM <sub>2.5</sub> | Sulfur Dioxide | VOCs          | HAPs         |
|-------------------------------|-----------------|-----------------|------------------|-------------------|----------------|---------------|--------------|
| <b>Proposed RMP Amendment</b> |                 |                 |                  |                   |                |               |              |
| Colorado <sup>1</sup>         | 10,944          | 12,570          | 405              | 384               | 381            | 17,403        | 2,680        |
| Montana                       | 957             | 797             | 18               | 18                | 81             | 4,652         | 483          |
| North Dakota                  | 378             | 149             | 13               | 12                | 118            | 1,406         | 144          |
| South Dakota                  | 136             | 293             | 45               | 45                | 3              | 304           | 178          |
| Utah                          | 52              | 22              | 1                | 1                 | 3              | 2,650         | 165          |
| Wyoming                       | 4,220           | 6,288           | 246              | 246               | 3,066          | 32,716        | 2,620        |
| <b>Total</b>                  | <b>16,687</b>   | <b>20,119</b>   | <b>728</b>       | <b>706</b>        | <b>3,652</b>   | <b>59,131</b> | <b>6,270</b> |

Source: Based on scaled emissions relative to circa 2032 modeled emissions from BLM Western US Photochemical Air Quality Modeling (Ramboll 2023). For a detailed methodology, see **Appendix 12, Section 12.1.1**, Air Pollutant and Greenhouse Gas Emission Calculation.

<sup>1</sup> Colorado emissions were scaled based on the high RFD scenario.

**Table 4-3. Average Annual GHG Emissions from Oil and Gas Development in the Planning Area (metric tons per year)**

| State                 | CO <sub>2</sub>  | Methane       | Nitrous Oxide | 20-Year CO <sub>2</sub> e* | 100-year CO <sub>2</sub> e** |
|-----------------------|------------------|---------------|---------------|----------------------------|------------------------------|
| <b>Alternative 1</b>  |                  |               |               |                            |                              |
| Colorado <sup>1</sup> | 2,237,202        | 25,200        | 40            | 4,327,122                  | 2,999,082                    |
| Montana               | 208,696          | 30,488        | 3             | 2,724,775                  | 1,118,057                    |
| North Dakota          | 108,023          | 1,488         | 1             | 231,056                    | 152,638                      |
| South Dakota          | 302,425          | 681           | 6             | 360,246                    | 324,357                      |
| Utah                  | 13,756           | 1,420         | 0             | 130,906                    | 56,072                       |
| Wyoming               | 1,720,872        | 34,650        | 32            | 4,588,233                  | 2,762,178                    |
| <b>Total</b>          | <b>4,590,974</b> | <b>93,927</b> | <b>82</b>     | <b>12,362,338</b>          | <b>7,412,384</b>             |
| <b>Alternative 2</b>  |                  |               |               |                            |                              |
| Colorado <sup>1</sup> | 2,253,497        | 25,384        | 40            | 4,358,597                  | 3,020,860                    |
| Montana               | 208,696          | 30,488        | 3             | 2,724,775                  | 1,118,057                    |
| North Dakota          | 108,023          | 1,488         | 1             | 231,056                    | 152,638                      |
| South Dakota          | 302,425          | 681           | 6             | 360,246                    | 324,357                      |
| Utah                  | 13,756           | 1,420         | 0             | 130,906                    | 56,072                       |
| Wyoming               | 1,720,872        | 34,650        | 32            | 4,588,233                  | 2,762,178                    |
| <b>Total</b>          | <b>4,607,269</b> | <b>94,111</b> | <b>82</b>     | <b>12,393,813</b>          | <b>7,434,162</b>             |
| <b>Alternative 3</b>  |                  |               |               |                            |                              |
| Colorado <sup>1</sup> | 1,633,345        | 18,105        | 29            | 3,134,925                  | 2,180,791                    |
| Montana               | 123,377          | 17,767        | 2             | 1,589,701                  | 653,380                      |
| North Dakota          | 91,388           | 1,259         | 1             | 195,529                    | 129,179                      |
| South Dakota          | 299,077          | 672           | 6             | 356,155                    | 320,741                      |
| Utah                  | 12,455           | 1,279         | 0             | 117,973                    | 50,569                       |
| Wyoming               | 1,095,347        | 21,770        | 20            | 2,896,832                  | 1,749,553                    |
| <b>Total</b>          | <b>3,254,989</b> | <b>60,852</b> | <b>58</b>     | <b>8,291,115</b>           | <b>5,084,213</b>             |

| State                 | CO <sub>2</sub>  | Methane       | Nitrous Oxide | 20-Year CO <sub>2</sub> e* | 100-year CO <sub>2</sub> e** |
|-----------------------|------------------|---------------|---------------|----------------------------|------------------------------|
| <b>Alternative 4</b>  |                  |               |               |                            |                              |
| Colorado <sup>1</sup> | 2,323,606        | 26,284        | 42            | 4,503,502                  | 3,118,335                    |
| Montana               | 208,696          | 30,488        | 3             | 2,724,775                  | 1,118,057                    |
| North Dakota          | 108,023          | 1,488         | 1             | 231,056                    | 152,638                      |
| South Dakota          | 302,425          | 681           | 6             | 360,246                    | 324,357                      |
| Utah                  | 13,756           | 1,420         | 0             | 130,906                    | 56,072                       |
| Wyoming               | 1,391,629        | 27,880        | 26            | 3,698,827                  | 2,229,551                    |
| <b>Total</b>          | <b>4,348,135</b> | <b>88,241</b> | <b>78</b>     | <b>11,649,312</b>          | <b>6,999,010</b>             |
| <b>Alternative 5</b>  |                  |               |               |                            |                              |
| Colorado <sup>1</sup> | 2,323,606        | 26,284        | 42            | 4,503,502                  | 3,118,335                    |
| Montana               | 208,696          | 30,488        | 3             | 2,724,775                  | 1,118,057                    |
| North Dakota          | 108,023          | 1,488         | 1             | 231,056                    | 152,638                      |
| South Dakota          | 302,425          | 681           | 6             | 360,246                    | 324,357                      |
| Utah                  | 13,756           | 1,420         | 0             | 130,906                    | 56,072                       |
| Wyoming               | 1,666,940        | 33,536        | 31            | 4,442,123                  | 2,674,776                    |
| <b>Total</b>          | <b>4,623,446</b> | <b>93,897</b> | <b>83</b>     | <b>12,392,608</b>          | <b>7,444,235</b>             |
| <b>Alternative 6</b>  |                  |               |               |                            |                              |
| Colorado <sup>1</sup> | 2,323,606        | 26,284        | 42            | 4,503,502                  | 3,118,335                    |
| Montana               | 208,696          | 30,488        | 3             | 2,724,775                  | 1,118,057                    |
| North Dakota          | 108,023          | 1,488         | 1             | 231,056                    | 152,638                      |
| South Dakota          | 302,425          | 681           | 6             | 360,246                    | 324,357                      |
| Utah                  | 13,756           | 1,420         | 0             | 130,906                    | 56,072                       |
| Wyoming               | 1,657,218        | 33,331        | 30            | 4,415,216                  | 2,658,672                    |
| <b>Total</b>          | <b>4,613,724</b> | <b>93,692</b> | <b>82</b>     | <b>12,365,701</b>          | <b>7,428,131</b>             |

| State                         | CO <sub>2</sub>  | Methane       | Nitrous Oxide | 20-Year CO <sub>2</sub> e* | 100-year CO <sub>2</sub> e** |
|-------------------------------|------------------|---------------|---------------|----------------------------|------------------------------|
| <b>Proposed RMP Amendment</b> |                  |               |               |                            |                              |
| Colorado <sup>1</sup>         | 2,323,606        | 26,284        | 42            | 4,503,502                  | 3,118,335                    |
| Montana                       | 208,696          | 30,488        | 3             | 2,724,775                  | 1,118,057                    |
| North Dakota                  | 108,023          | 1,488         | 1             | 231,056                    | 152,638                      |
| South Dakota                  | 302,425          | 681           | 6             | 360,246                    | 324,357                      |
| Utah                          | 13,756           | 1,420         | 0             | 130,906                    | 56,072                       |
| Wyoming                       | 1,657,218        | 33,331        | 30            | 4,415,216                  | 2,658,672                    |
| <b>Total</b>                  | <b>4,613,724</b> | <b>93,692</b> | <b>82</b>     | <b>12,365,701</b>          | <b>7,428,131</b>             |

Source: Based on scaled emissions relative to circa 2032 modeled emissions from BLM Western US Photochemical Air Quality Modeling (Ramboll 2023). For a detailed methodology, see **Appendix 12, Section 12.11**, Air Pollutant and Greenhouse Gas Emission Calculation.

<sup>1</sup> Colorado emissions were scaled based on the low RFD scenario.

\*100-year time horizon global warming potentials applied are CO<sub>2</sub> = 1; methane = 29.8; nitrous oxide = 273, from the IPCC Sixth Assessment Report (IPCC 2021).

\*\*20-year time horizon global warming potentials applied are CO<sub>2</sub> = 1; methane = 82.5; nitrous oxide = 273, from the IPCC Sixth Assessment Report (IPCC 2021).

**Table 4-4. OHV Designations in Colorado, Idaho, Montana/Dakotas, and Wyoming<sup>1,2</sup>**

| OHV Designation | Colorado         | Idaho             | Montana/Dakotas  | Wyoming           |
|-----------------|------------------|-------------------|------------------|-------------------|
| Open            | 1,757,000        | 57,000            | 1,000            | 19,000            |
| Limited         | 2,776,000        | 20,438,000        | 7,982,000        | 20,780,000        |
| Closed          | 330,000          | 2,174,000         | 87,000           | 1,963,000         |
| <b>Total:</b>   | <b>4,863,000</b> | <b>22,669,000</b> | <b>8,069,000</b> | <b>22,762,000</b> |

<sup>1</sup> Acres of OHV designations do not change across alternatives for these states

<sup>2</sup> Acres represent the entire planning area for each state

Source: BLM GIS 2024

**Table 4-5. Nevada/California OHV Designations by Alternative<sup>1</sup>**

| <b>OHV Designation</b> | <b>Alternative 1</b> | <b>Alternative 2</b> | <b>Alternative 3</b> | <b>Alternative 4</b> | <b>Alternative 5</b> | <b>Alternative 6</b> | <b>Proposed RMP Amendment</b> |
|------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------------------------|
| Open                   | 26,530,000           | 27,658,000           | 24,153,000           | 32,826,000           | 28,736,000           | 28,736,000           | 28,717,000                    |
| Limited                | 21,471,000           | 18,424,000           | 26,363,000           | 21,603,000           | 19,139,000           | 19,139,000           | 19,157,000                    |
| Closed                 | 2,847,000            | 2,444,000            | 2,847,000            | 2,847,000            | 2,847,000            | 2,847,000            | 2,847,000                     |
| <b>Total:</b>          | <b>50,847,000</b>    | <b>48,526,000</b>    | <b>53,363,000</b>    | <b>57,275,000</b>    | <b>50,721,000</b>    | <b>50,721,000</b>    | <b>50,721,000</b>             |

<sup>1</sup> Acres represent the entire planning area for Nevada/California  
Source: BLM GIS 2024

**Table 4-6. Oregon OHV Designations by Alternative<sup>1</sup>**

| <b>OHV Designation</b> | <b>Alternative 1</b> | <b>Alternative 2</b> | <b>Alternative 3</b> | <b>Alternative 4</b> | <b>Alternative 5</b> | <b>Alternative 6</b> | <b>Proposed RMP Amendment</b> |
|------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------------------------|
| Open                   | 1,204,000            | 1,204,000            | 739,000              | 739,000              | 600,000              | 600,000              | 600,000                       |
| Limited                | 11,042,000           | 11,077,000           | 11,568,000           | 11,568,000           | 11,707,000           | 11,707,000           | 11,707,000                    |
| Closed                 | 367,000              | 332,000              | 335,000              | 335,000              | 335,000              | 335,000              | 335,000                       |
| <b>Total:</b>          | <b>12,613,000</b>    | <b>12,613,000</b>    | <b>12,641,000</b>    | <b>12,641,000</b>    | <b>12,642,000</b>    | <b>12,642,000</b>    | <b>12,642,000</b>             |

<sup>1</sup> Acres represent the entire planning area for Oregon  
Source: BLM GIS 2024

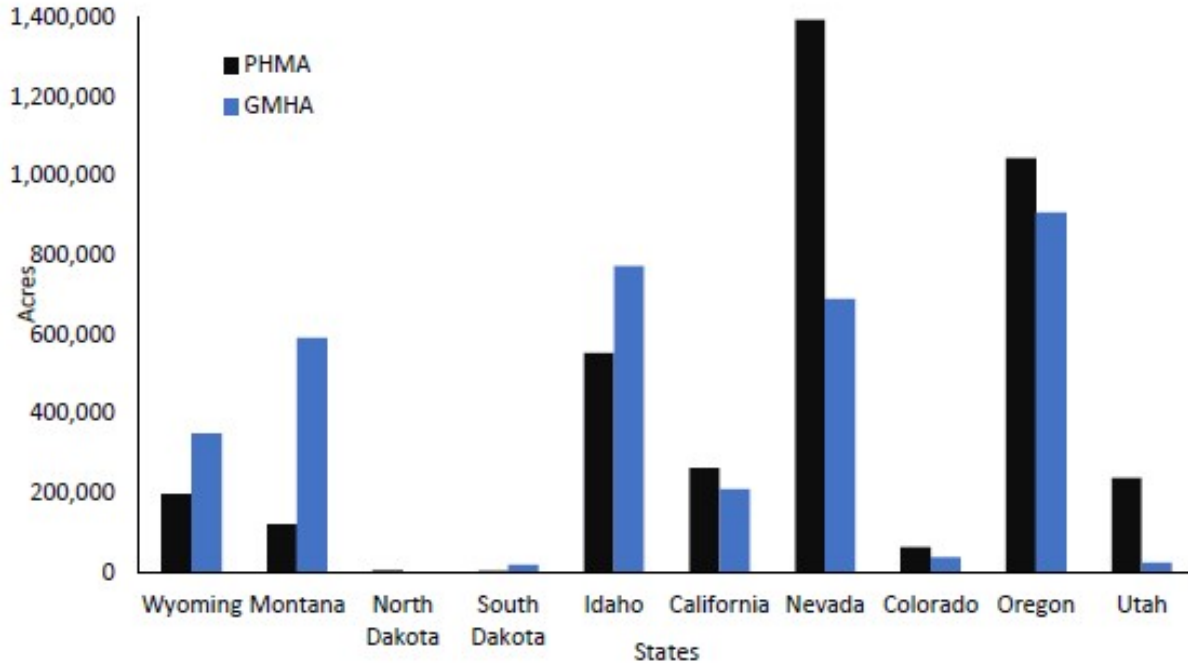
**Table 4-7. Utah OHV Designations by Alternative<sup>1</sup>**

| <b>OHV Designation</b> | <b>Alternative 1</b> | <b>Alternative 2</b> | <b>Alternative 3</b> | <b>Alternative 4</b> | <b>Alternative 5</b> | <b>Alternative 6</b> | <b>Proposed RMP Amendment</b> |
|------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------------------------|
| Open                   | 6,227,000            | 6,227,000            | 5,763,000            | 5,851,000            | 6,139,000            | 6,139,000            | 5,932,000                     |
| Limited                | 18,549,000           | 18,549,000           | 19,055,000           | 18,925,000           | 18,651,000           | 18,651,000           | 18,857,000                    |
| Closed                 | 2,854,000            | 2,854,000            | 2,854,000            | 2,854,000            | 2,854,000            | 2,854,000            | 2,854,000                     |
| <b>Total:</b>          | <b>27,630,000</b>    | <b>27,630,000</b>    | <b>27,632,000</b>    | <b>27,630,000</b>    | <b>27,643,000</b>    | <b>27,643,000</b>    | <b>27,642,000</b>             |

<sup>1</sup> Acres represent the entire planning area for Utah  
Source: BLM GIS 2024

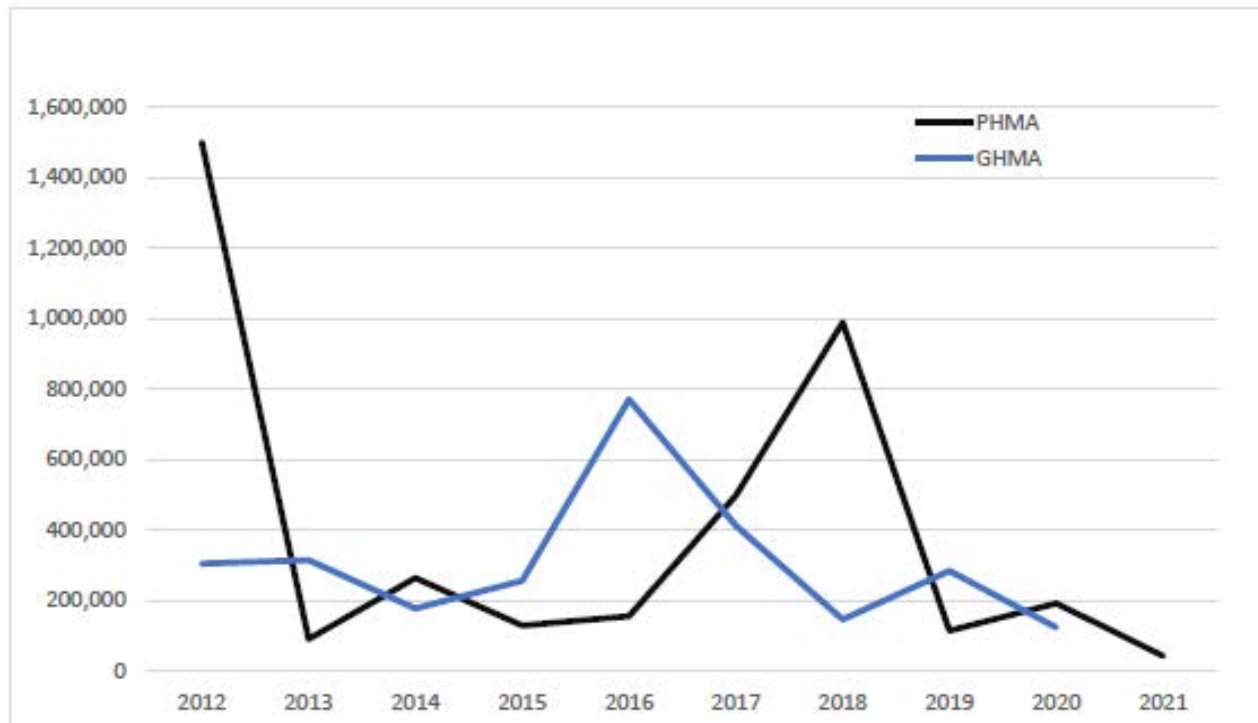
### 9.3 CHAPTER 3 FIGURES

**Figure 3.1 Cumulative Acres Burned by State within the Planning Area, Alternative I (2012-2021)**



Source: NIFC GIS 2023

**Figure 3.2 Acres Burned by Year within the Planning Area, Alternative I (2012-2021)**



Source: NIFC GIS 2023

This page intentionally left blank.