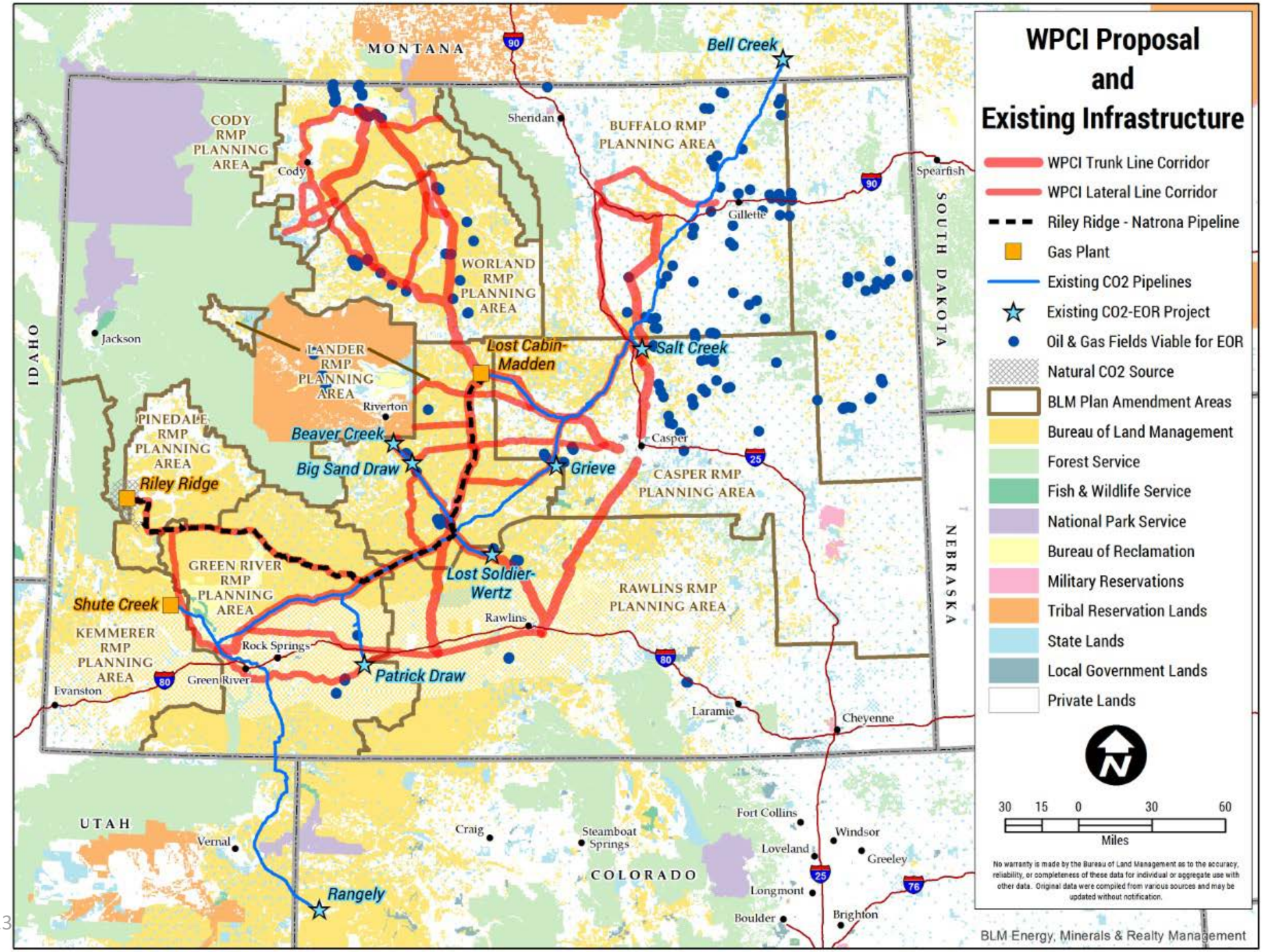
WPCI Proposal and Existing Infrastructure
WPCI Trunk Line Corridor
WPCI Lateral Line Corridor
Riley Ridge - Natrona Pipeline
Gas Plant
Existing CO2 Pipelines
Existing CO2-EOR Project
Oil & Gas Fields Viable for EOR
Natural CO2 Source
BLM Plan Amendment Areas
Bureau of Land Management
Forest Service
Fish & Wildlife Service
National Park Service
Bureau of Reclamation
Military Reservations
Tribal Reservation Lands
State Lands
Local Government Lands
Private Lands
30 15 0 30 60
Miles
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.
BLM Energy, Minerals & Realty Management
MONTANA
IDAHO
SOUTH DAKOTA
NEBRASKA
UTAH
COLORADO
CODY RMP PLANNING AREA
BUFFALO RMP PLANNING AREA
WORLAND RMP PLANNING AREA
LANDER RMP PLANNING AREA
PINEDALE RMP PLANNING AREA
GREEN RIVER RMP PLANNING AREA
KEMMERER RMP PLANNING AREA
CASPER RMP PLANNING AREA
RAWLINS RMP PLANNING AREA
Bell Creek
Salt Creek
Lost Cabin-Madden
Beaver Creek
Big Sand Draw
Grieve
Riley Ridge
Lost Soldier-Wertz
Shute Creek
Patrick Draw
Rangely
Sheridan
Cody
Gillette
Spearfish
Jackson
Riverton
Casper
Rawlins
Rock Springs
Green River
Evanston
Laramie
Cheyenne
Vernal
Craig
Steamboat Springs
Fort Collins
Windsor
Loveland
Greeley
Longmont
Boulder
Brighton
90
80
25
76

Alternatives Summary

- Alternative A: No Action Alternative

- Alternative B: State of Wyoming Proposal, corridors would be reserved for the transport of CO2, EOR products, and other compatible uses as proposed by the State without avoiding resource conflicts or existing uses.

- Alternative C: Maintains existing management in current RMP corridors and creates new corridors for the transport of CO2, EOR products, and other compatible uses.

- Alternative D – Preferred Alternative: Reserves portions of existing corridors and creates new corridors that would be reserved for the transport of CO2, EOR products, and other compatible uses.

(Chapter 2. Description of Alternatives in the Draft EIS)

Alternative B- Proposed Action

- **<u>Reserves portions of existing corridors and creates new corridors</u>** designated exclusively for the transport of CO2, EOR products, and other compatible uses.

- Portions of existing corridors (200 ft or 300 ft wide) would be reserved for transportation of CO2, EOR products, or other compatible uses.

- Designates new corridors in Sage Grouse Priority Habitat Management Areas (PHMA), historic trails, valid existing rights, and existing infrastructure.

- Changes the management on approximately 33,000 acres of BLM - managed surface estate

Alternative C

- Management of existing corridors would remain the same and **would not be reserved** exclusively for the transport of CO2, EOR products, and other compatible uses.

- In addition, new corridors would be created and **reserved** for transportation of CO2, EOR products, or other compatible uses.

- New corridors **would not** be designated in Sage Grouse PHMA; proposed routes would be modified or eliminated to avoid other resource conflicts including wildlife habitat, historic trails, valid existing rights, and existing infrastructure.

- RMP amendments would change the management on approximately 5,000 acres of BLM-administered lands for pipeline corridors.

Alternative D – Preferred Alternative

- Alternative D is the same as alternative C except the following:
- **Reserves portions of existing corridors and creates new corridors** designated exclusively for the transport of CO2, EOR products, and other compatible uses.
- RMP amendments would change the management on approximately 30,000 acres of BLM-administered lands for pipeline corridors.

Questions on any of the Alternatives?

Please use the Q & A at the bottom of your Screen

Any Other Questions?

For additional information on the Proposal:

Heather Schultz
Project Manager
hschultz@blm.gov
307-775-6084

ePlanning WPCI Website:
https://go.usa.gov/xpCMr

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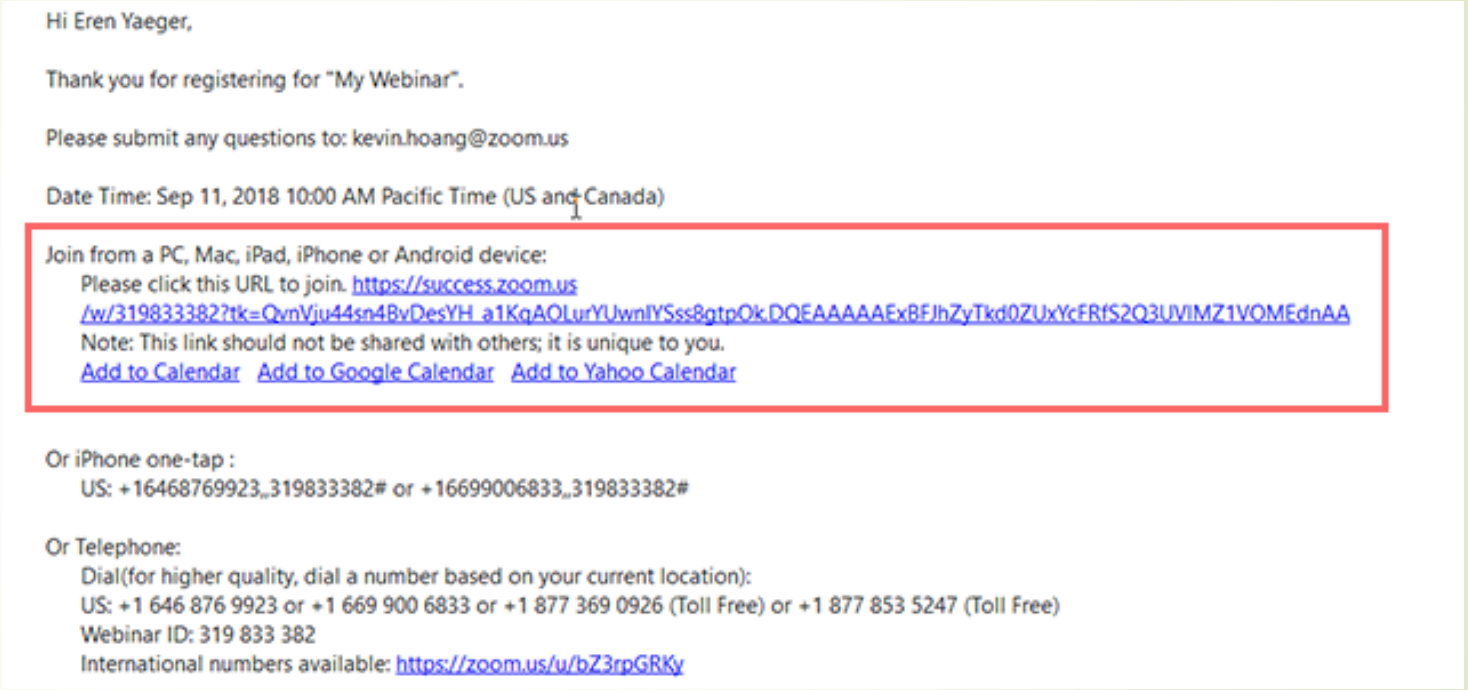

Hi Eren Yaeger,

Thank you for registering for "My Webinar".

Please submit any questions to: kevin.hoang@zoom.us

Date Time: Sep 11, 2018 10:00 AM Pacific Time (US and Canada)

Join from a PC, Mac, iPad, iPhone or Android device:
Please click this URL to join. https://success.zoom.us/w/319833382?tk=QvnVju44sn4BvDesYH_a1KqAOLurYUwnIYSss8gtpOk.DQEAAAAAExBFJhZyTkd0ZUxYcFRfS2Q3UVIMZ1VOMEdnAA
Note: This link should not be shared with others; it is unique to you.
Add to Calendar Add to Google Calendar Add to Yahoo Calendar

Or iPhone one-tap :
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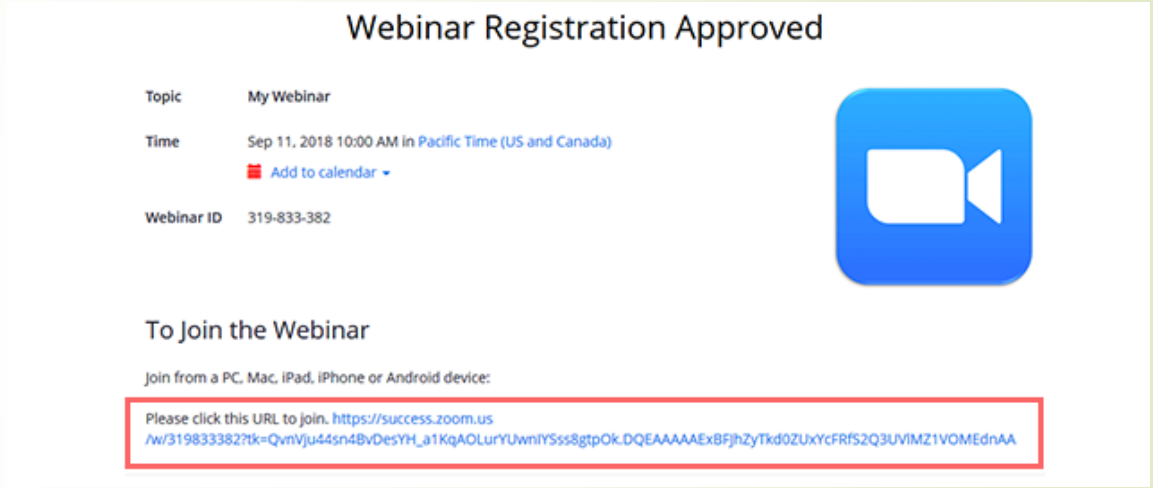

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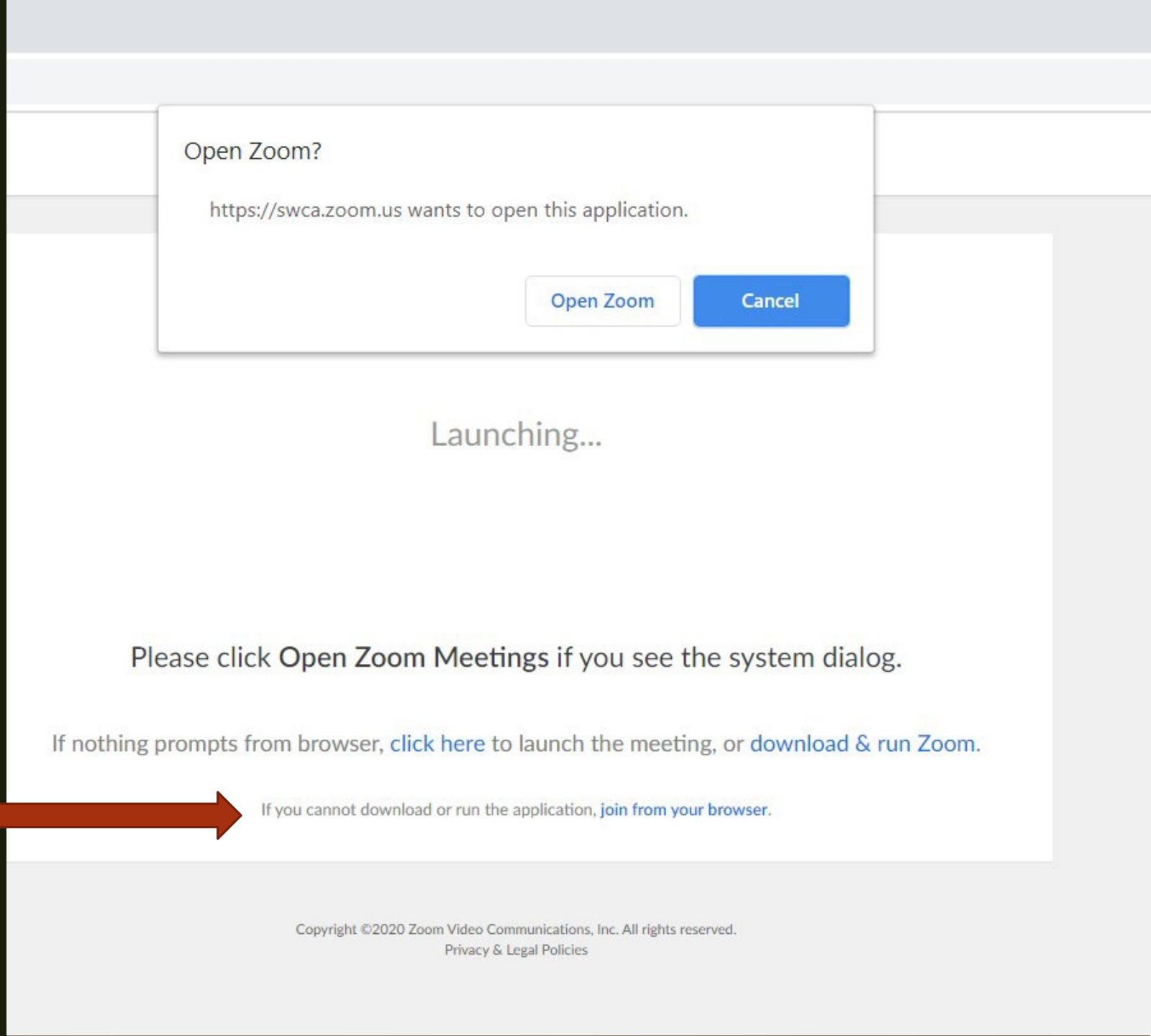

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- All attendees will be muted for the duration of the Webinar.

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Written questions may be submitted during meeting registration.

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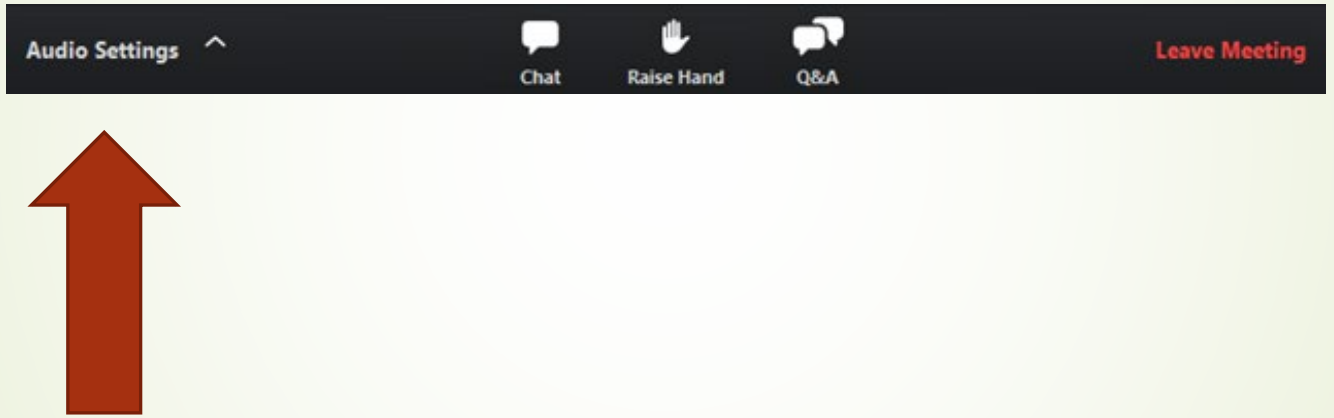
Throughout the Zoom Webinar, participants can type out questions they wish to ask.

The Panel will answer questions submitted during meeting registration and the Q&A.

Participating in Zoom Webinar

Audio



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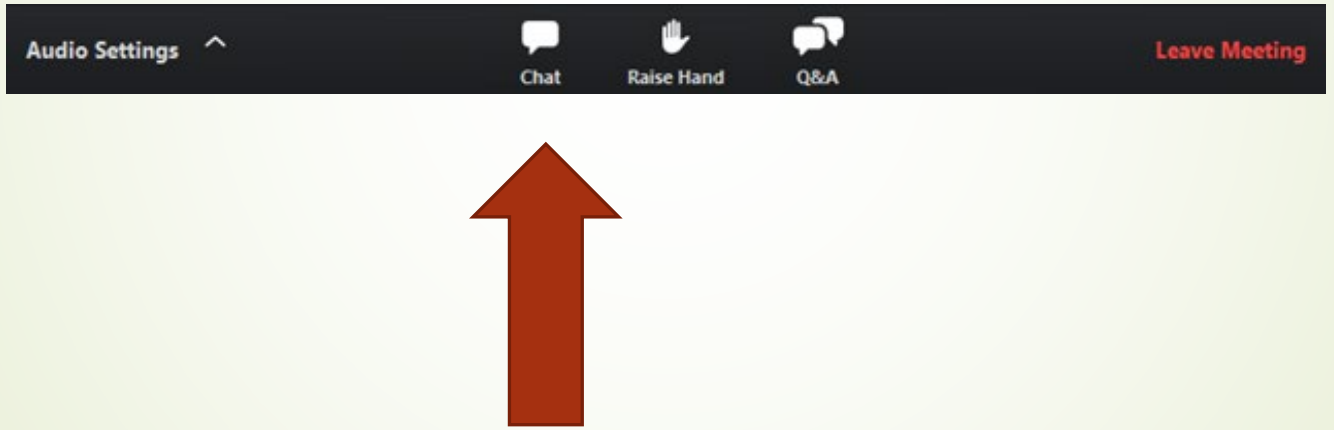
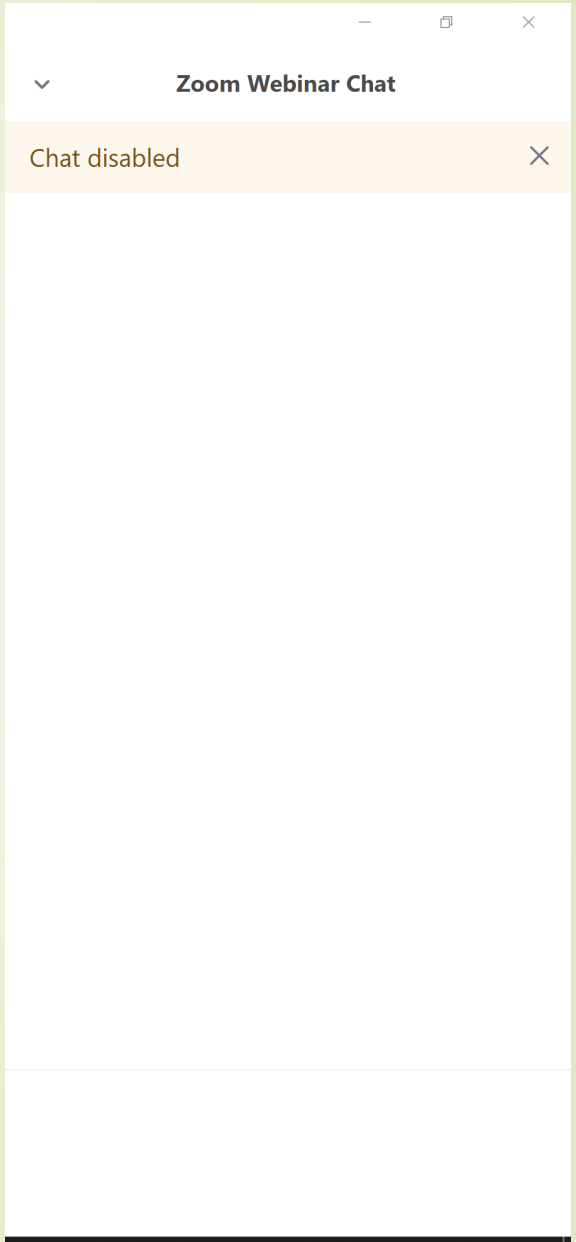
Participating in Zoom Webinar

Chat





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Participating in Zoom Webinar

Raise Hand

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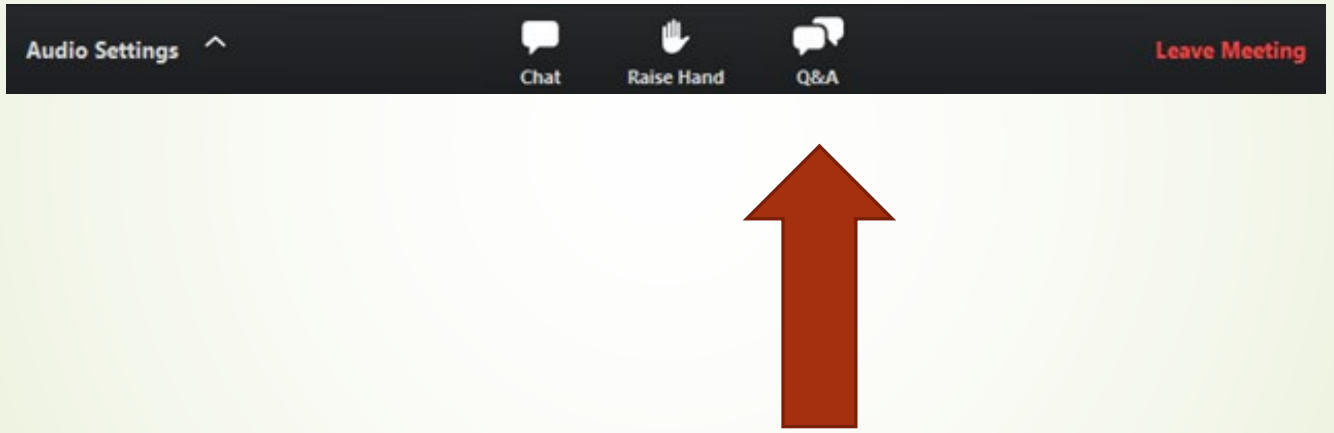
Participating in Zoom Meeting

Q&A



Attendees can use the on-screen button to type a question.

Note that the Q&A function is not available to phone-only users.

Q&A

Attendees can submit questions via the Q&A function throughout the entire meeting by typing in their question for the Host/Moderator.

The Host/Moderator can respond to the Attendee individually or answer live.

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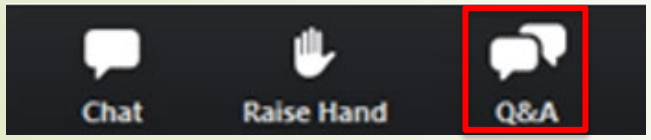
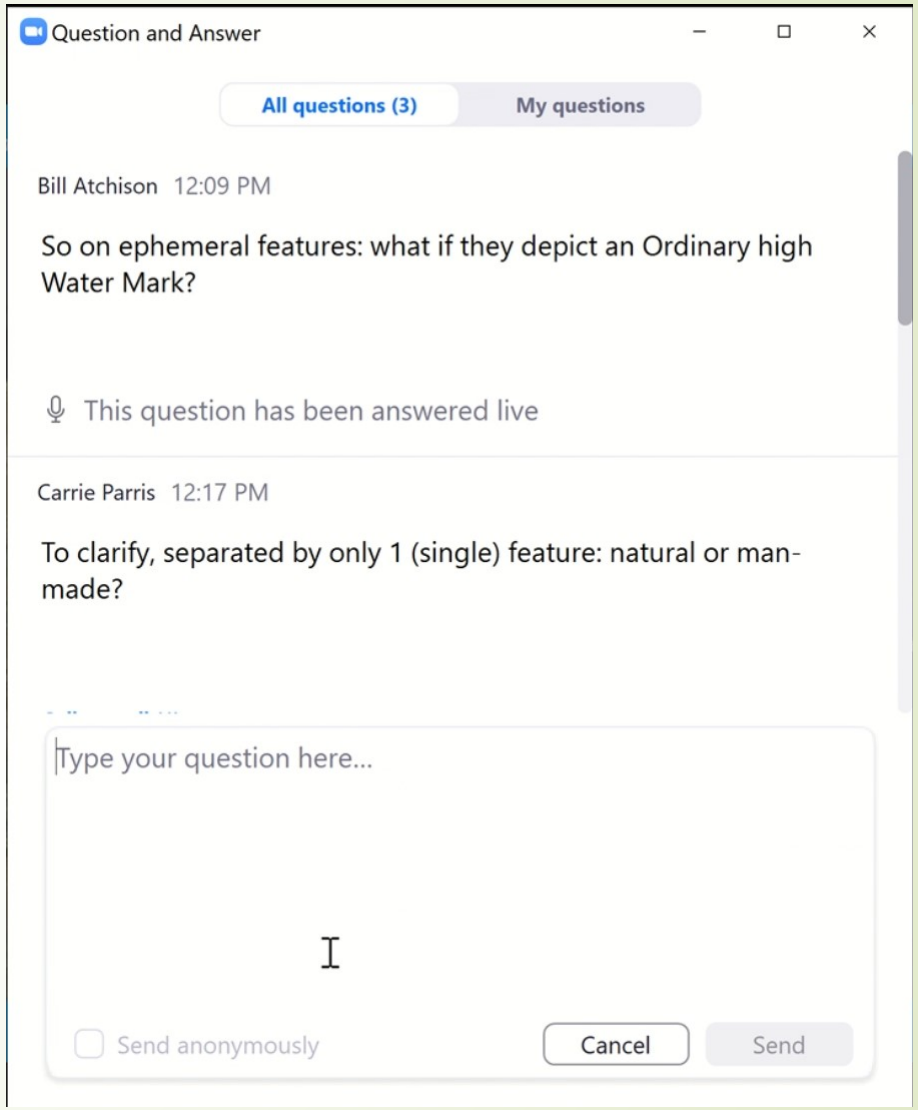
How to Q&A

- Upon clicking the Q&A button, the box on the right will pop up where attendees can type out their questions.
- Attendees can also choose to submit questions anonymously by checking the 'send anonymously' box in the Q&A.



On-Screen Button



Appendix C

Question and Answer Report

U.S. Department of the Interior
Bureau of Land Management

Public Meetings Questions and Answers Report
Draft Resource Management Plan Amendments/Environmental Impact Statement
Wyoming Pipeline Corridor Initiative
June 2020

U.S. Department of the Interior

Bureau of Land Management
Wyoming State Office
5353 Yellowstone Road
Cheyenne, Wyoming 82009
Telephone: (307) 775-6256

June 2020

Table of Contents

Tables

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CHAPTER 1. INTRODUCTION

This report provides a summary of the question and answer (Q&A) portions of the virtual public meetings for the Wyoming Pipeline Corridor Initiative (WPCI) draft environmental impact statement (EIS). As part of the public review and comment period for the WPCI draft EIS and in compliance with the National Environmental Policy Act (NEPA), on May 28, 2020, the Bureau of Land Management (BLM) held two virtual public meetings for the WPCI draft EIS. The purposes of the public review and comment period are to 1) ensure that all interested and affected parties are aware of the WPCI and 2) provide the public with an opportunity to review and provide comments for the draft EIS.

The Q&A portions of the virtual public meetings allowed participants to ask questions about the NEPA process or the WPCI to compose formal comments. Any questions asked as part of the virtual public meeting registration process or during the virtual public meetings will not be entered in the project record as a formal comment. Public comments submitted through the WPCI ePlanning portal during the public comment period will be recorded as formal comments and used to help inform revisions to the WPCI final EIS.

CHAPTER 2. VIRTUAL PUBLIC MEETINGS

The BLM held two virtual public meetings on May 28, 2020 from 11:00 a.m. to 1:00 p.m. mountain time and from 5:00 p.m. to 7:00 p.m. mountain time. The BLM issued a press release on May 13, 2020, to notify the public of the virtual public meetings, and a dedicated website was created to allow participants to register for the virtual meetings. The format of the virtual public meetings was identical and included a short presentation followed by a Q&A session. The presentation by the BLM covered the following topics:

- Introduction and welcoming message by Mike Valle of the BLM
- An overview of the Zoom Webinar format and how to participate
- Formal BLM slide presentation by Mike Valle of the BLM (posted to ePlanning site on May 29, 2020)
- How to provide comments on the draft EIS, including the closing date of the comment period
- The NEPA process
- WPCI proposal overview
- Alternatives analyzed in the draft EIS
- Q&A session led by Heather Schultz of the BLM

Questions submitted as part of the virtual meeting registration process were answered first; then, questions asked during the meeting were acknowledged and answered. General questions were answered during the meeting. All general questions and detailed questions requiring specialist input are answered fully in this report.

2.1 MEETING ATTENDANCE

Attendance for the virtual public meetings is summarized in Table 1. The morning meeting had 33 attendees, and the evening meeting had 24 attendees. Attendees included the BLM, third-party contractor, cooperators, and members of the public.

Table 1. May 28, 2020, Virtual Public Meetings Attendance

Meeting Time	Number Registered	Number Attended
Meeting 1: 11:00 a.m. to 1:00 p.m.	52	33
Meeting 2: 5:00 p.m. to 7:00 p.m.	33	24
Total	**85**	**57**

CHAPTER 3. QUESTIONS AND ANSWERS

This section summarizes the Q&As received during the public meetings. Members of the public could submit questions in the following ways:

- During registration, members of the public could include a question to be answered during the public meeting.
- During the public meeting, members of the public could use the Q&A feature in the webinar to submit a question to be answered during the meeting.

The BLM received a total of 38 questions from the public during the morning meeting and 12 questions from the public during the afternoon meeting. Several other questions and answers were provided by the BLM during the meetings, and those are also capture here. All Q&As are included in the sections below, organized by topic. Questions that were received multiple times were answered once.

3.1 MEETING FORMAT

Q-1: Is this presentation pre-recorded or happening in real time? Will the BLM answer questions during this recording?

A-1: There will be opportunities for a Q&A during the presentation. It is live.

C-1: Thank you.

Q-2: How many attendees are there at this morning's meeting/webinar?

A-2: Thirty-three people attended the morning webinar, which includes the 13 members of the contractor and BLM teams.

Q-3: Why aren't viewers allowed to ask voice questions?

A-3: BLM Wyoming wanted to ensure that questions were responded to as accurately and quickly as possible while creating an accurate record of the Q&As. The BLM thought the best platform to accomplish these goals was through the written Q&A function provided in the webinar.

Q-4: Is there or will there be a link to this presentation/slides, maybe on ePlanning?

A-4: The presentation will be posted on the ePlanning website at https://go.usa.gov/xpCMr

Q-5: Where on the ePlanning website will the Q&A be posted? Documents and reports, meetings, issues?

A-5: The Q&As will be posted in the Documents & Reports section: https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=200006422

Q-6: How many participants are on the call this evening; how many members of the contractor and BLM teams are included this time?

A-6: There are 24 attendees, which include 13 BLM and SWCA (contractor) employees.

Q-7: I am not seeing the questions you are reading in the Q&A box; there is apparently a delay with this function.

A-7: The BLM received several questions before the webinar meeting started and will be responding to those questions as well.

Q-8: If there is a specific answer to your question by an individual there is no "reply" feature for further questions. Will email addresses be provided to continue discussion as we would in an "in person" meeting?

A-8: Heather Schultz can be contacted at hschultz@blm.gov.

Q-9: Why are you ONLY accepting comments through the ePlanning website? Will comments emailed or mailed to the Project Manager, Heather Schultz be accepted?

A-9: Accepting comments via ePlanning allows the BLM to ensure that your comment is properly recorded and catalogued. This also ensures that the BLM is able to respond to your comment properly. If you do email comments to Heather directly, they will get incorporated in the record and addressed. However, submitting comments through ePlanning is the preferred method for comment submittal.

3.2 NATIONAL ENVIRONMENTAL POLICY ACT PROCESS

Q-1: How many scoping comments did the BLM receive?

A-1: The BLM received 33 total submissions during scoping. The entire breath of scoping comments is detailed in the Appendix C of the draft EIS. The scoping report can also be found on the ePlanning website at https://go.usa.gov/xpCMr.

C-1: Thank you.

Q-2: What were the most frequent and most significant scoping comments the BLM received?

A-2: Most of the scoping comments the BLM received had to do with conflicts about resource values such as wildlife, greater sage-grouse, and wetlands. There were also comments about climate change and air quality, and the flexible use of the corridors. The scoping report is Appendix C of the draft EIS and can also be found on the ePlanning website at https://go.usa.gov/xpCMr.

Q-3: If a future carbon dioxide (CO2) enhanced oil recovery (EOR) project is proposed and additional resource values are discovered, can the proposal be moved out of the corridor?

A-3: Yes, at the site-specific level, the best pipeline placement will be determined through the NEPA process for any future construction. When a future RMP revision is proposed, the analysis that would result in an EIS would re-evaluate existing corridors. That RMP may maintain these WPCI corridors, may modify them, or could eliminate them in a future RMP decision.

Q-4: Will the BLM send notice of these meetings to all groups/individuals that submitted scoping comments, as required by 40 Code of Federal Regulations 1506.6?

A-4: Yes. The BLM sent out an email notice to everyone who requested to be on the mailing list, to everyone who submitted scoping comments, and to cooperating agencies. In addition, the BLM issued a press release on May 13 and posted information regarding these meetings on the ePlanning website.

Q-5: Did the EIS indicate that the NEPA process would be streamlined for future pipeline applications? How does that work?

A-5: In a general sense, the analysis in this document could be cited in future decisions as it relates to the WPCI corridors. By no means does the BLM imply that there is a future pipeline application. NEPA documents may reference this document. This analysis could be used to cite future NEPA decisions as they relate to these corridors. If the BLM receives an application for a ROW for either a CO_2 line or EOR pipeline type project, there would still be a site-specific analysis developed for any project and stipulations applied as appropriate.

Q-6: Why is the BLM moving forward with this effort during the COVID pandemic?

A-6: The BLM, to the greatest extent possible, is working on maintaining service to the American people and our stakeholders that is consistent with evolving guidance from the Center for Disease Control (CDC) and local health authorities.

Q-7: What is the difference between direct and indirect impacts for the purposes of this project?

A-7: A direct impact is defined as effects that are caused by the action and occur at the same time and in the same general location as this action for the WPCI. Direct effects would occur because of the new designation of corridors, outside of the existing designated corridors, or the change in management within those designated corridors. The indirect impacts are those associated at a different time or different location than the actions that this designation applies. Therefore, for the WPCI, indirect effects would be those from potential development of the corridors, and it assumes that the WPCI would be developed. This is discussed in greater detail Section 3.1 of the draft EIS on page 3-1.

Q-8: Who is paying for the project?

A-8: The WPCI is funded both by the BLM and the State of Wyoming.

Q-9: Would future RMP revisions maintain these corridors?

A-9: When an RMP is revised based on the analysis, the associated EIS and the revised RMPs may maintain, modify, or eliminate these WPCI corridors. Therefore, these could change with future RMP revisions.

Q-10: Will there be any in-person meetings after this?

A-10: No. The BLM wants to ensure that the safety of the public and communities we serve will remains constant. There will be no future follow-up in-person meetings.

Q-11: Could you please explain a bit more about how this EIS will amend any RMPs and how subsequent permitting decisions will be made?

> A-11: This EIS could reserve portions of the planning areas in the nine land use plans in Wyoming for CO2 or EOR. If the decision is to select one of the action alternatives, this decision could be amended by future RMP decisions. In addition, when and if the BLM gets a new application for a CO2 or EOR type project, it would go through the full NEPA process. The information in this EIS would be used to reference and provide a more robust and more streamlined future analysis, but BLM would still do the full NEPA analysis for any new application. The appropriate stipulations as determined through that future NEPA analysis, and as already determined in the current RMPs would be applied as appropriate.

3.3 ALTERNATIVES

Q-1: At some point in the presentation, can you show a map comparing Alternatives B and D, and discuss where they vary from each other?

> A-1: This is not part of the presentation, but this is all catalogued in the Appendix G, Maps, in the draft EIS, which can be found on ePlanning at https://go.usa.gov/xpCMr.

Q-2: Please explain where Alternatives B and D differ from each other. There is not a map in the DEIS showing where they differ from each other.

> A-2: Alternative B is the state's Proposed Action. In Alternative D, the BLM modified Alternative B in response to resource concerns, particularly to avoid greater sage-grouse habitat, historic trails, and other resource values. The biggest difference for these two alternatives is whether or not new corridors would be created in Priority Habitat Management Areas (PHMA). In Alternative D, no new corridors would be created in PHMA for CO_2 or EOR projects and facilities. Those new corridors proposed in Alternative B that are proposed in PHMA have been moved outside of PHMA, have been moved into existing corridors, or have been eliminated.

Q-3: Is there a table somewhere that more easily compares the alternatives side by side?

> A-3: Table 2.5-1. Alternatives Comparison Matrix of the Draft EIS starts on page 2-5. This table shows the route numbers under each alternative. In addition, you can go to the maps in Appendix G to see the maps that show each of the routes. Each alternative is represented by four maps. The maps are fairly large scale. If you need a more detailed map or information about a specific area please reach out to Heather Schultz (hschultz@blm.gov) to provide a map of the specific area you are interested in. The biggest difference between the alternatives is that Alternatives C and D would not create new corridors in PHMA; the corridor was either moved to an existing corridor or it was eliminated to avoid PHMA. In Alternative B, the new corridors would cross PHMA. The stipulations for construction would be applied as any project for greater sage-grouse.

Q-4: Were there other alternatives BLM considered, or just these four?

> A-4: The BLM discussed different aspects of what was considered in the alternatives. The BLM looked at having various mitigations, either by alternative or throughout all the corridors. The BLM discussed and worked with our cooperators and the public through scoping to narrow down what needed to analyzed in detail. The BLM determined that these four alternatives, the no action

and the three action alternatives, needed detailed analysis in the EIS. This is discussed in Section 2.2 of page 2-1 of the draft EIS.

Q-5: Which alternative is currently the agency preferred alternative and what does that mean?

A-5: Alternative D is currently the agency preferred alternative. This alternative was determined to be the preferred alternative by the Acting Wyoming State Director, who is the authorized officer on the WPCI, and will be the primary decision maker. The preferred alternative is the alternative that BLM believes would reasonably accomplish the purpose and need of the Proposed Action while fulfilling the agency's statutory mission and responsibilities while considering environmental impacts.

Part of the NEPA process is having public meetings and soliciting public comments to improve the analysis in the EIS. The public is encouraged to provide specific information about the routes and the preferred routes based on specific information and their knowledge to help the BLM make a more informed decision. So, as you are reviewing the draft EIS, if you think that issues were missed, or a resource needs to be addressed more, please provide those comments so the BLM can develop the best solution for routes at the end of this process. This draft EIS preferred alternative was believed to be a reasonable alternative to accomplish both the purpose and need and fulfill the agency's requirements.

Q-6: Why are there no pipelines on the eastern part of the state, as Mike showed on the map earlier in the presentation?

A-6: The main reason there are no corridors proposed in the eastern part of the state is because this area is dominated by private land. The BLM only has authority to make a decision on BLM-managed surface, so it did not seem appropriate, and the state did not include it in their proposal, to have corridors on the far eastern part of the state because of the land ownership pattern.

Q-7: In regard to the map shown in this presentation, since the blue dots are in northeast Wyoming are not connected to any corridors, how do those private surface fields interact with this project?

A-7: The BLM has the authority to make decisions on BLM surface. The BLM does not have any authority to make decisions on lands that are private, state, or under other federal jurisdictions. If a proponent wanted to come in and construct a pipeline to go into those fields, they would have to work with the private landowners, the state, or whoever is the landowner through which their project would cross. Then they could tie into lateral or trunk lines once they get near the WPCI corridor.

Q-8: Looking at the maps in Appendix G, am I seeing correctly that there is not a corridor segment from the Casper area coming south into Carbon County - Sinclair area?

A-8: That depends on the alternative. In Alternative C, that corridor had a lot of resource issues and so that area for the most part was eliminated from Alternative C. Alternative B still maintains that corridor through Carbon County. Alternative D has portions of the corridor. You can also

look at Segment 6 in Table 2.5-1, Alternatives Comparison Table, and cross reference the maps in Appendix G.

Q-9: What are the corridor widths currently being considered by the BLM under the different alternatives?

A-9: There are two corridors widths analyzed in the EIS. 1) The trunk corridors are 300 feet wide, as proposed by the state, that could accommodate up to five 24-inch pipelines. 2) The lateral corridors are slightly smaller at 200 feet wide, which could fit up to three 24-inch pipelines assuming full build out in the future.

Q-10: Please provide a detailed narrative of how designating corridors through the WPCI process impacts other potential uses of existing corridors in the future?

A-10: The way this has been envisioned is those 200-foot or 300-foot corridors would be reserved for either CO_2, EOR products and other compatible uses. Those compatible uses are those uses that can occur in the same space as pipeline or pipeline corridors. Activities like grazing, recreation, and other uses can occur on the top of a pipeline corridor. Other things, such as transmission lines that could cause a physical impediment to constructing a future pipeline, would not likely be authorized in the corridor. The BLM would go through the NEPA process if an application was received to build something in the corridor, whether that be a CO_2 line, an EOR line, or some other project. Then the BLM would determine if the future proposed project is compatible with whatever the final decision is made from the WPCI NEPA process.

Q-11: Is the BLM authorizing any pipelines are approving any rights-of-way (ROWs) as part of the WPCI project?

A-11: No. The WPCI is only looking at corridor designation. The state's proposal does not authorize or analyze any specific components, the indirect impacts of what a future project (a general project) would do on the landscape are described in this EIS, but they are not project specific and that would be done in future NEPA documents.

Q-12: So we have a question about the designation, as reserved for CO_2 and EOR products. Would these inhibit future pipeline constructions or would they be denied?

A-12: When the BLM gets a site-specific application for any type of project then the BLM looks at whether that activity is in compliance with our land use plans. This would depend on the specifics of the project and on how much of the project intersects the corridor. For example, if the proposal transverses or cuts straight across at a 90-degree angle, the site-specific NEPA would analyze if the project is in compliance with this proposal and it would assess if the future pipeline would not take up too much room in the corridor. If, for example, it follows the corridor, the site-specific NEPA would analyze whether the project would make it hard for future CO_2 or EOR development.

Q-13: Is broadband considered a compatible use within the WPCI proposed designated corridors through that goes throughout Wyoming?

A-13: Yes. Broadband would be compatible with potential use of the corridors in the future. Broadband lines do not take up a whole lot of space and can be moved around within the corridors to avoid issues.

Q-14: Why are there no mitigation measures or stipulations in the WPCI proposal?

A-14: The BLM evaluated implementing different mitigation measures through the scoping process. Because the RMPs are regionally specific in their mitigation and the RMPs consider each field office's specific resource values and conditions, stipulations would be maintained that are already described in the RMPs. If a site-specific application was received, the existing stipulations listed in the land use plans would apply. Additional specific resource issues would be evaluated in future site-specific NEPA processes

Q-15: Is the State designating similar corridors across state lands?

A-15: No, the State of Wyoming's proposal did not address creating corridors on state lands or designating corridors on state lands. The State of Wyoming does not have to go through the NEPA process; they have their own process. If a pipeline was proposed that crosses state lands, they would work through their process with the state's requirements.

Q-16: Have you given thought on the buildout within the corridor, would it be from the middle to the outside, or start on one side and add lines to the other line? Most large diameter pipelines take a 100-foot-wide construction corridor.

A-16: To minimize disturbance, the BLM encourages proponents to build near the edges first and to work next to any existing structures that are present. If a project is proposed in the corridor, the BLM would do additional resource surveys to look for any additional information that was collected between when this decision was made and when the new proposal came into the BLM. It is possible that a project proposed in this corridor could cross back and forth within the corridor; or if needed, it could extend outside the corridor. The site-specific NEPA would determine where the proposed project is the most feasible and avoids the most resource conflicts. ROW applications would be managed by the field office in which the proposal is located.

Q-17: How is the BLM going to manage routes that intersect with valid existing rights, special designations, trails, and other resources?

A-17: For Alternatives C and D, the BLM made some modifications to the state's proposal to avoid known conflicts with existing rights, designations, and trails. The types of projects that the BLM has tried to avoid include open pit mines, existing large-scale transmission lines, and other existing ROWs. Those type of uses are not typically compatible with a corridor. Please provide a comment if you see an issue with one of the routes. That would be a great thing for the BLM to receive comments on. In areas where the BLM could not find a route around the conflict, the WPCI corridor was either moved into an existing corridor, or in some cases, either entire segments or part of segments were eliminated. This process was done in Alternatives C and D. One of the biggest changes between alternatives are the routes in Alternative C and Alternative D did not create any new corridors in greater sage-grouse PHMA.

Q-18: Oil is at historic lows, 30 to 40 years low; has the project considered that this may not be financially feasible or possible in Wyoming, with the recent economic chaos, being caused by part of the pandemic? What is the viability for this project, when the fact that oil and gas prices have tanked, and the cost of pipeline construction will deter operators/companies in the near term?

A-18: This is a valid question considering the current economic climate. We have seen low oil and gas prices before; however, this proposal, even before the pandemic hit, fits well into the

BLM's land use planning efforts. Planning with a forward-thinking perspective is easier to embrace when time is on your side. Land use planning is a forward-thinking process and the BLM must objectively value an application on its environmental sustainability and not necessarily on its viability.

Q-19: How will pipeline construction plans be required to address disturbances to wildlife migration corridors?

A-19: All the alternatives intersect, to some degree, migration corridors. Alternative C has the least amount of impact to the migration corridors. However, all current stipulations for migration corridors would be applied at the site-specific project level. For example, timing of construction and surface occupancy would all be applied at the project level. In addition, there would be stipulations to make sure that there are areas where wildlife could cross over trenches. and trenches would not have continuous, open-trench areas during critical times for migration.

Q-20: As this is implemented and skills are developed, do you see the ability to issue ROW with a Permit By Rule (PBR) if in a corridor and will have set conditions, will streamline the permitting procedures?

A-20: The BLM does not have the authority under Federal Land Policy and Management Act or our regulations to issue a permit by rule. A proponent would need to submit an SF-299 application for a ROW. Additional site-specific NEPA would be required to evaluate the plan of development.

Q-21: Would future drilling for oil or gas in a designated corridor be a compatible use?

A-21: Compatible use under the state proposal is focused on broadband. If a corridor is designated for CO_2 and EOR products, the state's intent is to only have pipelines for CO_2 and related products from source to sink. It is unlikely the BLM would authorize a well pad on top of the corridor, but that decision is reserved to be made at the site-specific level. Because of safety concerns, drilling within a corridor would not likely be considered a compatible use.

Q-22: How does this effort coordinate with the BLM Section 368 Westwide Energy Programmatic EIS and Revision Process? Counties and others have spent significant time participating the Section 368 processes. It seems the EIS should contain a section [that] addresses this important BLM effort.

A-22: The former State Director determined that the BLM would move forward with the WPCI. BLM Wyoming considered consolidating efforts with the Washington Office to look at the Section 368 energy corridor study, but the delays were unacceptable for both the proponent and BLM. The BLM has nonetheless coordinated with the Section 368 energy corridor project manager.

Q-23: If a corridor is designated and classified as reserved for CO_2 or EOR products, then other activities that might inhibit future pipeline construction could or would be denied? Is this correct?

A-23: Reserving the corridors for CO_2 for 200 to 300 feet under the WPCI would preclude other non-compatible uses at the site-specific level.

Q-24: Looking at your map, it appears you coordinated with the Enhanced Oil Recovery Institute (EORI) to target the best oil fields amenable to CO_2 projects, they have done comprehensive analysis.

A-24: The EORI was consulted in developing the analysis in the draft EIS as part of the reasonably foreseeable development (RFD). The BLM is not aware if the proponent also consulted with the EORI prior to submitting their proposal. There is some original BLM narrative in the draft EIS that addresses the potential source/sink relationship as some credible research corroborates. EORI has published data that helped BLM to predict greenhouse gas emissions data and mineral potential.

C-3: yes.

Q-25: Has the BLM already received any site-specific pipeline proposals or any early stage discussions of possible site-specific pipeline interest for any of these potential WPCI corridors?

A-25: The BLM has not, at this time, received any applications or interest in relation to the Proposed Action.

Q-26: Does this proposal eliminate the existing Section 368 Programmatic EIS (121-220; 220 and 221 Electrical Only Corridor) running west from approximately from the Jim Bridger Power Plant?

A-26: The proposed corridors do not eliminate any existing corridors. However, they could change the types of projects that could be authorized in portions of existing corridors.

Q-27: Will a company have a distinct ROW legal description within the corridor, or will it be a common ROW?

A-27: A distinct legal description would be part of any future potential ROW grant. However, the BLM's regulations require that ROWs are not exclusive to any one proponent and compatible uses within that ROW grant can be approved.

Q-28: Will ROW grants in the corridors be first come first serve, and what happens when the corridor is full; will you build lateral in the corridor and expand it?

A-28: Yes, ROWs would be on a first come, first serve basis. Once the designated corridors are full, the BLM would need to undertake a new land use planning analysis or evaluate new applications on a case-by-case basis.

Q-29: Have all landowners whose properties would be intersected by pipelines laid in the corridors due to checkerboard property ownership been notified of this proposal and invited to comment?

A-29: Some private landowners attended the Thermopolis public scoping meetings and met with the WPCI state lead for this initiative. This proposal applies to BLM managed lands only but if a specific project is proposed that crosses private land the pipeline company or project proponent would have to deal with obtaining access on private lands.

Q-30: How does Wyoming's efforts to potentially acquire checkerboard lands in southern Wyoming play into this?

A-30: At this point, that is a state action that they are doing independent of the WPCI process. It is a separate process that the BLM is not involved in and does not impact this EIS. If the state

were to gain ownership of the surface land in southern Wyoming and a proponent wanted to cross those lands, they would have to go through the state's process to get authorization to cross those lands.

3.4 RESOURCE-SPECIFIC QUESTIONS

3.4.1 Greater Sage-Grouse

Q-1: Under Alternative C, how much distance would the corridors maintain from greater sage-grouse leks?

A-1: The different alternatives will have a different number of greater sage-grouse leks impacted. Alternative C has the fewest leks impacted. None of the alternatives maintain a specific distance from greater sage-grouse leks. The BLM tried to avoid leks to the extent possible. The state also tried to avoid leks in their original proposal. The reality is that to make corridors cross the state of Wyoming, greater sage-grouse leks cannot be completely avoided. Under any alternative, the action would be in conformance with the applicable BLM RMPs, as amended, as well as the State of Wyoming's greater sage-grouse Executive Order. See the greater sage-grouse section, 3.21.9.5, in the draft EIS starting on page 3-123.

Q-2: Under Alternative D, how many acres of GHMA and PHMA would be included in the corridors?

A-2: Please see Table 3.21-19, Acreage of Priority Habitat Management Areas and General Habitat Management Areas within the Analysis Areas, on page 3-123.

Q-3: Under Alternative D, how many greater sage-grouse leks would be in the corridors?

A-3: The draft EIS in Table 3.21-9 and 3.21-20 page 3-123 indicates 54 leks within 2 miles and 211 leks within 4 miles.

Q-4: The draft EIS lists averages of male counts at leks by alternative. Can the BLM provide male counts by lek not as averages? It is important for comparing different segments of the alternatives for their impacts to grouse.

A-4: The BLM used the average number of male counts at leks as the approach to determine the potential impacts to greater sage-grouse due to the cyclical nature of greater sage-grouse populations. The BLM will review this approach and determine if using actual counts of males at leks would provide a more accurate depiction of potential impacts. Please submit this comment into ePlanning to ensure this is received as a comment and responded to appropriately.

Q-5: How are the wild horse and burro populations in these designated pipeline areas and corridors being protected? I am aware that Wyoming BLM has proposed a zero population of wild horses and burros and did this pipeline proposal have anything to do with that decision?

A-5: The answer to the first question is that standard stipulations from the appropriate RMP would be applied to any new project. Depending on which RMP the project is located in, this could include maintaining fences or making sure that wild horses, wildlife, or livestock would not fall in open trenches. Other stipulations would ensure that reclamation standards would be applied

and met on the site-specific level. As a part of the WPCI, the BLM considered whether or not to create a different set of management stipulations. During the scoping process, the BLM determined that it would be better to maintain the existing RMPs stipulations, because those have been developed for that resource area for very specific reasons and the BLM would like to maintain those. The answer to the second part of the question is no. The part of the question related to "Wyoming BLM has proposed zero populations wild horses and burros and did this pipeline proposal have anything to do with that decision?" I'm not going to speak to the actual wild horse decision because the current Rock Springs Wild Horse and Burro RMPA/EIS does not have any influence on the WPCI.

Q-6: You have omitted sensitive wild horse habitat or discussed it. RMP revisions are already underway to "zero out" and change stocking levels of herds in zones in conflict with this EIS. When you discuss the project in terms of "minimizing conflict," will you amend the EIS to discuss herd management areas (HMAs) and add them to the mapping? This EIS will serve as a baseline for site-specific NEPA. If the potential conflict is omitted in designation of corridors it will increase conflict, not decrease conflict. This EIS, and the lack of addressing HMAs, is adding conflict already in the RMP revision process. Will you amend this EIS to rectify the error and to address this conflict?

A-6: The WPCI draft EIS addresses wild horses in Chapter 3 pg. 98-100. This first part of the question is out of scope to the WPCI because it refers to the Rock Springs Wild Horse and Burro RMPA/EIS. The WPCI does not analyze actual on-the-ground detailed information. The WPCI analyzes corridor additions to RMPs, therefore there are no impacts to the HMA or wild horses. All site-specific information will be analyzed in future NEPA analysis.

C-1: I'll email. The question I asked before was labelled "complex." My other questions fall into that same category. Thank you.

3.5 OTHER

Q-1: Heather, is the picture you are in front of the Sweetwater river near Devils Gate?

A-1: No, this is actually South of Saratoga; the Bagget Rocks Country is what they call this.

C-1: No response needed great job BLM had a great team to do a virtual meeting. You have already mitigated your footprint on this project.

C-2: Tim I drafted an email and included you, hope I got your email right with the BLM. I really like this idea, in my career in the Patch it is 30-40 years late, spent a lifetime in Rocksprings and Rawlings on route and ROW with BLM. Its time has arrived.

C-3: thank you.

CHAPTER 4. ADDITIONAL INFORMATION

Email: hschultz@blm.gov

Telephone: (307) 775-6084

Appendix D

Notification letters and Contacts List

MAILING LIST

Table D-1. Federal Agencies

Agency	Office/Department
Bureau of Indian Affairs, Rocky Mouna	Rocky Mountain Regional Office
Bureau of Reclamation	Wyoming Area Office
National Park Service	National Trains Intermountain Region
Office of Surface Mining Reclamation and Enforcement	OSMRE Western Regional Office
U.S. Department of Agriculture	Animal and Plant Health Inspection Service
U.S. Environmental Protection Agency	Region 8
U.S. Environmental Protection Agency	Region 8
U.S. Fish and Wildlife Service	Wyoming Ecological Services Field Office
U.S. Forest Service	F5 Rocky Mountain Regional Office (Region 2)
U.S. Forest Service	Intermountain Region
U.S. Geological Survey	Fort Collins Science Center

Table D-2. State Agencies

Agency
Department of Revenue
Office of the Governor
State Historic Preservation Office
Wyoming Water Development Office
Wyoming Department of Agriculture
Wyoming Department of Agriculture
Wyoming Department of Environmental Quality
Wyoming Department of Transportation
Wyoming Department of Environmental Quality
Wyoming Department of Environmental Quality
Wyoming Department of Environmental Quality
Wyoming Department of Environmental Quality
Wyoming Department of Environmental Quality
Wyoming State Engineers Office
National Association of State Foresters
Wyoming State Geological Survey

Table D-3. Counties

County
Albany County Commissioners
Campbell County Commissioners
Carbon County Commissioners
Laramie County Commissioners
Natrona County Commissioners
Uinta County Commissioners
Uinta County Commissioners
Coalition of Governments

Table D-4. Conservation Districts

Conservation District
Hot Springs Conservation District
Lincoln Conservation District
Little Snake River Conservation District
Medicine Bow Conservation District
Natrona County Conservation District
Popo Agie Conservation District
Powell-Clarks Fork Conservation District
Shoshone Conservation District
South Big Horn Conservation District
Sweetwater County Conservation District
Washakie County Conservation District

Table D-5. Tribal Outreach

Tribes
Blackfeet Nation
Cheyenne and Arapaho
Cheyenne River Sioux Tribe
Chippewa Cree Tribe of the Rocky Boy's Reservation
Comanche Nation
Crow Creek Sioux Tribe of the Crow Creek Reservation
Crow Tribe of Indians
Eastern Shoshone Tribe of the Wind River Reservation
Fort Peck Assiniboine and Sioux Tribes
Lower Brule Sioux Tribe
Nez Perce Tribe
North Arapaho Tribe

Tribes
Northern Cheyenne
Oglala Sioux Tribe
Omaha Tribe of Nebraska
Ponca Tribe of Nebraska
Rosebud Sioux Tribe
Shoshone-Bannock Tribes of Forth Hail Reservation
Sisseton Wahpeton Oyate of the Lake Traverse Reservation
Spirit Lake Tribe
Standing Rock Sioux Tribe
Three Affiliated Tribes
The Ute Tribe of the Uintah and Ouray Reservation
Winnebago Tribe of Nebraska
Yankton Sioux Tribe

U.S. Department of the Interior
Bureau of Land Management

News Release

BLM Wyoming State Office

FOR IMMEDIATE RELEASE
May 13, 2020
Contact: Brad Purdy, bpurdy@blm.gov, 307-775-6328

BLM announces virtual public meetings for the Wyoming Pipeline Corridor Initiative Draft EIS

CHEYENNE, Wyo. – The Bureau of Land Management is hosting two virtual public meetings on its draft environmental analysis of the Wyoming Pipeline Corridor Initiative on May 28 at 11 a.m. and 5 p.m. Registration is required to attend the virtual public meetings. To register please visit https://www.swcavirtualpublicinvolvement.com/wyoming-pipeline-corridor-initiative-rmp/eis.

The virtual public meetings are designed to be informative only. Comments on the Draft EIS must be submitted by July 16, 2020, through the WPCI project's ePlanning webpage at https://go.usa.gov/xpCMr.

The WPCI is a proposal from the State of Wyoming to designate almost 2,000 miles of pipeline corridors across private, state and BLM-managed lands in Wyoming. Approximately 1,150 miles of the proposed corridors are located on BLM managed lands. The Draft Environmental Impact Statement analyzes the State of Wyoming's proposed alternative, two agency action alternatives, and the no action alternative.

"These virtual meetings are designed to provide an overview of the project and our draft alternatives, which will hopefully be valuable for the public in submitting comments to the BLM," said Duane Spencer, BLM Wyoming Acting State Director. "We encourage all interested in the project to attend."

If approved, the WPCI project could establish a statewide pipeline corridor network for companies to submit future proposals to the BLM to build pipelines associated with carbon capture, utilization and storage, as well as pipelines and facilities associated with enhanced oil recovery. The WPCI project does not authorize any new pipelines or construction but could amend nine BLM Resource Management Plans across the state to make future analysis of project specific proposals more efficient.

- BLM –

The BLM manages more than 245 million acres of public land located primarily in 12 Western states, including Alaska. The BLM also administers 700 million acres of sub-surface mineral estate throughout the nation. In fiscal year 2018, the diverse activities authorized on BLM-managed lands generated $105 billion in economic output across the country. This economic activity supported 471,000 jobs and contributed substantial revenue to the U.S. Treasury and state governments, mostly through royalties on minerals.

From:	Schultz, Heather M
To:	Schultz, Heather M
Bcc:	melissa.passas@bia.gov; Ronca, Carlie A; Mahr, Aaron P; Calle, Marcelo; Bruce.A.Shambaugh@aphis.usda.gov; strobel.philip_contact; Lozano.VelRey@epa.gov; Abbott, Tyler; byankoviak@fs.fed.us; sandraunderhill@fs.fed.us; Anderson, Patrick J; beth.callaway@wyo.gov; Barry.Lawrence@wyo.gov; chris.wichmann@wyo.gov; Wyodeq@wyo.gov; adam.deppe@wyo.gov; kimber.wichman@wyo.gov; kyle.wendtland@wyo.gov; luke.esch1@wyo.gov; kevin.frederick@wyo.gov; beth.callaway@wyo.gov; erin.campbell@wyo.gov; RPP01@ccgov.net; gwynnbartlett@carbonwy.com; commissioners@carbonwy.com; commissioners@laramiecounty.com; rhendry@natronacounty-wy.gov; mmaines@natronacounty-wy.gov; ersouth@unitacounty.com; mark.anderson@uintacounty.com; kconnelly@lcwy.org; hotspringscd@gmail.com; lsrcd@dteworld.com; joan@medbowcd.org; Lisa.Ogden@wy.nacdnet.net; bkhamilton@wyoming.com; ann.trosper@wy.nacdnet.net; shoshonecd@tctwest.net; sbhcd1@gmail.com; admin@swccd.us; wccd@rtconnect.net; Floyd Azure; chairmanfox@mnanation.com; NPTEC@nezperce.org; voaxaa@gmail.com; ldwrightjr@gmail.com; rstchairman@gwtc.net; Chairman@swo-nsn.gov; robertflyinghawk@gmail.com; Julia_Stuble@tws.org; tetonpeak@gmail.com; kellie@wyopipeline.com; esther@pawyo.org; mayfield@rtconnect.net; jennifer_fernandez@enzi.senate.gov; hscplanner@hscounty.com; mccumberwell@tctwest.net; dru@wyoming.com; dlallison@ubtanet.com; john.lucas@genlp.com; efagley@tatachemicals.com; connor.brady@exxonmobil.com; ryan.pauley@genlp.com; joshua.skorcz@genlp.com; kelly.cummins@tac-denver.com; tmartinez@continentaldividetrail.org; kfuller@westernwatersheds.org; vsmith@defenders.org; msaul@biologicaldiversity.org; connie.wilbert@sierraclub.org; rfischer@wildearthguardians.org
Subject:	Virtual Public Meetings Wyoming Pipeline Corridor Initiative (WPCI) Draft EIS May 28 at 11 a.m. and 5 p.m.
Date:	Monday, May 18, 2020 1:51:00 PM

BLM announces virtual public meetings for the Wyoming Pipeline Corridor Initiative Draft EIS

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If you have any question please contact me

Heather Schultz
Project Manager
BLM Wyoming State Office
hschultz@blm.gov
307-775-6084 Office (Due to the COVID-19 all calls are fowared to Cell)
307-275-0436 Cell

APPENDIX L

Biological Assessment

Wyoming Pipeline Corridor Initiative, September 2020

U.S. Department of the Interior
Bureau of Land Management

Biological Assessment
Wyoming Pipeline Corridor Initiative
September 2020
DOI-BLM-WY-0000-2020-0001-RMP-EIS

U.S. Department of the Interior

Bureau of Land Management
Wyoming State Office
5353 Yellowstone Road
Cheyenne, Wyoming 82009
Telephone: (307) 775-6256

September 2020

Table of Contents

Attachments

Tables

Figures

1 INTRODUCTION

The Wyoming Pipeline Corridor Initiative (WPCI) would designate approximately 1,970 miles of corridors throughout the central and western portions of the State of Wyoming for the transport of carbon dioxide (CO_2) and enhanced oil recovery (EOR) products and for other compatible uses. Approximately 1,111 miles of the proposed corridors are located on Bureau of Land Management (BLM)-administered lands in nine field offices: Buffalo, Casper, Cody, Kemmerer, Lander, Pinedale, Rawlins, Rock Springs, and Worland (Figure 1).

The WPCI would not authorize any new infrastructure projects or rights-of-way (ROWs) but would amend the following eight BLM resource management plans (RMPs) (a biological assessment [BA] and biological opinion were prepared for each RMP; this BA addresses this proposed amendment for the following RMPs only):

- Buffalo Field Office approved RMP (as amended) (BLM 2015a, 2019)
- ROD and approved Casper RMP (as amended) (BLM 2007a)
- Bighorn Basin Resource Management Plan Revision Project (as amended), which covers the Cody and Worland Field Offices (BLM 2015b)
- ROD and approved Kemmerer RMP (as amended) (BLM 2010)
- ROD and approved RMP for the Lander Field Office (as amended) (BLM 2014)
- ROD and approved Pinedale RMP (as amended) (BLM 2008a)
- ROD and approved Rawlins RMP (as amended) (BLM 2008b)
- ROD and Green River RMP (as amended) (BLM 1997)

The amendments would designate new corridors reserved for the transport of CO_2 and EOR products and for other compatible uses (i.e., those that avoid conflicts with pipelines and have similar effects, as determined on a case-by-case basis). RMP amendments would also be required for those proposed corridors that are within existing designated corridors and that would reserve a portion of the designated corridor exclusively for CO_2 and EOR product pipelines or other compatible uses. The corridors would be in BLM areas that are presently open to ROWs. Although the designations would occur only on BLM-administered lands, the BLM takes into account potential environmental impacts that may occur on other lands as a result of those designations.

The preferred alternative (Alternative E in the final environmental impact statement [EIS] for the WPCI [BLM 2020]) would maximize the use of existing designated corridors and adjust corridor routes as needed to reduce resource impacts, address conflicts with valid existing rights, and collocate infrastructure to minimize impacts across the landscape. Existing stipulations for each respective RMP would apply to any new corridors within each BLM field office. The BAs listed above were prepared at the time each RMP was prepared to analyze how management actions would impact species listed under the Endangered Species Act (ESA). This BA analyzes the RMP amendments specific to WPCI corridor designation. BLM corridor designation is a planning exercise to ensure efficient and effective transport of CO2, EOR products, and compatible uses but does not constitute a change in of management of the area. These areas were already open to ROWs in the existing RMPs.

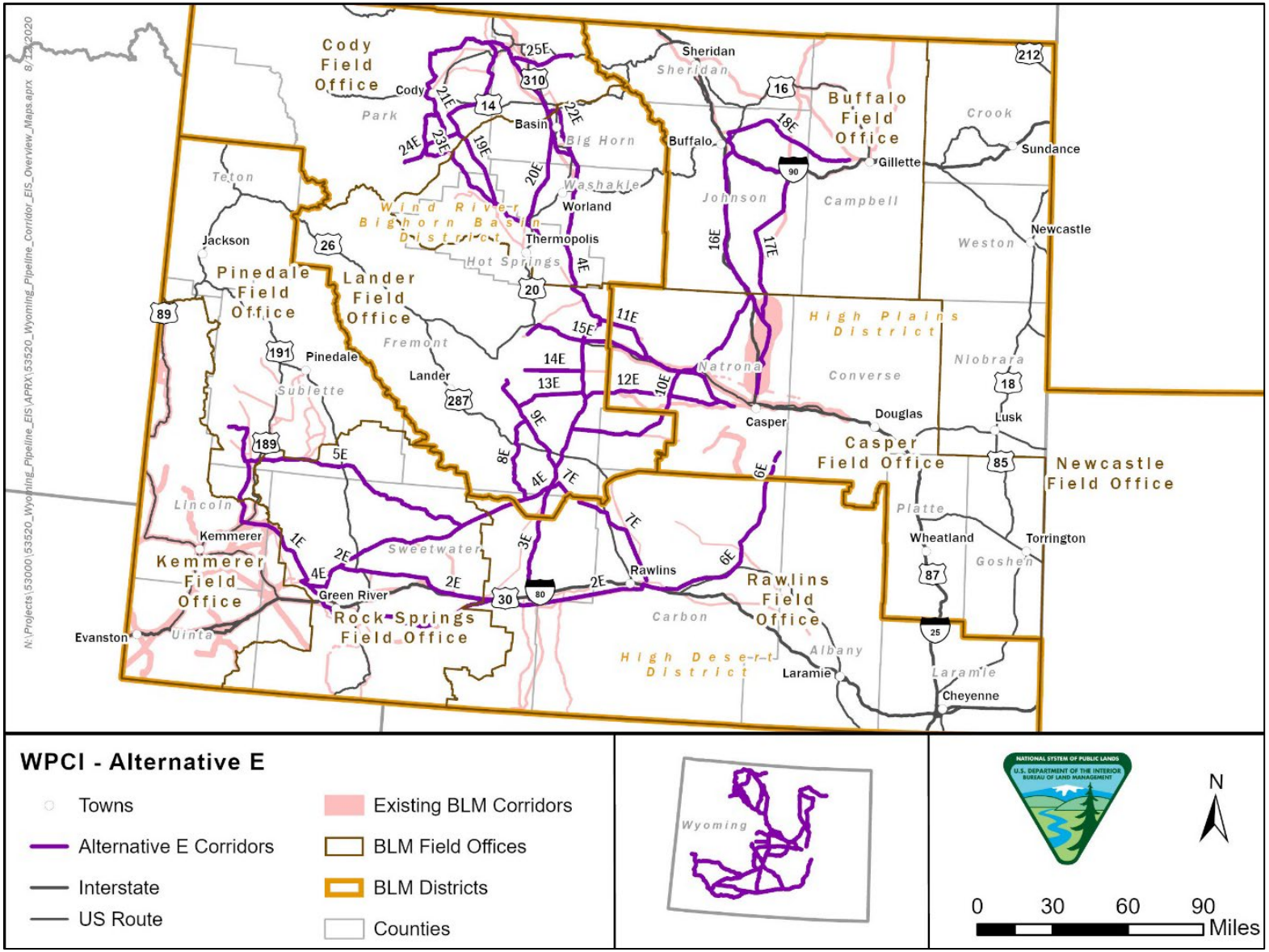

Figure 1. Wyoming Pipeline Corridor Initiative overview.

1.1 Coordination/Consultation

The corridors would be designated within potentially suitable habitats for threatened and endangered plants and wildlife or project actions may affect listed species and designated critical habitats, or both. This BA assesses the potential for effects of the proposed designation on threatened, endangered, proposed species, and critical habitats pursuant to the ESA. Federal agencies are required to utilize their existing programs in furtherance of the purposes of the ESA and to ensure the actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of endangered and threatened species or their critical habitats. To accomplish these goals, the ESA requires action agencies, such as the BLM, to consult or confer with the U.S. Fish and Wildlife Service (USFWS) when there is discretionary federal involvement or control over the action (18 Code of Federal Regulations [CFR] 380.13).

This programmatic BA provides documentation for the BLM to meet ESA Section 7 obligations concerning the proposed corridor designations. The BLM met with the USFWS on June 18, 2020, to initiate early coordination and discuss the consultation process, including schedules for preparation and review of this BA.

It is assumed that future development will occur as a result of the designation of the corridors. As new applications to construct within the corridors are received, the BLM will conduct site-specific evaluations for those implementation-level projects in the designated corridors. Wherever necessary, the BLM will further consult with the USFWS at the site-specific level for activities authorized within the corridors where those activities may affect any threatened, endangered, candidate, or proposed species or their designated or proposed critical habitats.

2 WPCI DESCRIPTION

2.1 Background

The WPCI would designate new corridors reserved for the transport of CO_2 and EOR products and for other compatible uses and would reserve portions of existing designated corridors for the same purpose. Designating corridors on public lands provides for more efficient siting and permitting of projects and minimizes impacts across the greater landscape by providing for the collocation of projects.

Through the National Environmental Policy Act (NEPA) process, the BLM identified a preferred alternative that would maximize the use of existing corridors and adjust proposed corridor routes as needed to reduce resource impacts, address conflicts with valid existing rights (e.g., transmission substations, active mines), and collocate infrastructure to minimize impacts across the landscape (Alternative E) (Table 1). The BLM would require site-specific NEPA and other compliance, such as ESA compliance coordination, for any potential new project proposed within the designated corridors.

The corridors cover 57,776 acres, with 32,725 acres on BLM land. The remaining acreage consists primarily of private and state lands. Approximately 74% of the proposed corridor areas

overlap existing designated utility corridors and/or are within 0.5 mile of existing pipeline ROWs.

Table 1. Summary of Wyoming Pipeline Corridor Initiative Preferred Alternative

Description	Area
Total miles	1,970 miles
BLM miles	1,111 miles
Total acres	57,776 acres
BLM acres	32,725 acres
Acres overlapping existing designated utilities corridors	42,600 acres (74%)
Miles within 0.5 mile of existing pipeline ROWs	595 miles (30%)

All WPCI corridors, either new or those within existing ROWs on BLM lands, consist of trunk lines and lateral lines. Corridors for trunk lines would be 300 feet wide, and corridors for lateral lines would be 200 feet wide. Existing stipulations for each RMP apply to any proposed corridor segment within the lands under the jurisdiction of the respective BLM field office. The corridors are divided into 25 segments based on their type and the regions they would service within the state (Table 2).

Table 2. Description of Wyoming Pipeline Corridor Initiative Segments

Segment	Type	BLM Field Offices
1	Lateral	Kemmerer, Rawlins, Rock Springs
2	Lateral	Rawlins, Rock Springs
3	Trunk	Lander, Rawlins
4	Trunk	Cody, Lander, Rawlins, Rock Springs, Worland
5	Lateral	Pinedale, Rock Springs
6	Trunk	Casper, Rawlins
7	Trunk	Lander, Rawlins
8	Lateral	Lander
9	Lateral	Lander
10	Lateral	Casper, Lander
11	Trunk	Casper, Lander
12	Lateral	Lander, Casper
13	Lateral	Lander
14	Lateral	Lander
15	Lateral	Casper, Lander
16	Lateral	Buffalo, Casper
17	Trunk	Buffalo, Casper
18	Lateral	Buffalo
19	Trunk	Cody, Worland

Segment	Type	BLM Field Offices
20	Lateral	Worland
21	Lateral	Cody, Worland
22	Lateral	Cody, Worland
23	Lateral	Cody
24	Lateral	Cody
25	Lateral	Cody

2.2 General Setting

The corridors would be designated on BLM lands primarily characterized by low precipitation, high summer evapotranspiration rates, open grasslands, shrublands, forests, intermittent streams, ephemeral streams, and a few perennial rivers and wetlands (Wiken et al. 2011), where a mosaic of dryland farming, livestock grazing, residential development, and energy development (coal and oil and gas) has impacted some areas of the native mixed grass-shortgrass prairies and shrublands (Jin et al. 2013). U.S. Geological Survey (USGS) Gap Analysis Program (GAP) vegetation classification indicates the habitats present within the corridors and surrounding areas (USGS 2011). The GAP vegetation classifications are listed and grouped into general vegetation categories as described in Table 3.

Table 3. Vegetation Types Associated the Wyoming Pipeline Corridor Initiative

GAP Vegetation Class	General Vegetation Category
Central Rocky Mountain Montane-Foothill Grassland & Shrubland	Shrubland, desert scrub
Great Basin Saltbush Scrub	Shrubland, desert scrub
Great Basin-Intermountain Dry Shrubland & Grassland	Shrubland, desert scrub
Great Basin-Intermountain Dwarf Sagebrush Steppe & Shrubland	Shrubland, desert scrub
Great Basin-Intermountain Tall Sagebrush Steppe & Shrubland	Shrubland, desert scrub
Southern Rocky Mountain Montane Shrubland	Shrubland, desert scrub
Great Plains Mixed-grass & Fescue Prairie	Grassland
Great Plains Sand Grassland & Shrubland	Grassland
Great Plains Shortgrass Prairie	Grassland
Rocky Mountain-Vancouverian Subalpine-High Montane Mesic Meadow	Grassland
Great Plains Floodplain Forest	Riparian
Rocky Mountain-Great Basin Montane Riparian Forest	Riparian
Arid West Interior Freshwater Marsh	Marsh, meadow
Great Plains Marsh, Wet Meadow, Shrubland & Playa	Marsh, meadow
Great Plains Saline Wet Meadow & Marsh	Marsh, meadow
North American Boreal & Sub-Boreal Acidic Bog & Fen	Marsh, meadow
Open Water	Marsh, meadow
Warm & Cool Desert Alkali-Saline marsh, Playa & Shrubland	Marsh, meadow
Western North American Montane-Subalpine Marsh, Wet Meadow & Shrubland	Marsh, meadow

GAP Vegetation Class	General Vegetation Category
Central Rocky Mountain Dry Lower Montane-Foothill Forest	Forest, woodland
Great Plains Forest & Woodland	Forest, woodland
Intermountain Single leaf Pinyon - Utah Juniper - Western Juniper Woodland	Forest, woodland
Rocky Mountain Subalpine-High Montane Conifer Forest	Forest, woodland
Southern Rocky Mountain Lower Montane Forest	Forest, woodland
Herbaceous Agricultural Vegetation	Agricultural
Introduced & Semi Natural Vegetation	Agricultural
Pasture & Hay Field Crop	Agricultural
Barren	Barren, badland
Great Plains Badlands Vegetation	Barren, badland
Great Plains Cliff, Scree & Rock Vegetation	Cliff, rock, scree
Intermountain Basins Cliff, Scree & Badlands Sparse Vegetation	Cliff, rock, scree
Western North American Temperate Cliff, Scree & Rock Vegetation	Cliff, rock, scree
Developed & Urban	Developed
Quarries, Mines, Gravel Pits and Oil Wells	Developed
Recently Disturbed or Modified	Developed

Source: USGS (2011).

2.3 Conservation Measures

The objectives of the BLM special status species policy are to conserve and/or recover ESA-listed species and the ecosystems on which they depend so that ESA protections are no longer needed for those species and to initiate proactive conservation measures that reduce or eliminate threats to sensitive species to minimize the likelihood of and need for listing of these species under the ESA (BLM 2008c). All potential projects within the proposed corridors must follow applicable RMP decisions mandated for corridors in the RMP for the respective BLM field office where the proposed corridors are located. See Section 3.1, Species Descriptions, for those measures that pertain to each listed species and Attachment A for a full list of conservation measures and best management practices (BMPs) that would apply to the corridors.

3 SPECIES CONSIDERED

The official species list was obtained from Information for Planning and Consultation (IPaC) (USFWS 2020a) in June 2020 (Table 4). No designated critical habitat is present within the proposed corridor boundaries; however, desert yellowhead (*Yermo xanthocephalus*) and Canada lynx (*Lynx canadensis*) designated critical habitat are within 1 mile of the proposed corridors. In addition, designated critical habitat for Colorado River species and Platte River species is downstream. As a result, these habitats are also considered in this BA.

Section 7 consultation is not required under the ESA for the nonessential experimental black-footed ferret. However, BLM policy requires that all nonessential experimental populations (NEPs) (e.g., the ferret) be treated as “proposed species” for the purposes of Section 7 Interagency Cooperation. Therefore, the BLM will request the opportunity to conduct an

informal "conference" over the black-footed ferret in an effort to ensure USFWS concurrence with BLM determinations of potential effect.

Candidate species are afforded no legal status under the ESA and therefore do not require Section 7 consultation. For these reasons, white-bark pine is not carried forward for analysis at this time. The corridors cross the Area of Influence (AOI) for all the species in Table 4; therefore, the analysis includes those species and suitable habitats. The AOI ranges do not necessarily identify where the species are present but rather identify the area within which any proposed action should include consideration of potential effects to the listed species.

Table 4. Threatened and Endangered Species Considered

Common Name	Scientific Name	Status	Habitat
Black-footed ferret	*Mustela nigripes*	Nonessential experimental	Prairie dog complexes
Blowout penstemon	*Penstemon haydenii*	Endangered	Sand dunes
Bonytail and its critical habitat	*Gila elegans*	Endangered	Colorado River
Canada lynx and its critical habitat	*Lynx canadensis*	Threatened	Forest
Colorado pikeminnow and its critical habitat	*Ptychocheilus lucius*	Endangered	Colorado River
Desert yellowhead and its critical habitat	*Yermo xanthocephalus*	Threatened	Sandstone outcrops
Grizzly bear	*Ursus arctos horribilis*	Threatened	Forest
Humpback chub and its critical habitat	*Gila cypha*	Endangered	Colorado River
Least tern	*Sterna antillarum*	Endangered	Platte River drainage
Northern long-eared bat	*Myotis septentrionalis*	Threatened	Forest
Pallid sturgeon	*Scaphirhynchus albus*	Endangered	Platte River drainage
Piping plover	*Charadrius melodus*	Threatened	Platte River drainage
Razorback sucker and its critical habitat	*Xyrauchen texanus*	Endangered	Colorado River
Ute ladies-tresses	*Spiranthes diluvialis*	Threatened	Riparian, wetland
Western prairie fringed orchid	*Platanthera praeclara*	Threatened	Platte River drainage
Whitebark pine	*Pinus albicaulis*	Candidate	Forest
Whooping crane and its critical habitat	*Grus americana*	Endangered	Platte River drainage
Yellow-billed cuckoo	*Coccyzus americanus*	Threatened	Riparian

Source: USFWS 2020a.

3.1 Species Descriptions

3.1.1 Canada Lynx (*Lynx canadensis*)

This species is addressed in the following RMPs: Cody/Worland, Kemmerer, Lander, Rawlins, Rock Springs, and Pinedale.

3.1.1.1 Status

The Canada lynx was proposed for listing as threatened under the ESA in 1998 (*Federal Register* [FR] 63[130]). On March 24, 2000, the final rule listing the lynx as threatened within the contiguous U.S. Distinct Population Segment (DPS) was issued (FR 65[58]).

In 2014, critical habitat for the Canada lynx was designated for portions of Fremont, Lincoln, Park, Sublette, and Teton Counties, including some BLM land and parts of Yellowstone National Park and the Bridger-Teton and Shoshone National Forests in Wyoming (50 CFR 17.95(a); USFWS 2019a).

3.1.1.2 Habitat Requirements and Distribution

The lynx is a habitat and prey specialist that requires dense boreal and subalpine forests that support abundant snowshoe hares, which typically constitute greater than 90 percent of the lynx's year-round diet. Lynx and hares are most abundant in areas with long winters and persistent deep, powdery snow. Lynx and snowshoe hares are strongly associated with moist boreal forests, where winters are long, cold, and snowy. The boreal forest landscapes lynx and hares occupy are naturally dynamic. Forest stands within the landscape may experience abrupt changes after natural or human-caused disturbances such as fire, insect outbreaks, wind, ice, disease, and forest management and more gradual changes as the stands undergo succession and regenerate after such events. As a result, lynx habitat is a shifting mosaic of forest patches of variable ages and changing quality. These stands of differing ages and conditions provide lynx foraging and denning habitat, and some serve as routes for lynx moving between foraging and denning habitats (USFWS 2017).

The DPS occurs at the southern margin of the species' range, where boreal forest habitats and thus lynx are, in most places, naturally less abundant and generally more patchily distributed than in the core of the species' range in Canada and Alaska. Maintaining connectivity between the DPS and lynx populations in Canada is thought to be important. However, the extent to which DPS populations may depend on immigration of lynx from Canada remains uncertain (USFWS 2017).

In Wyoming, Canada lynx live in subalpine/coniferous forests of mixed age and structural classes. Mature forests with downed logs and windfalls provide cover for denning sites, escape, and protection from severe weather. Early to mid-successional forests with high stem densities of conifer saplings provide optimal habitat for the snowshoe hare. Most of Wyoming's lynx observations occur in the western part of the state in the Wyoming and Salt River Ranges and in the northern part of the state through the Tetons and Absaroka Range in and around Yellowstone National Park (USFWS 2019a).

Lynx in southern Rockies boreal forests live in isolated island habitats of mountainous areas surrounded by less suitable lower-elevation habitats, often shrub steppe in Wyoming. Movement between suitable habitats is essential, but poorly understood. Subadults move between habitat in response to low hare abundance. Functioning metapopulations require such occasional movements of individuals among subpopulations for species persistence. Smaller-scale movements occur as animals travel between hunting grounds within a home range. Because of

the patchiness of lynx habitats in the southern portion of the distributional range, lynx may include travel corridors within their home ranges (BLM 2005a).

Canada lynx inhabit the coniferous or mixed forests of the northern latitudes and high mountains. Cool, moist forests with cold, snowy winters and abundant snowshoe hares characterize the required habitat of lynx. Primary vegetation in lynx habitat is lodgepole pine, subalpine fir, and Engelmann spruce (BLM 2005a). Secondary vegetation includes cool, moist Douglas-fir, grand fir, western larch, and aspen forests. Dry forests, such as ponderosa pine and climax lodgepole pine, do not provide habitat for lynx (Ruediger et al. 2000). In Wyoming, the elevational range for lynx occurrences is 4,920 to 11,480 feet (BLM 2005a). Lynx observed in shrub steppe habitat are thought to be taking advantage of jackrabbit population spikes as alternate prey and (or) traveling between suitable habitat patches, especially within riparian vegetation corridors. Lynx require a complex mosaic of vegetation within their home range to meet the different habitat needs. Snowshoe hares are the primary prey of Canada lynx, and snowshoe hare abundance is a limiting factor for Canada lynx.

The Wyoming Natural Diversity Database (WYNDD 2020) indicates that lynx are present in Fremont, Lincoln, Park, Sublette, Teton, Uinta, and possibly Big Horn Counties. Lynx have been found in Medicine Bow, Bridger-Teton, Caribou-Targhee, and Shoshone National Forests and Grand Teton and Yellowstone National Parks. Lynx Analysis Units (LAUs) are U.S. Forest Service (USFS) management areas that contain suitable lynx habitat and key linkage areas and approximate the size of a female home range. Wyoming contains approximately 555,604 acres of LAUs, including small parcels of BLM-administered lands along national forest boundaries that are cooperatively managed to support USFS LAUs. The BLM also coordinates with the USFWS on programmatic planning process approaches to lynx management. Below is the known distribution of the species by BLM field office.

Cody/Worland: Canada lynx have not been documented on BLM-administered land in the planning area; however, the planning area contains four LAUs that include 24,507 acres of BLM-administered lands that the agency cooperatively manages with the USFS.

Kemmerer: The planning area contains portions of eight LAUs on BLM-administered land that the agency cooperatively manages with the USFS. Unlike other planning areas, the Kemmerer planning area contains two LAUs that do not involve USFS management. The Dempsey Ridge and Commissary Ridge LAUs are managed as “stand-alone” units. In addition to the 50,930 acres of LAUs in the planning area, 900 acres have been designated as lynx travel corridor and support habitat. Several occurrences of Canada lynx as recently as 2005 were documented within the northern edge of the planning area. There have been sporadic reports of tracks and other sign since the documented mortality of those lynx. No known or suspected lynx reside within these LAUs currently.

Rawlins: No LAUs are designated on BLM lands within the planning area, but there is potential for lynx to travel through portions of the planning area when moving over the landscape.

Rock Springs: Portions of three LAUs on the northern edge of the planning area extend from the Wind River Mountains into the foothills, including 24,492 acres of BLM-administered land the agency cooperatively manages with the USFS.

Lander: The LAUs in this planning area cover 115,611 acres, including 27,022 acres of BLM-administered surface that the agency cooperatively manages with the USFS.

Pinedale: Portions of 10 LAUs are within the planning area and include 77,699 acres on BLM-administered land that the agency cooperatively manages with the USFS.

Critical habitat for the Canada lynx is designated for portions of Fremont, Lincoln, Park, Sublette, and Teton Counties, including parts of Yellowstone National Park and the Bridger-Teton and Shoshone National Forests. This critical habitat includes lands under the management of the BLM Pinedale and Cody Field Offices. The USFWS has identified the primary constituent elements specific to lynx in the contiguous United States as boreal forest landscapes supporting a mosaic of differing successional forest stages and featuring:

- snowshoe hares and their preferred habitat conditions, which include dense understories of young trees, shrubs or overhanging boughs that protrude above the snow, and mature multistoried stands with conifer boughs touching the snow surface;
- winter conditions that provide and maintain deep, fluffy snow for extended periods;
- sites for denning that have abundant coarse woody debris, such as downed trees and root wads; and
- matrix habitat between patches of boreal forest in close proximity such that lynx are likely to travel through such habitat while accessing patches of boreal forest within a home range (USFS 2017).

3.1.1.3 Threats

There appear to be some notable differences between Canada lynx ecology in southern and northern boreal forests. In the south, snowshoe hare densities are lower and Canada lynx populations appear less stable and at higher risk. The ecological differences between latitudes are the result of the use of alternative prey species; the effect of habitat patchiness on movements, reproduction, and survival; and the potential effects of different communities of predators and competitors (Ruediger et al. 2000). Persistence of Canada lynx in the contiguous United States appears to rely on dispersal from larger populations and maintenance of connectivity between northern and southern populations (BLM 2005a; USFWS 2017). For Canada lynx in Wyoming and Colorado, this translates to maintaining connectivity between populations in those two states, connectivity between populations in Canada and Montana, and connectivity between populations in Montana and Wyoming.

Additional threats to Canada lynx include fragmentation resulting from forestry, agriculture, and roads and the subsequent isolation of suitable habitat. Wildfire management in the West has resulted in forests that are more homogeneous and consist of shade-tolerant species with more canopy layers. Habitat has been lost because of suppression of forest fires and ecological succession to habitats that do not support snowshoe hare and Canada lynx. Recreational trails created by snowmobiles and even cross-country skiers create packed snow conditions that allow other predators and competitors into what would otherwise be more exclusive Canada lynx habitat.

3.1.1.4 Conservation Measures

The BLM Wyoming State Office's *Final Statewide Programmatic Canada Lynx (*Lynx canadensis*) Biological Assessment* (BLM 2005a) was completed in July 2005. The USFWS biological opinion is included in *Consultation for the Impacts from the Wyoming Bureau of Land Management's Resource Management Plans to the Canada Lynx (*Lynx canadensis*)* (USFWS 2005). Conservation measures in place include the assessment of habitat in suitable and unsuitable condition and the ensuing limitations on percentage of disturbance allowable to habitat as specified in *Canada Lynx Conservation Assessment and Strategy* (Interagency Lynx Biology Team 2013). The BLM must limit disturbance within each LAU to 30% of the suitable habitats. BLM actions cannot change more than 15% of lynx habitats within a LAU to an unsuitable condition within a 10-year period. Each RMP considers the effects and conservation measures identified in the statewide programmatic BA and biological opinion (see Attachment A).

3.1.2 Grizzly Bear (*Ursus arctos horribilis*)

This species is addressed in the following RMPs: Cody/Worland, Lander, and Pinedale.

3.1.2.1 Status

In 1975 the USFWS listed the grizzly bear (*Ursus arctos horribilis*) as threatened in the lower 48 states under the ESA. The BLM Wyoming completed the *Final Statewide Programmatic Grizzly Bear (*Ursus arctos*) Biological Assessment* in 2005 and updated the BA in 2006 (BLM 2005b). *Grizzly Bear Recovery Plan* (USFWS 1993) outlines the conditions required for grizzly bears to reach recovery and establishes several demographic (population) recovery targets that must be achieved for a recovered grizzly bear population. *Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area* (Interagency Conservation Strategy Team 2007) defines a Primary Conservation Area (PCA) for the species, i.e., the recovery zone in *Grizzly Bear Recovery Plan* (USFWS 1993), and outlines a cooperative management strategy for implementation by state and federal agencies upon delisting of the population of grizzly bears therein. As of 2011 review, the Greater Yellowstone Area population was increasing 7% annually and was well distributed throughout the recovery zone (USFWS 2011a).

The Wyoming Game and Fish Department (WGFD) prepared *Wyoming Grizzly Bear Management Plan* in 2002 and amended the document in 2005 (WGFD 2002). The agency updated the plan in 2016 (WGFD 2016). The plan is consistent with the conservation strategy developed by the Interagency Conservation Strategy Team and provides management plans for areas outside the PCA to ensure the long-term viability of grizzly bears and preclude re-listing of the species; support the expansion of the grizzly bear population beyond the PCA in areas that are biologically suitable and socially acceptable; and manage grizzly bears as a trophy game animal, including allowing regulated hunting when and where appropriate.

In 2017, the USFWS announced the establishment of a distinct population segment of Greater Yellowstone Ecosystem grizzly bears that no longer meet the definition of threatened, and the agency removed that distinct population segment from the federal list of threatened and endangered wildlife. However, in 2019 the distinct population segment was again included as

part of the existing listing for grizzly bears under the ESA, and the USFWS reinstated regulatory protections for the distinct population segment.

3.1.2.2 Habitat Requirements and Distribution

Occupied grizzly bear habitat in the lower 48 states is characterized by extensive forest cover is often interspersed with grasslands and meadows; in Wyoming, these habitats are generally above 4,921 feet. Although grizzly bears do not intrinsically require such cover, populations living near developed areas may require the isolation provided by forest cover (Reed-Eckert et al. 2004). Home ranges must encompass a complex of habitat types because the bears move among these habitats seasonally to take advantage of various foods as they become available. In addition, home ranges must include sites suitable for hibernation. Denning sites are commonly located in subalpine fir stands on north-facing exposures.

Foraging areas for grizzly bears consist of a mosaic landscape containing different seasonal foods. These areas include elk wintering grounds, calving areas, tributaries of Yellowstone Lake that contain trout, and whitebark pine forests inhabited by red squirrels. Lush meadows with sedges and equisetum and areas of shrubs with berries are important. Grizzly bears move seasonally as plant resources become available. In spring, as succulent herbaceous material becomes available, bears concentrate activity at feeding sites in open areas near cover. After the growing season, bears move to moist sites where succulent grasses and forbs remain available. As valley vegetation desiccates, bears move to the lodgepole pine forests to exploit late-season foods such as whitebark pine seeds, berries, mushrooms, and smilacina rhizomes.

Grizzly bears select den sites with stable snow conditions and is typically excavated under trees where root systems provide stability for the roof. Grizzly bears are likely to use the most suitable denning habitat within their home range, but local tradition may play a role in site selection and den construction. The most frequently used denning habitat in the Greater Yellowstone Area is in subalpine fir forest.

In Wyoming and elsewhere, the grizzly bear has expanded its range in the past two decades and has reoccupied historic habitats. Current range expansion of the Greater Yellowstone Area population is particularly evident in the southern portion of the ecosystem in Wyoming. The current general extent of the grizzly bear's range in Wyoming includes Grand Teton National Park, Yellowstone National Park, and portions of adjacent national forest and private lands to the south and east extending to the eastern edge of the Absaroka Mountains, the western portion of the Owl Creek Mountains, south in the Gros Ventre Range to the Pinnacle Peak area, and south in the Wind River Range to the Green River Lakes area.

Annual monitoring reports published by the Interagency Grizzly Bear Study Team include population trends in the Greater Yellowstone Ecosystem (USGS 2020). The most recent reports indicate that the population is stable to increasing. Below is the known distribution of the species by BLM field office.

Cody/Worland: Grizzly bears occur in the Absaroka Front Management Area along the western edge of the planning area and the eastern flank of the Greater Yellowstone Ecosystem.

Lander: The planning area contains 29,000 acres of the mapped grizzly bear distribution (Schwartz et al. 2002; BLM 2005b). Grizzly bears are known to occur in the Pole/Bear Creek areas, drainages of East Fork Wind River, the Horse Creek and Tappan Creek drainages north of Dubois, the Dunoir Creek and Warm Springs Creek drainages (occasional use only), Jakeys Fork of the Wind River, and USFS lands on the north end of the Lander Slope of the Wind River Range.

Pinedale: The planning area is not within the PCA for grizzly bear but is within the WGFD's Grizzly Bear Data Analysis Unit and is considered an ecosystem transitional zone containing the southernmost portion of known grizzly bear activity in the Greater Yellowstone Ecosystem (WGFD 2002).

3.1.2.3 Threats

The key reasons for the decline of grizzly bears in North America are human-caused mortality and habitat loss. Stochastic environmental events also pose extensive threats to long-term persistence of small isolated populations and are therefore real threats to persistence of the grizzly bear population in Wyoming. A stochastic environmental event can impact a population of grizzly bears by causing direct bear mortality or by impacting important food sources and carrying capacity. Researchers are concerned about the impacts of future climate change on two important foods –whitebark pine seeds and aggregated army cutworm moths.

Large-area requirements, low reproductive potential, and sensitivity to human disturbance contribute to intrinsic vulnerability in this species. Throughout the entire grizzly bear range, documented human disturbances include helicopter and fixed-wing aircraft flight, hydrocarbon exploration and development, hydroelectric development, timber extraction, recreational activities, and road and highway use. These disturbances may result in displacement and/or disruption of normal grizzly bear behavior patterns.

Disturbances associated with roads and developments can displace grizzly bears from quality habitats; however, road avoidance varies among individuals. Generally, grizzly bears avoid areas within approximately 1.9 miles of developments and within 2.5 miles of roads (BLM 2005b).

3.1.2.4 Conservation Measures

The statewide grizzly bear BA (BLM 2005b) includes conservation measures such as ensuring that BLM-authorized activities in currently occupied grizzly bear habitat are analyzed and planned with active grizzly bear protection measures. Project proponents must adhere to activity timing restrictions and consider spatial and other parameters for grizzly bears to prevent significant disruptions to normal or expected bear behavior and activity. See Attachment A for the full list of planned conservation and minimization measures for the species and its habitats.

3.1.3 Northern Long-eared Bat (*Myotis septentrionalis*)

This species is addressed in the Buffalo RMP.

3.1.3.1 Status

On October 2, 2013, the USFWS proposed the northern long-eared bat (*Myotis septentrionalis*) (NLEB) for listing as endangered under the ESA (USFWS 2013a). Because of population declines caused by white-nose syndrome (WNS) and continued spread of the disease, the NLEB was listed as threatened under the ESA on April 2, 2015 (FR 80:17974).

The listing decision included an interim special rule under Section 4(d) of the ESA, which was finalized on January 14, 2016. This rule provides flexibility to landowners, land managers, government agencies, and others as they conduct activities that may impact the NLEB and its habitat. As of June 1, 2018, Wyoming is included in the WNS zone as defined in the 4(d) rule. Within the WNS zone, incidental take (unintentional harm to bats incidental to otherwise lawful activities) is prohibited under the following circumstances: 1) if it occurs within a hibernaculum, 2) if it results in tree removal activities within 0.25 mile of a known hibernaculum, or 3) if it destroys a known occupied maternity roost tree or other trees within 150 feet of a maternity roost tree during the pup season (June 1 through July 31). Furthermore, federal agencies are obligated to consult with the USFWS on projects that may affect the NLEB. This obligation may be covered if the federal agency complies with the measures outlined in the framework of the USFWS's January 5, 2016, programmatic biological opinion on the final 4(d) rule. Purposeful take, other than for human safety or removal of bats from dwellings, is prohibited (USFWS 2019b).

3.1.3.2 Habitat Requirements and Distribution

NLEBs forage primarily in coniferous or deciduous forests. They are short-distance migrants, with the distance between summer habitat and hibernacula typically being 56 kilometers (35 miles) (Hester and Grenier 2005) to 89 kilometers (55 miles) (USFWS 2014) or shorter. NLEBs predominantly overwinter in hibernacula such as caves and abandoned mines. In general, NLEBs arrive at hibernacula in August or September, begin hibernation in October and November, and leave hibernacula in March or April. In the Black Hills, hibernation occurs from October into April (Tigner and Dowd Stukel 2003). NLEBs have shown a high degree of philopatry (using the same site multiple years) for hibernacula, although they may not return to the same hibernaculum in successive seasons.

Suitable summer habitat for NLEB consists of a wide variety of forested/wooded habitats where the species roosts, forages, and travels and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥3 inches diameter that have exfoliating bark, cracks, crevices, and/or cavities) as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit characteristics of suitable roost trees and are within 1,000 feet of other forested/wooded habitat. NLEBs have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat (USFWS 2020b).

NLEB breeding occurs from late July in northern regions to early October in southern regions and commences when males begin to swarm hibernacula and initiate copulation activity. Adult

females give birth to a single pup typically in late May or early June but may do so as late as July. Juveniles typically start flying at 21 days. Adult longevity is estimated to be up to 18.5 years.

The NLEB is generally less common in the western portion of its range; the species is considered common in only small portions of the western range (e.g., Black Hills) and uncommon or rare in the western extremes of the range (e.g., Wyoming, Kansas, Nebraska). The NLEB is considered abundant in the Black Hills, having been observed there hibernating and during the summer.

No limestone, dolomite, or other karst formations suitable for caves are within the Buffalo planning area east of the Bighorn Mountains in northeastern Campbell County, where one documented observation of NLEB occurred in 2000 (WYNDD 2020). No known abandoned mine shafts with hibernaculum potential are within the BLM lands in the Buffalo planning area. No winter hibernacula are known in Wyoming (Abernethy 2019). The species occupies a small area of northeastern Wyoming in the Bear Lodge Mountains, Crook County, and Black Hills National Forest, Weston County.

3.1.3.3 Threats

The greatest threat to NLEB is WNS, a disease caused by the fungus *Pseudogymnoascus (Geomyces) destructans*. First observed in New York in 2006, WNS has spread rapidly across the eastern United States, and the fungus that causes now grows in Wyoming. Throughout the range of WNS, up to 99 percent of infected bats die from the disease. Although there is uncertainty about the spread of WNS, experts agree that the fungus will likely spread throughout the United States (USFWS 2019b).

The NLEB is also threatened by the loss and degradation of summer habitat caused by human development and by collision with or barotrauma (injury to the lungs because of change in air pressure) caused by wind turbines. Mine closures and vandalism of winter roosts and hibernacula also pose threats to this species (USFWS 2019b). These additional threats (the present or proposed destruction, modification, or curtailment of its habitat or range; overutilization of habitat for commercial, recreational, scientific, or educational purposes; other natural or manmade factors affecting the species' continued existence), when combined with the impacts of WNS, heighten the level of risk to conservation of the species (USFWS 2019b).

3.1.3.4 Conservation Measures

Conservation measures in the Buffalo RMP are based on *Northern Long-Eared Bat Interim Conference and Planning Guidance* (see Attachment A).

3.1.4 Black-footed Ferret (*Mustela nigripes*)

This species is addressed in the following RMPs: Cody/Worland, Casper, Kemmerer, Lander, Rawlins, Green River, and Pinedale.

3.1.4.1 Status

The black-footed ferret (*Mustela nigripes*) was first listed as federally endangered in 1967 under a precursor of the modern ESA. No designated critical habitat has been identified for this species to date. No wild populations are currently known, except those living and reproducing at actively managed reintroduction sites. Discovery of any new populations is considered unlikely (Hanebury and Biggins 2006; Lockhart et al. 2006). The state of Wyoming is designated as a special area for the re-establishment of black-footed ferret populations under Section 10(j) of the ESA. This allows management flexibility and designation of reintroduced populations as NEPs to facilitate species recovery efforts and alleviate landowner concerns about reintroducing threatened and endangered species. Consequently, for the purposes of Section 7 of the ESA, NEP species outside a national park or the National Wildlife Refuge System are treated as federally proposed species and the entire species, not individual populations, is considered when making jeopardy determinations. Therefore, by definition, individual introduced populations of a NEP species are not legally essential to the continued existence of the species and no proposed action impacting an introduced population could lead to a jeopardy determination for the entire species. The BLM supports the recovery of listed species by reviewing potential impacts from the agency's actions on NEP species, such as black-footed ferrets, in accordance with BLM Policy Manual 6840 during the NEPA process.

3.1.4.2 Habitat Requirements and Distribution

The black-footed ferret was historically found throughout the Great Plains, mountain basins, and semi-arid grasslands of North America, and its distribution coincided with the ranges of the black-tailed prairie dog, Gunnison's prairie dog, and white-tailed prairie dog. The black-footed ferret depends almost exclusively on prairie dogs for food and on prairie dog burrows for shelter. However, recent data suggest that 33% of the diet of adult females consist of non-prairie dog prey (i.e., mice, voles, and other small mammals) annually. The researchers suggested that adult females killed prairie dogs and provisioned them for dependent young while meeting their own energetic demands by consuming alternate prey. In contrast, approximately 75% of the diet of adult males and juveniles of both sexes consisted of prairie dogs annually. Regardless of differing food habits between sexes at different times of the year, black-footed ferrets remain highly specialized predators that are obligate associates of prairie dogs (USFWS 2019c).

Black-footed ferret densities at the last known wild population, which was near Meeteetse, Wyoming, were linearly correlated with white-tailed prairie dog colony size, with an average density of one adult ferret per 40 to 60 hectare (ha) of occupied prairie dog habitat. Black-footed ferrets generally conform to a typical mustelid spacing pattern with some overlap between female home ranges and nearly complete overlap between male and female home ranges. Ferrets select for areas within prairie dog colonies that contain high burrow densities and thus high densities of prairie dogs. Home ranges of female ferrets occupying high-density black-tailed prairie dog habitat average approximately 60 ha whereas home ranges of males occupying high-density black-tailed prairie dog habitat average approximately 130 ha. Territories, or defended areas within an animal's home range, average 13 ha for females and 36 ha for males and contain higher burrow densities than the rest of the home range (USFWS 2019c).

According to USFWS (2019c), black-footed ferrets have been purposely reintroduced at 29 discrete sites within the potential range, including the Meeteetse and Shirley Basin sites in Wyoming. Although the Meeteetse population was studied intensively for only a short time (1981–1985), researchers assumed the population had persisted as a geographically isolated population over the long term before its discovery in 1981. Researchers also assumed that the observed maximum count of 43 adults and 86 juveniles in the fall of 1985 was representative of the site's potential. In 1991, Shirley Basin, Wyoming, (Carbon, Albany, and Natrona Counties) was the first site of black-footed ferret reintroduction. White-tailed prairie dogs occupy this site. Ferret releases at Shirley Basin were suspended in 1994 because of prairie dog population declines caused by plague. Only five ferrets were observed at Shirley Basin in 1997. However, 52 ferrets were observed there in 2003, and thereafter, that population received additional augmentation of captive-born animals and grew rapidly (USFWS 2019c). Subsequent releases occurred in the Shirley Basin in 2005, 2006, and 2012. The USFWS designated this population as a NEP in accordance with the ESA.

All black-tailed prairie dog towns in Wyoming are considered unlikely for occurrence of the black-footed ferret (BLM 2005c; USFWS 2013b). However, some white-tailed prairie dog complexes in Wyoming are considered suitable for supporting black-footed ferrets. Currently, the Cody and Rawlins planning areas are the only two BLM planning areas with known populations of reintroduced ferrets. Ferrets are known to be present in the Shirley Basin and Meeteetse recovery sites (USFWS 2019d). Other BLM planning areas may feature potentially suitable habitats. Below is the known distribution by BLM field office.

Casper: A portion of the planning area in southeastern Natrona County is within the Shirley Basin black-footed ferret experimental release area. No black-footed ferrets have been found during extensive surveys in the planning area, and areas outside Shirley Basin have been block cleared (USFWS 2013b). The planning area overlaps portions of the Thunder Basin National Grassland where USFS lands may contribute to recovery of the black-footed ferret in the future (USFS 2020).

Cody: The Meeteetse reintroduction site was established in 2016, when 35 captive-bred ferrets were released on a 5,900-acre complex of white-tailed prairie dogs (WGFD 2018).

Worland: Manderson and Fifteenmile prairie dog complexes are important but not known to currently support wild ferrets. The last recorded observation of black-footed ferret in the area is from 1975; no black-footed ferrets have been observed in the area since then, and the area has been block cleared.

Kemmerer: The last recorded observation of black-footed ferret occurred in 1979. Extensive prairie dog colony mapping in 2003 and 2004 resulted in the mapping 51,046 acres of colonies. No sightings of black-footed ferret occurred during surveys for the species in 2002 through 2004. No black-footed ferrets have been observed in the area since 1979, and the area has been block cleared.

Lander: Three observations of black-footed ferret in the planning area occurred in Fremont County, with the most recent in 1973; however, no black-footed ferrets have been observed in the area since then, and the area has been block cleared. Pathfinder prairie dog complex overlaps the Lander and Rawlins Field Offices and is the only significant complex in the planning area.

Rawlins: Numerous black-footed ferret surveys have occurred within the Rawlins Field Office from 1978 to 2003. No ferrets have been found, but evidence of presence (e.g., skulls, scat) were found during some of the surveys. The most recent evidence of ferret presence outside reintroduction sites was observed in 1978 (BLM 2007b). Outside Shirley Basin, no black-footed ferrets have been observed, and the area has been block cleared.

Green River: Black-footed ferrets and their remains have been observed within the planning area. The latest recorded observation is from 1992. No black-footed ferrets have been observed since then, and the area has been block cleared.

Pinedale: Black-footed ferret surveys occurred in the area from 2001 through 2008, with no ferrets or sign observed. Skulls were observed during some of the surveys. No black-footed ferrets have been observed, and the area has been block cleared.

3.1.4.3 Threats

Factors influencing the current condition of the black-footed ferret population include disease, genetic fitness, drought, agricultural land conversion, recreational shooting and poisoning of prairie dogs, range management, urbanization, and energy development. Native canine distemper and non-native sylvatic plague have seriously affected both wild and captive populations of the black-footed ferret. Several other native diseases, including coccidiosis, cryptosporidiosis, and hemorrhagic syndrome, also affect captive populations but are not common in the wild. The genetic fitness of the black-footed ferret has been a concern in the captive breeding program due to the extremely low number of founder animals from the last wild population at Meeteetse (USFWS 2019c).

The western United States has been in what is characterized as a significantly harsh drought in recent years. Reduced precipitation during drought decreases primary productivity and limits the amount of succulent vegetation available to prairie dogs, which, in turn, negatively affects obligate predators such as the black-footed ferret (USFWS 2019c).

Agricultural land conversion is the change in land use from a previous use to an agricultural use, including cropland and pastureland (single-species plantings grown for livestock grazing and/or hay production). At a large scale, agricultural land conversion represents a permanent loss of habitat for black-footed ferrets and their prairie dog prey. However, the effects of such conversion on ferrets and prairie dogs may be mixed. In some instances, agricultural lands can benefit prairie dogs by providing a source of highly nutritious forage. Roads and fences associated with agricultural conversion can fragment contiguous prairie dog habitat, but agricultural lands may sometimes facilitate prairie dog dispersal (USFWS 2019c).

Several species of prairie dogs are subjected to shooting as a form of recreation and as a form of pest management. Depending on its intensity, shooting can negatively affect local prairie dog populations, and the resulting loss in prey base likely affects black-footed ferret reintroduction sites. Poisoning of prairie dogs is a major factor in the historical declines of prairie dogs and black-footed ferrets. Similar to many of the other stressors affecting ferret populations, poisoning can affect the ferret directly through inadvertent secondary poisoning of the ferret caused by consumption of poisoned prairie dogs or indirectly through the loss of the prairie dog prey base (USFWS 2019c).

Range management practices encompass both herbivory from domestic livestock and fire management. Within the black-tailed prairie dog portion of the black-footed ferret's historic range, both grazing management and fire can significantly influence vegetative community composition and thus the population resiliency of prairie dogs (USFWS 2019c). Urbanization represents a permanent loss of potential black-footed ferret habitat and can entail the direct eradication of prairie dog prey. Additionally, urbanization fragments and isolates prairie dog colonies, leading to smaller colonies with higher prairie dog densities (USFWS 2019c).

Oil and gas exploration and development as well as alternative energy development (primarily wind and solar) occur throughout the potential range of the black-footed ferret. Exploration for oil and gas may increase human activity within previously undisturbed habitats. The development of well pads and supporting infrastructure, such as roads and pipelines, reduces and fragments habitat, compacts soil, and destroys vegetation. This infrastructure also creates perches for raptors, which may increase predation pressure on prairie dog colonies near these structures. New roads may increase road mortality, and prairie dog shooting may increase with increased human access. Alternative energy development can also affect black-footed ferret habitat during the construction and operation phases, and associated projects result in some permanent loss of habitat (USFWS 2019c).

3.1.4.4 Conservation Measures

The BLM Wyoming State Office's *Statewide Programmatic Biological Assessment: Black-footed Ferret (*Mustela nigripes*)* considers the effects of BLM management actions on the species and identifies appropriate conservation measures (BLM 2005c). The agency's management actions must comply with *Endangered and Threatened Wildlife and Plants: Establishment of a Nonessential Experimental Population of Black-footed Ferrets in Southeastern Wyoming* (FR 56[162], August 21, 1991). All BLM conservation measures and BMPs outlined in the RMPs (see Attachment A), including avoiding suitable prairie dog towns/complexes when possible, will be followed.

3.1.5 Yellow-billed Cuckoo (*Coccyzus americanus*)

This species is addressed in the following RMPs: Kemmerer, Pinedale, and Rawlins. The yellow-billed cuckoo (*Coccyzus americanus*) was a candidate species at the time these RMPs were prepared. Although this species is not addressed in the 1997 Rock Springs RMP, yellow-billed cuckoo is known to occur within the boundary of that planning area. There are no known observations or occurrences on BLM administered lands at this time.

3.1.5.1 Status

The two subspecies of yellow-billed cuckoo have been described as geographically separated by the Continental Divide; the eastern subspecies is known as *Coccyzus americanus,* and the western subspecies, which is found in western Wyoming, is known as *Coccyzus americanus occidentalis* (American Ornithologists' Union 1957; Ridgway 1887). The western yellow-billed cuckoo was subsequently determined to be a DPS and was listed as threatened in November 2014.

3.1.5.2 Habitat Requirements and Distribution

Yellow-billed cuckoos are primarily found in open, streamside deciduous woodland with low, scrub vegetation. They prefer large tracts of deciduous riparian woodlands, specifically cottonwood stands for foraging and willow thickets for nesting. Cuckoos require relatively large riparian tracks below 7,000 feet for breeding, a habitat that is very limited in Wyoming (WYNDD 2002). Canopy cover of at least 50 percent in the understory and overstory is preferred, according to habitat models established for the western population. Cuckoos generally are absent from heavily forested and urban areas. In Wyoming, the yellow-billed cuckoo is dependent on large areas of woody, riparian vegetation with a dense shrubby understory for nesting and a cottonwood overstory for foraging. Critical habitat for this species has been proposed in Wyoming (USFWS 2019e); however, the USFWS determined that sufficient areas already have been identified elsewhere and the proposed areas in Wyoming do not meet the USFWS's conservation strategy for designating critical habitat (USFWS 2020c).

Little is known about the historic distribution of cuckoos in Wyoming; relatively few reported observations have occurred. Observations of cuckoos west of the continental divide (i.e., the western DPS) have occurred along the Green River and in Teton County (WYNDD 2020). Population status and trends of the cuckoo in Wyoming are difficult to assess, but its abundance has declined in the region, especially in western Colorado and Wyoming (Wiggins 2005). Suitable cottonwood and willow riparian habitat is limited and has not been adequately surveyed. Breeding is considered unconfirmed, although observations and other anecdotal evidence suggest that breeding may occur in the Green River Basin and along the Snake River (USFWS and BLM 2003). No cuckoos were detected during surveys of riparian habitat on the Green River in Wyoming in 2006; a single cuckoo was located on the Snake River in Idaho in 2009 (USFWS 2011b). Below is the known distribution by BLM field office.

Kemmerer: This area has low likelihood of western yellow-billed cuckoo occurrence. Two sightings noted as WYNDD element occurrences, one each near Beaver Creek and the other near Abert Creek, both in Uinta County, have been reported (USFWS and BLM 2003), although these occurrences do not appear in the WYNDD (2020).

Pinedale: The species is not known to nest in the Upper Green River Basin (BLM 2008a). This area has a low likelihood of western yellow-billed cuckoo occurrence and no known records.

Rawlins: The type of habitat cuckoos prefer is limited within the planning area but may occur in the Little Snake River basin along the Colorado border.

Rock Springs: Observations of cuckoos have occurred along the Green River from the town of Green River to Seedskadee National Wildlife Refuge (WYNDD 2020).

3.1.5.3 Threats

Because the species is restricted to riparian woodland habitat greater than 15 ha (37 acres), habitat loss and quality reduction have led to population declines in the western United States. Factors affecting habitat quantity and quality include alteration of hydrology from irrigation and dams, livestock grazing, and the introduction of non-native plant species (e.g., tamarisk [Tamarix spp.]) (WYNDD 2020).

3.1.5.4 Conservation Measures

The BLM Wyoming State Office completed the *Final Programmatic Biological Evaluation for the Western Yellow-billed Cuckoo Found in Wyoming* in October 2003 (BLM 2003). Conservation measures in the RMPs are based on the programmatic BE, which was prepared when this species was a candidate for listing, and include avoiding surface disturbing activities within 500 feet of perennial waters and wetland/riparian areas for protection of western yellow-billed cuckoo and identified habitat. Surface-disturbing or disruptive activities are prohibited within 0.5 mile of identified habitat during the period of April 15 to August 15 for the protection of nesting western yellow-billed cuckoos. See Attachment A for detailed conservation measures.

3.1.6 Ute Ladies-tresses (*Spiranthes diluvialis*)

This species is addressed in the following RMPs: Cody/Worland, Buffalo, Casper, Kemmerer, Lander, Rawlins, Green River, and Pinedale.

3.1.6.1 Status

On January 17, 1992, the USFWS listed the Ute ladies'-tresses orchid (*Spiranthes diluvialis*) as threatened under the ESA. The orchid is ranked as critically imperiled at the global and state level because of the plant's extreme rarity (Fertig 2000). The WYNDD (2020) lists the Ute ladies'-tresses orchid as sparse and as a high conservation priority.

3.1.6.2 Habitat Requirements and Distribution

Ute ladies'-tresses orchid populations in Wyoming are found in subirrigated wet meadow habitat near streams and occasionally in areas fed by springs and seeps (Heidel 2007). The species occurs primarily in areas in which the vegetation is relatively open and not overly dense, overgrown, or overgrazed.

Ute ladies'-tresses orchid is currently known from nine sites in eastern Wyoming, including a small population along a tributary of Antelope Creek (a tributary of the Cheyenne River); a population along North Wind Creek, which is a tributary of Antelope Creek; and a population along Stinking Water Creek, a tributary of Sand Creek, which is a tributary of Antelope Creek; all three of these populations are on BLM Casper Field Office–administered lands in northwest Converse County. Populations on BLM lands are monitored annually, and each of these populations appears to have been relatively stable through time. Below is the known distribution of Ute ladies'-tresses orchid populations by BLM field office.

Cody/Worland: No known populations are in the Bighorn Basin planning area.

Buffalo: No known populations are in the Buffalo planning area. The WYNDD predicts that within the Buffalo planning area the Ute ladies'-tresses orchid would most likely occur in southern Campbell County near known populations in northwestern Converse County (Andersen et al. 2016).

Casper: The species occurs in northwestern Converse County and southwestern Goshen County (WYNDD 2020). The population in Converse County is on a tributary of Antelope Creek on

public lands administered by the BLM Casper Field Office. The population in Goshen County is located on Bear Creek on public lands administered by the State of Wyoming. Predictive modeling indicates a low probability of occurrence in the east half of the Casper planning area (Andersen et al. 2016).

Kemmerer: No known populations are in the Kemmerer planning area.

Lander: No known populations are in the Lander planning area.

Rawlins: Four known populations occur on state and private lands within the planning area; no known populations are on BLM-administered public lands within the planning area (Andersen et al. 2016; WYNDD 2020).

Pinedale: No known populations are in the Pinedale planning area.

3.1.6.3 Threats

Ute ladies'-tresses orchids, in general, are not common. The plants are rare in their distribution and often limited in population sizes, often numbering less than 100 individuals at a site. This makes assessing the stability of any given population or subpopulation difficult. The naturally occurring low populations make the species susceptible to localized extirpation caused by natural or man-made disasters. Historical accounts typically help realize the population trends, but populations in Wyoming were not discovered until 1993. Although no trend data are available, populations in Wyoming appear to be stable.

Changes in large ungulate populations may have affected the distribution of Ute ladies'-tresses orchid. This species likely evolved according to the seasonal presence of large herbivores such as American bison, elk, deer, and bighorn sheep. Changes in these animals' distribution could have adversely affected Ute ladies'-tresses orchid populations via consumption of the plants during late winter and early spring. Additionally, cattle grazing may alter both plant communities and stream ecology. Depending on when a site is grazed, flowering or fruiting orchid stalks may be removed. With cattle introduction comes the risk of noxious weed invasion; some of which pose threats because they compete vigorously with Ute ladies'-tresses orchid. Herbicides applied to control noxious weeds and fertilizers from agricultural fields possibly affect Ute ladies'-tresses orchid. Both direct applications to nearby agricultural fields and runoff from sites upstream have potentially harmful effects on Ute ladies'-tresses orchid. Pesticides applied to nearby sites could affect bumblebee populations, which are the primary pollinators of Ute ladies'-tresses orchid. Development in or near wetlands has affected the distribution of Ute ladies'-tresses orchid. Water diversion, channelization, and irrigation have affected the species. All of these factors decrease the input of water into riparian systems or completely destroy habitat, thus eliminating potential habitat for this species. Conversely, some irrigated plots have fostered habitat for Ute ladies'-tresses orchid.

3.1.6.4 Conservation Measures

The BLM Wyoming State Office completed the *Final Statewide Programmatic Biological Assessment: Ute Ladies'-Tresses Orchid (*Spiranthes diluvialis*)* in 2007 (BLM 2007c). All BLM conservation measures and BMPs outlined in the RMPs (see Attachment A) must be followed;

this includes surveying riparian habitats before disturbance and locating ROWs for projects (e.g., powerlines, pipelines, roads, etc.) at least 0.25 mile from any known or newly discovered Ute ladies'-tresses orchid habitat to minimize disturbances.

3.1.7 Blowout Penstemon (*Penstemon haydenii*)

This species is addressed in the following RMPs: Casper, Lander, and Rawlins.

3.1.7.1 Status

On October 1, 1987, the USFWS listed blowout penstemon (*Penstemon haydenii*) as endangered under the ESA (USFWS 1987). The species is imperiled because of rarity at the global level and is critically imperiled because of extreme rarity at the state level. The WYNDD (2020) lists the blowout penstemon as a species of concern with a contribution rank of Very High, meaning that Wyoming populations contribute greatly to the species' rangewide persistence.

3.1.7.2 Habitat Requirements and Distribution

The blowout penstemon occurs in scattered "blowouts," sparsely vegetated depressions in actively shifting sand dunes created by wind erosion. In Wyoming, blowout penstemon primarily occurs on steep north-facing slopes of active blowout-like sand dunes with sparse cover of grasses and forbs. This species flowers from May to early July and produces fruits from late June to mid-July (Fertig 2000).

Blowout penstemon occupies 22 dunes in the Ferris Dunes in northern Carbon County, all of which are found within the Rawlins planning area. These are the only known populations in Wyoming despite intensive surveys in areas of potentially suitable habitat elsewhere in the state. Thirteen dunes of the dunes are on lands managed by the Rawlins BLM FO, three are on lands managed by the State of Wyoming, two are on lands managed by U.S. Bureau of Reclamation, and four are on private land (Heidel 2018). Below is the known distribution of blowout penstemon populations by BLM field office.

Casper: Some suitable habitats are present. The WYNDD completed surveys in the Casper Dune Field and found no plants (Heidel 2012). No populations of blowout penstemon are known to occur within the Casper planning area boundary.

Lander: Some suitable habitats present. The WYNDD has completed surveys on BLM public lands with eolian sand deposits and found no plants (Heidel 2012). No populations of blowout penstemon are known to occur within the Lander planning area boundary.

Rawlins: Three known Wyoming populations (Bradley Peak, Bear Mountain-Junk Hill-Ferris, and Pathfinder) consisting of 19 subpopulations (each subpopulation occupying discrete blowout areas) occur within the Ferris Dunes of northern Carbon County. The Bear Mountain-Junk Hill-Ferris population contains 15 subpopulations (Heidel 2012). The Ferris Dunes and Killpecker Dunes (within the Rock Springs planning area) have been thoroughly surveyed and are unlikely to yield new populations or subpopulations (Heidel 2012).

3.1.7.3 Threats

Threats to blowout penstemon populations include surface-disturbing activities associated with energy and water development and other construction of infrastructure such as fences or pipelines, changes to habitat quality, off-road vehicle use, livestock trampling and grazing, over-collection, pesticide use, small population size, and encroachment by other plants (USFWS 2012). With the designation of the Blowout Penstemon ACEC in 2008, implemented under the Rawlins RMP (BLM 2008d) and the final amendment of the RMP, many of these threats have been eliminated or greatly reduced through the implementation of associated conservations measures.

3.1.7.4 Conservation Measures

The BLM Wyoming State Office's *Statewide Programmatic Biological Assessment: Blowout Penstemon (*Penstemon haydenii*)*, completed in August 2005, identifies effects and conservation measures for the species (BLM 2005d). The Rawlins RMP (BLM 2008d) outlines BLM conservation measures and BMPs for blowout penstemon, including the 0.25-mile no surface occupancy (NSO) restriction in any known blowout penstemon habitat to minimize disturbances. Management decisions, which include conservation measures, are identified in *Decision Record for the Rawlins Resource Management Plan Amendment for Visual Resource Management Rawlins Field Office, High Desert District, Wyoming* (BLM 2018) features management decisions for the species, including conservation measures. See Attachment A for detailed conservation measures.

3.1.8 Desert Yellowhead (*Yermo xanthocephalus*)

This species and its critical habitat are addressed in the Lander RMP.

3.1.8.1 Status

On March 14, 2002, the USFWS listed the desert yellowhead as threatened rangewide under the ESA (FR 67:11442). At the time of the species' listing, desert yellowhead was threatened by surface disturbances associated with recreation, oil and gas development, mineral extraction, trampling by livestock, soil compaction by vehicles, and invasive plant species. On March 16, 2004, the USFWS designated a 360-acre unit of federal lands managed by the BLM in the Beaver Rim area in the Lander planning area as critical habitat (FR 69:12278). Within the unit, desert yellowhead occurs in three subpopulations. In 2010, an additional desert yellowhead population was discovered outside the designated critical habitat area.

3.1.8.2 Habitat Requirements and Distribution

Desert yellowhead occurs on relatively barren sites with less than 25 percent total vegetative cover and is restricted to shallow deflation hollows in outcrops of Miocene sandstones and limestones of the Split Rock Formation at the geological unit's junction with the White River Formation. These wind-excavated hollows accumulate drifting snow and may be more mesic (moist) than surrounding areas. The vegetation of these sites is typically sparse, consisting primarily of low cushion plants and scattered clumps of grass.

The Sand Draw population is widely scattered over an area of approximately 75 acres in Fremont County within the designated critical habitat. In June 2010, another desert yellowhead population was discovered in the BLM Lander planning area outside the designated critical habitat (the Cedar Rim population). The Cedar Rim population is on sparsely vegetated gravel slopes approximately 5 miles northeast of the Sand Draw population and consists of seven subpopulations that cover a total of 0.85 acre in an approximately 20-acre area.

3.1.8.3 Threats

An inherent vulnerability of desert yellowhead is the species' small population size and restricted distribution. At the time of the species' listing, oil and gas development was the most severe and immediate threat to desert yellowhead populations through habitat destruction. Desert yellowhead occurs on relatively barren sites with less than 25 percent total vegetative cover and may be intolerant of competition. Competition from plants not native to the area would pose a greater threat than competition from species with which desert yellowhead has evolved. Livestock and wild ungulate grazing may present a threat to desert yellowhead individuals and habitat quality. The critical habitat area is within an existing grazing allotment. Recreational off-highway vehicle use presents a threat to desert yellowhead through the crushing of plants, destruction of seeds, and compaction or erosion of soil. This threat is greatest in the spring and summer, when plants are in flower or heavy with fruit.

3.1.8.4 Conservation Measures

In 2005, the BLM and the USFWS completed the *Conservation Agreement, Assessment and Strategy for the Desert Yellowhead (*Yermo xanthocephalus*)* to identify specific actions that will contribute to reducing threats to and provide for the long-term conservation of the species (BLM and USFWS 2005). Implementation of this strategy has reduced threats facing the species. On February 25, 2010, the USFWS completed *Recovery Outline for* Yermo xanthocephalus *(desert yellowhead)* (USFWS 2010). This document lays out a preliminary course of action for the recovery of desert yellowhead and serves to guide recovery efforts and inform consultation and permitting activities; a recovery plan for this species is under development (USFWS 2020d). See Attachment A for existing conservation measures.

The BLM and USFWS have agreed on management actions for the Cedar Rim population. An NSO restriction for mineral leasing and development applies to the 85 acres surrounding the Cedar Rim population, and the designated corridors for ROWs must be adjusted so that they lie outside the protected area covered under the NSO restriction. Unlike management for the Sand Draw population, management of the Cedar Rim population is not anticipated to involve critical habitat designation and is not yet subject to a locatable mineral withdrawal or motorized vehicle use closure. It is anticipated that additional project and site-specific conservation measures would be implemented as necessary in future proposed actions to further reduce the likelihood of any potentially adverse consequences for this important species.

3.1.9 Platte River Species

Platte River species do not occur in Wyoming but do occur downstream and may be affected by BLM-authorized actions (e.g., water withdrawals) in Wyoming. Western prairie fringed orchid (*Platanthera praeclara*), least tern (*Sterna antillarum*), piping plover (*Charadrius melodus*),

whooping crane (Grus americana) and its critical habitat, and pallid sturgeon (*Scaphirhynchus albus*) are addressed in the following RMPs: Casper, Lander, Rawlins, Pinedale.

3.1.9.1 Status

On September 28, 1989, the USFWS listed western prairie fringed orchid as threatened under the ESA (FR 54:39863).

On December 11, 1985, piping plover was listed endangered in its entire range, except in the Great Lakes watershed, where it is listed endangered (FR 50:50726–50734).

On May 28, 1985, the USFWS listed least tern as endangered throughout the interior portions of its range in the United States; however, since data have indicated this species has recovered and no longer meets the definition of an endangered or threatened species, on October 24, 2019, least tern was proposed for removal from the list (FR 84:56977).

On March 11, 1967, whooping crane was listed endangered (FR 32:4001) except in the cases of NEPs in Colorado, Indiana, Florida, New Mexico, Utah, and the western half of Wyoming (FR 66:33903–33917, June 26, 2001; FR 62:38932–38939, July 21, 1997; and FR 58:5647–5658, January 22, 1993). Critical habitat for the whooping crane has been designated along the Platte River between Lexington and Denman, Nebraska.

On September 6, 1990, pallid sturgeon was listed endangered (FR 55:36641).

3.1.9.2 Habitat Requirements and Distribution

Historically, western prairie fringed orchid was found in tallgrass prairies west of the Mississippi river, from southern Canada to Oklahoma. The current distribution of this species includes Minnesota; Iowa; Missouri; Nebraska; North Dakota; and Manitoba, Canada. Western prairie fringed orchid, which is associated with wetlands, is believed to be extirpated from South Dakota and Oklahoma.

Piping plovers prefer exposed, sparsely vegetated sandy shores and islands within shallow lakes and ponds. They breed in south-central Alberta and Manitoba to eastern Montana and central and eastern Nebraska. In addition, plovers breed in the Great Lakes region, from northern Michigan and southern Ontario to the shores of Lake Michigan and Lake Ontario. Piping plovers winter in eastern Texas and in other coastal locations along the Atlantic seaboard, from South Carolina to Florida.

Interior least terns nest along more than 2,800 miles of river channels across the Great Plains and the Lower Mississippi Valley, with nesting colonies documented in Montana, North Dakota, South Dakota, Nebraska, Colorado, Iowa, Kansas, Missouri, Illinois, Indiana, Kentucky, New Mexico, Oklahoma, Arkansas, Tennessee, Texas, Louisiana, and Mississippi. Interior least terns generally nest on the ground in open areas away from trees and on or near bodies of water that provide them with fish. Although interior least terns are primarily found along river channels, they also nest on reservoirs as well as sand and gravel mines, coal mines, and industrial sites where conditions are appropriate and occasionally on the rooftops of buildings near bodies of water.

Whooping cranes use a variety of habitats during migration including croplands (for feeding) and large palustrine (marshy) wetlands (for roosting). The distribution of the whooping crane is limited as a result of habitat loss and extremely low population size. Whooping cranes breed near Wood Buffalo National Park in Northwest Territories and Alberta, Canada. The birds winter near Arkansas National Wildlife Refuge along the Texas Gulf Coast and occasionally venture northeast into Louisiana. Migrating between these locations, whooping cranes use the Platte River flyway.

Pallid sturgeons use large, free-flowing and turbid warm water habitat and a diverse assemblage of physical attributes in constant state of change. Pallid sturgeons are found almost exclusively in the headwaters of the Missouri River (in the vicinity of Fort Benton and Great Falls, Montana) downstream to the Mississippi River near New Orleans, Louisiana. In addition, pallid sturgeons are found in the Platte River near drainage's confluence with the Missouri River.

3.1.9.3 Threats

Threats to Platte River species include water depletions and accidental spill of toxic materials, which are addressed by the Platte River Recovery Implementation Program (see Section 3.1.9.4). The major factor contributing to the decline of Western prairie fringed orchid is the conversion of native prairie to croplands.

Flood abatement activities, such as water diversions that permit shoreline vegetation to flourish, and human activity in general threaten piping plover habitats and populations. Alterations of water flow change the structure of sandbars, which piping plovers prefer for nesting (though the birds nest on sandy shores as well), and irregular flows may flood nests or leave sandbars connected to the shore and therefore any nests there more vulnerable to predation.

At the time of interior least tern's listing, the species was believed to have been eliminated from much of its summer nesting range by the construction of dams or other forms of river engineering, such as channelization that inundated and destroyed nesting islands and bars and altered flow regimes. Several proposed water withdrawal projects on the Southern Plains posed potential threats to interior least tern habitat.

Primary threats to the whooping crane population include the drainage of wetland habitats, coastline development, and human activity near breeding and nesting sites.

Modification of pallid sturgeon habitat by human activities has blocked fish movement, destroyed or altered spawning areas, reduced food sources or the ability to obtain food, altered water temperatures, reduced turbidity, and changed the hydrograph of the river system. Overfishing, pollution, and hybridization that occur as a result of habitat alterations have likely contributed to the species' population decline.

3.1.9.4 Conservation Measures

In 2006, the governors of Colorado, Nebraska, and Wyoming and the U.S. Secretary of the Interior signed an agreement to implement the basin-wide Platte River Recovery Implementation Program, in which the BLM participates (see Attachment A). The purpose of the program is to ensure ESA compliance among water users in the Platte River basin upstream of the drainage's

confluence with the Loup River in Nebraska for effects on the target species and whooping crane critical habitat while managing certain land and water resources to provide benefits for those species. An important benefit of the program for individual water-related projects in the Platte River basin of Wyoming is the provision of, in most cases, a streamlined process for addressing depletion-related impacts to the target species and whooping crane critical habitat.

Depletions include evaporative losses and or consumptive use of surface or groundwater, often characterized as diversions less return flows. If the water source is hydrologically connected to the North Platte River, consultation with USFWS is required unless the depletion is less than 0.1 acre-foot/year. The Wyoming State Engineer's Office depletion plan may cover existing water-related activities. If the Wyoming State Engineers' Office determines an activity to be a new water-related activity that may affect the quantity or timing of water reaching the Platte River system, then the project proponent may request coverage under the depletions plan and complete the program and prepare a BA to address effects on downstream listed species.

3.1.10 Colorado River Species

Four endangered fish species not found in Wyoming but found in the Colorado River in Colorado may be affected by BLM-authorized actions (e.g., water withdrawals) in Wyoming. Colorado pikeminnow (*Ptychocheilus lucius*), razorback sucker (*Xyrauchen texanus*), bonytail (*Gila elegans*), and humpback chub (*Gila cypha*), and their downstream critical habitat are addressed in the following RMPs: Kemmerer, Pinedale, Rawlins, and Rock Springs.

3.1.10.1 Status

On March 11, 1967, Colorado pikeminnow was listed as endangered except in Salt and Verde River drainages, Arizona (FR 32:4001). In addition, Colorado pikeminnow is listed as threatened by the State of Colorado and is legally protected by the State of Utah. The USFWS has designated critical habitat for Colorado pikeminnow downstream in portions of the Yampa, Green, White, Gunnison, Colorado, and San Juan Rivers and their respective 100-year floodplains.

On October 23, 1991, razorback sucker was listed as endangered (FR 56:54957–54967). In addition, razorback sucker is listed as endangered in the state of Colorado and is legally protected by the State of Utah. Razorback sucker designated critical habitat is downstream in portions of the Yampa, Green, White, Duchesne, Gunnison, Colorado, and San Juan Rivers and their respective 100-year floodplains.

On April 23, 1980, bonytail was listed as endangered (FR 45:27710–27713). In addition, bonytail is listed as endangered in the State of Colorado, and the species is legally protected by the State of Utah. Bonytail designated critical habitat is downstream in portions of the Yampa, Green, and Colorado Rivers.

On March 11, 1967, humpback chub was listed as endangered (FR 32:4001). However, on January 22, 2020, the USFWS proposed to reclassify humpback chub from an endangered species to a threatened species and a 4(d) rule to provide conservation of the fish by prohibiting certain activities (FR 85:3586). In addition, humpback chub is listed as endangered by the State of Colorado, and the species is legally protected by the State of Utah. Humpback chub

designated critical habitat is in downstream riverine habitat in the Yampa, Green, and Colorado River systems in Colorado and Utah (FR 59:13374–13400, March 21, 1994).

3.1.10.2 Habitat Requirements and Distribution

Colorado pikeminnow prefers eddies and pools in large, deep rivers such as the Colorado River and Green River. Colorado pikeminnow was historically abundant in the Colorado River and most of the drainage's major tributaries, such as the Yampa River and Green River. Though a single individual was collected in 1990 from the Little Snake River, Colorado pikeminnow is currently thought to be extirpated from Wyoming.

Razorback sucker prefers fast, turbid waters in large rivers, such as the Colorado River and Green River. Razorback sucker was historically well distributed in the Colorado River and in many of the drainage's major tributaries.

Bonytail prefers fast-flowing, turbid waters in large, deep rivers in the upper Colorado River Basin, such as the Green River and Colorado River. Historically bonytail was abundant in the Colorado River and in the drainage's major tributaries, such as the Green River and the Yampa River. Bonytail is precariously extant in the Colorado River downstream of Lake Powell, and the species is nearly extinct upstream of Lake Powell.

Humpback chub prefers fast waters, such as the riffles and rapids of river canyons and their tributaries (canyon sections) in the Colorado River Basin. Historically, humpback chub was abundant in the canyons of the Colorado River and in the canyons of four tributaries: the Green River, the Yampa River, the White River, and the Little Colorado River. Presently, two stable humpback chub populations are known to exist, both near the Colorado-Utah border: Westwater Canyon in Utah and Black Rocks in Colorado. The largest known humpback chub population exists in the Little Colorado River in the Grand Canyon. Smaller populations can be found in the main stem of the Colorado River in Arizona and in sections of the drainage's tributaries, such as the Green River in Utah and Colorado and the Yampa River near Dinosaur National Monument.

3.1.10.3 Threats

Colorado pikeminnow populations have been dramatically reduced throughout their historic range as a result of past and present human activities. Pervasive threats to this species result from habitat alterations associated with water development and diversions. However, non-native fish introductions are the most pressing impediment to the recovery of this species: predatory non-native fishes profoundly affect recruitment by consuming juveniles (Minckley and Deacon 2003). Recovery efforts, however, are expanding the abundance and distribution of this species where the effects of habitat fragmentation and habitat alteration can be directly addressed.

Razorback sucker abundance and distribution have been dramatically reduced because of water developments such as dams and water diversions. In addition, the introduction of non-native trout into the historical razorback sucker habitats has almost eliminated the species' recruitment and survival (Minckley and Deacon 2003). Stress caused by direct and delayed mortality related to incidental catch may pose a threat to the species.

Bonytail is the most imperiled fish among the federally listed fish species native to the Colorado River drainage. Water development projects and activities, such as dams and water diversions, have caused a nearly catastrophic decline in bonytail populations and preferred habitats. Further, the introduction of predatory non-native trout in the Colorado River drainage has contributed to the decline in bonytail abundance and distribution.

Water developments and introduced fishes are the primary threats to the viability of humpback chub populations. Providing adequate spring runoff conditions, establishing additional populations, and reducing the stocking of non-native trout are all conducive to maintaining viable populations of humpback chub. Both historical water depletions and any new water depletions are likely to negatively affect population and habitat conditions downstream, though assessing the effects on species viability may be difficult.

3.1.10.4 Conservation Measures

The Upper Colorado River Endangered Fish Recovery Program exists to address depletions, which include evaporative losses and or consumptive use of surface or hydrologically connected groundwater, often characterized as diversions less any return flows. Any water removed from the Colorado River system for any period, such as for hydrostatic testing, is considered a depletion and requires formal consultation with the USFWS. The consultation process has been streamlined so the USFWS issues tiered biological opinions based on depletion volumes. Depletions of greater than or equal to 100 acre-feet require a one-time fee that goes to recovery program efforts. Any depletion from the Colorado River system results in a "may affect, likely to adversely affect" determination for the four endangered fishes of the Colorado River. See Attachment A.

4 EFFECTS ANALYSIS

Section 501 of the Federal Land Policy and Management Act authorizes the BLM to grant ROWs for infrastructure and facilities that are in the public interest and require ROWs over, under, upon, or through BLM-administered lands. The BLM ROW program consists of the evaluation, authorization, and management of ROWs, including corridors, for a variety of uses on public or federal land. A ROW grant is an authorization to use specific pieces of public land for certain projects, such as developing roads, pipelines, transmission lines, and communications sites. The grant authorizes rights and privileges for a specific use of the land for a specific period. A ROW corridor is an area with specific boundaries that has been designated as the preferred location for ROWs and facilities.

The analysis for the WPCI is based on the Lands and Realty and/or Rights-of-Way and Corridor program for each BLM planning area. If development occurs in the designated corridors under those programs, direct and indirect impacts would occur. If development does not occur, no impacts would occur.

4.1 Types of Impacts

An action area is "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). This analysis is not limited to the "footprint" of the action, nor is it limited by the BLM's authority. Rather, this analysis is a biological determination of the reach of the Proposed Action on listed species. Subsequent analyses of the environmental baseline; effects of the action; and levels and likelihood of impact, including risk or level of incidental take, would be based upon the action area.

4.1.1 Habitat Loss and Fragmentation

With the designation of corridors for the transport of CO_2 and EOR products and for other compatible uses, some development presumably would occur in those areas. Table 5 quantifies habitats present within the corridors and within 1 mile of the corridors, as indicated by GAP cover type mapping (USGS 2011). The suitability of these habitats for supporting listed species would be determined during project-level field surveys. Removal of suitable habitat of listed species within corridors would result in both short-term and long-term habitat loss. Although unoccupied suitable habitats could be removed, preconstruction surveys designed to search all suitable habitats for listed species would identify any listed plant or wildlife populations present in the corridors. It is anticipated that all areas determined to contain any ESA listed populations would be avoided or addressed according to the measures in the RMPs (see Attachment A).

Table 5. Habitats Crossed by Corridors

Cover Type	Acres in Corridors	Acres within 1 Mile of Corridors
Shrubland, desert scrub	49,786	2,101,287
Marsh, meadow	2,329	110,664
Grassland	1,749	75,434
Riparian	889	44,608
Cliff, rock, scree	767	54,441
Developed, disturbed	912	35,531
Barren, badland	542	23,923
Forest, woodland	397	29,564
Agricultural	404	35,376

Source: USGS (2011).

Section 3.1 includes descriptions of the habitats used by the species considered in this BA. The vegetation within corridors could be impacted if development of the corridors occurs, leading to habitat loss and fragmentation. Vegetation in the surrounding areas could be impacted by dust and the spread of invasive weeds. Surface disturbance could lead to the spread and establishment of noxious and invasive weeds that can interfere with reclamation success. Noxious and invasive weeds may encroach onto disturbed areas and also potentially expand into adjacent weed-free areas. Herbicide drift related to chemical weed control could impact listed plant species; however, the BLM requires adherence to standard BMPs and avoidance measures for known populations (see Attachment A). Habitat alteration can result in increased predation. Some habitats have slow recovery rates after reclamation and revegetation.

Portions of the corridors and surrounding areas are currently disturbed by existing pipelines, roads, and oil and gas field infrastructure. Approximately 74% of the corridors are within existing designated corridors or 0.5 mile from existing pipeline ROWs. Plans for reclamation, site stabilization, and weed control are included in the BMPs and mitigation measures planned for the WPCI (BLM 2020).

4.1.2 Noise and Human Activity

Future construction and operations that may be authorized within the designated corridors could increase noise and human activity that can disrupt the wildlife life-cycle activities of foraging, resting, and migrating and other patterns of behavior. Although wildlife already existing in proximity to human development may already be habituated to noise from land use and human disturbance, changes to these baseline activities may still result in behavioral disruption. Sensitivity to noise varies from species to species. Specific noise levels and construction timing would be determined for each project within the corridors.

Some wildlife (e.g., grizzly bear) could be attracted to an area by human activity. Standard habitat avoidance measures, minimization of attractants in suitable habitat areas within the range of the species, and safety measures would minimize this likelihood of this potential. Construction traffic related to projects within designated corridors could result in vehicle collisions with wildlife. Vehicles could also run over unmapped populations of listed plant species.

4.1.3 Soil Erosion and Sedimentation

Potential removal of vegetation and construction activities within the designated corridors could lead soil erosion. Sedimentation in water can decrease water quality by increasing suspended sediment and turbidity (i.e., the cloudiness of a liquid) with the potential to affect light penetration and general ecological productivity (Castro and Reckendorf 1995). Suspended sediment also has the potential to transmit absorbed pesticides and nutrients into water systems; this can lead to an upset of chemical balance and aquatic habitat for preferred species.

Sedimentation in nearby waterbodies may reduce water quality that would impact fisheries. Corridors would cross perennial streams at 116 locations. Stream crossing methods are unknown at this time, but channel crossings for pipelines are generally designed and constructed using an open-cut trench or a bore under waterways. Horizontal directional drilling methods would likely be used to cross under sensitive streams to minimize construction-related sedimentation and turbidity. Impacts to streams from crossings would require analysis at the project-specific level. Plans for reclamation and site stabilization are included in the BMPs and mitigation measures planned for the WPCI (BLM 2020).

4.1.4 Water Use

Water use that may be authorized for use during future construction within the designated corridors, such as for hydrostatic testing and dust abatement, could lead to depletions that affect downstream species. Water depletions from project actions within the Platte or Colorado River Basins could cause downstream impacts that could adversely affect Platte and Colorado River species. In addition to downstream effects, water use could reduce flows and impact Ute ladies'-

tresses habitat. However, water use would be temporary, therefore having minimal effect on the hydrology associated with subirrigated riparian and wet meadow habitat.

The amount of water needed and the sources of that water are not known at this time. Water withdrawals would require analysis at the project-specific level.

4.2 Impacts by Species

Table 6 lists the miles of proposed corridors within each species' AOI. AOIs encompass areas in which a listed species is known to occur as well as areas in which direct and indirect effects to the species and their habitat may occur. Crossing an AOI may not necessarily result in effects to the species or their habitats. Table 6 is intended to show which proposed segments are in areas where effects are possible (i.e., AOIs) and which BLM field office would address any impacts through the office's RMP.

Table 6. Miles of Species' Area of Influence Crossed by Corridors

Common Name	Scientific Name	BLM Field Offices	Segment Number	Miles of AOI Crossed
Canada lynx	*Lynx canadensis*	Pinedale	5	6.0
		Cody	25	1.0
Grizzly bear	*Ursus arctos horribilis*	Cody	21, 23, 24	68.3
		Pinedale	5	1.6
NLEB	*Myotis septentrionalis*	Buffalo	18	6.1
Black-footed ferret	*Mustela nigripes*	Cody	23, 24	9.3
		Rawlins	6	9.6
Yellow-billed cuckoo	*Coccyzus americanus*	Kemmerer	1	26.3
		Pinedale	1, 5	45.8
		Rawlins	1, 2	12.7
		Rock Springs	1, 2, 4, 5	284.5
Ute ladies-tresses	*Spiranthes diluvialis*	Buffalo	16, 17, 18	207.2
		Casper	10, 11, 12, 15, 16, 17	245.9
		Cody	4, 19, 21, 22, 23, 24, 25	246.3
		Kemmerer	1	26.3
		Lander	4, 3, 7, 8, 9, 11, 12, 13, 14, 15	318.2
		Pinedale	1, 5	19.4
		Rawlins	1, 2, 3, 4, 6, 7	207.8
		Rock Springs	1, 2, 4, 5	257.8
		Worland	4, 19, 20, 21, 22	228.2
Blowout penstemon	*Penstemon haydenii*	Rawlins	7	17.3
Desert yellowhead	*Yermo xanthocephalus*	Lander	8, 9, 13	62.8

Common Name	Scientific Name	BLM Field Offices	Segment Number	Miles of AOI Crossed
Platte River Species	*Sterna antillarum*	Casper	6, 10, 11, 12, 17	122.3
		Lander	3, 4, 7, 8, 9	139.8
		Rawlins	2, 6, 7	99.5
Colorado River Species	*Gila elegans*	Kemmerer	1	26.3
		Pinedale	1, 5	45.9
		Rawlins	1, 2	16.1
		Rock Springs	1, 2, 4, 5	284.1

Approximately 74% of the proposed corridors are within existing corridors or within 0.5 mile of existing pipeline ROWs. The preferred alternative (Alternative E in the final EIS for the WPCI [BLM 2020]) would designate new corridors and would change the designated use of existing designated corridors to dedicate corridor use for the transport of CO_2 and EOR products and for other compatible uses.

Information on habitat availability, soils, associated vegetation, species presence, and other factors is needed to make supportable determinations about the magnitude or degree to which a particular species may be affected. These details would be gathered and project modifications would be made (if needed) before potential future projects take place within the designated corridors.

4.2.1 Canada Lynx

ROW and corridor management actions can lead to fragmentation of lynx habitat, resulting in reduced opportunity for dispersal and mobility and increased mortality to lynx from collisions with vehicles. Any improved access may open areas to human activity, which may cause lynx to avoid or abandon otherwise occupied habitats. The degree of these impacts is correlated with traffic volume and speed and road width. The acquisition of access easements and the issuance of ROW grants may affect the lynx if associated construction is within the vicinity of travel corridors. The associated presence of human activity may cause short-term avoidance of these areas by the lynx. Existing ROW corridors are located primarily along existing highways, major pipelines and powerlines, oil fields, and communication sites, which do not typically feature Canada lynx habitats.

Portions of segments 5 and 25 (Pinedale and Cody Field Offices, respectively) would cross the Canada lynx AOI (Figure 2; see Table 6). Segment 5 is 0.7 mile outside designated critical habitat, and segment 25 and other segments in the Cody Field Office are more than 15 miles from designated critical habitat; therefore, the segments are anticipated to have no measurable or unanticipated effects on the designated critical habitats of lynx. Approximately 0.4 mile of segment 25 would be located in the Porcupine/Mann Creek LAU in the Cody Field Office. Information from habitat evaluations within that LAU indicate that the proposed corridor avoids intersecting any habitats described as important (Ehle and Keinath 2002). Lynx are not known to occur within Porcupine/Mann Creek LAU, and it is unlikely that lynx would be present during future pipeline construction activities. Any lynx short-term avoidance of these marginal habitats in LAUs or nearby forested lands because of increased human activity, construction traffic or noise would be unlikely, and any impacts would be so small as to be immeasurable.

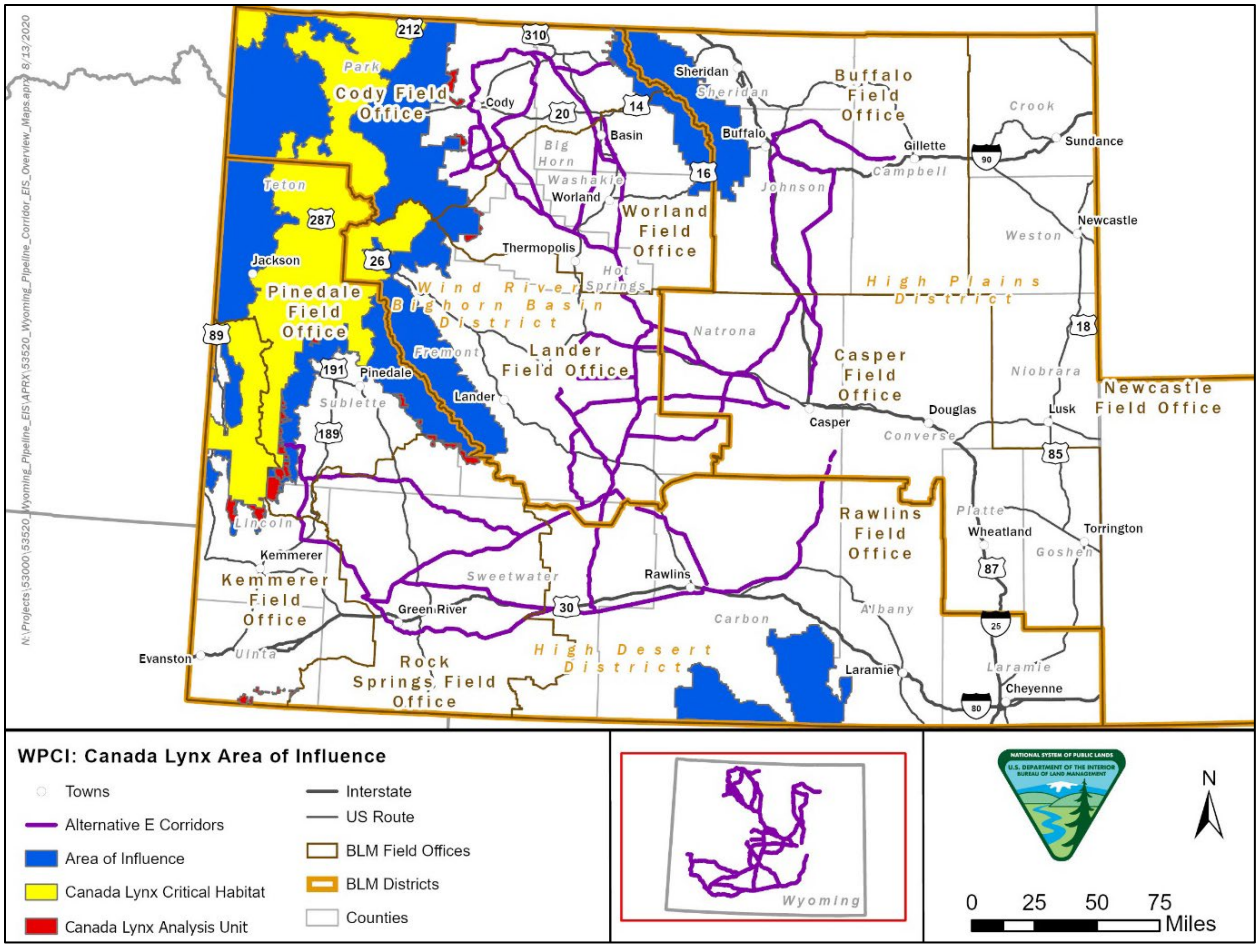

Figure 2. Corridors within the Canada lynx Area of Influence.

The Pinedale RMP includes conservation measures listed for lynx habitat within the LAUs. The RMP encourages use of those conservation measures for areas of lynx habitat or potential lynx habitat not fitting the criteria of a LAU.

4.2.2 Grizzly Bear

Development of ROWs and corridors can be a source of fragmentation of grizzly bear habitat, resulting in reduced opportunity for dispersal and mobility and in increased mortality to grizzly bear from collisions with vehicles. The degree of these impacts is correlated with traffic volume and speed. The issuance of ROW grants and leases for pipelines may affect the grizzly bear if the associated construction is within the vicinity of travel corridors. The associated presence of human activity may cause short-term behavioral avoidance of these areas by grizzly bear. Any improved access may open areas to human activity, which may cause grizzly bear to avoid occupied habitats or, conversely, may result in increased bear/human interactions if food and trash are not properly stored. Fragmentation of grizzly bear habitat may reduce the species' mobility and use of otherwise secure habitat. Existing ROW corridors are located primarily along existing highways, major pipelines and powerlines, oil fields, and communication sites, which do not typically feature grizzly habitats.

Portions of segments 5, 21, 23, and 24 would cross the grizzly bear AOI in the Cody and Pinedale Field Offices (Figure 3; see Table 6). Development in these segments is likely to result in the removal of forested habitat in the grizzly's range, increasing disturbance and fragmentation of available habitat. However, the change from forested to cleared habitat would not prevent use of those areas by grizzly bear or affect the species' movement. Construction-related traffic is unlikely to lead to vehicle collisions because of enforced speed restrictions on access roads and since construction occurs during daylight hours. The proposed corridors are primarily in shrubland, desert scrub, and grassland habitats rarely used by the grizzly bear, which reduces the likeliness of effects from fragmentation and traffic. The short-term effects of human activity, noise, and construction traffic would be minimized because of the implementation of the specific measures for avoidance of human-bear interactions described in the Cody and Pinedale RMPs (see Attachment A).

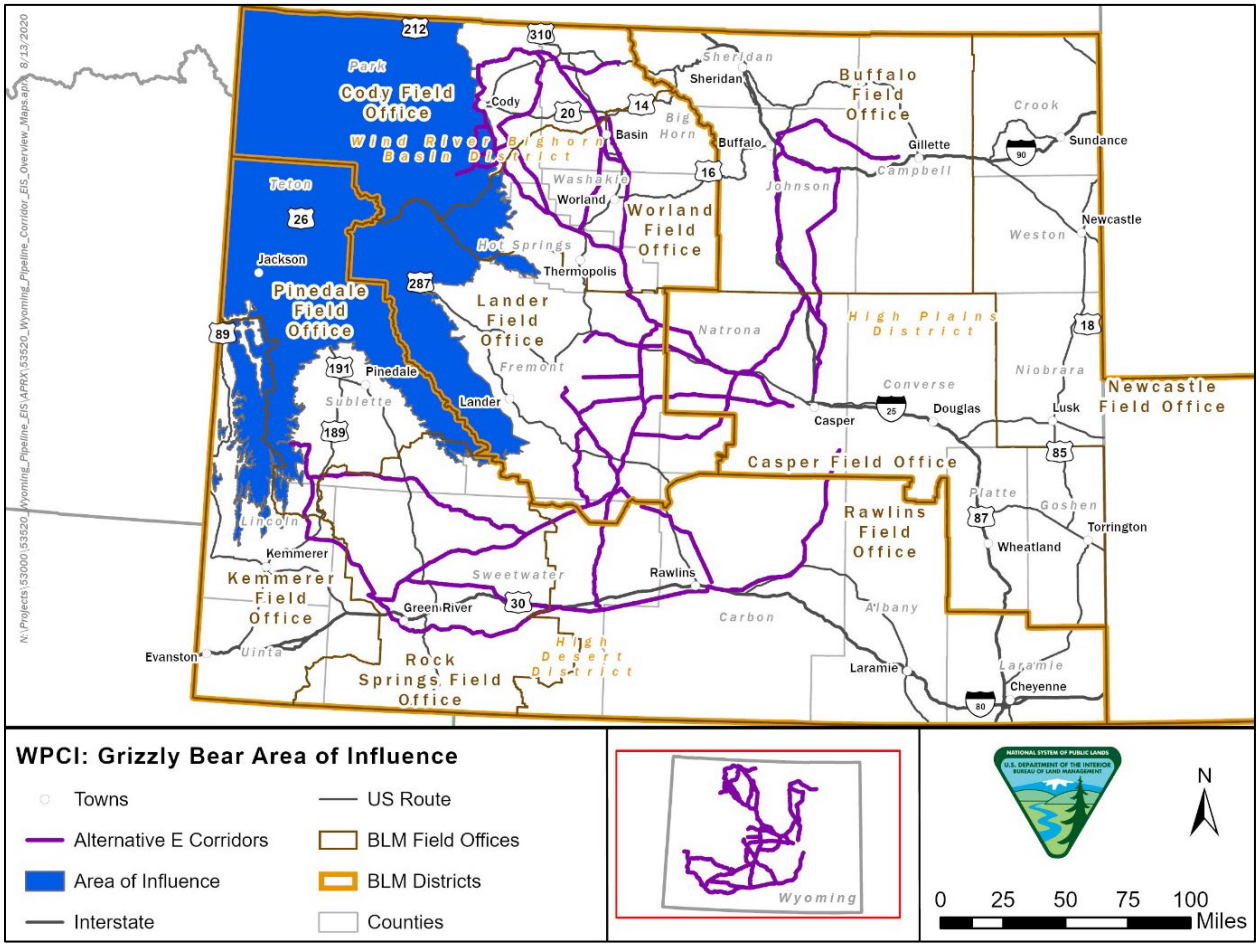

Figure 3. Corridors within the grizzly bear Area of Influence.

4.2.3 Northern Long-eared Bat

The NLEB is known to occur in northeastern Campbell County. Approximately 18% of potential NLEB habitat identified in Campbell County is within BLM-administered surface; however, species distribution maps provided by the WYNDD (2020) indicate that the likelihood that all of this habitat would be occupied by the species is minimal. WYNDD predicted occurrence models for the species include only a small portion of forested habitats in the northeast portion of

Campbell County. Because one individual bat was captured in the Spring Creek area, forested areas in close proximity to that area may also be occupied. ROW and corridor activities may lead to impacts to the species if such actions occur in suitable or occupied habitats during spring and summer months or result in habitat loss; however, the BLM would regulate the timing of construction in such areas, avoiding sensitive periods of maternity roosting. No hibernacula are known to occur on or near any of these identified NLEB habitats on BLM lands.

An approximately 6-mile-long portion of segment 18 would cross the NLEB AOI in the Buffalo Field Office (Figure 4; see Table 6). The segment is more than 30 miles from the known occurrence in northeast Campbell County. The segment crosses scattered areas of forested habitat (Central Rocky Mountain Dry Lower Montane-Foothill Forest) interspersed with shrubland and grassland habitats. Forested areas may be removed as a result of activities within the segment, and surveys are needed to assess whether the habitat is suitable for bats. Habitat availability is not thought to be a limiting factor affecting the survival and conservation of the species, like WNS. In addition, no known hibernaculum or maternity roost trees are near the designated corridor and potentially occupied habitat that could be affected is limited. The corridors are primarily within existing ROWs and established corridors, which decreases adverse effects. Construction could affect suitable habitat, but the presence of occupied habitat is unlikely; therefore, effects are unlikely.

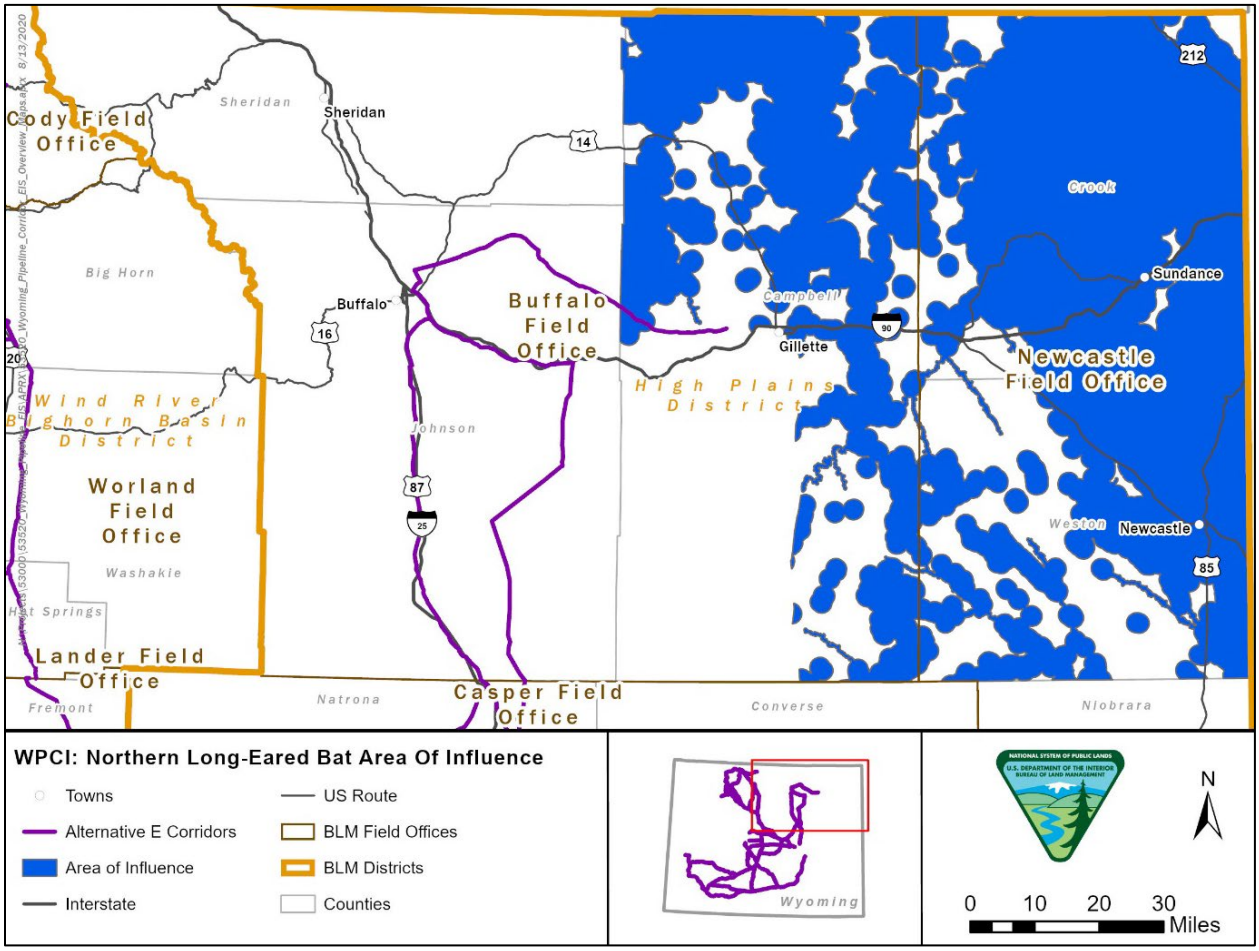

Figure 4. Corridors within northern long-eared Bat Area of Influence.

4.2.4 Black-footed Ferret

Portions of the proposed corridors would likely pass through prairie dog colonies; however, most prairie dog colonies in Wyoming do not provide enough extensive suitable habitat to support black-footed ferret populations. If development occurs within large prairie dog colonies suitable for supporting the ferret, only the portion of the colony within the corridor (200 to 300 feet wide) would be temporarily disturbed. Prairie dogs would be likely to move back into the disturbed area after construction, and the colony's suitability as ferret habitat would not be affected. These areas could still be used for black-footed ferret reintroduction sites in the future. The USFWS's "block clearance" letter for the species indicates that non-introduced black-footed ferrets are not expected to occur throughout Wyoming (USFWS 2013b). With the issuance of the block clearance, any ferret occurring within Wyoming is considered a part of the NEP. No NEPs of ferret are anticipated to be impacted by the corridor designation outside the recovery sites, which are depicted in Figure 5 as the species' AOI.

Portions of segments 23 and 24 in the Cody Field Office and a portion of segment 6 in the Rawlins Field Office would cross the AOI of black-footed ferret (see Figure 5; Table 6). Removal of prairie dog colonies within the 19 miles of corridors in the AOI could impact suitable ferret habitat within reintroduction sites. Segment 6 in the Rawlins and Casper planning areas crosses the Shirly Basin/Medicine Bow Reintroduction Site in northern Carbon County and southern Natrona County.

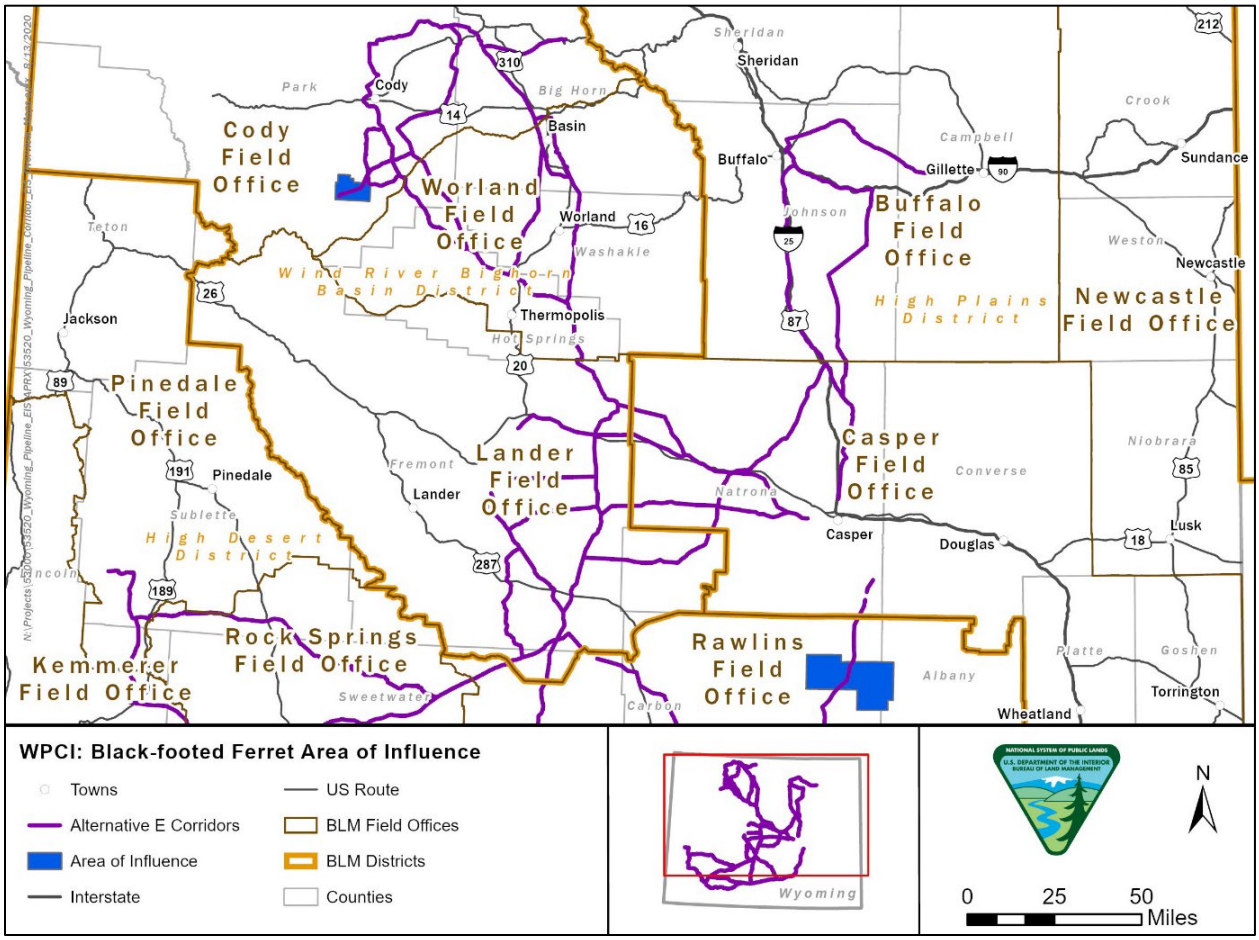

Figure 5. Corridors within the black-footed ferret Area of Influence.

The proposed corridors are primarily in existing utilities corridors and within 0.5 mile of existing pipeline ROWs, which decreases the potential for adverse effects from future actions within the corridors. Development within designated corridors that crosses existing reintroduction areas could increase predation, noise, disease, and human activity, which could affect prairie dogs and ferrets, if present. However, the conservation strategies in place for ferret protection during construction activities include avoidance of suitable prairie dog towns and ferret reintroduction sites (see Attachment A). Existing conservation measures would avoid or minimize the effects of lands and realty program activities, including those within the proposed corridor designations that are on black-footed ferret recovery areas.

4.2.5 Yellow-billed Cuckoo

Portions of segments 1, 2, 4, and 5 cross the yellow-billed cuckoo AOI in the Kemmerer, Pinedale, Rawlins, and Rock Springs Field Offices (Figure 6; see Table 6). The cuckoo is rare in Wyoming but has been observed in Seedskadee National Refuge and along the Green River (WYNDD 2020). The large tracts of riparian habitat cuckoos prefer is limited in Wyoming. No confirmed breeding has been identified in Wyoming (FR 85:11458).

Although BLM policy stipulates that no surface-disturbing activities will take place within 500 feet of riparian areas, ROWs may be routed through riparian areas, causing habitat disturbance and fragmentation from removal of cottonwood or willow vegetation. Since the yellow-billed cuckoo is not known to breed or nest in these areas, impacts related to the species' avoidance of disturbed habitats there would not occur. Suitable habitat is limited on BLM lands in the area. Any water depletions, sedimentation in streams, and/or noxious and invasive weed invasion from surface-disturbing activity within the limited suitable habitat would be avoided through the implementation of conservation measures (see Attachment A). Conservation measures would be implemented to maintain riparian habitats and ensure that this species would not be adversely affected by construction of future projects within the corridors.

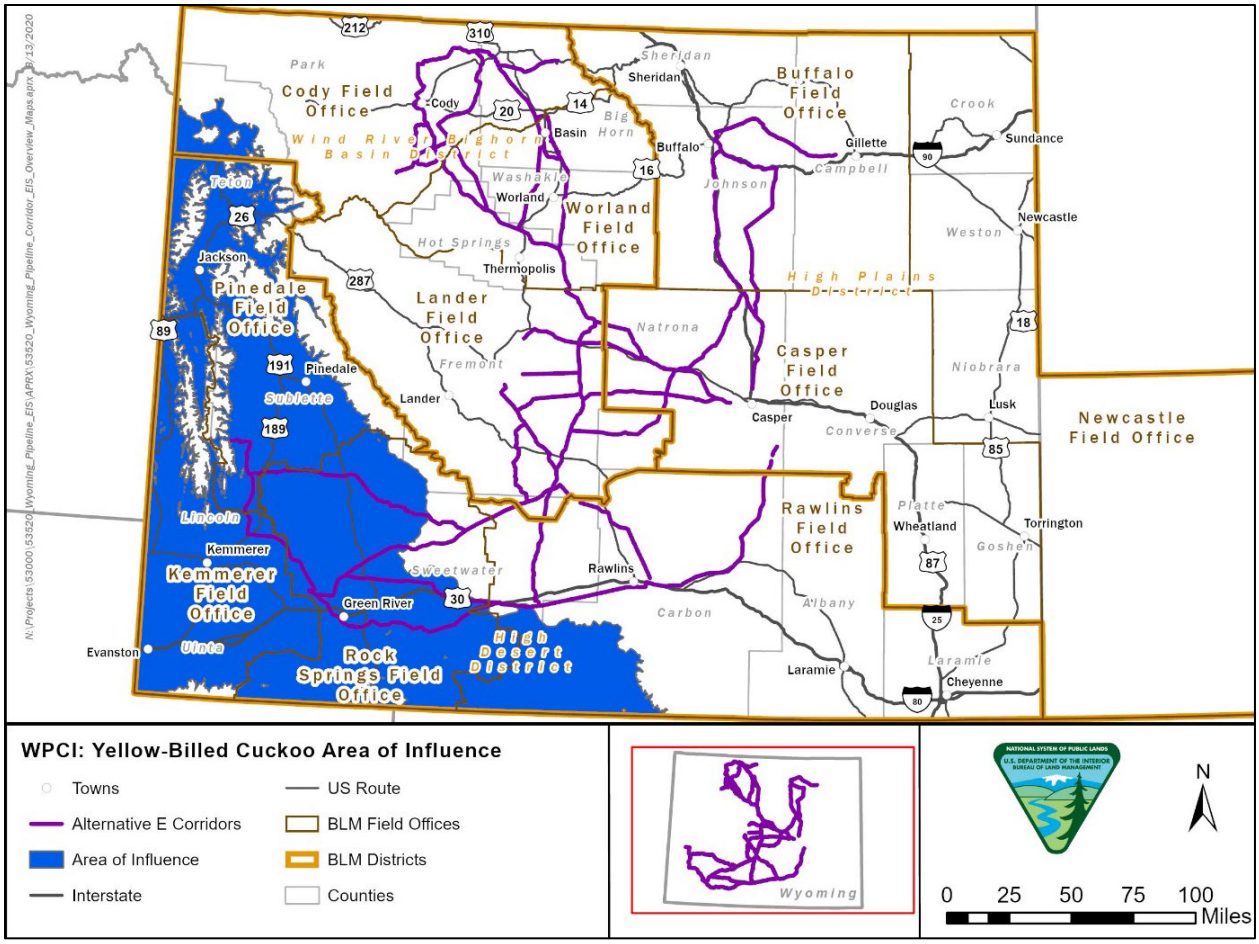

Figure 6. Corridors within the yellow-billed cuckoo Area of Influence.

4.2.6 Ute Ladies'-tresses

All the proposed segments cross the AOI of Ute ladies'-tresses (Figure 7; see Table 6), but no populations are currently known to occur within or near the corridors. The closest known population is 20 miles east of segment 17 in northwestern Converse County, which is under the jurisdiction of the Casper Field Office (WYNDD 2020). Approximately 74% of the corridors are within existing designated utilities corridors, and potential habitat for this species is limited to the points at which segments would cross streams. Corridors would cross perennial streams at 116 locations. Stream crossing methods for future projects are unknown at this time, but channel crossings for pipelines are generally designed and constructed using an open-cut trench or a bore under the waterway. Boring methods would likely be used to cross under streams if sensitive resources, such as Ute ladies'-tresses, are present.

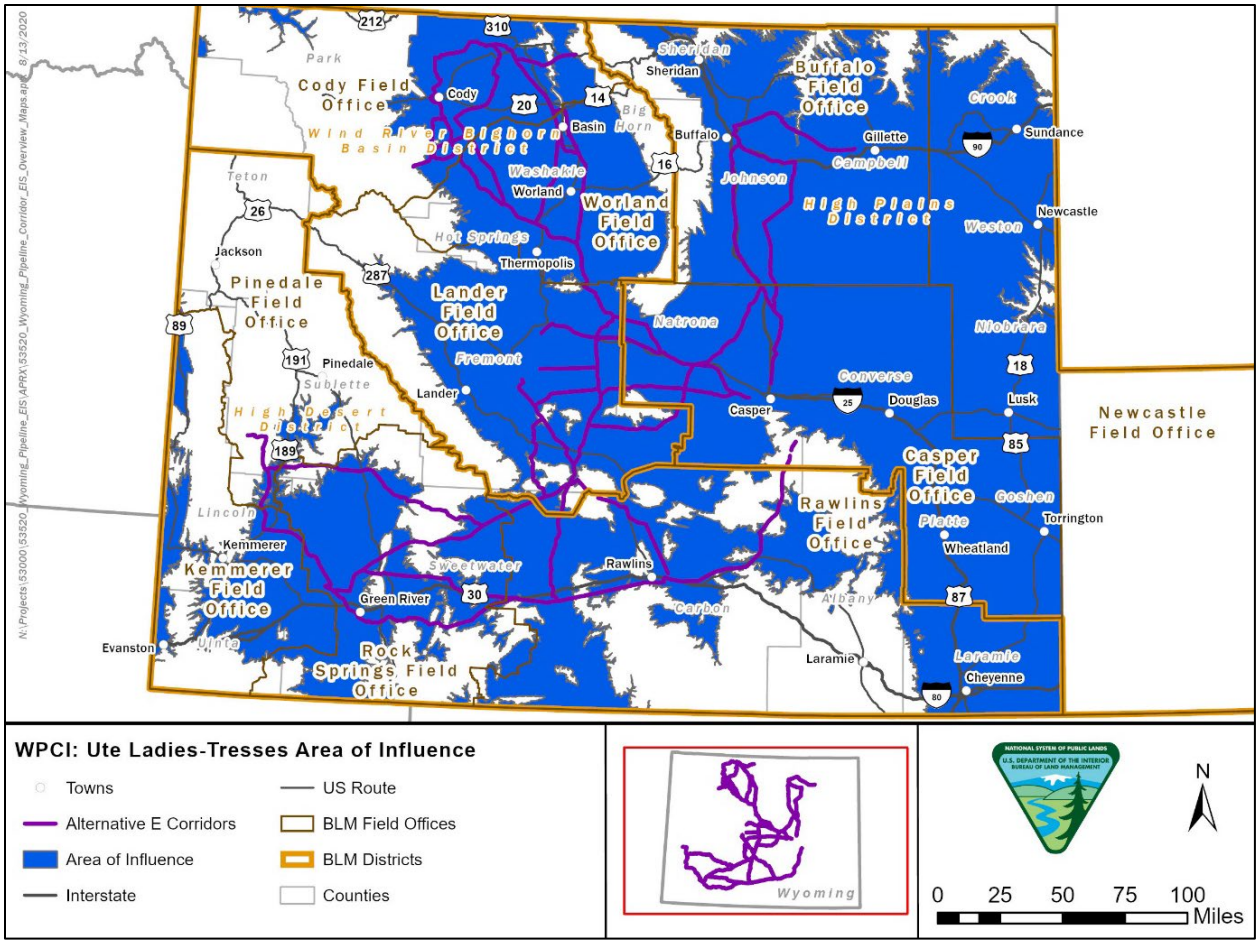

Figure 7. Corridors within the Ute ladies'-tresses Area of Influence.

Potential direct impacts to Ute ladies'-tresses resulting from development within the corridors include destruction of plants or suitable habitat. However, suitable habitat is likely to be limited because much of the project area is arid. Site-specific surveys are needed to determine whether moist riparian areas and meadows are present, and, where moist soils are present, if the appropriate site-specific conditions are not found. Ute ladies'-tresses could be indirectly affected by activities that occur at some distance from any plants and habitat, such as herbicide use, release of pollutants, and potential changes to downstream hydrology; however, regulations in place to protect water quality would further decrease the likelihood that suitable habitat, if present, would be impacted. Plans for reclamation, site stabilization, and weed control are included in the final EIS for the WPCI (BLM 2020).

Future pipeline ROWs would require analysis to determine whether potential habitat is present in project areas. With the conservation measures in place for Ute ladies'-tresses, riparian/wetland habitats would be avoided to the extent possible to minimize impacts to suitable habitat. Presence/absence surveys for the species would be required within suitable habitat before the authorization of activities in the habitat. Conservation measures require all proposed ROW projects to be designed and located at least 0.25 mile from any known Ute-ladies'-tresses occupied habitat, as described in Attachment A.

4.2.7 Blowout Penstemon

A portion of segment 7 in the Rawlins Field Office crosses the AOI of blowout penstemon (Figure 8; see Table 6). No known blowout penstemon populations are within the corridors (WYNDD 2020). It is unknown whether suitable habitat (blowout-like sand dunes with sparse cover) is within the corridor. Most of the BLM land within the AOI is within the Blowout Penstemon ACEC, which is more than 4 miles east of the corridor. BLM management of the ACEC includes relocation of ROW actions to areas outside the ACEC to protect known populations; the proposed corridor is outside the ACEC boundary (BLM 2013). Portions of segment 7 are within existing corridors and adjacent to State Highway 789 where existing disturbance has likely reduced the suitability of the habitat to support this species.

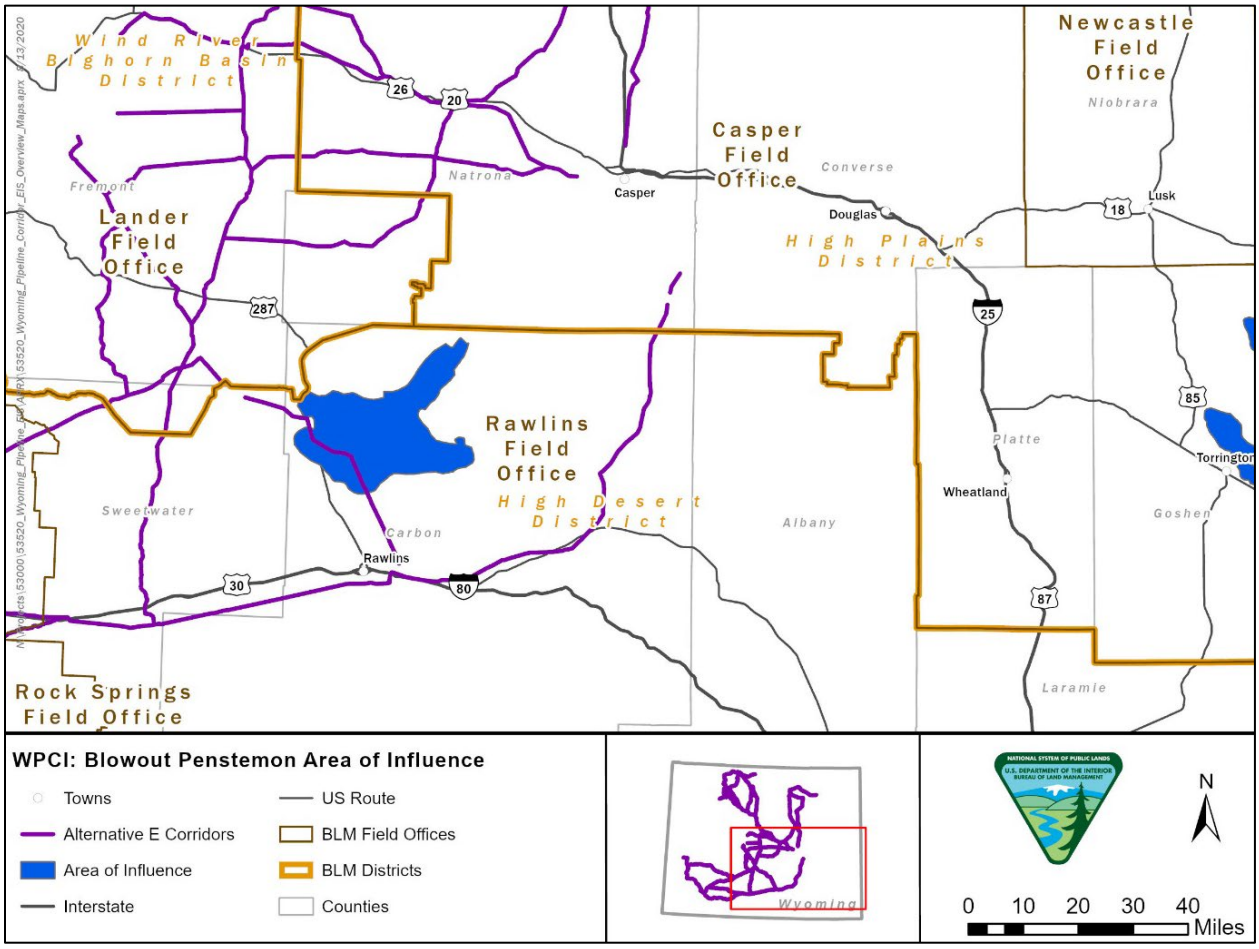

Figure 8. Corridors within blowout penstemon Area of Influence.

In the Rawlins Field Office, impacts may occur if corridor development results in loss of habitat or individual plants. Future projects in the corridors would require an analysis to determine if potential habitat is present and surveys to determine if that habitat is occupied. Conservation measures require all proposed ROW projects to be designed and located at least 0.25 mile from any known blowout penstemon occupied habitat to minimize disturbances to the species (see Attachment A). Plans for reclamation, site stabilization, and weed control are included in the final EIS for the WPCI (BLM 2020).

4.2.8 Desert Yellowhead

No known populations of desert yellowhead are within the corridors (WYNDD 2020; USFWS 2013c). Portions of segments 8, 9, and 13 in the Lander Field Office cross the AOI of desert yellowhead but are outside known populations (Figure 9; see Table 6). Segment 8 is 2,500 feet from the Sand Draw population. Segment 9 is 1,077 feet from the Cedar Rim population and within an existing disturbed corridor. Both known populations are on lands managed by the BLM Lander Field Office. Surveys are needed to determine whether sandstone and limestone outcrops suitable for the species are present within the corridors and, if so, whether those area could be impacted by development within the corridors.

Critical habitat is designated where the Sand Draw population occurs approximately 200 feet from segment 8. Critical habitat is excluded from all ROW development; therefore, WPCI corridor designation is not anticipated to impact the desert yellowhead designated critical habitat that encompasses the Sand Draw population.

The Cedar Rim population is within a protected area subject to an NSO restriction, and no surface disturbance would occur within the currently known populations. Because of the close proximity of the corridor to these populations, indirect effects from construction of future projects, including fugitive dust, herbicide drift, the spread of weeds, and undesirable vegetation conditions, could occur in habitat occupied by or suitable for the species. Competition from plants not native to the area would pose a greater threat than competition from species with which desert yellowhead has evolved. To minimize potential impacts from future projects within the corridors, the final EIS for the WPCI includes plans for reclamation, site stabilization, and weed control (BLM 2020).

In the Lander Field Office, adverse impacts may occur if corridor development results in loss of habitat or individual plants. Future projects within the designated corridors would require analysis to determine whether potential habitat is present in specific project areas; if potential habitat is present, conservation measures may require that all proposed ROW projects be designed and located at least 0.25 mile from any known desert yellowhead habitat to minimize potential disturbances.

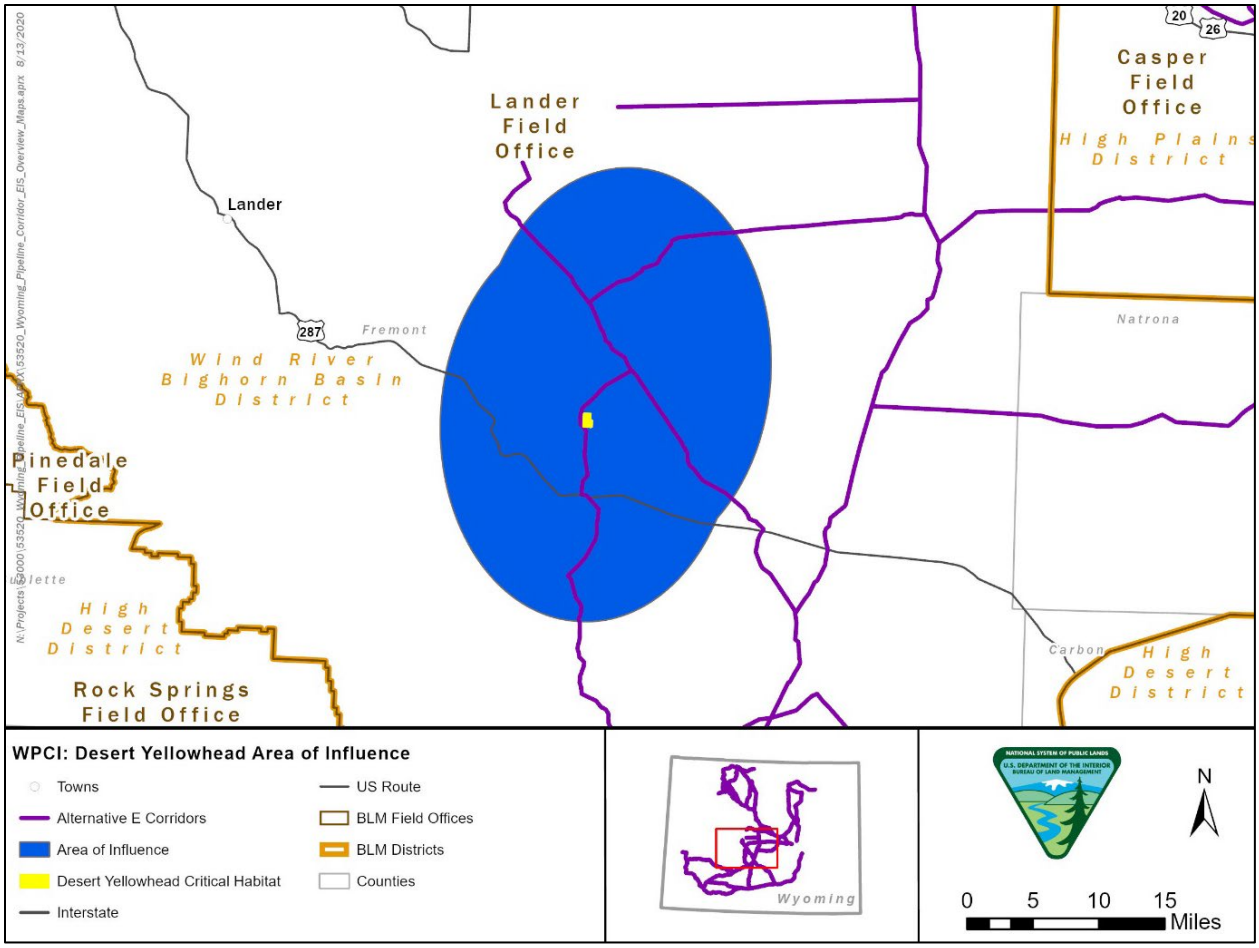

Figure 9. Corridors within the desert yellowhead Area of Influence.

4.2.9 Platte River Species

Portions of 11 segments (2, 3, 4, 6, 7, 8, 9, 10, 11, 12, and 17) in the Casper, Rawlins, and Lander Field Offices cross the AOI of Platte River species (Figure 10; see Table 6). Federally listed species in the Platte River that may be affected by water depletions resulting from actions in the corridors are listed in Table 4. Designated critical habitat for the whooping crane downstream in Nebraska may also be affected by depletions. The sources of risks to these species are water depletions and accidental spills of toxic materials. If water depletions within the Platte River Basin result from activities related to corridor development (e.g., dust abatement, hydrostatic testing), Platte River species would be adversely affected because of downstream impacts.

The BLM participates in the basin-wide Platte River Recovery Implementation Program (BLM 2007d). The program ensures ESA compliance among water users in the Platte River Basin upstream of the drainage's confluence with the Loup River in Nebraska for effects on the target species and whooping crane critical habitat as well as other federally listed species occurring in the Platte River Basin while managing certain land and water resources to provide benefits for those species. Water-related activities in the Platte River resulting in more than 0.1 acre-

foot/year of consumptive use of water hydrologically connected to the Platte River system have an adverse effect and require consultation with the USFWS.

Water use within the corridors cannot be quantified until future projects therein that include activities such as dust abatement and hydrostatic testing are known. Information such as the number of and size of pipes as well as the source of water would be determined for potential projects within designated corridors. If consumptive use of water from project actions (e.g., dust abatement, hydrostatic testing) within the Platte River Basin is more than 0.1 acre-foot per year, Platte River species would be adversely affected because of downstream impacts.

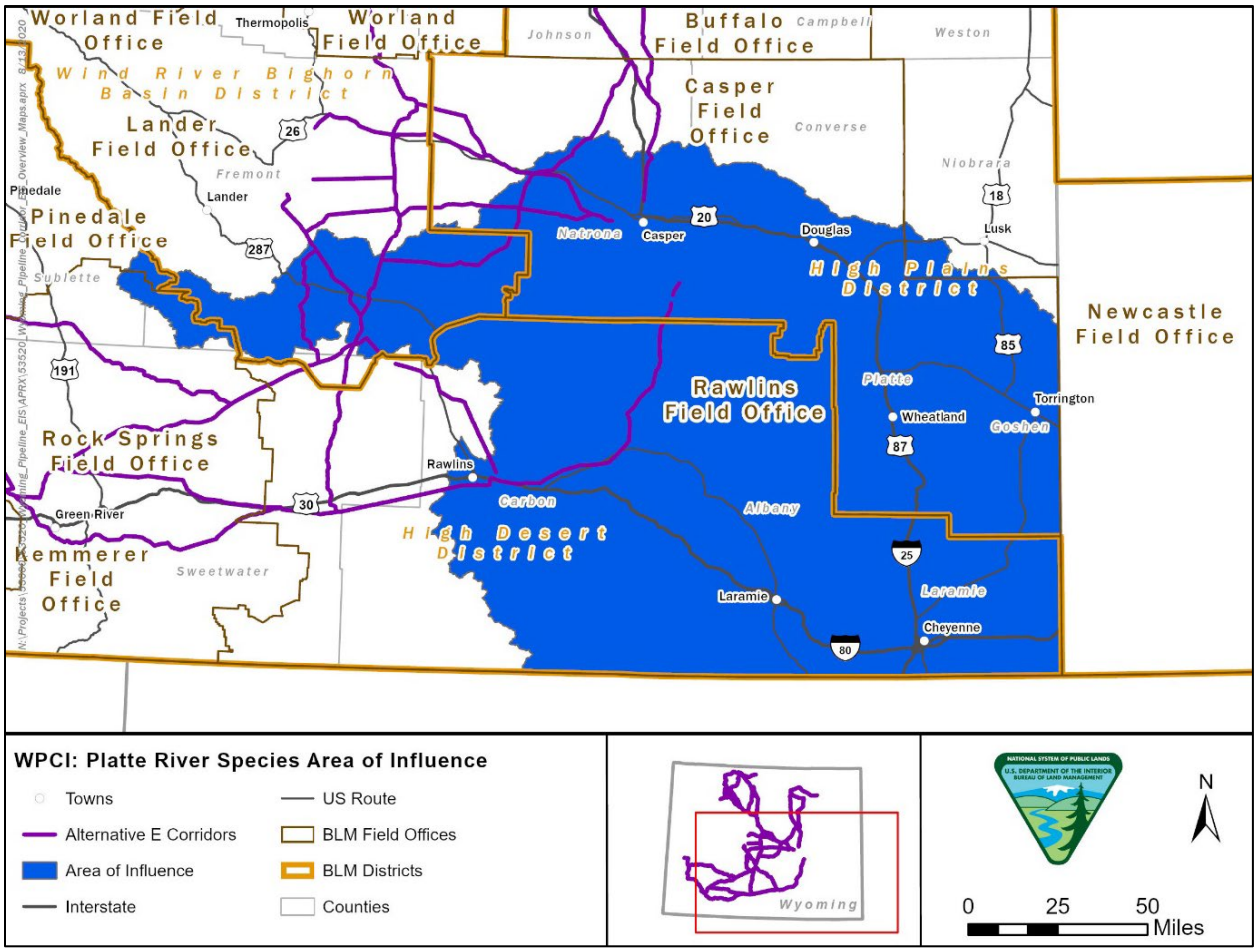

Figure 10. Corridors within the Platte River species Area of Influence.

4.2.10 Colorado River Species

Portions of segments 1, 2, 4, and 5 in the Kemmerer, Pinedale, Rawlins, and Rock Springs Field Offices cross the AOI of four Colorado River fish species (Figure 11; see Table 6). These fish species are not found in the corridors but exist downstream. Designated critical habitat for the species is approximately 75 miles downstream in the Yampa and Green Rivers. The risks to these fish species are water depletions. If water depletions occur from project actions (e.g., dust abatement, hydrostatic testing) within the Colorado River Basin, Colorado River fish species would be adversely affected because of downstream impacts.

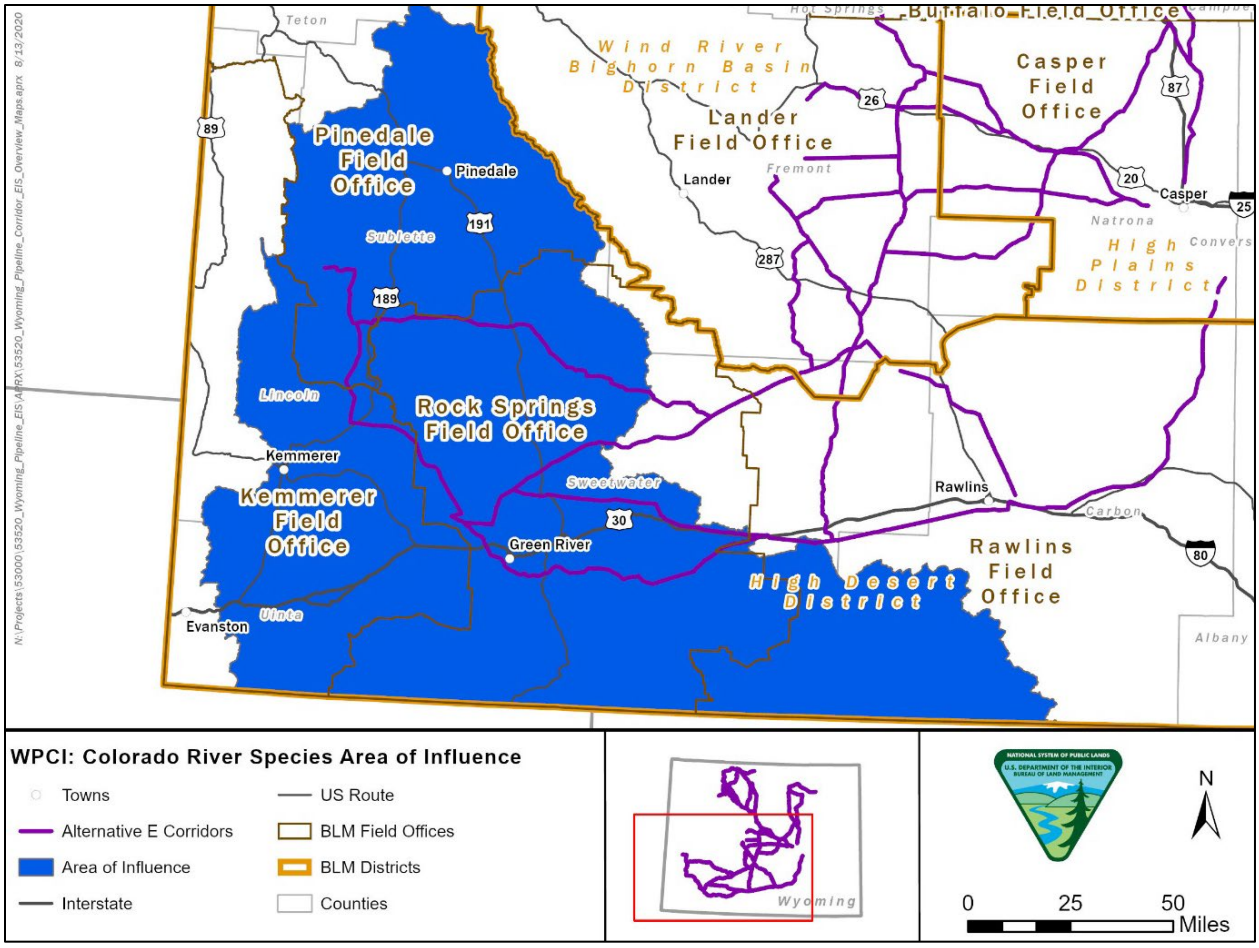

Figure 11. Corridors within Colorado River species Area of Influence.

The Upper Colorado River Endangered Fish Recovery Program is a partnership among entities working to recover the endangered fish of the Upper Colorado River Basin. Under the Recovery and Implementation Program (RIP) for Endangered Fish Species in the Upper Colorado River Basin (USFWS 2009), which was developed in support of Section 7 consultation, "any water depletions from tributary waters within the Colorado River drainage are considered as jeopardizing the continued existence of these fish." *Tributary water* is defined as water that contributes to instream flow habitat. *Depletion* is defined as water that would contribute to the river flow if not intercepted and removed from the system.

The USFWS has determined that progress made under the RIP has been sufficient to merit a waiver of the depletion fee, which helps fund the RIP, for depletions of 100 acre-feet per year or less (USFWS 2009). The number of and size of pipes and the source of water for potential projects within designated corridors are unknown. Therefore, water use cannot be quantified. If depletions for any given project within the corridors are more than 100 acre-feet per year, a one-time depletion fee may be required.

4.3 Cumulative Effects

For the purposes of effects analysis under the ESA, cumulative effects are defined as effects on a species caused by other projects and activities unrelated to the action under consideration and effects of future state or private activities not involving federal activities that are reasonably certain to occur within the action area of the federal action subject to consultation. Future federal actions would be subject to the consultation requirements established in Section 7 of the ESA and therefore are not considered cumulative to the Proposed Action.

Wind farms, utility systems (transmission lines), and oil and gas development on private lands without federal nexus could alter or remove habitats for listed species or their prey (e.g., prairie dogs). Human-introduced foraging opportunities (refuse) could lure predators (foxes, skunks, raccoons, etc.) that could prey on black-footed ferrets and compete for prairie dogs. Wind farms and utility systems could also cause additive mortality to avifauna, including yellow-billed cuckoos.

Projects, including ROWs, that pass through private and state lands may cause additional mortality of threatened, endangered, or candidate species because of collisions with vehicles. Increases of lynx, grizzly bear, and black-footed ferret (or prairie dog) mortalities because of vehicle collisions may occur. ROW and corridor activities on state and private lands may also remove and fragment habitat that is suitable for black-footed ferret reintroduction (i.e., large prairie dog towns) or used by other listed wildlife. Construction and maintenance of ROWs on state and private lands contribute to short- and long-term losses of vegetation and increased sedimentation.

Off-highway vehicle use on private and state lands presents a threat to desert yellowhead and blowout penstemon through the crushing of plants, destruction of seeds, and compaction or erosion of soil. This threat is greatest in the spring and summer, when plants are in flower or heavy with fruit. Livestock grazing and vegetation management on private and state lands could impact listed plant species through the removal of habitat, spread of weeds, and/or use of herbicides. Impacts to Ute ladies'-tresses from livestock grazing on private lands could be beneficial (maintaining habitat through grazing or haying) or detrimental (limiting individual plant reproductive fitness by removal of fruiting parts through trampling or ingestion). Livestock and wild ungulate grazing may present a threat to desert yellowhead individuals and habitat quality (USFWS 2010).

Cumulative effects to downstream species primarily are the result of water developments and water uses in the basin. Also, introduced species such as rainbow trout are an important component of the cumulative effects that impact the Colorado River fish; exotic trout tend to prey on young age classes of the sensitive fish.

5 EFFECTS DETERMINATIONS

The following determinations are applied to each species according to the above analysis.

No effect (NE): The appropriate conclusion when the Proposed Action will not affect listed species. The principle factor for this determination is that "suitable habitat" does not exist for the species in the area where the activity would occur.

May affect, but is not likely to adversely affect (NLAA): The appropriate conclusion when effects on listed species are expected to be discountable (so rare as to be considered extremely unlikely to occur) or insignificant (so small or immeasurable that they could not be meaningfully measured, detected, or evaluated) or completely beneficial. This type of effect requires informal Section 7 consultation with the USFWS and agency concurrence with the determination.

May affect, is likely to adversely affect (LAA): The appropriate conclusion if any adverse effect to the listed species may occur as a direct or indirect result of the Proposed Action or its interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial. In the event the overall effect of the Proposed Action is beneficial to the listed species but also is likely to cause some adverse effects, then the proper effect determination for the Proposed Action "is likely to adversely affect" the listed species. An "is likely to adversely affect" determination requires formal Section 7 consultation.

The following determinations are based on analysis of impacts to listed species from the WPCI corridors presented in this BA, including implementation of conservation measures in Attachment A. The WPCI would designate new corridors reserved for the transportation of CO_2 and EOR products and for other compatible uses and would also reserve a portion of the existing designated corridors exclusively for CO_2 and EOR product pipelines or other compatible uses. In most cases, the designation of new corridors and existing corridors is similar to the present RMP management actions (Lands and Realty, ROWs and Corridors). In some cases, a change in a species effects determination within an RMP may be warranted, as indicated by the use of **bold** in Table 7. As with existing BLM management of ROWs and designated corridors, conservation measures would be implemented to avoid, minimize, and reduce the effects of potential future projects on listed species.

Table 7. Determinations for WPCI Designated Corridor Management Actions by Field Office

Common Name	Buffalo	Casper	Bighorn Basin	Kemmerer	Lander	Pinedale	Rawlins	Rock Springs
Canada lynx	–	–	NLAA	NLAA	NLAA	NLAA	NLAA	–
Canada lynx critical habitat	–	–	**NLAA**	–	–	**NLAA**	–	–
Grizzly bear	–	–	NLAA	–	NLAA	NLAA	–	–
NLEB	NLAA	–	–	–	–	–	–	–
Black-footed ferret	–	**NJ**	**NJ**	**NJ**	**NJ**	**NJ**	**NJ**	**NJ**
Yellow-billed cuckoo	–	–	–	**NLAA**	–	**NLAA**	**NLAA**	**NLAA**
Ute ladies-tresses	NLAA	NLAA	NLAA	NLAA	NLAA	NLAA	NLAA	**NLAA**

Common Name	Buffalo	Casper	Bighorn Basin	Kemmerer	Lander	Pinedale	Rawlins	Rock Springs
Blowout penstemon	–	NE	–	–	NLAA	–	NLAA	–
Desert yellowhead	–	–	–	–	NLAA	–	–	–
Desert yellowhead critical habitat	–	–	–	–	NLAA	–	–	–
Platte River species	–	LAA	–	–	LAA	–	LAA	–
Whooping crane critical habitat	–	LAA	–	–	LAA	–	**LAA**	–
Colorado River fish	–	–	–	–	--	LAA	LAA	LAA
Colorado River fish critical habitat	–	–	–	–	--	LAA	LAA	LAA

Note: Bold indicates that the WPCI determination differs from the RMP BA determination for ROW management actions. NJ = not likely to jeopardize the continued existence of the species, and – = not addressed in the existing RMP BA because of lack of overlap with the species range.

5.1 Canada Lynx

The corridors do not intersect mapped lynx habitats within any LAUs. Removal of forested habitats could occur, adding to the cumulative fragmentation of available habitats. A temporary increase in traffic during construction is unlikely to result in vehicle collisions because of enforced speed restrictions and since construction occurs during daylight hours. Designation of proposed corridors in observance of the associated conservation measures in the existing RMPs *may affect, but is not likely to adversely affect* (NLAA) the lynx. This determination is based on the unlikely presence of the species in the corridors and the mitigation actions provided for protection of habitats in LAUs.

5.1.1 Canada Lynx Critical Habitat

The closest proposed corridor is 0.7 mile from designated critical habitat. Designation of proposed corridors in observance of the associated conservation measures in the existing RMPs *may affect, but is not likely to adversely affect* (NLAA) Canada lynx critical habitat. This determination is based on lack of ROW development within critical habitat and the distance of the proposed corridors from the critical habitat.

5.2 Grizzly Bear

Removal of potentially suitable forested habitat could occur, adding to the cumulative fragmentation of available habitat. Vehicle collisions are not anticipated because of enforced speed restrictions on access roads and since construction occurs during daylight hours. Designation of proposed corridors in observance of the associated conservation measures in the existing RMPs *may affect, but is not likely to adversely affect* (NLAA) the grizzly bear. This determination is based on the unlikely presence of the species in the corridors and the mitigation actions provided for protection of the species and its habitats from human activities and interactions.

5.3 Northern Long-eared Bat

Designation of proposed corridors in observance of the associated conservation measures in the existing RMPs *may affect, but is not likely to adversely affect* (NLAA) the species within the Buffalo Field Office planning area. This determination is based on the low potential that the proposed corridors are located in areas occupied by NLEB and the existing safeguards for protection, including timing limitations and avoidance of special-status species habitat. Future site-specific actions may require the BLM to consult under the 4(d) rule and the USFWS's programmatic agreement.

5.4 Black-footed Ferret

The USFWS has "block cleared" Wyoming and does not require Section 7 consultation for black-footed ferret. However, the BLM analyzes NEP species as a "proposed" species for the purposes of conducting Section 7 compliance. Black-footed ferrets and their habitats, if determined to be present, would be evaluated for the implementation of reasonable conservation measures from the RMPs in an effort to support recovery. Designation through amendment of the proposed corridors in observance of the associated conservation measures in the existing RMPs is *not likely to jeopardize the continued existence* of the species.

5.5 Yellow-billed Cuckoo

Yellow-billed cuckoo was a candidate species when the RMPs were prepared, but the species is currently listed as threatened; therefore, the determinations in Table 7 have changed. Based on the bird's current status as a threatened species and potential impacts to riparian habitat, implementing potential future projects *may affect, not likely to adversely affect* (NLAA) the yellow-billed cuckoo. This determination is because no cuckoos have been recorded in the corridors, suitable habitat is severely limited in planning areas, and conservation measures in place would help project proponents avoid breeding or nesting activity observed during project planning survey efforts.

5.6 Ute Ladies'-tresses

Ute Ladies'-tresses is currently known to occur only in the Casper Field Office planning area. The closest known population is 20 miles from the proposed corridors; however, habitat investigations and surveys have been limited in major portions of the range of the species in Wyoming. Implementing any potential future projects *may affect, not likely to adversely affect* (NLAA) the Ute ladies'-tresses orchid. This determination is based on the corridors' lack of overlap with any known Ute ladies'-tresses orchid populations at present and the unlikely discovery of this relatively rare or uncommon species on the landscape. Where conservation measures, including habitat clearance surveys and riparian/perennial water avoidance measures, are in place, and because wetland and riparian areas would be avoided for new construction when possible, it is unlikely that any future adverse impacts would occur. Any impacts from water use to this species' habitat would be temporary and so small as to be considered immeasurable.

5.7 Blowout Penstemon

The effects determination for the Casper RMP will remain *no effect* (NE) based on the absence of blowout penstemon in the planning area and the distance between the corridors and known populations. Extensive surveys have not documented any populations within the planning area (BLM 2007e; Heidel 2018). The effects determination for the Lander RMP will remain *may affect, not likely to adversely affect* (NLAA) based on the lack of blowout penstemon populations documented in the planning area and the conservation measures that are in place to protect blowout penstemon habitat. The effects determination for the Rawlins RMP will remain NLAA based on the conservation measures that are in place to protect known blowout penstemon habitat and populations. The proposed corridors are outside the Blowout Penstemon ACEC. As with existing BLM management of ROWs and corridors, all ROWs would require an analysis to determine whether potential habitat is present in project areas. If present, avoidance of any occupied blowout penstemon habitats would be required to avoid disturbance.

5.8 Desert Yellowhead

The corridors are outside the Cedar Rim population NSO restriction area and the designated critical habitat containing the known Sand Draw population. The corridors are in close proximity to these protected areas and the plant populations they contain; therefore it is possible that additional protection measures may be necessary for avoiding adverse impacts in the case of future proposals and associated site-specific assessments. Indirect effects from construction, including fugitive dust, the spread of weeds, and undesirable vegetation conditions, would be mitigated through existing measures in the RMP. Surveys for the species and its suitable habitats would be required before the authorization of potential future projects in the corridor, and future actions would also be subject to consultation with USFWS. Based on the existing protections, including NSO for the Cedar Rim population and the ROW exclusions in designated critical habitat for the Sand Draw population, the designation of the proposed ROW corridors *may affect, but is not likely to adversely affect* (NLAA) the desert yellowhead.

5.8.1 Desert Yellowhead Critical Habitat

Segment 8 is in close proximity to designated critical habitat, which contains the known Sand Draw population. All potential indirect effects from development within the segment are anticipated to be mitigated and controlled sufficiently enough that the designation of the proposed ROW corridor *may affect, but is not likely to adversely affect* (NLAA) the designated critical habitat of desert yellowhead.

5.9 Platte River Species

Surface water and groundwater withdrawals have not been determined, but potential future projects may involve consumptive use in excess of the 0.1 acre-feet per year considered by the USFWS to be the threshold for causing adverse effects. With the potential for water use, implementation of the proposed ROW and corridor activities *may affect, and is likely to adversely affect* (LAA) the Platte River species. The BLM will continue to participate in the Platte River Recovery Implementation Program.

5.9.1 Platte River Species Critical Habitat

With the potential for consumptive use of water, implementation of the proposed ROW and corridor activities *may affect, and is likely to adversely affect* (LAA) designated critical habitat of the whooping crane.

5.10 Colorado River Species

Surface water and groundwater withdrawals have not been determined, but potential future projects may involve depletions in excess of the of 0.1 acre-feet per year considered by the USFWS to be the threshold for causing adverse effects. Therefore, implementing the proposed ROW and corridor activities *may affect, is likely to adversely affect* (LAA) the endangered fish of the Colorado River. Proponents of projects with depletions more than 100 acre-feet per year may be required to pay a depletion fee to the Upper Colorado River Endangered Fish Recovery Program to offset impacts.

5.10.1 Colorado River Species Critical Habitat

Implementing the proposed ROW and corridor activities *may affect, is likely to adversely affect* (LAA) the designated critical habitats of the Colorado River fishes.

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ATTACHMENT A.

Conservation Measures

CONSERVATION MEASURES

General Measures

The following are general conservation measures and BMPs for the BLM rights-of-ways and corridors management actions.

Big Horn Basin Resource Management Plan (RMP) Revision Project (BLM 2015a) for Cody and Worland and Final Biological Assessment (BLM 2014)

- The preferred location of new ROWs will be in or adjacent to existing disturbed areas associated with existing ROWs or high traffic gravel roads or highways, where possible.
- Avoid ROW authorizations in areas having a 25 percent or greater average slope.
- Apply dust abatement on roads, well pads, and other surface disturbances.

Buffalo Field Office RMP (amended 2019) and Final Biological Assessment (BLM 2015b)

- Allow ROWs within areas containing habitat for special status species plants, though not within areas of known populations.
- NSO or use allowed within special status species plant populations (SS Plant-4008).

Casper RMP (amended 2009, 2010, 2011, and 2012) (BLM 2007a) and Final Biological Assessment (BLM 2007b)

- Future corridor adjustments and new corridor designations will be made only when facility placement within an existing designated corridor is incompatible, unfeasible, or impractical, and when the environmental consequences can be adequately mitigated. Problems of technical compatibility between facilities and spacing of facilities in corridors will be solved on a case-by-case basis.
- Speed limits on access roads will be limited to 35 mph, where possible.

Kemmerer RMP (BLM 2010a) and Final Biological Assessment (BLM 2008a)

- Evaluation of effects on key special status species linkage areas will be taken in situations of proposed land exchanges, land sales, and special use permits.
- Speed limits on access roads will be limited to 35 mph, where possible.
- Follow the Wyoming BLM Mitigation Guidelines for Surface Disturbing and Disruptive Activities (BLM 2010).

Lander Field Office RMP (BLM 2014a) and Final Biological Assessment (BLM 2012)

- The preferred location for new ROWs and access route authorizations is in areas already disturbed by existing ROWs.

Pinedale RMP (BLM 2008b) and Final Biological Assessment (BLM 2008c)

- Proposed projects would be designed and locations selected to minimize disturbances to habitat essential to T&E species. Early coordination with the USFWS to benefit the species would be implemented on a case-by-case basis.
- Areas with high erosion potential and/or rugged topography (i.e., steep slopes [>25 percent], stabilized sand dunes, floodplains, and erosive and sandy soils) would be avoided, where possible, or specialized impact minimizing measures would be applied on a case-by-case basis to benefit T&E species.
- Proposed projects within identified T&E habitats would not be authorized during critical time periods to reduce impacts to these species. Additional impact minimizing measures for species would be designed on a site-specific and case-by-case basis, in consultation with BLM and USFWS.
- To reduce impacts to T&E species, construction within 500 feet of open water and 100 feet of intermittent or ephemeral channels would be avoided. Stream crossings for roads and pipelines would be constructed during the period of lowest flow (i.e., late summer or fall). All required stream crossings would be constructed perpendicular to flow. No surface water or shallow groundwaters in connection with surface waters would be used for proposed projects. Proper erosion control techniques (e.g., water bars, netting, riprap, and mulch) would be implemented.
- The PFO biologists, or BLM-approved contractor, would conduct site-specific surveys for T&E species and associated habitats before any surface disturbance in areas determined by BLM to contain potential habitat for such species (BLM Manual 6840). Data from these surveys would be analyzed by BLM, and recommendations for avoidance or impact minimizing measures would be implemented. Relocations of project facilities would be made to avoid T&E species and/or their habitats on a case-by-case basis. Informal or formal consultation with the USFWS will be initiated for site-specific projects which may affect listed species.
- Herbicide applications would be kept at least 500 feet from known T&E populations.

Rawlins RMP (amended 2012, 2013, 2014, and 2018) (BLM 2008c) and Biological Assessment (BLM 2007c)

- RMPPA biologists will conduct surveys (following established protocol) or assume species presence for all likely affected T&E and Special Status Species habitat, or potential habitat, prior to authorizing surface disturbing activities. Proposed projects will be designed and locations selected to minimize disturbances to species and habitat, and if avoidance is not possible, the Bureau will reinitiate consultation with the Service if the

effects determination is different than that stated in this BA. Projects will not be authorized during critical time periods to reduce impacts to these species. Early coordination with the Service to benefit the species will be conducted on a case-by-case basis. When project proposals are received, BLM will initiate coordination with the FWS at the earliest possible date so that both agencies can advise on project design. This should minimize the need to redesign projects at a later date to include species conservation measures, determined as appropriate by the FWS.

- Areas with high erosion potential and/or rugged topography (i.e., steep slopes [>25%], stabilized sand dunes, floodplains, erosive and sandy soils) will be avoided in T&E and Special Status Species habitat, unless it benefits the habitat for a T&E species.
- Construction activities located within potential and/or known habitat for T&E and Special Status Species will be minimized through construction site management by utilizing previously disturbed areas, using existing ROWs, and designating limited equipment/materials storage yards and staging areas to benefit habitat for T&E and Special Status Species.
- Construction activities located within identified 100-year flood plains, 500 feet of open water and/or 100 feet of intermittent or ephemeral channels in potential and/or known habitat for T&E and Special Status Species will be avoided. Stream crossings for roads and pipelines will be constructed during the period of lowest flow (i.e., late summer or fall) and perpendicular to flow.
- No surface water or shallow groundwaters in connection with surface waters will be utilized for proposed projects. Proper erosion control techniques, such as water bars, netting, riprap, and mulch would be implemented.
- Pesticide applications and biological control agents will be allowed within known T&E and Special Status Species habitat on a case by case basis. Where possible, biological control of pests would be used rather than chemical control. Where needed, pesticide use would be applied by hand within 1/4-mile of habitat and only in cases where insect or noxious and invasive weed outbreaks have the potential to degrade area ecological health. Outside the 1/4-mile buffer, aerial application of pesticides would be carefully planned to prevent drift. The Bureau shall work with APHIS and the Service to select a pesticide and method of application that will most effectively manage the infestation and least affect the species

Green River RMP for Rock Springs (BLM 1997) and Biological Assessment (BLM 1995)

- Inventories and clearances are required for authorized BLM activities in areas known or suspected to be essential habitat for animals and plants classified as a threatened, endangered, or special status species. These studies will be done in accordance with BLM and USFWS guidelines to verify the presence or absence of these species. In the event that a listed species is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of the species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications).

Canada lynx (Lynx canadensis)

This species is addressed in the following RMPs: Bighorn Basin, Kemmerer, Lander, Rawlins, Rock Springs, and Pinedale. All RMPs state that the BLM will follow the conservation measures and BMPs in the BLM Statewide Programmatic BA and BO. Rock Springs RMP does not contain measures specific to lynx and was prepared prior to the Statewide Programmatic BA and BO.

BLM statewide programmatic BA (BLM 2005b) and the BO (USFWS 2005b)

- Within an LAU, the BLM shall ensure that mapping occurs of lynx habitat and non-habitat, and that denning habitat, foraging habitat, and topographic features important for lynx movement are mapped. The BLM or project proponent shall identify whether all lynx habitat within an LAU is in suitable or unsuitable condition. This will involve interagency coordination where LAUs cross administrative boundaries.
- The BLM shall limit disturbance in each LAU to 30 percent of the suitable habitat within the LAU. If 30 percent of the habitat within an LAU is currently in unsuitable condition, no further reduction of suitable conditions shall occur as a result of management activities. The BLM shall map oil and gas production and transmission facilities, mining activities and facilities, dams, timber harvest, and agricultural lands on public lands and evaluate projects on adjacent private lands to assess cumulative effects. This will involve interagency coordination where LAUs cross administrative boundaries, primarily with the USFS.
- BLM management actions shall not change more than 15 percent of lynx habitat within an LAU to an unsuitable condition within a 10-year period. This will involve interagency coordination where LAUs cross administrative boundaries.
- The BLM shall maintain denning habitat in patches generally larger than 5 acres, comprising at least 10 percent of lynx habitat. Where less than 10 percent is currently present in an LAU, defer any management actions that would delay development of denning habitat structure. This will involve interagency coordination where LAUs cross administrative boundaries.
- The BLM shall ensure that key linkage areas that may be important in providing landscape connectivity within and between geographic areas across all ownerships are identified, using best available science.
- The BLM shall ensure that habitat connectivity within and between LAUs is maintained.
- The BLM shall document lynx observations (tracks, sightings, along with date, location, and habitat) and provide these to the WYNDD; and request an annual update from them on all sightings for review in each field office.
- If activities are proposed in lynx habitat, the BLM shall ensure that stipulations and COA for limitations on the timing of activities and surface use and occupancy are developed at the leasing and Notice of Staking/APD stages. For example, requiring that activities not

be conducted at night, when lynx are active; and avoiding activity near denning habitat during the breeding season (April or May to July) to protect vulnerable kittens.

- The BLM shall ensure that snow compaction is minimized when authorizing and monitoring developments. The BLM shall encourage remote monitoring of sites that in lynx habitat so that they do not have to be visited daily.
- Identify and protect potential security habitats in and around proposed developments or expansions.
- Protect existing snowshoe hare and red squirrel habitat.

Bighorn Basin

- Canada lynx analysis units (LAUs) are closed to over-snow travel.

Lander

- Manage travel corridors for threatened and endangered species and BLM sensitive species on a case-by-case basis (only Canada lynx units have been identified to date).

Grizzly bear (Ursus arctos horribilis)

This species is addressed in the following RMPs: Bighorn Basin, Lander, and Pinedale. All RMPs state that the BLM will follow the conservation measures and BMPs in the BLM Statewide Programmatic BA and BO.

BLM statewide programmatic BA (BLM 2006) and the BO (USFWS 2006c)

- The BLM shall ensure that authorized activities planned to occur in currently occupied grizzly bear habitat shall be analyzed and planned with active grizzly bear protection measures. Restrictions on timing of activity and spatial considerations for grizzly bears, or other parameters, will be implemented to avoid or prevent significant disruptions of normal or expected bear behavior and activity in the area.
- The BLM shall provide a packet of educational materials to authorized permittees in grizzly habitat, including, but not limited to, special recreation permittees, livestock permittees, and timber operators.
- In occupied grizzly bear habitat, and in areas of bear conflicts, the BLM shall install bear-resistant refuse containers in developed campgrounds and picnic areas where refuse containers are provided and maintained. In areas receiving dispersed recreational use, the BLM shall inform the public of proper storage techniques for food and refuse.
- The BLM shall ensure that operation plans and special use permits in occupied grizzly bear habitat will specify food storage and handling and garbage disposal standards. All temporary living facilities under temporary use permits in occupied grizzly bear habitat will be required to practice proper food storage and keep all potential attractants stored so they are unavailable to bears. Edibles and/or garbage will be secured from access by

grizzly bears. Bear proof refuse containers, and timely refuse collection to prevent overflow, shall be required.

- The BLM shall require that the PFC of existing aquatic systems and riparian zones in occupied grizzly bear habitat be maintained for all BLM-administered public lands. If these areas are polluted and/or damaged from activities, lessee/permittee/ grantee or the BLM will be required to assume full responsibility for rehabilitation and restoration of such areas (from IGBC 1986).
- The BLM shall require that existing roads, drilling pads, and other areas with vegetation removed due to authorized activities in occupied grizzly bear habitat will be revegetated and reclaimed by lessee/permittee/grantee in a fashion that considers all grizzly bear needs or requirements.
- The BLM should include a clause on all use authorizations that allows for permanent cancellation, temporary cancellation, or temporary cessation of activities if such are needed to resolve a grizzly-human conflict situation.
- Wherever possible, the BLM should reduce motorized access routes in occupied grizzly bear habitat and will try to avoid authorizing any new motorized access in occupied grizzly bear areas (e.g., big game ranges).
- Wherever possible, the BLM will implement appropriate closures or seasonal restriction areas to cross-country motorized travel to provide more security in occupied grizzly bear habitat.
- In areas of vital importance to grizzly bears (e.g., known denning areas, army cutworm moth aggregations, cutthroat trout spawning sites, spring ungulate concentration sites, etc.) activities that adversely affect grizzly bear populations and/or their habitat should be avoided. Adverse habitat effects could result from land surface disturbances; water table alterations; reservoirs, ROWs, roads, pipelines, canals, transmission lines, or other structures; increased human foods and reduced availability of natural foods. Areas of vital importance to grizzlies are identified through the evaluation process described in the Grizzly Bear Management Guidelines (IGBC 1986).

Pinedale

- BLM will include a clause on all use authorizations that allows for temporary cessation of activities, temporary cancellation, or as a last resort permanent cancellation if needed to resolve a grizzly-human conflict situation.

Northern long-eared bat (Myotis septentrionalis)

This species is addressed in the Buffalo RMP. The conservation measures are based on the Northern Long-Eared Bat Interim Conference and Planning Guidance.

Buffalo

- Implement strict adherence to sediment and erosion control measures and reclamation standards.
- BLM will avoid disturbing/killing/injuring Northern Long-Eared Bats during spring staging/fall swarming by not clearing occupied spring staging and fall swarming habitat near known Northern Long-Eared Bat hibernacula during the staging and swarming seasons. Surveys will be conducted to determine occupancy prior to any tree clearing activities.
- BLM will avoid killing or injuring Northern Long-Eared Bats during tree clearing activities by not clearing occupied maternity colony summer habitat during the summer maternity season. Surveys will be conducted to determine occupancy prior to any tree clearing activities.
- BLM will minimize other direct effects to Northern Long-Eared Bats by not clearing occupied summer habitat during the time of year when females are pregnant or the pups are incapable of flight. Surveys will be conducted to determine occupancy prior to any tree clearing activities.
- BLM will avoid/minimize altering clean drinking water and foraging areas by: Implementing sediment and erosion control measures and reclamation standards; Siting equipment servicing and maintenance areas at least 300 feet away from waterbodies (e.g., wetlands, streams). Following available standards on spill prevention, containment, and control.
- BLM will maintain summer maternity habitat by: Retaining known roost trees, which includes live or dead trees and snags ≥3 inches diameter at breast height that have exfoliating bark, cracks, crevices, or cavities. Surveys will be conducted to determine occupancy prior to any tree clearing activities; Clearly demarcating trees to be protected vs. cut to help ensure that contractors do not accidentally remove more trees than anticipated.

Black-footed ferret (Mustela nigripes)

This species is addressed in the following RMPs: Bighorn Basin, Casper, Rawlins, and Rock Springs.

BLM Statewide Programmatic BA (BLM 2006b) and the BO (USFWS 2006b)

- Observations of black-footed ferrets, their sign, or carcasses on a project area and the location of the suspected observation, however obtained, shall be reported within 24 hours to the appropriate local BLM wildlife biologist and Field Supervisor of the USFWS's office in Cheyenne, Wyoming, (307) 772-2374. Observations will include a description including what was seen, time, date, exact location, suspected cause of death, and observer's name and telephone number. Carcasses or other "suspected" ferret remains shall be collected by the USFWS or BLM employees, and deposited with the USFWS's

Wyoming Field Office or the USFWS's law enforcement office. This type of specimen collection is authorized as described in 50 CFR 17.21(c)(3-4). It is imperative that any fresh black-footed ferret carcass be salvaged and immediately transported to the USFWS so pertinent information concerning the cause of death can be gathered, including photographs in order to document an accurate depiction of the fatality.

- If black-footed ferrets or their sign are found on public lands outside of the Non-essential Experimental population areas in Wyoming, all previously authorized surface disturbing activities (or actions on any future application that may directly, indirectly, or cumulatively affect the colony/complex ongoing) in the complex in which black-footed ferrets are found shall temporarily cease until further direction is developed by a task force consisting of the BLM Field Office Manager, the USFWS Field Office Supervisor, the Wyoming Game and Fish Department (WGFD) Non-game Coordinator, and other potentially affected parties. This task force will be formed within 48 hours of the find to determine appropriate conservation/protection actions. The BLM shall coordinate with these affected parties to ensure that ferret surveys or appropriate actions are conducted as deemed necessary. The BLM will also re-initiate section 7 consultation with the USFWS. An emergency road closure limiting access to the site will be enacted by the BLM within 48 hours of the find to protect the newly discovered black-footed ferrets. This emergency road closure will be for all non-paved roads within at least one mile of the find. On a case-by-case basis and with approval of the USFWS, certain surface disturbing activities within the town or complex may be allowed to continue.
- Information on ferret identification shall be provided and posted in common areas and circulated in a memorandum among all employees and service providers. This information shall illustrate the black-footed ferret and its sign; describe morphology, tracks, scat, skull, habitat characteristics, behavior, and current status; and the relationship between project development and possible impacts to black-footed ferrets, especially regarding canine distemper and recreational shooting.
- New prairie dog towns shall be allowed to become established on public lands in all circumstances where they would not interfere with other previously established activities.
- Follow the guidelines outlined in the Wyoming Black-tailed Prairie Dog Management Plan and the White-tailed Prairie Dog Conservation Assessment (Seglund et al. 2004).

Bighorn Basin

- Follow the conservation measures and BMPs in the BLM Statewide Programmatic BA and BO, where appropriate.
- Control surface-disturbing activities to avoid or mitigate adverse effects on about 1,300 BLM administered surface acres of active prairie dog colonies within the Meeteetse complex. This requirement will remain in effect until completion of a site-specific activity plan being prepared to manage ferrets in this area. The restriction will then be reassessed for its continued appropriateness. This restriction applies to such things as mineral leasing, geophysical exploration (except casual use), and construction activities.

- If the USFWS and Wyoming Game and Fish Department (WGFD) determine that large prairie dog colonies and/or complexes in the Planning Area are suitable for black-footed ferret reintroduction, apply a no surface occupancy (NSO) restriction on these areas.
- No surface occupancy is permitted within the Sage Creek Prairie Dog Town (4127).

Casper

- Follow the conservation measures and BMPs in the BLM Statewide Programmatic BA and BO
- Habitats managed for reintroductions of black-footed ferrets will be addressed on a case-by-case basis.
- If suitable prairie dog town/complex avoidance is not possible, surveys of towns/complexes for black-footed ferrets shall be conducted in accordance with USFWS guidelines and requirements. This information shall be provided to the BLM and USFWS in accordance with section 7 of the ESA, and the Interagency Cooperation Regulations.
- If any black-footed ferrets or their sign are found within a prairie dog town or complex previously determined to be unsuitable for, or free of, ferrets, all previously authorized, project related actions (or actions on any future application that may directly, indirectly, or cumulatively affect the colony/complex) on-going in such towns or complexes shall be suspended immediately and section 7 consultation re-initiated with the USFWS.
- BLM shall ensure that black-footed ferret surveys are conducted at prairie dog towns and complexes where any evidence of black-footed ferrets is found, such as skeletal material or hair.
- Operators and contractors shall prohibit or discourage dogs from being brought to black-footed ferret reintroduction sites by project employees. BLM shall require current distemper vaccinations on any dogs that will be entering the Shirley Basin black-footed ferret management area and any new black-footed ferret reintroduction sites. Vaccinated puppies shall not be allowed until one month after their final distemper vaccination due to effects of the modified live virus vaccine.
- For BLM project-related actions, vehicle speed limits shall not exceed 35 mph at night when in black-footed ferret reintroduction areas.

Kemmerer

- Follow the conservation measures and BMPs in the BLM Statewide Programmatic BA and BO.

Lander

- Follow the conservation measures and BMPs in the BLM Statewide Programmatic BA and BO.
- Require black-footed ferret surveys before authorizing surface-disturbing activities in prairie dog towns suitable as potential habitat for black-footed ferrets, unless cleared by the USFWS.

Rawlins

- If prairie dog towns/complexes suitable as black-footed ferret habitat are present at the proposed project level, attempts will be made to locate all project components at least 50 meters (up to 200 meters pursuant to the Federal Land Policy and Management Act [FLPMA]) from these towns/complexes to avoid direct impact to towns.
- All white-tailed prairie dog towns/complexes greater than 200 acres in size and black-tailed prairie dog towns/complexes greater than 80 acres will be avoided. If avoidance is not possible, these areas will be assessed and mapped at the proposed project level. Associated burrow densities of potentially affected towns will be determined, and, when habitat is present, a black-footed ferret survey will be conducted pursuant to the Service- and Bureau-approved techniques.
- If any black-footed ferrets or their sign are found within a prairie dog town or complex previously determined to be unsuitable for or free of ferrets, all previously authorized, project-related activities (or actions on any future application that may directly, indirectly, or cumulatively affect the colony/complex) ongoing in such towns or complexes shall be suspended immediately, and Section 7 consultation reinitiated with the Service. The Bureau shall ensure that ferret surveys or other appropriate actions are conducted at such locations.
- If suitable prairie dog town/complex avoidance is not possible, surveys of towns/complexes for black-footed ferrets shall be conducted in accordance with the Service guidelines and recommendations. This information shall be provided to the Bureau and to the Service in accordance with Section 7 of the Act and the Interagency Cooperative Regulations.

Rock Springs

- No measures specific to black-footed ferret.

Pinedale

- All white-tailed prairie dog towns/complexes greater than 200 acres in size and black-tailed prairie dog towns/complexes greater than 80 acres shall be assessed and mapped for any projects that are proposed within such areas, and associated burrow densities on potentially affected towns shall be determined, when necessary, pursuant to USFWS and BLM approved techniques to determine whether the criteria established for ferret occupancy in the USFWS (1989) guidelines for black-footed ferrets are met.

Yellow-billed cuckoo (Coccyzus americanus)

This species is addressed in the following RMPs: Kemmerer, Pinedale, and Rawlins. The yellow-billed cuckoo was a candidate species at the time the RMPs were prepared. Although this species is not addressed in the 1997 Rock Springs RMP, yellow-billed cuckoo is known to be present in portions of the planning area.

Kemmerer

- Consider carefully the effects to the western yellow-billed cuckoo from any activities within or adjacent to cuckoo habitats.
- Apply a 500-foot buffer through seasonal restrictions to include the breeding season from May 15 through August 15 and rehabilitation standards in or adjacent to yellow-billed cuckoo habitat, when necessary.
- Where roads, pipelines, and powerlines must be routed through riparian habitat, the construction work should not be accomplished during the period from mid-May to mid-August while the cuckoos are nesting.
- Topography should be returned to its original condition to the greatest extent possible to ensure the hydrology remains intact.
- Combine multiple roads and ROWs to one stream-crossing site.
- ROW should be placed near current habitat edge areas to reduce fragmentation of larger blocks of pristine habitat.
- Avoid building roads or new trails parallel to streams in riparian zones or through wet meadows.
- Stream crossings should be at right angles to minimize impacts on riparian vegetation, stream banks, soils, and water quality.
- Avoid depleting groundwater and diverting streams outside their natural stream channels.

Pinedale

- Surface disturbing activities would be avoided within 500 feet of perennial waters and wetland/riparian areas for protection of Western yellow-billed cuckoo and identified habitat.
- Surface-disturbing or disruptive activities will be prohibited within ½-mile of identified habitat during the period of April 15 to August 15 for the protection of nesting western yellow-billed cuckoos.
- Avoid building roads or new trails parallel to streams in riparian zones or through wet meadows that have the potential, or are identified as containing, habitat for the western yellow-billed cuckoo. If stream crossings are required, then they shall be constructed at right angles to minimize impacts to riparian vegetation, stream-banks, soils, and water quality. Roads and trails shall be placed near current habitat edge areas to reduce fragmentation of larger blocks of pristine habitat. Combine multiple roads and rights-of-ways to one stream crossing site.
- Avoid depleting ground water and diverting streams outside their natural stream channels in riparian areas that contain potential western yellow-billed cuckoo habitat.

Rawlins

- Surface disturbing activities would be avoided within 500 feet of perennial waters and wetland/riparian areas for protection of Western yellow-billed cuckoo and identified habitat.
- Surface disturbing or other disruptive activities will be prohibited within 1/2-mile of identified habitat during the period April 15 to August 15 for the protection of nesting Western yellow-billed cuckoos.
- Best management practices would be applied to surface disturbing and other disruptive activities to maintain or enhance the Western yellow-billed cuckoo and their habitats.

Ute ladies-tresses (Spiranthes diluvialis)

This species is addressed in the following RMPs: Bighorn Basin, Buffalo, Casper, Kemmerer, Lander, Rawlins, and Pinedale. All RMPs state that the BLM will follow the conservation measures and BMPs in the BLM Statewide Programmatic BA and BO.

BLM statewide programmatic BA (BLM 2007) and the BO (USFWS 2007c)

- Surface disturbance will be prohibited within 500 feet of surface water and/or riparian areas.
- NSO will be allowed within SMAs (e.g., known threatened or endangered species habitat).
- Portions of the authorized use area are known or suspected to be essential habitat for threatened or endangered species. Prior to conducting any onsite activities, the lessee/permittee will be required to conduct inventories or studies in accordance with BLM and USFWS guidelines to verify the presence or absence of this species. In the event that an occurrence is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of this species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications).
- Within the potential of the ecological site (soil type, landform, climate, and geology), the BLM will ensure that the soils are stable and allow for water infiltration to provide for optimal plant growth and minimal surface runoff The BLM will ensure that upland vegetation on each ecological site consists of plant communities appropriate to the site which are resilient, diverse, and able to recover from natural and human disturbance.
- In any proposed new access, wetland and riparian areas will be avoided where possible.
- Biological control of noxious plant species will be prohibited within 1.0 mile from known Ute ladies'-tresses habitat until the impact of the control agent has been fully evaluated and determined not to adversely affect the plant population. The BLM will monitor biological control vectors.
- Except in cases of extreme ecological health (insect or weed outbreaks, infestations), herbicide treatment of noxious plants/weeds will be well-regulated within 0.25 miles of

known populations of the Ute ladies'-tresses and insecticide/pesticide treatments will be well regulated within 1.0 mile of known populations of the orchid to protect pollinators.

- Where insect or weed outbreaks have the potential to degrade area ecological health inside the buffers listed above the following will apply: where needed and only on a case-by-case basis, a pesticide use proposal or other site specific plan will address concerns of proper timing, methods of use, and chemicals. Pesticides specifics to dicots will be preferred where these are adequate to control the noxious weeds present.
- Aerial application of herbicides will be carefully planned to prevent drift in areas near known populations of the Ute ladies'-tresses (outside of the 0.25-mile buffer). The BLM will work with the APHIS, the Service, and County Weed and Pest Agencies to select pesticides and methods of application that will most effectively manage the infestation and least affect the orchid.
- If revegetation projects are conducted within 0.25 miles of known habitat for the orchid, only native species will be selected. This conservation measure will reduce the possibility that nonnative species will be introduced and will compete with Ute ladies'-tresses orchid.
- The BLM will limit the use of off road vehicles (OHVs) to designated roads and trails within 0.5 mile of known Ute ladies'-tresses populations, with no exceptions for the "performance of necessary tasks" other than firefighting and hazardous material cleanup allowed using vehicles off of highways. No OHV competitive events will be allowed within 1.0 mile of known Ute ladies'-tresses orchid populations. Roads that have the potential to impact Ute ladies'-tresses orchid are not required for routine operations or maintenance of developed projects, or lead to abandoned projects will be reclaimed as directed by the Bureau.
- All proposed ROW projects (powerlines, pipelines, roads, etc.) will be designed and locations selected at least 0.25 miles from any known Ute ladies’-tresses habitat to minimize disturbances. If avoidance of adverse effects is not possible, the BLM will re-initiate consultation with the Service.
- In the event that a new population of the orchid is found, the USFWS Wyoming Field Office (307-772-2374) will be notified within 48 hours of discovery.
- For the protection of the Ute ladies’-tresses and its potential habitat, surface-disturbing activities listed above should be avoided in the following areas when they occur outside the protective 0.25-mile buffer from populations of the Ute ladies’-tresses: (a) identified 100-year flood plains, (b) areas within 500 feet from perennial waters, springs, wells, and wetlands, and (c) areas within 100 feet of the inner gorge of ephemeral channels.
- Conduct inventories for the orchid in areas with potential habitat.
- Maintain a database of all searched, inventoried, or monitored orchid sites. Analyze vegetation treatments (mowing, prescribed fire, mechanical treatments, etc.) in known or potential habitat for the orchid to determine impacts to the species.

Blowout penstemon (Penstemon haydenii)

This species is addressed in the Casper, Lander, and Rawlins RMPs. All RMPs state that the BLM will follow the conservation measures and BMPs in the BLM statewide programmatic BA and additional measures are provided for the Area of Critical Environmental Concern in the Rawlins office.

BLM statewide programmatic BA (BLM 2005c)

- Biological control of noxious plant species will be prohibited in blowout penstemon habitat until the impact of the control agent has been fully evaluated and determined not to adversely affect the plant population. The BLM will monitor biological control vectors.
- Except in cases of extreme ecological health (insect or weed outbreaks/infestations), herbicide treatment of noxious plants/weeds will be prohibited within 0.25 mile of known blowout penstemon populations and insecticide/pesticide treatments will be prohibited within 1.0 mile of known blowout penstemon populations to protect pollinators.
- Where insect or weed outbreaks have the potential to degrade area ecological health inside the buffers listed above, at the discretion of the BLM's Authorized Officer and with concurrence by the USFWS, the following will apply: where needed, and only on a case-by-case basis, pesticide use within 1.0 mile of known blowout penstemon populations will be applied by hand and herbicides applied by hand within 0.25 mile of blowout penstemon populations, with care taken not to spray blowout penstemon plants.
- Aerial application of herbicides will be carefully planned to prevent drift in areas near known blowout penstemon populations (outside of the 0.25-mile buffer). The BLM will work with the Animal and Plant Health Inspection Service (APHIS), the USFWS and County Weed and Pest Agencies to select pesticides and methods of application that will most effectively manage the infestation and least affect the blowout penstemon.
- If revegetation projects are conducted within 0.25 miles of known penstemon habitat, only native species will be selected. However, no revegetation projects will be done in known or potential blowout penstemon habitats as the plants requires open non-vegetated to sparsely vegetated sand dunes due to the early seral stage nature of the plant and shifting sand dune habitat substrate. This conservation measure will be applied within 0.25 miles of known blowout penstemon habitat and will be done to keep non-native species from competing with the blowout penstemon.
- All proposed ROW projects (powerlines, pipelines, roads, etc.) will be designed and locations selected at least 0.25 mile from any known blowout penstemon habitat to minimize disturbances. If the avoidance of adverse effects is not possible, the BLM will re-initiate consultation with the USFWS.

Rawlins RMP Amendment for the Blowout Penstemon Area of Critical Environmental Concern (BLM 2018)

- The ACEC will be closed to new oil and gas leasing. The existing No Surface Occupancy (NSO) stipulation within 0.25 miles of occupied blowout penstemon habitat will apply to proposed projects on existing leases. Surface disturbances on existing leases outside the 0.25 mile NSO will be intensively managed.
- Limit the use of OHVs to existing road and trails, until they are designated. Off-road motor vehicle use for "necessary tasks" is not allowed, except for the performance of authorized necessary tasks specifically related to firefighting, hazardous material cleanup, existing ROW maintenance and inspection, and fence maintenance.
- Roads that are not required for routine operations or maintenance of developed projects, or that lead to abandoned projects, will be reclaimed.
- Surface disturbing activities will not be authorized within 0.25 mile of occupied habitat. Surface disturbing activities will be intensively managed outside of the 0.25 mile of occupied habitat within the ACEC.
- Herbicide treatments (aerial, vehicle, and ground) of noxious and invasive weeds are prohibited within 0.5 mile of occupied blowout penstemon habitat. Insecticide treatments are prohibited within 1.0 mile of occupied habitat in areas where treatments have the potential to impact blowout penstemon pollinators, Preliminary Final Blowout Penstemon Statewide Programmatic Biological Opinion (BO).
- For insecticide treatments, no aerial applications of malathion or carbaryl would occur within 3.0 miles of occupied habitats; only carbaryl bran bait or diflubenzuron combined with Reduced Agent Area Treatment methodology will be used within the 3-mile buffer; and no application of carbaryl bran bait will be applied within a 0.25 mile buffer of occupied blowout penstemon habitats.
- All proposed ROW projects will be designed and locations selected at least 0.25 mile from any occupied habitat.
- Revegetation projects are not authorized within 0.25 mile of occupied blowout penstemon habitat.

Desert yellowhead (Yermo xanthocephalus)

This species and its critical habitat are addressed in the Lander RMP.

Lander

- No surface occupancy or use is allowed within desert yellowhead population management areas (4084).
- Apply specific measures to protect known special status plan populations from BLM-authorized activities and close desert yellowhead critical habitat to motorized and mechanized travel.

- Prohibit biological control of weeds in desert yellowhead habitat until the impact of the control agent has been fully evaluated and determined not to adversely affect the plant population. The BLM will monitor biological control vectors.
- Conduct inventories for desert yellowhead in areas with potential habitat in the Lander FO.
- Use a GIS-based model of potential habitat.
- Maintain a database of all searched potential desert yellowhead sites.

Platte River Species

Platte River species downstream include Western prairie fringed orchid (*Platanthera praeclara*), Least tern (*Sterna antillarum*), Piping plover (*Charadrius melodus*), Whooping crane (*Grus americana*), and Pallid sturgeon (*Scaphirhynchus albus*). These species and their downstream critical habitat are addressed in the Casper, Lander, Rawlins, Pinedale RMPs. For actions projected to deplete water from the Platte River watershed, the BLM will initiate formal consultation with the USFWS prior to activity approval. The BLM will continue to participate in the Platte River Recovery Implementation Program or current Platte River recovery process.

Colorado River Species

Colorado River species include Bonytail (Gila elegans), Colorado pikeminnow (Ptychocheilus lucius), Humpback chub (Gila cypha), and Razorback sucker (Xyrauchen texanus). These species and their downstream critical habitat are addressed in the following RMPs: Kemmerer, Rawlins, Rock Springs, and Pinedale. For actions projected to deplete water from the Colorado River system, the BLM will initiate formal consultation with the USFWS prior to activity approval. The BLM will continue to participate in the Cooperative Agreement for the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin.

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USFWS. 2007c. U.S. Fish and Wildlife Service Biological Opinion for the BLM's Final Statewide Programmatic Biological Assessment: Ute ladies'-tresses (*Spiranthes diluvialis*). April 5, 2007. From the USFWS Cheyenne, WY, Ecological Field Office.

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APPENDIX M

Chapter 3 Tables

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Table 3.2-1. Wyoming's 2014 Emissions

Pollutant Source	Pollutant (tons/year)							
	CO	Lead	NOx	$PM_{2.5}$	PM_{10}	SO_2	VOCs[†]	Total
Biogenics	118,413	N/A	16,930	N/A	N/A	N/A	539,515	674,858
Stationary	70,211	< 1	94,797	29,268	184,554	56,078	237,356	672,264
Mobile	140,185	< 1	64,712	2,275	2,824	149	18,180	228,325
Fire	82,465	N/A	891	6,952	8,226	545	19,259	118,338
Total	**411,274**	**2**	**177,330**	**38,495**	**195,604**	**56,772**	**814,310**	**–**

Source: EPA (2014).

Notes: NOx = nitrogen oxide; $PM_{2.5}$ = PM that is 2.5 micrometers in diameter or less; PM_{10} = PM that is 10 micrometers in diameter or less; VOCs = volatile organic compounds; N/A = not applicable.

[†] Reported as a contributor to ozone.

Table 3.2-2. Criteria and Hazardous Air Pollutant Emissions from Future Pipeline Construction

Project or Alternative	Total Pipeline Miles (Multiplier)	Combustion Emissions from Pipeline Construction (tons)						
		NO_x	SO_2	CO_2	PM_{10}	$PM_{2.5}$	VOCs	HAPs
Riley Ridge to Natrona Project: Segment 2, Proposed Action*	129	74.8	4.1	27.3	8.2	4.2	7.6	0.8
Alternative B	1,958 (15.2)	1,137.0	62.3	415.0	124.6	63.8	115.5	12.2
Alternative C	237 (1.8)	134.6	7.4	49.1	14.8	7.6	13.7	1.4
Alternative D	1,860 (14.4)	1,077.1	59.0	393.1	118.1	60.5	109.4	11.5
Alternative E	1,970 (15.3)	1,144.4	62.7	417.7	125.5	64.3	116.3	12.2

* BLM (2018).

Table 3.3-1. Summary of Class III Survey Coverage by Alternative

Alternative	APE (acres)	Class III Survey Area (acres)	Class III Survey Area (percentage of coverage)
B	313,778	80,525	25.66%
C	38,641	10,008	25.90%
D	298,401	72,170	24.19%
E	314,432	81,026	25.77%

Source: Campbell et al. (2020).

Note: Alternative C excludes areas crossing existing utilities corridors and therefore shows lower acres overall than either Alternative B or Alternative D.

Table 3.3-2. Available Class I Regional-Scale Cultural Resource Overviews by Field Office

BLM Field Office	Year	Coverage Area	Source
Buffalo	2010	Resource Management Planning Area	BLM Buffalo Field Office (2010b)
Cody and Worland	2009	Bighorn Basin Planning Area	BLM Wyoming State Office (2009)
Lander	2011	Lander Field Office Planning Area	BLM Lander Field Office (2011)
Kemmerer	2004	Kemmerer Field Office Planning Area	BLM Kemmerer Field Office (2004c)

BLM Field Office	Year	Coverage Area	Source
Pinedale	2006	Resource Management Planning Area	McNees et al. (2006)
Rawlins	2010	Resource Management Planning Area	TRC Environmental Corporation (2010)
Rock Springs	2013	Rock Springs Field Office Planning Area	BLM Rock Springs Field Office (2013)

Table 3.3-3. Number (n) and General Age of Cultural Resources by Alternative

Alternative	Prehistoric Sites (n)	Historic Sites (n)	Multicomponent Sites (n)	Unknown Sites (n)	Total Sites (n)	Sites per 100 Acres Surveyed (n)	Total Sites Projected for APE (n)
B	1,552	298	193	59	2,102	2.61	8,191
C	211	39	12	13	275	2.75	1,062
D	1,406	312	144	65	1,927	2.67	7,968
E	1,535	313	186	67	2,101	2.59	8,153

Table 3.3-4. National Register of Historic Places Eligibility of Cultural Resources by Alternative

Alternative	NRHP-listed Sites	NRHP-eligible Sites	NRHP-not eligible Sites	Unevaluated Sites	Unknown Sites	Total Sites
B	4	503	1,244	320	31	2,102
C	0	46	162	63	4	275
D	7	425	1,151	305	39	1,927
E	4	483	1,261	315	38	2,101

Table 3.3-5. National Historic Trails and Other Significant Emigrant Trails that Cross the Corridors

Emigrant Trail	Route Name	Contributing Segments	Alternative
California, Oregon, Mormon Pioneer NHT/Pony Express NHT	Primary Route	4	B
		N/A	D
		3	E
	Sublette Cutoff	3	B, E
		N/A	D
	Slate Creek Cutoff	N/A	D, E
	Baker - Davis Road	None	B
	Kinney Cutoff	1	B
	West-side Kinney Cutoff	None	B
	Deep Sand Route	None	B
	Deep Sand Route Alternate	1	B
	Seminoe Cutoff	N/A	B, E
	Child's Cutoff	N/A	D
	Emigrant Gap Route	4	B, E

Emigrant Trail	Route Name	Contributing Segments	Alternative
Bozeman Trail	–	N/A	B, D, E
Bridger Trail	–	14	B
		2	D
		3	E
Overland Trail	48SW1226	8	B, D, E

Note: The N/A designation indicates no segments have been officially recorded and assigned a Smithsonian trinomial segment number in the WPCI APE but the trail is identified as crossing the WPCI APE based on Wyoming SHPO data (Campbell et al. 2020).

Table 3.3-6. Number (n) of Native American Sites by Alternative

Alternative	Eligible Sites (n)	Not Eligible Sites (n)	Unevaluated Sites (n)	Total Sites (n)	Tribal Sites per 100 Acres Surveyed (n)	Total Tribal Sites Projected for APE (n)
B	47	39	29	115	0.14	448
C	4	10	5	19	0.19	73
D	35	36	24	95	0.13	370
E	41	39	33	113	0.14	439

Table 3.5-1. Summary of Potential Soil Disturbance Acreages

Alternative	Acres of Potential Soil Disturbance
B	57,514
C	7,266
D	55,535
E	57,775

Table 3.6-1. Hazardous Waste Sites within the Analysis Area

Hazardous Waste Site Name	Site Description	Alternative/Location
Sinclair Wyoming Refining Company	Research Conservation and Recovery Act (RCRA) corrective action: this petroleum refining site was designated a large quantity generator of hazardous waste. As of August 2019, the site needed to resolve minor administrative issues with the RCRA electronic Biennial Reporting System (BRS), which summarizes previous year's hazardous waste generation figures.	Alternatives D and E: this site is in Carbon County, lies within Segment 6, and is east of Sinclair, just north of Lincoln Avenue.
Questar Pipeline Company Eakin Station	No violations identified: limited information is available for this site, although compliance history does not show any violations.	Alternatives D and E: this site is in Lincoln County. The exact location of this site was not identified, although based on location description information, this site is near Wyoming State Highway 189 in Kemmerer and may, therefore, be near or within Segment 1.

Hazardous Waste Site Name	Site Description	Alternative/Location
Yellowstone Cody Refinery	Active cleanup site: this crude oil refining site is an active cleanup site for soils, evaporation ponds, and groundwater. Human exposures and groundwater migration are in compliance and currently controlled.	Alternatives D: this site is in Park County and lies approximately 0.22 mile from Segment 3, west of Belfry Highway and northwest of the town of Cody.
BLM-Cody Landfill	No violations identified: there are no violations reported for this lined, sanitary municipal solid waste disposal facility.	Alternatives B, D, and E: this site is located in Park County on Cody Landfill Road, approximately 0.14 mile east of Segment 1 and Segment 3.

Sources: EPA (2019a, 2020); Park County (2020).

Table 3.7-1. Landownership and Uses by Acreages within the Analysis Area

Landowner and Land Use	Alternative B (acres)	Alternative C (acres)	Alternative D (acres)	Alternative E (acres)
Landownership				
BLM land	32,534	4,589	29,268	32,774
BOR*	1,077	234	1,120	1,263
DOD*	1	1	1	1
Federal Aviation Administration*	–	–	7	–
USFWS*	–	–	16	16
USFS*	38	–	133	122
State*	3,673	366	3,957	3,448
Local government*	86	–	129	104
Private*	20,043	1,870	20,988	20,082
Total Acres	**57,452**	**7,060**	**55,120**	**57,810**
Land Uses				
Agricultural	313	270	813	350
Existing ROW and utility corridor	36,990	0	45,560	42,746

* Corridor designation would occur only on BLM lands. Acres under entities with asterisks are not acres of corridor designation but rather are acres that could be indirectly impacted if designated corridors were to be utilized.

Table 3.8-1. Grazing Allotment Federal Acres and Animal Unit Months by Bureau of Land Management Field Office

Field Office	Total Federal Acres within Allotments				Allotment Federal Acres within the Proposed Corridor				Percentage of Allotment Federal Acres in the Proposed Corridor				Total Federal AUMs within Allotments				Federal AUMs in the Proposed Corridor from Allotments			
	Alt. B	Alt. C	Alt. D	Alt. E	Alt. B	Alt. C	Alt. D	Alt. E	Alt. B	Alt. C	Alt. D	Alt. E	Alt. B	Alt. C	Alt. D	Alt. E	Alt. B	Alt. C	Alt. D	Alt. E
Buffalo	180,789	0	189,336	180,789	1,205	0	1,227	1,173	0.67%	0%	0.65%	0.65%	23,657	0	25,126	20,685	158	0	163	134
Casper	484,247	756,64	358,646	456,315	2,868	304	2,126	2,937	0.59%	0.40%	0.59%	0.64%	79,371	13,096	79,650	56,805	470	53	472	366
Cody	444,332	204,091	423,216	446,668	4,328	1,115	4,012	4,807	0.97%	0.55%	0.95%	1.08%	54,264	12,331	52,034	35,253	529	67	493	379
Kemmerer	473,095	0	230,836	230,836	203	0	616	617	0.04%	0%	0.27%	0.27%	49,445	0	22,149	11,103	21	0	59	30
Lander	1,456,798	109,110	1,249,196	1,444,816	8,199	141	7,313	8,315	0.56%	0.13%	0.59%	0.58%	270,163	18,462	237,601	146,327	1,520	24	1,391	842
Pinedale	189,653	189,653	293,033	293,033	606	513	898	865	0.32%	0.27%	0.31%	0.30%	55,492	21,784	63,292	29,713	177	59	194	88
Rawlins	1,173,360	404,434	1,205,174	1,205,174	4,409	824	4,514	4,498	0.38%	0.20%	0.37%	0.37%	297,947	66,844	332,252	132,116	1,119	136	1,244	493
Rock Springs	2,368,881	182,558	1,619,400	2,029,363	6,236	412	4,168	5,922	0.26%	0.23%	0.26%	0.29%	553,167	25,432	500,222	157,316	1,456	57	1,287	459
Worland	689,439	279,924	683,331	683,331	4,896	1,302	4,877	5,003	0.71%	0.47%	0.71%	0.73%	109,510	48,249	124,891	68,342	778	224	891	500
Total	7,460,593	1,445,434	6,252,168	6,970,325	32,950	4,612	29,751	34,135	4.51%	2.24%	4.69%	4.90%	1,493,016	206,198	1,437,217	657,660	6,229	621	6,196	3,291

Source: BLM (2020b).
Note: Alt. = Alternative

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Table 3.9-1. Notable Wyoming Commercial Carbon Dioxide-Enhanced Oil Recovery Projects

Project	CO_2 Source	As of 2018		CO_2 First Began
		Active Wells	CO_2 wells*	
Wertz	Shute Creek Gas Plant	51	61	1986
Lost Soldier	Shute Creek Gas Plant	87	84	1989
Patrick Draw	Shute Creek Gas Plant	140	77	2003
Salt Creek†	Shute Creek Gas Plant	606	503	2003
Grieve	Shute Creek Gas Plant	8	9	2012
Beaver Creek	Shute Creek Gas Plant	76	17	2008
Big Sand Draw	Shute Creek Gas Plant	17	19	2013

* Recycling gas through reservoir.

† Largest CO_2 project in entire United States.

Table 3.11-1. Potential Fossil Yield Classification by Alternative

PFYC	Alternative B		Alternative C		Alternative D		Alternative E	
	Acres	%	Acres	%	Acres	%	Acres	%
1	255	< 1%	0	0%	397	1%	184	< 1%
2	6,706	12%	1,407	20%	6,935	13%	6,464	11%
3	21,171	37%	2,056	29%	19,782	36%	21,242	37%
4	966	2%	71	1%	789	1%	790	1%
5	23,758	41%	2,782	39%	21,777	40%	24,043	42%
U	4,562	8%	744	11%	5,387	10%	5,045	9%

Note: Digital geologic maps and PFYC values provided by the BLM (2019c).

Table 3.11-2. Landownership of Combined Potential Fossil Yield Classifications U, 3, 4, and 5 by Alternative

Landowner	Alternative B		Alternative C		Alternative D		Alternative E	
	Acres	%	Acres	%	Acres	%	Acres	%
BLM	29,257	58%	3,780	67%	26,052	55%	29,683	58%
BOR	1,069	2%	234	4%	1,113	2%	1,255	2%
DOD	1	< 1%	1	< 1%	1	< 1%	1	< 1%
Federal Aviation Administration	0	0%	0	0%	7	< 1%	0	0%
USFWS	0	0%	0	0%	16	< 1%	16	< 1%
USFS	25	< 1%	0	0%	25	< 1%	27	< 1%
State	3,050	6%	260	5%	2,847	6%	2,914	6%
State (Wyoming Game and Fish Department)	68	< 1%	0	0%	67	< 1%	68	< 1%
Local government	72	< 1%	0	0%	104	< 1%	78	< 1%

Landowner	Alternative B		Alternative C		Alternative D		Alternative E	
	Acres	%	Acres	%	Acres	%	Acres	%
Wind River Indian Reservation	1	< 1%	0	0%	1	< 1%	1	< 1%
Private	16,915	34%	1,378	24%	17,503	37%	17,071	33%
Total	**50,457**	**100%**	**5,653**	**100%**	**47,735**	**100%**	**51,120**	**100%**

Note: Digital geologic maps and PFYC values provided by the BLM (2019c).

Table 3.13-1. Recreational Facilities and Designations per Alternative and Acreages

Facility	Alternative B (acres)	Alternative C (acres)	Alternative D (acres)	Alternative E (acres)
Campgrounds	4 (5)	–	2	2
Day use area	13	1	15	13
OHV-designated areas	5 (7)	–	4 (7)	4 (7)
ERMAs	25 (15,293)	9 (2,192)	24 (13,112)	24 (15,485)
SRMAs	33 (1,220)	7 (0)	32 (1,162)	33 (1,173)
NSTs*	1 (5)	0	1 (5)	1 (5)
Dispersed recreation area	1 (97)	–	–	–
Recreation use area	9 (296)	–	9 (272)	9 (289)
Total recreational facilities	90	17	86	85
Acreages of disturbance to recreational areas	16,918	2, 192	14,552	16,953
Total acreage	**57,452**	**7,060**	**55,120**	**55,776**

Note: For NST, the number in parenthesis is the number of times the proposed alternative crosses NST.

Table 3.14-1. Population and Demographic Characteristics of Regions within the Analysis Area

Population	Southwest	Northwest	Central	Northeast	Wyoming
Total population 2017	72,598	94,037	94,850	54,718	579,315
Population change 2010–2017	0.6%	0.7%	3.8%	0.0%	2.8%
Projected population change 2017–2040	3.0%	2.1%	2.5%	4.1%	6.1%
Minority residents	15.7%	19.0%	14.5%	11.7%	15.7%
Individuals below poverty level	10.7%	11.2%	10.4%	9.7%	10.9%
Average annual unemployment	4.3%	4.7%	5.1%	4.8%	4.2%
Vacant housing units	8,184	6,848	5,930	3,266	42,851

Sources: U.S. Census (2010, 2017a, 2017b); WYEAD (2018, 2019).

Table 3.14-2. Select Economic Characteristics of Regions within the Analysis Area

Economic Characteristics	Southwest	Northwest	Central	Northeast	Wyoming
Total employment	**33,067**	**44,710**	**45,108**	**25,967**	**269,591**
From mining and oil and gas (% of total)	18.4%	3.5%	5.5%	23.2%	7.3%
From construction (% of total)	8.1%	5.2%	6.9%	7.9%	7.3%
From travel and tourism* (% of total)	7.3%	14.7%	9.3%	7.0%	15.012.0%
Total annual wages ($ millions)	**$1,804**	**$1,535**	**$2,131**	**$1,465**	**$12,474**
From mining and oil and gas (% of total)	33.8%	7.9%	10.2%	34.5%	13.8%
From construction (% of total)	7.7%	6.5%	7.7%	7.7%	8.0%
From travel and tourism (% of total)	3.43.6%	6.211.4%	5.86.2%	3.53.2%	7.08.2%

Sources: Dean Runyan and Associates (2020); WYEAD (2018).

* The percentage of employment and earnings in the travel and tourism sector were calculated using travel and tourism statistics from Dean Runyan and Associates (2020) and total employment and wages information from WYEAD (2018).

Table 3.14-3. Revenues Generated within Regions of the Analysis Area

Tax Revenues	Southwest	Northwest	Central	Northeast	Wyoming
Sales and use tax revenues	$129,620,741	$73,610,719	$89,149,727	$110,086,858	$686,766,223
From mining and oil and gas (% of total)	32.5%	8.4%	7.6%	26.7%	16.7%
Property tax revenues	$350,656,196	$133,933,640	$129,021,182	$294,550,201	$1,344,432,107
From mining and oil and gas (% of total)	66.0%	36.4%	26.3%	76.5%	48.2%
Severance tax revenues	$224,023,277	$40,124,071	$32,515,841	$245,988,455	$691,690,569

Sources: WYEAD (2018); Wyoming Department of Revenue (2019).

Table 3.15-1. Areas of Critical Environmental Concern, Field Office, Acreage, and Relevant and Important Values

ACEC	Field Office	Area (acres)	Relevant and Important Values
Jackson Canyon	Casper	14,000	Bald eagle (*Haliaeetus leucocephalus*) winter communal night roosts
Greater Sand Dunes	Rock Springs	38,650	Outstanding geologic features, prehistoric and historic values of national significance, and recreation values of regional/national importance

Table 3.15-2. Wilderness Study Areas, Field Office, and Area

WSA	Field Office	Area (acres)
Bennett Mountains	Rawlins	5,850.5
Alkali Basin/East Sand Dunes	Rock Springs	13,084.8
Alkali Draw	Rock Springs	18,154.8
South Pinnacles	Rock Springs	10,894.4
Cedar Mountain	Worland	20.627.1

Table 3.15-3. Future Potential Development within Areas of Critical Environmental Concern by Alternative

ACEC	Area (acres)	Acres within Analysis Area			
		Alternative B	Alternative C	Alternative D	Alternative E
Jackson Canyon	14,000	146.0	0	0	0
Greater Sand Dunes	38,650	6.9	0	6.9	6.9

Table 3.15-4. Impacts to Wilderness Study Areas by Alternative

WSA	Area (acres)	WSA Acreage Impacted			
		Alternative B	Alternative C	Alternative D	Alternative E
Bennet Mountains	5,850.5	162.5	0	0	0
Alkali Basin/East Sand Dunes	13,084.8	1,504.6	0	1,534.6	1,534.7
Alkali Draw	18,154.8	6,856.7	0	258.8	6,727.8
South Pinnacles	10,894.4	3,707.9	0	3,535.4	3,535.5
Cedar Mountain	20.627.1	3,037.6	2,591.1	3,037.6	3,037.4

Table 3.16-1. Summary of Transportation Routes Crossed by Proposed Corridors

Alternative	Number of Roads and Routes Crossed by the Proposed Corridors	Miles of Roads and Routes Crossed by the Proposed Corridors
B	2,450	247.2
C	314	27.1
D	2,402	255.9
E	2,278	243.9

Table 3.17-1. Vegetation Types within Proposed Corridors

GAP Vegetation Class	General Vegetation Category
Central Rocky Mountain Montane-Foothill Grassland & Shrubland	Shrubland, desert scrub
Great Basin Saltbush Scrub	Shrubland, desert scrub
Great Basin-Intermountain Dry Shrubland & Grassland	Shrubland, desert scrub
Great Basin-Intermountain Dwarf Sagebrush Steppe & Shrubland	Shrubland, desert scrub
Great Basin-Intermountain Tall Sagebrush Steppe & Shrubland	Shrubland, desert scrub
Southern Rocky Mountain Montane Shrubland	Shrubland, desert scrub
Great Plains Mixed grass & Fescue Prairie	Grassland
Great Plains Sand Grassland & Shrubland	Grassland
Great Plains Shortgrass Prairie	Grassland
Rocky Mountain-Vancouverian Subalpine-High Montane Mesic Meadow	Grassland
Great Plains Floodplain Forest	Riparian
Rocky Mountain-Great Basin Montane Riparian Forest	Riparian

GAP Vegetation Class	General Vegetation Category
Arid West Interior Freswater Marsh	Marsh, meadow
Great Plains Marsh, Wet Meadow, Shrubland & Playa	Marsh, meadow
Great Plains Saline Wet Meadow & Marsh	Marsh, meadow
North American Boreal & Sub-Boreal Acidic Bog & Fen	Marsh, meadow
Open Water	Marsh, meadow
Warm & Cool Desert Alkali-Saline marsh, Playa & Shrubland	Marsh, meadow
Western North American Montane-Subalpine Marsh, Wet Meadow & Shrubland	Marsh, meadow
Central Rocky Mountain Dry Lower Montane-Foothill Forest	Forest, woodland
Great Plains Forest & Woodland	Forest, woodland
Intermountain Singleleaf Pinyon - Utah Juniper - Western Juniper Woodland	Forest, woodland
Rocky Mountain Subalpine-High Montane Conifer Forest	Forest, woodland
Southern Rocky Mountain Lower Montane Forest	Forest, woodland
Herbaceous Agricultural Vegetation	Agricultural
Introduced & Semi Natural Vegetation	Agricultural
Pasture & Hay Field Crop	Agricultural
Barren	Barren, badland
Great Plains Badlands Vegetation	Barren, badland
Great Plains Cliff, Scree & Rock Vegetation	Cliff, rock, scree
Intermountain Basins Cliff, Scree & Badlands Sparse Vegetation	Cliff, rock, scree
Western North American Temperate Cliff, Scree & Rock Vegetation	Cliff, rock, scree
Developed & Urban	Developed
Quarries, Mines, Gravel Pits and Oil Wells	Developed
Recently Disturbed or Modified	Developed

Source: USGS (2011).

Table 3.17-2. Bureau of Land Management Sensitive Plant Species

Common Name	Scientific Name
Beaver Rim phlox	*Phlox pungens*
Cedar Rim thistle	*Cirsium aridum*
Evert's wafer-parsnip	*Cymopterus evertii*
Green River (low) greenthread	*Thelesperma caespitosum*
Large-fruited bladderpod	*Lesquerella macrocarpa*
Limber pine	*Pinus flexilis*
Meadow milkvetch	*Astragalus diversifolius*
Owl Creek miner's candle	*Cryptantha subcapitata*
Ownbey's thistle	*Cirsium ownbeyi*
Persistent sepal yellowcress	*Rorippa calycina*
Porter's sagebrush, wormwood	*Artemisia porter*
Rocky Mountain (Fremont County) twinpod	*Physaria saximontana* var. *saximontana*

Common Name	Scientific Name
Shoshonea	*Shoshonea pulvinata*
Trelease's milkvetch	*Astragalus racemosus* var. *treleasei*
Whitebark pine	*Pinus albicaulis*

Sources: BLM (2010c); WYNDD (2020).

Table 3.17-3. Acres of Vegetative Cover Type within the Analysis Area

Cover Type	Alternative B		Alternative C		Alternative D		Alternative E	
	Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer
Shrubland, desert scrub	49,957	2,082,744	5,704	271,655	45,913	1,942,918	49,786	2,101,287
Marsh, meadow	2,208	108,163	443	19,108	2,335	106,574	2,329	110,664
Grassland	1,570	67,096	61	4,096	1,900	83,865	1,749	75,434
Riparian	869	43,978	155	5,878	974	45,890	889	44,608
Cliff, rock, scree	754	55,799	169	12,282	754	51,341	767	54,441
Developed, disturbed	732	33,827	199	7,209	1,251	41,818	912	35,531
Barren, badland	544	23,938	0	30	482	17,522	542	23,923
Forest, woodland	466	34,578	24	1,872	592	37,734	397	29,564
Agricultural	355	33,886	312	21,040	904	51,839	404	35,376
Total	57,457	2,484,009	7,067	343,170	55,105	2,379,500	57,776	2,510,828

Source: USGS (2011).

Note: Assumes +/- 1% error in acreage totals because of rounding.

Table 3.17-4. Invasive Plants within the Proposed Corridors

Symbol	Common Name	Scientific Name	County	Alt. B No. of Populations	Alt. B Total Acres	Alt. C No. of Populations	Alt. C Total Acres	Alt. D No. of Populations	Alt. D Total Acres	Alt. E No. of Populations	Alt. E Total Acres
ACRE3	Hardheads	*Acroptilon repens*	Big Horn, Johnson	1	< 1	0	0	3	9	1	< 1
ARMI2	Lesser burdock	*Arctium minus*	Johnson	1	< 1	0	0	1	< 1	0	0
BRTE	Cheatgrass	*Bromus tectorum*	Fremont, Natrona	97	68	65	8	96	21		54
CADR	Whitetop	*Cardaria draba*	Hot Springs, Park	12	4	1	< 1	13	4	12	4
CANU4	Nodding plumeless thistle	*Carduus nutans*	Fremont, Johnson, Sublette	8	< 1	6	< 1	8	< 1	8	< 1
CIAR4	Canada thistle	*Cirsium arvense*	Fremont, Johnson, Sublette, Natrona	13	29	1	< 1	13	48	3	14
CIVU	Bull thistle	*Cirsium vulgare*	Johnson	6	2	0	0	6	2	1	< 1
COAR4	Field bindweed	*Convolvulus arvensis*	Johnson	4	< 1	0	0	4	< 1	4	< 1
ELAN	Russian olive	*Elaeagnus angustifolia*	Big Horn	1	< 1	0	0	1	< 1	1	< 1
EUES	Leafy spurge	*Euphorbia esula*	Johnson	3	11	0	0	3	14	3	14
HAGL	Saltlover	*Halogeton glomeratus*	Fremont	28	11	9	< 1	28	11	18	6
HYNI	Black henbane	*Hyoscyamus niger*	Sublette	5	< 1	5	< 1	5	< 1	5	< 1
ONAC	Scotch cottonthistle	*Onopordum acanthium*	Fremont, Johnson, Natrona	10	47	0	0	11	46	11	46
RUCR	Curly dock	*Rumex crispus*	Johnson	2	< 1	0	0	2	< 1	2	< 1
SAKA	Russian thistle	*Salsola kali*	Fremont	3	< 1	0	0	3	< 1	3	< 1
SATR12	Prickly Russian thistle	*Salsola tragus*	Fremont, Natrona	48	12	36	5	48	12	19	4
SORO	Buffalobur nightshade	*Solanum rostratum*	Johnson	2	< 1	0	0	2	< 1	2	< 1
TARA	Saltcedar	*Tamarix ramosissima*	Johnson	2	33	0	0	2	33	2	33
XANTH2	Cocklebur	*Xanthium*	Johnson	1	< 1	0	0	3	8	1	< 1

Source: BLM (2020c).

Table 3.17-5. Threatened and Endangered Plant Species and Their Potentially Suitable Habitat (acres) within the Analysis Area

Common Name	Scientific Name	Status	Alternative B		Alternative C		Alternative D		Alternative E	
			Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer
Blowout penstemon	*Penstemon haydenii*	Endangered	7	381	1	126	1	126	1	128
Desert yellowhead	*Yermo xanthocephalus*	Threatened	32	3,429	6	388	31	2,363	33	3,411
Ute ladies-tresses	*Spiranthes diluvialis*	Threatened	668	32,080	20	1,337	763	34,376	664	32,837
Whitebark pine	*Pinus albicaulis*	Candidate	0	112	0	0	1	112	0	112
Desert yellowhead critical habitat			0	357	0	0	0	357	0	357

Sources: USFWS (2020a); WYNDD (2020).
Note: assumes +/- 1% error in acreage totals due to rounding.

Table 3.17-6. Bureau of Land Management Sensitive Plant Species and Their Potentially Suitable Habitat (acres) within the Analysis Area

Common Name	Scientific Name	Alternative B		Alternative C		Alternative D		Alternative E	
		Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer
Porter's sagebrush, wormwood	*Artemisia porter*	6,453	259,022	231	12,954	5,960	237,684	6,426	259,088
Meadow milkvetch	*Astragalus diversifolius*	2,243	96,642	0	0	2,220	96,748	2,244	96,675
Trelease's milkvetch	*Astragalus racemosus var. treleasei*	16,115	670,033	1,860	88,140	15,496	648,159	16,048	671,258
Cedar Rim thistle	*Cirsium aridum*	23	2,624	0	0	22	2,624	22	2,624
Ownbey's thistle	*Cirsium ownbeyi*	61	6,970	8	3,399	138	9,249	138	9,252
Owl Creek miner's candle	*Cryptantha subcapitata*	0	1	0	0	0	1	0	1
Evert's wafer-parsnip	*Cymopterus evertii*	35	4,762	6	188	33	4,405	35	4,762
Large-fruited bladderpod	*Lesquerella macrocarpa*	58	6,916	8	3,408	76	6,310	75	6,301
Beaver Rim phlox	*Phlox pungens*	3	830	0	0	0	0	20	830
Rocky Mountain (Fremont County) twinpod	*Physaria saximontana var. saximontana*	60	6,119	16	3,668	82	5,923	82	5,952
Limber pine	*Pinus flexilis*	443	32,834	24	1,845	569	35,997	374	27,825
Persistent sepal yellowcress	*Rorippa calycina*	390	21,256	79	3,482	474	22,182	449	21,745
Shoshonea	*Shoshonea pulvinata*	81	7,279	37	2,144	80	5,471	81	7,279
Green River (low) greenthread	*Thelesperma caespitosum*	1,280	59,931	0	0	1,495	74,200	1,495	74,200

Sources: BLM (2010c); WYNDD (2020).

Note: assumes +/- 1% error in acreage totals due to rounding.

Table 3.18-1. Alternative B Visual Resource Management Classification Acreage

VRM Classification	Acres
Class I	22,845
Class II	625,852
Class III	1,939,295
Class IV	3,212,798

Table 3.18-2. Alternative C Visual Resource Management Classification Acreage

VRM Classification	Acres
Class I	4,377
Class II	85,828
Class III	190,542
Class IV	633,420

Table 3.18-3. Alternative D Visual Resource Management Classification Acreage

VRM Classification	Acres
Class I	13,595
Class II	542,988
Class III	1,758,034
Class IV	3,226,467

Table 3.18-4. Alternative E Visual Resource Management Classification Acreage

VRM Classification	Acres
Class I	21,704
Class II	588,154
Class III	1,897,206
Class IV	3,344,052

Table 3.19-1. Surface and Groundwater Impact Indicators by Alternative

Impact Indicator	Alternative B	Alternative C	Alternative D	Alternative E
Acres within proposed corridors	57,412	7,067	55,105	57,776
Number of Subwatersheds Crossed	360	66	342	365
Acres of highly erodible soils adjacent to water resources within proposed corridors	320	34	321	253
Number of perennial streams crossed by proposed corridors	246	31	283	245
Number of intermittent streams crossed by proposed corridors	2,906	346	2,769	3,007

Impact Indicator	Alternative B	Alternative C	Alternative D	Alternative E
Number of seeps/springs within proposed corridors	1	0	1	1
Number of groundwater wells within proposed corridors	69	16	117	136
Number of Class 1 Waters crossed	1	0	0	0
Number of streams with impairment within proposed corridors	6	0	9	6
Miles of depth to initial groundwater of less than 20 feet	153	32	188	147

Source: NRCS (2013); USGS (2020c); WDEQ Water Quality Division (2019, 2020b); Wyoming State Engineer's Office (2020).

Table 3.19-2. Wetlands Impact Indicators by Alternative

Impact Indicator	Alternative B	Alternative C	Alternative D	Alternative E
Acres of wetlands within proposed corridors	843	178	967	923
Number of Subwatersheds containing wetlands within proposed corridors	333	56	317	274
Number of waterbodies crossed by proposed corridors	27	4	27	33

Source: USFW (2020c).

Table 3.20-1. Impacts to Herd Management Areas from All Alternatives

Alternative	Number of HMAs Impacted	Acres of HMAs Impacted	Percentage of HMA Acres Impacted
A	0	0	0.00%
B	15	433,285	13.5%
C	3	48,770	5.3%
D	15	362,205	11.3%
E	15	399,547	12.5%

Table 3.20-2. Impacts to Revegetation from All Alternatives

Alternative	Acres of HMAs that Could Require Revegetation	Percentage of Acres of HMAs that Could Require Revegetation
A	0	0.00%
B	9,659	0.30%
C	1,029	0.11%
D	8,204	0.26%
E	8,806	0.28%

Table 3.21-1. Threatened and Endangered Wildlife Species and their Habitats within the Analysis Area

Common Name	Scientific Name	Status	General Habitat
Black-footed ferret	*Mustela nigripes*	Nonessential experimental	Grassland
Canada lynx	*Lynx canadensis*	Threatened	Forest, woodland
Colorado River fish AOI[†]	–	–	Riparian; marsh, meadow
Grizzly bear	*Ursus arctos horribilis*	Threatened	Forest, woodland
North American wolverine	*Gulo gulo luscus*	Proposed threatened	Forest, woodland
Northern long-eared bat	*Myotis septentrionalis*	Threatened	Forest, woodland
Platte River species AOI[*]	–	–	Riparian; marsh, meadow
Yellow-billed cuckoo	*Coccyzus americanus*	Threatened	Riparian; marsh, meadow

Sources: USFWS (2020a); WYNDD (2020).

Note: General habitat types used by these species are based on GAP vegetation in Table 13.17-1.

[*]AOI for least tern, endangered; pallid sturgeon, endangered; piping plover, threatened; and whooping crane, endangered.

[†] AOI for bonytail (*Gila elegans*), endangered; Colorado pikeminnow (*Ptychocheilus lucius*), endangered; humpback chub (*Gila cypha*), endangered; and razorback sucker (*Xyrauchen texamus*), endangered.

Table 3.21-2. Bureau of Land Management Sensitive Wildlife Species and their Habitats

Common Name	Scientific Name	General Habitat
Mammals		
Black-tailed prairie dog	*Cynomys ludovicianus*	Grassland
Fringed myotis	*Myotis thysanodes*	Forest, woodland; Riparian
Idaho pocket gopher	*Thomomys idahoensis*	Shrubland, desert scrub; grassland
Long-eared myotis	*Myotis evotis*	Forest, woodland; Riparian
Pygmy rabbit	*Brachylagus idahoensis*	Shrubland, desert scrub
Spotted bat	*Euderma maculatum*	Forest, woodland; Riparian
Swift fox	*Vulpes velox*	Grassland
Townsend's big-eared bat	*Corynorhinus townsendii*	Forest, woodland; Riparian
White-tailed prairie dog	*Cynomys leucurus*	Shrubland, desert scrub, grassland
Wyoming pocket gopher	*Thomomys clusius*	Shrubland, desert scrub, grassland
Birds		
Baird's sparrow	*Ammodramus bairdii*	Grassland
Bald eagle	*Haliaeetus leucocephalus*	Riparian; marsh, meadow
Brewer's sparrow	*Spizella breweri*	Shrubland, desert scrub
Burrowing owl	*Athene cunicularia*	Grassland
Ferruginous hawk	*Buteo regalis*	Grassland
Greater sage-grouse	*Centrocercus urophasianus*	Shrubland, desert scrub
Loggerhead shrike	*Lanius ludovicianus*	Shrubland, desert scrub; grassland; developed, disturbed
Long-billed curlew	*Numenius americanus*	Grassland; marsh, meadow
Mountain plover	*Charadrius montanus*	Grassland
Northern goshawk	*Accipiter gentilis*	Forest, woodland
Peregrine falcon	*Falco peregrinus*	Forest, woodland; Cliff, rock, scree
Sage thrasher	*Oreoscoptes montanus*	Shrubland, desert scrub

Common Name	Scientific Name	General Habitat
Sagebrush sparrow	*Artemisiospiza nevadensis*	Shrubland, desert scrub
Trumpeter swan	*Cygnus buccinators*	Riparian, marsh, meadow
White-faced ibis	*Plegadis chihi*	Riparian, marsh, meadow
Fish		
Bluehead sucker	*Catostomus discobolus*	Riparian, marsh, meadow
Colorado River cutthroat trout	*Oncorhynchus clarkii pleuriticus*	Riparian, marsh, meadow
Flannelmouth sucker	*Catostomus latipinnis*	Riparian, marsh, meadow
Roundtail chub	*Gila robusta*	Riparian, marsh, meadow
Yellowstone cutthroat trout	*Oncorhynchus clarkii bouvieri*	Riparian, marsh, meadow
Reptiles/Amphibians		
Great Basin spadefoot	*Spea intermontana*	Shrubland, desert scrub; Riparian; forest, woodland
Midget faded rattlesnake	*Crotalus viridis concolor*	Shrubland, desert scrub; grassland; cliff, rock, scree
Northern leopard frog	*Rana pipiens*	Riparian, marsh, meadow

Sources: BLM (2010c); WYNDD (2020).

Note: General habitat types used by these species are based on GAP vegetation in Table 13.17-1.

Table 3.21-3. Acreages and Linear Miles of Alternative B Area of Analysis within Big Game Seasonal Habitats and Percentage of Seasonal Habitats within Area of Analysis

Species	Seasonal Habitat Type	Acres within Area of Analysis	Percentage of Seasonal Habitat Type Impacted	Linear Miles within Area of Analysis
Elk	Crucial winter range	109,318	2.51%	84
	Parturition area	22,806	0.75%	16
Mule deer	Crucial winter range	277,913	4.39%	208
	Parturition area	2,118	0.92%	1
	Migration corridor	26,312	2.16%	20
Pronghorn	Crucial winter range	514,974	8.62%	420
	Parturition area	373	1.36%	0
Moose	Crucial winter range	21,355	1.65%	13
	Parturition area	1,338	1.52%	0
Bighorn sheep	Crucial winter range	1,495	0.16%	1
	Parturition area	0	0.00%	0
White-tailed deer	Crucial winter range	0	0.00%	0

Table 3.21-4. Special-Status Fish Species Area of Influence by Watershed, Alternative B

Species	HUC-8 Name	Acres in 1-Mile Buffer	Acres in Corridor
Bluehead sucker	Big Sandy	17,646	317
	Blacks Fork	19,667	328
	Upper Green	54,488	1,042
	Upper Green-Flaming Gorge Reservoir	10,708	187
	Upper Green-Slate	35,028	850
	Total	**137,537**	**2,724**
Colorado River cutthroat trout	Upper Green	54,488	1,042
	Upper Green-Flaming Gorge Reservoir	10,708	187
	Total	**65,196**	**1,229**
Flannelmouth sucker	Big Sandy	21,754	407
	Bitter	103,389	2,008
	Blacks Fork	19,667	328
	Upper Green	71,253	1,367
	Upper Green-Flaming Gorge Reservoir	10,708	187
	Upper Green-Slate	35,028	850
	Total	**261,799**	**5,147**
Roundtail chub	Blacks Fork	19,667	328
	Grand Total	**19,667**	**328**
Yellowstone River cutthroat trout	Big Horn Lake	33,365	713
	Clarks Fork Yellowstone	7,044	89
	Greybull	71,718	1,635
	Little Wind	46	0
	Shoshone	81,043	1,657
	Upper Bighorn	53,026	1,352
	Total	**246,244**	**5,446**

Table 3.21-5. Acreages of Priority Habitat Management Areas and General Habitat Management Areas within the Analysis Areas, Alternative B

PHMA		GHMA	
Acres within Corridor	**Acres within 4-Mile Buffer**	**Acres within Corridor**	**Acres within 2-Mile Buffer**
22,558.0	3,510,624.9	34,898.8	2,892,962.0

Table 3.21-6. Average Peak Male Count at Leks within the Analysis Areas, Alternative B

Average Peak Male Count at Leks within 2 miles	Average Peak Male Count at Leks within 4 miles
13.9	25.6

Table 3.21-7. Acreages and Linear Miles of Alternative C Area of Analysis within Big Game Seasonal Habitats and Percentage of Seasonal Habitats within Area of Analysis

Species	Seasonal Habitat Type	Acres within Area of Analysis	Percentage of Seasonal Habitat Type Impacted	Linear Miles within Area of Analysis
Elk	Crucial winter range	8,627	0.20%	6
	Parturition area	361	0.01%	0
Mule deer	Crucial winter range	79,854	1.26%	54
	Parturition area	0	0.00%	0
	Migration corridor	0	0.00%	0
Pronghorn	Crucial winter range	70,641	1.18%	51
	Parturition area	0	0.00%	0
Moose	Crucial winter range	6,355	0.49%	3
	Parturition area	965	1.09%	0
Bighorn sheep	Crucial winter range	0	0.00%	0
	Parturition area	0	0.00%	0
White-tailed deer	Crucial winter range	0	0.00%	0

Table 3.21-8. Special-Status Fish Species Area of Influence by Watershed, Alternative C

Species	HUC-8 Name	Acres in 1-Mile Buffer	Acres in Corridor
Bluehead sucker	Upper Green	44,769	757
	Total	**44,769**	**757**
Colorado River cutthroat trout	Upper Green	44,769	757
	Total	**44,769**	**757**
Flannelmouth sucker	Upper Green	44,769	757
	Grand Total	**44,769**	**757**
Roundtail chub	None	0	0
Yellowstone River cutthroat trout	Big Horn Lake	18,411	418
	Clarks Fork Yellowstone	5,370	81
	Shoshone	31,794	597
	Upper Bighorn	31,259	812
	Grand Total	**86,834**	**1,908**

Table 3.21-9. Acreages of Priority Habitat Management Areas and General Habitat Management Areas within the Analysis Areas, Alternative C

PHMA		GHMA	
Acres within Corridor	**Acres within 4-Mile Buffer**	**Acres within Corridor**	**Acres within 2-Mile Buffer**
0	228,742.3	7,053.4	646,418.2

Table 3.21-10. Average Peak Male Count at Leks within the Analysis Areas, Alternative C

Average Peak Male Count at Leks within 2 miles	Average Peak Male Count at Leks within 4 miles
23.0	23.8

Table 3.21-11. Acreages and Linear Miles of Alternative D Area of Analysis within Big Game Seasonal Habitats and Percentage of Seasonal Habitats within Area of Analysis

Species	Seasonal Habitat Type	Acres within Area of Analysis	Percentage of Seasonal Habitat Type Impacted	Linear Miles within Area of Analysis
Elk	Crucial winter range	91,860	2.11%	72
	Parturition area	15,929	0.52%	12
Mule deer	Crucial winter range	296,384	4.67%	220
	Parturition area	812	0.35%	0
	Migration corridor	17,146	1.41%	13
Pronghorn	Crucial winter range	501,116	8.39%	403
	Parturition area	373	1.36%	0
Moose	Crucial winter range	17,057	1.32%	10
	Parturition area	2,419	2.74%	1
Bighorn sheep	Crucial winter range	0	0.00%	0
	Parturition area	0	0.00%	0
White-tailed deer	Crucial winter range	0	0.00%	0

Table 3.21-12. Special-Status Fish Species Area of Influence by Watershed, Alternative D

Species	HUC-8 Name	Acres in 1-Mile Buffer	Acres in Corridor
Bluehead sucker	Blacks Fork	8,476	84
	Upper Green	52,912	1,012
	Upper Green-Flaming Gorge Reservoir	10,705	187
	Upper Green-Slate	48,916	1,124
	Total	**191,009**	**2,407**
Colorado River cutthroat trout	Upper Green	56,672	1,087
	Upper Green-Flaming Gorge Reservoir	10,705	187
	Total	**67,376**	**1,274**
Flannelmouth sucker	Bitter	103,934	2,016
	Blacks Fork	8,476	84
	Upper Green	57,339	1,092
	Upper Green-Flaming Gorge Reservoir	10,705	187
	Upper Green-Slate	48,916	1,124
	Total	**229,370**	**4,503**
Roundtail chub	Blacks Fork	8,476	84
	Total	**8,476**	**84**

Species	HUC-8 Name	Acres in 1-Mile Buffer	Acres in Corridor
Yellowstone River cutthroat trout	Big Horn Lake	33,186	716
	Clarks Fork Yellowstone	5,370	81
	Greybull	69,330	1,593
	Little Wind	46	0
	Shoshone	82,032	1,666
	Upper Bighorn	53,148	1,355
	Total	**243,113**	**5,411**

Table 3.21-13. Acreages of Priority Habitat Management Areas and General Habitat Management Areas within the Analysis Areas, Alternative D

PHMA		GHMA	
Acres within Corridor	**Acres within 4-Mile Buffer**	**Acres within Corridor**	**Acres within 2-Mile Buffer**
16,954.8	2,932,712.2	37,823.5	3,060,471.0

Table 3.21-14. Average Peak Male Count at Leks within the Analysis Areas, Alternative D

Average Peak Male Count at Leks within 2 miles	Average Peak Male Count at Leks within 4 miles
14.3	23.4

Table 3.21-15. Acreages and Linear Miles of Alternative E Area of Analysis within Big Game Seasonal Habitats and Percentage of Seasonal Habitats within Area of Analysis

Species	Seasonal Habitat Type	Acres within Area of Analysis	Percentage of Seasonal Habitat Type Impacted	Linear Miles within Area of Analysis
Elk	Crucial winter range	143,344	3.29%	111
	Parturition area	22,805	0.75%	16
Mule deer	Crucial winter range	296,623	4.68%	224
	Parturition area	2,118	0.92%	1
	Migration corridor	27,918	2.30%	5
Pronghorn	Crucial winter range	542,045	9.08%	442
	Parturition area	373	1.36%	0
Moose	Crucial winter range	21,662	1.68%	13
	Parturition area	2,792	3.17%	1
Bighorn sheep	Crucial winter range	0	0.00%	0
	Parturition area	0	0.00%	0
White-tailed deer	Crucial winter range	0	0.00%	0

Table 3.21-16. Special-Status Fish Species Area of Influence by Watershed, Alternative E

Species	HUC-8 Name	Acres in 1-Mile Buffer	Acres in Corridor
Bluehead sucker	Big Sandy	17,646	317
	Blacks Fork	8,476	84
	Upper Green	57,437	1,098
	Upper Green-Flaming Gorge Reservoir	10,705	187
	Upper Green-Slate	48,916	1,124
	Total	143,180	2,811
Colorado River cutthroat trout	Upper Green	61,196	1,173
	Upper Green-Flaming Gorge Reservoir	10,705	187
	Total	71,901	1,360
Flannelmouth sucker	Big Sandy	21,754	407
	Bitter	103,934	2,016
	Blacks Fork	8,476	84
	Upper Green	61,863	1,178
	Upper Green-Flaming Gorge Reservoir	10,705	187
	Upper Green-Slate	48,916	1,124
	Total	255,649	4,996
Roundtail chub	Blacks Fork	8,476	84
	Total	8,476	84
Yellowstone River cutthroat trout	Big Horn Lake	711	33,233
	Clarks Fork Yellowstone	89	7,044
	Greybull	1,636	71,539
	Little Wind	0	46
	Shoshone	1,657	81,043
	Upper Bighorn	1,355	53,160
	Total	5,448	246,065

Table 3.21-17. Acreages of Priority Habitat Management Areas and General Habitat Management Areas within the Analysis Areas, Alternative E

PHMA		GHMA	
Acres within Corridor	**Acres within 4-Mile Buffer**	**Acres within Corridor**	**Acres within 2-Mile Buffer**
21,516.9	3,533,748.8	36,162.9	2,949,903.4

Table 3.21-18. Average Peak Male Count at Leks within the Analysis Areas, Alternative E

Average Peak Male Count at Leks within 2 miles	Average Peak Male Count at Leks within 4 miles
14.2	25.8

Table 3.21-19. List of Alternatives and Whether They Would affect a Big Game Seasonal Habitat

Species	Seasonal Habitat Type	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Elk	Crucial winter range	No	Yes	Yes	Yes	Yes
	Parturition area	No	Yes	Yes	Yes	Yes
Mule deer	Crucial winter range	No	Yes	Yes	Yes	Yes
	Parturition area	No	Yes	No	Yes	Yes
	Migration corridor	No	Yes	No	Yes	Yes
Pronghorn	Crucial winter range	No	Yes	Yes	Yes	Yes
	Parturition area	No	Yes	No	Yes	Yes
Moose	Crucial winter range	No	Yes	Yes	Yes	Yes
	Parturition area	No	Yes	Yes	Yes	Yes
Bighorn sheep	Crucial winter range	No	Yes	No	No	No
	Parturition area	No	No	No	No	No
White-tailed deer	Crucial winter range	No	No	No	No	No

Table 3.21-20. Potential Disturbance to Blue and Red Ribbon Streams, by Alternative

Alternative	Blue Ribbon Stream Crossings	Total Length* of Blue Ribbon Stream Crossings (meters)	Percentage of Potential Disturbance	Red Ribbon Stream Crossings	Total Length* of Red Ribbon Stream Crossings (meters)	Percentage of Potential Disturbance
B	2	500	1.4%	9	2,250	5.1%
C	0	0	0.000%	1	250	8.0%
D	6	1,500	5.2%	14	3,393	8.1%
E	1	250	0.94%	9	2,250	4.89%

* Quantified by a buffer of 200 meters downstream and 50 meters upstream of each crossing.

Table 3.21-21. Threatened and Endangered Wildlife Species and Their Habitats (acres)

Common Name	Scientific Name	Status	Alternative B		Alternative C		Alternative D		Alternative E	
			Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer
Canada lynx	*Lynx canadensis*	Threatened	22	1,783	0	200	20	996	22	1,765
Canada lynx critical habitat		–	0	155	0	0	0	0		
Grizzly bear	*Ursus arctos horribilis*	Threatened	35	4,172	6	189	33	3,811	35	4,172
Northern long-eared bat	*Myotis septentrionalis*	Threatened	0	0	0	0	0	0	0	0
Black-footed ferret	*Mustela nigripes*	Nonessential experimental	20	240	0	0	199	8,590	199	8,592
North American wolverine	*Gulo gulo luscus*	Proposed threatened	0	98	0	0	0	98	0	98
Yellow-billed cuckoo	*Coccyzus americanus*	Threatened	23	1,109	4	91	55	1,544	23	917
Platte River species AOI*		–	10,725	32,080	545	32,345	10,826	463,341	10,962	462,281
Colorado River fish AOI†		–	9,320	461,175	1,013	61,045	8,152	403,029	9,540	475,563

Sources: USFWS (2020a); WYNDD (2020).

* AOI for least tern, endangered; pallid sturgeon, endangered; piping plover, threatened; and whooping crane, endangered.

† AOI for bonytail (*Gila elegans*), endangered; Colorado pikeminnow (*Ptychocheilus lucius*), endangered; humpback chub (*Gila cypha*), endangered; and razorback sucker (*Xyrauchen texamus*), endangered.

Table 3.21-22. Bureau of Land Management Sensitive Wildlife Species and Their Habitats (acres)

Common Name	Scientific Name	Alternative B		Alternative C		Alternative D		Alternative E	
		Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer
Mammals									
Pygmy rabbit	*Brachylagus idahoensis*	23,684	1,019,691	1,803	89,560	19,809	866,505	22,486	996,072
Townsend's big-eared bat	*Corynorhinus townsendii*	1,001	60,988	138	7,169	1,193	66,288	912	56,455
White-tailed prairie dog	*Cynomys leucurus*	44,730	1,864,552	5,413	255,880	40,909	1,727,284	44,739	1,891,436
Black-tailed prairie dog	*Cynomys ludovicianus*	1,365	57,954	24	2,145	1,558	68,014	1,365	57,950
Spotted bat	*Euderma maculatum*	411	24,531	101	3,884	391	23,398	418	24,862
Long-eared myotis	*Myotis evotis*	1,082	64,702	157	6,221	1,356	69,590	1,060	60,569
Fringed myotis	*Myotis thysanodes*	750	43,242	150	5,534	927	47,029	689	37,778
Wyoming pocket gopher	*Thomomys clusius*	9,093	377,124	214	12,385	8,183	348,018	8,727	368,953
Idaho pocket gopher	*Thomomys idahoensis*	2,928	143,902	938	51,250	2,995	153,105	3,076	156,234
Swift fox	*Vulpes velox*	1,516	64,362	39	2,653	1,847	81,646	1,695	72,700
Birds									
Baird's sparrow	*Ammodramus bairdii*	915	39,672	11	836	997	44,036	998	43,942
Northern goshawk	*Accipiter gentilis*	466	34,578	24	1,872	592	37,734	397	29,564
Sagebrush sparrow	*Artemisiospiza nevadensis*	49,957	2,082,744	5,704	271,655	45,913	1,942,918	49,786	2,101,287
Burrowing owl	*Athene cunicularia*	1,570	67,096	61	4,096	1,900	83,865	1,749	75,434
Ferruginous hawk	*Buteo regalis*	1,570	67,096	61	4,096	1,900	83,865	1,749	75,434
Greater sage-grouse	*Centrocercus urophasianus*	49,957	2,082,744	5,704	271,655	45,913	1,942,918	49,786	2,101,287
Mountain plover	*Charadrius montanus*	1,570	67,096	61	4,096	1,900	83,865	1,749	75,434
Trumpeter swan	*Cygnus buccinators*	480	22,535	183	8,134	555	24,597	520	24,203
Peregrine falcon	*Falco peregrinus*	1,221	90,377	193	14,154	1,346	89,075	1,164	84,004
Bald eagle	*Haliaeetus leucocephalus*	869	43,978	155	5,878	974	45,890	889	44,608
Loggerhead shrike	*Lanius ludovicianus*	52,259	2,183,667	5,964	282,960	49,064	2,068,600	52,448	2,212,252

Common Name	Scientific Name	Alternative B		Alternative C		Alternative D		Alternative E	
		Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer	Proposed Corridors	1-Mile Buffer
Long-billed curlew	*Numenius americanus*	3,779	175,259	505	23,204	4,235	190,439	4,079	186,099
Sage thrasher	*Oreoscoptes montanus*	49,957	2,082,744	5,704	271,655	45,913	1,942,918	49,786	2,101,287
White-faced ibis	*Plegadis chihi*	869	43,978	155	5,878	974	45,890	889	44,608
Brewer's sparrow	*Spizella breweri*	49,957	2,082,744	5,704	271,655	45,913	1,942,918	49,786	2,101,287
Fish									
Bluehead sucker	*Catostomus discobolus*	2,724	137,537	757	44,769	2,407	121,009	2,811	143,180
Flannelmouth sucker	*Catostomus latipinnis*	5,147	261,799	757	44,769	4,503	229,370	4996	255,649
Roundtail chub	*Gila robusta*	328	19,667	0	0	84	8,476	84	8,476
Yellowstone cutthroat trout	*Oncorhynchus clarkii bouvieri*	5,446	246,243	1,908	86,834	5,411	243,113	5448	246,065
Colorado River cutthroat trout	*Oncorhynchus clarkii pleuriticus*	1,229	65,196	757	44,769	1,274	67,376	1360	71,900
Reptiles/Amphibians									
Great Basin spadefoot	*Spea intermontana*	19,298	854,327	1,785	86,922	16,479	728,543	19,202	862,926
Midget faded rattlesnake	*Crotalus viridis concolor*	52,282	2,205,639	5,934	288,033	48,567	2,078,123	52,303	2,231,162
Northern leopard frog	*Rana pipiens*	869	43,978	155	5,878	974	45,890	889	44,608

Sources: BLM (2010c); WYNDD (2020).

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Table 3.21-23. Acreages of Priority Habitat Management Areas and General Habitat Management Areas within the Analysis Areas

Alternative	PHMA		GHMA	
	Acres within Corridor	Acres within 4-Mile Buffer	Acres within Corridor	Acres within 2-Mile Buffer
B	22,558.0	3,510,624.9	34,898.8	2,892,962.0
C	0	228,742.3	7,053.4	646,418.2
D	16,954.8	2,932,712.7	37,823.5	3,060,471.0
E	21,516.9	3,533,748.8	36,162.9	2,949,903.4

Table 3.21-24. Number of Leks and Average Peak Male Count at those Leks within the Analysis Areas

Alternative	PHMA		GHMA	
	Number of Leks	Average Peak Male Count within 4 miles	Number of Leks	Average Peak Male Count within 2 miles
B	266	25.6	57	13.9
C	28	23.8	12	23.0
D	211	23.4	54	14.3
E	263	25.8	56	14.2

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Wyoming State Office
5353 Yellowstone Road
Cheyenne, WY 82009
www.blm.gov/WY

In Reply Refer To:
1610, 1790 (930)

Dear Reader:

The Proposed Resource Management Plan Amendments (RMPA)/Final Environmental Impact Statement (Final EIS) for the Wyoming Pipeline Corridor Initiative (WPCI) is hereby submitted for your review. The Bureau of Land Management (BLM) prepared the Proposed RMPA/Final EIS to analyze the potential impacts of the State of Wyoming's Proposal and alternatives to create a network of new corridors through nine BLM planning areas in the State of Wyoming. The WPCI would consist of corridors reserved for pipelines that transport carbon dioxide (CO_2) and enhanced oil recovery (EOR) products and for other compatible uses. The trunk corridors would be 300 feet wide, and the lateral corridors would be 200 feet wide. As proposed, the WPCI would consist of a total of 1,111 miles of corridors that cross BLM lands in the Buffalo, Casper, Cody, Kemmerer, Lander, Pinedale, Rawlins, Rock Springs, and Worland BLM Field Offices.

The Proposed RMPA/Final EIS was prepared pursuant to the National Environmental Policy Act (NEPA) and other regulations and statutes to address possible environmental and socioeconomic impacts that may result from designating pipeline corridors under the WPCI. This Proposed RMPA/Final EIS is not a decision document, but its purpose is to inform the public and interested parties of the impacts associated with designating corridors reserved for the transport of CO_2 and EOR products and for other compatible uses, and to evaluate alternatives to the Proposal.

The publication of the Proposed RMPA/Final EIS establishes an opportunity for a 30-calendar day protest period on the Proposed RMPA/Final EIS (See §§1610.4-8 and 1610.5-1(b)). Any person who participated in the planning process and has an interest which is, or may be, adversely affected by the approval or amendment of the RMP may protest such approval or amendment. A protest may raise only those issues which were submitted for the record during the planning process. The BLM will issue a Record of Decision no earlier than 30 days from the date of the Notice of Availability published by the Environmental Protection Agency on the RMPA and Final EIS.

All protests on the Proposed RMPA must be submitted in writing by any of the following methods:

Website: https://go.usa.gov/xpCMr or https://eplanning.blm.gov/eplanning-ui/admin/project/1502028/570

Regular mail:
Director (210)
Attention: Protest Coordinator
P.O. Box 261117, Lakewood, CO 80226

Overnight delivery:
Director (210)
Attention: Protest Coordinator
2850 Youngfield Street, Lakewood, CO 80215

The BLM encourages submission of protests using the ePlanning online tools rather than by mail.

The WPCI Proposed RMPA/Final EIS may be examined online at the ePlanning site at https://go.usa.gov/xpCMr or https://eplanning.blm.gov/eplanning-ui/admin/project/1502028/570

For further information concerning the RMPA or making comments, please contact:

Heather Schultz
WPCI EIS Project Manager
Wyoming State Office
(307) 775-6084 office or (307) 275-0436 cell
hschultz@blm.gov

Please note that before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you may ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Sincerely,

Kimber Liebhauser
Acting State Director

• Yellow-tailed woolly monkeys (*Lagothrix flavicauda syn. Oreonax flavicauda*).

This notification covers activities to be conducted by the applicant over a 5-year period.

Applicant: Saint Louis Zoo, Saint Louis, MO; Permit No. 71918D

The applicant requests a permit to import biological samples derived from wild and captive-bred Cuban crocodiles (*Crocodylus rhombifer*) and American crocodiles (*Crocodylus acutus*) taken in the Zapata Swamp, in Cuba, for the purpose of scientific research. This notification covers activities to be conducted by the applicant over a 5-year period.

Applicant: Columbian Park Zoo/City of Lafayette, Lafayette, IN; Permit No. 60773D

The applicant requests to amend their permit to purchase an additional captive-bred female African penguin (*Spheniscus demersus*) in interstate commerce from Six Flags Discovery Kingdom, Vallejo, California, for the purpose of enhancing the propagation or survival of the species. This notification is for a single interstate commerce activity.

Applicant: San Diego Zoo Global, San Diego, CA; Permit No. 70167B

The applicant requests authorization to import biological samples including but not limited to skin biopsies, blood, hair, and tissue from any endangered or threatened species for the purpose of scientific research. This notification covers activities to be conducted by the applicant over a 5-year period.

Applicant: John D. Maditz, Nokesville, VA; Permit No. 82173D

The applicant requests a permit to import a sport-hunted trophy of one male bontebok (*Damaliscus pygargus pygargus*) culled from a captive herd maintained under the management program of the Republic of South Africa, for the purpose of enhancing the propagation or survival of the species.

Applicant: Clyde Peeling's Reptiland, Allenwood, PA; Permit No. 42675B

The applicant requests a captive-bred wildlife registration under 50 CFR 17.21(g) for Komodo island monitor (*Varanus komodoensis*) and Siamese crocodile (*Crocodylus siamensis*), to enhance the propagation or survival of the species. This notification covers activities to be conducted by the applicant over a 5-year period.

B. Wild Bird Conservation Act

The public is invited to comment on the following application for approval to conduct certain activities with a bird species covered under the Wild Bird Conservation Act of 1992 (16 U.S.C. 4901–4916). This notice is provided pursuant to section 112(4) of the Wild Bird Conservation Act of 1992 (50 CFR 15.26(c)).

Applicant: Vernon Brett Padgett, Atlanta, GA; 12087C

The applicant wishes to amend the cooperative breeding program, CB042 Captive Breeding Program for under-represented *Bucerotidae* and *Psittaciformes* in aviculture, by including knobbed hornbill (*Aceros cassidix*), importing into the United States 25 individual birds (12 males and 13 females). If the amendment is approved, the program will be overseen by the Zoological Association of America, Punta Gorda, Florida.

IV. Next Steps

After the comment period closes, we will make decisions regarding permit issuance. If we issue permits to any of the applicants listed in this notice, we will publish a notice in the **Federal Register**. You may locate the notice announcing the permit issuance by searching *http://www.regulations.gov* for the permit number listed above in this document. For example, to find information about the potential issuance of Permit No. 12345A, you would go to regulations.gov and search for ''12345A''.

V. Authority

We issue this notice under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), and its implementing regulations.

Brenda Tapia,

Management Analyst/Program Analyst/Data Administrator, Branch of Permits, Division of Management Authority.

[FR Doc. 2020–23686 Filed 10–26–20; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLWY925000.L13400000.PQ0000 20X]

Notice of Availability of the Final Environmental Impact Statement for the Wyoming Pipeline Corridor Initiative (WPCI) Resource Management Plan Amendments to 9 BLM-Wyoming Resource Management Plans

AGENCY: Bureau of Land Management, Interior

ACTION: Notice of Availability.

SUMMARY: In accordance with the National Environmental Policy Act of 1969, as amended, and the Federal Land Policy and Management Act of 1976, as amended, the Bureau of Land Management (BLM) has prepared a Final Environmental Impact Statement (EIS) and Proposed Resource Management Plan (RMP) Amendment for the proposed Wyoming Pipeline Corridor Initiative(WPCI) within the BLM Cody, Worland, Buffalo, Casper, Lander, Pinedale, Kemmerer, Rawlins and Rock Springs field offices. This notice identifies the initiation of the 30-day protest period and the 60-day Governor's consistency review period for the Proposed RMP Amendment.

DATES: BLM planning regulations state that any person who meets the conditions as described in the regulations may protest the BLM's Final Programmatic EIS and Proposed RMP Amendment. A person who meets the conditions and files a protest must file the protest within 30 days of the date that the Environmental Protection Agency publishes its Notice of Availability (NOA) in the **Federal Register**.

ADDRESSES: Requests for information regarding the Final EIS may be mailed to:

• *Mail:* Protest Coordinator, P.O. Box 261117, Lakewood, CO 80226, Overnight Delivery: Director (210), Attention: Protest Coordinator 2850, Youngfield Street, Lakewood, CO 80215.

Copies of the Final EIS are available on the project website at: *https://go.usa.gov/xpCMr* or *https://eplanning.blm.gov/eplanning-ui/project/1502028/570*.

FOR FURTHER INFORMATION CONTACT: Heather Schultz, Project Manager, telephone 307–775–6084; address 5353 Yellowstone Road Cheyenne Wyoming; email *hschultz@blm.gov*. Contact Ms. Schultz to add your name to our mailing list. Persons who use a telecommunications device for the deaf

(TDD) may call the Federal Relay Service (FRS) at 1–800–877–8339 to contact the above individual during normal business hours. The FIRS is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION: The State of Wyoming is proposing a pipeline corridor network for carbon capture, utilization, and storage (CCUS), enhanced oil recovery (EOR), and other compatible uses to be designated on BLM-managed lands in Wyoming through the land use planning process. The State of Wyoming proposes that roughly 2,000 miles and 25 segments of pipeline corridors be designated on BLM-managed lands and in those lands' associated RMPs. The proposed WPCI corridors are divided into segments based on proposed width and the regions they will service. The BLM analyzed the State's proposal by preparing an EIS. Based on the findings of the EIS process, the BLM is proposing to amend the nine RMPs containing lands proposed for pipeline corridors to designate those corridors. If the BLM were to receive a right-of-way application for CCUS and EOR pipelines or related facilities in the future, project specific NEPA would be completed separately at that time. The analysis has identified issues to address within the planning area, including Greater Sage-Grouse; big game habitat (including migration corridors); potential conflicts with coal mining and other resource uses; air quality; transportation; vegetation and reclamation success; anticipated oil and gas development in the planning area; existing rights-of-way, valid existing rights and other authorizations that may not be permitted in the corridor; and opportunities to apply best management practices and design features.

The BLM analyzed five alternatives:

Alternative A: No Action Under this alternative, none of the RMPs would be amended to establish additional corridors, and the existing corridors would remain and would not be dedicated to pipelines and facilities associated with CCUS, EOR and other uses. These corridors would remain available for any type of potential future project.

Alternative B: Proposed Action: Dedicates Corridors for CCUS and EOR Projects. Portions of existing corridors (300ft or 200ft wide) would be dedicated to pipelines and facilities associated with CCUS, EOR and other uses as outlined in the State of Wyoming Proposal. These corridors would be designated both in Sage Grouse Priority Habitat Management Areas (PHMA) and outside of PHMA as proposed by the state of Wyoming.

Alternative C: Maintain Existing Management in Existing Corridors and create new corridors dedicated to CCUS and EOR Projects. Routes would be modified or eliminated from the Proposal to avoid resource conflicts, Sage Grouse PHMA, pre-existing rights, existing uses and infrastructure. Use of existing corridors would be maximized. Management of existing corridors would remain the same and would not be dedicated to pipelines and facilities associated with CCUS and EOR. Additional corridors would be created (300ft or 200ft wide) dedicated to CCUS, EOR and other uses as outlined in the Proposal and analyzed in the EIS. Additional corridors would be not be created in Sage Grouse PHMA.

Alternative D: Dedicate portions of existing corridors and create new corridors dedicated to CCUS and EOR Projects. Routes would be modified or eliminated from the Proposal to avoid resource conflicts, Sage Grouse PHMA, pre-existing rights, existing uses and infrastructure. Portions of existing corridors (300ft or 200ft wide) would be dedicated to pipelines and facilities associated with CCUS and EOR and other uses as outlined in the State of Wyoming Proposal. Additional corridors would be not be created in Sage Grouse PHMA.

Preferred Alternative (Alternative E): The Preferred Alternative was developed in response to public comments received on the Draft EIS, and combines the uniqueness of each of the 25 segments with the current RMP's as well as specific siting, resource conflicts, restrictions, etc. identified in the robust WPCI analysis. Alternative E does not represent new analysis conducted but rather blends the analysis developed in the Draft EIS under Alternatives B and D.

Instructions for filing a protest regarding the Proposed Land Use Plan Amendment/Final EIS may be found in the ''Dear Reader'' Letter of the Final EIS and Proposed Land Use Plan Amendment and at 43 CFR 1610.5–2.

A protest may raise only those issues which were submitted for the record during the planning process. The BLM will issue a Record of Decision no earlier than 30 days from the date of the Notice of Availability published by the Environmental Protection Agency.

All protests on the Proposed RMPA must be submitted in writing by any of the following methods:

Website: https://go.usa.gov/xpCMr or *https://eplanning.blm.gov/eplanning-ui/project/1502028/570*.

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Attention: Protest Coordinator, P.O. Box 261117, Lakewood, CO 80226.

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Before including your address, phone number, email address or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Authority: 40 CFR 1506.6, 40 CFR 1506.10, 43 CFR 1610.2.

Kimber L. Liebhauser,

BLM Wyoming State Director (Acting).

[FR Doc. 2020–23761 Filed 10–26–20; 8:45 am]

BILLING CODE 4310–22–P

DEPARTMENT OF THE INTERIOR

National Park Service

[NPS–WASO–NRNHL–DTS#-31041; PPWOCRADI0, PCU00RP14.R50000]

National Register of Historic Places; Notification of Pending Nominations and Related Actions

AGENCY: National Park Service, Interior.

ACTION: Notice.

SUMMARY: The National Park Service is soliciting electronic comments on the significance of properties nominated before October 10, 2020, for listing or related actions in the National Register of Historic Places.

DATES: Comments should be submitted electronically by November 12, 2020.

ADDRESSES: Comments are encouraged to be submitted electronically to *National_Register_Submissions@nps.gov* with the subject line ''Public Comment on property or proposed district name, (County) State.'' If you have no access to email you may send them via U.S. Postal Service and all other carriers to the National Register of Historic Places, National Park Service, 1849 C Street NW, MS 7228, Washington, DC 20240.

SUPPLEMENTARY INFORMATION: The properties listed in this notice are being considered for listing or related actions