

# Appendix C

## MITIGATION FRAMEWORK

### C.1 INTRODUCTION

In response to recently released policies concerning the requirements of mitigation for large landscape-scale projects, the Bureau of Land Management (BLM) has developed this Mitigation Framework (Framework) to address avoidance, minimization, and compensatory mitigation actions for the Boardman to Hemingway Transmission Line Project (B2H Project). As discussed in Section 2.5.1.1 of this Final Environmental Impact Statement (EIS), the requirement for mitigation for impacts on resources, objectives, and values, including compensatory mitigation for any remaining unavoidable effects, would be consistent with the BLM's management responsibilities under the Federal Land Policy and Management Act (FLPMA). The management approach also would be consistent with Secretarial Order No. 3330 (U.S. Department of the Interior [USDI] 2013); the Presidential Memorandum on mitigating impacts on natural resource from development of large development projects (White House 2015); the USDI Manual 600 DM 6 on landscape-scale mitigation (USDI 2015); and the BLM's interim mitigation policy (IM 2013-142 [BLM 2013]), which direct the BLM to avoid, minimize, and compensate for remaining unavoidable (also known as residual) impacts associated with its decisions or actions. USDI Manual 600 DM 6 on landscape-scale mitigation states "landscape-scale strategies and plans identify clear management objectives for targeted resources...at landscape-scales, as necessary, including across administrative boundaries."

#### C.1.1 FRAMEWORK PURPOSE AND OBJECTIVE

This Framework is intended to analyze and facilitate the development of a comprehensive Compensatory Mitigation Plan (CMP) to offset reasonably foreseeable remaining effects (hereafter referred to as residual impacts) on important, scarce, or sensitive resources from B2H Project impacts. The CMP cannot be developed until a route is selected and the Applicant completes final engineering and design of the route and ancillary facilities. Only after the completion of final engineering and design can site-specific compensatory mitigation be determined to account for residual impacts. Thus, the Framework is intended to be scalable and not specific to any alternative or site-specific mitigation project. With development and execution of the CMP, the Applicant will be taking the necessary steps to compensate for residual B2H Project impacts on important, scarce, or sensitive resources and achieve a no net loss outcome for affected qualifying resources and their values, services, and functions, or, as required or appropriate, a net benefit or net gain in outcomes.

The overall objectives of the Framework are to:

- create a common understanding regarding application of the mitigation hierarchy and expectations of the CMP between the Applicant, the BLM, and other agencies with authorizing decisions on the principles, standards, methods, time frames, and other considerations that will guide the development of the CMP; and
- provide clear expectations and methods for assessing the adequacy of the CMP.

The Framework summarizes mitigation actions and planning undertaken by the BLM and Applicant to ensure that the B2H Project is in compliance with applicable laws, regulations, policies, and plans related to affected resources and their values, services, and functions. Additional resource protection guidance and recommendations have evolved over the course of preparing the EIS development and new information that has become available during the EIS process has been incorporated into the EIS analysis and mitigation development. The Framework summarizes how the EIS analysis has followed existing agency mitigation strategies and the mitigation hierarchy.

The BLM, cooperating agencies, and the Applicant will use this Framework in developing a B2H Project-specific CMP proposal. The CMP will identify the types of compensatory mitigation projects intended to offset residual B2H Project impacts across all affected land ownerships and jurisdictions. In order to streamline mitigation to the extent possible and to prevent duplication of—or conflict between—mitigation requirements, the BLM and any other agencies requiring compensatory mitigation will collaborate with the Applicant to ensure that mitigation actions meet the requirements of all agencies. Subject to BLM determination that the CMP is sufficient and that its implementation (including its principles and standards) is consistent with applicable laws and government policies, the BLM will use the CMP in its environmental review documents and B2H Project authorizations (e.g., for the BLM, CMP implementation will be made a condition of right-of-way grants and permits issued to the Applicant). Because the CMP's overall success may be dependent on the successful implementation of each compensatory mitigation project component, each agency would retain discretion to suspend or terminate its authorization in the event that any compensatory mitigation project is not successfully implemented, regardless of that compensatory mitigation project's location or jurisdictional considerations.

The Framework has been developed by BLM resource specialists in collaboration with participants of the Biological Resources Task Group with the intent to effectively guide the eventual development of the CMP(s) for the Applicant's Plan of Development (POD). The principles, standards, and technical elements within the Framework have been drawn from and are consistent with departmental and agency policy and guidance documents (BLM 2013; Clement et al. 2014; USDI 2015). Many of the mitigation actions originated from elements in the Draft Framework for Development of Compensatory Mitigation Plans for Biological Resources and the Greater Sage-Grouse Mitigation Blueprint included as Appendix D and Appendix E, respectively, in the Draft EIS for the B2H Project and have been expanded or revised based on recent USDI and BLM policy and guidance and comments on the Draft EIS.

### C.1.2 PROJECT MITIGATION STRATEGY AND MITIGATION HIERARCHY

The EIS has been developed in accordance with current relevant laws, regulations, policies, and plans, including those guiding agency decisions that may have an impact on resources and their values, services, and functions. The sequence of mitigation action will be the mitigation hierarchy (avoid; minimize; rectify, reduce, or eliminate over time; and compensate) as identified by the White House Council on Environmental Quality (CEQ) (40 CFR 1508.20) and the BLM's *Draft - Regional Mitigation Manual Section 1794* (interim policy). B2H Project siting and design, required design features of the B2H Project for environmental protection, selective mitigation measures, and implementation plans have been developed to consider the full mitigation hierarchy to avoid, minimize, rectify, or reduce impacts over time, and last, to compensate for residual impacts on important, scarce, or sensitive resources. For example, B2H Project design has involved careful routing and siting to avoid and minimize impacts on resources (e.g., residential areas, agriculture, vegetation, wildlife, cultural resources, visual resources, National Historic Trails [NHTs], military training areas, etc.). B2H Project design to avoid and minimize impacts on resources include avoiding important, scarce, and/or sensitive resources where possible; maximizing the use of existing utility corridors and roads; and closely paralleling existing transmission lines within these corridors. If an action alternative is chosen, additional measures to avoid and minimize impacts will take place during final engineering and design. Preconstruction micro-siting and variations also may provide further avoidance and minimization of effects.

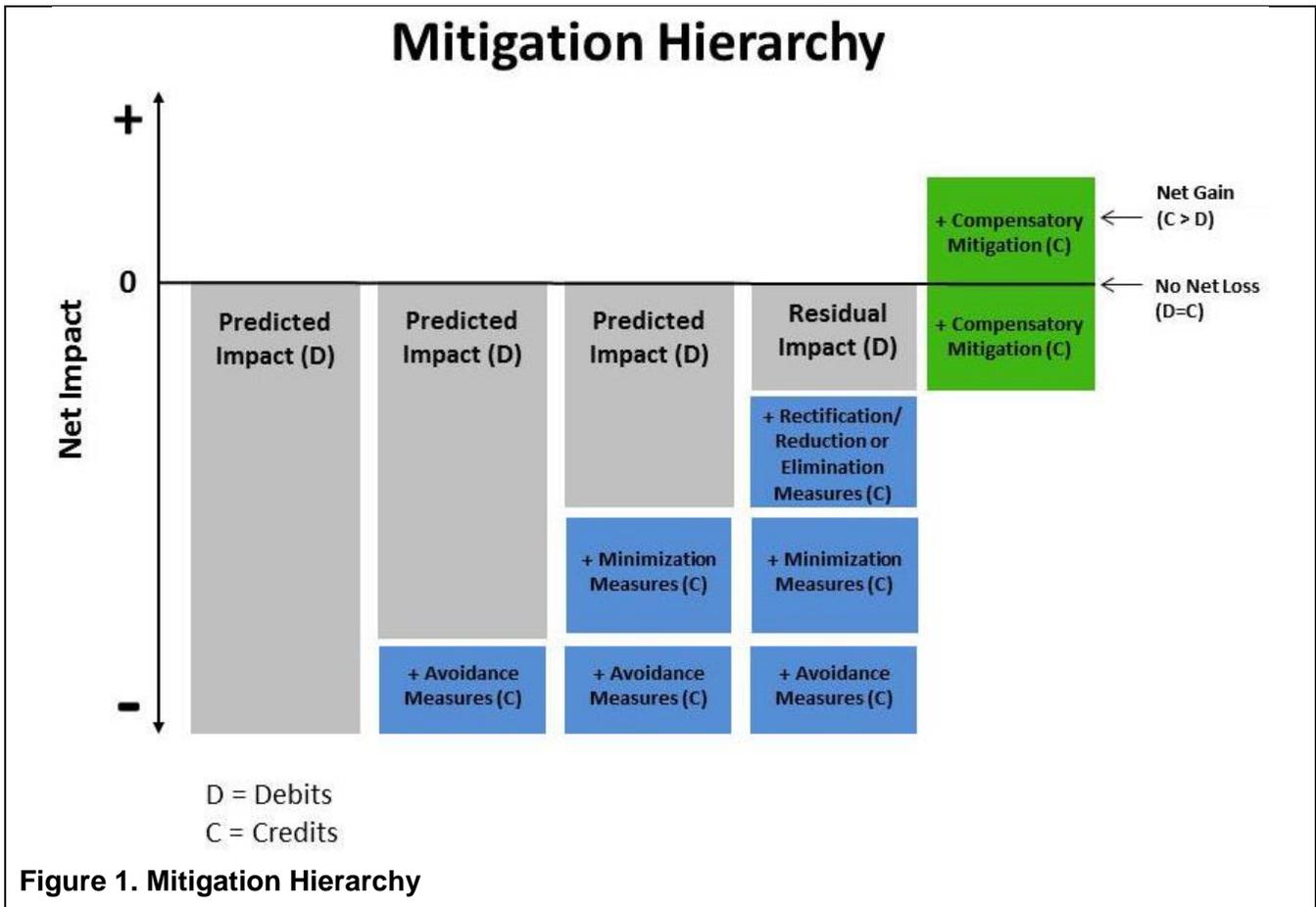
After initial impacts were identified for each resource, the BLM determined whether agency-required mitigation measures were needed to avoid, minimize, or rectify or restore B2H Project effects. The agency-required mitigation measures that would be applied to avoid, minimize, or rectify and/or restore B2H Project effects are identified in the Mitigation Planning and Effectiveness subsection in each resource section in Chapter 3. Also, the agency-required mitigation measures are summarized in Table 2-13. These measures comprise the first steps of the B2H Project mitigation strategy and hierarchy.

The mitigation hierarchy is illustrated in Figure 1 and is described below in both a general context and in the context of the B2H Project in particular:

- **Avoidance.** Measures taken to avoid impacts altogether by not taking a certain action or parts of an action. Avoidance measures applied to the B2H Project include reviewing each route's potential impacts on sensitive resources prior to considering the route for detailed analysis. Avoidance also includes more site-specific avoidance activities. See Tables 2-7 and 2-13 in Chapter 2. It also is expected that further avoidance will occur through the Applicant's final engineering and design if a route is selected.

The development of the route alignments is described in Chapter 2 of the Final EIS; the B2H Project was designed to avoid sensitive resources to the extent practicable.

- Minimization.** Measures taken to minimize impacts by limiting the degree or magnitude of the action and its implementations. Minimization measures taken by the B2H Project include actions to decrease effects on wildlife species, such as design components to lessen aerial collisions with the transmission lines and timing restrictions for construction and maintenance. Multiple environmental protection measures designed to minimize impacts have been included as part of the B2H Project. Refer to Tables 2-7 and 2-13 in Chapter 2. It also is expected that further minimization methods will be implemented through the Applicant’s final engineering and design if a route is selected.
- Rectification/Reduction or Elimination Over Time.** Measures taken to rectify impacts by repairing, rehabilitating, or restoring the affected environment or by reducing or eliminating the impact over time by preservation and maintenance operations during the life of the affecting action. Rectification, reduction, and elimination measures adopted by the B2H Project include recontouring and reseeding disturbed work areas, for example. Refer to Tables 2-7 and 2-13 in Chapter 2.



The priority is to mitigate impacts at the site of the activity in conformance with the land-use plan goals and objectives through impact avoidance, minimization, rectification, and reduction over time of the impact, including those measures described in laws, regulations, policies, and land-use plans. When these types of mitigation measures are not sufficient to ameliorate anticipated

direct, indirect, and cumulative impacts and substantial or significant residual impacts on important, scarce, or sensitive resources remain, additional measures to reduce these remaining unavoidable impacts or meet applicable land-use plan goals and objectives would be required (compensatory mitigation).

In general, the identified strategies to avoid, minimize, and rectify and/or restore impacts are presumed to be effective at reducing potential impacts on an acceptable level. Unavoidable adverse impacts on important, scarce, or sensitive resources remaining after the application of the first steps of the mitigation hierarchy are considered for compensatory mitigation.

Unavoidable effects on important, scarce, or sensitive resources that are expected to remain after the application of mitigation measures that meet the following criteria warrant compensatory mitigation:

In general, the identified strategies to avoid, minimize, and rectify and/or restore impacts are presumed to be effective at reducing potential impacts on an acceptable level. Unavoidable adverse impacts on important, scarce, or sensitive resources remaining after the application of the first steps of the mitigation hierarchy are considered for compensatory mitigation.

Unavoidable effects on important, scarce, or sensitive resources that are expected to remain after the application of mitigation measures that meet the following criteria warrant compensatory mitigation:

- Residual effects that, if compensatory mitigation were not required, would inhibit achieving compliance with laws, regulations, and/or policies
  - Residual effects that, if compensatory mitigation were not required, would inhibit achieving land-use plan objectives
  - Residual effects on important, scarce, or sensitive resources that have been identified previously in a mitigation strategy as warranting compensatory mitigation
  - Residual effects on important, scarce, or sensitive resources that are identified through a National Environmental Policy Act of 1969 (NEPA) process as warranting compensatory mitigation.
- **Compensatory Mitigation (also referred to as “offset”).** Measures taken to compensate for impacts by replacing or providing substitute resources or environments. Compensatory mitigation must offset residual impacts that affect important, scarce, or sensitive resources that cannot be avoided, minimized and/or rectified, or reduced or eliminated, in order to achieve a no net loss outcome of resources and their values, services, and functions or, as required or appropriate, a net benefit or net gain in outcomes. Guidance for compensatory mitigation actions and projects will be discussed in detail and will be the primary focus of the remainder of this document.

The design features of the B2H Project for environmental protection and selective mitigation measures will be incorporated into the Record of Decision (ROD) for the B2H Project and subsequently will be included in the Applicant’s POD. To ensure the B2H Project’s conformance with both federal and state regulatory requirements, the design of these environmental protection measures have followed the

hierarchy for mitigation and included avoidance, minimization, and rehabilitation/restoration measures. The Applicant has committed to implementing these design features and mitigation measures during construction, operation, and maintenance of the B2H Project. The design features and measures will be reviewed, revised, and developed further, as appropriate, to reduce impacts on resources and their values, services, and functions and, along with explicit implementation plans, will be included in the POD for this B2H Project. The POD will be reviewed and approved by the BLM. If the B2H Project is authorized, the POD will be used by the agencies in crafting the right-of-way and other B2H Project-related authorizations as appropriate. Final design and engineering will be incorporated into the POD which will be reviewed and approved by BLM and appropriate agencies prior to any notices to proceed for any surface-disturbing activities associated with the B2H Project. Consideration of the anticipated effectiveness of these design features and mitigation measures incorporated into the EIS impact assessment will be taken into account during the identification and development of compensatory mitigation.

This approach is consistent with the BLM policy direction on mitigation as well as the BLM's obligations under the FLPMA, NEPA, the Mineral Leasing Act of 1920, as amended, and CEQ regulations.

### **C.1.3 COMPENSATORY MITIGATION**

The CMP should achieve a no net loss outcome for affected qualifying resources and their values, services, and functions, or, as required or appropriate, a net benefit or net gain in outcomes. The decision-maker will look at the totality of the CMP to determine whether these requirements will be met by the CMP.

Compensatory mitigation would be required to address residual impacts on important, scarce, or sensitive resources (i.e., reasonably foreseeable effects that remain after the application of the first four steps of the mitigation hierarchy) and their values, services, and functions from the B2H Project.

The CMP should demonstrate and ensure that mitigation measures and compensatory mitigation sites are durable, defined by outcomes, implemented and monitored for effectiveness, considered within an adaptive management framework, reported on, managed by a responsible party, informed by the best available science, and developed through effective, early, and frequent communication with cooperating agencies and applicable stakeholders.

#### **C.1.3.1 PRINCIPLES, STANDARDS, AND TECHNICAL ELEMENTS**

The following general compensatory mitigation principles, standards, and technical elements provide an introduction to components that will be included in the CMP. More detailed, B2H Project-specific information is provided in the remainder of this Framework and will assist in the Applicant's development of the CMP. The following discussion provides the principles, standards, and technical elements the Applicant will consider when developing the CMP:

- Landscape-scale Approach and Compensatory Mitigation Siting
- Best Management Practices

- Durability
- Mitigation Measures' Outcomes, Performance Standards, Metrics, and Accounting
- Effectiveness Monitoring
- Adaptive Management
- Reporting
- Responsible Parties
- Best Available Science
- Managing Risk and Uncertainty

### **LANDSCAPE-SCALE APPROACH AND COMPENSATORY MITIGATION SITING**

The CMP will consider baseline conditions and reasonably foreseeable impacts, including impacts that extend beyond the BLM's administrative boundaries, in the context of the conditions and trends of resources, at appropriate scales (i.e., appropriate landscape-scale approach). The appropriate landscape-scale approach allows for the identification of the most appropriate combination of mitigation measures across the appropriate scales in order to provide the maximum benefit to the affected resources.

The appropriate landscape-scale approach also allows for identification of the most effective compensatory mitigation sites without implying a preference for siting compensatory mitigation closer to or farther away from the affected site or implying a preference for land ownership. A regional mitigation approach might be appropriate depending on the species and the scale of their resource selection. Unless other local or state laws or regulations mandate the location where compensatory mitigation should be sited, compensatory mitigation measures could take place in areas that are based more on regional considerations (opportunities, threats, etc.). However, compensatory mitigation should not be located in areas directly affected by the B2H Project or in areas where the success of the actions or maintenance of the required benefits are likely to be obviated over time by incompatible land uses.

In general, compensatory mitigation actions proposed on public lands should not serve as the primary means to offset the B2H Project's impacts on private lands. However, adherence to the constraint described above may not be practicable or advisable when (1) appropriate compensatory mitigation opportunities on private lands are not available, (2) land-management policies require that impacts incurred on public lands also are mitigated on public lands, and (3) while some conditions associated with proposed compensatory mitigation on public lands otherwise would be provided through planned or required public programs, actual attainment of the desired conditions is unlikely because of funding constraints or other obstacles.

### **BEST MANAGEMENT PRACTICES**

The CMP should implement best management practices that are state-of-the-art, efficient, appropriate, and practicable mitigation measures for offsetting the residual impacts from the B2H Project.

**DURABILITY**

The CMP will demonstrate, where applicable, that mitigation measures and compensatory mitigation sites are durable for the duration of the impacts resulting from the B2H Project. Durability includes three types of considerations for mitigation measures and compensatory mitigation sites: resource, administrative, and financial.

1. Resource considerations for durability include ensuring that mitigation measures and/or compensatory mitigation sites achieve and maintain their required outcomes, including being resilient to foreseeable change agents (e.g., wildland fire, invasive species, or climate change) for the duration of the impacts.
2. Administrative considerations for durability include actions that limit or exclude land-use activities that are incompatible with mitigation measures and/or compensatory mitigation sites, such as those required by permit terms and conditions, land-use planning, or legal designations. Mitigation actions should be proposed within land-use designations or classifications that will not allow for other management or uses that would degrade, delay, or otherwise undermine establishment and long-term maintenance of desired mitigation outcomes. Assurances of appropriate management constraints should be provided (e.g., land-use allocations, special designation areas, existing leases or rights-of-way, military operating areas, etc.). During interim periods in which agency management-planning processes are underway, clear policy guidance documents (e.g., an Instructional Memorandum providing interim guidance) should be in place to provide direction until planning decisions are made.
3. Financial considerations for durability include ensuring there will be financing sufficient to maintain, monitor, and adaptively manage mitigation measures and/or compensatory mitigation sites for the duration of the impacts from the B2H Project. The amount of financing provided to deliver the entire mitigation action (interim and perpetual actions) should be determined by an appropriate cost-analysis, such as a Property Analysis Record or an equivalent method. The source or sources of financing adequacy<sup>1</sup> for the interim and perpetual/long-term operation, management, monitoring, and documentation associated with the mitigation will be identified and secured. All funds will be held in dedicated accounts and will be managed based on agreed-on terms to ensure that compensatory mitigation outcomes will be attained and maintained as necessary. When funds are due, management terms will be determined by the state and federal permitting processes and any third-party (e.g., mitigation bank or in-lieu fee) agreement conditions.

The CMP will articulate clearly the duration of the impacts from the B2H Project and ensure that compensatory mitigation measures and sites are addressing the impacts for an equivalent period of time. At a minimum, the duration of compensatory mitigation measures should extend until the residual impacts on important, scarce, or sensitive resources have been restored (i.e., for the duration of the

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<sup>1</sup>Adequacy is defined as funding necessary to carryout agreed actions and perpetual or long-term operation, management, monitoring, remedial actions, permitting, planning, and reporting.

time that the transmission line and access roads exist and any additional time to recover the affected resources and their values, services, and functions).

In addition, the CMP will demonstrate (e.g., through financial assurances) that the responsible party for a mitigation measure and/or a compensatory mitigation site will maintain the mitigation's durability. The CMP will articulate that the responsible party is obligated to correct any loss of durability (i.e., a reversal), except if the BLM determines that the loss of durability was caused by a force majeure event (i.e., an event that cannot be reasonably anticipated or controlled, such as natural disasters outside of a predicted range of disturbance, additional governmental restrictions, etc.). Reversals may be caused by natural disturbances (unintentional reversals, such as wildfire) or anthropogenic disturbances (intentional reversals, such as development) which shorten the intended duration of compensatory mitigation.

### **MITIGATION MEASURES' OUTCOMES, PERFORMANCE STANDARDS, METRICS, AND ACCOUNTING**

The CMP will establish clearly defined and measurable outcomes for identified compensatory mitigation measures, although it may also be necessary to establish minimum actions (i.e., outputs) that will be taken in order to achieve those outcomes. The CMP also will develop performance standards that will be used to monitor and assess the effectiveness of compensatory mitigation measures. Mitigation measures' outcomes should support the resource objectives of applicable Resource Management Plans (RMP) and/or the objectives of other federal agencies or sovereign tribal, state, and/or local governments. The same or compatible methods, including metrics, as used to identify resource objectives and/or used to measure the reasonably foreseeable impacts of the B2H Project should be used to design the performance standards in order to be able to best measure the effectiveness of the mitigation measures for those impacts.

The BLM has established a mitigation standard, through application of the mitigation hierarchy, of a no net loss outcome for affected resources and their values, services, and functions, or, as required or appropriate, a net benefit (or gain, if appropriate) in outcomes where it has determined that compensatory mitigation is warranted. This mitigation standard is consistent with applicable authorities, for resources and their values, services, and functions that are considered by the BLM as important, scarce, sensitive, or otherwise suitable to achieve established goals, or that have a protective legal mandate.

The CMP will identify and describe how to achieve the mitigation standard and what metrics and accounting system, whether qualitative (e.g., subjective and/or intuitive) or quantitative metrics, will be used. The methods, or metrics, used to determine the expected impacts of actions (debits) and the measures necessary to avoid, minimize, restore and/or offset those impacts (credits) must be based on biological and physical conditions (as applicable to the resource and its values, services, and functions) and on reliable and repeatable methods and result in a common "currency" between credits and debits. The methodology for determining the metrics should follow the EIS analysis where applicable. If the Applicant chooses, the Applicant may propose further refinement of credits (mitigation) and debits

(impacts) in the CMP. Final approval will be determined by the decision-making agencies (e.g., BLM, U.S. Forest Service [USFS], Bureau of Reclamation, Department of Navy, etc.).

A formal, consistent, rigorous, but relatively simple, method<sup>2</sup> to assess impacts should be used and applied to all development activities that affect qualifying resources and their values, services and functions. The method should address direct and indirect impacts. Metrics that are comparable or the same across jurisdictional boundaries will allow for more meaningful exchanges in a landscape context. Approaches such as sound propagation, distance-based disturbance bands, habitat weighting, and ratios are acceptable, especially in conjunction with defined thresholds of allowable impact in defined geographies.

Credits must be reasonably likely to deliver expected conservation benefits (see the Durability section above). Phased credit releases should be provided based on both ecological and administrative performance. Mitigation requiring large commitments also may be considered for greater credit values and potential future credits related to similar impacts. Ultimately, the metrics used must tie back to indicators of the affected qualifying resources and their values, services, and functions and clearly show the conservation benefit to the affected resources and their values, services, and functions.

Mitigation ratios may be applied to debit calculations to address uncertainty in the program and ensure durability. Ratios may be determined based on several factors, including temporal considerations (impact versus mitigation timing), functional quality and importance of proposed affected areas, projected functional quality of proposed mitigation areas, likelihood of restoration success, degree of threat to proposed preservation areas, durability, etc.

A robust compensatory mitigation program will provide an accounting system<sup>3</sup> whereby credits and debits can be tracked. The accounting system should foster transparency, accountability, and credibility and facilitate the connections between compensatory mitigation providers at the lowest transaction costs.

Guidance for the development of metrics and accounting systems are provided in the resource component sections below.

## **EFFECTIVENESS MONITORING**

The CMP will identify and provide protocols to ensure that mitigation measures are monitored to either (1) verify that the required outcomes are being achieved or (2) ensure that specific adaptive management requirements are being implemented, or both. The CMP will identify the type, extent, and duration of effectiveness monitoring for mitigation measures, as guided by the degree of uncertainty associated with a mitigation measure, the amount and type of the mitigation measure, and the potential need for adaptive management. The CMP will identify the party responsible for conducting effectiveness monitoring and, if necessary, the Applicant could enter into a formal and binding

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<sup>2</sup>Refer to *Measuring Up* document submitted to the U.S. Department of Agriculture (USDA) for examples of developing robust metrics: <http://willamettepartnership.org/measuring-up/Measuring%20Up%20w%20appendices%20final.pdf>.

<sup>3</sup>See Willamette Partnership's *General Crediting Protocol* for an example of an ecosystem credit accounting system.

agreement with the BLM or another entity to conduct the effectiveness monitoring. Final approval of a responsible party other than the Applicant will be determined by the decision-making agencies (e.g., BLM, USFS, Bureau of Reclamation, and Department of Navy). Effectiveness monitoring should be designed around the same or compatible methods, including metrics, as used to identify resource objectives, measure the reasonably foreseeable impacts of the B2H Project, and/or define the mitigation measures' outcomes and performance standards. The financial cost of implementation and effectiveness monitoring will be the obligation of the Applicant or their delegated agent. These costs will be included in the determination of the amount of compensatory mitigation. In the case that mitigation measures meet both the requirements of the federal decision-making agencies and the Oregon Department of Energy (ODOE) Energy Facility Siting Council (EFSC), ODOE will coordinate with the federal decision-making agencies on monitoring and reporting to reduce duplication.

### **ADAPTIVE MANAGEMENT**

The CMP will articulate adaptive management provisions that respond to lessons learned from scientific research, implemented mitigation measures, and associated effectiveness monitoring. The adaptive management process includes four steps: 1) performance standards are developed to describe the desired condition; 2) management action is carried out so the site meets the performance standards; 3) the response of the resource is monitored to determine if the performance standards have been met; and 4) management is evaluated and adjusted if the performance standards are not achieved (WSDOT 2016). The responsible party will be required to implement adaptive management of mitigation measures to reduce uncertainty and achieve the required mitigation outcomes.

Monitoring and responsive site management are both integral to an effective adaptive management strategy. Without valid monitoring data, management actions may or may not result in improved conditions or be in compliance with CMP objectives, regulatory permits and agency authorizations. Timely site management decisions, based on valid monitoring data, result in increased efficiency and higher probability of success (WSDOT).

### **REPORTING**

The CMP will describe reporting procedures that include preparation and submission of periodic reports to the BLM and agencies with authorizing decisions on the implementation and effectiveness of the mitigation measures. Monitoring reports typically should consist of written summaries and implementation and effectiveness monitoring data in order to verify that mitigation measures are being implemented as required in the land-use authorization and that the required outcomes are being achieved, and/or to ensure that specific adaptive management requirements are being implemented. The BLM and agencies with authorizing decisions will use these reports to help determine whether the responsible party needs to complete any necessary corrective actions or adaptive management in order to achieve the required compensatory mitigation outcomes.

**RESPONSIBLE PARTIES**

The compensatory mitigation plan will clearly identify the responsible parties who are accountable for fulfilling all aspects of the compensatory mitigation obligations, including ensuring the durability and effectiveness of mitigation measures and projects, achieving the desired mitigation measures' outcomes, and complying with the requirements for monitoring, adaptive management, and reporting. Responsible parties may include state and federal agencies, the Applicant's companies, and third parties; and responsibilities may be defined to varying degrees among the responsible parties depending on their involvement and obligations to the application of compensatory mitigation.

**BEST AVAILABLE SCIENCE**

The CMP should use the best available science (e.g., peer-reviewed research and methods, scientifically robust monitoring data and modeling results, well-documented case studies, etc.) to inform the identification and analysis of reasonably foreseeable impacts and mitigation for those impacts. For compensatory mitigation obligations, it may be appropriate to include scientific studies/inventories that can aid in determining the appropriate type, duration, and amount of compensation. Generally, scientific studies/inventories, on their own, should not be considered compensation, unless the studies/inventories directly offset the impact; are necessary to inform the maintenance, monitoring, and/or adaptive management of the compensatory mitigation measures; or otherwise directly benefit the management of the affected resources.

**MANAGING RISK AND UNCERTAINTY**

The CMP will recognize the varying degrees of uncertainty associated with predicting the effectiveness of compensatory mitigation measures. Compensatory mitigation accounting systems (e.g., debiting and crediting methodologies) should consider risk and adjust metrics and mitigation ratios to account for uncertainty. Other risk management tools include incorporating adaptive management strategies, using buffers to protect compensatory mitigation sites from edge effects, designing credit release schedules that only allow credit releases when specific performance criteria are met, considering a diverse portfolio of mitigation actions and projects (e.g., certain proportion dedicated to restoration, enhancement, and preservation), and establishing a reserve credit account to spread the risk among mitigation providers and provide added assurance that the goal for the mitigation project or program is achieved. Potential uses of reserve credit accounts may include offsetting reversals (unintentional reversals such as natural events like wildfire or flooding that can be reasonably anticipated or controlled within a predicted range of disturbance; or intentional reversals such as adjacent land use that may negatively affect a mitigation site) as agreed to by the BLM and other decision-making agencies. In the event of a reversal, the responsible party could draw from the reserve credit account to make up for lost conservation.

**KEY ATTRIBUTES OF COMPENSATORY MITIGATION**

The Applicant's compensatory mitigation obligation should be commensurate with the residual effects from the B2H Project. In addition, compensatory mitigation measures will be additional and should demonstrate the appropriate level of timeliness.

### *Reasonable Relationship*

The CMP will ensure that any compensatory mitigation obligation is reasonably related and proportional (i.e., commensurate) to the residual impacts from the B2H Project. The type of compensatory mitigation should have a reasonable relationship to the B2H Project's residual impacts, which can include both in-kind and out-of-kind compensatory mitigation measures. The BLM will evaluate the types of compensatory mitigation measures based on the measures' ability to provide the maximum benefit to the affected resources. In addition, the amount of compensatory mitigation should be proportional to the B2H Project's residual impacts. Proportionality includes factors such as the quality of the resource (at both the affected site and compensatory mitigation sites), the timeliness of the compensatory mitigation measure, the risk of a measure's failure, and the established mitigation standard (i.e., no net loss, net gain, etc.).

### *Timeliness*

Compensatory mitigation measures should demonstrate the appropriate level of timeliness. The CMP will describe when the measures' outcomes will be achieved. The BLM's general preference is that compensatory mitigation outcomes be achieved in advance of the B2H Project's impacts. The implementation of this preference depends on the urgency of the compensatory mitigation needs, the amount and type of the compensatory mitigation measures, and the financial capability of the Applicant. The BLM may allow for the B2H Project's residual impacts to precede the achievement of compensatory mitigation outcomes. However, the CMP will need to account for the increased uncertainty and the time-value of delayed benefits during the determination of the compensatory mitigation obligation.

### *Baseline and Additionality*

Compensatory mitigation measures will improve on the baseline conditions of the affected resources, be demonstrably new, and establish that they would not have occurred without compensatory mitigation.

Baseline refers to the conditions of the resources and their values, services and functions at any given point in time against which conservation actions are measured to determine ecological uplift, or additionality. Baseline conditions will be based off of the EIS analysis. Baseline conditions should be assessed and measured using the same methodology employed in the EIS to predict future conditions during B2H Project planning stages and ultimately to verify B2H Project conditions and associated credits during periodic and final monitoring. Consistent methodology for determining baseline conditions at a given site must be applied to predict impacts on resources and their values, services, and functions.

Actions proposed as compensatory mitigation must provide benefits beyond those that would already be achieved under other applicable regulations and/or land-use management plans. Mitigation actions should result in an improvement to the baseline condition (or ecological uplift) of the lands on which those actions occur, commensurate with the amount and types of impacts (e.g., occupancy,

productivity, connectivity, intactness, integrity or important, scarce or sensitive characteristics or values).

Corrective actions applied to existing management requirements that are not being met would not be considered additional to normal requirements or management. Merely maintaining existing conditions on proposed compensatory mitigation sites, even if such conditions support resource needs, does not result in true offsets to B2H Project impacts, as an overall net loss to the resources and their values, services, and functions would remain. For this reason, acquisition and protection of a site as the sole conservation action typically will not result in adequate mitigation; additional restoration and enhancement actions most often will be necessary. Some temporal credit consideration may be appropriate for contributions to substantively accelerated management actions on a case-by-case basis where benefits can be quantified. Credit consideration also may be provided to acquisition and preservation of an important site if resources in that site are under eminent threat of loss.

The CMP will ensure that compensatory mitigation measures are in addition to any existing and funded investments, or any foreseeably expected investments, that benefit the same resources at the same compensatory mitigation site (i.e., financial additionality). The CMP also will ensure that compensatory mitigation measures improve on the baseline conditions of the affected resources beyond the conditions that would have happened without the compensatory mitigation (i.e., resource additionality).

### **KEY COMPONENTS OF A COMPENSATORY MITIGATION PLAN**

In summary, at a minimum the CMP should contain the following:

- Type of resource(s) and its value(s), service(s), and function(s), and amount(s) of such resource(s) to be provided (usually expressed in acres or some other physical measure), the method of compensation (restoration, establishment, enhancement, preservation), and the manner in which a landscape-scale approach has been considered
- Factors considered during the compensatory mitigation site selection process
- Compensatory mitigation site protection instruments to ensure the resource and administrative durability of the measure
- Baseline information and the demonstrated additionality of the measure
- The methodology used to determine the expected debits and credits and mitigation ratios applied (as applicable)
- The mitigation value of such resources, including a rationale for such a determination
- A mitigation work plan, including the geographic boundaries of a compensatory mitigation measure, construction methods, timing, responsible party(ies), and other considerations
- A maintenance plan
- Performance standards to determine whether a compensatory mitigation measure has achieved its intended outcome
- Monitoring requirements
- Long-term management
- Adaptive management commitments

- Financial assurance provisions that are sufficient to ensure, with a high degree of confidence, that a compensatory mitigation measure will achieve and maintain its intended outcome, in accordance with the compensatory mitigation measure's performance standards
- Potentially, additional information as necessary to determine appropriateness, practicability, and equivalency of compensatory mitigation projects, particularly as they relate to the principles, standards, and technical elements described above

### **C.1.3.2 IMPLEMENTATION, MANAGEMENT, AND MONITORING**

Preparation of the CMP with the Applicant will involve discussions, collaboration, and coordination with the BLM. This coordination may include the establishment of an ad hoc CMP Working Group comprising the Applicant and federal, state, tribal, and county representatives with subject matter expertise. Involvement by county, state, and federal agencies with jurisdiction over the B2H Project will ensure that the CMP is sufficient and consistent with applicable laws and government policies. Composition of the CMP Working Group will be determined after selection of the approved route.

The CMP will include (1) a schedule detailing the sequence for implementing the restoration of areas that are temporarily or permanently affected by construction of the B2H Project and (2) the sequencing of proposed compensatory mitigation actions, including time frames for securing compensatory mitigation lands and for implementing mitigation actions on those lands.

The Applicant, in coordination with applicable agencies, will establish the time frames for which each mitigation action should attain its full mitigation credit (e.g., restoration of habitat values, land acquisition, etc.) as required to compensate for the B2H Project's residual impacts. Specific criteria will need to be developed that describe and measure the success and failure of each mitigation action. The desired outcomes will be based on the results of the impact assessment in the EIS and evaluation (both referenced earlier in this document) with an overall goal of achieving a no net loss outcome for the resources and their values, services, and functions, or, as required or appropriate, a net benefit or net gain in outcomes through implementation of the CMP.

The CMP will include an overall management plan for all the compensatory mitigation actions that details how mitigation actions and or initiatives will be managed and how enhancement actions will be implemented and monitored. The Applicant, or other identified parties, will be responsible for monitoring and reporting to the BLM whether mitigation and the associated management actions are implemented as stated in the CMP (implementation monitoring) and immediately addressing any inconsistencies, in coordination with the BLM. The Applicant also will be responsible for monitoring and reporting to the BLM the response of affected resources at the construction impact sites, as well as at compensatory mitigation action sites, to confirm that the targeted resource outcomes are being achieved (effectiveness monitoring). Monitoring also will be used to identify mitigation actions that are not achieving the desired result, and remedial actions will be developed and implemented.

The CMP should include scientifically accepted monitoring methods and a detailed regime for monitoring and assessing attainment of targeted outcomes over the life of B2H Project impacts. The Applicant, or other identified responsible party(ies), will be responsible for reporting the monitoring

findings and recommendations for a specified time period, as required by the federal permitting process, for the duration of the mitigation effort(s) as determined by evaluated success of the mitigation. The report will describe all mitigation and management actions carried out during the reporting year and all remedial management work performed in response to monitoring actions. The report will include an evaluation of mitigation success in meeting targets (i.e., outcomes) and a description of the methods used to perform the evaluation. In the case that mitigation measures meet both requirements of the federal decision-making agencies and the EFSC, ODOE will coordinate with the federal decision-making agencies on monitoring and reporting to reduce duplication.

Each federal agency with jurisdiction over the B2H Project will carefully track the monitoring reports to determine whether actions and outcomes are consistent with applicable law, the CMP, the Final EIS, and the ROD(s), as well as their respective B2H Project authorizations, including rights-of-way and permits. The agencies will cooperate to identify and address inconsistencies. Each agency will reserve the ability to take all measures available under law and regulation to ensure compliance with the terms and conditions of its respective authorization.

#### **C.1.4 GUIDE TO RESOURCE SECTIONS**

Sections C.2 and C.3 describe the results of the BLM's assessment and identify, as consistent with BLM policy, (1) resources with residual impacts that do not warrant compensatory mitigation and (2) resources with residual impacts that do warrant compensatory mitigation and the rationale justifying compensatory mitigation. The following sections outline and analyze the specific details of the Framework for each resource for which compensatory mitigation may be required. Each resource section has the following subsections:

- Introduction
- Residual Impacts
- Resource-specific Compensatory Mitigation Framework

#### **C.1.5 COMPENSATORY MITIGATION REQUIREMENTS BY OTHER AGENCIES**

In addition to any compensatory mitigation required by the BLM, the Applicant may be required to provide compensatory mitigation for (1) effects on fish and wildlife habitat in accordance with the EFSC Fish and Wildlife Habitat standard (OAR 345-022-0060), which incorporates the Oregon Department of Fish and Wildlife (ODFW) Habitat Mitigation Policy (OAR 635-415-0025), (2) effects on forested habitat on the Wallowa-Whitman National Forest, (3) effects on species listed under the Endangered Species Act included as terms and conditions of the National Oceanic and Atmospheric Administration (NOAA) Fisheries and the U.S. Fish and Wildlife Service (USFWS) Biological Opinions, and (4) effects on wetlands, streams, and other aquatic resources regulated by the Clean Water Act Section 404 permitting process and other U.S. Army Corps of Engineers (USACE) permits. The requirements of these agencies are described in Sections C.1.5.1, C.1.5.2, C.1.5.3, and C.1.5.4, respectively.

### **C.1.5.1 OREGON ENERGY FACILITY SITING COUNCIL**

Compliance with the EFSC Fish and Wildlife Habitat standard (OAR 345-022-0060), which incorporates the ODFW Fish and Wildlife Habitat Mitigation Policy (OAR 635-415-0025), may require compensatory mitigation for impacts on fish and wildlife habitat. The ODFW mitigation policy categorizes habitats into one of six categories, depending on a number of factors including habitat quality, importance, uniqueness, and irreplaceability. Fish or wildlife habitat that is determined to be irreplaceable and essential is Category 1 habitat. Category 1 habitat is the most important and, therefore, impacts on Category 1 habitat typically are not allowed by the ODFW mitigation policy. Fish or wildlife habitat that is determined to be heavily disturbed or that is already developed is Category 6 habitat. Compensatory mitigation is not required for impacts on Category 6 habitat. To mitigate for impacts on Category 2 through 5 habitats, compensatory mitigation is generally required to meet the required mitigation goals as outlined in the policy. The EFSC standard and the ODFW mitigation policy apply to affected habitat, not individual species. In the case of the B2H facility, compensatory mitigation is likely to be required for impacts on forested habitat that may provide winter and summer range for big game species, Washington ground squirrel habitat, and potentially other habitat types in accordance with the EFSC Fish and Wildlife Habitat standard and the ODFW mitigation policy. Mitigation for impacts on Greater Sage-Grouse habitat would be required in accordance with OAR 635-415-0025(7), which incorporates the Greater Sage-Grouse conservation strategy at OAR 635-140-0000. Mitigation requirements under the EFSC process are considered and addressed in the application for site certificate and orders issued by ODOE, EFSC.

The EFSC site certificate, if approved, is a binding contractual agreement between the certificate holder and the State of Oregon and would include all conditions of construction and operation required of the certificate holder. In addition, the site certificate incorporates the requirements of other individual Oregon state or local permits within EFSC jurisdiction and governed by the site certificate. The conditions and requirements of a site certificate would only apply to the portion of the facility located within Oregon.

### **C.1.5.2 U.S. FOREST SERVICE**

The B2H Project will affect forested habitats on the Wallowa-Whitman National Forest. The USFS will require compensatory mitigation to offset direct and indirect effects of the B2H Project on forested habitats. Compensatory mitigation requirements will be documented in the USFS ROD and will be a condition of any special-use authorization issued for the B2H Project. That is, the USFS ROD for the B2H Project and the associated special-use authorization will be conditioned on final approval by USFS of the Applicant's forested habitat CMP. The authorities and policy that guide these compensatory mitigation requirements for impacts on forested habitat on Forest include: 36 CFR 251.56 B and D: *Required contents of USFS Terms and Conditions of a Special Use Authorization*; Executive Order 13186: *Conservation of Migratory Birds*; and Presidential Memorandum: *Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment*.

Direct impacts on forested habitats will occur from Project construction where trees are permanently removed to clear the transmission line right-of-way, construction areas (if needed; e.g., storage yards,

tensioning and pulling sites); and for new or improved access roads. The USFS considers direct effects on forested habitat from construction activities to be permanent because forested habitat removed during construction will not regrow past an early seral, low-functioning forested habitat condition during the life of the B2H Project. Indirect effects on forested habitat and wildlife species therein, will occur during the construction and operations and maintenance phases of the B2H Project. Indirect effects will result from forested habitat fragmentation, new edge effects in forested habitat, and disturbance to wildlife species in adjacent forested habitat from B2H Project and public use of new and upgraded B2H Project access roads.

For any route selected for construction, the USFS will provide the Applicant with a description of methods acceptable to USFS for categorizing forested habitat types; identifying direct and indirect impacts; and calculating overall impacts (“debits”) on forested habitat, as well as determining mitigation activities (“credits”) acceptable to the USFS to offset B2H Project effects. In some cases, acceptable methods for classifying the quality of forested habitat and determining debits to forested habitat will include the use of methods provided by ODFW’s Habitat Mitigation Policy. Categories of forested habitat mitigation activities acceptable to USFS include acquisition of forested habitat with funding for long-term management and habitat restoration, and funding for enhancement and associated management of forested habitats on USFS lands. Mitigation measures or projects proposed by the Applicant must be consistent with the standards and principles for compensatory mitigation (e.g., additionality and durability) as described in Section C.1.3.1 of this Framework.

### **C.1.5.3 U.S. FISH AND WILDLIFE SERVICE AND NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**

Additional compensatory mitigation developed through the Section 7 consultation process could be required for species listed under the Endangered Species Act and could be included as terms and conditions of the NOAA Fisheries and the USFWS Biological Opinions.

### **C.1.5.4 U.S. ARMY CORPS OF ENGINEERS AND OREGON DEPARTMENT OF STATE LANDS**

Compensatory mitigation may be required to offset unavoidable adverse impacts on wetlands, streams, and other aquatic resources regulated by the Clean Water Act Section 404 permitting process and other USACE permits. The type of compensatory mitigation required would be determined by the agencies as part of the Section 404 and Oregon Department of State Lands (ODSL) removal-fill permitting processes.

## **C.2 COMPENSATORY MITIGATION FRAMEWORKS**

### **C.2.1 RESOURCES WITH RESIDUAL IMPACTS NOT WARRANTING COMPENSATORY MITIGATION**

Following the identification of the potential impacts that could remain after application of the avoidance, minimization, and rectification/restoration measures included in the B2H Project mitigation strategy, the BLM determined that the following resources did not have residual impacts that met the criteria described above and do not warrant compensatory mitigation. In general, the BLM determined that the

nature and extent of predicted remaining unavoidable impacts on these resources identified through the NEPA process indicate that the effects would be minor, localized, or temporary and not affect important, scarce, or sensitive resources, therefore, do not warrant compensatory mitigation. Also, the residual impacts would not inhibit achieving BLM land-use plan objectives or compliance with laws, regulations, and/or policies. Finally, residual impacts related to the resource indicators for these resources have not been identified previously by the BLM in a Project- or program-specific mitigation strategy in the study area for the Agency Preferred Alternative as warranting compensatory mitigation.

- Earth Resources
  - Soils
  - Minerals
  - Geohazards
  - Paleontological Resources
- Water Resources
  - Perennial, intermittent, and 303(d) listed temperature and sediment-impaired streams
  - Wetlands
- Vegetation
  - Endangered Species Act listed species
  - Sensitive species
  - Vegetation communities (with the exception of Riparian Conservation Areas)
- Wildlife
  - Endangered Species Act listed species
  - Raptors and other migratory birds
  - Special status species (with the exception of Greater Sage-Grouse)
- Fish
  - Federally Listed and Candidate Species
  - Sensitive Fish Species
  - Protected Fish Habitats
- Land Use
- Agriculture
- Lands with Wilderness Characteristics
- Recreation
- Transportation
- Potential Congressional Designations
- Visual Resources
- Cultural Resources
- Air Quality (including greenhouse gas emissions and climate change)
- Socioeconomics and Environmental Justice

## **C.2.2 RESOURCES WITH RESIDUAL IMPACTS WARRANTING COMPENSATORY MITIGATION**

Following the assessment of the potential impacts that could remain after application of the avoidance, minimization, and rectification/restoration measures included in the B2H Project mitigation strategy, the BLM determined that the residual impacts on the following resources meet the criteria presented previously in this section and warrant compensatory mitigation by the BLM.

- Greater Sage-Grouse
- Riparian conservation areas
- NHTs
- Cultural resources

As stated in Section C.1.4, additional habitats may require compensatory mitigation by EFSC, USFS, NOAA Fisheries and USFWS, and by USACE and ODSL.

The residual impacts on these resources and the rationale for the resources warranting compensatory mitigation are described below. For each resource determined by the BLM to require compensatory mitigation under the selected alternative route, the appropriate compensation to mitigate for the previously identified residual impacts will be determined and documented in a CMP.

### **C.2.2.1 GREATER SAGE-GROUSE**

#### **INTRODUCTION**

The following Greater Sage-Grouse Framework was developed to offset residual impacts from the B2H Project on Greater Sage-Grouse. This Greater Sage-Grouse Framework incorporates the guidance provided in the Mitigation Blueprint for Greater Sage-Grouse, which was developed by B2H Project stakeholders and included as Appendix E in the Draft EIS, as well as additional guidance that reflects recent DOI and BLM policy and management direction for Greater Sage-Grouse.

The Greater Sage-Grouse Framework is meant to guide the development of impact assessment and mitigation packages. Through this process, approaches that are slightly different than those described in the Framework may be determined to be necessary and desirable. However, at no time should such modifications result in significant deviations from the underlying tenets and goals of the following:

- The BLM's Oregon Greater Sage-Grouse Approved Resource Management Plan Amendments (ARMPA) (BLM 2015a) and the Idaho and Southwestern Montana Greater Sage-Grouse ARMPAs (BLM 2015b)
- The ODFW's Greater Oregon Sage-Grouse Conservation Assessment and Strategy for Oregon (ODFW 2011)
- The ODFW's Greater Sage-Grouse Conservation Strategy for Oregon policy (OAR 635-140) and guidance documents (Oregon Greater Sage-Grouse Action Plan, State of Oregon Greater Sage-Grouse Habitat Mitigation Manual, and Governor's Executive Order No. 15-18)
- The Idaho Department of Fish and Game's (IDFG) Conservation Plan for the Greater Sage-grouse in Idaho (Idaho Sage-grouse Advisory Committee 2006)

- The principles, standards, and other considerations described below

Therefore, this Greater Sage-Grouse Framework will provide the basis for a B2H Project-specific Greater Sage-Grouse CMP that, when initially prepared, will provide an overview of mitigation opportunities. The CMP will be refined throughout the permitting process.

The goals of this Greater Sage-Grouse Framework are to:

- Create common understanding and expectations among the Applicant, the ODFW, the IDFG, the USFWS, the BLM, and other stakeholders about the standards, methods, time frames, and other considerations that will guide the development of a Greater Sage-Grouse CMP; and
- Provide a tool for the BLM to evaluate and determine the adequacy of the Greater Sage-Grouse CMP, including any impact assessments and proposed sage-grouse compensatory mitigation actions for the B2H Project.

### **GENERAL MITIGATION PRINCIPLES, STANDARDS, AND OTHER CONSIDERATIONS**

The B2H Project's design will adhere to the following standard hierarchy for mitigation, as described in Section C.1.2. The principles, standards, and technical elements that will be considered when developing the Greater Sage-Grouse CMP are described in Section C.1.3.

Both the BLM and the State of Oregon will require compensatory mitigation for residual impacts of the B2H Project on Greater Sage-Grouse. The State of Oregon's compensatory mitigation requirements will be in accordance with the ODFW's Greater Sage-Grouse Conservation Strategy for Oregon policy (OAR 635-140) and guidance documents (Oregon Greater Sage-Grouse Action Plan, State of Oregon Greater Sage-Grouse Habitat Mitigation Manual, and Governor's Executive Order No. 15-18) as part of the B2H Project's EFSC site certification. In order to streamline mitigation to the extent possible and to prevent duplication of—or conflict between—the mitigation requirements, the State of Oregon and the BLM will collaborate with the Applicant to ensure that mitigation actions for Greater Sage-Grouse meet the requirements of both entities.

#### *Bureau of Land Management Policy for Greater Sage-Grouse*

In September 2015, the BLM issued a ROD approving the Greater Sage-Grouse ARMPAs, including the Oregon Greater Sage-Grouse ARMPA (BLM 2015a) and the Idaho and Southwestern Montana Greater Sage-Grouse ARMPA (BLM 2015b). The ARMPAs amended land-use plans in Idaho and Oregon by establishing Greater Sage-Grouse management areas and providing direction for management and conservation of Greater Sage-Grouse and its habitat. The ARMPAs were a critical component to ensure the protection of Greater Sage-Grouse habitat by avoiding, minimizing, and compensating for residual impacts on Greater Sage-Grouse habitat, and the amendments helped support the USFWS's determination that Greater Sage-Grouse no longer warrants protection under the Endangered Species Act.

In particular, the ARMPAs changed land-use designations for management decisions, including realty actions, such as rights-of-way for high-voltage transmission lines, from "open" to "avoidance areas"

within the newly identified Greater Sage-Grouse habitat areas as priority habitat management areas (PHMA) and general habitat management areas (GHMA) in Oregon, and PHMA, GHMA, and important habitat management areas (IHMA) in Idaho. While this new management prescription generally changes the areas available for actions like rights-of-way for high-voltage transmission lines, the BLM identified in the ARMPAs several priority transmission projects under review that would not be affected by the new management decisions. Instead, the management prescriptions for only these identified projects would remain “open” rather than identified as avoidance areas.

The B2H Project was one of the priority transmission projects identified in the ARMPAs (refer to MD LR 6 in the BLM ARMPAs for Oregon, and MD LR 12 in the BLM ARMPAs for Idaho and Southwestern Montana, listed below). Specific language included in the BLM ARMPAs for Oregon applicable to the B2H Project includes:

- **MD LR 6:** PHMA and GHMA are designated as avoidance areas for high-voltage (100-kV or greater) transmission lines and major pipelines (24-inch or greater in diameter) rights-of-way (including permits and leases). All authorizations in these areas, other than the following identified projects, shall comply with the conservation measures outlined in this Approved Plan, including the required design features (RDF) (Appendix C) and screening criteria (see SSS 13) of this document. The BLM is currently processing an application for the B2H Project and the NEPA review for this project is well underway. Conservation measures for Greater Sage-Grouse are being analyzed through the project’s NEPA review process, which should achieve a net conservation benefit for the Greater Sage-Grouse.

Specific language included in the BLM ARMPAs in Idaho applicable to the B2H Project includes:

- **MD LR 12:** PHMA (Idaho and Montana) and IHMA (Idaho), and GHMA (Montana only) are designated as avoidance areas for high-voltage transmission line and large pipeline rights-of-way, except for the Gateway West and B2H projects. All authorizations in these areas, other than the following identified projects, must comply with the conservation measures outlined in this proposed plan, including the RDFs and avoidance criteria presented in MD SSS 29 and MD SSS 30 of this document. The BLM is currently processing an application for Gateway West and B2H projects and the NEPA review for this project is well underway. Conservation measures for Greater Sage-Grouse are being analyzed through the project’s NEPA review process, which should achieve a net conservation benefit for the Greater Sage-Grouse.

The ARMPAs also acknowledged that the NEPA process for the B2H Project has been underway for several years and that the BLM is already assessing the impacts of the B2H Project on Greater Sage-Grouse and analyzing B2H Project-specific conservation measures through the B2H Project NEPA process. While the conservation measures in the ARMPAs do not apply to the B2H Project, the Applicant committed to complying with seasonal restrictions in the ARMPAs (refer to Appendix B) and developing a compensatory mitigation plan, which will identify appropriate levels of compensatory mitigation to demonstrate a net conservation benefit. The Applicant, in coordination with the BLM and

the cooperating agencies, will use this Framework to guide and develop the compensatory mitigation based on the final design and engineering of any selected route.

If the BLM approves a right-of-way grant for the B2H Project, the grant will incorporate the mitigation measures analyzed in the EIS into any ROD, including this Framework. If the B2H Project is approved, the ROD also will identify specific standards and assumptions to be used in quantifying necessary compensatory mitigation. The Applicant will not complete final engineering and design until the BLM issues a ROD, and if appropriate, identifies a selected action alternative. Through this Framework and all applicable stipulations in the ROD, the Applicant will calculate the compensatory mitigation obligation and prepare a Greater Sage-Grouse CMP (as required in the ROD and identified in this Framework). The Applicant's Greater Sage-Grouse CMP will be reviewed by the BLM and an appropriate subgroup of cooperating agencies (i.e., the USFWS, appropriate state wildlife agencies, and other cooperators with Greater Sage-Grouse expertise). The Applicant will submit their Greater Sage-Grouse CMP to the BLM authorized officer for the officer's review and approval prior to issuance of the final notice to proceed.

### **RESIDUAL IMPACTS**

The initial anticipated B2H Project impacts on Greater Sage-Grouse include:

- Long-term and temporary habitat loss
- Mortality due to electrocution, in-flight collisions with transmission line infrastructure, and collisions with construction and maintenance vehicles
- Disturbance during sensitive periods (including during breeding activities at lek locations) resulting from human presence, vehicle use, and noise during construction and maintenance
- Interruption and/or alteration of seasonal migrations and movements among populations
- Disruption of nesting and breeding activities and avoidance of habitat due to vehicle noise and human presence from public use of new access roads
- Increased avian presence and predation due to increased perching and nesting opportunities on transmission structures
- Avoidance behavior due to presence of tall structures, EMF, presence of new roads, and increase in avian and mammalian predation pressure
- Alteration of the native sagebrush understory through introduction and spread of invasive plants

The strategies that will be implemented to avoid, minimize, or rectify B2H Project impacts on Greater Sage-Grouse include:

Avoid:

- Disturbance during sensitive periods (including during breeding activities at lek locations) resulting from human presence, vehicle use, and noise during construction and maintenance; interruption and/or alteration of seasonal migrations and movements among populations; and disruption of nesting and breeding activities and avoidance of habitat due to vehicle noise and human presence from public use of new access roads would be avoided through

implementation of seasonal restrictions on B2H Project activities consistent with the BLM's ARMPAs (refer to Appendix B).

Minimize:

- Long-term and temporary habitat loss would be minimized through limiting the spatial extent of construction activities (Design Features 5 and 9; Selective Mitigation Measures 2 and 14).
- Mortality due to electrocution, in-flight collisions with transmission line infrastructure, and collisions with construction and maintenance vehicles would be minimized through the use of avian-safe design standards (Design Feature 12) and flight diverters (Selective Mitigation Measure 15), restrictions on the spatial extent of construction activities (Design Features 5 and 9, Selective Mitigation Measure 2), enforcement of a speed limit (Design Feature 10) and avoidance of Project activities during sensitive periods (Selective Mitigation Measure 12).
- Disruption of nesting and breeding activities and avoidance of habitat due to vehicle noise and human presence resulting from public use of new access roads access roads would be minimized through the limitation on public accessibility of new or improved access roads (Selective Mitigation Measure 6).
- Increased avian presence and predation due to increased perching and nesting opportunities on transmission structures and avoidance behavior due to increase in avian predation pressure would be minimized through the use of perch deterrents (Selective Mitigation Measure 15).
- Alteration of the native sagebrush understory through introduction and spread of invasive plants (indirect effects) would be minimized by restricting the spatial extent of construction activities (Design Features 5 and 9, Selective Mitigation Measure 2), reclamation (Design Feature 6), and implementation of the Noxious Weed Management Plan (Design Feature 1).

Rectify:

- Long-term and temporary loss of sagebrush vegetation communities would be rectified through reclamation (Design Feature 6)

The reasonably foreseeable remaining unavoidable impacts from the B2H Project on Greater Sage-Grouse that warrant compensatory mitigation would include:

- Long-term and temporary habitat loss—Long-term and temporary habitat loss would be minimized through minimizing the spatial extent of construction activities (Design Features 5 and 9; Selective Mitigation Measures 2 and 14) and reclamation (Design Feature 6) but long-term habitat loss would occur in areas occupied by transmission structures, new access roads, and other B2H Project features for the life of the project. Without compensatory mitigation, the residual impacts would inhibit achieving BLM Oregon and Idaho ARMPA objectives, and, therefore, warrant compensatory mitigation.
- Increased avian presence and predation—The use of perch deterrents (Selective Mitigation Measure 15) may reduce, but will not eliminate perching and nesting by raptors and other avian predators. The potential for raptor perching and nesting on transmission line structures already exists in some areas, but the proposed transmission towers would be taller than the existing

towers and could result in more avian predation than there is at present. Without compensatory mitigation, the residual impacts would inhibit achieving BLM Oregon and Idaho ARMPA objectives, and, therefore, warrant compensatory mitigation.

- Avoidance behavior due to presence of tall structures, EMF, presence of new roads, and increase in avian and mammalian predation pressure—The use of perch deterrents (Selective Mitigation Measure 15) may reduce, but will not eliminate perching, nesting, and increased predation by avian predators. Reclamation of temporary work areas (Design Feature 6) will accelerate the return of hiding cover that will reduce opportunities for increased avian and mammalian predation, but this will take years. Without compensatory mitigation, the residual impacts would inhibit achieving BLM Oregon and Idaho ARMPA objectives, and, therefore, warrant compensatory mitigation.

### **COMPENSATORY MITIGATION FRAMEWORK FOR GREATER SAGE-GROUSE**

#### *Determination of the Appropriate Amount of Compensatory Mitigation*

The appropriate amount of compensatory mitigation will be based on the direct and indirect impacts that could occur as a result of the construction, operation, and maintenance of the B2H Project and will be determined based on the final design and engineering of any selected route. Consistent with the BLM's ARMPAs, the amount of compensatory mitigation will be required to achieve the net conservation benefit standard. Achieving the net conservation benefit standard also will be consistent with the ODFW's Greater Sage-Grouse Conservation Strategy for Oregon policy (OAR 635-140) and guidance documents (Oregon Greater Sage-Grouse Action Plan, State of Oregon Greater Sage-Grouse Habitat Mitigation Manual, and Governor's Executive Order No. 15-18).

#### **Impact Assessment and the Habitat Quantification Tool**

The impact assessment that will be used to determine the appropriate amount of compensatory mitigation will quantify and address both direct and indirect impacts on Greater Sage-Grouse. The amount of direct and indirect impacts associated with the B2H Project and associated compensatory mitigation required will be measured using the Oregon Sage-Grouse Habitat Quantification Tool (HQT) developed for the State of Oregon by the Sage Grouse Conservation Partnership (SageCon) Quantification Technical Team. The State of Oregon's approach to mitigation for impacts on sage-grouse and sage-grouse habitat, outlined in the state's Greater Sage-Grouse Action Plan, uses the HQT to determine credits generated by conservation projects and debits generated by anthropogenic disturbances, target credit and debit projects to the most beneficial locations for the sage-grouse, and track the contribution of the compensatory mitigation program to sage-grouse habitat and population goals over time. The following description of the HQT is summarized from the draft Oregon Sage-Grouse HQT Scientific Methods document, dated November 23, 2015.

The HQT is a scientific approach for assessing habitat function and conservation outcomes for Greater Sage-Grouse. The purpose of the HQT is to quantify habitat function for a given location with respect to sage-grouse needs. The HQT uses a set of measurements and methods, assessed at multiple spatial scales, to evaluate criteria related to sage-grouse habitat function.

### Functional-Acre Approach

The HQT measures the quantity and quality of sage-grouse habitat at a site in terms of habitat function, measured in functional acres. Habitat function refers to the quality of the habitat for meeting life history requirements (reproduction, recruitment, and survival) for Greater Sage-Grouse at multiple scales (site, local, and landscape) and includes biotic and abiotic factors, as well as the direct and indirect effects of anthropogenic disturbances on the site and surrounding the site. Functional acres are a product of an assessment of those factors affecting a site's function as sage-grouse habitat and the area assessed.

$$\text{Functional acres} = \text{habitat quality} \times \text{habitat quantity}$$

The functional-acre approach has several advantages:

- **Establishes a Common Currency.** Functional acres serve as the “currency” for credits and debits under Oregon’s sage-grouse habitat mitigation program. Functional acres account for the quantity and quality of the habitat at multiple spatial scales. The integration of habitat quantity and quality allows for direct comparison of detriments and benefits, which provides a clearer understanding of whether conservation goals are being met (McKenney and Kiesecker 2010, Gardner et al. 2013). A common currency allows for standardization in the calculation of credits and debits, which affords the opportunity to conduct compensatory mitigation consistently across projects, land ownership types, and jurisdictional boundaries. It also provides a common language and metric for compensatory mitigation across agencies and industries while remaining responsive to new science as it emerges.
- **Provides Full Accounting of Impacts.** Functional acres account for both direct and indirect effects of anthropogenic disturbance. Accounting for indirect effects provides a more accurate representation of the full biological impact of a disturbance on sage-grouse. It also provides a strong incentive for targeting debits and credits to the most appropriate places on the landscape, clustering development where it will have the least species impact and focusing conservation efforts where they will have the greatest benefit.
- **Focuses on Outcomes.** Rather than rewarding the completion of management actions or practices that may or may not succeed, the compensatory mitigation program focuses the activities of developers, ranchers, and conservationists on what matters most to the sage-grouse—the resulting habitat outcomes of the practices. Paying for outcomes (i.e., effectiveness) rather than practices (i.e., implementation) has been shown to achieve more conservation per dollar spent than paying for management practices (Antle et al. 2003; Just and Antle 1990). The outcomes-based functional-acre approach of the HQT enables the compensatory mitigation program to provide strong incentives to achieve habitat benefits at the multiple scales relevant to sage-grouse.
- **Tracks the Contribution of the Compensatory Mitigation Projects to Species Habitat and Population Goals in Oregon Over Time.** The use of functional acres allows for a simple metric to measure the overall performance of the compensatory mitigation program, which aims to provide net conservation benefit in sage-grouse habitat quantity and quality.

### *Compensatory Mitigation Measures*

The HQT will be used to calculate both B2H Project impacts (debits) and the measures proposed to compensate for those impacts (credits). Using the HQT to calculate both debits and credits will allow estimates of the habitat functions and values of a given location on the landscape using reliable and repeatable methods resulting in a “common currency” between credits and debits that will apply equally across all land ownerships.

### **Compensatory Mitigation Projects**

The Greater Sage-Grouse CMP will identify specific compensatory mitigation projects after the final design and engineering of any selected route is completed. Compensatory mitigation projects identified in the Greater Sage-Grouse CMP will demonstrate that mitigation actions are as follows:

- Available and on a scale that is meaningful to conservation
- Reasonably certain to be initiated within the time frames established through the federal and state permitting processes
- Mutually agreed upon by B2H Project Applicant and agencies

### **Compensatory Mitigation Areas**

The following general guidance details what criteria should be used when identifying a potential sage-grouse compensatory mitigation area. That is, in selecting the compensatory mitigation area(s), preference will be given for:

- Sites that contribute positively to the population that is being affected and where efforts have the greatest likelihood of producing the required benefits
- Compensatory mitigation areas and actions that will result in improved sage-grouse habitat conditions for the life of the B2H Project effects (i.e., for the duration of the time that the transmission line and access roads exist and any additional time to recover the affected habitat to predisturbance habitat quality conditions, including use of restored habitats by sage-grouse)
- Compensatory mitigation areas that can be geographically consolidated into a contiguous parcel at a landscape level (preferred over isolated parcels), that can be managed for sage-grouse over the long term, and have a reasonable probability of attaining and maintaining the CMP objectives

In all cases, the aggregated compensatory mitigation areas must be large enough so that they will, either in themselves or in conjunction with adjacent landscape conditions, provide the targeted biological benefits. Compensatory mitigation actions that are not measured readily in acres (e.g., fence removal or marking) will be evaluated on a case-by-case basis.

- Compensatory mitigation areas that are proposed on private lands will be pursued only if the landowner is willing to sell or enter into a conservation easement. The CMP will not set or dictate the price the Applicant will pay for conservation easements or land purchases and the Applicant will not be expected to use eminent domain to acquire property.

- Compensatory mitigation areas and actions should address habitat factors that may be limiting Greater Sage-Grouse use and population growth in the area.
- Compensatory mitigation areas and actions should provide new contribution to conservation and/or habitat quality and/or quantity relative to the existing conservation and/or habitat value, and consider the time lag to the conservation maturity of selected actions (i.e., a shorter time to provide habitat is preferred over a longer time frame). This is evaluated as the length of time for a mitigation action to deliver conservation at a maturity level (or ecological state) similar to what was lost at the impact site.
- Compensatory mitigation should not be located in areas directly affected by the B2H Project or in areas where the success of the actions or maintenance of the required benefits are likely to be obviated over time by incompatible land uses.
- Compensatory mitigation areas should be prioritized and selected based on their occurrence in designated Greater Sage-Grouse habitat types (in order of preference):
  - PHMA in Oregon and PHMA and IMHA in Idaho that are within a Conservation Opportunity Area (COA) or other landscapes with ongoing sage-grouse conservation actions,
  - PHMA in Oregon and PHMA and IMHA that are outside of a COA,
  - GHMA in Oregon and Idaho that are within a COA or other landscapes with ongoing sage-grouse conservation actions, and
  - GHMA in Oregon and Idaho that are outside of a COA.

### **Compensatory Mitigation Actions**

Management actions that will be undertaken in the compensatory mitigation area(s) will be designed to:

- Enhance the baseline condition of the habitat within the compensatory mitigation area commensurate with the types and amounts of adverse effects identified in the impact assessment and ecological evaluation and to attain the net conservation benefit standard
- Protect and maintain the habitat and other biological attributes required for mitigation within the compensatory mitigation area for the life of the B2H Project or the B2H Project's impacts, whichever is greater
- Enhance broader areas of the B2H Project for Greater Sage-Grouse

The following are examples of allowable compensatory mitigation actions that should be considered:

- Giving a higher priority to habitat-related factors that may be limiting population growth of sage-grouse in the area
- Taking actions to improve habitat quality (not in order of preference), such as:
  - Controlling human access that compromises habitat effectiveness
  - Eradicating or reducing existing invasive weeds
  - Removing, marking, or modifying fences in high risk areas within PHMA and IHMA based on topography and proximity to areas where sage-grouse are concentrated
  - Generally improving the condition of sage-grouse habitat through revegetation efforts, particularly in habitats that appear to be limiting for sage-grouse populations:

- Conducting sagebrush treatments, where needed, that specifically benefit sage-grouse in areas with relatively higher shrub cover (greater than 25 percent) (these should not be located in winter habitat and should follow ODFW recommendations [Hagen 2011])
- Converting crested wheatgrass seedings back to sagebrush with an understory of native grasses and forbs
- Re-establishing sagebrush with a native understory in wildfire areas
- Implementing grazing management techniques that could improve sage-grouse habitat conditions on private lands
- Removing juniper, preferentially treating Phases 1 and 2 over Phase 3
- Maintaining the habitat and other attributes, through monitoring and adaptive management, required for mitigation after the improvements have been attained and for the duration required to meet success criteria specified in the CMP and/or permit authorizations
- Preventing or minimizing invasive weed establishment
- Providing buffers around existing sage-grouse habitat to minimize or reduce threats
- Reducing the risk of wildfire through an appropriate combination of invasive species reduction and fuel break placement in cooperation with the land-managing agency
- Re-establishing habitat connectivity or improving sage-grouse habitat in areas to maintain habitat connectivity (e.g., restoring sagebrush, increasing patch size and/or connectivity, etc.)
- Improvements to riparian areas, springs, or other water sources

### **Timing of Compensatory Mitigation Plan**

Upon identification of any selected route in the ROD and following final engineering and design, a CMP will be developed to quantify the direct and indirect impacts based on an engineered and designed alignment and to identify a suite of site-specific compensatory mitigation options for selection and implementation under the review and guidance of the cooperating agencies. That is, a final detailed CMP must be reviewed by the cooperating agencies and a recommendation will be made to the authorized officer for approval prior to any issuance of any notice to proceed for surface-disturbing activities associated with the Project.

Ultimately, the additional mitigation measures identified in the EIS and ROD for any selected route would be incorporated into the Applicant's POD. In turn, the POD would become a condition of the BLM ROD and would be an enforceable stipulation of the BLM right-of-way grants and potentially other permits.

This approach is consistent with the Presidential Memorandum: Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment (November 3, 2015); Secretarial Order No. 3330, Improving Mitigation Policies and Practices of the Department of the Interior; the BLM's obligations under the FLPMA, NEPA, Mineral Leasing Act of 1920, as amended, CEQ regulations; and the USDI Manual 600 DM 6: Landscape Scale Mitigation Policy and WO IM2013-142: Draft MS-1794 – Regional Mitigation.

## **C.2.2.2 RIPARIAN CONSERVATION AREAS**

### **INTRODUCTION**

Riparian Conservation Areas (RCAs) encompass traditional riparian corridors, wetlands, intermittent streams, and waterbodies, as well as upland areas that maintain the integrity of aquatic ecosystems. In addition, riparian-associated plants and animals rely on these areas for critical life functions (e.g., reproduction) and to provide connectivity and dispersal corridors. RCAs are considered portions of watersheds where riparian-dependent resources receive primary emphasis, and management activities are subject to specific standards and guidelines (USFS and BLM 1995) and are consistent with the Decision Notices for Pacific Anadromous Fish Strategy (PACFISH) and Inland Native Fish Strategy (INFISH), the Updated Interior Columbia Basin Strategy, and the proposed federal agency RMPs covering lands within the vegetation resources study corridor.

### **RESIDUAL IMPACTS**

The initial anticipated B2H Project impacts on RCAs include:

- Temporary and permanent habitat loss
- Increased edge effects and weed invasion resulting in permanent alterations in plant community structure, diversity, and function
- Herbicide drift or spills
- Fugitive dust affecting the growth and reproductive habits of vegetation
- Alterations to soil structure, chemistry, nutrients, hydrology, and species composition increasing the risk of noxious weed invasion

The strategies that will be implemented to avoid, minimize, or rectify B2H Project impacts on RCAs include:

Avoid:

- Temporary and permanent habitat loss would be avoided through avoiding RCAs (Design Feature 15) consistent with PACFISH (USFS and BLM 1995) and INFISH (USFS 1995) strategies, and the Updated Interior Columbia Basin Strategy – Memorandum #1920 (BLM, USFS, USFWS, Environmental Protection Agency (EPA), and NOAA Fisheries 2014).

Minimize:

- Temporary and permanent habitat loss would be minimized through limiting the spatial extent of construction activities and access roads (Design Features 5 and 9 and Selective Mitigation Measure 2) and minimizing vegetation removal (Design Feature 8 and Selective Mitigation Measure 5), and reclamation (Design Features 6 and 7).
- Increased edge effects and weed invasion would be minimized through avoiding RCAs (Design Feature 15), minimizing the spatial extent of construction activities and access roads (Design Features 5 and 9 and Selective Mitigation Measure 2), minimizing vegetation removal (Design

Feature 8 and Selective Mitigation Measure 5), reclamation (Design Features 6 and 7), and implementation of the Noxious Weed Management Plan (Design Feature 1).

- Herbicide drifts or spills would be minimized through proper containment of hazardous materials (Design Feature 21) and implementation of herbicide buffers contained in the Noxious Weed Management Plan (Design Feature 1).
- Fugitive dust affecting the growth and reproductive habits of vegetation would be minimized through implementation of the Erosion, Dust Control, and Air Quality Plan (Design Feature 1).
- Alterations to soil structure, chemistry, nutrients, hydrology, and species composition increasing the risk of noxious weed invasion would be minimized through limiting the spatial extent of construction activities and access roads (Design Features 5 and 9 and Selective Mitigation Measure 2), minimizing vegetation removal (Design Feature 8 and Selective Mitigation Measure 5), reclamation (Design Features 6 and 7), and other best management practices (refer to Design Features 17, 18, and 19).

Rectify:

- Temporary and permanent habitat loss would be rectified through reclamation (Design Feature 6).

The residual impacts from the B2H Project on RCAs that warrant compensatory mitigation would include permanent habitat loss in areas where RCAs are located in conifer forest types. While RCAs would be avoided to the extent possible consistent with Design Feature 15, vegetation clearing in the right-of-way required to maintain conductor clearances will result in removal of tall trees in RCAs. Removal of tall trees in RCAs is anticipated to be limited to conifer forest types as the lower height of vegetation in other vegetation communities will generally allow spanning of RCAs. Vegetation removal in RCAs may increase solar exposure to the waterways, which could contribute to local increases in stream temperatures if vegetation is cleared, reducing shaded stream cover.

## **COMPENSATORY MITIGATION FRAMEWORK FOR RIPARIAN CONSERVATION AREAS**

Details regarding compensatory mitigation for RCAs will be determined during the development of the CMP.

### **C.2.2.3 CULTURAL RESOURCES**

#### **INTRODUCTION**

Section 106 of the National Historic Preservation Act (NHPA), as amended, requires federal agencies to take into account the effects of their undertakings<sup>4</sup> on historic properties<sup>5</sup> (36 Code of Federal

<sup>4</sup>Under Section 106, an undertaking is a project, activity, or program funding in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; and those requiring a federal permit, license, or approval (36 CFR § 800.16(y)).

<sup>5</sup>Under Section 106, "historic property" means any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places maintained by the Secretary of the Interior (National Park

Regulations [CFR] § 800.1(a)). The NHPA compliance process results in evaluating which cultural resources are determined eligible for inclusion in the National Register of Historic Places (NRHP). Under Section 106, only those cultural resources determined eligible (i.e., historic properties) for the NRHP are assessed for effects from an undertaking. Those resources determined not eligible are discharged from management and no additional actions are required under NHPA regulations; however, effects on all cultural resources (not just historic properties, as is the case under Section 106) must be taken into consideration under the NEPA.

Although NEPA and the NHPA, as amended (54 United States Code § 300101 et seq.) are independent statutory obligations, federal agencies are encouraged to coordinate and integrate compliance with Section 106 of the NHPA with requirements of NEPA to inform the assessment and resolution of effects that meet the purpose and intent of both Section 106 and NEPA reviews. The challenge is that, under the NEPA, all cultural resources need to be considered rather than just those deemed historic properties under Section 106. For example, some historic trail segments, some Native American traditional use areas, and/or cultural landscapes may not meet the definition of historic property under Section 106 of the NHPA. However, there are no accepted standards by which to judge the value of these resources.

### *Programmatic Agreement*

Due to the extended length of time required to develop a transmission line project, the BLM, in coordination with the Oregon and Idaho State Historic Preservation Officers (SHPOs) and Tribal Historic Preservation Offices (THPOs), determined that a phased process for compliance with Section 106 of the NHPA, through a Programmatic Agreement is appropriate, as specifically permitted under 36 CFR § 800.4(b)(2), such that identification and evaluation of historic properties, determinations of specific effects on historic properties, and consultation concerning measures to avoid, minimize, or mitigate any adverse effects will be carried out in phases as part of planning for and prior to issuance of notices to proceed with construction activities. The Programmatic Agreement sets forth the requirements for complying with the Section 106 process, which the Applicant must satisfy prior to receiving any notices to proceed with any ground-disturbing activities from the BLM. The federal undertaking and the Programmatic Agreement (and its identification, evaluation, and mitigation requirements) are applicable to the entire Project regardless of land status or jurisdiction, not exclusively to lands administered by the BLM or other federal agencies.

The Programmatic Agreement identifies processes and procedures to identify historic properties and to determine if historic properties are eligible for inclusion in the NRHP and whether these properties would be adversely affected by construction, reclamation, and/or operation and maintenance of the Project. In accordance with stipulations in the Programmatic Agreement, efforts in which the BLM is currently engaged are briefly described below.

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Service). This term includes artifacts, records, and material remains that are related to and located within such properties. Properties of traditional religious and cultural importance to an Indian tribe may be determined eligible for inclusion in the National Register (36 CFR § 800.16(l)(1)).

Regarding properties of importance to Native American tribes, through government-to-government consultation with sovereign tribal governments and based on the U.S. Constitution and federal treaties, statutes, executive orders and policies, the BLM, in consultation with appropriate federal agencies, is making a good-faith effort to identify properties that have traditional religious and cultural importance to tribes and to determine whether they are historic properties in accordance with Section 106 of the NHPA. Discussion of these properties may be submitted as a separate report, such as documentation of an ethnographic study. Confidentiality concerns expressed by tribes for properties that have traditional religious and cultural importance will be respected and will be protected to the extent allowed by law.

### *Historic Properties Management Plan*

A Historic Properties Management Plan (HPMP) is under preparation to develop mitigation measures for properties eligible for inclusion in the NRHP and that would be adversely affected during construction, reclamation of temporary disturbance, and/or operations and maintenance of the B2H Project. The HPMP is being prepared in consultation with the BLM, Idaho and Oregon SHPOs, Advisory Council on Historic Preservation, and concurring parties to the Programmatic Agreement. The purpose of the HPMP is (1) specify the general terms of avoidance and monitoring and (2) to provide a framework for mitigation planning (i.e., a set of plans and procedures to avoid, minimize, and offset adverse effects on historic properties and the identification of the Applicant's goals for managing and protecting NRHP-eligible properties within the B2H Project area).

### *Property-Specific Mitigation and Monitoring Plan*

A property-specific mitigation and monitoring plan (PSMMP) will be prepared where there are adverse effects on historic properties and/or for which the Applicant wants from the BLM a separate notice to proceed. The purpose of the PSMMP is to supplement the HPMP with site-specific information, including mitigation, treatment, and monitoring of remaining unavoidable direct and indirect effects on historic properties. PSMMP will provide a clear description of the specific mitigation strategy proposed to address the direct, indirect, and cumulative effects on individual historic properties, including tribal participation, if applicable.

### *Visual Assessment of Historic Properties*

Analysis of indirect visual effects will be conducted following the process outlined in the Visual Assessment of Historic Properties (VAHP), which will be appended to the POD for construction. The VAHP study is part of a series of studies to consider the B2H Project's impacts on various types of historic properties and/or visual resources that also may have cultural values, recreational values, and archaeological or historical significance. The VAHP study is designed to be complimentary to these other studies. The VAHP is a phased study consisting of three parts; (1) Reconnaissance Level Survey, (2) Intensive Level Survey, and (3) NHTs and associated resources survey. These studies will then support the in the identification of indirect visual effects on historic properties and trails resulting from the Project.

### *Financial Security*

The Applicant will post a financial instrument (surety bond, letter of credit) approved under the right-of-way regulations (43 CFR 2800) with the BLM in an amount to cover pot-fieldwork costs associated with implementing the HPMP and other mitigative activities, including, but not limited to, treatment of properties, data recovery, post-field analyses, research, report preparation, and curation of artifact collections, as negotiated by the Applicant where they contract for services in support of the Programmatic Agreement. Details regarding the instrument will be developed in the HPMP and posted prior to issuance of any notice to proceed with construction.

### *Construction Monitoring*

Construction monitoring to ensure successful avoidance as planned; monitoring for compliance with stipulations of the HPMP as well as a potential strategy to avoid, minimize, or offset direct, indirect, and/or cumulative adverse effects on historic properties at any time during the undertaking; and to monitor for subsurface discoveries during grading, blading, excavation, and other ground-disturbing activities, will be conducted as detailed in a Monitoring Plan.

### *Inadvertent Discoveries*

During construction, reclamation, and operation and maintenance activities, it is possible that surface and/or subsurface resources, not identified during pedestrian survey, could be discovered. Required response to such discovery is detailed in an Inadvertent Discovery Plan.

## **RESIDUAL IMPACTS**

Although adverse effects on historic properties under Section 106 of the NHPA would be mitigated as stipulated in the Programmatic Agreement (except on Navy property – Navy is not participating in the Programmatic Agreement), residual impacts may remain.

Determining effects on cultural resources or historic properties under NEPA is based on readily available data and information; that is, results of Class I inventory (literature and site-record search), which often yields inconsistent levels of information about the sites. Therefore, in order to identify all sites potentially affected by the B2H Project, a complete Class III intensive pedestrian inventory would be conducted along the entire alternative and all roads and facilities as part of the Class III study. All sites in the direct effects APE would be documented and evaluated for eligibility for the NRHP, and sites located in the indirect effects APE that meet the criteria established for potential visual sensitivity also would be documented and evaluated.]

Effects on cultural resources can be direct and indirect, as well as cumulative. Construction, including reclamation of temporary disturbance, and operation and maintenance of the transmission line, access roads, and other associated facilities, could affect cultural resources, such as prehistoric or historic archaeological sites, while indirect effects, such as visual effects, could affect resources such as historic architectural or built environment resources and cultural landscapes. Effects are discussed in Final EIS Section 3.2.13.7 (Environmental Consequences).

Types of potential residual impacts on historic properties/cultural resources generally include the following:

- Direct and permanent ground disturbance resulting in damage to intact surface and subsurface cultural materials, such as artifacts and features, during construction of transmission line structures, access roads, and other associated facilities.
- Direct and indirect long-term visual, atmospheric, and auditory intrusions that could compromise aspects of site integrity, such as setting, feeling, and association (which are components of NRHP eligibility). Transmission line structures may introduce visual impacts on cultural resources, especially historic trails, where setting is a key element of NRHP eligibility.
- Direct and indirect permanent disturbance of cultural resources due to changes in public accessibility (e.g., unauthorized use of access roads). Public use of existing and new access roads may give rise to unauthorized site access, illicit artifact collection, and resource vandalism.
- The goal of the CMP is to address any residual impacts that remain following completion of mitigation efforts associated with Section 106 compliance.

### **COMPENSATORY MITIGATION FRAMEWORK FOR CULTURAL RESOURCES**

After complying with stipulations of the Programmatic Agreement, including adhering to all procedures prescribed in the plans described in the introduction above, compensatory mitigation may be warranted for residual impacts to an extent that leads to achieving a solution for the mitigation of these remaining unavoidable effects found acceptable through negotiation and consultation among the involved land-managing agencies, sovereign tribal governments, and concurring parties.

Although both the NHPA and NEPA require federal agencies to evaluate alternatives or modifications to the undertaking/project that could avoid, minimize, or offset impacts on historic properties/cultural resources, the regulations discuss mitigation only in a general sense as a mechanism to reduce effects. The regulations do not define mitigation or specify what constitutes mitigation. Also, the Presidential Memorandum: *Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment* (November 3, 2015), USDI Manual 600 DM 6: Landscape Scale Mitigation Policy, and WO IM2013-142: Draft MS-1794 – Regional Mitigation, and other current BLM guidance on mitigation do not specifically address cultural resources.

Avoidance and preservation in place are the preferred treatment for historic properties. Avoidance may include changes to the design of the transmission line, access roads, and/or other associated facilities, relocation of specific project components, and/or use of an effective type of barricade to limit access to identified historic properties. However, it is unlikely that adverse effects on historic properties can be avoided entirely by the activities of the B2H Project. There may be resources that, due to their critical location or size cannot be avoided entirely. Even if the B2H Project could be redesigned to avoid all direct effects due to ground-disturbing activities, substantive change in setting of some important resources where setting is an aspect of integrity, cannot be avoided entirely.

Determining appropriate compensatory mitigation is dependent on a number of site-specific and other factors, and must be developed for individual historic properties/cultural resources by qualified professional archaeologists in consultation with involved land-managing agencies, sovereign tribal governments, and concurring parties.

In determining residual impacts that warrant further mitigation, it can be assumed that certain cultural resources may be more important than others. It can be assumed that different portions of the population, such as Native Americans, may value cultural resources differently than others, with some land users placing more significance on certain types of cultural resources than others. Those sites that are either listed or are determined eligible for inclusion in the NRHP are more significant than those that have been determined not eligible for the NRHP, but there is still no comparison of these sites against one another. Those that are not eligible do not receive the same consideration under the NHPA. For other resources that are not evaluated under this process, or fall outside of an “historic property” definition, there is no accepted standard by which to judge their values. These sites/locations must be evaluated on a case-by-case basis in consultation with those parties with a demonstrated interest in the property as resources in need of consideration.

Land-management plans may prescribe desired future conditions for cultural resources that would protect cultural and historical resources and preserve past, present, and future conditions and practices. This would be accomplished through protection using physical and administrative measures, education, interpretation, and special designations. Monitoring the effectiveness of mitigation measures and remedial actions to rectify issues would be imperative for management of such resources.

Compensatory mitigation for cultural resources generally can be categorized into preservation, restoration, and enhancement (science and education) as described below.

### *Preservation (Protection)*

Protection projects could include establishing protective barriers such as fences or berms, closing roads to motorized vehicles near sites or road segments that are historic properties/cultural resources (e.g., historic trail routes), stabilizing physical elements of buildings or other structures, or hardening ground surfaces and establishing erosion controls. Acquisition of historic sites off-site and on other land ownership may be considered to protect these sites by incorporating them into public or collaborative public/private management. To ensure ongoing protection of cultural resources, monitoring the effectiveness of measures and remedial actions to rectify issues would be imperative for management of such resources and/or law enforcement patrols of site areas could be implemented. Options for such monitoring could be to establish a site-stewardship program through cultural resource volunteers, advocacy groups, or tribal programs.

While most mitigation is intended to be commensurate with the impact, in kind, and directly correlated to the site or in the vicinity of the resource, enhancements would be more expansive and elaborate. Enhancement projects for cultural resources would be viewed slightly differently than for other resources in that the concept of “baseline” or a threshold to be reached is difficult to apply. For the most

part, enhancement would be projects that go beyond the standard of stabilizing sites or doing data recovery on an archaeological site.

### *Restoration*

Restoration projects could include stabilizing and rehabilitating historical sites such as structures or features mostly of an architectural nature. One example would be restoration of historic structures. It also could include the restoration of the setting around such a site such as the landscape and surrounding vegetation. Restoration could entail removal of modern features and intrusions within the cultural context of the site. Restoration of natural areas that have significance to a particular ethnic group, such as tribal root-gathering grounds, also could be considered.

### *Enhancement (Science and Education)*

Enhancement focuses mainly on research, interpretation, and public awareness and enjoyment of cultural sites. Examples of potential mitigation projects, especially for historic properties/cultural resources (e.g., historic trail routes, include interpretive signs, kiosks, and visitor centers that would describe the site and provide background information to the public. Research, oral histories, and ethnographies would be other options to enhance knowledge of cultural resources. Additional actions that could promote these locations for public interest would be to produce school programs and curriculum, establish parking areas at historic trail access points, and build turnstiles and gates in existing fences where trails could be accessed. Many of the latter efforts could dovetail with recreation and visitor services to augment recreation sites.

Enhancement on a data recovery project involving an archaeological site could be developing a public outreach component to allow site tours during excavation, additional research and publication of a public version of the report, a school program, and media programming. More complex restoration projects also would qualify as enhancement, especially if they involve other disciplines.

## **C.2.2.4 NATIONAL HISTORIC TRAILS**

### **INTRODUCTION**

For historic trails, the National Trails System Act (NTSA) is the legislation that governs the protection of trails that are congressionally designated as NHTs. The NTSA stipulates that projects may not “substantially interfere with the nature and purpose of the trail.” BLM Manual 6280 lays out the agency policy for compliance with the NTSA and management of the trails, as well as guidance for analysis of NHT in the NEPA process.

The manual stipulates that the NEPA documentation for NHTs needs to include analysis of the potential impacts on the nature and purpose of the designated NHT as well as those undergoing a National Trail Feasibility Study. The analysis needs to take into account the trail resources, qualities, values, associated settings, and the primary use or uses of any NHTs. The manual also discusses mitigation to impacts and requires consideration of mitigation opportunities “to the level commensurate with the adverse impact to the nature and purposes; resources, qualities, values and associated settings; and the primary use or uses of the NHT.”

The Oregon NHT Comprehensive Management and Use Plan (CMUP) (National Park Service [NPS] 1999) establishes the trail's management direction and associated resources including high potential route segments, high potential historic sites, and the auto tour route as the criteria for significant elements of the Oregon NHT to be protected and preserved. The BLM must meet the management standards for congressionally designated trails and may not permit proposed uses along National Trails which will substantially interfere with the nature and purposes of the trail and the BLM shall make efforts, to the extent practicable, to avoid authorizing activities that are incompatible with the purposes for which such trails were established. Consequently, the manual's recommended guidance for mitigation focuses on these components while also considering other National Trail Management Components, such as trail-associated special management areas identified in BLM resource management plans (e.g., areas of critical environmental concern), and trail-associated interpretive areas. While direct impacts on the physical trails themselves generally can be avoided (e.g., spanning the trails), the indirect visual impacts become more challenging to mitigate due to the scale of the B2H Project components, including transmission line structures and the geometrically shaped and cleared right-of-way.

## **RESIDUAL IMPACTS**

Direct and indirect effects on historic trails are discussed in Section 3.2.15 of the Final EIS. Through conclusions described in Section 3.2.15, effects on two trail-related resource categories (National Trail Management and Components and Scenic and Recreation Resources) would require additional specific mitigation beyond those elements described in Chapter 3. Note, any remaining effects residual impacts on Historic and Cultural Resource associated with NHTs will be mitigated in accordance with the Programmatic Agreement negotiated for this Project and as described in Section 2.2.3 of this appendix.

### *National Trail Management and Components*

Residual impacts on National Trail Management Components (high potential route segments, high potential historic sites, auto tour routes, and trail-associated special management areas) would lead to, prior to application of compensatory mitigation as analyzed in Chapter 3 of the Final EIS, substantial interference with the nature and purposes of the trail and therefore not meet this requirement of the NTSA. The nature and extent of residual impacts identified through the NEPA process indicate that effects on views, and associated settings, would be high/substantial as viewed from some National Trail Management Components. Additionally, the B2H Project would inhibit achieving land-use plan objectives associated with NHTs in both the NPS CMUP and BLM field office RMPs.

### *Scenic and Recreation Resources*

The nature and extent of residual impacts identified through the NEPA process indicate that effects on views, and associated settings, would be high/substantial from some trail-associated recreation sites.

## **COMPENSATORY MITIGATION FRAMEWORK FOR NATIONAL HISTORIC TRAILS**

As discussed elsewhere, the first steps in the mitigation hierarchy are avoidance and minimization. In general, some direct and indirect impacts on NHTs will be avoided by locating towers and other ground-disturbing features at the maximum separation and maximizing span distance. Many of these avoidance and minimization measures are included in the design features of the B2H Project for environmental protection and the selective mitigation measures. For example, topographic screening of sites from the B2H Project and crossing NHTs perpendicular to the trail and in locations without trail traces or where the setting lacks integrity or is already compromised.

### *National Trail Management and Components*

The objective for compensatory mitigation will be to offset high residual impacts on National Trail Management Components in order to meet the NTSA requirement to not substantially interfere with the nature and purposes of the trail as well as objectives associated with both NPS and BLM national trail management.

The detailed application of compensatory mitigation measures will be identified in the final detailed compensatory mitigation plan for the final route in the Record of Decision and following final engineering and design. This plan will identify the level of residual impacts on federal protection components (National Trail Management Components) and the level of compensatory mitigation identified to be commensurate with the adverse impacts identified in the Final EIS. The types of compensatory mitigation measures could include establishing protective barriers, such as fences or berms, closing roads to motorized vehicles near sites or road segments that are historic properties/cultural resources (e.g., trail routes), purchasing mineral rights in trail-associated special management areas or hardening ground surfaces and establishing erosion controls; and funding updates of trail management plans. Acquisition of historic trail segments off-site and on other land ownership is encouraged to protect these sites by incorporating them into public or collaborative public/private management. For example, compensatory mitigation may include projects, such as securing additional trail land or perpetual conservation easements, along the affected National Trails Systems components.

### *Scenic and Recreation Resources*

The objective for compensatory mitigation will be to offset high residual impacts on views, and associated settings, from trail-associated recreation sites and other trail-associated viewing locations.

The detailed application of compensatory mitigation measures, as described above, will be identified in the final detailed compensatory mitigation plan. This plan will identify the level of residual impacts on trail-associated recreation sites and the level of compensatory mitigation identified to be commensurate with the adverse impacts identified in the Final EIS. Note, most of these trail-associated recreation sites are also associated with federal protection components (e.g., NHOTIC) described above. Compensatory mitigation measures could include fee-purchases, easements, restoration work, fund updates to existing interpretive sites, including the NHOTIC, identify and fund

new interpretive sites or areas, and acquire mineral rights in trail-associated special management areas.

The requirements for compensatory mitigation for residual impacts on the historic and cultural aspects will be identified through the process described in Section C.2.2.3. Examples of potential compensatory mitigation projects include interpretive signs, kiosks, and visitor centers that would describe the site and provide background information to the public. Additional actions that could promote these locations for public interest would be to produce relevant school programs and curriculum, establish parking areas at historic trail access points, and build turnstiles and gates in existing fences where trails could be accessed. Many of the efforts could dovetail with recreation and visitor services to augment recreation sites. For example, a recreation area near historic trail ruts could be expanded to include a hiking area and interpretive panels for this section of the trail. Additionally, federal management of NHTs through the designation of additional trail-associated special management areas or funding updates to trail management plans would facilitate long-term management of trail resources in consideration of the level of impacts resulting from the B2H Project.

The final detailed compensatory mitigation plan will be developed through both coordination with BLM National Trails staff and the guidance of the cooperating agencies. This final detailed compensatory mitigation plan will be reviewed by the cooperating agencies and a recommendation will be made to the Authorized Officer for approval prior to any issuance of Notice to Proceed.

## **GLOSSARY**

### **Adaptive management**

A system of management practices based on clearly identified outcomes and monitoring to determine whether management actions are meeting required outcomes, and, if management actions are not meeting required outcomes, facilitating management changes that will best ensure that outcomes are met or re-evaluated. Adaptive management recognizes that knowledge about natural resource systems is sometimes uncertain.

### **Additionality**

A compensatory mitigation measure that improves on the baseline conditions of the affected resource and is demonstrably new and would not have occurred without the compensatory mitigation measure. Actions that are already proposed, planned, and funded, are not additional, except in limited circumstances.

### **Appropriate**

Necessary for and effective at achieving the outcome.

### **Authorized land user**

An external entity that has an approved land-use authorization.

### **Authorized land user-responsible compensatory mitigation measures**

Actions to restore, establish, enhance, and/or preserve resources (i.e., accrual of credits) by an authorized land user for the purpose of compensating for residual effects on resources from their authorized land-use activities (i.e., accrual of debits); also referred to as permittee-responsible compensatory mitigation.

### **Avoidance**

Avoiding an impact altogether by not taking a certain action or parts of an action (40 CFR 1508.20(a)).

### **Baseline**

The pre-existing condition of a resource, at all relevant scales, that can be quantified by an appropriate metric(s). During environmental reviews, the baseline is considered the affected environment that exists absent the project's implementation and is used to compare predictions of the effects of the proposed action or a reasonable range of alternatives.

### **Best management practices**

State-of-the-art, efficient, appropriate, and practicable mitigation measures for avoiding, minimizing, rectifying, and reducing or eliminating impacts over time.

### **Change agents**

An environmental phenomena or human activity that can alter or influence the future condition and/or trend of a resource. Some change agents (e.g., roads) are the result of direct human actions or influence; others (e.g., climate change, wildland fire, and invasive species) may involve natural phenomena or be partially or indirectly related to human activities.

**Commensurate**

A compensatory mitigation obligation that is reasonably related and proportional to the residual effects from a land-use activity that warrants compensation.

**Compensation**

Compensating for the impact by replacing or providing substitute resources or environments (40 CFR 1508.20(e)).

**Compensatory mitigation measure**

An action that results in the restoration, establishment, enhancement, and/or preservation of resources in order to offset a residual effect from a land-use activity.

**Compensatory mitigation site**

The areas where compensatory mitigation measures are located.

**Credit**

A unit of measure representing the restoration, establishment, enhancement, and/or preservation of resources by a compensatory mitigation measure.

**Decision document**

A formal agency decision, such as a Decision Record or ROD associated with a NEPA document, or other program-specific decision documentation.

**Durability**

The maintenance of the effectiveness of a mitigation measure and/or a compensatory mitigation site for the duration of the impacts from the associated land-use activity, including resource, administrative, and financial considerations.

**Duration of the impact**

The time that resource impacts (including direct and indirect effects) from a land-use activity persist, even if this time period extends beyond the expiration of the land-use activity. The duration of some impacts may be perpetuity.

**Effects**

The adverse direct, indirect, and cumulative impacts from a land-use activity; effects and impacts as used in this policy are synonymous. Mitigation addresses the adverse direct and indirect impacts on the baseline conditions of resources (including consideration of the quality and quantity of those resources) from land-use activities. The assessment of cumulative impacts provides a broader context for understanding the direct and indirect impacts.

**Enhancement**

The manipulations of resources to heighten, intensify, or improve a specific resource.

**Establishment**

The manipulation of resources to create a resource that did not previously exist at that site.

**Formal and binding agreement**

A legal document signed by an authorized officer of the BLM and any other applicable parties that outlines the terms and conditions of an arrangement between parties.

**Impacts**

The adverse direct, indirect, and cumulative effects from a land-use activity; effects and impacts as used in this policy are synonymous. Mitigation addresses the adverse direct and indirect impacts on the baseline conditions of resources (including consideration of the quality and quantity of those resources) from land-use activities. The assessment of cumulative impacts provides a broader context for understanding the direct and indirect impacts.

**Important**

Resources that have a high level of significance for land management.

**In-kind compensatory mitigation**

The replacement or substitution of resources that are of the same type and kind as those affected.

**Land-use activities**

The occupancy, use, development, or traversing of BLM-managed surface or mineral estate; may be BLM-proposed or externally proposed.

**Landscape**

A geographic area encompassing an interacting mosaic of ecosystems and human systems that is characterized by a set of common management concerns. The landscape is not defined by the size of the area but, rather, by the interacting elements that are relevant and meaningful in a management context. The term “landscape” may include water-centric scales, such as watersheds, if they represent the appropriate landscape scale.

**Minimization**

Minimizing impacts by limiting the degree or magnitude of the action and its implementation (40 CFR 1508.20(b)).

**Mitigation**

Includes avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and compensating for the impact by replacing or providing substitute resources or environments (40 CFR 1508.20).

**Mitigation hierarchy**

The process and order for identifying, analyzing, and requiring mitigation, generally, by first avoiding impacts, then minimizing, rectifying, and reducing or eliminating impacts over time, and then compensating for some or all of the remaining unavoidable impacts (i.e., residual effects).

**Mitigation obligation**

The types and amount of mitigation required by the BLM to mitigate reasonably foreseeable impacts on resources from a land-use activity.

**Mitigation standard**

A description of the extent to which mitigation will be applied in order to support achieving resource objectives (e.g., net gain, no net loss). Mitigation standards can be identified in land-use plans and other types of NEPA analyses and decision documents.

**Multiple-use**

The management of public lands and their various resource values so they are used in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific, and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output (FLPMA § (103) (c), 43 U.S.C. 1702(c)).

**NEPA process/analysis**

Analysis prepared pursuant to the NEPA, such as a planning- or project-level environmental assessment or EIS.

**Net gain**

When mitigation results in an improvement to baseline conditions.

**Net loss**

When lack of mitigation results in a negative change to baseline conditions.

**No net loss**

When mitigation results in no negative change to baseline conditions (i.e., fully offset or balanced).

**Objective**

A description of a desired outcome for a resource.

**Out-of-kind compensatory mitigation**

Replacement or substitution of resources that are of different types and kinds as those affected.

**Outcome**

A clearly defined and measurable result that reflects the desired condition of a resource.

**Output**

The type and/or amount of actions or work to benefit a resource.

**Performance standard**

Observable or measurable metrics that are used to determine whether outcomes are met; often include defined time frames.

**Practicable**

Available and capable of being done after taking into consideration existing technology, logistics, and cost in light of a mitigation measure's beneficial value and a land-use activity's overall purpose, scope, and scale.

**Preservation**

The removal of a threat to, or preventing the decline of, resources. Preservation may include the application of new protective designations on previously unprotected land or the relinquishment or restraint of a lawful use that adversely affects resources.

**Public lands**

Any land and interest in land owned by the United States and administered by the Secretary of the Interior through the BLM, without regard to how the United States acquired ownership, except (1) lands located on the Outer Continental Shelf and (2) lands held for the benefit of Indians, Aleuts, and Eskimos (FLPMA Section (103) (e), 43 U.S.C. 1702(e)).

**Rectification**

Rectifying an impact by repairing, rehabilitating, or restoring the affected environment (40 CFR 1508.20(c)).

**Reduction or elimination over time**

Reducing or eliminating an impact over time by preservation and maintenance operations during the life of the land-use activity (modified from 40 CFR 1508.20(d)).

Any adverse reasonably foreseeable effects that are expected to remain after application of the first four steps in the mitigation hierarchy; also referred to as remaining unavoidable impacts. The implementation of mitigation measures (e.g., rectification) at some point in the distant future does not eliminate any remaining unavoidable impacts that will exist until that mitigation measure's outcome is achieved.

**Resources**

Resources are natural, social, or cultural objects or qualities; resource values are the importance, worth, or usefulness of resources; resource services are the benefits people derive from resources; and resource functions are the physical, chemical, and/or biological processes that involve resources. (For the purposes of this policy, resources exclude nonrenewable resources used for the production of energy [e.g., oil, gas, coal, and other mineral resources]). For brevity, in this policy, also referred to as "resources".

**Responsible party**

The entity accountable for fulfilling all aspects of compensatory mitigation obligations, including ensuring the durability and effectiveness of mitigation measures, achieving mitigation measures' outcomes, and complying with monitoring, adaptive management, and reporting requirements. The responsible party may be the authorized land user, the BLM, or a third party, or a combination of these parties.

**Restoration**

The process of assisting the recovery of a resource (including its values, services, and/or functions) that has been degraded, damaged, or destroyed to the condition that would have existed if the resource had not been degraded, damaged, or destroyed.

**Reversal**

The loss of durability or effectiveness of a mitigation measure and/or a compensatory mitigation site.

**Timeliness**

The lack of a time lag between the impact on the resources and the achievement of the outcomes of the associated mitigation measures.

**LITERATURE CITED**

- Antle, J., S. Capalbo, S. Mooney, E. Elliott, and K. Pautian. 2003. "Spatial Heterogeneity, Contract Design and the Efficiency of Carbon Sequestration Policies for Agriculture." *Journal of Environmental Economics and Management* 46: 231–250.
- Bureau of Land Management (BLM). 2013. "Draft – Manual 1794: Regional Mitigation Manual. Instruction Memorandum No. 2013-142." *USDI, BLM*. Last modified June 14. [http://www.blm.gov/wo/st/en/info/regulations/Instruction\\_Memos\\_and\\_Bulletins/national\\_instruction/2013/IM\\_2013-142.html](http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2013/IM_2013-142.html).
- \_\_\_\_\_. 2015a. *Oregon Greater Sage-Grouse Approved Resource Management Plan Amendment and Final Environmental Impact Statement*. Portland: Oregon State Office. <http://www.blm.gov/or/energy/opportunity/finaeis.php>.
- \_\_\_\_\_. 2015b. *Idaho and Southwestern Montana Greater Sage-Grouse Approved Resource Management Plan Amendment and Environmental Impact Statement*. Boise: Idaho State Office. <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=42003>.
- BLM, U.S. Forest Service, U.S. Fish and Wildlife Service, Environmental Protection Agency, and National Oceanic and Atmospheric Administration Fisheries (BLM, USFS, USFWS, EPA, and NOAA Fisheries). 2014. *Updated Interior Columbia Basin Strategies: A Strategy for Applying the Knowledge Gained by the Interior Columbia Basin Ecosystem Management Project to the Revision of Land Use Plans and Project Implementation*. BLM, USFS, USFWS, EPA, and NOAA Fisheries. [http://www.icbemp.gov/html/ICBEMP\\_Frameworkmemorandum-and-strategy\\_2014.pdf](http://www.icbemp.gov/html/ICBEMP_Frameworkmemorandum-and-strategy_2014.pdf).
- Clement, J. P., A. d'A. Belin, M. J. Bean, T. A. Boling, and J. R. Lyons. 2014. *A Strategy for Improving the Mitigation Policies and Practices of the Department of the Interior*. Washington, D.C.: Secretary of the Interior, Energy and Climate Change Task Force.
- Gardner, T. A., A. Von Hase, S. Brownlie, J. M. M. Ekstrom, J. D. Pilgrim, C. E. Savy, R. T. Stevens, et al. 2013. "Biodiversity Offsets and the Challenge of Achieving No Net Loss." *Conservation Biology* 27: 1254–1264.
- Hagen, C. 2011. *Greater Sage-Grouse Conservation Assessment and Strategy for Oregon: A Plan to Maintain and Enhance Populations and Habitat*. Bend: ODFW.
- Idaho Sage-grouse Advisory Committee. 2006. *Conservation Plan for the Greater Sage-grouse in Idaho*. Boise: IDFG. <https://fishandgame.idaho.gov/public/wildlife/sageGrouse/conservPlan.pdf>.
- Just, R. E., and J. M. Antle. 1990. "Interactions Between Agricultural and Environmental Policies: A Conceptual Framework." *The American Economic Review* 80: 197–202.
- McKenney, B. A., and J. M. Kiesecker. 2010. "Policy Development for Biodiversity Offsets: A Review of Offset Frameworks." *Environmental Management* 45: 165–176.
- National Park Service (NPS). 1999. *Comprehensive Management and Use Plan*. USDI.

- Oregon Department of Fish and Wildlife (ODFW). 2011. *Greater Sage-Grouse Conservation Assessment and Strategy for Oregon: A Plan to Maintain and Enhance Populations and Habitat*. Salem: ODFW. [http://www.dfw.state.or.us/wildlife/sagegrouse/docs/20110422\\_GRSG\\_April\\_Final%2052511.pdf](http://www.dfw.state.or.us/wildlife/sagegrouse/docs/20110422_GRSG_April_Final%2052511.pdf).
- President of the United States. 2015. *Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment*. Presidential Memorandum, November 3, 2015. Washington, D.C.
- U.S. Department of the Interior (USDI). 2013. *Secretarial Order No. 3330: Improving Mitigation Policies and Practices of the Department of the Interior*. Washington, D.C.: Secretary of the Interior.
- \_\_\_\_\_. 2015. *Landscape-Scale Mitigation Policy, 600 DM 6: Implementing Mitigation at the Landscape-scale*. Washington, D.C.: USDI.
- U.S. Forest Service (USFS). 1995. *Decision Notice and Finding of No Significant Impact for the Inland Native Fish Strategy: Interim Strategies for Managing Fish-Producing Watersheds in Eastern Oregon and Washington, Idaho, Western Montana and Portions of Nevada*. Coeur d'Alene: Inland Native Fish Strategy, USFS. [http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fsbdev3\\_033158.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_033158.pdf).
- USFS and BLM. 1995. *Decision Notice/Decision Record Finding of No Significance Impact Environmental Assessment for the Interim Strategies for Managing Anadromous Fish-Producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (PACFISH)*. Washington, D.C.: USFS and BLM. [http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fsbdev3\\_033465.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_033465.pdf).
- Washington State Department of Transportation (WSDOT). 2016. *Managing Mitigation Sites*. <https://www.wsdot.wa.gov/Environment/Wetlands/Mitigation/sitemanagement.htm>.