



Appendix K

Rationale for

Viability

Compliance

(Comparable to Eastside Appendix 4-2)

*This Appendix contains
the following items:*

- *Introduction*
- *Management for Viable Populations*
- *Relationship Between SIT Evaluation Outcomes and Viability Determinations*
- *Conclusions*

Introduction

The management of fish and wildlife resources involves the interrelationship of habitat management and population management. While federal land management agencies have control of occupancy and use of the federal lands they administer, they have, through memoranda of understanding (MOUs) with state fish and wildlife agencies, made a distinction between habitat management and population management. These MOUs acknowledge that federal land management agencies have the role of habitat management and state fish and wildlife agencies have the role of population management. An exception would be for species that are federally listed as endangered or threatened, or are proposed for listing under the Endangered Species Act of 1973, as amended. The U.S. Department of Interior, Fish and Wildlife Service or the U.S. Department of Commerce, National Marine Fisheries Service have a consulting and oversight role for populations of these species and their habitats. In some cases federal management actions governing use and occupancy may affect populations directly rather than through habitat management. These circumstances include closure orders under 36 CFR 261 and decisions that may affect public access made through the land management planning and travel planning processes. Such decisions are being made at finer scales rather than through these broad-scale EISs.

Memoranda of understanding between the U.S. Department of Agriculture, Forest Service and the various state agencies can be found in Forest Service Manual 2610. Memoranda of understanding between the U.S. Department of Interior Bureau of Land Management and state agencies can be found in the central files of each BLM state office.

Management for Viable Populations

The NFMA required the Secretary of Agriculture to promulgate regulations to guide Forest Service planning. One of the statutory requirements is “specifying guidelines for land management plans developed to achieve the goals of the Program which provides for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives.” 16 U.S.C. § 1604(g)(3)(B). In accord with this diversity provision, the Secretary promulgated a regulation that states the following:

Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area. For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area. In order to insure that viable populations will be maintained, habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area. 36 CFR 219.19.

Because of the enormous complexity and dynamic nature of the ecosystems managed under NFMA, there is no specific or precise standard or technique for satisfying these requirements, as recognized by the scientific community and many courts. The Committee of Scientists that provided scientific advice to the Forest Service on the crafting of NFMA regulations stated “it is impossible to write specific regulations to ‘provide for’ diversity” and “there remains a great deal of room for honest debate on the translation of policy into management planning requirements and into management programs” (44 Fed. Reg. 26,600-01 & 26,608). In fact the court in Seattle Audubon Society v. Mosely (W.D. Wash. 1992) stated that the Forest Service must use common sense and apply its fish and wildlife expertise in implementing these requirements. The court also stated that “The Forest Service argues that it should not be required to conduct viability analysis as to every species. There is no such requirement. As in any administrative field, common sense and agency expertise must be applied.”

This regulation describes as a goal of National Forest System management the maintenance of viable populations. The means by which the agency is to accomplish that goal is management of habitat.

For these EISs a viable population has the estimated numbers and distribution of reproductive individuals (both current and projected) to provide for a self-sustaining population with a sufficiently high likelihood of continued existence at a high enough level that listing of the species under the Endangered Species Act does not become warranted. A “listed species” is considered to be viable when it is removed from the Endangered Species list.

While this regulation is applicable only to lands managed by the Forest Service, management of habitat on BLM-administered land to achieve the same outcomes would not be inconsistent with statutory mandates governing management of BLM-administered lands, particularly the authorities under the Federal Land Policy and Management Act, and the directives found in the Multiple-Use Sustained-Yield Act and the Endangered Species Act. In addition, there is a separate duty under NEPA to disclose foreseeable environmental impacts, including cumulative effects of other actions, and these may include effects on populations. Consistency with Forest Service management under the National Forest Management Act, including the viability regulation, would also serve the important BLM policy goal of protecting long-term health and sustainability of all lands it administers within the interior Columbia River Basin. Thus, the BLM has chosen for this interagency management effort to apply the same standard to its planning process.

Relationship between SIT Evaluation Outcomes and Viability Determinations

The dynamic relationship between habitat conditions and species persistence is not yet well enough known for most species, to allow the construction of models capable of reliable population trends. The data on climatic conditions, geologic events, and other non habitat factors is so limited in duration and the understanding of the complex relationships involved so limited, that a reliable model of the impacts of such factors is not now available. Therefore, for most species a decision was made to rely primarily on the judgements of scientific experts on the likely habitat and population outcomes of the various alternatives over time. However, a process described below was used to structure the opinions of these scientific experts so that there is at least a common logical approach to their determinations of outcomes. This methodology is not the only approach which could have been used in making determinations of “viability”, but it has been accepted as a reasonable method, and at this time, may be the best method available. See Seattle Audubon Society v. Lyons, 871 F.Supp. 1291 (W.D. Wash. 1994); aff’d Seattle Audubon Society v. Moseley, _F.3d_ (9th Cir. 1996) (April 10, 1996; No. 95-35052, et seq.).

The opinions of the scientific panels, which were assembled by the Science Integration Team during the evaluation of alternatives, are considered projections of outcomes to be weighed by the decision-makers in determining whether a particular alternative would provide for viable populations and consequently the diversity in biological resources. The decision-makers may weigh other facts in making this determination, including the basis of the opinions by the scientific panelists, and the degree of consensus among the panel members. Where there is a divergence of opinions among the scientists, the decision-makers may choose to rely on the opinions of certain scientists, on the panels over others rather than the median level of opinion. The record on which this environmental impact statement is based discloses the basis for the scientific panel ratings and is available to the public and the decision-makers in making an assessment of the weight which should be given to that scientific opinion. The primary usefulness of the outcomes is to assist the agencies in identifying species of concern and those species which may benefit or suffer the most from the choices to be made among the alternatives.

Conclusions

Terrestrial Species

- ◆ Habitat outcomes is the method used to address the viability requirements of NFMA planning regulation 36 CFR 219.19. This method has been determined to be reasonable for addressing NFMA viability requirements for broad-scale, programmatic planning, and refers only to Federal Lands.
- ◆ Cumulative effects analysis, under the requirements of NEPA, was used to make inferences about populations and population persistence and habitat on non-Federal and Federal lands. This method was referred to as “Population Outcomes.” See tables 1 through 16.

Tables 1 through 16 display detailed results of the terrestrial species assessment. For each group of species (vascular plants; amphibians and reptiles; waterbirds and shorebirds; raptors and gamebirds; woodpeckers, nuthatches and swifts; cuckoos, hummingbirds and passerines; bats and small mammals; and carnivores and ungulates), the data are presented in two ways. The first table presents mean likelihood scores for each of the five outcomes for historical and current conditions and the seven alternatives. In this table, outcomes are presented first as habitat outcomes for federal lands only and then as population outcomes expressing cumulative effects across all ownerships. The second table for each species group displays the weighted mean outcomes that were derived from the mean likelihood scores. Data from these tables were used to develop figures in Chapter 4.

Aquatic Species

- ◆ Qualitative and quantitative changes in population distribution and status of key salmonids and changes in habitat for narrowly distributed, endemic, or sensitive fish species were used to address the viability requirements of NFMA planning regulation 36 CFR 219.19. These methods are to be reasonable for addressing NFMA viability requirements for broad-scale programmatic planning.
- ◆ Cumulative effects analysis, under the NEPA requirements, was used to make inferences about change in populations, population persistence, and habitat on non-Federal and Federal lands. For aquatic and terrestrial viability determinations see Chapter 4.

Table 1. Mean likelihood scores of viability outcomes for selected species of vascular plants for the UCRB Planning Area.

Species Name	Area ¹	Outcome ²	Period				Alternative ³				
			H	C	A1	A2	A3	A4	A5	A6	A7
<i>Astragalus mulfordiae</i>	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	80	70	30	50	50	65	50	65	50
		4	20	30	60	40	40	25	40	25	40
		5	0	0	10	10	10	10	10	10	10
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	80	60	20	40	40	55	40	55	40
		4	20	40	60	40	40	30	40	30	40
		5	0	0	20	20	20	15	20	15	20
<i>Astragalus oniciformis</i>	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	90	60	40	40	55	60	55	60	70
		4	10	40	40	40	40	30	40	30	20
		5	0	0	20	20	5	10	5	10	10
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	90	60	50	50	60	60	60	60	50
		4	10	40	45	45	30	30	30	30	40
		5	0	0	5	5	10	10	10	10	10
<i>Astragalus paysonii</i>	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	80	70	70	60	85	90	85	90	85
		4	20	30	30	40	15	10	15	10	15
		5	0	0	0	0	0	0	0	0	0
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	80	70	70	60	85	90	85	90	85
		4	20	30	30	40	15	10	15	10	15
		5	0	0	0	0	0	0	0	0	0
<i>Astragalus yoder-williamsii</i>	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	90	70	80	70	70	90	80	90	80
		4	10	20	10	20	20	5	10	5	10
		5	0	10	10	10	10	5	10	5	10
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	90	70	80	70	70	90	80	90	80
		4	10	20	10	20	20	5	10	5	10
		5	0	10	10	10	10	5	10	5	10
<i>Botrychium ascendens</i>	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	50	50	0	0	0	0	0	0	0
		4	50	50	40	60	30	40	30	40	30
		5	0	0	60	40	70	60	70	60	70
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	50	50	0	0	0	0	0	0	0
		4	50	50	40	40	40	40	40	40	40

Table 1. Mean likelihood scores of viability outcomes for selected species of vascular plants for the UCRB Planning Area.

Species Name	Area ¹	Outcome ²	Period			Alternative ³					
			H	C	A1	A2	A3	A4	A5	A6	A7
<i>Botrychium crenulatum</i>	BLM/FS	5	0	0	60	60	60	60	60	60	60
		1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	40	40	10	40	40	20	10	20	40
		4	60	60	40	40	40	40	40	40	40
	CumEff	5	0	0	50	20	20	40	50	40	20
		1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	40	40	0	0	0	0	0	0	0
		4	60	60	40	40	40	40	40	40	40
<i>Botrychium paradoxum</i>	BLM/FS	5	0	0	60	60	60	60	60	60	60
		1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	50	50	40	40	40	40	40	40	40
		4	50	50	60	60	60	60	60	60	60
	CumEff	5	0	0	0	0	0	0	0	0	0
		1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	10	10	20	10	25	25	25	25	20
		4	90	90	80	90	75	75	75	75	80
<i>Calochortus nitidus</i>	BLM/FS	5	0	0	0	0	0	0	0	0	0
		1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	10	10	20	10	25	25	25	25	20
		4	90	90	80	90	75	75	75	75	80
	CumEff	5	0	0	0	0	0	0	0	0	0
		1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	70	10	5	5	5	5	5	5	0
		4	30	30	20	20	20	20	20	20	10
<i>Cypripedium fasciculatum</i>	BLM/FS	5	0	60	75	75	75	75	75	75	90
		1	0	0	0	0	0	0	0	0	0
		2	70	80	70	70	85	90	85	90	80
		3	30	10	20	20	15	10	15	10	20
		4	0	10	10	10	0	0	0	0	0
	CumEff	5	0	0	0	0	0	0	0	0	0
		1	0	0	0	0	0	0	0	0	0
		2	60	70	70	80	70	90	65	90	85
		3	40	20	20	10	20	5	25	5	15
		4	0	10	10	10	10	5	10	5	0
<i>Grindelia howellii</i>	BLM/FS	5	100	0	0	0	0	0	0	0	0
		1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	0	50	60	75	80	70	80	70	70
		4	0	50	40	25	20	30	20	30	30
	CumEff	5	40	0	0	0	0	0	0	0	0
		1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	0	60	85	85	85	85	85	85	85
		4	60	40	15	15	15	15	15	15	15

Species Name	Area ¹	Outcome ²	Period		Alternative ³						
			H	C	A1	A2	A3	A4	A5	A6	A7
<i>Haplopappus latifolius</i>	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	80	0	0	0	0	0	0	0	0
		3	20	0	0	0	0	0	0	0	0
		4	0	20	10	10	10	10	10	10	10
		5	0	80	90	90	90	90	90	90	90
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	80	0	0	0	0	0	0	0	0
		3	20	0	0	0	0	0	0	0	0
		4	0	15	10	10	10	10	10	10	10
		5	0	85	90	90	90	90	90	90	90
<i>Howellia aquatilis</i>	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	90	90	85	85	85	85	85	85	90
		4	10	5	10	10	10	10	10	10	5
		5	0	5	5	5	5	5	5	5	5
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	90	90	80	80	80	80	80	80	90
		4	10	5	10	10	10	10	10	10	5
		5	0	5	10	10	10	10	10	10	5
<i>Mirabilis macfarlanei</i>	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	90	25	25	30	30	30	30	30	30
		4	10	70	70	65	65	65	65	65	70
		5	0	5	5	5	5	5	5	5	0
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	90	10	10	20	20	20	20	20	20
		4	10	80	80	70	70	70	70	70	70
		5	0	10	10	10	10	10	10	10	10
<i>Penstemon lemhiensis</i>	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	70	40	40	40	80	90	80	90	40
		4	30	50	50	50	20	10	20	10	60
		5	0	10	10	10	0	0	0	0	0
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	70	30	30	30	70	80	70	80	40
		4	30	60	60	60	30	20	30	20	60
		5	0	10	10	10	0	0	0	0	0

Likelihood scores for each period or alternative sum to 100 points. High scores indicate high likelihood of an outcome. Means are calculated from the individual likelihood scores of panelists.

¹ Area: BLM/FS - Eastern Oregon and Washington planning area, BLM and Forest Service lands only; CumEff - all lands in Eastern Oregon and Washington planning area;

² Outcome: 1 - contiguous; 2 - gaps; 3 - patchy; 4 - isolated; 5 - scarce. See Chapter 4 for complete explanation.

³ Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

Table 2. Mean viability outcomes for habitat and populations of vascular plants for the UCRB Planning Area.

Species Name	Area ¹	H	Period			Alternative ³				
			C	A1	A2	A3	A4	A5	A6	A7
<i>Astragalus mulfordiae</i>	BLM/FS	3.2	3.3	3.8 ³	3.6	3.6	3.5	3.6	3.5	3.6
	CumEff	3.2	3.4	4.0 ³	3.8	3.8	3.6	3.8	3.6	3.8
<i>Astragalus oniciformis</i>	BLM/FS	3.1	3.4	3.8	3.8	3.5	3.5	3.5	3.5	3.4
	CumEff	3.1	3.4	3.6	3.6	3.5	3.5	3.5	3.5	3.6
<i>Astragalus paysonii</i>	BLM/FS	3.2	3.3	3.3	3.4	3.2	3.1	3.2	3.1	3.2
	CumEff	3.2	3.3	3.3	3.4	3.2	3.1	3.2	3.1	3.2
<i>Astragalus yoder-williamsii</i>	BLM/FS	3.1	3.4	3.3	3.4	3.4	3.2	3.3	3.2	3.3
	CumEff	3.1	3.4	3.3	3.4	3.4	3.2	3.3	3.2	3.3
<i>Botrychium ascendens</i>	BLM/FS	3.5	3.5	4.6 ³	4.4 ³	4.7 ³	4.6 ³	4.7 ³	4.6 ³	4.7 ³
	CumEff	3.5	3.5	4.6 ³	4.6 ³	4.6 ³	4.6 ³	4.6 ³	4.6 ³	4.6 ³
<i>Botrychium crenulatum</i>	BLM/FS	3.6	3.6	4.4 ³	3.8	3.8	4.2 ³	4.4 ³	4.2 ³	3.8
	CumEff	3.6	3.6	4.6 ³	4.6 ³	4.6 ³	4.6 ³	4.6 ³	4.6 ³	4.6 ³
<i>Botrychium paradoxum</i>	BLM/FS	3.5	3.5	3.6	3.6	3.6	3.6	3.6	3.6	3.6
<i>Calochortus nitidus</i>	BLM/FS	3.9	3.9	3.8	3.9	3.8	3.8	3.8	3.8	3.8
	CumEff	3.3	4.5	4.7	4.7	4.7	4.7	4.7	4.7	4.9
<i>Cypripedium fasciculatum</i>	BLM/FS	2.3	2.3	2.4	2.4	2.2	2.1	2.2	2.1	2.2
	CumEff	2.4	2.4	2.4	2.3	2.4	2.2	2.5	2.2	2.2
<i>Grindelia howellii</i>	BLM/FS	5.0	3.5	3.4	3.3	3.2	3.3	3.2	3.3	3.3
	CumEff	4.4	3.4	3.2	3.2	3.2	3.2	3.2	3.2	3.2
<i>Haplopappus liatrisiformis</i>	BLM/FS	2.2	4.8	4.9	4.9	4.9	4.9	4.9	4.9	4.9
	CumEff	2.2	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
<i>Howellia aquatilis</i>	BLM/FS	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	CumEff	3.1	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.2
<i>Mirabilis macfarlanei</i>	BLM/FS	3.1	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7
	CumEff	3.1	4.0	4.0	3.9	3.9	3.9	3.9	3.9	3.9
<i>Penstemon lemhiensis</i>	BLM/FS	3.3	3.7	3.7	3.7	3.2 ³	3.1 ³	3.2 ³	3.1 ³	3.6
	CumEff	3.3	3.8	3.8	3.8	3.3 ³	3.2 ³	3.3 ³	3.2 ³	3.6

Mean outcomes were calculated as the weighted mean of average likelihood scores in each outcome.

¹ Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

² Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

³ Mean outcome for alternative departs from current outcome by greater than or equal to 0.50 units. Outcomes reported in table were rounded to 0.1 units; but, differences were calculated to 0.01 units. Hence, departure calculated from the table may be misleading.

Table 3. Mean likelihood scores of viability outcomes for amphibians and reptiles for the UCRB Planning Area.

Group ¹	Species Name	Area ²	Outcome ³	Period		Alternative ⁴						
				H	C	A1	A2	A3	A4	A5	A6	A7
AMP	Coeur d'Alene salamander	BLM/FS ⁵	1	0	0	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0	0	0
			3	40	3	0	5	0	5	0	5	10
			4	50	63	45	65	70	70	45	70	75
			5	10	33	55	30	30	25	55	25	15
		CumEff	1	0	0	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0	0	0
			3	40	3	0	0	0	0	0	0	3
			4	50	57	15	22	23	28	15	32	45
			5	10	40	85	78	77	72	85	68	52
AMP	Spotted frog species B	BLM/FS	1	25	0	0	0	0	0	0	0	3
			2	50	20	5	18	18	20	5	20	23
			3	15	50	40	55	50	55	43	55	58
			4	10	30	50	28	33	25	50	25	18
			5	0	0	5	0	0	0	3	0	0
		CumEff	1	25	0	0	0	0	0	0	0	0
			2	50	20	0	18	18	18	3	18	20
			3	15	50	40	50	45	50	40	50	55
			4	10	30	55	33	38	33	55	33	25
			5	0	0	5	0	0	0	3	0	0
AMP	Northern leopard frog	BLM/FS ⁵	1	3	0	0	0	0	0	0	0	0
			2	33	0	0	0	0	0	0	0	5
			3	33	0	0	10	0	20	0	25	30
			4	30	30	7	27	37	33	30	35	35
			5	0	70	93	63	63	47	70	40	30
		CumEff	1	3	0	0	0	0	0	0	0	0
			2	33	0	0	0	0	0	0	0	0
			3	33	0	0	0	0	0	0	0	0
			4	30	23	3	5	5	5	3	5	15
			5	0	77	97	95	95	95	97	95	85
AMP	Tailed frog	BLM/FS	1	0	0	0	0	0	0	0	0	0
			2	47	23	3	25	18	27	3	27	35
			3	28	43	18	45	45	42	25	42	37
			4	22	22	57	22	27	22	55	23	22
			5	3	12	22	8	10	10	17	8	7
		CumEff	1	0	0	0	0	0	0	0	0	0
			2	47	23	3	5	5	5	3	5	7
			3	28	43	20	47	37	45	20	45	50
			4	22	22	27	37	42	37	32	37	32
			5	3	12	50	12	17	13	45	13	12
AMP	Western toad	BLM/FS	1	27	7	0	8	7	10	0	10	17
			2	43	45	15	42	43	40	15	40	40
			3	23	33	23	35	33	33	28	35	30
			4	7	13	55	12	13	13	52	12	12
			5	0	2	7	3	3	3	5	3	2
		CumEff	1	27	0	0	0	0	0	0	0	0
			2	43	18	3	8	8	12	5	12	17
			3	23	40	20	40	38	35	17	37	35
			4	7	30	23	37	37	37	27	37	33
			5	0	12	53	15	17	17	52	15	15

Table 3. Mean likelihood scores of viability outcomes for amphibians and reptiles for the UCRB Planning Area (continued).

Group ¹	Species Name	Area ²	Outcome ³	Period		Alternative ⁴					
				H	C	A1	A2	A3	A4	A5	A6
AMP	Woodhouse's toad	BLM/FS ⁵	1	0	0	0	0	0	0	0	0
			2	25	0	0	5	2	10	0	15
			3	50	30	5	20	15	25	5	30
			4	25	65	55	50	50	50	55	50
			5	0	5	40	25	33	15	40	5
		CumEff	1	0	0	0	0	0	0	0	0
			2	25	0	0	0	0	0	0	0
			3	50	30	0	0	0	0	0	0
			4	25	65	30	35	35	43	30	43
			5	0	5	70	65	65	58	70	58
REP	Common garter snake	BLM/FS	1	50	0	0	0	0	0	0	0
			2	50	50	23	50	50	50	23	50
			3	0	40	40	40	40	40	40	43
			4	0	10	38	10	10	10	38	10
			5	0	0	0	0	0	0	0	0
		CumEff	1	50	0	0	0	0	0	0	0
			2	50	25	20	23	23	23	20	23
			3	0	40	18	43	43	43	18	43
			4	0	35	38	35	35	35	38	35
			5	0	0	25	0	0	0	25	0
REP	Desert horned lizard	BLM/FS	1	50	45	40	45	45	45	40	45
			2	50	55	60	55	55	55	60	55
			3	0	0	0	0	0	0	0	0
			4	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0
		CumEff	1	50	45	40	45	45	45	40	45
			2	50	55	60	55	55	55	60	55
			3	0	0	0	0	0	0	0	0
			4	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0
REP	Longnose leopard lizard	BLM/FS	1	0	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0	0
			3	50	30	20	30	30	30	20	30
			4	50	60	60	60	60	60	60	55
			5	0	10	20	10	10	10	20	10
		CumEff	1	0	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0	0
			3	50	25	20	25	25	25	20	25
			4	50	60	55	60	60	60	55	60
			5	0	15	25	15	15	15	25	15
REP	Mojave-collared lizard	BLM/FS	1	0	0	0	0	0	0	0	0
			2	50	30	20	30	30	30	20	30
			3	50	60	60	60	60	60	60	55
			4	0	10	20	10	10	10	20	10
			5	0	0	0	0	0	0	0	0
		CumEff	1	0	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0	0
			3	50	40	20	25	25	25	20	25
			4	20	40	40	60	60	60	40	60
			5	30	20	40	15	15	15	40	15

Group ¹	Species Name	Area ²	Outcome ³	Period		Alternative ⁴						
				H	C	A1	A2	A3	A4	A5	A6	A7
REP	Night snake	BLM/FS	1	50	45	40	45	45	45	40	45	50
			2	50	55	60	55	55	55	60	55	50
			3	0	0	0	0	0	0	0	0	0
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
		CumEff	1	50	40	35	40	40	40	35	40	45
			2	50	60	65	60	60	60	65	60	55
			3	0	0	0	0	0	0	0	0	0
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
REP	Painted turtle	BLM/FS	1	0	0	0	0	0	0	0	0	0
			2	50	35	18	33	30	40	18	43	50
			3	50	65	58	48	50	60	58	58	50
			4	0	0	25	20	20	0	25	0	0
			5	0	0	0	0	0	0	0	0	0
		CumEff	1	0	0	0	0	0	0	0	0	0
			2	50	15	10	15	13	13	10	15	18
			3	50	35	20	30	30	40	20	40	45
			4	0	50	45	35	38	48	45	45	38
			5	0	0	25	20	20	0	25	0	0
REP	Rubber boa	BLM/FS	1	0	0	0	0	0	0	0	0	0
			2	25	0	0	0	0	5	0	5	15
			3	50	48	25	48	48	48	25	48	50
			4	25	53	75	53	53	48	75	48	35
			5	0	0	0	0	0	0	0	0	0
		CumEff	1	0	0	0	0	0	0	0	0	0
			2	25	0	0	0	0	0	0	0	0
			3	50	45	15	20	20	25	15	25	38
			4	25	55	40	55	55	55	40	55	53
			5	0	0	45	25	25	20	45	20	10
REP	Sagebrush lizard	BLM/FS	1	50	40	35	40	40	40	35	40	45
			2	50	60	65	60	60	60	65	60	55
			3	0	0	0	0	0	0	0	0	0
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
		CumEff	1	50	30	20	25	25	25	20	25	30
			2	50	40	35	40	40	40	40	40	40
			3	0	30	45	35	35	35	40	35	30
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
REP	Short-horned lizard	BLM/FS	1	50	40	30	40	40	40	30	40	45
			2	50	60	70	60	60	60	70	60	55
			3	0	0	0	0	0	0	0	0	0
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
		CumEff	1	50	35	30	35	35	35	30	35	45
			2	50	65	70	65	65	65	70	65	55
			3	0	0	0	0	0	0	0	0	0
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
REP	Striped Whipsnake	BLM/FS	1	0	0	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0	0	0
			3	50	35	30	35	35	35	30	35	40
			4	50	55	55	55	55	55	55	55	50
			5	0	10	15	10	10	10	15	10	10

Group ¹	Species Name	Area ²	Outcome ³	Period			Alternative ⁴			
				H	C	A1	A2	A3	A4	A5
		CumEff	1	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0
			3	50	35	30	30	30	30	30
			4	50	55	55	60	60	55	60
			5	0	10	15	10	10	15	10

Likelihood scores for each period or alternative sum to 100 points. High scores indicate high likelihood of an outcome. Means are calculated from the individual likelihood scores of panelists.

¹ Group: AMP - amphibian; REP -reptile.

² Area: BLM/FS - Eastern Oregon and Washington planning area, BLM and Forest Service lands only; CumEff - all lands in Eastern Oregon and Washington planning area;

³ Outcome: 1 - contiguous; 2 - gaps; 3 - patchy; 4 - isolated; 5 - scarce. See text for complete explanation.

⁴ Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

⁵ Species for which panelists' scores were adjusted by Science Team. Scores were adjusted when considered to reflect a misinterpretation or incomplete understanding of the management alternatives or their outcomes, or the species ecology.

Table 4. Mean viability outcomes for habitat and populations of amphibians and reptiles for the UCRB Planning Area.

Group ¹	Species Name	Area ²	Period			Alternative ³				
			H	C	A1	A2	A3	A4	A5	A6
AMP	Coeur d'Alene salamander	BLM/FS ⁴ CumEff	3.7	4.3	4.6	4.3	4.3	4.2	4.6	4.2
			3.7	4.4	4.9	4.8	4.8	4.7	4.9	4.7
AMP	Spotted frog species B	BLM/FS CumEff	2.1	3.1	3.6	3.1	3.2	3.1	3.5	3.1
			2.1	3.1	3.7 ⁵	3.2	3.2	3.2	3.6 ⁵	3.2
AMP	Northern leopard frog	BLM/FS ⁴ CumEff	2.9	4.7	4.9	4.5	4.6	4.3	4.7	4.2 ⁵
			2.9	4.8	5.0	5.0	5.0	5.0	5.0	4.9
AMP	Tailed frog	BLM/FS CumEff	2.8	3.2	4.0 ⁵	3.1	3.3	3.2	3.9 ⁵	3.1
			2.8	3.2	4.2 ⁵	3.6	3.7 ⁵	3.6	4.2 ⁵	3.6
AMP	Western toad	BLM/FS CumEff	2.1	2.6	3.5 ⁵	2.6	2.6	2.6	3.5 ⁵	2.6
			2.1	3.4	4.2 ⁵	3.6	3.6	3.6	4.3 ⁵	3.6
AMP	Woodhouse's toad	BLM/FS ⁴ CumEff	3.0	3.8	4.4 ⁵	4.0	4.1	3.7	4.4 ⁵	3.5
			3.0	3.8	4.7 ⁵	4.7 ⁵	4.7 ⁵	4.6 ⁵	4.7 ⁵	4.6 ⁵
REP	Common garter snake	BLM/FS CumEff	1.5	2.6	3.2 ⁵	2.6	2.6	2.6	3.2 ⁵	2.6
			1.5	3.1	3.7 ⁵	3.2	3.2	3.2	3.7 ⁵	3.2
REP	Desert horned lizard	BLM/FS CumEff	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
			1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
REP	Longnose leopard lizard	BLM/FS CumEff	3.5	3.8	4.0	3.8	3.8	3.8	4.0	3.8
			3.5	3.9	4.1	3.9	3.9	3.9	4.1	3.9
REP	Mojave black-collared lizard	BLM/FS CumEff	2.5	2.8	3.0	2.8	2.8	2.8	3.0	2.8
			3.8	3.8	4.2	3.9	3.9	3.9	4.2	3.9

Group ¹	Species Name	Area ²	Period				Alternative ³				
			H	C	A1	A2	A3	A4	A5	A6	A7
REP	Night snake	BLM/FS	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
		CumEff	1.5	1.6	1.7	1.6	1.6	1.6	1.7	1.6	1.6
REP	Painted turtle	BLM/FS	2.5	2.7	3.1 ⁵	2.9	2.9	2.6	3.1 ⁵	2.6	2.5
		CumEff	2.5	3.4	3.9 ⁵	3.6	3.7	3.4	3.9 ⁵	3.3	3.2
REP	Rubber boa	BLM/FS	3.0	3.6	3.8	3.6	3.6	3.5	3.8	3.5	3.2
		CumEff	3.0	3.6	4.3 ⁵	4.1	4.1	4.0	4.3 ⁵	4.0	3.8
REP	Sagebrush lizard	BLM/FS	1.5	1.6	1.7	1.6	1.6	1.6	1.7	1.6	1.6
		CumEff	1.5	2.0	2.3	2.1	2.1	2.1	2.2	2.1	2.0
REP	Short-horned lizard	BLM/FS	1.5	1.6	1.7	1.6	1.6	1.6	1.7	1.6	1.6
		CumEff	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6
REP	Striped whipsnake	BLM/FS	3.5	3.8	3.9	3.8	3.8	3.8	3.9	3.8	3.7
		CumEff	3.5	3.8	3.9	3.8	3.8	3.8	3.9	3.8	3.8

Mean outcomes were calculated as the weighted mean of average likelihood scores in each outcome.

¹ Group: AMP - amphibian; REP - reptile

² Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

³ Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

⁴ Species for which panelists' scores were adjusted by Science Team. Scores were adjusted when considered to reflect a misinterpretation or incomplete understanding of the management alternatives or their outcomes, or the species ecology.

⁵ Mean outcome for alternative departs from current outcome by greater than or equal to 0.50 units. Outcomes reported in table were rounded to 0.1 units; but, differences were calculated to 0.01 units. Hence, departure calculated from the table may be misleading.

Table 5. Mean likelihood scores of viability outcomes for habitat and species groups of waterbirds and shorebirds for the UCRB Planning Area.

Habitat & Species Groups	Area ¹	Outcome ²	Period			Alternative ³				A6	A7
			H	C	A1	A2	A3	A4	A5		
Group 1: Open water birds	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	2	1	0	3	3	6	0	6	2
		3	80	61	36	58	58	67	54	67	65
		4	18	28	48	37	37	22	34	22	31
		5	0	10	16	2	2	5	12	5	2
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	4	6	2	4	4	12	4	12	4
		3	78	59	38	57	55	60	55	60	61
		4	18	27	46	37	39	24	32	24	33
		5	0	8	14	2	2	4	9	4	2
Group 2: Common loon	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	4	4	4	4	4	4
		3	18	45	34	42	42	44	42	44	42
		4	82	55	54	54	54	52	54	52	54
		5	0	0	12	0	0	0	0	0	0
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	0	16	14	16	16	16	16	16	16
		3	37	35	24	33	33	34	34	34	33
		4	63	49	49	51	51	50	50	50	51
		5	0	0	13	0	0	0	0	0	0
Group 3: Wood duck, mergansers	BLM/FS	1	0	5	2	4	4	6	4	6	5
		2	16	23	18	24	21	29	22	29	27
		3	74	45	38	38	39	46	42	46	43
		4	10	19	28	23	26	15	24	15	19
		5	0	8	14	11	10	4	8	4	6
	CumEff	1	0	6	5	6	6	6	6	6	6
		2	16	18	15	18	18	23	17	24	22
		3	72	44	30	37	37	51	40	50	42
		4	12	24	31	21	22	17	22	17	18
		5	0	8	19	18	17	3	15	3	12
Group 4: Goldeneyes	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	50	34	12	40	33	53	32	53	38
		4	50	62	65	55	56	43	63	43	60
		5	0	4	23	5	11	4	5	4	2
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	51	30	15	34	28	46	27	48	36
		4	49	63	64	59	55	50	64	48	62
		5	0	7	21	7	17	4	9	4	2
Group 6: Harlequin duck	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	20	0	0	0	0	0	0	0	0
		3	40	0	0	0	0	60	0	60	19
		4	40	50	21	60	56	32	50	32	57
		5	0	50	79	40	44	8	50	8	24
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	20	0	0	0	0	0	0	0	0
		3	40	0	0	0	0	52	0	51	15
		4	40	41	17	57	49	34	47	34	59
		5	0	59	83	43	51	14	53	15	26

Habitat & Species Groups		Area ¹	Period				Alternative ³				
Groups	Outcome ²		H	C	A1	A2	A3	A4	A5	A6	A7
Group 7: Herons, egrets	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	80	68	55	71	69	74	68	74	68
		4	20	28	39	27	29	23	28	23	30
		5	0	4	6	2	2	3	4	3	2
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	82	67	53	68	66	68	65	69	64
		4	18	29	41	30	32	28	31	27	34
		5	0	4	6	2	2	4	4	4	2
Group 8: Dabbling ducks	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	18	4	3	5	4	12	4	12	5
		3	80	60	47	66	69	66	56	66	61
		4	2	35	45	28	26	22	40	22	34
		5	0	1	5	1	1	0	0	0	0
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	25	8	7	9	9	9	8	9	8
		3	75	58	43	57	57	63	52	63	56
		4	0	31	44	34	34	28	38	28	36
		5	0	3	6	0	0	0	2	0	0
Group 9: Spotted sandpiper	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	48	54	43	50	50	51	50	51	52
		3	52	46	51	50	50	49	50	49	48
		4	0	0	6	0	0	0	0	0	0
		5	0	0	0	0	0	0	0	0	0
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	52	54	51	58	58	59	58	59	60
		3	48	46	43	42	42	41	42	41	40
		4	0	0	6	0	0	0	0	0	0
		5	0	0	0	0	0	0	0	0	0
Group 10: Greater sandhill crane	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	11	10	3	5	5	10	5	10	5
		3	73	61	46	56	56	68	55	68	53
		4	16	29	51	39	39	23	40	23	43
		5	0	0	0	0	0	0	0	0	0
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	13	5	3	4	4	8	4	8	4
		3	71	63	45	55	55	70	54	70	51
		4	16	33	53	41	41	23	43	23	45
		5	0	0	0	0	0	0	0	0	0
Group 11: Rails, avocets	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	59	45	31	47	47	63	45	62	43
		4	41	55	60	52	52	37	54	38	56
		5	0	0	9	1	1	0	1	0	1
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	4	2	2	2	2	3	2	3	2
		3	64	50	34	52	52	69	48	68	50
		4	32	48	56	45	45	28	49	29	47
		5	0	0	8	1	1	0	1	0	1
Group 12: Curlew, willet	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	28	10	3	13	13	18	9	18	9
		4	73	90	95	88	88	83	91	83	89
		5	0	0	3	0	0	0	0	0	3

Table 5. Mean likelihood scores of viability outcomes for habitat and species groups of waterbirds and shorebirds for the UCRB Planning Area (continued).

Habitat & Species Groups	Area ¹	Outcome ²	Period		Alternative ³					
			H	C	A1	A2	A3	A4	A5	
Group 13: Upland sandpiper	BLM/FS ⁴	CumEff	1	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0
			3	33	14	5	16	16	24	13
			4	68	86	93	84	84	76	88
			5	0	0	3	0	0	0	0
Group 14: Common snipe	BLM/FS	CumEff	1	0	0	0	0	0	0	0
			2	66	0	0	0	0	0	0
			3	34	0	0	0	0	0	0
			4	0	0	0	2	10	25	10
			5	0	100	100	98	90	75	90
Group 15: Migrant sandpipers	BLM/FS	CumEff	1	0	0	0	0	0	0	0
			2	20	12	9	16	16	20	10
			3	74	68	55	64	64	67	63
			4	6	20	34	20	20	13	27
			5	0	0	2	0	0	0	0
		CumEff	1	0	0	0	0	0	0	0
			2	18	12	10	15	15	18	11
			3	76	66	53	64	64	68	61
			4	6	22	35	19	19	14	26
			5	0	0	2	2	0	2	0
		CumEff	1	28	12	5	12	12	22	6
			2	57	59	57	59	59	54	58
			3	15	29	36	29	29	24	36
			4	0	0	2	0	0	0	0
			5	0	0	0	0	0	0	0

Likelihood scores for each period or alternative sum to 100 points. High scores indicate high likelihood of an outcome. Means were calculated from the individual likelihood scores of panelists.

¹ Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

² Outcome: 1 - contiguous; 2 - gaps; 3 - patchy; 4 - isolated; 5 - scarce. See text for complete explanation.

³ Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

⁴ Species for which panelists' scores were adjusted by Science Team. Scores were adjusted when considered to reflect a misinterpretation or incomplete understanding of the management alternatives or their outcomes, or the species ecology.

Table 6. Mean viability outcomes for habitat and species groups of waterbirds and shorebirds for the UCRB Planning Area.

Habitat & Species Group	Area ¹	Period			Alternative ²				A5	A6	A7
		H	C	A1	A2	A3	A4				
Group 1: Open water birds	BLM/FS	3.2	3.5	3.8	3.4	3.4	3.3	3.6	3.3	3.3	3.3
	CumEff	3.1	3.4	3.7	3.4	3.4	3.2	3.5	3.2	3.3	3.3
Group 2: Common loon	BLM/FS	3.8	3.6	3.8	3.5	3.5	3.5	3.5	3.5	3.5	3.5
	CumEff	3.6	3.3	3.6	3.4	3.4	3.3	3.3	3.3	3.3	3.4
Group 3: Wood duck, mergansers	BLM/FS	2.9	3.0	3.3	3.1	3.2	2.8	3.1	2.8	2.9	2.9
	CumEff	3.0	3.1	3.4	3.3	3.3	2.9	3.2	2.9	3.1	3.1
Group 4: Goldeneyes	BLM/FS	3.5	3.7	4.1	3.7	3.8	3.5	3.7	3.5	3.6	3.6
	CumEff	3.5	3.8	4.1	3.7	3.9	3.6	3.8	3.6	3.6	3.7
Group 6: Harlequin duck	BLM/FS	3.2	4.5	4.8	4.4	4.4	3.5 ³	4.5	3.5 ³	4.1	
	CumEff	3.2	4.6	4.8	4.4	4.5	3.6 ³	4.5	3.6 ³	4.1	
Group 7: Herons, egrets	BLM/FS	3.2	3.4	3.5	3.3	3.3	3.3	3.4	3.3	3.3	3.3
	CumEff	3.2	3.4	3.5	3.3	3.4	3.4	3.4	3.4	3.4	3.4
Group 8: Dabbling ducks	BLM/FS	2.8	3.3	3.5	3.3	3.2	3.1	3.4	3.1	3.3	3.3
	CumEff	2.8	3.3	3.5	3.3	3.3	3.2	3.3	3.2	3.2	3.3
Group 9: Spotted sandpiper	BLM/FS	2.5	2.5	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	CumEff	2.5	2.5	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Group 10: Greater sandhill crane	BLM/FS	3.1	3.2	3.5	3.3	3.3	3.1	3.4	3.1	3.4	3.4
	CumEff	3.0	3.3	3.5	3.4	3.4	3.2	3.4	3.2	3.2	3.4
Group 11: Rails, avocets	BLM/FS	3.4	3.6	3.8	3.5	3.5	3.4	3.6	3.4	3.6	3.6
	CumEff	3.3	3.5	3.7	3.5	3.5	3.3	3.5	3.3	3.3	3.5
Group 12: Curlew, willet	BLM/FS	3.7	3.9	4.0	3.9	3.9	3.8	3.9	3.8	3.9	3.9
	CumEff	3.7	3.9	4.0	3.8	3.8	3.8	3.9	3.8	3.8	3.9
Group 13: Upland sandpiper	BLM/FS ⁴	2.3	5.0	5.0	5.0	4.9	4.8	4.9	4.8	4.9	4.9
	CumEff	2.3	5.0	5.0	5.0	5.0	4.9	5.0	4.9	5.0	5.0
Group 14: Common snipe	BLM/FS	2.9	3.1	3.3	3.0	3.0	2.9	3.2	2.9	3.1	3.1
	CumEff	2.9	3.1	3.3	3.1	3.1	3.0	3.2	3.0	3.0	3.1
Group 15: Migrant sandpipers	BLM/FS	1.9	2.2	2.4	2.2	2.2	2.0	2.3	2.0	2.2	2.2
	CumEff	1.8	2.0	2.2	2.0	2.0	1.9	2.2	1.9	2.0	2.0

Mean outcomes were calculated as the weighted mean of average likelihood scores in each outcome.

¹ Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

² Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

³ Mean outcome for alternative departs from current outcome by greater than or equal to 0.50 units. Outcomes reported in table were rounded to 0.1 units; but, differences were calculated to 0.01 units. Hence, departure calculated from the table may be misleading.

⁴ Species for which panelists' scores were adjusted by Science Team. Scores were adjusted when considered to reflect a misinterpretation or incomplete understanding of the management alternatives or their outcomes, or the species ecology.

Table 7. Mean likelihood scores of viability outcomes for raptors and gamebirds for the UCRB Planning Area.

Group ¹	Species Name	Area ²	Outcome ³	Period		Alternative ⁴						
				H	C	A1	A2	A3	A4	A5	A6	A7
GMB	Band-tailed pigeon	BLM/FS	1	0	0	0	0	0	0	0	0	4
			2	2	4	4	4	14	16	12	16	12
			3	22	22	36	36	30	29	30	29	30
			4	48	36	44	48	46	46	48	46	44
			5	28	38	16	12	10	9	10	9	10
			CumEff		1	0	0	0	0	0	0	0
			2	2	2	2	2	16	16	16	16	16
			3	24	22	36	36	26	27	26	27	28
			4	47	36	44	48	46	46	46	46	44
			5	27	40	18	14	12	11	12	11	12
GMB	Blue grouse	BLM/FS	1	54	14	17	17	27	29	27	29	25
			2	44	50	41	43	55	54	55	54	57
			3	2	36	37	35	18	17	18	17	18
			4	0	0	5	5	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
			CumEff		1	56	14	17	17	27	29	27
			2	44	50	43	44	56	55	55	57	59
			3	0	36	40	39	17	16	18	16	16
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
GMB	Columbian sharp-tailed grouse	BLM/FS	1	62	0	0	0	0	0	0	0	0
			2	38	0	0	0	2	2	2	2	2
			3	0	2	2	2	14	16	14	16	6
			4	0	32	37	37	53	59	56	56	45
			5	0	66	61	61	31	23	28	26	47
			CumEff		1	66	0	0	0	0	0	0
			2	34	0	0	0	2	2	2	2	2
			3	0	2	2	2	16	24	16	24	12
			4	0	36	42	42	50	53	53	50	41
			5	0	62	56	56	32	21	29	24	45
GMB	Mountain quail	BLM/FS	1	0	0	0	0	0	0	0	0	0
			2	18	0	0	0	0	0	0	0	0
			3	38	0	2	2	8	12	6	13	8
			4	32	18	22	25	27	36	30	39	29
			5	12	82	76	73	65	52	64	48	63
			CumEff		1	0	0	0	0	0	0	0
			2	24	0	0	0	0	0	0	0	0
			3	37	2	3	3	8	12	7	12	8
			4	35	22	24	29	32	43	32	47	33
			5	4	76	73	68	60	45	61	41	59
GMB	Sage grouse	BLM/FS	1	44	0	0	0	14	20	13	22	5
			2	52	18	10	18	22	42	30	43	41
			3	4	56	49	50	44	34	41	31	42
			4	0	24	39	30	20	4	16	4	12
			5	0	2	2	2	0	0	0	0	0
			CumEff		1	50	0	0	0	1	14	1
			2	47	22	10	18	33	48	40	49	42
			3	3	53	50	51	47	35	44	32	44
			4	0	23	38	29	19	3	15	3	11
			5	0	2	2	2	0	0	0	0	0
RAP	Bald eagle	BLM/FS	1	0	0	0	0	0	0	0	0	0
			2	32	6	10	15	15	19	15	19	16
			3	60	42	52	62	68	70	70	70	70
			4	8	42	30	23	17	11	15	11	14
			5	0	10	8	0	0	0	0	0	0

Group ¹	Species Name	Area ²	Outcome ³	Period		Alternative ⁴					
				H	C	A1	A2	A3	A4	A5	
RAP	Barred owl	BLM/FS	CumEff	1	0	0	0	0	0	0	
				2	44	0	8	16	16	23	
				3	50	45	49	58	64	66	
				4	6	43	33	26	20	11	
				5	0	12	10	0	0	0	
	Boreal owl			1	2	2	8	6	6	7	
				2	18	32	51	50	51	50	
				3	58	38	35	32	32	34	
				4	22	28	6	12	11	10	
				5	0	0	0	0	0	0	
	Burrowing owl	BLM/FS	CumEff	1	0	2	12	6	10	10	
				2	0	24	51	51	47	47	
				3	0	34	31	31	33	33	
				4	14	32	6	12	10	12	
				5	86	8	0	0	0	0	
	Cooper's hawk	BLM/FS		1	2	0	2	2	2	2	
				2	36	7	10	10	23	24	
				3	36	42	34	36	37	36	
				4	24	24	39	38	32	32	
				5	2	27	15	14	6	6	
	Ferruginous hawk	BLM/FS	CumEff	1	0	0	2	2	2	2	
				2	22	7	10	10	10	10	
				3	38	40	36	36	44	47	
				4	30	26	39	40	39	39	
				5	10	27	13	12	4	5	
	Red-tailed hawk	BLM/FS		1	52	0	0	0	0	0	
				2	42	36	32	32	34	39	
				3	6	40	42	40	47	44	
				4	0	20	20	22	19	17	
				5	0	4	6	6	0	0	
	Red-shouldered hawk	BLM/FS	CumEff	1	65	0	0	0	0	0	
				2	31	40	34	34	34	38	
				3	4	41	49	48	49	47	
				4	0	19	15	16	17	15	
				5	0	0	2	2	0	0	
	American kestrel	BLM/FS		1	34	15	15	15	30	31	
				2	50	36	34	38	40	50	
				3	14	47	47	43	28	19	
				4	2	2	4	4	2	0	
				5	0	0	0	0	0	0	
	Burrowing owl	BLM/FS	CumEff	1	38	16	16	16	31	32	
				2	52	43	40	44	48	58	
				3	10	41	42	38	21	10	
				4	0	0	2	2	0	0	
				5	0	0	0	0	0	0	
	Burrowing owl	BLM/FS		1	2	0	0	0	0	0	
				2	64	22	21	26	36	50	
				3	34	58	59	56	59	48	
				4	0	18	18	14	5	2	
				5	0	2	2	4	0	0	
	Burrowing owl	BLM/FS	CumEff	1	6	0	0	0	0	0	
				2	70	29	32	33	41	55	
				3	24	66	66	65	59	45	
				4	0	5	2	2	0	0	
				5	0	0	0	0	0	0	

Table 7. Mean likelihood scores of viability outcomes for raptors and gamebirds for the UCRB Planning Area (continued).

Group ¹	Species Name	Area ²	Outcome ³	Period		Alternative ⁴					
				H	C	A1	A2	A3	A4	A5	A6
RAP	Flammulated owl	BLM/FS	1	1	0	0	0	0	0	0	0
			2	76	2	1	6	19	26	18	22
			3	21	40	20	32	56	60	56	62
			4	2	38	39	46	21	13	22	14
			5	0	20	40	16	4	1	4	2
		CumEff	1	1	0	0	0	0	0	0	0
			2	76	2	1	6	19	26	18	22
			3	21	40	20	32	56	60	56	62
			4	2	38	39	46	21	13	22	14
			5	0	20	40	16	4	1	4	2
RAP	Great gray owl	BLM/FS	1	0	0	0	0	0	0	0	0
			2	20	6	14	16	20	22	20	22
			3	62	46	44	45	56	56	55	56
			4	16	38	34	31	20	22	24	22
			5	2	10	8	8	4	0	1	0
		CumEff	1	2	0	0	0	0	0	0	0
			2	22	8	18	18	22	24	22	24
			3	58	44	39	41	52	52	51	52
			4	16	39	35	33	22	24	26	24
			5	2	9	8	8	4	0	1	0
RAP	Long-eared owl	BLM/FS	1	0	0	0	0	0	0	0	0
			2	21	8	6	5	11	15	11	14
			3	53	38	33	31	44	48	44	48
			4	21	45	48	49	40	33	40	33
			5	5	10	14	15	5	5	5	8
		CumEff	1	0	0	0	0	0	0	0	0
			2	28	10	6	6	14	18	13	16
			3	50	48	43	39	46	50	48	51
			4	19	38	41	46	38	30	38	30
			5	4	5	10	9	3	3	3	8
RAP	Merlin	BLM/FS	1	0	0	0	0	0	0	0	0
			2	30	20	19	17	25	27	22	27
			3	51	53	48	46	53	53	55	53
			4	19	27	33	37	22	20	23	20
			5	0	0	0	0	0	0	0	0
		CumEff	1	0	0	0	0	0	0	0	0
			2	33	27	22	20	28	30	25	29
			3	53	50	53	52	52	51	54	52
			4	14	23	25	28	20	19	21	19
			5	0	0	0	0	0	0	0	0
RAP	Northern goshawk	BLM/FS	1	16	9	6	6	7	16	6	16
			2	56	38	33	34	41	47	42	49
			3	28	36	54	55	48	34	48	33
			4	0	17	7	5	4	3	4	2
			5	0	0	0	0	0	0	0	0
		CumEff	1	20	10	8	8	10	20	9	20
			2	52	44	35	36	44	42	44	43
			3	28	32	53	53	44	37	45	35
			4	0	14	4	3	2	1	2	1
			5	0	0	0	0	0	0	0	0

Group ¹	Species Name	Area ²	Outcome ³	Period		Alternative ⁴						
				H	C	A1	A2	A3	A4	A5		
RAP	Northern pygmy-owl	BLM/FS	1	68	46	38	48	54	61	54	61	51
			2	33	50	58	50	44	38	44	38	46
			3	0	4	5	3	3	1	3	1	3
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
	Northern saw-whet owl	CumEff	1	69	48	39	49	55	63	55	63	53
			2	31	50	58	50	44	38	44	38	46
			3	0	3	4	1	1	0	1	0	1
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
RAP	Swainson's hawk	BLM/FS	1	73	39	32	36	51	58	51	63	51
			2	27	54	60	56	41	38	41	34	42
			3	0	7	8	8	8	4	8	3	7
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
	CumEff		1	76	40	32	36	51	59	51	64	52
			2	24	54	62	58	43	39	43	36	43
			3	0	6	6	6	6	2	6	0	5
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
RAP	Western screech owl	BLM/FS	1	23	32	32	32	35	35	35	35	31
			2	53	51	53	53	51	52	51	53	55
			3	20	17	15	15	14	13	14	12	14
			4	4	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
	CumEff		1	23	27	27	27	30	30	30	30	26
			2	53	51	53	53	54	55	54	56	58
			3	20	20	18	18	14	14	14	14	14
			4	4	2	2	2	2	1	2	0	2
			5	0	0	0	0	0	0	0	0	0

Likelihood scores for each period or alternative sum to 100 points. High scores indicate high likelihood of an outcome. Means are calculated from the individual likelihood scores of panelists.

¹ Group: GMB - gamebird; RAP - raptor.

² Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

³ Outcome: 1 - contiguous; 2 - gaps; 3 - patchy; 4 - isolated; 5 - scarce. See text for complete explanation.

⁴ Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

Table 8. Mean viability outcomes for habitat and populations of raptors and gamebirds for the UCRB Planning Area.

Group ¹	Species Name	Area ²	H	C	A1	A2	Period / Alternative ³				
							A3	A4	A5	A6	A7
GMB	Band-tailed pigeon	BLM/FS	4.0	4.1	3.7	3.7	3.5 ⁴	3.5 ⁴	3.6 ⁴	3.5 ⁴	3.4 ⁴
		CumEff	4.0	4.1	3.8	3.7	3.5 ⁴	3.5 ⁴	3.5 ⁴	3.5 ⁴	3.5 ⁴
GMB	Blue grouse	BLM/FS	1.5	2.2	2.3	2.3	1.9	1.9	1.9	1.9	1.9
		CumEff	1.4	2.2	2.2	2.2	1.9	1.9	1.9	1.9	1.9
GMB	Columbian sharp-tailed grouse	BLM/FS	1.4	4.6	4.6	4.6	4.1 ⁴	4.0 ⁴	4.1 ⁴	4.1 ⁴	4.4
		CumEff	1.3	4.6	4.5	4.5	4.1	3.9 ⁴	4.1 ⁴	4.0 ⁴	4.3
GMB	Mountain quail	BLM/FS	3.4	4.8	4.7	4.7	4.6	4.4	4.6	4.4	4.6
		CumEff	3.2	4.7	4.7	4.7	4.5	4.3	4.5	4.3	4.5
GMB	Sage grouse	BLM/FS	1.6	3.1	3.3	3.2	2.7	2.2 ⁴	2.6 ⁴	2.2 ⁴	2.6
		CumEff	1.5	3.1	3.3	3.2	2.8	2.3 ⁴	2.7	2.2 ⁴	2.6
RAP	Bald eagle	BLM/FS	2.8	3.6	3.4	3.1	3.0 ⁴	2.9 ⁴	3.0 ⁴	2.9 ⁴	3.0 ⁴
		CumEff	2.6	3.7	3.5	3.1 ⁴	3.0 ⁴	2.9 ⁴	3.0 ⁴	2.9 ⁴	2.9 ⁴
RAP	Barred owl	BLM/FS	3.0	2.9	2.4 ⁴	2.5	2.5	2.5	2.3 ⁴	2.5	2.2 ⁴
		CumEff	4.9	3.2	2.3 ⁴	2.5 ⁴	2.5 ⁴	2.4 ⁴	2.5 ⁴	2.4 ⁴	2.3 ⁴
RAP	Boreal owl	BLM/FS	2.9	3.7	3.6	3.5	3.2 ⁴	3.2 ⁴	3.2 ⁴	3.1 ⁴	3.0 ⁴
		CumEff	3.3	3.7	3.5	3.5	3.3	3.3	3.4	3.3	3.2 ⁴
RAP	Burrowing owl	BLM/FS	1.5	2.9	3.0	3.0	2.9	2.8	2.8	2.8	2.9
		CumEff	1.4	2.8	2.9	2.9	2.8	2.8	2.8	2.7	2.9
RAP	Cooper's hawk	BLM/FS	1.8	2.4	2.4	2.4	2.0	1.9	2.0	1.9	2.0
		CumEff	1.7	2.3	2.3	2.3	1.9	1.8	1.9	1.8	1.9
RAP	Ferruginous hawk	BLM/FS	2.3	3.0	3.0	3.0	2.7	2.5	2.7	2.5 ⁴	2.6
		CumEff	2.2	2.8	2.7	2.7	2.6	2.5	2.6	2.4	2.5
RAP	Flammulated owl	BLM/FS	2.2	3.8	4.2	3.7	3.1 ⁴	2.9 ⁴	3.1 ⁴	3.0 ⁴	3.3
		CumEff	2.2	3.8	4.2	3.7	3.1 ⁴	2.9 ⁴	3.1 ⁴	3.0 ⁴	3.3
RAP	Great gray owl	BLM/FS	3.0	3.5	3.4	3.3	3.1	3.0 ⁴	3.1	3.0 ⁴	3.1
		CumEff	2.9	3.5	3.3	3.3	3.1	3.0	3.1	3.0	3.1
RAP	Long-eared owl	BLM/FS	3.1	3.6	3.7	3.7	3.4	3.3	3.4	3.3	3.6
		CumEff	3.0	3.4	3.6	3.6	3.3	3.2	3.4	3.2	3.5
RAP	Merlin	BLM/FS	2.9	3.1	3.1	3.2	3.0	2.9	3.0	2.9	3.0
		CumEff	2.8	3.0	3.0	3.1	2.9	2.9	3.0	2.9	3.0
RAP	Northern goshawk	BLM/FS	2.1	2.6	2.6	2.6	2.5	2.2	2.5	2.2	2.3
		CumEff	2.1	2.5	2.5	2.5	2.4	2.2	2.4	2.2	2.3
RAP	Northern pygmy-owl	BLM/FS	1.3	1.6	1.7	1.6	1.5	1.4	1.5	1.4	1.5
		CumEff	1.3	1.6	1.7	1.5	1.5	1.4	1.5	1.4	1.5
RAP	Northern saw-whet owl	BLM/FS	1.3	1.7	1.8	1.7	1.6	1.5	1.6	1.4	1.6
		CumEff	1.2	1.7	1.7	1.7	1.6	1.4	1.6	1.4	1.5
RAP	Swainson's hawk	BLM/FS	2.1	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8
		CumEff	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.9
RAP	Western screech owl	BLM/FS	2.4	2.8	2.9	2.8	2.7	2.6	2.7	2.5	2.6
		CumEff	2.4	2.8	2.9	2.8	2.7	2.5	2.6	2.5	2.6

Mean outcomes were calculated as the weighted mean of average likelihood scores in each outcome.

¹ Group: GMB - gamebird; RAP - raptor.

² Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

³ Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

⁴ Mean outcome for alternative departs from current outcome by greater than or equal to 0.50 units. Outcomes reported in table were rounded to 0.1 units; but, differences were calculated to 0.01 units. Hence, departure calculated from the table may be misleading.

Table 9. Mean likelihood scores of viability outcomes for woodpeckers, nuthatches, and swifts for the UCRB Planning Area.

Species Name	Area ¹	Outcome ²	Period				Alternative ³				
			H	C	A1	A2	A3	A4	A5	A6	A7
Black-backed woodpecker	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	80	5	4	15	10	23	5	25	23
		3	20	80	16	70	64	68	44	65	73
		4	0	15	59	15	26	10	49	10	5
		5	0	0	21	0	0	0	3	0	0
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	80	0	0	8	5	13	0	15	15
		3	20	80	15	70	63	68	41	65	70
		4	0	20	59	23	33	20	54	20	15
		5	0	0	26	0	0	0	5	0	0
Downy woodpecker	BLM/FS ⁴	1	25	0	0	0	0	0	0	0	0
		2	75	33	3	28	25	25	20	28	13
		3	0	68	75	68	70	73	58	70	80
		4	0	0	23	5	5	3	23	3	8
		5	0	0	0	0	0	0	0	0	0
	CumEff ⁴	1	25	0	0	0	0	0	0	0	0
		2	75	30	3	28	25	25	20	28	13
		3	0	70	80	68	70	73	63	73	80
		4	0	0	18	5	5	3	18	0	8
		5	0	0	0	0	0	0	0	0	0
Hairy woodpecker	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	88	85	50	66	55	60	45	65	83
		3	13	15	50	34	45	40	55	35	18
		4	0	0	0	0	0	0	0	0	0
		5	0	0	0	0	0	0	0	0	0
	CumEff	1	0	0	0	0	0	0	0	0	0
		2	88	85	45	55	60	63	45	65	75
		3	13	15	55	45	40	38	55	35	25
		4	0	0	0	0	0	0	0	0	0
		5	0	0	0	0	0	0	0	0	0
Lewis' woodpecker	BLM/FS	1	15	0	0	0	0	0	0	0	0
		2	45	15	0	0	0	45	0	40	35
		3	40	30	0	60	80	45	25	50	60
		4	0	55	50	40	20	10	50	10	5
		5	0	0	50	0	0	0	25	0	0
	CumEff	1	15	0	0	0	0	0	0	0	0
		2	15	15	0	0	0	0	0	0	0
		3	45	15	0	20	35	80	0	75	75
		4	25	30	25	60	55	20	45	25	25
		5	0	40	75	20	10	0	55	0	0
Pileated woodpecker	BLM/FS ⁴	1	0	0	0	0	0	0	0	0	0
		2	25	15	0	0	0	50	0	50	45
		3	50	35	3	45	45	50	85	50	55
		4	25	50	97	55	55	0	10	0	0
		5	0	0	0	0	0	0	5	0	0

Table 9. Mean likelihood scores of viability outcomes for woodpeckers, nuthatches, and swifts for the UCRB Planning Area (continued).

Species Name	Area ¹	Outcome ²	Period		Alternative ³				
			H	C	A1	A2	A3	A4	A5
Pygmy nuthatch	BLM/FS	CumEff ⁴	1	0	0	0	0	0	0
			2	25	15	0	0	0	50
			3	50	35	3	45	45	85
			4	25	50	97	55	55	0
			5	0	0	0	0	0	5
Red-naped sapsucker	BLM/FS	CumEff	1	0	0	0	0	0	0
			2	88	3	0	18	15	40
			3	13	98	43	60	55	60
			4	0	0	55	23	30	0
			5	0	0	3	0	0	0
Three-toed woodpecker	BLM/FS	CumEff	1	0	0	0	0	0	0
			2	100	0	0	15	23	30
			3	0	75	45	73	65	70
			4	0	25	30	13	13	0
			5	0	0	25	0	0	13
Vaux's swift	BLM/FS ⁴	CumEff	1	0	0	0	0	0	0
			2	45	10	0	8	10	5
			3	55	89	20	75	63	88
			4	0	1	59	18	28	8
			5	0	0	21	0	0	0
White-breasted nuthatch	BLM/FS	CumEff ⁴	1	0	0	0	0	0	0
			2	0	0	0	0	0	0
			3	10	0	0	20	0	10
			4	57	87	25	65	47	70
			5	33	13	75	15	53	20
			1	0	0	0	0	0	0
			2	83	10	0	7	10	27
			3	17	90	37	90	73	73
			4	0	0	63	3	17	0
			5	0	0	0	0	0	0

Species Name	Area ¹	Outcome ²	Period				Alternative ³				
			H	C	A1	A2	A3	A4	A5	A6	A7
CumEff		1	0	0	0	0	0	0	0	0	0
		2	83	10	0	7	10	27	0	40	23
		3	17	90	37	90	73	73	62	60	60
		4	0	0	63	3	17	0	38	0	17
		5	0	0	0	0	0	0	0	0	0
White-headed woodpecker	BLM/FS ⁴	1	0	0	0	0	0	0	0	0	0
		2	63	0	0	0	0	30	20	38	28
		3	38	33	2	30	33	70	30	63	43
		4	0	55	78	58	45	0	50	0	30
		5	0	13	20	13	23	0	0	0	0
CumEff ⁴		1	0	0	0	0	0	0	0	0	0
		2	63	0	0	0	0	25	18	15	25
		3	38	33	2	18	20	75	32	80	45
		4	0	55	70	70	58	0	50	5	30
		5	0	13	28	13	23	0	0	0	0
Williamson's sapsucker	BLM/FS	1	0	0	0	0	0	0	0	0	0
		2	88	5	0	8	10	23	5	20	25
		3	13	75	28	73	53	55	38	59	65
		4	0	20	58	20	36	23	54	21	10
		5	0	0	15	0	1	0	4	0	0
CumEff		1	0	0	0	0	0	0	0	0	0
		2	88	5	0	8	10	23	5	20	25
		3	13	75	28	70	53	53	38	56	63
		4	0	20	55	23	34	25	54	24	13
		5	0	0	18	0	4	0	4	0	0

Likelihood scores for each period or alternative sum to 100 points. High scores indicate high likelihood of an outcome. Means are calculated from the individual likelihood scores of panelists.

¹ Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

² Outcome: 1 - contiguous; 2 - gaps; 3 - patchy; 4 - isolated; 5 - scarce. See text for complete explanation.

³ Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

⁴ Species for which panelists' scores were adjusted by Science Team. Scores were adjusted when considered to reflect a misinterpretation or incomplete understanding of the management alternatives or their outcomes, or the species ecology.

Table 10. Mean viability outcomes for habitat and populations of cavity nesting woodpeckers, nutatches and swifts for the UCRB Planning Area.

Species Name	Area ¹	H	C	A1	Period / Alternative ²					
					A2	A3	A4	A5	A6	A7
Black-backed woodpecker	BLM/FS	2.2	3.1	4.0 ³	3.0	3.2	2.9	3.5	2.9	2.9
	CumEff	2.2	3.2	4.1 ³	3.2	3.3	3.1	3.6	3.1	3.0
Downy woodpecker	BLM/FS ⁴	1.8	2.7	3.2 ³	2.8	2.8	2.8	3.1	2.8	3.0
	CumEff ⁴	1.8	2.7	3.2	2.8	2.8	2.8	3.0	2.8	3.0
Hairy woodpecker	BLM/FS	2.2	2.2	2.5	2.3	2.5	2.4	2.6	2.4	2.2
	CumEff	2.2	2.2	2.6	2.5	2.4	2.4	2.6	2.4	2.3
Lewis' woodpecker	BLM/FS	2.3	3.4	4.5 ³	3.4	3.2	2.7 ³	4.0 ³	2.7 ³	2.7 ³
	CumEff	2.8	4.0	4.8 ³	4.0	3.8	3.2 ³	4.6 ³	3.3 ³	3.3 ³
Pileated woodpecker	BLM/FS ⁴	3.0	3.4	4.0 ³	3.6	3.6	2.5 ³	3.2	2.5 ³	2.6 ³
	CumEff ⁴	3.0	3.4	4.0 ³	3.6	3.6	2.5 ³	3.2	2.5 ³	2.6 ³
Pygmy nuthatch	BLM/FS	2.2	3.0	3.6 ³	3.1	3.2	2.6	3.3	2.6	2.9
	CumEff	2.2	3.0	3.6 ³	3.1	3.2	2.6	3.3	2.6	2.9
Red-naped sapsucker	BLM/FS	2.0	3.3	3.8 ³	3.0	2.9	2.7 ³	3.5	2.7 ³	3.1
	CumEff	2.0	3.3	3.9 ³	3.1	3.0	2.8 ³	3.6	2.7 ³	3.1
Three-toed woodpecker	BLM/FS	2.6	2.9	4.0 ³	3.1	3.2	3.1	3.4 ³	3.0	2.9
	CumEff	2.6	3.0	4.0 ³	3.1	3.2	3.1	3.4 ³	3.0	2.9
Vaux's swift	BLM/FS ⁴	3.9	3.8	4.5	3.5	4.1	3.7	4.3	4.0	2.9
	CumEff ⁴	4.2	4.1	4.8	4.0	4.5	4.1	4.5	4.0	3.4
White-breasted nuthatch	BLM/FS	2.2	2.9	3.6 ³	3.0	3.1	2.7	3.4	2.6	2.9
	CumEff	2.2	2.9	3.6 ³	3.0	3.1	2.7	3.4	2.6	2.9
White-headed woodpecker	BLM/FS ⁴	2.4	3.8	4.2	3.9	3.9	2.7 ³	3.3 ³	2.7 ³	3.1 ³
	CumEff ⁴	2.4	3.8	4.3	4.0	4.1	2.8 ³	3.3 ³	2.9 ³	3.1 ³
Williamson's sapsucker	BLM/FS	2.2	3.2	3.9 ³	3.2	3.3	3.0	3.6	3.0	2.9
	CumEff	2.2	3.2	3.9 ³	3.2	3.4	3.1	3.6	3.0	2.9

Mean outcomes were calculated as the weighted mean of average likelihood scores in each outcome.

¹ Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

² Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

³ Mean outcome for alternative departs from current outcome by greater than or equal to 0.50 units. Outcomes reported in table were rounded to 0.1 units; but, differences were calculated to 0.01 units. Hence, departure calculated from the table may be misleading.

⁴ Species for which panelists' scores were adjusted by Science Team. Scores were adjusted when considered to reflect a misinterpretation or incomplete understanding of the management alternatives or their outcomes, or the species ecology.

Table 11. Mean likelihood scores of viability outcomes for cuckoos, hummingbirds, and passerines for the UCRB Planning Area.

Group ¹	Species Name	Area ²	Outcome ³	Period			Alternative ⁴			A6	A7
				H	C	A1	A2	A3	A4		
FOR	Black-chinned hummingbird	BLM/FS	1	0	0	0	0	0	0	0	0
			2	23	0	0	0	0	13	0	15
			3	78	90	70	74	70	70	63	78
			4	0	10	30	26	30	18	35	8
			5	0	0	0	0	0	0	3	0
		CumEff	1	0	0	0	0	0	0	0	0
			2	23	0	0	0	0	5	0	10
			3	78	85	53	60	53	63	48	68
			4	0	15	43	39	43	30	48	21
			5	0	0	5	1	5	3	5	1
FOR	Broad-tailed hummingbird	BLM/FS	1	3	0	0	0	0	0	0	0
			2	58	3	0	3	0	13	0	14
			3	40	70	53	54	53	68	48	69
			4	0	28	43	44	48	20	48	18
			5	0	0	5	0	0	0	5	0
		CumEff	1	3	0	0	0	0	0	0	0
			2	58	0	0	3	0	5	0	6
			3	40	58	45	44	43	63	40	64
			4	0	40	51	51	55	33	53	30
			5	0	3	4	3	3	0	8	0
FOR	Chestnut-backed chickadee	BLM/FS	1	0	0	0	0	0	0	0	0
			2	17	0	0	20	20	20	0	20
			3	83	83	20	80	80	57	40	63
			4	0	17	80	0	0	23	60	17
			5	0	0	0	0	0	0	0	0
		CumEff	1	0	0	0	0	0	0	0	0
			2	17	0	0	20	20	20	0	20
			3	83	83	20	80	80	57	40	63
			4	0	17	80	0	0	23	60	17
			5	0	0	0	0	0	0	0	0
FOR	Hammond's flycatcher	BLM/FS	1	35	0	0	0	0	0	0	0
			2	65	0	0	0	0	20	0	25
			3	0	68	40	68	40	70	35	70
			4	0	33	55	33	55	10	55	5
			5	0	0	5	0	5	0	10	0
		CumEff	1	75	0	0	0	0	0	0	0
			2	25	0	0	0	0	10	0	15
			3	0	60	30	58	30	60	25	65
			4	0	40	60	38	60	30	55	20
			5	0	0	10	5	10	0	20	0
FOR	Lazuli bunting	BLM/FS	1	0	0	0	0	0	0	0	0
			2	64	44	36	40	40	52	27	52
			3	36	56	61	60	60	48	66	48
			4	0	0	3	0	0	0	7	0
			5	0	0	0	0	0	0	0	0
		CumEff	1	0	0	0	0	0	0	0	0
			2	64	26	16	21	17	28	14	28
			3	36	68	74	71	75	68	74	70
			4	0	6	10	8	8	4	12	2
			5	0	0	0	0	0	0	0	0

Table 11. Mean likelihood scores of viability outcomes for cuckoos, hummingbirds, and passerines for the UCRB Planning Area (continued).

Group ¹	Species Name	Area ²	Outcome ³	Period		Alternative ⁴						
				H	C	A1	A2	A3	A4	A5	A6	A7
FOR	Olive-sided flycatcher	BLM/FS	1	80	0	0	0	0	0	0	0	0
			2	20	0	0	0	0	10	0	11	6
			3	0	84	61	65	67	79	56	80	82
			4	0	16	39	35	33	11	44	9	12
			5	0	0	0	0	0	0	0	0	0
		CumEff	1	80	0	0	0	0	0	0	0	0
			2	20	0	0	0	0	0	0	0	0
			3	0	67	42	42	44	63	38	67	64
			4	0	33	58	58	56	37	60	33	36
			5	0	0	0	0	0	0	2	0	0
FOR	Rufous hummingbird	BLM/FS	1	0	0	0	0	0	0	0	0	0
			2	66	51	33	41	33	50	28	53	51
			3	34	49	48	49	54	50	49	48	49
			4	0	0	20	10	14	0	24	0	0
			5	0	0	0	0	0	0	0	0	0
		CumEff	1	0	0	0	0	0	0	0	0	0
			2	66	34	10	16	10	16	9	18	18
			3	34	59	50	55	50	65	45	64	64
			4	0	8	40	29	40	19	46	19	19
			5	0	0	0	0	0	0	0	0	0
FOR	Rufous-sided towhee	BLM/FS	1	0	0	0	0	0	0	0	0	0
			2	48	70	68	69	60	50	60	50	50
			3	52	30	32	31	40	50	40	50	50
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
		CumEff	1	0	0	0	0	0	0	0	0	0
			2	48	63	64	63	60	49	58	48	48
			3	52	37	36	37	40	51	42	52	52
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
FOR	Western bluebird	BLM/FS	1	0	0	0	0	0	0	0	0	0
			2	88	3	10	25	38	63	38	73	43
			3	13	98	40	75	63	38	63	28	58
			4	0	0	40	0	0	0	0	0	0
			5	0	0	10	0	0	0	0	0	0
		CumEff	1	0	0	0	0	0	0	0	0	0
			2	88	0	0	21	29	49	31	46	26
			3	13	98	40	71	69	36	66	46	54
			4	0	3	40	8	3	15	3	5	20
			5	0	0	20	0	0	0	0	3	0
FOR	Western tanager	BLM/FS	1	90	90	72	88	90	90	72	90	90
			2	10	10	28	12	10	10	28	10	10
			3	0	0	0	0	0	0	0	0	0
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
		CumEff	1	88	88	46	56	58	58	44	58	58
			2	12	12	40	36	34	34	40	34	34
			3	0	0	14	8	8	8	16	8	8
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
FOR	White-winged crossbill	BLM/FS	1	0	0	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0	0	15
			3	100	100	65	100	95	85	65	100	85
			4	0	0	35	0	5	15	35	0	0
			5	0	0	0	0	0	0	0	0	0

Group ¹	Species Name	Area ²	Outcome ³	Period			Alternative ⁴						
				H	C	A1	A2	A3	A4	A5	A6	A7	
FOR	Wilson's warbler	BLM/FS	CumEff	1	0	0	0	0	0	0	0	0	
				2	10	10	0	10	0	15	0	18	
				3	90	90	75	90	95	70	70	83	
				4	0	0	25	0	5	15	30	0	
				5	0	0	0	0	0	0	0	0	
	Winter wren		CumEff	1	0	0	0	0	0	0	0	0	
				2	0	0	0	0	0	0	0	0	
				3	80	61	45	52	49	59	33	64	
				4	20	39	55	48	51	41	67	36	
				5	0	0	0	0	0	0	0	0	
GS	Black rosy finch	BLM/FS	CumEff	1	10	0	0	0	0	0	0	0	
				2	83	25	10	13	13	33	13	38	
				3	8	68	55	58	58	55	41	51	
				4	0	8	35	30	30	13	44	11	
				5	0	0	0	0	0	3	0	0	
	Bobolink		CumEff	1	10	0	0	0	0	0	0	0	
				2	83	5	0	0	0	10	0	13	
				3	8	63	30	35	38	50	31	51	
				4	0	33	64	60	58	40	60	36	
				5	0	0	6	5	5	0	9	0	
GS	Brewer's blackbird	BLM/FS	CumEff	1	0	0	0	0	0	0	0	0	
				2	0	0	0	0	0	0	0	0	
				3	66	6	2	16	16	18	2	18	
				4	34	62	50	56	56	64	48	66	
				5	0	32	48	28	28	18	50	16	
	Brewer's sparrow		CumEff	1	0	0	0	0	0	0	0	0	
				2	0	0	0	0	0	0	0	0	
				3	66	0	0	18	18	12	0	12	
				4	34	64	46	53	53	58	44	59	
				5	0	36	54	29	29	30	56	29	

Table 11. Mean likelihood scores of viability outcomes for cuckoos, hummingbirds, and passerines for the UCRB Planning Area (continued).

Group ¹	Species Name	Area ²	Outcome ³	Period		Alternative ⁴						
				H	C	A1	A2	A3	A4	A5	A7	
GS	Grasshopper sparrow	BLM/FS	CumEff	1	68	0	0	0	0	0	0	
				2	32	47	8	9	8	12	7	
				3	0	45	53	53	54	50	54	
				4	0	8	39	38	38	38	39	
				5	0	0	0	0	0	0	0	
	Horned lark	BLM/FS		1	0	0	0	0	0	0	0	
				2	26	0	0	0	0	0	0	
				3	66	6	6	6	4	16	6	
				4	8	86	80	80	68	73	77	
				5	0	8	14	14	28	11	17	
	Lark sparrow	BLM/FS	CumEff	1	0	0	0	0	0	0	0	
				2	40	0	0	0	0	2	0	
				3	56	16	14	14	12	22	12	
				4	4	82	84	84	72	74	86	
				5	0	2	2	2	16	2	2	
	Loggerhead shrike	BLM/FS		1	2	51	10	10	10	11	6	
				2	42	49	48	48	48	49	50	
				3	56	0	42	42	42	40	44	
				4	0	0	0	0	0	0	0	
				5	0	0	0	0	0	0	0	
	Sage sparrow	BLM/FS	CumEff	1	60	20	2	4	4	4	0	
				2	40	62	26	26	26	30	26	
				3	0	14	56	54	54	50	58	
				4	0	4	16	16	16	16	16	
				5	0	0	0	0	0	0	0	
				1	64	0	0	0	0	0	0	
				2	36	47	8	9	8	12	7	
				3	0	45	53	53	54	50	54	
				4	0	8	39	38	38	38	39	
				5	0	0	0	0	0	0	0	

Group ¹	Species Name	Area ²	Outcome ³	Period			Alternative ⁴					
				H	C	A1	A2	A3	A4	A5	A6	A7
GS	Sage thrasher	BLM/FS	1	64	40	2	4	4	4	0	10	0
			2	36	44	26	26	30	26	34	27	
			3	0	12	56	54	50	58	48	52	
			4	0	4	16	16	16	16	8	21	
			5	0	0	0	0	0	0	0	0	
			CumEff		1	68	0	0	0	0	0	0
			CumEff		2	32	51	10	13	12	15	10
			CumEff		3	0	43	56	55	54	56	58
			CumEff		4	0	6	34	32	33	34	23
			CumEff		5	0	0	0	0	0	0	2
GS	Vesper sparrow	BLM/FS	1	80	66	30	30	30	35	28	40	30
			2	20	34	54	54	54	51	52	52	54
			3	0	0	16	16	16	14	20	8	16
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
			CumEff		1	86	40	4	4	4	6	4
			CumEff		2	14	48	53	53	53	55	50
			CumEff		3	0	12	43	43	43	39	46
			CumEff		4	0	0	0	0	0	0	0
			CumEff		5	0	0	0	0	0	0	0
GS	Western meadowlark	BLM/FS	1	92	90	60	60	60	70	56	75	60
			2	8	10	40	40	40	30	44	25	40
			3	0	0	0	0	0	0	0	0	0
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
			CumEff		1	92	90	41	41	41	49	37
			CumEff		2	8	10	59	59	59	51	63
			CumEff		3	0	0	0	0	0	0	0
			CumEff		4	0	0	0	0	0	0	0
			CumEff		5	0	0	0	0	0	0	0
RIP	Red-eyed vireo	BLM/FS	1	0	0	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0	0	0
			3	65	45	38	54	54	56	29	59	53
			4	35	55	63	46	46	44	71	41	48
			5	0	0	0	0	0	0	0	0	0
			CumEff		1	0	0	0	0	0	0	0
			CumEff		2	0	0	0	0	0	0	0
			CumEff		3	75	38	26	35	35	39	19
			CumEff		4	25	63	74	65	65	61	81
			CumEff		5	0	0	0	0	0	0	0
RIP	Red-winged blackbird	BLM/FS	1	2	0	0	0	0	0	0	0	0
			2	84	56	34	70	70	71	40	67	73
			3	14	44	66	30	30	29	60	33	27
			4	0	0	0	0	0	0	0	0	0
			5	0	0	0	0	0	0	0	0	0
			CumEff		1	2	0	0	0	0	0	0
			CumEff		2	84	50	12	26	26	27	12
			CumEff		3	14	50	67	62	62	67	60
			CumEff		4	0	0	21	12	12	11	21
			CumEff		5	0	0	0	0	0	0	0
RIP	Veery	BLM/FS	1	0	0	0	0	0	0	0	0	0
			2	62	6	5	9	7	10	7	10	10
			3	38	61	53	61	56	66	50	69	64
			4	0	33	42	30	37	24	43	21	26
			5	0	0	0	0	0	0	0	0	0
			CumEff		1	0	0	0	0	0	0	0
			CumEff		2	62	4	2	3	3	6	2
			CumEff		3	38	41	32	42	43	47	33
			CumEff		4	0	55	66	55	54	47	65
			CumEff		5	0	0	0	0	0	0	0

Table 11. Mean likelihood scores of viability outcomes for cuckoos, hummingbirds, and passerines for the UCRB Planning Area (continued).

Group ¹	Species Name	Area ²	Outcome ³	Period		Alternative ⁴					
				H	C	A1	A2	A3	A4	A5	A7
RIP	Willowflycatcher	BLM/FS	1	0	0	0	0	0	0	0	0
			2	44	2	0	2	0	2	0	2
			3	56	56	42	51	45	54	40	58
			4	0	42	58	47	55	44	60	40
			5	0	0	0	0	0	0	0	0
			CumEff		1	0	0	0	0	0	0
			2	58	0	0	0	0	0	0	0
			3	42	42	27	40	32	42	29	41
			4	0	58	73	60	68	58	71	59
			5	0	0	0	0	0	0	0	0
RIP	Yellow warbler	BLM/FS	1	0	0	0	0	0	0	0	0
			2	60	0	0	0	0	0	0	0
			3	40	64	50	59	62	70	48	72
			4	0	36	50	41	38	30	52	28
			5	0	0	0	0	0	0	0	0
			CumEff		1	0	0	0	0	0	0
			2	62	0	0	0	0	0	0	0
			3	38	49	33	42	43	53	26	57
			4	0	51	67	58	57	47	74	43
			5	0	0	0	0	0	0	0	0
RIP	Yellow-billed cuckoo	BLM/FS	1	0	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0	0
			3	66	0	0	0	0	0	0	0
			4	34	54	28	48	48	53	5	54
			5	0	46	73	53	53	48	95	46
			CumEff		1	0	0	0	0	0	0
			2	0	0	0	0	0	0	0	0
			3	69	0	0	0	0	0	0	0
			4	31	13	11	26	26	29	0	31
			5	0	88	89	74	74	71	100	69
RIP	Yellow-breasted chat	BLM/FS	1	0	0	0	0	0	0	0	0
			2	55	0	0	0	0	0	0	0
			3	45	49	44	56	46	63	40	66
			4	0	51	56	44	54	38	60	34
			5	0	0	0	0	0	0	0	0
			CumEff		1	0	0	0	0	0	0
			2	60	0	0	0	0	0	0	0
			3	40	36	30	41	34	50	28	53
			4	0	64	70	59	66	50	73	48
			5	0	0	0	0	0	0	0	0
WD	Ash-throated flycatcher	BLM/FS	1	15	24	10	10	0	0	0	5
			2	61	64	56	56	13	13	10	29
			3	24	13	31	31	50	50	45	36
			4	0	0	3	3	33	33	40	33
			5	0	0	0	0	5	5	0	0
			CumEff		1	15	24	5	0	0	0
			2	61	64	53	53	20	23	13	39
			3	24	13	35	35	54	54	50	39
			4	0	0	8	8	26	24	38	13
			5	0	0	0	0	0	0	5	0
WD	Bushtit	BLM/FS	1	0	0	0	0	0	0	0	0
			2	0	25	15	15	25	0	25	0
			3	65	65	55	55	65	50	55	50
			4	35	10	30	30	10	50	20	50
			5	0	0	0	0	0	0	0	0

Group ¹	Species Name	Area ²	Outcome ³	Period			Alternative ⁴					
				H	C	A1	A2	A3	A4	A5	A6	A7
WD	Chipping sparrow	BLM/FS	CumEff	1	0	0	0	0	0	0	0	0
				2	0	25	15	15	25	0	25	0
				3	65	65	55	55	65	50	55	50
				4	35	10	30	30	10	50	20	50
				5	0	0	0	0	0	0	0	0
	Green-tailed towhee	BLM/FS	CumEff	1	95	93	93	93	95	93	95	95
				2	5	8	8	8	5	8	5	5
				3	0	0	0	0	0	0	0	0
				4	0	0	0	0	0	0	0	0
				5	0	0	0	0	0	0	0	0
WD	Green-tailed towhee	BLM/FS	CumEff	1	95	86	60	61	61	64	60	66
				2	5	14	40	39	39	36	40	34
				3	0	0	0	0	0	0	0	0
				4	0	0	0	0	0	0	0	0
				5	0	0	0	0	0	0	0	0
	Green-tailed towhee	CumEff	CumEff	1	0	0	0	0	0	0	0	0
				2	35	58	26	50	50	56	26	55
				3	65	43	71	50	50	44	71	45
				4	0	0	3	0	0	0	3	0
				5	0	0	0	0	0	0	0	0

Likelihood scores for each period or alternative sum to 100 points. High scores indicate high likelihood of an outcome. Means are calculated from the individual likelihood scores of panelists.

¹ Group: FOR - forest birds; GS - grassland/shrub birds; RIP - riparian birds; WD - woodland birds.

² Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

³ Outcome: 1 - contiguous; 2 - gaps; 3 - patchy; 4 - isolated; 5 - scarce. See text for complete explanation.

⁴ Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

Table 12. Mean viability outcomes for habitat and populations of cuckoos, hummingbirds, and passerines for the UCRB Planning Area.

Group ¹	Species Name	Area ²	Period				Alternative ³				
			H	C	A1	A2	A3	A4	A5	A6	A7
FOR	Black-chinned hummingbird	BLM/FS	2.8	3.1	3.3	3.3	3.3	3.1	3.4	3.0	3.1
		CumEff	2.8	3.2	3.6	3.4	3.6	3.3	3.6	3.1	3.2
FOR	Broad-tailed hummingbird	BLM/FS	2.4	3.3	3.6	3.4	3.5	3.1	3.6	3.1	3.2
		CumEff	2.4	3.5	3.6	3.6	3.6	3.3	3.7	3.2	3.3
FOR	Chestnut-backed chickadee	BLM/FS	2.8	3.2	3.8	2.8	2.8	3.0	3.6	3.0	2.6
		CumEff	2.8	3.2	3.8	2.8	2.8	3.0	3.6	3.0	2.6
FOR	Hammond's flycatcher	BLM/FS	1.7	3.4	3.7	3.4	3.7	2.9	3.8	2.8 ⁴	2.9
		CumEff	1.3	3.4	3.8	3.5	3.8	3.2	4.0 ⁴	3.1	3.1
FOR	Lazuli bunting	BLM/FS	2.4	2.6	2.7	2.6	2.6	2.5	2.8	2.5	2.5
		CumEff	2.4	2.8	2.9	2.9	2.9	2.8	3.0	2.7	2.8
FOR	Olive-sided flycatcher	BLM/FS	1.2	3.2	3.4	3.4	3.3	3.0	3.4	3.0	3.1
		CumEff	1.2	3.3	3.6	3.6	3.6	3.4	3.6	3.3	3.4
FOR	Rufous hummingbird	BLM/FS	2.3	2.5	2.9	2.7	2.8	2.5	3.0 ⁴	2.5	2.5
		CumEff	2.3	2.8	3.3 ⁴	3.1	3.3 ⁴	3.0	3.4 ⁴	3.0	3.0
FOR	Rufous-sided towhee	BLM/FS	2.5	2.3	2.3	2.3	2.4	2.5	2.4	2.5	2.5
		CumEff	2.5	2.4	2.4	2.4	2.4	2.5	2.4	2.5	2.5
FOR	Western bluebird	BLM/FS	2.2	3.0	3.5 ⁴	2.8	2.7	2.4 ⁴	2.7	2.3 ⁴	2.6
		CumEff	2.2	3.1	3.8 ⁴	2.9	2.8	2.7	2.7	2.7	2.9
FOR	Western tanager	BLM/FS	1.1	1.1	1.3	1.1	1.1	1.1	1.3	1.1	1.1
		CumEff	1.1	1.1	1.7 ⁴	1.5	1.5	1.5	1.7 ⁴	1.5	1.5
FOR	White-winged crossbill	BLM/FS	3.0	3.0	3.4	3.0	3.1	3.2	3.4	3.0	2.9
		CumEff	2.9	2.9	3.3	2.9	3.1	3.0	3.3	2.9	2.7
FOR	Wilson's warbler	BLM/FS	3.2	3.4	3.6	3.5	3.5	3.4	3.7	3.4	3.3
		CumEff	3.2	3.4	3.6	3.5	3.5	3.4	3.7	3.4	3.3
FOR	Winter wren	BLM/FS	2.0	2.9	3.3	3.2	3.2	2.8	3.4 ⁴	2.7	3.0
		CumEff	2.0	3.3	3.8	3.7	3.7	3.3	3.8	3.2	3.5
GS	Black rosy finch	BLM/FS	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		CumEff	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
GS	Bobolink	BLM/FS	3.3	4.3	4.5	4.1	4.1	4.0	4.5	4.0	4.1
		CumEff	3.3	4.4	4.5	4.1	4.1	4.2	4.6	4.2	4.2
GS	Brewer's blackbird	BLM/FS	1.1	1.1	1.4	1.1	1.2	1.1	1.4	1.1	1.1
		CumEff	1.1	1.5	1.9	2.0	2.0	2.0	2.1 ⁴	1.9	2.0
GS	Brewer's sparrow	BLM/FS	1.4	2.0	2.9 ⁴	2.8 ⁴	2.8 ⁴	2.8 ⁴	2.9 ⁴	2.5 ⁴	2.9 ⁴
		CumEff	1.3	2.6	3.3 ⁴	3.3 ⁴	3.3 ⁴	3.3 ⁴	3.34	3.1	3.3 ⁴
GS	Grasshopper sparrow	BLM/FS	2.8	4.0	4.1	4.1	4.2	4.0	4.1	3.8	4.0
		CumEff	2.6	3.9	3.9	3.9	4.0	3.8	3.9	3.6	3.8
GS	Horned lark	BLM/FS	2.5	1.5	1.4	1.4	1.4	1.3	1.5	1.3	1.3
		CumEff	2.5	1.5	2.3 ⁴	2.3 ⁴	2.3 ⁴	2.3 ⁴	2.4 ⁴	2.3 ⁴	2.3 ⁴
GS	Lark sparrow	BLM/FS	1.4	2.0	2.9 ⁴	2.8 ⁴	2.8 ⁴	2.8 ⁴	2.9 ⁴	2.5 ⁴	2.9 ⁴
		CumEff	1.4	2.6	3.3 ⁴	3.3 ⁴	3.3 ⁴	3.3 ⁴	3.34	3.1 ⁴	3.3 ⁴

Group ¹	Species Name	Area ²	Period		Alternative ³				
			H	C	A1	A2	A3	A4	A5
GS	Loggerhead shrike	BLM/FS	1.7	2.3	2.9 ⁴	2.9 ⁴	2.9 ⁴	2.9 ⁴	2.9 ⁴
		CumEff	1.7	2.8	3.4 ⁴	3.4 ⁴	3.4 ⁴	3.2	3.5 ⁴
GS	Sage sparrow	BLM/FS	1.2	1.3	2.5 ⁴	2.5 ⁴	2.5 ⁴	2.4 ⁴	2.6 ⁴
		CumEff	1.2	2.4	3.1 ⁴	3.1 ⁴	3.1 ⁴	3.1 ⁴	2.8
GS	Sage thrasher	BLM/FS	1.4	1.8	2.9 ⁴	2.8 ⁴	2.8 ⁴	2.8 ⁴	2.9 ⁴
		CumEff	1.3	2.6	3.2 ⁴	3.2 ⁴	3.2 ⁴	3.2 ⁴	3.0
GS	Vesper sparrow	BLM/FS	1.2	1.3	1.9 ⁴	1.9 ⁴	1.9 ⁴	1.8	1.9 ⁴
		CumEff	1.1	1.7	2.4 ⁴	2.4 ⁴	2.4 ⁴	2.3 ⁴	2.4 ⁴
GS	Western meadowlark	BLM/FS	1.1	1.1	1.4	1.4	1.4	1.3	1.4
		CumEff	1.1	1.1	1.6	1.6	1.6	1.5	1.6 ⁴
RIP	Red-eyed vireo	BLM/FS	3.4	3.6	3.7	3.5	3.5	3.4	3.7
		CumEff	3.3	3.7	3.7	3.7	3.7	3.6	3.8
RIP	Red-winged blackbird	BLM/FS	2.1	2.4	2.7	2.3	2.3	2.3	2.6
		CumEff	2.1	2.5	3.1 ⁴	2.9	2.9	2.8	3.1 ⁴
RIP	Veery	BLM/FS	2.4	3.3	3.4	3.2	3.3	3.1	3.4
		CumEff	2.4	3.5	3.6	3.5	3.5	3.4	3.6
RIP	Willow flycatcher	BLM/FS	2.6	3.4	3.6	3.5	3.6	3.4	3.6
		CumEff	2.4	3.6	3.7	3.6	3.7	3.6	3.7
RIP	Yellow warbler	BLM/FS	2.4	3.4	3.5	3.4	3.4	3.3	3.5
		CumEff	2.4	3.5	3.7	3.6	3.6	3.5	3.7
RIP	Yellow-billed cuckoo	BLM/FS	3.3	4.5	4.8	4.6	4.6	4.5	5.0
		CumEff	3.3	4.9	4.9	4.7	4.7	4.7	5.0
RIP	Yellow-breasted chat	BLM/FS	2.5	3.5	3.6	3.4	3.5	3.4	3.6
		CumEff	2.4	3.6	3.7	3.6	3.7	3.5	3.8
WD	Ash-throated flycatcher	BLM/FS	2.1	1.9	2.3	2.3	3.3 ⁴	3.3 ⁴	3.4 ⁴
		CumEff	2.1	1.9	2.5 ⁴	2.5 ⁴	3.1 ⁴	3.0 ⁴	3.3 ⁴
WD	Bushtit	BLM/FS	3.4	2.9	3.2	3.2	2.9	3.5 ⁴	3.0
		CumEff	3.4	2.9	3.2	3.2	2.9	3.5 ⁴	3.0
WD	Chipping sparrow	BLM/FS	1.1	1.1	1.1	1.1	1.1	1.1	1.1
		CumEff	1.1	1.1	1.4	1.4	1.4	1.4	1.3
WD	Green-tailed towhee	BLM/FS	2.7	2.5	2.8	2.5	2.5	2.4	2.8
		CumEff	2.7	2.5	2.8	2.5	2.5	2.4	2.5

Mean outcomes were calculated as the weighted mean of average likelihood scores in each outcome.

¹ Group: FOR - forest birds; GS - grassland/shrub birds; RIP - riparian birds; WD - woodland birds.

² Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

³ Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

⁴ Mean outcome for alternative departs from current outcome by greater than or equal to 0.50 units. Outcomes reported in table were rounded to 0.1 units; but, differences were calculated to 0.01 units. Hence, departure calculated from the table may be misleading.

Table 13. Mean likelihood scores of viability outcomes for bats and small mammals for the UCRB Planning Area.

Group ¹	Species Name	Area ²	Outcome ³	Period			Alternative ⁴			
				H	C	A1	A2	A3	A4	A7
BAT	Fringed myotis	BLM/FS ⁵	1	0	0	0	0	0	0	0
			2	28	0	0	1	0	5	8
			3	70	33	17	43	32	48	54
			4	2	60	48	50	57	45	46
			5	0	7	35	6	11	2	24
		CumEff	1	0	0	0	0	0	0	0
			2	35	0	0	0	0	0	0
			3	63	22	0	0	0	3	15
			4	2	65	22	43	40	47	53
			5	0	13	78	57	60	50	32
BAT	Hoary bat	BLM/FS ⁵	1	0	0	0	0	0	0	0
			2	78	4	0	6	0	14	24
			3	22	70	45	40	48	49	44
			4	0	24	48	42	33	33	26
			5	0	2	7	12	19	4	14
		CumEff	1	0	0	0	0	0	0	0
			2	78	0	0	0	0	0	0
			3	22	56	5	8	8	20	8
			4	0	30	40	50	40	54	31
			5	0	14	55	42	52	26	61
BAT	Long-eared myotis	BLM/FS ⁵	1	0	0	0	0	0	0	0
			2	62	0	0	5	0	0	15
			3	38	50	37	47	46	55	40
			4	0	44	57	37	47	35	48
			5	0	6	6	11	7	5	12
		CumEff	1	0	0	0	0	0	0	0
			2	62	0	0	0	0	0	0
			3	38	28	8	10	10	19	10
			4	0	56	39	43	45	48	36
			5	0	16	53	47	45	33	54
BAT	Long-legged myotis	BLM/FS ⁵	1	0	0	0	0	0	0	0
			2	65	0	0	5	0	11	0
			3	35	44	35	44	54	60	45
			4	0	46	46	45	36	25	50
			5	0	10	19	6	10	4	5
		CumEff	1	0	0	0	0	0	0	0
			2	65	0	0	0	0	0	0
			3	35	23	0	5	5	5	0
			4	0	58	31	41	44	59	30
			5	0	20	69	54	51	36	70
BAT	Pale western big-eared bat	BLM/FS ⁵	1	0	0	0	0	0	0	0
			2	6	0	0	0	0	0	0
			3	78	12	2	12	12	13	8
			4	14	72	54	78	64	79	58
			5	2	16	44	10	24	8	34
		CumEff	1	0	0	0	0	0	0	0
			2	6	0	0	0	0	0	0
			3	78	12	0	0	0	2	0
			4	14	70	25	39	45	44	20
			5	2	18	75	61	55	54	80
BAT	Silver-haired bat	BLM/FS ⁵	1	0	0	0	0	0	0	0
			2	52	2	0	5	8	18	8
			3	46	54	34	60	62	61	41
			4	2	44	44	29	26	17	31
			5	0	0	22	6	4	4	20

Group ¹	Species Name	Area ²	Outcome ³	Period					Alternative ⁴			
				H	C	A1	A2	A3	A4	A5	A6	A7
		CumEff		1	0	0	0	0	0	0	0	0
				2	60	0	0	0	0	2	0	7
				3	40	40	7	19	16	26	8	40
				4	0	46	43	45	37	33	36	37
				5	0	14	50	36	47	39	56	16
BAT	Spotted bat	BLM/FS ⁵		1	0	0	0	0	0	0	0	0
				2	0	0	0	0	0	0	0	0
				3	5	5	3	3	0	3	0	3
				4	90	75	58	65	53	68	45	75
				5	5	20	40	33	48	30	55	23
BAT	Western small-footed myotis	BLM/FS ⁵		1	0	0	0	0	0	0	0	0
				2	80	0	0	10	0	0	0	10
				3	20	70	0	60	50	50	0	60
				4	0	30	70	20	30	30	70	20
				5	0	0	30	10	20	20	30	10
SMM	Northern flying squirrel	BLM/FS ⁵		1	0	0	0	0	0	0	0	0
				2	90	15	0	21	16	25	5	28
				3	10	40	40	45	45	53	50	55
				4	0	33	32	30	30	20	25	15
				5	0	13	28	4	9	2	20	2
		CumEff		1	0	0	0	0	0	0	0	0
				2	83	10	0	0	0	0	0	0
				3	18	45	5	13	10	20	10	25
				4	0	33	46	53	51	45	43	49
				5	0	13	49	35	39	35	48	26
SMM	Pygmy rabbit	BLM/FS		1	0	0	0	0	0	0	0	0
				2	0	0	0	0	0	0	0	0
				3	40	0	0	0	0	0	0	0
				4	50	50	50	50	50	50	50	50
				5	10	50	50	50	50	50	50	50
SMM	White-tailed jackrabbit	BLM/FS		1	20	0	0	0	0	0	0	0
				2	80	20	20	20	20	20	20	20
				3	0	80	80	80	80	80	80	80
				4	0	0	0	0	0	0	0	0
				5	0	0	0	0	0	0	0	0
		CumEff		1	20	0	0	0	0	0	0	0
				2	80	10	10	10	10	10	10	10
				3	0	20	20	20	20	20	20	20
				4	0	60	60	60	60	60	60	60
				5	0	10	10	10	10	10	10	10

Likelihood scores for each period or alternative sum to 100 points. High scores indicate high likelihood of an outcome. Means are calculated from the individual likelihood scores of panelists.

¹ Group: BAT -bat; SMM - small mammal.

² Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

³ Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

⁴ Outcome: 1 - contiguous; 2 - gaps; 3 - patchy; 4 - isolated; 5 - scarce. See text for complete explanation.

⁵ Species for which panelists' scores were adjusted by Science Team. Scores were adjusted when considered to reflect a misinterpretation or incomplete understanding of the management alternatives or their outcomes, or the species ecology.

Table 14. Mean viability outcomes for habitat and populations of bats and small mammals for the UCRB Planning Area.

Group ¹	Species Name	Area ²	H	Period		Alternative ³					
				C	A1	A2	A3	A4	A5	A6	A7
BAT	Fringed myotis	BLM/FS ⁴ CumEff	2.7	3.7	4.2	3.6	3.8	3.4	3.9	3.3	3.5
			2.7	3.9	4.8 ⁵	4.6 ⁵	4.6 ⁵	4.5 ⁵	4.7 ⁵	4.2	4.4
BAT	Hoary bat	BLM/FS ⁴ UCRB CumEff	2.2	3.2	3.6	3.6	3.7	3.3	3.7 ⁵	3.1	3.4
			2.2	3.6	4.5 ⁵	4.3 ⁵	4.4 ⁵	4.1	4.5 ⁵	3.9	4.1 ⁵
BAT	Long-eared myotis	BLM/FS ⁴ CumEff	2.4	3.6	3.7	3.5	3.6	3.4	3.7	3.3	3.4
			2.4	3.9	4.5 ⁵	4.4	4.4	4.1	4.4 ⁵	4.0	4.1
BAT	Long-legged myotis	BLM/FS ⁴ CumEff	2.4	3.7	3.8	3.5	3.6	3.2	3.6	3.1	3.3
			2.4	4.0	4.7 ⁵	4.5	4.5	4.3	4.7 ⁵	4.1	4.2
BAT	Pale western	BLM/FS ⁴ CumEff	3.1	4.0	4.4	4.0	4.1	4.0	4.3	3.7	3.8
			3.1	4.1	4.8 ⁵	4.6 ⁵	4.6	4.5	4.8 ⁵	4.3	4.5
BAT	Silver-haired bat	BLM/FS ⁴ CumEff	2.5	3.4	3.9	3.4	3.3	3.1	3.6	2.9	3.2
			2.4	3.7	4.4 ⁵	4.2	4.3 ⁵	4.1	4.5 ⁵	3.6	4.2
BAT	Spotted bat	BLM/FS ⁴ CumEff	4.0	4.2	4.4	4.3	4.5	4.3	4.6	4.2	4.2
			4.0	4.4	4.6	4.5	4.7	4.5	4.7	4.4	4.5
BAT	Western small-footed myotis	BLM/FS ⁴	2.2	3.3	4.3 ⁵	3.3	3.7	3.7	4.3 ⁵	3.3	3.2
SMM	Northern flying squirrel	BLM/FS ⁴ CumEff	2.1	3.5	3.9	3.2	3.3	3.0	3.6	2.9 ⁵	3.0
			2.2	3.5	4.4 ⁵	4.3 ⁵	4.3 ⁵	4.2 ⁵	4.4 ⁵	4.0	4.1 ⁵
SMM	Pygmy rabbit	BLM/FS	3.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
SMM	White-tailed jackrabbit	BLM/FS CumEff	1.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			1.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7

Mean outcomes were calculated as the weighted mean of average likelihood scores in each outcome.

¹ Group: BAT - bat; SMM - small mammal.

² Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

³ Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

⁴ Species for which panelists' scores were adjusted by Science Team. Scores were adjusted when considered to reflect a misinterpretation or incomplete understanding of the management alternatives or their outcomes, or the species ecology.

⁵ Mean outcome for alternative departs from current outcome by greater than or equal to 0.50 units. Outcomes reported in table were rounded to 0.1 units; but, differences were calculated to 0.01 units. Hence, departure calculated from the table may be misleading.

Table 15. Mean likelihood scores of viability outcomes carnivores and ungulates for the UCRB Planning Area.

Group ¹	Species Name	Area ²	Outcome ³	Period			Alternative ⁴			
				H	C	A1	A2	A3	A4	A5
CAR	American marten	BLM/FS ⁵	1	24	0	0	0	0	0	0
			2	42	12	2	6	6	20	12
			3	34	34	17	28	28	60	35
			4	0	26	41	40	40	20	27
			5	0	28	40	26	26	0	26
		CumEff ⁵	1	24	0	0	0	0	0	0
			2	42	4	0	2	2	2	4
			3	34	16	16	18	18	21	13
			4	0	30	27	31	31	39	31
			5	0	50	57	49	49	38	54
CAR	Fisher	BLM/FS ⁵	1	0	0	0	0	0	0	0
			2	40	0	0	0	0	0	0
			3	40	40	20	70	70	70	40
			4	20	40	50	20	20	20	40
			5	0	20	30	10	10	10	20
		CumEff ⁵	1	0	0	0	0	0	0	0
			2	40	0	0	0	0	0	0
			3	40	2	3	0	0	1	0
			4	20	14	22	34	23	31	23
			5	0	84	75	66	77	68	77
CAR	Gray wolf	BLM/FS	1	68	22	18	22	18	22	16
			2	30	43	44	43	44	43	44
			3	2	35	34	35	34	35	36
			4	0	0	4	0	4	0	0
			5	0	0	0	0	0	0	0
		CumEff	1	68	4	0	0	0	0	0
			2	30	4	0	1	0	1	0
			3	2	4	8	9	10	9	8
			4	0	42	46	46	44	46	46
			5	0	46	46	44	46	44	46
CAR	Grizzly bear	BLM/FS	1	62	8	4	4	4	5	4
			2	32	4	6	8	6	6	6
			3	6	10	6	6	6	6	4
			4	0	38	44	42	44	43	44
			5	0	40	40	40	40	40	40
		CumEff	1	58	0	0	0	0	0	0
			2	32	0	0	0	0	0	0
			3	10	4	2	3	3	4	2
			4	0	8	10	9	9	8	10
			5	0	88	88	88	88	88	86
CAR	Lynx	BLM/FS ⁵	1	0	0	0	0	0	0	0
			2	10	0	0	0	4	0	4
			3	80	12	0	0	8	0	3
			4	10	40	50	50	42	42	22
			5	0	48	50	50	46	58	75
		CumEff ⁵	1	0	0	0	0	0	0	0
			2	10	0	0	0	0	0	0
			3	80	0	4	4	3	4	0
			4	10	40	15	15	22	15	10
			5	0	60	81	81	75	81	90

Table 15. Mean likelihood scores of viability outcomes carnivores and ungulates for the UCRB Planning Area (continued).

Group ¹	Species Name	Area ²	Outcome ³	Period			Alternative ⁴			
				H	C	A1	A2	A3	A4	A5
CAR	Wolverine	BLM/FS ⁵	1	0	0	0	0	0	0	0
			2	10	4	7	8	8	9	8
			3	80	20	13	10	11	12	10
			4	10	44	41	42	44	43	42
			5	0	32	39	40	37	36	40
		CumEff ⁵	1	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0
			3	36	0	0	0	0	0	0
			4	30	4	2	10	2	8	2
			5	34	96	98	90	98	92	98
UNG	California bighorn sheep	BLM/FS ⁵	1	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0
			3	50	0	0	0	0	0	0
			4	50	40	40	50	40	40	50
			5	0	60	60	50	60	60	60
		CumEff ⁵	1	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0
			3	50	0	0	0	0	0	0
			4	50	30	30	40	30	30	40
			5	0	70	70	60	70	70	70
UNG	Pronghorn	BLM/FS ⁵	1	10	0	0	0	0	0	0
			2	80	60	20	20	65	70	20
			3	10	30	60	60	35	30	60
			4	0	10	20	20	0	0	20
			5	0	0	0	0	0	0	0
		CumEff ⁵	1	10	0	0	0	0	0	0
			2	80	0	0	0	0	0	0
			3	10	60	10	10	10	10	10
			4	0	40	50	50	50	50	50
			5	0	0	40	40	40	40	40
UNG	Woodland caribou	BLM/FS	1	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0
			3	0	0	0	0	0	0	0
			4	50	0	0	0	0	0	46
			5	50	100	100	100	100	100	100
		CumEff	1	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0
			3	0	0	0	0	0	0	0
			4	50	0	0	0	0	0	42
			5	50	100	100	100	100	100	100

Likelihood scores for each period or alternative sum to 100 points. High scores indicate high likelihood of an outcome. Means are calculated from the individual likelihood scores of panelists.

¹ Group: CAR - carnivore; UNG - ungulate.

² Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

³ Outcome: 1 - contiguous; 2 - gaps; 3 - patchy; 4 - isolated; 5 - scarce. See text for complete explanation.

⁴ Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

⁵ Species for which panelists' scores were adjusted by Science Team. Scores were adjusted when considered to reflect a misinterpretation or incomplete understanding of the management alternatives or their outcomes, or the species ecology.

Table 16. Mean viability outcomes for habitat and populations of mammalian carnivores and ungulates for the UCRB Planning Area.

Group ¹	Species Name	Area ²	Period				Alternative ³				
			H	C	A1	A2	A3	A4	A5	A6	A7
CAR	American marten	BLM/FS ⁴	2.1	3.7	4.2	3.9	3.9	3.0 ⁵	3.7	3.0 ⁵	2.7 ⁵
		CumEff ⁴	2.1	4.3	4.4	4.3	4.3	4.1	4.4	4.0	3.6 ⁵
CAR	Fisher	BLM/FS ⁴	2.8	3.8	4.1	3.4	3.4	3.4	3.8	3.4	4.1
		CumEff ⁴	2.8	4.8	4.7	4.7	4.8	4.7	4.8	4.6	4.3 ⁵
CAR	Gray wolf	BLM/FS	1.3	2.1	2.2	2.1	2.2	2.1	2.3	2.1	1.9
		CumEff	1.3	4.2	4.4	4.3	4.4	4.3	4.4	4.3	4.1
CAR	Grizzly bear	BLM/FS	1.4	4.0	4.1	4.1	4.1	4.1	4.1	4.0	3.8
		CumEff	1.5	4.8	4.9	4.9	4.9	4.8	4.9	4.7	4.6
CAR	Lynx	BLM/FS ⁴	3.0	4.4	4.5	4.5	4.3	4.6	4.7	4.0	4.1
		CumEff ⁴	3.0	4.6	4.8	4.8	4.7	4.8	4.9	4.6	4.6
CAR	Wolverine	BLM/FS ⁴	3.0	4.0	4.1	4.1	4.1	4.1	4.1	4.0	3.8
		CumEff ⁴	4.0	5.0	5.0	4.9	5.0	4.9	5.0	4.9	4.3 ⁵
UNG	California bighorn	BLM/FS ⁴	3.5	4.6	4.6	4.5	4.6	4.6	4.5	4.6	4.9
		CumEff ⁴	3.5	4.7	4.7	4.6	4.7	4.7	4.6	4.7	4.9
UNG	Pronghorn	BLM/FS ⁴	2.0	2.5	3.0 ⁵	3.0 ⁵	2.4	2.3	3.0 ⁵	2.3	3.0 ⁵
		CumEff ⁴	2.0	3.4	4.3 ⁵	4.3 ⁵	4.3 ⁵	4.3 ⁵	4.3 ⁵	4.3 ⁵	4.3 ⁵
UNG	Woodland caribou	BLM/FS	4.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.5
		CumEff	4.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.6

Mean outcomes were calculated as the weighted mean of average likelihood scores in each outcomes.

¹ Group: CAR - carnivore; UNG - ungulate.

² Area: BLM/FS - Upper Columbia Basin planning area, BLM and Forest Service lands only; CumEff - all lands in Upper Columbia Basin planning area.

³ Period / Alternative: H - historical pre-European settlement period; C - current; A1 - Alternative 1; A2 - Alternative 2; etc.

⁴ Species for which panelists' scores were adjusted by Science Team. Scores were adjusted when considered to reflect a misinterpretation or incomplete understanding of the management alternatives or their outcomes, or the species ecology.

⁵ Mean outcome for alternative departs from current outcome by greater than or equal to 0.50 units. Outcomes reported in table were rounded to 0.1 units; but, differences were calculated to 0.01 units. Hence, departure calculated from the table many be misleading.

