

1 **DRAFT**
2 Greater Sage-Grouse Programmatic
3 Candidate Conservation Agreement with Assurances
4 for Private Rangelands in Harney County, Oregon
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7 Between the
8 Harney Soil and Water Conservation District
9 and the
10 United States Fish and Wildlife Service
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November 7, 2013

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100 **PURPOSE**

101 The purpose of this Candidate Conservation Agreement with Assurances (CCAA) is to maintain
102 and/or improve Greater sage-grouse habitat while contributing to the economic sustainability of
103 landowners and maintaining the ranching culture and agricultural way of life in Harney County.

104 **INTRODUCTION**

105 This agreement recognizes that ranching operations in Harney County have contributed to the
106 well-being of Greater sage-grouse (*Centrocercus urophasianus*; hereafter referred to as ‘sage-
107 grouse’) by providing large areas of continuous, high quality habitat on both private and public
108 lands. In addition, the continued sustainability of these operations is a primary means of
109 preventing further habitat fragmentation and loss.¹ This CCAA provides landowners assurances
110 that ranch and land management practices can continue in the event sage-grouse is listed under
111 the Endangered Species Act (ESA), while also identifying opportunities to provide additional
112 benefits by reducing or removing existing threats to sage-grouse.

113
114 A CCAA is a voluntary agreement whereby landowners agree to manage their lands to remove
115 or reduce threats to a species that may become listed under the ESA. In return for managing
116 their lands to the benefit of a species at risk, landowners receive assurances against additional
117 regulatory requirements should that species ever be listed under the ESA. The programmatic
118 design of this agreement, its “umbrella” nature, streamlines the process for landowner
119 enrollment, as follows:

- 120
- 121 • Under a programmatic CCAA, the United States Fish and Wildlife Service (FWS) will
122 issue Harney Soil and Water Conservation District (SWCD) an Enhancement of Survival
123 (EOS) permit pursuant to section 10(a)(1)(A) of the ESA for a period of 30 years.
 - 124 • The SWCD, in coordination with the FWS and other partners, will then work with willing
125 landowners to develop a Site Specific Plan (SSP) for each landowner/parcel, and issue a
126 Certificate of Inclusion (CI) for coverage under the EOS permit.
- 127

128 Since the agreement is voluntary, the landowner can end it at any point, although in doing so,
129 any assurances and incidental take coverage for the enrolled landowner under the EOS permit
130 would terminate.

131
132 This county-wide strategy allows participants to identify issues and opportunities unique to their
133 operation that may be addressed by specific Conservation Measures (CMs). A Conservation
134 Measure is defined as an activity or action which, when implemented or continues to be
135 implemented, will reduce or remove threats to sage-grouse and will improve or maintain their
136 habitat. This CCAA provides, in Appendix A, a comprehensive list of specific CMs from which
137 the landowner and the SWCD can jointly select those measures most appropriate to the property
138 that will adequately address the identified threats to sage-grouse. This CCAA also provides the
139 landowner the opportunity of working with the SWCD, and with approval of FWS, to develop
140 additional CMs when an appropriate CM cannot be found in Appendix A.

141
142

¹ Habitat fragmentation is the breaking up of sage-grouse habitat into smaller parcels, creating discontinuous habitat.

143 There are three goals this programmatic CCAA is designed to meet:
144

- 145 • Provide landowners assurances that current ranch and land management practices covered
146 by this CCAA will continue in the event sage-grouse is listed under the ESA.
- 147 • Promote CMs that reduce or remove threats to sage-grouse through proactive ranch and
148 land management, providing comprehensive conservation.
- 149 • Provide an ecological approach to maintain current sage-grouse habitat and to improve
150 habitat that is not meeting conservation objectives, as identified in enrolled landowners'
151 site specific plans.

152
153 This species is currently a candidate for listing under ESA; it is not listed. Therefore, there are no
154 ESA regulations related to sage-grouse currently impacting private lands and livestock
155 operations. The sage-grouse is currently managed by Oregon Department of Fish & Wildlife
156 (ODFW).

157 ***Species Distribution and History***

158 Prior to settlement in the 19th century, sage-grouse inhabited 13 western states and three
159 Canadian provinces, and their potential habitat covered over 463,509 square miles. Sage-grouse
160 have declined across their range due to a variety of causes and now occur in 11 states and two
161 Canadian provinces. Overall, the species distribution and numbers have shown a decreasing
162 trend. Many factors played a role in reducing sage-grouse from an abundant, broadly distributed
163 species, but the primary threat across their range is loss of habitat due to increased surface
164 disturbance and general fragmentation of the landscape.

165
166 In Oregon, sage-grouse were once found in most grass land and sagebrush habitats east of the
167 Cascades. European settlement and conversion of sagebrush steppe into agricultural production
168 led to extirpation of the species in the Columbia Basin by the early part of the 1900s, but
169 sagebrush rangelands have persisted, particularly in southeast Oregon. Sage-grouse populations
170 have fluctuated markedly since the mid-1900s, with notable declines in populations from the
171 1950s to early 1970s. Oregon sage-grouse numbers apparently have declined over the long term
172 (Hagen 2005). However, population indices over the last 30 years suggest a relatively stable
173 statewide population (Hagen 2010). Reasons for these losses likely are the cumulative effects of
174 habitat loss and degradation, changes in predator control methods, and increases in human
175 disturbance (Hagen 2005). Habitat loss and fragmentation are the primary cause for long term
176 changes in population abundance and distribution. Additional threats include, sagebrush removal,
177 agricultural conversion, drought, rising CO² levels, flooding, West Nile virus, unmanaged or
178 improper grazing, wild horses, recreation, predation², sagebrush defoliating insects (aroga moth),
179 and energy development and other infrastructure (USFWS 2010).

180
181
182 In Harney County, as it is throughout sagebrush habitat in Oregon, wildfire in low elevation
183 sagebrush and its resultant increase of exotic annual grasses, as well as juniper encroachment in
184 high elevation sagebrush due to lack of fire are the two largest factors causing habitat loss.

² Predation may be underestimated as a limiting factor to sage-grouse population success in much of its occupied habitat (Coates and Delehanty 2010; Coates et al. 2008; Dinkins et al. 2012; Kolada et al. 2009; Kolada et al 2009b; Moynahan et al. 2007; Willis et al. 1993). In particular the impacts of predation on sage-grouse can increase where habitat quality has been compromised by anthropogenic activities (Coates 2007; Bui 2009; Hagen 2012).

185
186 Current harvest management is not considered a significant threat to sage-grouse populations
187 (USFWS 2010). In southeastern Oregon, there are healthy populations of sage-grouse with
188 limited hunting. ODFW allows harvest of up to 5% of the projected fall population of birds, and
189 in practice, harvest has been estimated at less than 3% of the fall population in hunted areas
190 (Hagen 2005). Current research found that such limited hunting does not affect populations
191 (Connelly et al. 2000; Sedinger et al. 2010). Harvest of candidate species is permissible under the
192 law. Hunters contribute to sage-grouse management by submitting wings of harvested birds to
193 ODFW, allowing biologists to learn more about age, sex, reproductive success, and distribution
194 of the species.

195
196 ***Listing***

197 Between 1999 and 2003, the FWS received eight petitions to list various populations of sage-
198 grouse under the ESA. On January 12, 2005, the FWS published a finding that sage-grouse did
199 not warrant range-wide protection under the ESA (70 FR 2244). This “not warranted” finding
200 was challenged in court, and in December 2007, a federal judge ordered the FWS to reconsider
201 its decision. On March 23, 2010, the FWS published a range-wide “warranted but precluded”
202 finding (75 FR 13909). The 2010 finding indicated that sage-grouse warrant listing under ESA,
203 but higher priority species precluded proceeding with a listing rule at that time, thereby
204 conferring candidate status on the sage-grouse. The primary range-wide threats to sage-grouse,
205 as defined in the 2010 finding, are 1) habitat loss, fragmentation, and degradation and 2)
206 inadequate regulatory mechanisms. In the 2010 FWS finding additional threats were identified,
207 including an increase in the use of sagebrush habitat for renewable energy such as wind power
208 and the spread of West Nile virus.

209
210 ***CCAA Development***

211 In anticipation of a final listing decision by the FWS, the Harney County Greater Sage-Grouse
212 Candidate Conservation Agreement with Assurances Steering Committee (Steering Committee)
213 and the SWCD requested assistance from the FWS in developing a sage-grouse strategy for
214 ranch and land management activities that could offer landowners assurances that their practices
215 could continue in the event the species was listed under the ESA. Livestock production is a
216 primary use of Oregon’s rangelands, and listing the sage-grouse could have a significant impact
217 on this use and the communities of Harney County. Therefore, the Steering Committee,
218 comprised of representatives from local private landowners, Harney SWCD, FWS, Natural
219 Resources Conservation Service (NRCS), Harney County Court, Oregon Department of Fish and
220 Wildlife (ODFW), Bureau of Land Management (BLM), Oregon State University Extension
221 (OSU Extension), The Nature Conservancy (TNC), Department of State Lands (DSL), and
222 Eastern Oregon Agricultural Research Center (EOARC) have developed this programmatic
223 CCAA.

224 Information on existing conditions, status, and threats in this programmatic CCAA is
225 summarized from the:

- 226
- 227 • Oregon Department of Fish and Wildlife’s Greater sage-grouse conservation assessment
and strategy for Oregon (hereafter referred to as ‘ODFW Strategy’) (Hagen 2011)
 - 228 • FWS March 23, 2010, 12-month Finding (75 FR 13910)
 - 229 • FWS January 12, 2005, 12-month Finding (70 FR 2243)
 - 230 • Greater sage-grouse ecology and conservation of a landscape species and its habitat

231 (Knick and Connelly 2011).
232 We refer the reader to these documents for a more in-depth analysis.

233 **1. Factors Affecting the Species**

234 The long term persistence of sage-grouse will depend on maintenance of intact shrub steppe
235 landscapes as well as associated riparian and meadow habitats. Sage-grouse are landscape-scale
236 species and the destruction and fragmentation of their habitat has contributed to significant
237 population declines throughout its range over the past century. If current trends persist, many
238 local populations may disappear in the next several decades, with remaining fragmented
239 populations vulnerable to extinction. Habitat fragmentation is the most significant threat to the
240 long term persistence of sage-grouse. Threats to sage-grouse and their habitats are outlined in
241 Appendix A with corresponding CMs.

242 **2. Conservation Approach**

243 The basic conservation approach described in this CCAA is an ecologically-based approach to
244 maintain current sage-grouse habitat and to improve deficient habitat. This approach relies on
245 habitat models (Appendix C) that describe factors that impact plant community composition and
246 structure over time. These models indicate specific threats that can be influenced by management
247 to improve habitat quality for sage-grouse; these threats are, in turn, the basis for habitat-related
248 CMs (Appendix A). Also identified are species-specific threats and associated CMs for non-
249 habitat factors that directly (e.g. West Nile virus) and indirectly (e.g. insecticide use) impact
250 sage-grouse populations (Appendix A).

251 **3. Application and Enrollment Process**

252 The following steps summarize the process:

- 253 • Contact the Harney SWCD in Hines. The SWCD will initially request from landowners
254 the necessary information to initiate project review (i.e. landowner name; contact
255 information; legal and general description of the property location; description of land
256 use and management).
- 257 • SWCD will announce a quarterly deadline for submission of applications. SWCD will
258 evaluate all applications received during that timeframe based on the following criteria
259 for prioritization:

260 Prioritization of Enrollment by Category of Habitat/Location:

261 Preliminary Priority Habitat (PPH): Areas that have been identified as having the
262 highest conservation value to maintaining sustainable sage-grouse populations.
263 These areas correspond to Core Area Habitat in the ODFW Sage-grouse
264 Conservation Assessment and Strategy for Oregon which includes known
265 breeding, late brood-rearing, and known winter concentration areas. These areas
266 also correspond to Priority Areas for Conservation (PACs) as identified in the
267 FWS 2013 Conservation Objectives Team Report which include the most
268 important areas for maintaining sage-grouse populations across the landscape.

269 Preliminary General Habitat (PGH): Areas of occupied seasonal or year-round
270 habitat outside of PPH. These areas include Low Density Habitat as described in
271 ODFW Sage-grouse Conservation Assessment and Strategy for Oregon, as well
272 as additional areas of suitable sagebrush habitat.

- 273 1. Private lands within PPH
- 274 2. Private lands within PGH and adjacent to PPH
- 275 3. Private lands within PGH and not adjacent to PPH
- 276 4. Private lands adjacent to PPH not within PGH
- 277 5. Private lands adjacent to PGH not within PPH
- 278 6. Private lands that will maintain or provide new connectivity between PGH
279 and PPH

280
281 The SWCD is responsible for the prioritization of private lands to be included in
282 this CCAA consistent with ODFW Strategy (Hagen 2011) and its local
283 implementation teams.

- 284 • SWCD will set a schedule to gather information needed to develop an SSP and to
285 perform an initial assessment of the land where enrollment is sought.
- 286 • SWCD staff will conduct this initial assessment of ecological states. Following the site
287 visit, the landowner and SWCD will identify the primary threats and the CMs that will
288 address those threats. If the CMs seem acceptable to the landowner and SWCD, both
289 parties will sign a Letter of Intent. The Letter of Intent is a non-binding agreement to list
290 anticipated CMs, to schedule completion of baseline inventory, to schedule completion of
291 an SSP and signing of the SSP/CI.
- 292 • SWCD will conduct a baseline inventory of the enrolled property within the timeframe
293 identified within the Letter of Intent.
- 294 • The baseline data (initial reading) for long term monitoring (trend) may be collected,
295 summarized, and completed prior to approval of the SSP, or a date for its completion will
296 be scheduled within the SSP.
- 297 • SWCD will discuss with the landowner the importance of participation in or creation of a
298 Rangeland Fire Protection Association (RFPA) to proactively protect private land from
299 fires ignited on public land (see CM 6d).
- 300 • Upon landowner and SWCD agreement of the SSP and the CMs included in it, the
301 SWCD will submit the SSP/CI to FWS for review and approval.
- 302 • FWS has up to 60 days to respond to the SSP application. Under the programmatic
303 CCAA and relevant regulations and policy, if the SSP/CI and permit issuance criteria are
304 met, the FWS will approve the SSP/CI through a Letter of Concurrence.
- 305 • Upon receiving a Letter of Concurrence from the FWS, both SWCD and the landowner
306 will sign the SSP/CI.

307 **4. Site Specific Plans for Participation under a Certificate of Inclusion**

308 Each participating landowner will work with the SWCD to develop an SSP intended to promote
309 good land stewardship by implementing actions on their enrolled lands that benefit sage-grouse.
310 The landowner and SWCD will identify threats and select CMs identified in the programmatic
311 CCAA for inclusion in their SSP. Individual SSPs will be consistent with the activities and CMs

312 identified in the programmatic CCAA and will describe specific conservation practices that will
313 be implemented on the enrolled lands to maintain, rehabilitate, or enhance habitat for the species,
314 and remove or reduce any unfavorable impacts to the species arising from the management of
315 these lands. Since all appropriate CMs cannot be anticipated, additional CMs can be included in
316 the individual SSPs, which were not identified in the programmatic CCAA and that support
317 healthy sage-grouse habitat, provided the landowner, SWCD, and FWS mutually agree to the
318 CM. Once the individual SSP has been approved by the landowner, SWCD, and FWS, the
319 SWCD will issue a Certificate of Inclusion (CI) to cover the agreed upon rangeland management
320 practices and provide the landowner with coverage.

321 **5. Conservation Measures Development**

322 The overall management approach is to stratify the enrolled lands based upon the ecological
323 requirements for sage-grouse habitat, and then identify the current state of that habitat for each
324 plant community (determined by initial baseline inventory). Once identified, each plant
325 community may transition (change) due to impacts on the site which may be natural, influenced
326 by man, or a combination of both. Those actions that cause transition to improve or maintain
327 sage-grouse habitat are considered conservation measures (CMs); the actions or impacts which
328 degrade sage-grouse habitat are considered threats to the habitat. The ecological model, “state
329 and transition” (Appendix C) demonstrates this process by plant community in a flow chart. An
330 associated set of flow charts, located in *Section 6. Inventory & Monitoring Protocols*, describe
331 the step-by-step process for habitat stratifying and identifying current states of plant
332 communities. Derived from that classification, the flow charts continue on, identifying potential
333 threats and CMs that will maintain or improve sage-grouse habitat. Through annual monitoring
334 of the plant communities and long term monitoring (trend), the direction of transition of habitat
335 can be determined. This will be the base of information used to make informed decisions on
336 habitat management.

337
338 The process of selecting and/or developing specific CMs for individual properties will be based
339 on the threats identified for the enrolled property (detailed in the SSP/CI), recognizing that each
340 property is unique and CMs will be site-dependent. The SWCD will work with each landowner
341 to identify specific threats for the property and select and/or develop CM(s) to remove or reduce
342 each threat. Each identified threat within the control of the landowner will be addressed and will
343 have one or more corresponding CM(s); the FWS and SWCD recognize not every potential CM
344 listed for a particular threat is appropriate for a given property. Therefore, CMs selected or
345 developed will be based on their likely effectiveness, ability to be implemented, and should be
346 the most beneficial for sage-grouse conservation on that particular property.

347
348 If no threats are identified or if current management is addressing identified threats, a detailed
349 description of current management and a monitoring strategy may suffice as the SSP. **However,**
350 **each enrolled landowner must agree to CM 1: *Maintain contiguous habitat by avoiding***
351 ***further fragmentation***. The objective for this required CM is for no net loss in 1) habitat
352 quantity (as measured in acres) and 2) habitat quality (as determined by the ecological state). The
353 baseline determination of habitat quality and quantity will be completed during the baseline
354 inventory and will serve as a reference point in meeting the objective for CM 1. Losses in sage-
355 grouse habitat quantity may be offset by increases in sage-grouse habitat quality and vice versa
356 (consistent with *Section 12. Covered Activities* - development subsection).

357
358 While this is the objective on CM 1, FWS and SWCD understand that changes out of the control
359 of the landowner will be handled as a changed circumstance. If changed circumstances occur,
360 conservation measures need to be included consistent with *Section 14. Changed Circumstances*.
361 CM 1 does not exclude CMs that might create a short term loss of habitat quality or quantity
362 because such measures are intended to result in a long term improvement to sage-grouse habitat.
363 Development activities covered by this agreement will be described in the SSP at the time of
364 enrollment or can be added as a modification (consistent with *Section N. Modification of SSP/CI*,
365 located in Appendix B) to the SSP and internal mitigation may be required (consistent with
366 *Section 12. Covered Activities - development subsection*).

367
368 While these CMs should apply across the landscape, there may be circumstances where site-
369 specific modifications or conditions warrant changes to the standard prescriptions. Changes to
370 CMs and/or development of CMs will occur in consultation with the landowner and must have
371 concurrence from the FWS. The SWCD will note those changes on the SSP/CI for enrolled
372 properties, including rationale or justification for any modifications.

373
374 This CCAA incorporates, by reference, all conservation strategies in the ODFW Strategy (Hagen
375 2011) that are relevant to private lands. The landowner, SWCD, and FWS will draw from those
376 strategies while developing CMs in the SSPs and implementing actions for the sage-grouse on
377 lands enrolled in this CCAA. However, it is unlikely that the ODFW Strategy and this
378 programmatic CCAA cover all needs for certain circumstances, so site specific measures outside
379 of these references will be determined, as necessary, in consultation with landowners.

381 **6. Inventory and Monitoring Protocols**

382 The **overall management goal** is to facilitate maintenance of, or transition to, a desired
383 ecological state that can serve the habitat needs of sage-grouse using an ecologically-based
384 model (see state and transition diagrams for low elevation, high elevation, and riparian habitat
385 shown in Appendix C). Additional conservation measures may be used to further increase the
386 quality/value of sage-grouse habitat (e.g. timing of grazing in nesting habitat) or mitigate
387 species-specific threats (e.g. raptor perches in the vicinity of essential habitat). However,
388 focusing on species-specific conservation measures in habitat that is in, or at risk of, transition to
389 a non-desired state can divert resources from addressing underlying ecological issues that
390 ultimately define the current and future value of such habitats to sage-grouse and other sagebrush
391 obligate wildlife species. For this reason, an ecologically-based model will be used to determine
392 inventory, monitoring, and conservation needs during the site specific planning process (for a
393 detailed explanation of state and transition models, see Appendix C).

394
395 This section:

- 396 • Explains how individual enrolled lands are classified for upland and riparian sites (Site
397 Selection Protocol)
- 398 • Visually depicts with a flow chart the stepwise process of inventorying the existing
399 habitat conditions and establishing a data base for long term monitoring (Figure 1)
- 400 • Provides criteria for each ecological state and visually depicts how information about the
401 current ecological state of the enrolled property feeds into the process of identifying

- 402 potential threats, relevant objectives, needed conservation measures, and associated
403 monitoring (Figures 2-4)
- 404 • Explains the purposes of long term monitoring (trend) and annual monitoring and refers
405 the reader to each method's protocols and forms

406

407 *Site Selection Protocol*

- 408 1. Background information-Stratifying enrolled lands into inventory and monitoring units
409 will require gathering any of the following background information that exists for each
410 property/properties for which a site specific plan is being considered: aerial photographs,
411 satellite imagery, written and oral histories, disturbance history (e.g., burn maps),
412 management history, property maps, plant species lists, ecological sites and site
413 descriptions, and soil maps.
- 414
415 2. Stratify by habitat suitability using existing data-The enrolled property will first be
416 stratified into areas of existing suitable (i.e., low elevation ecological states A, B, and D;
417 high elevation ecological states A and B; lotic riparian ecological states characterized by
418 consistent access to floodplain) or potentially suitable sage-grouse habitat (i.e. low
419 elevation ecological state C; high elevation ecological states C, D, and E; lotic riparian
420 ecological states without consistent access to floodplain) and areas of persistently
421 unsuitable habitat (e.g., historically non-habitat or permanently converted habitat –
422 infrastructure, agriculture, residential, etc.) (see Figure 1).
- 423
424 3. On-site documentation of upland ecological states -The upland property will then be
425 stratified by management unit (typically by pasture). Each upland management unit will
426 then be stratified into the two primary ecological types (i.e., high elevation sagebrush
427 rangeland and low elevation sagebrush rangeland) using a combination of existing
428 knowledge and/or data, ecological site descriptions, GIS techniques, and field
429 reconnaissance. Ecological types within management units will then be stratified by the
430 ecological states described in their respective state and transition model. Preliminary
431 ecological state strata will be determined using GIS data. The resultant preliminary strata
432 will then be used to direct ground truthing and associated habitat inventory efforts;
433 ground truthing of preliminary ecological state strata will be accomplished following
434 procedures outlined in the Upland Ecological State Documentation Form (Appendix D-
435 4). The ocular assessment outline located in Appendix D-4 will provide the basis for
436 selecting representative areas for each stratum, where quantitative data will be collected
437 and serve as permanent habitat monitoring sites for the management unit (long term
438 (trend) monitoring).
- 439
440 4. Establish and monitor upland trend sites – Sites which are representative of the ecological
441 status of sage-grouse habitat within a pasture will be determined during ocular
442 assessment and permanently marked on the ground and recorded using the Site
443 Documentation Form shown in Appendix D-2 (Johnson and Sharp 2012). Trend
444 monitoring, which consists of measurements of plant community attributes (ground
445 cover, foliar cover of shrubs, basal cover of perennial herbaceous species, density and
446 frequency of occurrence) will be recorded in an initial or baseline monitoring with
447 follow-up measurements recorded at intervals of 3 to 10 years. The frequency of trend

448 monitoring is dependent on site stability, baseline data determinations and the
449 conservation measures being applied. The changes in plant community attributes are
450 measured over time to determine if the ecological state of the plant community is
451 changing (transitioning) toward or away from desired habitat or remaining stable. This
452 information is assessed along with annual monitoring to determine cause(s) of change
453 which may be management or climatic or a combination of both. This becomes the basis
454 of determining if selected conservation measures are having the desired effect or if
455 adaptive changes are needed. The basic method of upland trend monitoring used in this
456 CCAA is a modified Pace 180° with step-point and density measurements with plot
457 photos and landscape photos in cardinal directions. However, the CCAA provides the
458 SWCD with the flexibility to employ (with the concurrence of the landowner) the most
459 efficient, generally accepted rangeland monitoring methodologies to measure change in
460 ecological states as related to specific objectives in the SSP. For a detailed explanation of
461 the upland protocols see Appendix D.
462

463 5. Stratify riparian areas - Each stream will be stratified by pasture. This will be done to
464 better identify the factors that are influencing change within each management unit (i.e.
465 pasture). The stream reaches will then be stratified into high gradient (> 2% slope) or
466 low gradient (< 2% slope) segments using GIS. Segments of each stream reach that are
467 classified as high gradient do not generally provide sage-grouse habitat and will be
468 excluded from monitoring. A site visit will be performed on the remaining low gradient
469 stream segments to identify critical areas (e.g. headcuts, extreme downcutting) and to
470 perform ocular assessments. The ocular assessment is a point-in-time measurement of
471 visual indicators and will be used for initial assessment to determine the ecological state
472 of each stream reach within the model (Appendix C). Ideally one ocular assessment will
473 be done per stream segment; however, due to stream heterogeneity and changes in
474 ecological condition, multiple assessments may be necessary.
475

476 6. Establish and monitor riparian sites - Permanent representative trend sites will be
477 determined during ocular assessment for low gradient stream segments. The upstream
478 and downstream ends of the monitoring location, as well as any other critical area in
479 between will be documented with GPS and marked by rebar. These permanent locations
480 will be used as repeat photo monitoring points. Photos will be taken from these points
481 both upstream and downstream to assess stream movement, site stability, and vegetative
482 trend. If photo assessment indicates a stable ecological state (A) then monitoring will
483 consist of periodic photos. If photo monitoring indicates an unstable ecological state (B
484 or C) then a CM should be applied with further assessment such as Proper Functioning
485 Condition (PFC). If this assessment determines the stream segment is non-functioning or
486 functioning-at-risk, then a quantitative method of trend monitoring should be enacted.
487 The method selected will be determined by SWCD and the landowner for the specific
488 stream segment.
489

490 ***Annual Monitoring***

491 Sagebrush rangelands are dynamic systems that constantly change in response to fire, wildlife,
492 climate, insect infestations, weed invasions, and natural vegetation succession; not just to inputs
493 from management. Annual monitoring focuses on identifying management inputs and factors

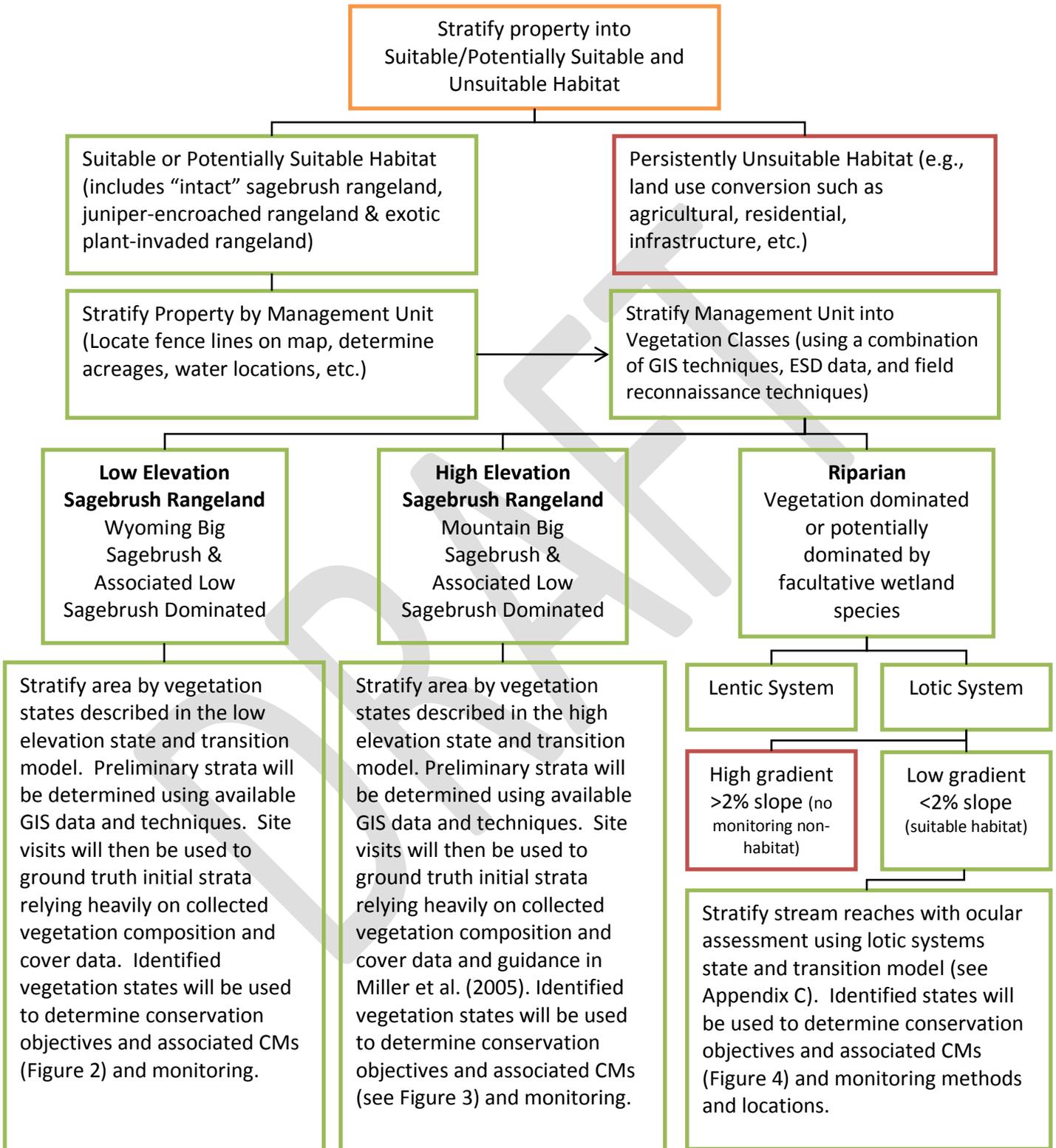
494 external to the management program that affect the responses of sagebrush rangeland over time.
495 These are the factors that influence the change documented with trend monitoring (described
496 above) and may include growing conditions for plants (e.g., precipitation, temperature trends,
497 drought, etc.), livestock and wildlife numbers, utilization patterns of livestock and wildlife,
498 insect and rodent infestations, recreational use, trespass livestock, and timing, duration, and
499 frequency of livestock grazing. Suggested information and a data form for conducting annual
500 monitoring are shown in Appendix D-3. In addition to the information in the “Annual Grazing
501 and Habitat Summary”, other potentially important annual records would include pasture-level
502 grazing utilization and distribution, actual use, sage-grouse observations, or any other factors that
503 could have affected the growing conditions for vegetation not identified on the form.

504 The following set of flow charts describes the step-by-step process for habitat stratification and
505 identifying current states of plant communities. Derived from that classification, the flow charts
506 continue on, identifying potential threats and the conservation measures that will maintain or
507 improve sage-grouse habitat.

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Figure 1. The stepwise process for habitat inventory and baseline assessment. This figure also demonstrates how information about the current ecological state of the enrolled property feeds into the process of identifying potential threats, relevant conservation objectives, needed conservation measures, and associated monitoring.



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515 **Figure 2. Low elevation sagebrush rangeland ecological type.**

Low Elevation Sagebrush Rangeland			
<p>Ecological State A Site dominated by sagebrush, large perennial bunchgrasses, and perennial forbs. Sagebrush cover >10%. Capable of providing year around habitat.</p>	<p>Ecological State B Site dominated by large perennial bunchgrasses and perennial forbs. Sagebrush cover <10%. Capable of providing seasonal habitat.</p>	<p>Ecological State C Site dominated by exotic species. Often results in exotic annual grass-fire cycle. Not capable of providing habitat for sage-grouse in current state.</p>	<p>Ecological State D Site dominated by decadent sagebrush and Sandberg bluegrass and/or annual grasses. Sagebrush cover >10%. State capable of providing seasonal habitat.</p>
<p>Conservation Objectives Prevent conversion to exotic annual grasses by maintaining dominance of large, deep-rooted perennial bunchgrasses and sagebrush. Manage for stable or improving trend.</p>	<p>Conservation Objectives Prevent conversion to exotic annual grasses by maintaining dominance of large, deep-rooted perennial bunchgrass and provide conditions for reestablishment of sagebrush. Manage for transitioning toward State A.</p>	<p>Conservation Objectives Despite being in a non-habitat state currently, conservation objectives are suggested because of the inherent risks posed by exotic plant presence on the landscape. Manage fire risk and/or revegetate areas of exotic plants to veg dominated by deep-rooted perennial grasses.</p>	<p>Conservation Objectives Maintain a dominant overstory layer of sagebrush and reestablish deep-rooted perennial vegetation. Experimentation with various methods for reestablishment might be necessary to cause desirable shift in vegetation.</p>
<p>Threats Wildfire Unmanaged Grazing Exotic Invasives</p>	<p>Threats Wildfire Unmanaged Grazing Exotic Invasives Vegetative Treatment</p>	<p>Threats Wildfire Unmanaged Grazing Exotic Invasives Vegetative Treatment</p>	<p>Threats Wildfire Unmanaged Grazing Exotic Invasives</p>
<p>Applicable CMs Listed by threat in Appendix A</p>	<p>Applicable CMs Listed by threat in Appendix A</p>	<p>Applicable CMs Listed by threat in Appendix A</p>	<p>Applicable CMs Listed by threat in Appendix A</p>

516

517

Figure 3. High elevation sagebrush rangeland ecological type.

High Elevation Sagebrush Rangeland				
<p>Ecological State A Site dominated by sagebrush, large perennial bunch-grasses, and perennial forbs. Sagebrush cover >10%. Capable of providing year around habitat.</p>	<p>Ecological State B Site dominated by large perennial bunchgrasses and perennial forbs. Sagebrush cover <10%. Capable of providing seasonal habitat.</p>	<p>Ecological State C Co-dominance of conifers, perennial grasses and sagebrush. Areas of conifer cover >5% not capable of providing seasonal habitat.</p>	<p>Ecological State D Site over shallow soils dominated by conifers. Shrubs and herbaceous understory largely absent. Not capable of providing habitat in current state.</p>	<p>Ecological State E Site over deep soils dominated by conifers. Understory shrubs largely absent. Perennial herbaceous plants present. Not capable of providing habitat in current state.</p>
<p>Conservation Objectives Maintain sagebrush and large perennial bunchgrasses and perennial forbs. Maintain sagebrush cover >10%. Manage for stable or improving trend.</p>	<p>Conservation Objectives Provide conditions for an increase in the cover of sagebrush. Manage for transitioning toward State A.</p>	<p>Conservation Objectives Remove and prevent further conifer encroachment and maintain cover of perennial grass and sagebrush.</p>	<p>Conservation Objectives Restore dominance of shrub and perennial grasses and forbs through removal of dominant conifer overstory.</p>	<p>Conservation Objectives Restore shrubs through removal of dominant conifer overstory.</p>
<p>Threats Lack of fire Unmanaged grazing Conifer encroachment</p>	<p>Threats Wildfire Unmanaged grazing Conifer encroachment</p>	<p>Threats Lack of fire Unmanaged grazing Conifer encroachment Exotic Invasives</p>	<p>Threats Lack of fire Exotic Invasives</p>	<p>Threats Lack of fire Exotic Invasives</p>
<p>Applicable CMs Listed by threat in Appendix A</p>	<p>Applicable CMs Listed by threat in Appendix A</p>	<p>Applicable CMs Listed by threat in Appendix A</p>	<p>Applicable CMs Listed by threat in Appendix A</p>	<p>Applicable CMs Listed by threat in Appendix A</p>

Lotic Riparian Systems		
<p>Ecological State A Stream channels that reach their floodplain in our region are generally either type E or C. These systems are usually properly functioning and have reached full potential. Greenline vegetation composition is $\geq 70\%$ groundcover of deep-rooted riparian plant species or anchored rock.</p>	<p>Ecological State B Stream channels that do not reach their floodplain in our region on a regular basis are either type F or G. These systems are usually degraded type E or C Channels that are no longer functioning due to an incised channel. Channel incision increases the depth of the water table, which in return decreases the amount of deep-rooted riparian plant species. Greenline vegetation composition consists of 50-69% groundcover of deep-rooted riparian plant species or anchored rock.</p>	<p>Ecological State C Stream channels that do not reach their floodplain in our region on a regular basis are either type F or G. These systems are usually degraded type E or C Channels that are no longer functioning due to an incised channel. Channel incision increases the depth of the water table, which in return decreases the amount of deep-rooted riparian plant species. Greenline vegetation composition is $< 50\%$ groundcover of deep-rooted riparian plant species or anchored rock.</p>
<p>Conservation Objectives Maintain stable water table and manage riparian vegetation.</p>	<p>Conservation Objectives Decrease depth to water table and improve riparian vegetation.</p>	<p>Conservation Objectives Decrease depth to water table and improve riparian vegetation.</p>
<p>Threats Catastrophic flood Unmanaged grazing Exotic invasives Conifer encroachment Mechanical degradation</p>	<p>Threats Catastrophic flood Unmanaged grazing Exotic invasives Conifer encroachment Mechanical degradation</p>	<p>Threats Catastrophic flood Unmanaged grazing Exotic invasives Conifer encroachment Mechanical degradation</p>
<p>Applicable CMs Listed by threat in Appendix A</p>	<p>Applicable CMs Listed by threat in Appendix A</p>	<p>Applicable CMs Listed by threat in Appendix A</p>

522 ***Scientific Studies & Species Monitoring***

523 Currently, species monitoring is limited to official lek counts by ODFW, which any landowner
524 may participate in. Enrolled landowners may conduct lek counts when proper training for counts
525 is acquired from ODFW.

526
527 Important information can be learned by landowners and agencies by closely monitoring sage-
528 grouse populations on a relatively fine scale. Furthermore, scientific studies on sage-grouse in
529 Harney County can help landowners and participants in this CCAA to more effectively
530 implement conservation measures. Knowledge of the seasonal habitat use of sage-grouse, for
531 example, will help landowners prioritize conservation measures in areas of known use, thus
532 increasing the benefit to sage-grouse. Monitoring activities and scientific studies are encouraged
533 in cooperation with appropriate agencies. Findings from monitoring and scientific studies may
534 result in modification of existing CMs with concurrence by the landowner, FWS, and SWCD.

535

536 ***Monitoring Summaries, Evaluation, and Reporting***

- 537 • Annual Monitoring – Each year, the SWCD will review all documentation and complete
538 an on-site visit with each enrolled landowner. During the on-site visit the landowner and
539 SWCD will view current habitat conditions and discuss results of the annual monitoring.
540 During this visit the SWCD and the landowner will complete the Annual Grazing and
541 Habitat Summary Form (Appendix D-3). Subsequent to the on-site visit and based on the
542 discussion with the landowner during that visit, SWCD will ensure the completion of the
543 Annual Grazing and Habitat Summary Form with any additional summary attached as
544 needed. The completed form and summary will include progress toward implementing
545 agreed upon CMs, any recommendations discussed and any agreed upon actions to be
546 implemented. A copy of the completed form and summary will be sent to the enrolled
547 landowner and the original will be retained with that landowner’s SSP file.
- 548 • Trend Monitoring – This monitoring will be completed for each enrolled landowner
549 every three to ten years, as scheduled in the SSP. The frequency of the trend monitoring
550 within the time frame described is dependent upon habitat health and site stability, as
551 determined by the baseline inventory and the CMs selected for the SSP. Each year,
552 SWCD will review SSPs to determine which enrolled properties are due for long term
553 monitoring (trend) that year. SWCD will then notify these landowners of the planned
554 trend monitoring and with the landowner, will schedule a date to collect data.
- 555 • In the year following trend monitoring, the SWCD will evaluate the outcome of the
556 applied CMs, comparing the initial (baseline) data to the current trend data to determine
557 if the site habitat characteristics measured indicate movement toward or away from
558 objectives. The SWCD will provide the landowner a trend monitoring report, which will
559 include the results of trend monitoring, an evaluation of these results, and any
560 recommendations for adaptive management.
- 561 • Each year, the SWCD will report the summary of results of all trend monitoring to the
562 FWS via an annual report (see *Section 26. Reports*). The annual report will be submitted
563 to FWS for review and approval and will include an analysis of all enrolled landowners
564 of the overall changes to habitat quality, changes in ecological states, extent of threats
565 addressed, and recommendations for adaptive management.

566

567

568 ***Use of Adaptive Management in the CCAA process***

569 The results of monitoring efforts outlined above and addressed in the sample SSP/CI will be
570 considered from an adaptive management perspective. Many of the potential CMs have been
571 successfully implemented as part of other conservation efforts. However, outcomes of a few
572 CMs may vary based upon local site conditions. Specifically, CMs with a vegetation
573 rehabilitation component may have varying success based upon local soil type and climatic
574 conditions such as rainfall timing and amount. For these CMs, careful monitoring both before
575 and after implementation, along with the flexibility provided through adaptive management, will
576 maximize the likelihood of success through possible changes to seed mixtures, rescheduling of
577 rehabilitation efforts, timing of treatments, and other adjustments.

578
579 An adaptive, outcome-based approach (Walters 1986) will be used to allow management
580 flexibility, recognizing CMs may need to be updated based on changing conditions or new
581 information. Such an adaptive approach explicitly recognizes multiple factors (environmental
582 conditions, biological processes) affect sage-grouse populations. Furthermore, the consequences
583 of prescriptive CMs cannot be predicted with certainty. Therefore, the CCAA provides a
584 framework for making objective decisions in the face of uncertainty. If the desired results of a
585 CM are not achieved, the SWCD will work with the landowner to modify the CM or enact
586 another CM in order to achieve the desired results. Adaptive management relies on an iterative
587 cycle of monitoring, assessment, and decision making to clarify the relationships among the CMs
588 and the response of habitat and, ultimately, sage-grouse abundance.

589 **7. Authorities**

590 ***SWCD Authorities***

591 Oregon Revised Statute (ORS) 190.110 gives Harney SWCD statutory authority to enter into
592 agreements. Additional statutory authority is given to carry out district responsibilities under
593 ORS 568.550:

- 594 1. The board of directors of a soil and water conservation district has the following powers:
595 (d) To enter into written agreements with and, within the limits of appropriations duly
596 made available to the board by law, to furnish financial or other aid to any
597 governmental or nongovernmental agency or any owner or occupier of lands within
598 the district, for the purpose of:
599 (A) Carrying on within the district soil erosion control and prevention operations,
600 water quality improvement, watershed enhancement and improvement, fish and
601 wildlife habitat management activities and other natural resource management
602 activities; or
603 (B) Carrying out district responsibilities under ORS 541.898, 568.225, 568.550 and
604 568.900 to 568.933.

605
606 ***FWS Authorities***

607 Sections 2, 7, and 10 of the ESA of 1973, as amended (Act, 16 U.S.C. 1531 *et seq.*), allow the
608 FWS to enter into this CCAA. Section 2 of the ESA states that encouraging interested parties,
609 through Federal financial assistance and a system of incentives, to develop and maintain
610 conservation programs is key to safeguarding the Nation's heritage in fish, wildlife, and plants.
611 Section 7 of the ESA requires the FWS to review programs it administers and utilize such
612 programs in furtherance of the purposes of the ESA. The purposes of the ESA are "to provide a

613 means whereby the ecosystems upon which endangered species and threatened species depend
614 may be conserved,” and “to provide a program for the conservation of such endangered species
615 and threatened species ...” “Conserve” is defined in section 3(3) of the ESA and means “to use
616 and the use of all methods and procedures which are necessary to bring any endangered species
617 or threatened species to the point at which the measures provided pursuant to this Act are no
618 longer necessary.”

619
620 Section 10 of the ESA describes permits issued under the ESA, exempting certain prohibitions
621 under Section 9 of the ESA. Section 10(a)(1)(A) of the ESA authorizes the issuance of EOS
622 permits to “enhance the survival” of a listed species. Enhancement means the permitted
623 activities benefit species in the wild. By entering into a CCAA, the FWS is utilizing its
624 Candidate Conservation Programs for further conservation of the Nation’s fish and wildlife,
625 consistent with the FWS’s “Candidate Conservation Agreement with Assurances Final Policy”
626 (64 FR 32726; June 17, 1999). The conservation goal of this programmatic CCAA is to maintain
627 and enhance sage-grouse on private lands within the range of the species in Harney County,
628 Oregon. Upon approval of this Programmatic CCAA the FWS will issue an EOS permit to the
629 Harney SWCD. Landowners will meet this conservation goal by implementing agreed upon
630 CMs in individual SSPs to address threats to the species, and will receive regulatory certainty
631 from the FWS concerning land use restrictions that might otherwise apply, should this species be
632 listed under the ESA.

633
634 Even if Site Specific Plans (SSPs) are implemented under this programmatic CCAA, the FWS
635 cannot guarantee listing will never be necessary for all or part of the sage-grouse range. It is
636 important to note that the FWS’s directive to, “preclude or remove any need to list” is based
637 upon the removal of threats and the stabilization or improvement of the species’ status. The
638 decision to list or not to list sage-grouse under the ESA is a regulatory process independent of a
639 CCAA or a Candidate Conservation Agreement (CCA). The FWS will evaluate actions and
640 successes of this CCAA in accordance with the FWS Policy for Evaluation of Conservation
641 Efforts (PECE) during the listing determination process, as required under section 4(b)(2)(A) of
642 the ESA. The FWS will consider the contribution to conservation made by these agreements in a
643 “five-factor analysis” which is used to make any species listing determination (50 CFR Chapter
644 IV, Federal Register Vol. 63, No. 60, March 2003).

645
646 The five factors include:

- 647 • The present or threatened destruction, modification, or curtailment of the species’ habitat
648 or range
- 649 • Overutilization of the species for commercial, recreational, scientific, or educational
650 purposes
- 651 • Disease or predation
- 652 • The inadequacy of existing regulatory mechanisms
- 653 • Other natural or man-made factors affecting the species’ continued existence

654 **8. Covered Area**

655 This CCAA pertains to private lands within sage-grouse habitat in Harney County, Oregon, both
656 by the current distribution of sage-grouse and to those private lands that provide potential habitat
657 that may be occupied by the species in the future. Ranches that have their base of operations in

658 Harney County may include portions of their ranch that is located in adjacent counties. If ranch
 659 base lands (i.e. ranch headquarters, agricultural production, meadows) are within Harney County,
 660 it may be reasonable to include contiguous pastures in adjacent counties for inclusion in this
 661 CCAA. The map of the "Covered Area" (see Figure 5) includes the private lands in counties
 662 adjacent to Harney County that could be eligible for enrollment.
 663

664 For purposes of analysis, FWS analyzed PPH & PGH as representing the best current estimate of
 665 sage-grouse habitat. However, private lands within the covered area that are not currently
 666 designated as PPH or PGH but have the characteristics of sage-grouse habitat or have known
 667 sage-grouse occupancy may be included in the agreement.
 668

669 The authorities granted to Soil and Water Conservation Districts in Oregon Revised Statutes (see
 670 *Section 7. Authorities*) allow for private lands in counties adjacent to Harney County to be
 671 included in this programmatic CCAA. The process that would allow Harney SWCD the
 672 jurisdiction to work with landowners who have property in both counties is: upon a joint request
 673 from Harney SWCD and the affected landowner, the neighboring SWCD may approve the
 674 request and pass a resolution.
 675

676 In Harney County, there are over 5 million acres of potential sage-grouse habitat. See table
 677 below for a breakdown of these acreages in Harney County:
 678
 679

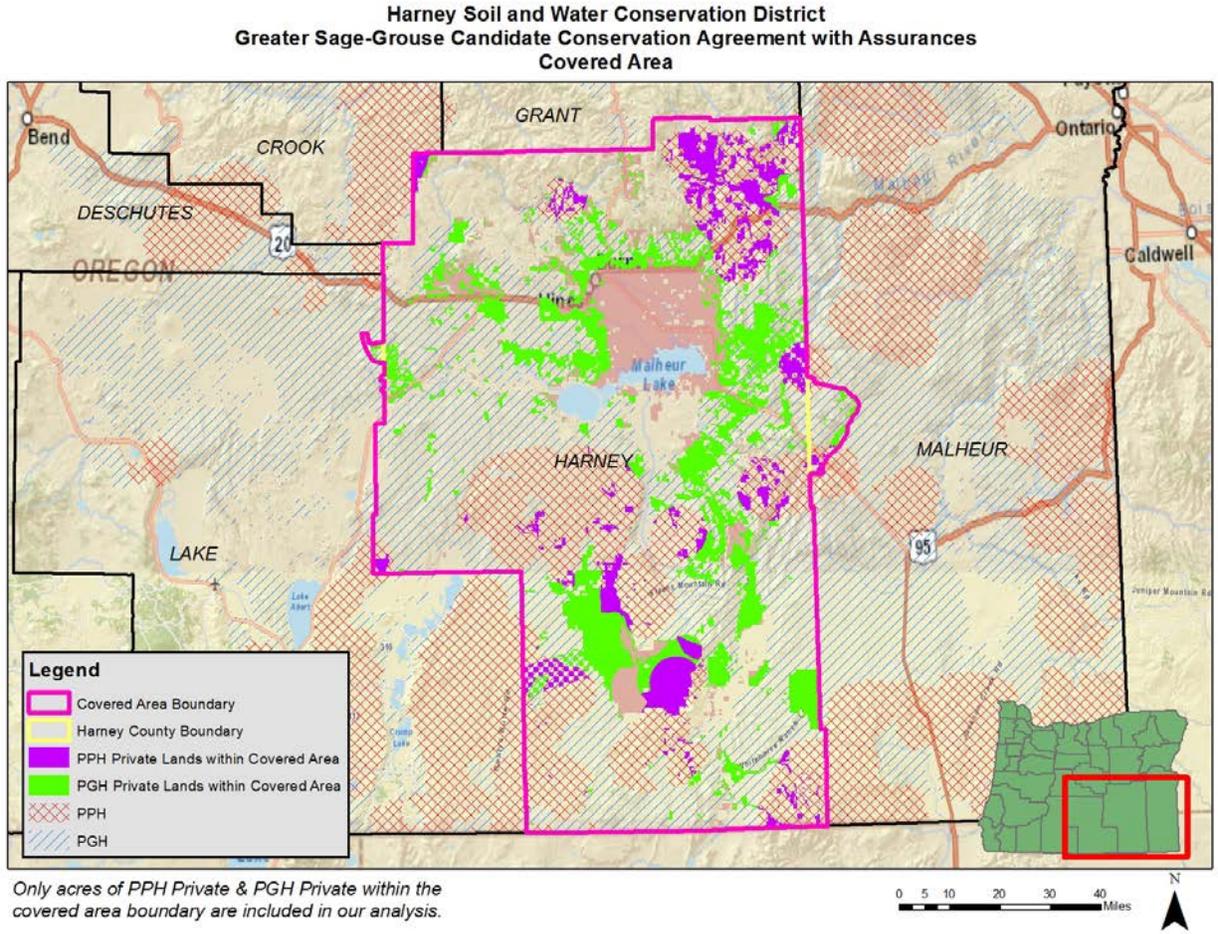
Table 1: Acreage breakdown for covered area

<i>Landowner</i>	<i>PGH within Covered Area</i>	<i>PPH within Covered Area</i>	<i>Total</i>
<i>Private Acres within Covered Area</i>	824,556	345,564	1,170,120
<i>BLM in Harney County</i>	2,282,262	1,369,519	3,651,781
<i>Other*</i>	232,402	45,216	277,618
<i>Totals</i>	3,339,220	1,760,299	5,099,519

*State lands, Forest Service, Bureau of Indian Affairs, Bureau of Reclamation, U.S. Fish and Wildlife Service, U.S. Department of Agriculture, Undetermined

680
 681
 682
 683

Figure 5: Covered area map



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685 **9. Responsibilities of the Parties**

686 *Landowners will:*

- 687 • Assist in the development of mutually agreeable SSPs in cooperation with the SWCD &
- 688 FWS and cosign the SSP/CI document upon receiving a Letter of Concurrence from FWS
- 689 • Implement all agreed upon CMs in their SSP
- 690 • The property owner agrees to allow SWCD and FWS employees or its agents, with
- 691 reasonable prior notice (at least 48 hours) to enter the enrolled properties to complete
- 692 agreed upon activities necessary to implement the SSP
- 693 • Continue current management practices that conserve sage-grouse and its habitats as
- 694 identified in the enrollment process
- 695 • Avoid impacts to populations and individual sage-grouse present on their enrolled lands
- 696 consistent with this SSP
- 697 • Record dates, locations, and numbers of sage-grouse observed on their enrolled lands to
- 698 be included in the annual report
- 699 • Record new observations of noxious weeds that they incidentally find
- 700 • Report observed mortalities of sage-grouse to the SWCD within 48 hours
- 701 • Cooperate and assist with annual and long term monitoring activities and other reporting
- 702 requirements identified in the SSP

703

704 *The SWCD will:*

- 705 • Conduct public outreach and education to encourage enrollment of landowners in the
- 706 CCAA through Site Specific Plans (SSP)/Certificates of Inclusion (CIs)
- 707 • Enroll landowners according to the steps outlined in *Section 3. Application & Enrollment*
- 708 *Process*
- 709 • Use the mutually agreed upon tracking system to protect landowner privacy
- 710 • Prepare and review SSPs/CIs for accuracy and cosign the SSP/CI document upon
- 711 receiving a Letter of Concurrence from FWS
- 712 • Assist in the implementation of conservation measures, monitoring, or other measures if
- 713 agreed upon during the development of the SSP by the landowner, SWCD, and FWS
- 714 • Ensure terms and conditions included in the SSPs are being implemented as agreed upon
- 715 • Collect and evaluate monitoring data to determine if CMs are providing the desired
- 716 habitat benefit and provide a report of monitoring results to the landowner and copies of
- 717 summary reports to FWS
- 718 • Provide technical assistance to aid enrolled landowners in implementing the CMs
- 719 • Work with enrolled landowners and other agencies (e.g., OSU Extension, NRCS) to
- 720 facilitate appropriate rangeland monitoring and/or training
- 721 • Provide support and assist in obtaining funding from other sources for the
- 722 implementation of CMs
- 723 • Monitor and report projects (e.g. implementation of CMs) in order to determine success
- 724 and adaptations needed
- 725 • Immediately report to FWS and ODFW any observed or reported mortalities of sage-
- 726 grouse
- 727 • Meet annually with FWS to present annual and trend monitoring information

- 728 • Protect, to the maximum extent available under federal, state, and local laws, against the
729 release or disclosure of all confidential personal and/or commercial information provided
730 by enrolled landowners and collected, gathered, prepared, organized, summarized, stored,
731 and distributed for the purposes of developing and implementing this CCAA
- 732 • Provide notice to enrolled landowners when a request for public records concerning this
733 CCAA is made, and allow the enrolled landowner to prepare a notification requesting that
734 any confidential personal and/or commercial information be withheld

735

736 ***The U.S. Fish and Wildlife Service will:***

- 737 • Provide assistance in coordinating development and implementation of this CCAA
- 738 • Review the SSP³ and provide a Letter of Concurrence if all issuance criteria are met
- 739 • Provide technical assistance to aid the landowners in implementing the CMs
- 740 • Review monitoring data for consistency with CCAA objectives to determine if
741 conservation measures are providing the desired benefit to sage-grouse
- 742 • Serve as an advisor, providing expertise on the conservation of sage-grouse
- 743 • Assist in the implementation of conservation measures, monitoring, or other measures if
744 agreed upon during the development of the SSP by landowner, SWCD, and FWS
- 745 • Provide FWS funding, to the extent funding is available consistent with *Section 23.*
746 *Availability of Funds*, of the programmatic CCAA, to support implementation of this
747 CCAA and associated SSPs/CIs
- 748 • Provide support and assist in obtaining funding from other sources for the
749 implementation of CMs
- 750 • Conduct outreach and public education efforts to promote the conservation of sage-
751 grouse
- 752 • Immediately report to ODFW any observed or reported mortalities of sage-grouse
- 753 • Protect, to the maximum extent permissible under federal laws, against the disclosure of
754 all confidential personal and/or commercial information provided by enrolled landowners
755 and collected, gathered, prepared, organized, summarized, stored, and distributed for the
756 purposes of developing and implementing this CCAA
- 757 • Provide notice to SWCD when a Freedom of Information Act (FOIA) request for records
758 concerning this CCAA is made, and allow the SWCD to prepare a notification requesting
759 that any confidential personal and/or commercial information be withheld

760 **10. Expected Benefits**

761 Benefits to sage-grouse habitat in Harney County are expected as a result of implemented SSPs
762 developed under this agreement. The CMs identified in this CCAA are expected to benefit sage-
763 grouse through maintenance, enhancement, and rehabilitation of sage-grouse habitats by
764 reducing threats causing direct and indirect mortality.

765

766 Some specific benefits to sage-grouse habitat provided by rangeland management activities
767 implemented in accordance with this CCAA are:

- 768 • Maintenance of large tracts of unfragmented and undeveloped land
- 769 • Manage fuels to help reduce the risk of catastrophic wildfires

³ FWS will participate in the development of up to the first five SSPs that represent the diversity of habitat in Harney County, including site visits, baseline inventory, analysis or other aspects of plan development.

- 770 • Potential for increased rangeland plant diversity, including perennial grasses and forbs
- 771 • Weed and invasive species management
- 772 • Maintenance and enhancement of healthy springs and seeps (Beck and Mitchell 2000;
- 773 Connelly et al. 2004; Crawford et al. 2004; Cagney et al. 2010).
- 774 • To contribute to meeting the strategies and objectives of ODFW’s Strategy (Hagen 2011)
- 775 that are relevant to enrolled private lands

776
777 Enrolled landowners manage their lands in a manner that provides a net benefit to sage-grouse.
778 Under an SSP, enrolled lands may be suitable for mitigation actions or conservation banking
779 from off-site development (if and when available). As FWS, SWCD, and other cooperators
780 become aware of any mitigation opportunities in Oregon or nationally, they will help direct such
781 opportunities to enrolled landowners. Mitigation actions or conservation banks for off-site or on-
782 site development may occur, but will have a separate agreement with independent requirements
783 (for information about internal mitigation - mitigation within a landowner’s enrolled property-
784 see last paragraph in *Section 12. Covered Activities and Estimated Levels of Take*).

785
786 Another possible benefit is ranking preference for obtaining resources from federal, state, and
787 local programs for sage-grouse habitat improvement (e.g. NRCS Sage Grouse Initiative).

788
789 Additionally, the assurances conferred under the CCAA program by section 10(a)(1)(A) EOS
790 permits provide stability of current land and livestock management activities on enrolled lands.

791
792 Since private landowners control substantial acreage of important habitat for sage-grouse,
793 implementation of CMs by enrolled landowners throughout Harney County could potentially
794 maintain or improve over 1 million acres of sage-grouse habitat, county wide. The FWS believes
795 if similar conservation measures that address all threats to sage-grouse were implemented
796 throughout sage-grouse range; the need to list sage-grouse would likely be precluded. The intent
797 of this conservation approach is to meet the CCAA standard.⁴

799 **11. Type and Estimated Level of Take**

800 **Type of Take**

801 The CCAA will result in benefits to sage-grouse and their habitats; however take may occur as a
802 result of the covered activities. As a part of the CCAA, specific authorization of incidental take⁵
803 from covered activities is provided in the EOS permit issued by the FWS, if sage-grouse is listed.
804 Authorization for incidental take under the EOS permit is limited to the covered activities
805 described in *Section 12. Covered Activities and Estimated Levels of Take* of this CCAA.

⁴ The CCAA standard is: “When evaluating a potential CCAA, the FWS must determine that the benefits of conservation measures to be implemented by a property owner under a CCAA, when combined with those benefits that would be achieved if the conservation measures were also to be implemented on other necessary properties, would preclude or remove any need to list the covered species.”

⁵ Take is defined in the ESA to include a number of activities including harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Harm includes significant habitat modification or degradation where it kills or injures sage-grouse by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

806 Incidental take will likely occur sporadically on enrolled lands through direct and indirect injury
807 and mortality, and is not expected to nullify the conservation benefits that are expected under this
808 CCAA. Examples of indirect and direct impacts are described below and further in Appendix A.
809

810 ***Indirect Impacts***

- 811 • Habitat Fragmentation, Loss or Degradation:
 - 812 ○ Sagebrush removal in certain locations can result in loss of sage-grouse habitat
813 (Schroeder et al. 2004)
 - 814 ○ Improperly managed livestock grazing that results in decreased beneficial grasses and
815 forbs in nesting and brood-rearing habitat (Hagen et al. 2007; Gregg et al. 1994)
 - 816 ○ Concentration of livestock that results in compaction of soils and increased bare
817 ground, degrading nesting and brood-rearing habitat and increasing the risk of
818 establishing invasive weeds (Mack and Thompson 1982; Miller and Eddleman 2000)
- 819 • Disturbance:
 - 820 ○ Human activities in the vicinity of active leks may cause birds to flush or abandon
 - 821 ○ Various agricultural or recreational activities or from activities related to sage-grouse
822 habitat protection or improvement
- 823 • Increasing the risk of West Nile virus by increasing standing water sources (USFWS 2010)
824

825 ***Direct Impacts***

- 826 • Installation of fences in certain locations, which can cause direct mortality to sage-grouse
827 from collision and increasing fragmentation of habitats (Beck and Mitchell 2000; Connelly et
828 al. 2004; Crawford et al. 2004; Cagney et al. 2010)
- 829 • Drowning in stock-tanks that lack properly equipped escape ramps
- 830 • Haying and other farm equipment operations
831
832

833 **Estimated Level of Take**

834 Enhanced survival of sage-grouse is the objective of this agreement and implementation of the
835 conservation measures identified in this CCAA is expected to compensate any estimated take.
836

837 The amount of authorized incidental take from covered activities, if 100% of the covered area is
838 enrolled, would be a maximum of 1,265 sage-grouse over the 30-year term of the CCAA or 3%
839 per year of the estimated population of sage-grouse on enrolled lands, whichever is less. To see
840 a detailed explanation and the mechanics of take calculations, refer to Appendix F.
841

842 Authorizing an average annual take of 3% of the estimated statewide spring total sage-grouse
843 population from covered activities will not adversely affect the population (Sedinger 2010;
844 Connelly 2000; ODFW 2010). Additionally, implementing the CMs in this CCAA is expected to
845 offset the take and/or increase the population of sage-grouse on the enrolled lands. Of the 3%
846 annual allowable take, most of the take is anticipated to be in the form of harassment and is not
847 anticipated to result in mortality (see Appendix F for more details related to the take calculation
848 as well as the rationale for the 3% take allowance).
849
850

851 **Table 2: Permitted take per acre habitat type enrolled**

2004 - 2013 Statewide Minimum Breeding Population Average					
	Birds in Oregon	Acres of Habitat in Oregon	Birds per Acre Habitat Type in Oregon	3% Take per 1000 Acres Enrolled by Habitat Type	3% Take on 30 Year Permit/Thous and Acres Enrolled
PPH (90% of birds)	22,064	6,567,011	0.0034	0.10	3.02
PGH (10% of birds)	2,452	8,257,373	0.0003	0.01	0.27
Total	24,515	14,824,384			

852 **Table 3: Various scenarios for permitted take**

3% Take Per 100,000 Acres Land Enrolled	Take Over 30 Year Permit
100,000 acres of PPH	302
100,000 acres of PGH	27
Total Take Allowed	329
Maximum Allowable Take	
<i>(Assuming approximately 100% enrollment)</i>	
345,564 acres PPH enrolled	1,045
824,556 acres PGH enrolled	220
Total Maximum Allowable (100% Enrollment)	1,265

854
 855 **Monitoring and Evaluation of Take**
 856 Monitoring of take will be addressed through the monitoring strategies associated with the
 857 SSP/CI. These include monitoring of the extent of occupied habitat and habitat condition.
 858 Landowners will be required through their SSP/CI to report mortality from incidental take to the
 859 SWCD, who will report to the FWS as required in *Section 9. Responsibilities of the Parties*.
 860 While the total amount of authorized take will be proportional to the amount of enrolled
 861 properties, take will not be allotted to individual landowners. All take that occurs will be counted
 862 against the whole permit rather than individual properties in order to allow more management
 863 flexibility. Evaluation of take will be based on a rolling 5-year average such that if take is high
 864 in one year it will not exceed authorized take unless the 5-year average exceeds 3% of the
 865 population.

866 **12. Covered Activities and Estimated Levels of Take**

867 Private rangeland management can be complementary to sage-grouse habitat; livestock
 868 management was not a primary contributor to the 2010 “warranted” determination. Indeed, in
 869 the FWS 2010 listing decision, the FWS determined the act of grazing was not the specific threat
 870 affecting the species, but that some aspects of livestock management have the potential to
 871 influence habitat loss, fragmentation, and degradation.

872
 873 The following activities may result in incidental take of sage-grouse and are covered under this

874 agreement.⁶ However, most of the take is anticipated to be in the form of harassment and is not
875 anticipated to result in mortality. Conservation Measures implemented under this CCAA are
876 expected to improve sage-grouse habitat and ultimately sage-grouse populations.
877

878 This list of covered activities is comprehensive, includes all conservation measures in Appendix
879 A, and it is expected to include most activities commonly practiced on rangelands. However, as
880 complex as rangelands are, so are the landowners' uses that depend on these for their livelihoods.
881 If activities not included on the list below are occurring on lands to be enrolled, any such
882 activities will be identified and described in the SSP/CI during development or later added as a
883 modification to the SSP consistent with *Section N. Modification of SSP/CI*, located in Appendix
884 B, and reviewed by FWS at that time for compliance as a covered activity and whether or not
885 additional analysis is warranted.
886

887 It is also noted that during the 30-year life of this agreement many technological changes for
888 control of invasives such as biological agents and herbicides will be developed for use on
889 rangelands and may be applied to improve sage-grouse habitat. As such herbicides and biological
890 control agents are approved by the United States Environmental Protection Agency (EPA) and
891 Oregon Department of Agriculture (ODA) for use on rangelands, they will be incorporated for
892 use under this umbrella document to improve sage-grouse habitat.
893

894 **Activities covered under this agreement and estimated take:**

895 The Nature Conservancy's Conservation Action Planning Handbook and Conservation Action
896 Planning Workbook User Manual were used to determine ranking of take estimates. For
897 complete citations and details on this process, see Appendix F.

- 898 • **Rangeland Treatments:** sagebrush removal; green stripping; juniper/conifer
899 treatments/removal; weed control with herbicides (in accordance with Appendix E) and
900 biological agents; seeding; general stewardship of rangelands.
 - 901 • **Estimated take:** Take from these activities is estimated to be *low* and
902 conservation measures will be in place to minimize direct take as well as to limit
903 disturbance and fragmentation of habitats. There may be circumstances for
904 effective habitat improvements to be implemented that may cause some
905 disturbance and potentially take (e.g. juniper removal might be limited to certain
906 times of year due to accessibility or weather, but without treatments habitat would
907 become unsuitable). Additionally, in order to improve sagebrush habitat it may
908 be necessary to temporarily reduce sagebrush cover in order to inter-seed with
909 desired grasses and forbs to provide sage-grouse habitat, resulting in a short term
910 loss but long term gain in sage-grouse habitat.
- 911 • **Livestock Management:** Grazing of forage; feeding hay and dietary supplements in
912 various pastures; establishing and maintaining remote camps; calving and branding
913 operations; including temporary penning or roe of animals; disposal of dead animals;
914 construction and placement of fences and watering sources; gathering, moving, trailing,

⁶ "Covered Activities" includes those activities carried out by the enrolled landowner or their authorized representative on enrolled lands that may result in Authorized Take (see definition of 'Take' on footnote of p.25) of Covered Species (sage-grouse) consistent with the EOS permit during the term of the SSP/CI. Covered Activities also include the implementation of the agreed upon conservation measures in each enrolled landowners' SSP/CI and the listed activities of this section.

- 915 and shipping livestock; general stewardship and animal husbandry practices.
- 916 • **Estimated take:** Take from these activities is estimated to be *low* and
- 917 conservation measures will be in place to minimize direct take as well as to limit
- 918 disturbance. There may be isolated circumstances where disturbance to birds is
- 919 unavoidable (moving cattle, fence construction, etc.). However, most of these
- 920 activities will only result in minor disturbance such as flushing of birds and are
- 921 not likely to rise to the level of take.
- 922 • **Recreation:** Recreational activities associated with legal hunting and fishing (hunting of
- 923 sage-grouse is not a covered activity and can only be done with proper licensing and tags
- 924 through ODFW); use of recreational vehicles both on and off established roads (as may
- 925 further be defined in individual site specific plans); horseback riding; camping and
- 926 hiking.
- 927 • **Estimated take:** Take from these activities is estimated to be *low* and
- 928 conservation measures will be in place to minimize direct take as well as to limit
- 929 disturbance. There may be isolated circumstances where disturbance to birds is
- 930 unavoidable. However, most of these activities will only result in minor
- 931 disturbance such as flushing of birds and are not likely to rise to the level of take.
- 932 • **Farm Operations:** Cultivation of existing fields, including planting, cultivation and
- 933 harvesting small grain, corn, seed and hay crops; mechanical treatment of fields and
- 934 pastures; irrigation by flooding or sprinklers; weed control within fields and along ditch
- 935 banks by burning; application of manure; maintenance of houses, outbuildings, fences
- 936 and corrals, irrigation equipment, and roads.
- 937 • **Estimated take:** Take from these activities is estimated to be *medium* and
- 938 conservation measures will be in place to minimize direct take as well as to limit
- 939 disturbance. Haying operations can potentially directly take birds, but the acres of
- 940 lands that are in PPH & PGH that are hayed are minimal and birds normally use
- 941 the margins of fields and easily retreat to sagebrush from machinery noise.
- 942 Enrollees with these types of acreages will implement management practices to
- 943 minimize potential take. Another potential take could occur from
- 944 fence/infrastructure strikes. Even with CMs in place, occasional strikes are likely
- 945 to still occur.
- 946 • **Development:** As part of this agreement, landowners may implement developments
- 947 associated with the operation of the ranch (e.g. new hay barn, new ranch house, horse
- 948 arena, etc.), on enrolled properties as long as there is a net conservation benefit to sage-
- 949 grouse (referred to as internal mitigation). Internal mitigation must be completed or
- 950 funded and scheduled prior to development actions. The type of planned development,
- 951 scale in relation to enrolled acres, and location relative to important areas of sage-grouse
- 952 use, present habitat condition, and conformance with relevant regulatory policies will be
- 953 taken into account when writing the SSP or during a request for the modification of the
- 954 SSP by the landowner, SWCD and FWS.
- 955 • **Estimated take:** Take from these activities is estimated to be *medium*, and
- 956 conservation measures will be in place to minimize direct take as well as to limit
- 957 disturbance. Any actions of this type will be carefully considered within the
- 958 development and approval stages of an SSP or any proposed SSP modification, to
- 959 ensure that the CCAA standard on all enrolled properties is being met.

960 **13. Assurances Provided**

961 Through this CCAA, the FWS provides the SWCD and participating landowners enrolled
962 through SSPs/CIs with assurances that no additional conservation measures or additional land,
963 water, or resource use restrictions, beyond those voluntarily agreed to and described in the
964 Conservation Measures (Appendix A) of this CCAA and associated SSPs/CIs will be required
965 should sage-grouse become listed as a threatened or endangered species in the future, provided
966 that the SSPs are being implemented as agreed upon (the ONLY exception is when an
967 unforeseen circumstance occurs -see *Section 16. Unforeseen Circumstances*). These assurances
968 will be authorized with the issuance of an EOS permit under ESA section 10(a)(1)(A).

969 **14. Changed Circumstances**

970 Changed circumstances are changes affecting sage-grouse or the geographic area covered by this
971 CCAA that can reasonably be anticipated and can be planned for. This CCAA has identified
972 wildfire, drought, West Nile virus, catastrophic flooding and habitat fragmentation from
973 development as potential changed circumstances that are expected to occur over the 30-year life
974 of the permit.

975
976 If it is determined by the landowner, SWCD, or FWS that a changed circumstance(s) exist, the
977 landowner will implement the appropriate CCCM or a mutually agreed upon approach to address
978 the additional threat or threats created by the changed circumstance(s). Conservation measures
979 (referred to as changed circumstance conservation measures or CCCMs) will be adopted to
980 maintain the net conservation benefit to the sage-grouse on the enrolled property. All
981 modifications, changes or additions to the SSP will be mutually agreed upon by the landowner,
982 SWCD and FWS. If a changed circumstance(s) occurs, the SWCD will notify the FWS of the
983 enrolled lands affected, the impact of the changed circumstance(s), and the CCCM(S) that will
984 be implemented to address the changed circumstance(s).

985
986 The following list provides possible conservation measures to address threats created by a
987 changed circumstance(s). Conservation Measures not identified on this list may be developed
988 with landowner agreement and with approval of FWS.

989
990 **Wildfire** - Wildfire impacts affecting landowners enrolled with SSPs/CIs will be handled on a
991 case-by-case basis. SWCD will work with the individual landowners to determine the
992 management practices to be applied, which may include:

993 **CCCM 1.** SWCD will evaluate with the landowner the need for rehabilitation based on pre-
994 fire plant community health, fire intensity, and proximity to invasive annual species (e.g.
995 cheatgrass, medusahead). SWCD will provide a written summary to the landowner of their
996 evaluation and need for active rehabilitation or for natural recovery.

997
998 **CCCM 2.** Landowner will allow for natural vegetation recovery where healthy pre-fire plant
999 communities exist and observed fire intensity indicates natural recovery and proximity of
1000 invasive species are not a concern. Timing of livestock grazing following wildfire will
1001 depend on response of desirable vegetation. SWCD and the landowner will identify and set
1002 quantifiable objectives for post-fire vegetation recovery based on pre-fire monitoring data,
1003 returning livestock grazing once objectives have been met.

1004

1005 **CCCM 3.** Following wildfire, landowner will participate in rehabilitation where natural
1006 recovery is unlikely, due to fire intensity and/or proximity to invasive annual species, and
1007 where feasible, practicable, and if adequate funding is available. Where annual grasses are
1008 prevalent, plant aggressive fire-resistant perennial species to stabilize the site and allow for
1009 long term recovery of sagebrush and other native species.
1010

1011 **CCCM 4.** Landowner will implement, as needed, CMs listed under “Threat: Exotic Annual
1012 Invasion” in Appendix A.
1013

1014 **CCCM 5.** SWCD will conduct post-treatment monitoring to determine if rehabilitation
1015 techniques have been successful or if implementation changes are indicated (*see Section 6.*
1016 *Inventory and Monitoring Protocols*).
1017

1018 **CCCM 6.** Landowners will replace fence or temporarily fence where needed to protect
1019 recovering habitat post-fire, and, where appropriate, mark these fences with anti-strike
1020 markers or other agreed upon visual markers, as described by CM 30 in Appendix A.
1021

1022 **Drought** - When rangeland plants are deprived of precipitation, it affects the plant’s growth
1023 cycle, volume of growth, and fruition. When drought conditions exist, annual monitoring will be
1024 used to determine site-specific recommendations. Drought is site specific and is typically
1025 considered to occur when two growing seasons of precipitation are below the long term average,
1026 affecting plant life cycles as described above. Prolonged drought is when the conditions
1027 described above persist for three or more growing seasons.
1028

1029 Variation in precipitation is common throughout the sage-grouse range. Annual rangeland
1030 monitoring and CMs on enrolled lands are expected to address year-to-year variations in
1031 precipitation. Droughts in important sage-grouse habitats may create conditions reducing
1032 seasonally available habitat resulting in changed circumstances. In some instances, failure to
1033 make timely adjustments in livestock use during drought has resulted in limited plant regrowth,
1034 overuse in wet meadows and riparian areas, and has negated gains in rangeland conditions made
1035 during higher-precipitation years (Thurow and Taylor 1999).
1036

1037 In the event of moderate to extreme drought, as determined by National Oceanic and
1038 Atmospheric Administration (NOAA)⁷ or if annual monitoring indicates drought conditions, the
1039 SWCD will meet with enrolled landowners to evaluate the drought condition effect on sage-
1040 grouse habitat and then consult with FWS. The following CCCM is intended to address the
1041 changed circumstance:

1042 **CCCM 7.** Utilize adaptive management to adjust levels and season of livestock grazing
1043 during drought conditions to maintain suitable sage-grouse habitat using the site specific
1044 conditions as determined in the baseline and subsequent trend monitoring. These adaptive
1045 management measures may include:

- 1046 a. Implement management changes, such as grazing rest, deferment, rotation, or
1047 other changes designed to maintain long term vegetation health for sage-grouse
1048 habitat.
1049 b. Develop grass banks for use during drought conditions.

⁷ For updated drought conditions visit the following link: <http://www.ncdc.noaa.gov/sotc/drought/2012/8>

- 1050 c. Develop additional water sources for livestock and sage-grouse.
1051 d. Employ other vegetation management to ensure long term plant community
1052 health.

1053
1054 **West Nile virus**-WNV has spread to eastern Oregon. In 2006, a die-off of at least 60 sage-
1055 grouse was documented near Burns Junction, and two other sage-grouse deaths were confirmed
1056 from WNV near Crane and Jordan Valley. Of the birds found dead, 3 provided suitable tissue
1057 samples and all were confirmed to be infected with WNV. No other significant mortalities have
1058 been documented in Oregon since 2006. However, there is the potential for an outbreak among
1059 sage-grouse, which are susceptible to the disease and suffer a high rate of mortality when
1060 infected. Currently, sage-grouse show low to no resistance to WNV, and mortality is assumed to
1061 be 100% (Naugle et al. 2004).

1062
1063 If outbreak occurs, as identified by state health officials⁸ or other appropriate regulatory agency,
1064 the landowner should implement the following CCCMs, as appropriate:

1065 **CCCM 8.** Report observations of dead or sick sage-grouse or other bird deaths that could be
1066 attributed to disease or parasites to SWCD or FWS within 48 hours.

1067
1068 **CCCM 9.** Cooperate with responsible agencies to implement feasible mosquito control,
1069 which may include:

- 1070 a. Minimize unnecessary standing water that could be used as mosquito breeding
1071 grounds within sage-grouse habitat
1072 b. Use larvicides in areas that mosquito habitat cannot be reduced
1073 c. Evaluate the effectiveness of spraying for adult mosquitoes, and consider using
1074 mosquito specific control measures

1075
1076 **Habitat fragmentation and disturbance resulting from development** -Impacts can include
1077 both direct loss of habitat from agricultural conversion or sagebrush removal and habitat
1078 fragmentation by roads, pipelines, power lines, wind turbines, and other infrastructure.
1079 Accompanying noise disturbance can also reduce lek attendance and nesting success.

1080
1081 In the event of development on, or adjacent to, lands enrolled under this programmatic CCAA, in
1082 which the landowner does not have the legal ability (e.g. split estate mineral rights, noise
1083 disturbance from adjacent development) to exclude such development, the following measures
1084 may apply:

1085 **CCCM 10.** The SWCD, FWS and the landowner will evaluate the direct and indirect impacts
1086 to determine if the impacts will negate the intended benefits of the conservation measures
1087 being implemented or planned to be implemented on the enrolled lands.

1088
1089 **CCCM 11.** If these impacts are found to negate the CMs on some portion of the enrolled
1090 lands the landowner, SWCD and FWS will meet and develop alternative, mutually agreed
1091 upon conservation measures including, but not limited to, alternate CM implementation
1092 location within the enrolled lands.

1093

⁸ Website/link of the health authorities that track West Nile virus in Oregon:
<http://public.health.oregon.gov/DISEASES/CONDITIONS/DISEASESAZ/WESTNILEVIRUS/Pages/survey.aspx>

1094 In the event that planned development, on lands that the landowner chose not to enroll in the
1095 CCAA but *does* have legal control of, is likely to affect sage-grouse and their habitats on the
1096 landowner's enrolled lands, the following CCCMs may apply:

1097 **CCCM 12.** The landowner, SWCD, and FWS will evaluate the direct and indirect impacts to
1098 determine if the impacts are likely to negate the intended benefits of the conservation
1099 measures being implemented or planned to be implemented on the enrolled lands.

1100
1101 **CCCM 13.** If these impacts are found to negate the CMs to the extent that the CCAA
1102 standard is no longer being met, the landowner will work with the SWCD and FWS and
1103 develop an alternate approach for the planned development or for the enrolled lands to
1104 maintain the CCAA standard and landowner enrollment. If an agreement cannot be reached
1105 and the CCAA standard is no longer being met, the enrolled landowner or the SWCD or
1106 FWS can terminate the SSP and associated assurances provided under the CI.

1107
1108 **Catastrophic Flooding** –Excessive runoff resulting from catastrophic hydrological events (e.g.
1109 rain on snow event) are associated with mass-wasting of hill slopes, damage to river banks, and
1110 downstream flooding. These events have the capability to drastically change stream hydrology
1111 and vegetative composition of riparian corridors. These events are often associated with a 100-
1112 year flood cycle.

1113 **CCCM 14.** Utilize adaptive management based on evaluation of degree of flood impact.
1114 Adjust levels and season of livestock grazing after a catastrophic flood event to maintain
1115 and/or rehabilitate suitable sage-grouse habitat.

1116
1117 **CCCM 15.** Re-evaluate stream segments to identify critical areas and changes in ecological
1118 state and identify measures that could enhance stream function.

1119 **15. Changed Circumstances Not Provided for in the CCAA**

1120 If FWS determines that additional conservation measures not provided for in the CCAA are
1121 necessary to respond to the changed circumstances, the FWS will not require any additional
1122 CMs in the CCAA or the SSP/CI without the consent of the enrolled landowner, provided the
1123 SSP is being properly implemented. The SWCD, FWS, and/or the landowner, if he or she
1124 desires, will assist by seeking funding to implement the agreed upon CMs.

1125 **16. Unforeseen Circumstances**

1126 Unforeseen circumstances are changes in circumstances affecting sage-grouse or the geographic
1127 area covered by the CCAA that could not reasonably have been anticipated by the landowner,
1128 SWCD and the FWS at the time of the CCAA's development, and result in a substantial and
1129 adverse change in the status of the sage-grouse.

1130
1131 The only situation where modification of conservation measures can be required by FWS is an
1132 unforeseen circumstance. To respond to unforeseen circumstances, the FWS may require
1133 modified or additional conservation measures by the landowner, but only if such measures
1134 maintain the original terms of the CCAA/SSP. The FWS will consider whether failure to adopt
1135 additional conservation measures would appreciably reduce the likelihood of survival and
1136 recovery of sage-grouse in the wild. Additional conservation measures will not involve the
1137 commitment of additional land, water, or landowner funds, or additional restrictions on the

1138 use of land, water, or other natural resources available for development or use under the
1139 original terms of the CCAA without the consent of the landowner, provided the SSP/CI is
1140 being properly implemented. Funding for conservation measures warranted under this section
1141 will be sought by FWS, SWCD, and/or other partners, including the landowner if he or she
1142 desires.

1143
1144 The FWS will have the burden of demonstrating that unforeseen circumstances exist, using
1145 information that is both reliable and credible and incorporates the best scientific and
1146 commercial data available. These findings must be clearly documented and based upon
1147 reliable technical information regarding the status and habitat requirements of sage-grouse.
1148 The FWS will consider, but not be limited to, the following factors:

- 1149 • Size of the current range of sage-grouse
- 1150 • Percentage of range adversely affected within the CCAA
- 1151 • Percentage of range conserved by the CCAA
- 1152 • Ecological significance of that portion of the range affected by the CCAA
- 1153 • Level of knowledge about sage-grouse and the degree of specificity of the species'
1154 conservation program under the CCAA

1155 **17. Duration of CCAA, EOS Permit, and SSP/CI**

1156 This programmatic CCAA will be in effect for 30 years following its approval and signing by the
1157 FWS. The section 10(a)(1)(A) EOS permit authorizing take of the species also will have a term
1158 of 30 years from the effective date of the permit. This duration should be sufficient to determine
1159 that the CMs are benefiting the sage-grouse. SSPs/CIs for enrolled landowners, including any
1160 commitments related to funding under FWS programs, will be in effect for up to 30 years (or the
1161 amount of years remaining on the EOS permit for the programmatic CCAA) following FWS
1162 approval through a Letter of Concurrence and signing of the SSP/CI by the landowner and
1163 SWCD. This suits the practicalities of maximizing enrollment opportunities for interested
1164 landowners. While sage-grouse remain unlisted, the FWS may renew SSPs/CIs and permits,
1165 based upon reevaluation of the CCAA's ability to continue to meet the CCAA standard. An
1166 enrolled landowner may also voluntarily terminate a SSP/CI as described in *Section O*.
1167 *Termination of SSP/CI*, located in Appendix B. The FWS can only enroll new properties as long
1168 as sage-grouse has not been listed.

1169 **18. Modification of Programmatic CCAA**

1170 The FWS may not, through modification of the programmatic CCAA, impose any new
1171 requirements or conditions on, or modify any existing requirements or conditions applicable to,
1172 an enrolled landowner or successor in interest to the landowner to compensate for changes in the
1173 conditions or circumstances of any species or ecosystem, natural community, or habitat covered
1174 by the CI except as stipulated in 50 CFR 17.22(d)(5) and 17.32(d)(5).

1175
1176 17.22 is the section of the Code of Federal Regulations (CFR) pertaining to: Permits for
1177 scientific purposes, enhancement of propagation or survival, or for incidental taking.
1178 17.32 is the section of the Code of Federal Regulations CFR pertaining to: Permits – general.

1179
1180 Language for both CFR sections is identical, and is as follows:

1181 (5) Assurances provided to permittee in case of changed or unforeseen circumstances. The
1182 assurances in this paragraph (d)(5) apply only to permits issued in accordance with paragraph
1183 (d)(2) where the Candidate Conservation with Assurances Agreement is being properly
1184 implemented, and apply only with respect to species adequately covered by the Candidate
1185 Conservation with Assurances Agreement. These assurances cannot be provided to Federal
1186 agencies.

1187 **19. Succession and Transfer**

1188 Within the SSP, the enrolled landowner agrees to give 30 days' written notice to the SWCD of
1189 his or her intent to sell the enrolled property or of any transfer of ownership, so that the SWCD
1190 can attempt to contact the new owner, explain the baseline responsibilities applicable to the
1191 property, and allow the new owner to have the option of receiving CCAA assurances by signing
1192 the original SSP/CI. As a party to the original SSP/CI and permits, the new owner will have the
1193 same rights and obligations with respect to the enrolled property as the original owner.
1194 Alternatively, the new owner may enroll in a new SSP/CI if sage-grouse has not been listed.
1195 Assignment or transfer of the permit shall be governed by FWS regulations in force at the time.
1196 If a new owner chooses not to enroll, the permit authorizations and assurances will cease.

1197 **20. EOS Permit Suspension or Revocation**

1198 The FWS may suspend the privileges of exercising some or all of the EOS permit authority at
1199 any time if the permittee is not in compliance with the conditions of the permit, or with any
1200 applicable laws or regulations governing the conduct of the permitted activity. Such suspension
1201 shall remain in effect until the issuing officer determines that the permittee has corrected the
1202 deficiencies.

1203
1204 *The FWS may not revoke an EOS permit except as follows:*

1205
1206 The FWS may revoke an EOS permit for any reason set forth in 50 CFR 13.28(a)(1) through (4).
1207 This regulation authorizes revocation if: the permittee willfully violates any Federal or State
1208 statute or regulation, or any Indian tribal law or regulation, or any law or regulation of any
1209 foreign country, which involves a violation of the conditions of the permit or of the laws or
1210 regulations governing the permitted activity; or the permittee fails within 60 days to correct
1211 deficiencies that were the cause of a permit suspension; or the permittee becomes disqualified; or
1212 a change occurs in the statute or regulation authorizing the permit that prohibits the continuation
1213 of a permit issued by FWS.

1214
1215 *A permit can be disqualified or revoked if:*

- 1216 1. A conviction, or entry of a plea of guilty or nolo contendere, for a felony violation of the
1217 Lacey Act, the Migratory Bird Treaty Act, or the Bald and Golden Eagle Protection Act
1218 disqualifies any such person from receiving or exercising the privileges of a permit,
1219 unless such disqualification has been expressly waived by the Director in response to a
1220 written petition.
- 1221 2. The revocation of a permit for reasons found in § 13.28 (a)(1) or (a)(2) disqualifies any
1222 such person from receiving or exercising the privileges of a similar permit for a period of
1223 five years from the date of the final agency decision on such revocation.

- 1224 3. The failure to pay any required fees or assessed costs and penalties, whether or not
1225 reduced to judgment disqualifies such person from receiving or exercising the privileges
1226 of a permit as long as such moneys are owed to the United States. This requirement shall
1227 not apply to any civil penalty presently subject to administrative or judicial appeal;
1228 provided that the pendency of a collection action brought by the United States or its
1229 assignees shall not constitute an appeal within the meaning of this subsection.
- 1230 4. The failure to submit timely, accurate, or valid reports as required may disqualify such
1231 person from receiving or exercising the privileges of a permit as long as the deficiency
1232 exists.

1233 The FWS may revoke an EOS permit if continuation of the permitted activity would either
1234 appreciably reduce the likelihood of survival and recovery in the wild of any listed species, or
1235 directly or indirectly alter designated critical habitat such that it appreciably diminishes the value
1236 of that critical habitat for both the survival and recovery of a listed species.

1237

1238 Before revoking a permit for either of the two reasons in the preceding paragraph, the FWS, with
1239 the consent of the permittee, will pursue all appropriate options to avoid permit revocation.
1240 These options may include, but are not limited to: extending or modifying the existing permit,
1241 compensating the enrolled landowner to forgo the activity, purchasing an easement or fee simple
1242 interest in the enrolled property, or arranging for a third party acquisition of an interest in the
1243 property.

1244 **21. Remedies**

1245 Each party shall have all remedies otherwise available to enforce the terms of the CCAA and the
1246 EOS permit, except that no party shall be liable in monetary damages for any breach of this
1247 CCAA, any failure to perform an obligation under this CCAA, or any other cause of action
1248 arising from this CCAA.

1249 **22. Dispute Resolution**

1250 Landowner, SWCD, and FWS recognize disputes concerning implementation of, compliance
1251 with, or termination of the CCAA, EOS permit, or SSP/CI may arise from time to time.
1252 Landowner, SWCD, and FWS agree to work together in good faith to resolve such disputes,
1253 using the informal dispute resolution procedures set forth in this section, or such other
1254 procedures upon which the parties may later agree. However, if at any time any party determines
1255 circumstances so warrant, they may seek any available remedy without waiting to complete
1256 informal dispute resolution.

1257 *Informal dispute resolution process*

1258 Unless the parties agree upon another dispute resolution process, or unless an aggrieved party
1259 has initiated administrative proceedings or suit in Federal court as provided in this section, the
1260 parties may use the following process to attempt to resolve disputes:

- 1262 • The aggrieved party will notify the other parties of the provision potentially violated, the
1263 basis for contending a violation has occurred, and the remedies it proposes to correct the
1264 alleged violation.
- 1265 • The party alleged in violation will have 30 days, or such other time as may be agreed, to
1266 respond. During this time it may seek clarification of the information provided in the

1267 initial notice. The aggrieved party will use its best efforts to provide any available
1268 information responsive to such inquiries.

- 1269 • Within 30 days after such response was provided or was due, representatives of the
1270 parties having authority to resolve the dispute will meet and negotiate in good faith
1271 toward a solution satisfactory to all parties, or will establish a specific process and
1272 timetable to seek such a solution.
- 1273 • If any issues cannot be resolved through such negotiations, the parties will consider non-
1274 binding mediation and other alternative dispute resolution processes and, if a dispute
1275 resolution process is agreed upon, will make good faith efforts to resolve all remaining
1276 issues through that process.

1277 **23. Availability of Funds**

1278 Nothing in this CCAA will be construed by any party to require the obligation, appropriation, or
1279 expenditure of any funds from the U.S. Treasury. The FWS will not be required under this
1280 CCAA to expend any federal agency's appropriated funds unless and until an authorized official
1281 of that agency affirmatively acts to commit to such expenditures as evidenced in writing.

1282 **24. Relationship to Other Agreements**

1283 The Oregon Cattlemen's Association, BLM, and FWS have signed a Candidate Conservation
1284 Agreement (CCA) for certain public lands. Most livestock operations in Harney County are
1285 dependent upon public land livestock grazing for much or portions of their livestock grazing
1286 operations. So, it is critical that both plans are complementary and the goal is for enrolled
1287 landowners to manage for sage-grouse across their private lands and onto their federal
1288 allotments. While coordination between the two documents is essential, federal and private lands
1289 are innately different, so some differences exist.

1290 **25. No Third-Party Beneficiaries**

1291 This programmatic CCAA and any subsequent SSPs/CIs signed under the programmatic CCAA
1292 do not create any new right or interest in any member of the public as a third-party beneficiary,
1293 nor shall it authorize anyone not a party to this CCAA to maintain a suit for personal injuries or
1294 damages pursuant to the provisions of this CCAA. The duties, obligations, and responsibilities
1295 of the landowner, SWCD, and FWS to this CCAA with respect to third parties shall remain as
1296 imposed under existing law.

1297 **26. Reports**

1298 Annual summary reports will be delivered to the person listed below:
1299 Field Supervisor, Bend Field Office
1300 U.S. Fish and Wildlife Service
1301 63095 Deschutes Market Road
1302 Bend, OR 97701

1303 **27. Notices**

1304 This programmatic CCAA was written with the participation of the Steering Committee (for list
1305 of parties, see p. 6). It is because of the collaborative efforts of those parties that this CCAA was
1306 completed.

1307
1308 IN WITNESS WHEREOF, THE SIGNING PARTIES HERE TO have, as of the last signature
1309 date below, executed this programmatic Candidate Conservation Agreement with Assurances to
1310 be in effect as of the date of the last signatory to sign this agreement.

1311
1312 _____
1313 Board Chair _____ Date _____
1314 Harney Soil and Water Conservation District

1315
1316 _____
1317 Title _____ Date _____
1318 U. S. Fish and Wildlife Service

1320
1321

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- 1459

1460 **APPENDIX A – Conservation Measures**

1461 Sage-Grouse Conservation Measures: All Conservation Measures (CMs) listed in this appendix
1462 and any CMs developed for a Site Specific Plan (SSP) will maintain or improve sage-grouse
1463 habitat, while contributing to the economic stability and sustainability of the individual
1464 properties/ranches and of Harney County. The SSP developed for an individual property will
1465 identify any threats (if any) to sage-grouse that exist on that property. This list implies possible
1466 conservation measures to be applied to address threats. **Conservation measures not identified**
1467 **on this list may be developed with landowner agreement and with the approval of FWS.**
1468

1469 This list of threats to sage-grouse has been subdivided into habitat-related and species-specific
1470 threats. The conservation objectives for habitat-related threats are listed in the programmatic
1471 CCAA under *Section 6. Inventory and Monitoring Protocols* in Figures 2-4, applicable
1472 objectives from these figures will be included in each SSP. The conservation objectives for
1473 species-specific threats are listed in this appendix, below the specific threat.
1474

1475 These conservation measures have been developed, some specific and some general, based on
1476 the best available knowledge, science, and experience.
1477

1478 **Habitat-Related Threats**

1479
1480 **Threat: Fragmentation of the landscape** -Fragmentation of the landscape causes birds to leave
1481 leks or abandon nests or important habitats (i.e., direct impact to nests and brooding hens),
1482 resulting in decreased reproductive success.

1483 **Conservation Measures:**

- 1484 **1. All enrolled landowners must agree to: *Maintain contiguous habitat by avoiding***
1485 ***further fragmentation. The objective for this required CM is for no net loss in 1)***
1486 ***habitat quantity (as measured in acres) and 2) habitat quality (as determined by the***
1487 ***ecological state).*** The baseline determination of habitat quality and quantity will be
1488 completed during the baseline inventory and will serve as a reference point in meeting the
1489 objective for CM 1. Losses in sage-grouse habitat quantity may be offset by increases in
1490 sage-grouse habitat quality and vice versa (consistent with *Section 12. Covered Activities*
1491 *and Estimated Levels of Take* - development subsection).
1492 **2.** Consolidate new roads, buildings, and power lines.
1493 **3.** Consider entering into conservation easements.
1494 **4.** Convert generator or windmill powered pumps (noise) to solar, when economically
1495 feasible.
1496 **5.** Consider removing vertical structures (i.e. raptor perches) by burying new and existing
1497 power lines, and where possible cooperate with local utilities to retrofit powerlines to
1498 reduce raptor perches, when economically feasible.
1499

1500 **Threat: Wildfire**-Wildfires can remove long-lived species such as sagebrush, reducing sage-
1501 grouse habitat quality and quantity.

1502 **Conservation Measures:**

- 1503 **6.** Identify sage-grouse habitat as a high priority for protection and prevention in the SSP.
1504 Map lands as PPH and PGH. Consider the following proactive prevention measures:

- 1505 a. In years of high fuel load accumulation, strategically utilize livestock grazing to
1506 reduce fuel loads while maintaining suitable habitat for sage-grouse, consistent
1507 with the livestock management practices section.
- 1508 b. Design, establish, and maintain fire breaks or green-stripping along key existing
1509 roadways to provide a fuel break and safe zone from which to fight fire. Strips
1510 would be no larger than 50ft on either side of a road, which will provide foraging
1511 habitat for sage-grouse and provide >100ft of fuel breaks. Within fuel breaks
1512 where annual grasses are prevalent, plant aggressive, fire-resistant perennial
1513 species to stabilize the site, with the long term objective of re-establishing native
1514 species.
- 1515 c. In a SSP, identify key roads on a map that could serve as a fire break to be
1516 widened approximately 50ft on either side of the road, when wildfire actively
1517 threatens enrolled lands. These maps will be available to the fire personnel.
- 1518 d. Attain wildfire training certification. Where possible join or assist Rangeland Fire
1519 Protection Associations (RFPA) and state and federal fire officials (at
1520 landowner’s discretion) with initial attack to protect existing or potential sage-
1521 grouse habitat.⁹
- 1522 7. Use direct attack tactics when it is safe and effective to reduce the amount of burned
1523 habitat. Direct attack supported by any available mechanized equipment (i.e. bulldozer,
1524 tractor w/blade, aerial drops) is the most efficient at reducing the overall size of
1525 rangeland fires thereby keeping habitat intact. It is most critical during initial attack
1526 before the fire gains momentum.
- 1527 8. Retain unburned areas (including interior islands and patches between roads and the fire
1528 perimeter) of sage-grouse habitat unless there is a compelling safety, resource protection,
1529 or control objectives at risk.
- 1530

1531 **Threat: Loss of sagebrush habitat due to lack of fire and associated conifer encroachment:**

1532 High elevation plant communities are dependent upon periodic fire to maintain healthy
1533 functional plant communities. The use of prescribed fire in low elevation sagebrush communities
1534 can result in a reduction of sage-grouse habitat in quality and quantity. Work with agency
1535 specialists to determine need for treatment and, if needed, the appropriate method (e.g.,
1536 chainsaw, heavy machinery, chemical, prescribed fire, or a combination). Choose methods that
1537 will minimize or prevent soil disturbance or sterilization and methods least likely to result in
1538 weed invasions.

1539 **Conservation Measures:**

- 1540 9. Utilize prescribed fire treatments which will generally occur at higher elevations, where
1541 there is little risk of invasive plant establishment post-treatment. Treatments will be
1542 conducted so there is a mosaic of sagebrush and burned areas to provide a seed source for
1543 sagebrush and native grass and forb regeneration.
- 1544 10. Remove encroaching juniper from mountain big sagebrush communities through cutting
1545 of juniper and burning piled trees and limbs (“jack-pot burning”, which involves
1546 returning to juniper piles when the ground is frozen or saturated to conduct burning), or
1547 other methods that are mutually agreed upon by the SWCD, landowner, and FWS. Ensure

⁹ BLM will only allow RFPAs or their members to assist on initial attack and fire fighting on public lands. This is in accordance with current cooperative agreements and certification of current fire fighting training. Participation in or creation of a RFPA is proactive in protecting private land from fires ignited on public land.

1548 timing of these burns does not interfere with lekking or other known seasonal movements
1549 of sage-grouse (see “Threat: Juniper/Conifer Expansion” for full specifications).

1550 **11.** Limit use of prescribed fires at lower elevations. Prescribed fire at these elevations will
1551 only be used when there are no other options, or a pre-burn evaluation has determined the
1552 risk of cheatgrass and other invasive weeds is minimal, and there is low risk of reducing
1553 critical sage-grouse habitat features.

1554
1555 **Threat: Juniper/Conifer Expansion** –Juniper/conifer encroachment can lead to a reduction of
1556 sage-grouse habitat, use, or abandonment. Slash from mechanical or chemical removals may
1557 continue to compromise habitat use.

1558 **Conservation Measures:**

- 1559 **12.** Consider removing encroaching juniper/conifer within existing riparian and transitional
1560 zones.
- 1561 **13.** Treat/remove encroaching juniper/conifer in sage-grouse habitats.
- 1562 **14.** For Phase I, juniper felling and leaving may be effective. Limb any branches >4 ft in
1563 height on a felled tree (i.e., lop and scatter).
- 1564 **15.** For Phase I and Phase II, where jackpot burning is the most appropriate method of slash
1565 removal, consider a spring burn (Mar-Apr) when soils tend to be frozen but the moisture
1566 content of the felled trees is low. Ensure timing of these actions does not interfere with
1567 lekking or other known seasonal movements of sage-grouse.
- 1568 **16.** Conduct broadcast burns of juniper-invaded sagebrush, judiciously taking into
1569 consideration the spatial and habitat needs of sage-grouse relative to the size of the burn.
- 1570 **17.** Seed juniper treatment when current perennial grass community is in poor condition (<2
1571 plants /10ft², <1 plant/10ft² on dry and wet sites) or if exotic annual grasses are present.
1572 Broadcast seeding prior to soil disturbance or under slash may increase the chances of
1573 establishment.
- 1574 **18.** Rest treated area from grazing following treatment. Length of rest will depend on
1575 understory composition at time of treatment and response of desirable vegetation
1576 following treatment. Set quantifiable objectives for post-treatment vegetation recovery
1577 based on pre-treatment monitoring data, return livestock grazing once objectives have
1578 been met.

1579
1580 **Threat: Unmanaged and/or Improper Grazing**-Livestock, humans, and vehicles can
1581 physically disturb and cause birds to leave leks or abandon nests (i.e., direct impact to nests and
1582 brooding hens) resulting in decreased reproductive success. However, appropriate livestock
1583 grazing regimes are compatible with sage-grouse habitat needs. Adaptive management will be
1584 necessary to adjust levels and season of livestock grazing with a forage supply that is ever
1585 changing in response to varying growing conditions for vegetation (e.g., interannual climate
1586 variation). Annual monitoring information will be used by the landowner to make adjustments to
1587 grazing management to ensure a desirable vegetation trend is maintained (see *Section 6.*
1588 *Inventory and Monitoring Protocols*).

1589
1590 **Conservation Measures:**

- 1591 **19.** Avoid placing salt, water, or mineral supplements within 0.6 miles of the perimeter of an
1592 occupied lek.
- 1593 **20.** Reduce disruptive activities one hour after sunset to two hours after sunrise from March 1

- 1594 through June 30 within 0.6 miles of the perimeter of occupied leks, unless brief
1595 occupancy is essential for routine ranch activities (e.g., herding or trailing livestock into
1596 or out of an area at the beginning or end of the grazing season). Examples of disruptive
1597 activities may include noise, human foot or vehicle traffic, or other human presence.
- 1598 **21.** Reduce off-trail vehicular travel in nesting habitat from March 1 through June 30 unless
1599 travel is essential for routine ranch activities (including but not limited to: repairing
1600 fence, “doctoring” livestock, finding lost livestock, and irrigation activities).
 - 1601 **22.** Develop and/or use a written grazing management plan to maintain or enhance the
1602 existing plant community to ensure a community suitable as sage-grouse habitat. If
1603 available, use approved ecological site descriptions to set realistic goals for the plant
1604 community. (Example: NRCS Oregon 2007; Conservation Practice Standard – Prescribed
1605 Grazing Code 528).
 - 1606 **23.** Change salting and watering locations to improve livestock distribution and maintain or
1607 enhance sage-grouse habitat quality.
 - 1608 **24.** Avoid alteration of winter habitat with winter feeding in occupied habitat unless it is part
1609 of a plan to improve ecological health or to create mosaics in dense sagebrush stands that
1610 are needed for optimum sage-grouse habitat, or is needed for emergency care of
1611 livestock.
 - 1612 **25.** Develop additional water sources for wildlife and livestock, to reduce impacts to riparian,
1613 wetland, playas, and wet meadow areas important to sage-grouse.
 - 1614 **26.** Spring developments should be constructed or modified to maintain their free-flowing
1615 and wet meadow characteristics.
 - 1616 **27.** Ensure wildlife accessibility to water and install escape ramps in all new and existing
1617 water troughs.
 - 1618 **28.** Avoid construction of new livestock facilities (livestock troughs, fences, corrals, handling
1619 facilities, “dusting bags,” etc.) at least 0.6 miles from leks or other important areas of
1620 sage-grouse habitat (i.e., known wintering and brood rearing areas) to avoid
1621 concentration of livestock, collision hazards to flying birds, or avian predator perches.
 - 1622 **29.** Refer to the model by Bryan Stevens for identification of areas that may contain fences
1623 that pose the highest threat to sage-grouse, mark these fences with anti-strike markers or
1624 other agreed upon visual markers (Stevens 2011).
 - 1625 **30.** Manage grazing in riparian areas to ensure bank stability, survival of deep-rooted riparian
1626 vegetation, floodplain connectivity, and stream functionality.

1627
1628 **Threat: Exotic Invasive Vegetation** -Establishment of plant communities that do not provide
1629 suitable habitat (e.g., introductions and monocultures of non-native, invasive plants) are reducing
1630 sage-grouse habitat quality and quantity. Prevention and early detection is needed. Invasive
1631 weeds continue to expand from borders of large infestations. Many sagebrush-steppe
1632 communities have crossed a threshold after which they are no longer recoverable by control
1633 methods.

1634 **Conservation Measures:**

- 1635 **31.** Enrollees will work with county weed experts and other experts to ensure they can
1636 identify the invasives that are a threat to their land, to establish weed prevention areas,
1637 and to explore available assistance to implement treatments.
- 1638 **32.** Identify and implement treatments for enrolled lands that will promote an intact and
1639 functioning sagebrush landscape.

- 1640 33. Systematic and strategic detection surveys should be developed and conducted in a
1641 manner maximizing the likelihood of finding new patches before they expand. Once
1642 patches are located, seed production should be stopped and the weeds should be
1643 eradicated. The most effective tools for eradication of many weeds are herbicides and
1644 possibly bio-controls.
- 1645 34. When using herbicides, all best management practices and only approved herbicides
1646 listed in Appendix E will be used on enrolled lands for coverage under the 10(a)(1)(A)
1647 permit associated with this agreement.
- 1648 35. Containment programs for large infestations should be maintained. Border spraying
1649 infestations, planting aggressive (even appropriate non-native species) plants as a barrier,
1650 establishing seed feeding biological control agents and targeted grazing to minimize seed
1651 production are all methods that could help contain large infestations.
- 1652 36. Areas with an adequate understory (> 20% composition) of desired vegetation should be
1653 identified and prioritized as high for control since they have a higher likelihood of
1654 successful rehabilitation than areas where desired species are completely displaced.
- 1655 37. Include in the SSP rehabilitation for areas with inadequate understory (< 20%
1656 composition) of desired vegetation. The species of choice should include perennial
1657 species that are competitive with invasive weeds. The goal should be to maximize niche
1658 occupation with desired species.
- 1659 38. Report any new annual grass (e.g., cheatgrass, medusahead) infestations and take
1660 immediate action to eradicate when practical and economically feasible. Site plan should
1661 describe whether there is a commitment to reporting incidental sightings, or whether
1662 there will be specifically planned surveys.
- 1663 39. Non-native perennial species such as crested wheatgrass may be seeded to stabilize and
1664 prevent further invasion of cheatgrass and medusahead. These species should be used
1665 with the intent to stabilize the plant community and allow for long term recovery of
1666 sagebrush and other native species.
- 1667 40. Aggressively treat noxious weeds and other invasive plants where they threaten quality of
1668 sage-grouse habitat and apply best management practices to prevent infestations from
1669 occurring.
- 1670 41. Use certified weed-free seed mixes and mulches.
- 1671 42. Manage livestock use on newly seeded/planted rangeland. Set quantifiable objectives for
1672 post-treatment vegetation recovery; return livestock grazing once objectives have been
1673 met.

1674
1675 **Threat: Vegetation Treatments** -Vegetation treatments (e.g., chemical, mechanical) can result
1676 in a reduction of sage-grouse habitat quality and quantity.

1677 **Conservation Measures:**

- 1678 43. Use brush beating in mosaic patterns as a tool to increase production of understory
1679 species and to increase diversity to benefit sage-grouse habitat. Current
1680 recommendations suggest brush beating (or other appropriate treatment) in strips (or a
1681 mosaic pattern) 12 to 50ft wide (with untreated interspaces 3 times the width of the
1682 treated strips) in areas and with relatively high shrub cover (>25%) without an understory
1683 of annual grasses to improve herbaceous understory for brood rearing habitats, where
1684 such habitats may be limiting. Also, take into account aged sagebrush stands with
1685 minimal recruitment and high shrub decadence. Such treatments should not be conducted

- 1686 in known winter habitat (Dahlgren et al. 2006).
- 1687 **44.** Any vegetation treatments conducted in plant communities dominated by exotic annual
- 1688 species will be accompanied by rehabilitation (and if necessary, reseeding) to achieve
- 1689 reestablishment of perennial vegetation and allow for long term recovery of sagebrush
- 1690 and other native species.
- 1691 **45.** To minimize disturbance to sage-grouse populations, do not conduct broadcast
- 1692 applications of herbicides during nesting and early-brood rearing periods when sage-
- 1693 grouse are present (March 1 – June 30, at a minimum), unless this timeframe or target
- 1694 plant development stage is optimal for herbicide effectiveness.
- 1695 **46.** The use of herbicides (primarily tebuthiuron) at low (0.1–0.3 kg ai/ha) application rates
- 1696 may effectively thin sagebrush cover while increasing herbaceous plant production
- 1697 (Olson and Whitson 2002). These treatments should be applied in strips or mosaic
- 1698 patterns. Site conditions must be critically evaluated prior to treatment (including fire
- 1699 rehabilitation, new seedings, and seeding renovations) to increase likelihood of the
- 1700 desired vegetation response.
- 1701 **47.** Agency specialists will determine how sagebrush treatments are part of a larger landscape
- 1702 plan. If sagebrush treatment is warranted after a plan is developed with agency
- 1703 specialists, utilize a mosaic pattern of treatment (as described in CM 43) rather than a
- 1704 large uniform block.
- 1705

1706 **Threat: Drought-** When rangeland plants are deprived of precipitation, it affects the plant's

1707 growth cycle, volume of growth, and fruition. When drought conditions exist, annual monitoring

1708 will be used to determine site specific recommendations. Drought is site specific and is typically

1709 considered to occur when two growing seasons of precipitation are below the long term average,

1710 affecting plant life cycles as described above. Prolonged drought is when the conditions

1711 described above persist for three or more growing seasons. Prolonged drought can harm plants

1712 important to sage-grouse reducing sage-grouse habitat quality and quantity (*see Section 14.*

1713 *Changed Circumstances* - drought subsection - for more information on determination of drought

1714 conditions).

1715 **Conservation Measures:**

- 1716 **48.** Work with agency specialists to incorporate a drought management strategy for grazing
- 1717 which considers the needs of sage-grouse.
- 1718 **49.** Adjust livestock use (season of use, timing, intensity, and/or duration) to reduce the
- 1719 impact on perennial herbaceous cover, plant diversity, and plant vigor to enable enrolled
- 1720 lands to meet the seasonal habitat needs for sage-grouse identified for the site.
- 1721

1722 **Threat: Mechanical degradation of riparian area-**Those actions utilizing mechanical

1723 equipment that results in decreased water table stability and function.

1724 **Conservation Measure:**

- 1725 **50.** Consider stream system hydrology prior to development of any facility, feature, or
- 1726 infrastructure such as roads, dams, culverts, water crossings, bridges, and ditches.
- 1727

1728 **Threat: Catastrophic Flooding-** Excessive runoff resulting from catastrophic hydrological

1729 events (e.g. rain on snow event) is associated with mass-wasting of hill slopes, damage to river

1730 banks, and downstream flooding. These events have the capability to drastically change stream

1731 hydrology and vegetative composition of riparian corridors.

1732 **Conservation Measure:**
1733 **51.** Manage livestock use (season of use, timing, intensity, and/or duration) in a manner that
1734 promotes herbaceous and deep-rooted riparian vegetation that will stabilize stream bank
1735 morphology and aid in the recovery following a catastrophic flood event.
1736

1737 **Species-Specific Threats**
1738

1739 **Threat: Recreation** -Repeated disturbance and harassment of sage-grouse could reduce mating
1740 and reproductive productivity.

1741 **Conservation Objective:** Reduce the amount of sage-grouse disturbance and harassment, as
1742 well as direct mortality.

1743 **Conservation Measure:**

1744 **52.** If enrolled lands have high visibility leks and/or known winter concentration areas,
1745 protect existing habitat by restricting seasonal access for recreational use.
1746

1747 **Threat: Predation** – Some rangeland management activities can increase opportunities for
1748 predation of sage-grouse and sage-grouse nests. Predation may be underestimated as a limiting
1749 factor to sage-grouse population success in much of its occupied habitat. (Coates and Delehanty
1750 2010; Coates et al. 2008; Dinkins et al. 2012; Kolada et al. 2009; Kolada et al 2009b; Moynahan
1751 et al. 2007; Willis et al. 1993). In particular the impacts of predation on sage-grouse can increase
1752 where habitat quality has been compromised by anthropogenic activities (Coates 2007; Bui 2009;
1753 Hagen 2012).

1754 **Conservation Objective:** Minimize the effects of predation on isolated, translocated, or
1755 declining populations where predation has been identified as the limiting factor. Reduce direct
1756 mortality to individuals and broods.

1757 **Conservation Measures:**

1758 **53.** Minimize attractants for corvids, raptors, and coyotes (i.e., dump sites, bone piles, etc.)
1759 during the breeding season in the vicinity of a lek.

1760 **54.** Utilize predator management programs when documented as a limiting factor on sage-
1761 grouse populations. If poor habitat conditions are causing a predator problem, habitat
1762 conditions should be addressed first if possible, or jointly or shortly after predator
1763 control. Predator management includes lethal and non-lethal methods (see ODFW
1764 Strategy - Hagen 2011).
1765

1766 **Threat: West Nile virus (WNV)** - Sage-grouse immune systems lack resistance to WNV.
1767 Surface water developments may increase habitat for mosquitoes, increasing the potential for
1768 WNV exposure.

1769 **Conservation Objective:** Reduce potential for direct mortality and/or disease transmission.

1770 **Conservation Measures:**

1771 **55.** Minimize unnecessary standing water that could be used as mosquito breeding grounds
1772 within sage-grouse habitat. Where new pond construction or water developments are
1773 proposed for rangeland management or habitat enhancement purposes, use innovative
1774 designs, when possible, to minimize the amount of mosquito habitat that could be
1775 created. Work with agency biologists on optimal locations for new water developments.
1776

1777 **Threat: Wild Horses and Burros** - Concentrated or overabundant wild horse and/or burro

1778 populations can reduce habitat quality and quantity.
1779 **Conservation Objective:** Reduce impacts to sage-grouse habitat.
1780 **Conservation Measures:**
1781 **56.** Document and report habitat damage on enrolled lands from wild horses and/or burros.
1782 **57.** On enrolled lands where base inventory, annual, or long term monitoring indicate wild
1783 horses may affect sage-grouse habitat, ensure all findings (as requested by the landowner)
1784 are reported to BLM. When habitat monitoring indicates negative impacts from wild
1785 horses to enrolled private lands, SWCD, FWS, and cooperators will provide written
1786 recommendations for the landowner to submit to BLM recommending gathering of wild
1787 horses and/or burros.
1788 **58.** To maintain and/or improve sage-grouse habitat on enrolled lands with wild horses,
1789 SWCD, FWS, and CCAA cooperators will submit recommendations in writing to BLM
1790 to manage wild horse and/or burro numbers for long term management at or below the
1791 appropriate management level.
1792 **59.** When habitat monitoring indicates damage from wild horses and/or burros on enrolled
1793 lands, upon the landowner's request SWCD, FWS, and CCAA cooperators will submit
1794 written recommendations to the BLM to relocate wild horses from affected private land.
1795
1796 **Threat: Insecticide** - Grasshoppers and Mormon crickets periodically have infestations which
1797 cause significant long term damage to sagebrush. The use of insecticides is not known to pose
1798 range-wide threats to sage-grouse. However, insecticides have been documented as causing
1799 mortality to sage-grouse. Some insecticides could have detrimental effects to individual sage-
1800 grouse through direct contact, either by consumption of insects exposed to certain insecticides or
1801 by reduction of insect populations during times when insects are a crucial part of the birds' diets
1802 (see FWS March 2010 finding).
1803 **Conservation Objective:** Maintain important sage-grouse forage base and avoid or minimize
1804 direct mortality to sage-grouse.
1805 **Conservation Measures:**
1806 **60.** If possible, contract with Animal and Plant Health Inspection Service (APHIS) and/or
1807 Oregon Department of Agriculture (ODA) for all insecticide treatments.
1808 **61.** Consult with SWCD, ODA, and APHIS. Avoid carbaryl/malathion; use dimilin if at all
1809 possible.
1810 **62.** Work with agency specialists to plan and design control efforts to avoid harming sage-
1811 grouse and non-target species.
1812 **63.** Avoid spraying treatment areas in May and June (or as appropriate to local
1813 circumstances) to provide insect availability for early development of sage-grouse chicks.
1814 **64.** Use approved chemicals with the lowest toxicity to sage-grouse that still provide
1815 effective control.
1816 **65.** When feasible and as outlined by APHIS or ODA, use Reduced Area/Agent Treatments
1817 (RAAT) to control grasshoppers, which focuses control efforts along strips to avoid
1818 spraying entire fields.
1819

1820 **APPENDIX B – Site Specific Plan/Certificate of Inclusion**

1821
1822 **SITE SPECIFIC PLAN/CERTIFICATE OF INCLUSION**

1823 Under the
1824 Candidate Conservation Agreement with Assurances
1825 For the Greater Sage-grouse in Harney¹⁰ County, Oregon
1826 Between
1827 [insert landowner name– a tract # will be assigned for file retention]
1828 and
1829 Harney Soil and Water Conservation District
1830 [insert date]
1831

1832 **A. Legal Conveyance of Assurances**

1833 This certifies that the enrolled property described below, and owned by the landowner named
1834 above, is included within the scope of the Enhancement of Survival Permit (Permit) No. [insert
1835 #] issued on [insert date] to the Harney Soil and Water Conservation District (SWCD) under the
1836 authority of Section 10(a)(1)(A) of the Endangered Species Act of 1973 as amended, 16 U.S.C.
1837 1539(a)(1)(B). Such Permit authorizes incidental take of the Greater sage-grouse (sage-grouse)
1838 as part of a Candidate Conservation Agreement with Assurances (CCAA). This incidental take
1839 is allowed due to conservation measures incorporated on the owner's property as described in the
1840 Site Specific Plan (SSP) contained herein. The implementation of this SSP will benefit the sage-
1841 grouse and/or its habitat within its range in Harney County, Oregon. Pursuant to the Permit and
1842 this Certificate of Inclusion (CI) the holder of this CI is authorized to incidentally take sage-
1843 grouse as a result of engaging in otherwise lawful covered activities on the property, subject to
1844 the terms and conditions of the Permit and the CCAA. Permit authorization is contingent to
1845 carrying out the Conservation Measures described in this SSP, the terms and conditions of the
1846 Permit and the CCAA. By signing this CI, the landowner agrees to carry out all of the
1847 Conservation Measures described in this SSP.
1848

1849 During the life of this CI, changes in the understanding of sage-grouse management and
1850 sagebrush habitat community management are anticipated. Additionally, events that lead to
1851 changes in habitats or uses may occur. These “changed circumstances” are changes affecting
1852 sage-grouse or the geographic area covered by this CCAA that can reasonably be anticipated and
1853 can be planned for. This CCAA has identified wildfire, drought, West Nile virus, catastrophic
1854 flooding, and habitat fragmentation from development as potential changed circumstances that
1855 are expected to occur over the 30-year life of the permit.
1856

1857 If it is determined by the landowner, SWCD, or FWS that a changed circumstance(s) exists, the
1858 landowner will implement the appropriate CCCM or a mutually agreed upon approach to address
1859 the additional threat or threats created by the changed circumstance(s). Conservation measures
1860 (referred to as changed circumstance conservation measures or CCCMs) will be adopted to
1861 maintain the net conservation benefit to the sage-grouse on the enrolled property. All
1862 modifications, changes or additions to the SSP will be mutually agreed upon by the landowner,

¹⁰ See Section 8. Covered Area in programmatic CCAA for inclusion of adjacent lands outside county boundaries

1863 SWCD and FWS. If a changed circumstance(s) occurs the SWCD will notify the FWS of the
1864 enrolled lands affected, the impact of the changed circumstance(s), and the CCCM(S) that will
1865 be implemented to address the changed circumstance(s).
1866

1867 A list of CCCMs is located in *Section 14. Changed Circumstances* of the programmatic CCAA.
1868 This list provides possible conservation measures to address threats created by a changed
1869 circumstance(s). Conservation Measures not identified on this list may be developed with
1870 landowner agreement and with approval of FWS.
1871

1872 **The only situation where modification of conservation measures can be required by the**
1873 **FWS is described in *Section 16. Unforeseen* Circumstances of the programmatic CCAA. To**
1874 respond to unforeseen circumstances, the FWS may require modified or additional conservation
1875 measures by the landowner, but only if such measures maintain the original terms of the
1876 CCAA/SSP to the maximum extent possible. The FWS will consider whether failure to adopt
1877 additional conservation measures would appreciably reduce the likelihood of survival and
1878 recovery of sage-grouse in the wild. Additional conservation measures will not involve the
1879 commitment of additional land, water, or landowner funds, or additional restrictions on the
1880 use of land, water, or other natural resources available for development or use under the
1881 original terms of the CCAA without the consent of the landowner, provided the SSP/CI is
1882 being properly implemented.
1883

1884 **B. Parties**

1885 This Site Specific Plan (SSP) and Certificate of Inclusion (CI) for sage-grouse conservation,
1886 effective and binding on the date of the last signature below is between the Harney Soil and
1887 Water Conservation District and Private Landowner.
1888

1889 **C. Responsibilities**

1890 ***Landowners will:***

- 1891 • Assist in the development of mutually agreeable SSPs in cooperation with the SWCD &
1892 FWS and cosign the SSP/CI document upon receiving a Letter of Concurrence from FWS
- 1893 • Implement all agreed upon CMs in their SSP
- 1894 • The property owner agrees to allow SWCD and FWS employees or its agents, with
1895 reasonable prior notice (at least 48 hours) to enter the enrolled properties to complete
1896 agreed upon activities necessary to implement the SSP
- 1897 • Continue current management practices that conserve sage-grouse and its habitats as
1898 identified in the enrollment process
- 1899 • Avoid impacts to populations and individual sage-grouse present on their enrolled lands
1900 consistent with this SSP
- 1901 • Record dates, locations, and numbers of sage-grouse observed on their enrolled lands to
1902 be included in the annual report
- 1903 • Record new observations of noxious weeds that they incidentally find
- 1904 • Report observed mortalities of sage-grouse to the SWCD within 48 hours
- 1905 • Cooperate and assist with annual and long term monitoring activities and other reporting
1906 requirements identified in the SSP

1907
1908

- 1909 ***The SWCD will:***
- 1910 • Conduct public outreach and education to encourage enrollment of landowners in the
- 1911 CCAA through Site Specific Plans (SSP)/Certificates of Inclusion (CIs)
- 1912 • Enroll landowners according to the steps outlined in *Section 3: Application & Enrollment*
- 1913 *Process*
- 1914 • Use the mutually agreed upon tracking system to protect landowner privacy
- 1915 • Prepare and review SSPs/CIs for accuracy and cosign the SSP/CI document upon
- 1916 receiving a Letter of Concurrence from FWS
- 1917 • Assist in the implementation of conservation measures, monitoring, or other measures if
- 1918 agreed upon during the development of the SSP by the landowner, SWCD, and FWS
- 1919 • Ensure terms and conditions included in the SSPs are being implemented as agreed upon
- 1920 • Collect and evaluate monitoring data to determine if CMs are providing the desired
- 1921 habitat benefit and provide a report of monitoring results to the landowner and copies of
- 1922 summary reports to FWS
- 1923 • Provide technical assistance to aid enrolled landowners in implementing the CMs
- 1924 • Work with enrolled landowners and other agencies (e.g., OSU Extension, NRCS) to
- 1925 facilitate appropriate rangeland monitoring and/or training
- 1926 • Provide support and assist in obtaining funding from other sources for the
- 1927 implementation of CMs
- 1928 • Monitor and report projects (e.g. implementation of CMs) in order to determine success
- 1929 and adaptations needed
- 1930 • Immediately report to FWS and ODFW any observed or reported mortalities of sage-
- 1931 grouse
- 1932 • Meet annually with FWS to present annual and trend monitoring information
- 1933 • Protect, to the maximum extent available under federal, state, and local laws, against the
- 1934 release or disclosure of all confidential personal and/or commercial information provided
- 1935 by enrolled landowners and collected, gathered, prepared, organized, summarized, stored,
- 1936 and distributed for the purposes of developing and implementing this CCAA
- 1937 • Provide notice to enrolled landowners when a request for public records concerning this
- 1938 CCAA is made, and allow the enrolled landowner to prepare a notification requesting that
- 1939 any confidential personal and/or commercial information be withheld
- 1940
- 1941 ***The U.S. Fish and Wildlife Service will:***
- 1942 • Provide assistance in coordinating development and implementation of this CCAA
- 1943 • Review the SSP¹¹ and provide a Letter of Concurrence if all issuance criteria are met
- 1944 • Provide technical assistance to aid the landowners in implementing the CMs
- 1945 • Review monitoring data for consistency with CCAA objectives to determine if
- 1946 conservation measures are providing the desired benefit to sage-grouse
- 1947 • Serve as an advisor, providing expertise on the conservation of sage-grouse
- 1948 • Assist in the implementation of conservation measures, monitoring, or other measures if
- 1949 agreed upon during the development of the SSP by landowner, SWCD, and FWS

¹¹ FWS will participate in the development of up to the first five SSPs that represent the diversity of habitat in Harney County, including site visits, baseline inventory, analysis or other aspects of plan development.

- 1950 • Provide FWS funding, to the extent funding is available, consistent with *Section 23.*
- 1951 *Availability of Funds* of the programmatic CCAA, to support implementation of this
- 1952 CCAA and associated SSPs/CIs
- 1953 • Provide support and assist in obtaining funding from other sources for the
- 1954 implementation of CMs
- 1955 • Conduct outreach and public education efforts to promote the conservation of sage-
- 1956 grouse
- 1957 • Immediately report to ODFW any observed or reported mortalities of sage-grouse
- 1958 • Protect, to the maximum extent permissible under federal laws, against the disclosure of
- 1959 all confidential personal and/or commercial information provided by enrolled landowners
- 1960 and collected, gathered, prepared, organized, summarized, stored, and distributed for the
- 1961 purposes of developing and implementing this CCAA
- 1962 • Provide notice to SWCD when a Freedom of Information Act (FOIA) request for records
- 1963 concerning this CCAA is made, and allow the SWCD to prepare a notification requesting
- 1964 that any confidential personal and/or commercial information be withheld
- 1965

1966 **D. Property Owner**

1967 [Insert name and if appropriate, include Leasee’s signature after review of lease agreement and

1968 specific power of attorney documentation). A tract # will be assigned for file retention.]

1969

1970 **E. Legal Description of the Enrolled Property**

1971 [Insert legal description of the land that is to be included under a SSP/CI and map of enrolled

1972 lands. A tract # will be assigned for file retention.]

1973

1974 **F. General Description of the Enrolled Property**

1975 [Include acreage of parcel(s), general location and surrounding ownership, distance from nearest

1976 town, elevations and land forms, native and converted habitat types, observed use by sage-

1977 grouse, lek locations and/or other important sage-grouse habitat. Include general habitat type

1978 map or include on topographic map with property boundaries. Also include overview photos of

1979 property.]

1980

1981 **G. Covered Activities and Level of Take**

1982 Based on the FWS’ analysis in the Conference Opinion for the programmatic CCAA, incidental

1983 take is expected to occur from rangeland treatment, livestock management, recreation, farm

1984 operations, and development (see *Section 12. Covered Activities and Estimated Levels of Take,*

1985 *Section 14. Changed Circumstances,* and Appendix A. Conservation Measures of the

1986 programmatic CCAA, or as specifically identified herein). All other activities associated with the

1987 operations of [insert Private Landowner name or tract #] are either not anticipated to adversely

1988 affect sage-grouse on covered lands, or will not have adverse effects that rise to the level of

1989 incidental take as defined by the FWS.

1990

1991 The expected level of take of sage-grouse will be minimized and avoided through the

1992 implementation of CMs and the actual take will be identified to the extent possible through the

1993 monitoring methods associated with the SSP. Individual landowners with SSPs are not

1994 specifically allocated a certain amount of take. Any incidental take reported by [insert Private

1995 Landowner or tract #] will be considered in the cumulative amount of take permitted in the area

1996 covered under the programmatic CCAA.

1997

1998 **H. Historic Property Information**

1999 [Insert fire history, ownership, grazing history, drought, floods (5-10 years or additional if large
2000 scale event)]

2001

2002 **I. Current Property Uses and Management Practices**

2003 [Describe existing structures on the enrolled property (e.g. houses, barns, fences, power lines).

2004 Describe all routine and management activities to include current grazing, farming and ranching
2005 practices.]

2006 **J. Habitat Inventory, Assessment, & Monitoring**

2007 *Site Selection Protocol*

2008 1. Background information-Stratifying enrolled lands into inventory and monitoring units
2009 will require gathering any of the following background information that exists for each
2010 property/properties for which a site specific plan is being considered: aerial photographs,
2011 satellite imagery, written and oral histories, disturbance history (e.g., burn maps),
2012 management history, property maps, plant species lists, ecological sites and site
2013 descriptions, and soil maps.

2014

2015 2. Stratify by habitat suitability using existing data-The enrolled property will first be
2016 stratified into areas of existing suitable (i.e., low elevation ecological states A, B, and D;
2017 high elevation ecological states A and B; lotic riparian ecological states characterized by
2018 consistent access to floodplain) or potentially suitable sage-grouse habitat (i.e. low
2019 elevation ecological state C; high elevation ecological states C, D, and E; lotic riparian
2020 ecological states without consistent access to floodplain) and areas of persistently
2021 unsuitable habitat (e.g., historically non-habitat or permanently converted habitat –
2022 infrastructure, agriculture, residential, etc.) (see Figure 1).

2023

2024 3. On-site documentation of upland ecological states -The upland property will then be
2025 stratified by management unit (typically by pasture). Each upland management unit will
2026 then be stratified into the two primary ecological types (i.e., high elevation sagebrush
2027 rangeland and low elevation sagebrush rangeland) using a combination of existing
2028 knowledge and/or data, ecological site descriptions, GIS techniques, and field
2029 reconnaissance. Ecological types within management units will then be stratified by the
2030 ecological states described in their respective state and transition model. Preliminary
2031 ecological state strata will be determined using GIS data. The resultant preliminary strata
2032 will then be used to direct ground truthing and associated habitat inventory efforts;
2033 ground truthing of preliminary ecological state strata will be accomplished following
2034 procedures outlined in the Upland Ecological State Documentation Form (Appendix D-
2035 4). The ocular assessment outline located in Appendix D-4 will provide the basis for
2036 selecting representative areas for each stratum, where quantitative data will be collected
2037 and serve as permanent habitat monitoring sites for the management unit (long term
2038 (trend) monitoring).

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4. Establish and monitor upland trend sites – Sites which are representative of the ecological states of sage-grouse habitat within a pasture will be determined during ocular assessment and permanently marked on the ground and recorded using the Site Documentation Form shown in Appendix D-2 (Johnson and Sharp 2012). Trend monitoring, which consists of measurements of plant community attributes (ground cover, foliar cover of shrubs, basal cover of perennial herbaceous species, density and frequency of occurrence) will be recorded in an initial or baseline monitoring with follow-up measurements recorded at intervals of 3 to 10 years. The frequency of trend monitoring is dependent on site stability, baseline data determinations and the conservation measures being applied. The changes in plant community attributes are measured over time to determine if the ecological state of the plant community is changing (transitioning) toward or away from desired habitat or remaining stable. This information is assessed along with annual monitoring to determine cause(s) of change which may be management or climatic or a combination of both. This becomes the basis of determining if selected conservation measures are having the desired effect or if adaptive changes are needed. The basic method of upland trend monitoring used in this CCAA is a modified Pace 180° with step-point and density measurements with plot photos and landscape photos in cardinal directions. However, the CCAA provides the SWCD with the flexibility to employ (with the concurrence of the landowner) the most efficient, generally accepted rangeland monitoring methodologies to measure change in ecological states as related to specific objectives in the SSP. For a detailed explanation of the upland protocols see Appendix D.
- 2062
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5. Stratify riparian areas - Each stream will be stratified by pasture. This will be done to better identify the factors that are influencing change within each management unit (i.e. pasture). The stream reaches will then be stratified into high gradient (> 2% slope) or low gradient (< 2% slope) segments using GIS. Segments of each stream reach that classify as high gradient do not generally provide sage-grouse habitat and will be excluded from monitoring. A site visit will be performed on the remaining low gradient stream segments to identify critical areas (e.g. headcuts, extreme downcutting) and to perform ocular assessments. The ocular assessment is a point-in-time measurement of visual indicators and will be used for initial assessment to determine the ecological state of each stream reach within the model (Appendix C). Ideally, one ocular assessment will be done per stream segment; however, due to stream heterogeneity and changes in ecological condition, multiple assessments may be necessary.
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6. Establish and monitor riparian sites - Permanent representative trend sites will be determined during ocular assessment and only conducted on low gradient stream segments. The upstream and downstream ends of the monitoring location, as well as any other critical area in between will be documented with GPS and marked by rebar. These permanent locations will be used as repeat photo monitoring points. Photos will be taken from these points both upstream and downstream to assess stream movement, site stability, and vegetative trend. If photo assessment indicates a stable ecological state (A) then monitoring will consist of periodic photos. If photo monitoring indicates an unstable ecological state (B or C) then a CM should be applied with further assessment such as Proper Functioning Condition (PFC). If this assessment determines the stream segment is non-functioning or functioning-at-risk, then a quantitative method of trend monitoring

2086 should be enacted. The method selected will be determined by SWCD and the landowner
2087 for the specific stream segment.
2088
2089

2090 ***Annual Monitoring***

2091 Sagebrush rangelands are dynamic systems that constantly change in response to fire, wildlife,
2092 climate, insect infestations, weed invasions, and natural vegetation succession; not just to inputs
2093 from management. Annual monitoring focuses on identifying management inputs and factors
2094 external to the management program that affect the responses of sagebrush rangeland over time.
2095 These are the factors that influence the change documented with trend monitoring (described
2096 above) and may include growing conditions for plants (e.g., precipitation, temperature trends,
2097 drought, etc.), livestock and wildlife numbers, utilization patterns of livestock and wildlife,
2098 insect and rodent infestations, recreational use, trespass livestock, and timing, duration, and
2099 frequency of livestock grazing. Suggested information and a data form for conducting annual
2100 monitoring are shown in Appendix D-3. In addition to the information in the “Annual Grazing
2101 and Habitat Summary”, other potentially important annual records would include pasture-level
2102 grazing utilization and distribution, actual use, sage-grouse observations, or any other factors that
2103 could have affected the growing conditions for vegetation not identified on the form.
2104

2105 The property owner agrees to allow SWCD and FWS employees or its agents, with reasonable
2106 prior notice (at least 48 hours) to enter the enrolled properties to complete agreed upon activities
2107 necessary to implement the SSP.
2108

2109 The landowner will report incidental take of individual sage-grouse to the SWCD who will
2110 provide the information to the FWS and ODFW.
2111

2112 **K. Threats Assessment, Conservation Objectives, Conservation Measures, Inventory and**
2113 **Monitoring**

2114 This section will identify threats to sage-grouse for the enrolled property, outline conservation
2115 objectives that include quantifiable objectives that will be addressed through trend monitoring,
2116 and identify possible conservation measures. It will also identify monitoring specific to
2117 conservation measures.
2118

2119 According to the FWS 2010 12-month Finding (75 FR 13910), the primary threat to sage-grouse
2120 is habitat fragmentation. Therefore, in order for this CCAA to address the conservation needs of
2121 the sage-grouse, this threat must be addressed by all enrolled landowners on the enrolled portion
2122 of their property through the incorporation of CM 1 into this SSP: *Maintain contiguous habitat*
2123 *by avoiding further fragmentation*. The objective of this required CM is for no net loss in 1)
2124 habitat quantity (as measured in acres) and 2) habitat quality (as determined by the ecological
2125 state). The baseline determination of habitat quality and quantity will be completed during the
2126 baseline inventory and will serve as a reference point in meeting the objective for CM 1. Losses
2127 in sage-grouse habitat quantity may be offset by increases in sage-grouse habitat quality and vice
2128 versa (consistent with *Section 12. Covered Activities and Estimated Levels of Take -*
2129 *development subsection*).
2130

2131 [Insert schedule for completing long term monitoring (trend)]

2132
2133 [Insert here all identified threats, conservation objectives, conservation measures, and monitoring
2134 requirements as outlined similar to the example below]
2135

2136 **Example:**

2137 *Threat:* In the Upper Pasture (1500 acres) of this property juniper has encroached into
2138 high elevation sagebrush rangeland. Juniper is in Phase II and III on 500 acres and is/has
2139 decreased available sage-grouse nesting and brood rearing habitat. (Based on
2140 stratification of habitat suitability from the Upland Ecological State Documentation
2141 Form).

2142
2143 *Conservation Objective:* Prevent transition to conifer dominated state by reducing or
2144 eliminating conifers on 250 acres of Ecological State C mountain big sagebrush/Idaho
2145 fescue range sites in the Upper Pasture over the next 10 years. (These 250 acres were
2146 selected based on an initial baseline assessment of their location within PPH/Core habitat,
2147 potential for recovery based on deep, north slope soils, and post management capabilities
2148 of the landowner).

2149
2150 *Conservation Objective:* Restore dominance of shrubs and perennial grasses and forbs
2151 through removal of dominant conifer overstory on 250 acres of Ecological State E
2152 mountain big sagebrush/Idaho fescue range sites in the Upper Pasture over the next 10
2153 years. (Information collected during the baseline inventory indicated restoration of these
2154 250 acres was important for providing connectivity between large areas of intact
2155 sagebrush habitat and for meeting the nesting and brood-rearing life history needs of
2156 sage-grouse).

2157
2158 *Conservation Measures:* # 10, 13, 16, 18 (Due to the location of the treatment areas in
2159 proximity to potential invasive species, cutting, piling and pile burning with follow-up
2160 seeding will be utilized as conservation actions to improve the landscape capability for
2161 supporting sage-grouse).

2162
2163 *Monitoring:* Two representative, permanent monitoring locations will be established in
2164 each of the proposed treatment areas and Modified Pace 180° data, supplemented with
2165 density measurements and transect photos, will be collected prior to implementation of
2166 conservation measures to establish the baseline for trend monitoring. Trend monitoring
2167 will be repeated three and five years post treatment implementation. Subsequent trend
2168 monitoring will be conducted every five years.

2169
2170 *Interpretation of Trend Indicators and Associated Triggers for Adaptive Management:*
2171 Key indicators of vegetation trend will include perennial bunchgrass basal cover and
2172 density and sagebrush cover and density. An upward trend in these key indicators at
2173 representative monitoring locations (e.g. 1. perennial grass basal cover and density has
2174 increased and interspaces between perennial plants is either bareground or occupied by
2175 desirable annual forbs and 2. sagebrush cover and density has increased) would suggest
2176 the applied conservation measures were successful in transitioning the ecological status
2177 of vegetation from being conifer dominated to being sagebrush/bunchgrass dominated. A

2178 static or downward trend in these key indicators would suggest the need for intervention
2179 with follow-up measures (e.g. weed control and/or revegetation treatments) to ensure
2180 progress is being made toward achieving conservation objectives. Conifer cover will
2181 become a key indicator of trend during longer term monitoring. An increase in conifer
2182 cover suggests a negative trend toward conifer dominance.
2183

2184 *Threat:* Medusahead rye has invaded 20 acres of low elevation rangeland in Ecological
2185 State B in the House Pasture. (This patch of medusahead rye was discovered during the
2186 first site visit and was found in a relatively intact Wyoming big sagebrush and bluebunch
2187 wheatgrass/Sandberg bluegrass range site).
2188

2189 *Conservation Objective:* Restore dominance of deep-rooted perennial vegetation to 20
2190 acres of medusahead rye to protect the surrounding 500 acres of intact low elevation
2191 rangeland in Ecological State B in the House Pasture.
2192

2193 *Conservation Measures:* #32, 37, 40 (Conservation Measure 40 will be implemented
2194 within one year of signing the SSP).
2195

2196 *Monitoring:* One representative, permanent monitoring location will be established in the
2197 proposed treatment areas and Pace 180 data, supplemented with density measurements
2198 and transect photos, will be collected prior to implementation of conservation measures
2199 to establish the baseline for trend monitoring. Trend monitoring will be repeated two and
2200 four years post treatment implementation. Subsequent monitoring intervals will be
2201 determined at this time based on the progress toward meeting the conservation objective.
2202 In addition to Harney SWCD conducting trend monitoring associated with medusahead
2203 control and revegetation treatments, the landowner has agreed to annually conduct
2204 planned searches for incipient infestations of medusahead with emphasis on roadways
2205 and livestock and ATV trails as part of an annual monitoring program.
2206

2207 *Interpretation of Trend Indicators and Associated Triggers for Adaptive Management:*
2208 Key indicators of vegetation trend will include perennial bunchgrass basal cover and
2209 density and niche occupation of interspace areas between perennial plants. An increase
2210 in the basal cover and density of perennial bunchgrasses and niche occupation by
2211 bareground or desirable annual forbs of interspaces areas between perennial plants (i.e.,
2212 not exotic annual grasses) would suggest perennial plants are fully occupying the site.
2213 An upward trend in these indicators at the representative monitoring location would
2214 suggest the applied conservation measures were successful in transitioning the ecological
2215 status of vegetation from being annual grass dominated to being perennial bunchgrass
2216 dominated. A static or downward trend in these key indicators would suggest the need
2217 for intervention with follow-up measures (e.g. weed control and/or revegetation
2218 treatments) to ensure progress is being made toward achieving conservation objectives.

2219 Conservation Measures will describe the actions that will be taken to maintain or improve habitat
2220 on lands covered by the Certificate of Inclusion (CI) and are the actions agreed to within the Site
2221 Specific Plan (SSP). On some properties existing management will provide for sage-grouse
2222 habitat needs while other properties will require specific habitat improvements (conservation
2223 measures to be taken to meet sage-grouse habitat needs).

2224 [Insert a list and a description of the specific habitat improvement techniques (conservation
2225 measures) that will be implemented on the lands covered by this agreement]

2226 [Include a map of the areas where these activities are to be implemented]

2227 [Insert a schedule of expected dates of implementation of Conservation Measures, or as an
2228 attachment to this SSP/CI]

2229

2230 **L. Funding**

2231 The SWCD and the enrolled landowners will be responsible for acquiring funds for conservation
2232 implementation through use of grant money or through partnerships with State and Federal
2233 agencies, county government, non-governmental organizations, or a combination of the above.
2234 The FWS will assist through its Partners for Fish and Wildlife program, or other funding
2235 opportunities when available. The FWS will also provide technical support to the SWCD and
2236 landowners applying for funding to implement CMs. Failure to complete the funded activities
2237 within an agreed upon timeframe may result in withdrawal of the assurances provided to the
2238 landowner under the CCAA and this CI.

2239

2240 [Insert anticipated/potential funding sources for the activities described in this CI]

2241

2242 **M. Duration of Site Specific Plan/Certificate of Inclusion**

2243 This SSP/CI and the coverage of "take" under the Permit are effective from the date of last
2244 signature below until expiration of the programmatic CCAA, unless terminated by either party
2245 prior to the expiration.

2246

2247 **N. Modification of SSP/CI**

2248 Any enrolled landowner, FWS, or SWCD may propose modifications to a SSP/CI, as provided in
2249 50 CFR 13.23. The party proposing the modification will provide a written statement to the other
2250 participating parties describing the proposed modification(s), the reason for it and the expected
2251 results. The landowner, SWCD, and FWS will use their best efforts to respond in writing to
2252 proposed modifications within 60 days of receipt of a request. Proposed modifications to a
2253 SSP/CI will only become effective upon the written concurrence of all participating parties.

2254

2255 If FWS determines that additional conservation measures not provided for in the CCAA are
2256 necessary to respond to changed circumstances the FWS will not require any modifications or
2257 additional CMs or CCCMs in the CCAA or the SSP/CI without the consent of the enrolled
2258 landowner, provided the SSP is being properly implemented. Modifications will be done in
2259 accordance with all applicable legal requirements, including but not limited to the ESA, the
2260 National Environmental Policy Act (NEPA), and the FWS's permit regulations at 50 CFR 13 and
2261 50 CFR 17.

2262

2263 For each proposed modification, the FWS must determine whether the proposed modification is
2264 minor or major in nature. Minor modifications involve routine administrative revisions or
2265 changes to the operation and management program associated with a SSP/ CI, and may or may
2266 not alter the conditions of the permit. For example, a minor modification might include a change
2267 in monitoring or reporting protocols based upon recommendations from new research. Upon the
2268 written request of one of the participating parties, the FWS can approve minor modifications if it

2269 does not conflict with the purposes of the programmatic CCAA or does not result in some
2270 material change to the FWS's NEPA analyses (i.e., with respect to meeting the CCAA standard,
2271 the amount of take authorized, the section 10 determination, or the NEPA decision). These
2272 minor modifications do not require a formal process, but do require written documentation that
2273 all participating parties approved the modification(s) prior to it becoming effective.
2274

2275 A major modification would either (1) result in a different level or type of take than was
2276 analyzed in association with the SSP/ CI or (2) result in a change to the cumulative conservation
2277 benefits to sage-grouse such that the CCAA standard might not be met. Major modification(s)
2278 may be subject to the procedural requirements of Federal laws and regulations, such as NEPA,
2279 and to require additional analysis by the FWS, public notification in the Federal Register, and a
2280 formal CCAA modification process. For example, a major modification might include a
2281 proposal to use an insecticide in sage-grouse habitat not specified in the SSP.
2282

2283 **O. Termination of SSP/CI**

2284 The landowner agrees to give 30 days' written notice to the SWCD of his or her intent to
2285 terminate this SSP/CI. The landowner may terminate implementation of this SSP's voluntary
2286 management actions prior to the SSP/CI expiration date, even if the expected benefits have not
2287 been realized.
2288

2289 If monitoring data indicates the landowner has failed to comply with or implement agreed CMs,
2290 reporting, or other responsibilities specified and agreed upon in his/her SSP/CI, the SWCD and
2291 or FWS may revoke the landowner's SSP/CI. This will not occur without an attempt by SWCD
2292 and/or FWS to work with the landowner through an informal resolution process as outlined in
2293 *Section 22. Dispute Resolution* of the programmatic CCAA, or through other agreed-upon
2294 methods. However, if no resolution can be achieved, revocation of the SSP/CI will be effective
2295 upon receipt of written notice of revocation from the SWCD and/or FWS. The landowner will no
2296 longer be covered under the provisions of the SSP/CI and the CCAA and relinquishes any
2297 assurances and take authority specified therein.
2298

2299 **P. Remedies**

2300 Each party shall have all remedies otherwise available to enforce the terms of the CCAA and this
2301 SSP/CI, except that no party shall be liable in monetary damages for any breach of the CCAA
2302 and this SSP/CI, any failure to perform an obligation under the CCAA and this SSP/CI, or any
2303 other cause of action arising from the CCAA and this SSP/CI.
2304

2305 **Q. Transfer of Property**

2306 The landowner agrees to give 30 days' written notice to the SWCD of his or her intent to sell the
2307 enrolled property so the SWCD and the FWS can offer the new owner the option of receiving
2308 CCAA assurances by signing a new SSP/CI. (For further information see *Section 19. Succession*
2309 *& Transfer* of the programmatic CCAA).
2310

2311 **R. Privacy Statement**

2312 The landowner provides and the SWCD receives all personal and confidential commercial
2313 information, including, but not limited to: names, contact information, general and legal
2314 description of the enrolled property, grazing practices, land use practices, commercial activities

2315 on the land, recreational activities on the land, site-specific species sightings, and site-specific
2316 species habitat condition, regardless of the form, under the belief and obligation that the
2317 information is personal and/or commercial and is confidential in nature. The landowner and
2318 SWCD acknowledge that the release or disclosure of information may result in an unwarranted
2319 invasion of personal privacy and/or cause substantial harm to the commercial interest of the
2320 landowner. Accordingly, SWCD will, to the maximum extent available under federal, state, and
2321 local law, protect against disclosure of the information by utilizing a case by case review and
2322 determination.

2323

2324 **S. Notice of Possible Disclosure**

2325 In the event that a request for information is made to SWCD that would result in the possible
2326 disclosure of personal and/or commercial confidential information, the impacted landowner shall
2327 receive notice of the request. Additionally, the landowner shall be provided with the opportunity
2328 to state, orally or in writing, why a release of the requested information would constitute a
2329 clearly unwarranted invasion of privacy and/or cause substantial harm to the his/her commercial
2330 interest.

2331

DRAFT

2332 **CERTIFICATE OF INCLUSION**

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This document represents a binding contract between the Harney Soil and Water Conservation District (HSWCD) and [NAME OF COOPERATOR (tract # will be assigned for file retention)]. In consideration of the commitment by [NAME OF COOPERATOR (tract # will be assigned for file retention)] to comply with all applicable terms of the Candidate Conservation Agreement with Assurances (CCAA) as defined in the accompanying Site Specific Plan, HSWCD hereby certifies that the property described as follows [DESCRIPTION (tract # will be assigned for file retention)], is included within the scope of the Enhancement of Survival permit issued by the U.S. Fish and Wildlife Service on [DATE] (Permit No._____) to HSWCD under the authority of § 10(a)(1)(A) of the Endangered Species Act. 16 U.S.C. § 1539(a)(1)(A). The Permit allows certain activities by participating landowners to maintain, restore, and enhance habitat for sage-grouse, while providing incidental take coverage for associated habitat enhancement and routine ranching activities. The parties to this contract agree that, in the event that [NAME OF COOPERATOR (tract # will be assigned for file retention)] breaches the commitment to comply with the CCAA, HSWCD may suspend or revoke this certificate. In addition, the U.S. Fish and Wildlife Service may suspend or revoke this certificate for cause in accordance with 50 C.F.R. §§ 13.27, 13.28 and 17.22(c)(7), or if [NAME OF COOPERATOR (tract # will be assigned for file retention)] becomes disqualified under 50 C.F.R. § 13.21(c).

Private Landowner (A tract # will be assigned for file retention) _____ Date

Board Chair _____ Date
Harney Soil and Water Conservation District

2376 **APPENDIX C – State & Transition Models**

2377
2378 The **overall management goal** is to facilitate maintenance of, or transition to, a desired
2379 ecological state (state “A” or “B”) using an ecologically-based model (see state and transition
2380 diagrams for low elevation, high elevation, and riparian habitat shown in Figures 2-4) that can
2381 serve the habitat needs of sage-grouse. Once this state is achieved, additional conservation
2382 measures may be used to further increase the quality/value of sage-grouse habitat (e.g., timing of
2383 grazing in nesting habitat) or mitigate species-specific threats (e.g., raptor perches in the vicinity
2384 of critical habitat). However, focusing on species-specific conservation measures in habitat that
2385 is in or at risk of transition to a non-desired state (states “C”, “D”, or “E”) can divert resources
2386 from addressing underlying ecological issues that ultimately define the current and future value
2387 of such habitats to sage-grouse and other sagebrush obligate wildlife species. For this reason, an
2388 ecologically-based model will be used to determine inventory, monitoring, and conservation
2389 needs during the site specific planning process.

2390
2391 The states in the models will be determined by a combination of information including: 1) NRCS
2392 ecological site descriptions; 2) data collected during the baseline inventory; 3) best professional
2393 judgment; 4) local climatic variation; 5) site history and other information collected as outlined
2394 in *Section 6. Inventory and Monitoring Protocols*, of this CCAA. Recovery of shrub-steppe
2395 habitat is slow (varies greatly from 20 -100 years depending on pre-disturbance state) and the
2396 CCAA is a 30-year permit, therefore the threshold for meeting the objectives in states A or B is
2397 that the vegetation on the site is trending towards the desired plant community. The restoration
2398 potential of the other states (C, D & E) depends on the degree of degradation; objectives for
2399 states C, D, & E will need to be based upon degree of degradation and probability of success of
2400 treatments.

2401
2402 ***Ecological States and their relationship to sage-grouse habitat***

2403 It is important to note that much of the knowledge base concerning vegetation composition and
2404 structure in habitats used by sage-grouse has been based on small (patch) scale measurements
2405 that reflect the immediate vicinity of the location of radio-marked or flushed birds (e.g., Gregg et
2406 al. 1994; Sveum et al. 1998; for detailed information on sage-grouse habitat at the patch scale see
2407 Connelly et al. 2000 and Hagen et al. 2011). This is significant because large-scale monitoring
2408 efforts (including procedures described in this document) are most feasible at the plant
2409 community scale or larger and current knowledge of successional change in the sagebrush steppe
2410 is firmly based on relationships described at the plant community scale. This discrepancy in
2411 scale can lead to problems when plant composition at the plant community scale is expected to
2412 conform to idealized vegetation attributes based on smaller scale measurements. For example,
2413 working at the community scale, Davies et al. (2006) examined over 100 “late-seral” Wyoming
2414 big sagebrush communities and reported that: “No sites met the nesting or optimum brood-
2415 rearing habitat vegetation cover values suggested by Bureau of Land Management (2000).
2416 Mesic and arid breeding vegetation cover values suggested by Connelly et al. (2000) were met
2417 by 0% and 18% of the sites, respectively”. Additionally, in a meta-analysis of sage-grouse
2418 nesting and brood rearing habitats Hagen et al. (2007) determined that sagebrush cover, grass
2419 cover and grass height was greater at nest sites than at random points and vegetation at brood
2420 areas contained less sagebrush, taller grasses and greater grass and forb cover than random sites.
2421 Understanding the optimum mix and spatial arrangement of these communities and their effects

2422 on demographic rates in a landscape could substantially enhance sage-grouse management.
2423 Furthermore, in the 2010 Warranted but Precluded Finding USFWS identified threats
2424 contributing to sage-grouse habitat fragmentation and loss that occur at the plant community and
2425 larger scales. The Finding went on to suggest that local regulatory mechanisms be
2426 developed/strengthened to address known threats to sage-grouse. Such mechanisms will
2427 logically occur at scales consistent with the identified problems. It thus follows that assessment
2428 of habitat and monitoring of the effectiveness of implemented conservation measures will be
2429 conducted at a scale consistent with the identified threats and the conservation measures
2430 designed to address those threats. Therefore, the focus in this document is at the scale of the
2431 plant community and the monitoring procedures reflect that scale-specific focus. Thus, the intent
2432 is to use best available knowledge to promote a sustainable composition of plants (termed
2433 “states” in these models) that provides elements necessary for sage-grouse habitat at the plant
2434 community scale.

2435
2436 The use of a color-coding system to label habitats as year-around (green), seasonal (yellow), or
2437 non-habitat (red) is based on the presumption of the presence or absence of specific vegetation
2438 components that comprise different elements of sage-grouse habitat. Those presumptions are
2439 based on characterizations of sage-grouse habitat elements as described by Crawford et al.
2440 (2004). Focusing on the low and high elevation models, different habitat needs with different
2441 vegetation states can be associated, and the sum of those associations can be used to broadly
2442 characterize habitat as year-around, seasonal, or non-habitat. However, just because a state may
2443 be suitable for, for example, nesting habitat, that doesn’t mean that it is currently being used or
2444 will be used in the future for nesting purposes. That said, in both the *low and high elevation*
2445 *models, states A and B* have the potential to support *nesting activities*, although the suitability of
2446 state B for this purpose could be limited by sagebrush abundance in some cases. *Brood-rearing*
2447 *habitat* could occur in either *state A or B, although riparian areas in other states* have potential
2448 to provide late season brood-rearing habitat. For the *low elevation model, winter habitat* will be
2449 associated primarily with states *A and D*, and in the *high elevation model winter habitat* would
2450 be mainly in *state A*.

2451
2452 ***Breeding Habitat:***

- 2453 • During the spring lekking period, sage-grouse use areas of low-statured vegetation (both
2454 shrubs and herbaceous) for purposes of display and breeding. There is strong fidelity to
2455 particular lekking sites and this habitat type is rarely limited on a landscape basis.
2456 Nesting habitat can be thought of as being comprised of two distinct time elements.
- 2457 • During the pre-laying period, which is the month prior to actual nesting, female sage-
2458 grouse continue to eat sagebrush but focus a growing portion of their diet on protein-rich
2459 forbs, which are thought to increase the nutritional status of the birds prior to the
2460 upcoming nesting period.
- 2461 • Sage-grouse typically nest under mature sagebrush, or in some cases other shrubs, and
2462 during the nesting period rely on perennial bunchgrasses in the immediate vicinity of the
2463 nest to provide screening cover from nest predators. Potential cover and height values for
2464 perennial grasses will vary strongly based on both ecological site and yearly conditions.
2465 Nests are often located near (e.g., < 3 km) lekking sites, but hens may move large
2466 distances from leks for nesting purposes. Mature sagebrush with umbrella-shaped
2467 canopies may provide increased screening cover of nests and this canopy shape also helps

2468 to decrease grazing of under-shrub screening cover by cattle (France et al. 2008).

2469

2470 **Brood Rearing Habitat:**

- 2471 • As with nesting, the brood-rearing period can be broken into distinct time phases. During
2472 **early brood-rearing**, the diet of chicks is focused on forbs and insects (chicks are
2473 actually obligate insectivores for roughly the first two weeks of life). From a vegetation
2474 standpoint, these habitats are often represented by areas of reduced sagebrush canopy
2475 cover, with increased herbaceous expression. As the growing season progresses, broods
2476 move into **late brood rearing habitat**, which is determined largely by the presence of
2477 succulent vegetation; primarily forbs, although some sagebrush is consumed. This
2478 succulent vegetation is often associated with riparian areas or seeps, however, broods
2479 may also migrate up in elevation, effectively staying ahead of the advancing desiccation.

2480

2481 **Winter Habitat**

- 2482 • The critical vegetation component during the **winter period** is sagebrush, given that
2483 winter diets are comprised almost entirely of sagebrush. Shrub height may or may not be
2484 important, depending on context. On sites with deep snow, a certain height is obviously
2485 necessary to ensure food availability and mature big sagebrush (*Artemisia tridentata*
2486 Nutt. ssp.) is of high importance, however, sage-grouse have also been reported to use
2487 smaller-statured low sagebrush (*Artemisia arbuscula* Nutt.) on wind-swept ridges with
2488 minimal snow cover.

2489

2490 **Interpretation**

2491 While state and transition models are typically viewed as being site specific, it is critical to
2492 recognize the consequences of spatial connectivity between vegetation states across the larger
2493 landscape. For example, a low elevation vegetation community in state “A” provides for year-
2494 around sage-grouse habitat. However, if a given community in this state is set within a larger
2495 landscape comprised mainly of low elevation state “C” (i.e., annual grass-dominated), then fire
2496 risk to state “A” will increase dramatically, suggesting that conservation measures to reduce
2497 annual grass abundance in the larger landscape will have significant implications to the security
2498 of state A. This example illustrates that conservation measures may have value to sustaining
2499 existing sage-grouse habitat, even if these measures are applied in locations that are currently
2500 non-habitat, and reinforces the importance of considering spatial connectivity between
2501 vegetation communities across the landscape when defining threats and associated conservation
2502 measures. This same concept can also be applied over time. For example, during wet years fuel
2503 accumulations across the landscape may be high enough to create high fire danger for most
2504 vegetation communities, regardless of what “state” they are in. In such cases, conservation
2505 measures to reduce fuel loading could be applied generally, regardless of vegetation state, to
2506 reduce risk of wildfire. This example illustrates that conservation needs vary over time and that
2507 application of conservation measures must take place within the framework of adaptive
2508 management.

2509

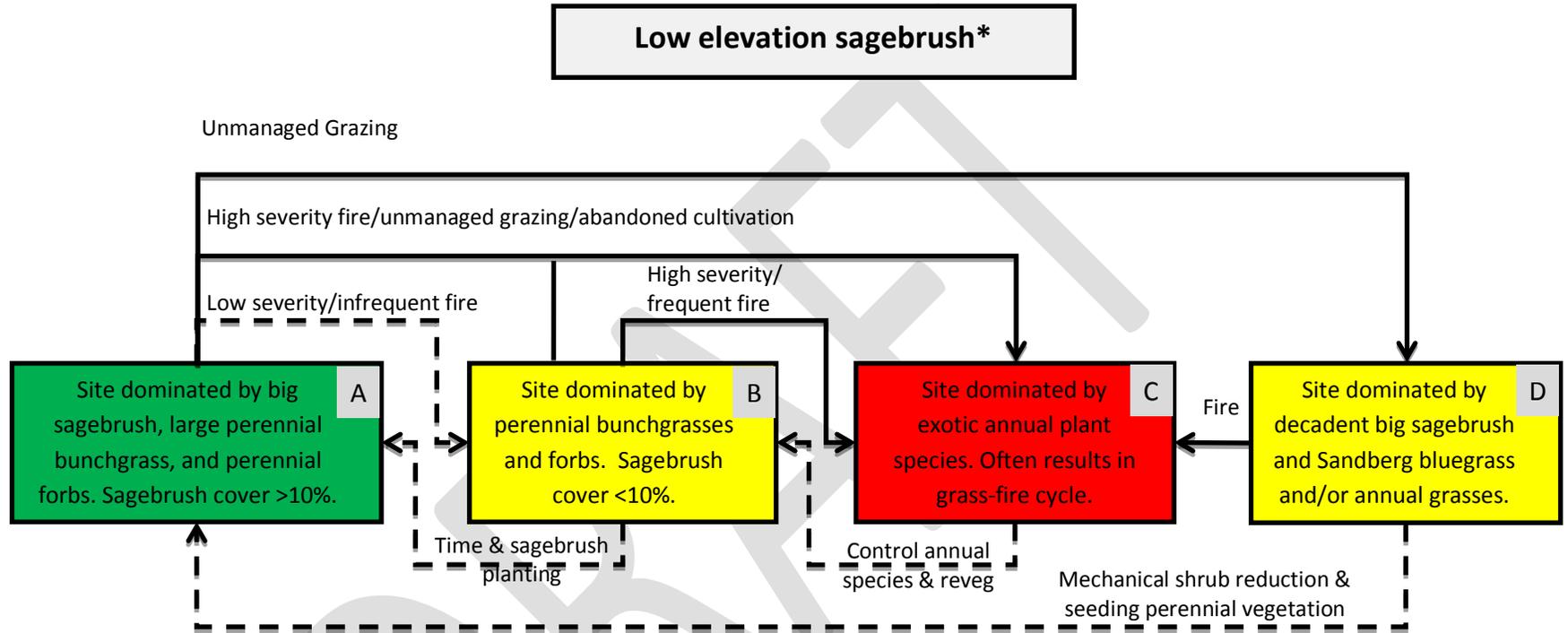
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Figure 6. Low elevation sagebrush state and transition model.



- -> Nonpersistent transition.
- ==> Persistent undesirable transition.

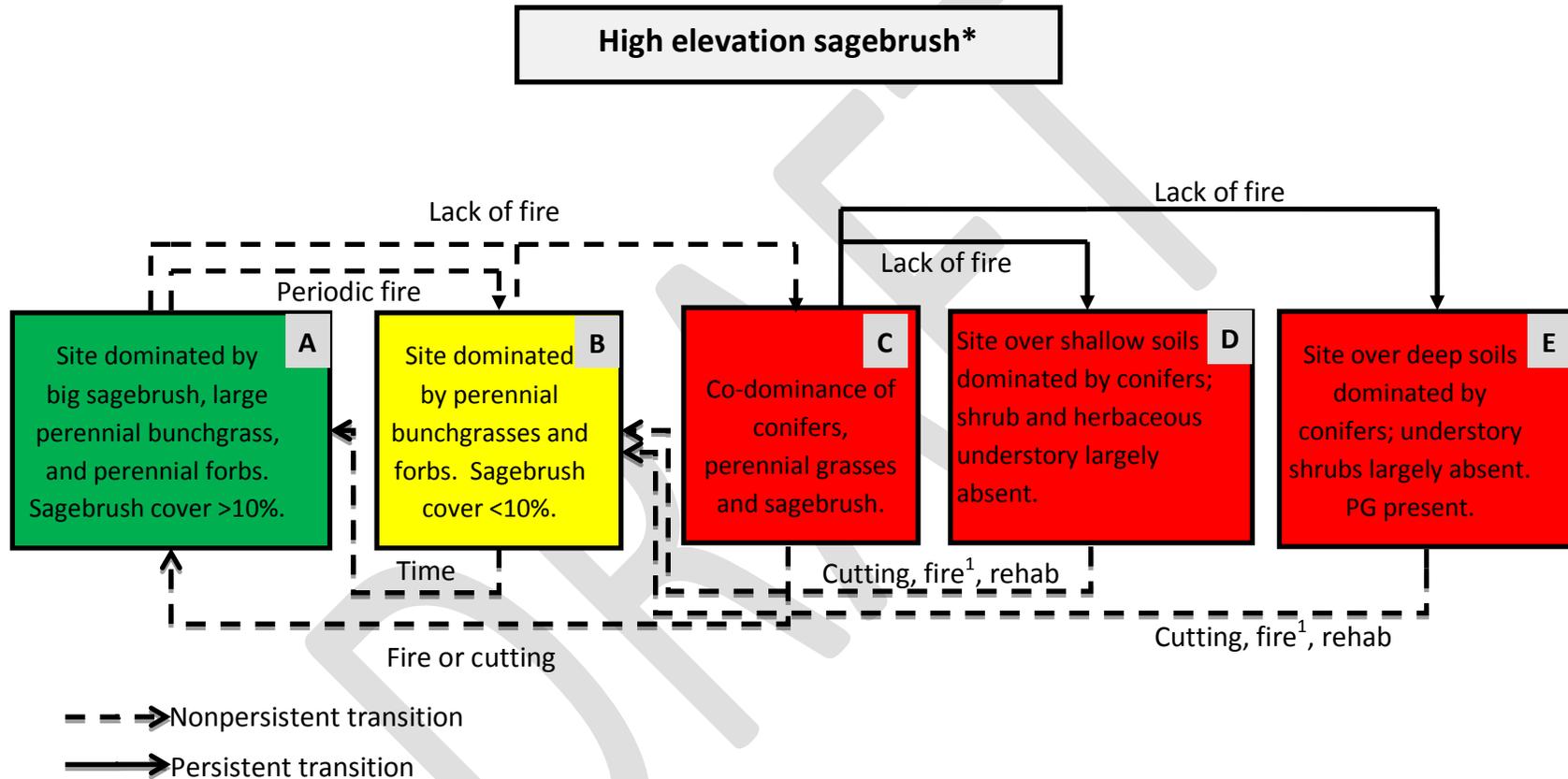
* Model generalizes dynamics of both Wyoming big sagebrush and low sagebrush.

**Green boxes denote habitat capable of providing year-around habitat for sage-grouse. Yellow boxes denote seasonal habitat, while red boxes indicate non-habitat.

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Figure 7. High elevation sagebrush state and transition model.



2522 ¹ Limited understory fuels may prevent broadcast burning. Use of fire typically limited to burning of juniper following cutting.
2523 * Model generalizes dynamics of both mountain big sagebrush and low sagebrush.
2524 **Green boxes denote habitat capable of providing year-around habitat for sage-grouse. Yellow boxes denote seasonal habitat,
2525 while red boxes indicate non-habitat.

2526 **Figure 8: Riparian state and transition model.**

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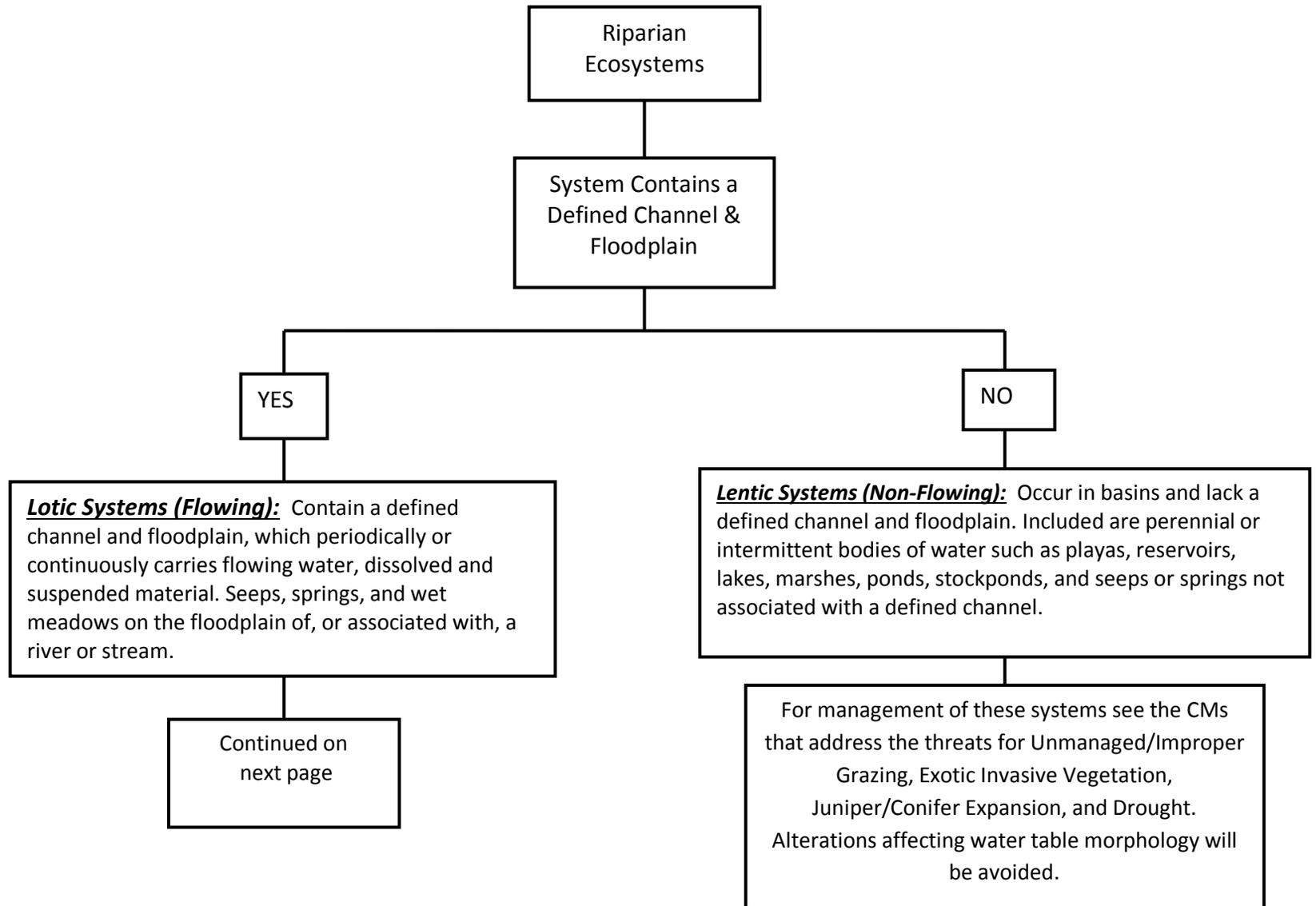
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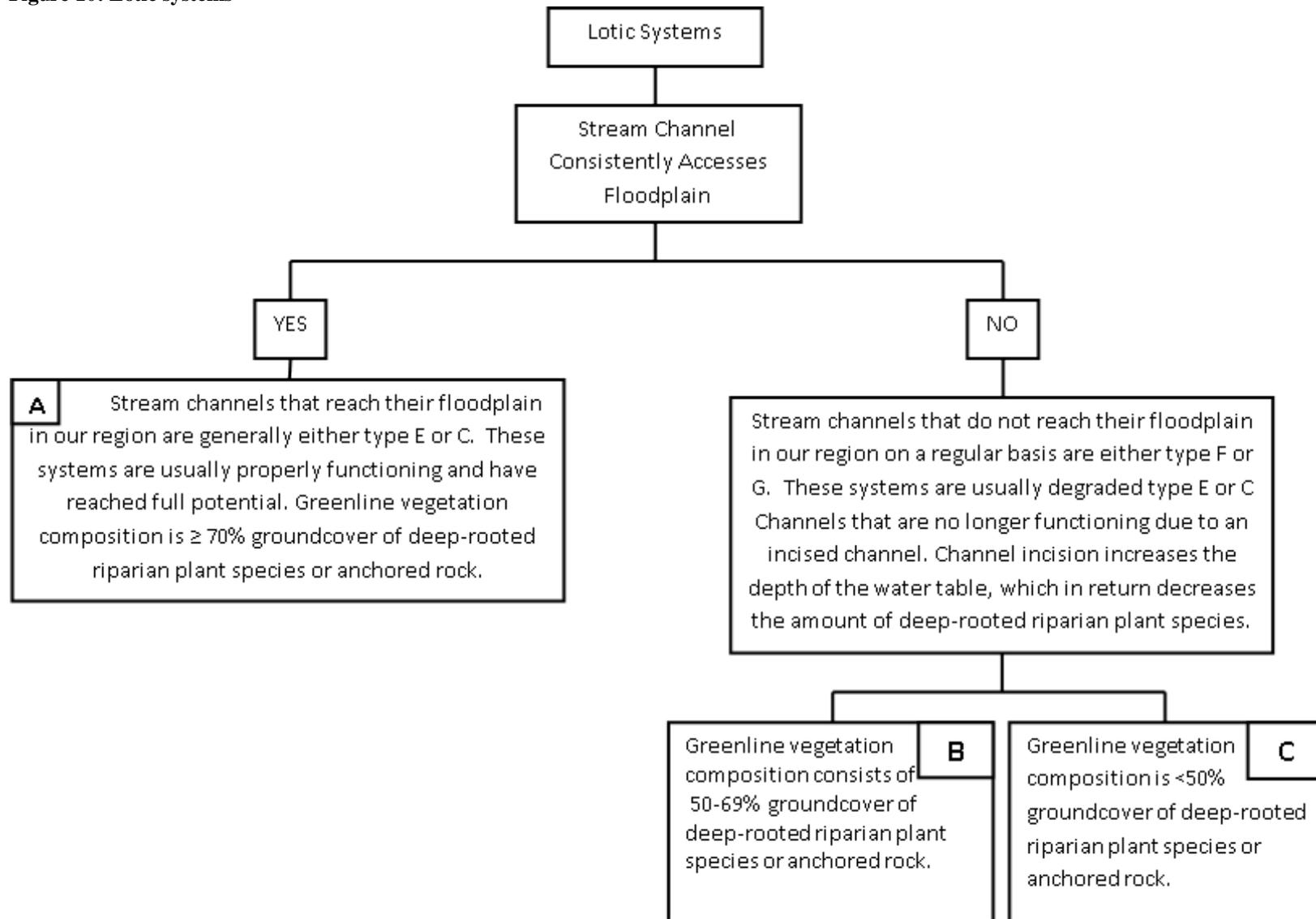
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The **management goal** is to facilitate maintenance of, or transition to, a desired riparian state using a hydrology-based model. These states will be determined using Rosgen's stream classification guide, focusing primarily on stream channel classifications that can serve or have the potential to serve the habitat needs of sage-grouse and exclude/ing those not applicable to this area (type D) or too high gradient (type A and B channels). The Harney County region will be dealing primarily with lower gradient type E, C, F, and G channels. The functional riparian systems will be characterized by type E and C channels. E shape channels are characterized by their high sinuosity, well-vegetated banks, and low width/depth ratio. C shape channels have similar access to floodplain and well-vegetated banks, but have a higher width/depth ratio and possible slight entrenchment. Type F and G channels are typically going to be degraded C or E channel streams that have been incised and lost regular contact with their flood plain. Down cutting lowers the water table and prevents riparian bank vegetation access to adequate moisture. Entrenchment is the major characteristic of both F and G channel shapes. The major difference is the high width/depth ratio of F channels and the low width/depth ratio in G channels. Transitions between riparian states can be addressed through various conservation measures, which address ecosystem threats such as unmanaged grazing, juniper/conifer expansion, invasive vegetation management, catastrophic flooding events, and mechanical degradation. Proper Functioning Condition (PFC) can be utilized to identify the factors influencing change between riparian states and is used by management professionals, such as those at the Harney Soil and Water Conservation District (SWCD), to direct future conservation strategies.

Figure 9: Riparian systems

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2593 **APPENDIX D – Inventory & Monitoring**

2594

2595 The basic method of upland trend monitoring used in this CCAA is a modified Pace 180° with step-point and density measurements
2596 with plot photos and landscape photos in cardinal directions, as described below. However, the CCAA provides the SWCD with the
2597 flexibility to employ (with the concurrence of the landowner) the most efficient, generally accepted rangeland monitoring
2598 methodologies to measure change in ecological states as related to specific objectives in the SSP.

2599

2600 **Upland Trend Monitoring**

- 2601 • The Pace 180° Method is a quantitative procedure for monitoring vegetation trend. It involves documenting groundcover “hits”
2602 using the toe of a boot along a pace transect at specified intervals. This method provides an estimate of ground cover (bare
2603 ground, litter, rock, perennial vegetation, annual vegetation, moss, and biological soil crusts), basal cover of perennial
2604 herbaceous plants (grasses and grass-like plants and forbs), foliar cover of woody species (trees and shrubs), and perennial
2605 plant composition (see Johnson & Sharp, 2012).
- 2606 • The Step-Point method employs a long pin flag or piece of welding rod dropped at the toe of the forward boot along a pace
2607 transect to arrive at an estimate of cover. While holding the pin flag vertical at the toe of the observer’s boot, he or she records
2608 all vegetation interceptions along the full length of the pin beginning with top vegetation layers and working down the pin flag
2609 to the soil surface. It measures cover for individual species, total cover, and species composition by cover. Pace 180° and Step-
2610 Point measurements will be collected every pace along a 100-point pace transect amounting to 100 samples (see Herrick et al.,
2611 2005 for a detailed description of the Step-Point Monitoring Method).
- 2612 • Density of perennial vegetation by species will be recorded every 5th pace in a 0.25 m² frame; amounting to 20 density
2613 measurements for each transect. Density is simply the number of plants per unit area. It is a particularly useful measurement
2614 for monitoring sagebrush rangelands in which the herbaceous understory is typically dominated by perennial bunchgrasses.
2615 Density is less well-suited to areas that support rhizomatous perennial grass species because of difficulties associated with
2616 identifying and counting individual plants. Density of perennial bunchgrasses is perhaps the best indicator of the resistance of
2617 sagebrush rangeland to conversion to undesirable vegetation states. A 3’x 3’ photo plot will be established at the starting point
2618 of the modified Pace 180° transect (see Johnson and Sharp 2012 for a detailed description of placement of the photo plot). A

2619 landscape photo will be taken from the 3' x 3' photo plot toward a permanent reference point that defines the direction of the
2620 modified Pace 180° transect. Landscape photos will also be taken in the cardinal directions from the 3' x 3' photo plot.
2621 • Repeat Photo Monitoring involves establishing a permanent photo plot and periodically taking both ground level and transect
2622 view photographs. Comparing pictures of the same site taken over a period of years provides visual evidence of vegetation and
2623 soil trend. A properly located permanent photo point allows observation of changes in important rangeland attributes including
2624 plant species composition, total plant cover, perennial plant density, litter, spatial pattern of plants, plant vigor, and soil
2625 erosion. The form for recording data using the modified Pace 180° method is shown in Appendix D-1.
2626

2627 **Riparian Inventory and Trend Monitoring**

2628 The upstream and downstream ends of each long term or trend monitoring location and any other critical area will be marked with
2629 rebar. These permanent locations will be used as repeat photo monitoring points. Photographs will be taken looking both upstream
2630 and downstream of each point and repeated periodically to assess stream movement (lateral and downcutting) and provide evidence of
2631 vegetative trend. If the ocular assessment indicates $\geq 70\%$ groundcover of deep-rooted riparian plant species or anchored rock (i.e.
2632 riparian ecological state A) then monitoring will consist of trend photos only; however, if future photos indicate downward trend, then
2633 further assessments such as Proper Functioning Condition (PFC) and Multiple Indicator Monitoring (MIM) are recommended. If the
2634 ocular assessment indicates $< 70\%$ groundcover of deep-rooted riparian plant species or anchored rock (i.e. riparian ecological states B
2635 or C) then additional assessments are recommended. Further assessment for stream segments with 50-69% groundcover of deep-
2636 rooted riparian plant species or anchored rock (riparian ecological state B) may include other qualitative measurement tools, such as
2637 PFC, which identify factors influencing change within riparian systems. If the stream is shown to be “functional-at risk” or
2638 “nonfunctional” according to PFC classifications, or has $< 50\%$ groundcover of deep-rooted riparian plant species or anchored rock
2639 (riparian ecological state C) upon ocular assessment, then remedial conservation measures may be required to improve riparian
2640 conditions. If conservation measures are required, a quantitative monitoring technique should be used to evaluate long term trend.
2641 One suggested quantitative trend monitoring technique is the MIM method, which combines observations of up to 10 indicator
2642 variables (BLM, TR 1737-23) that can be used to monitor long term trend, short term trend, and current condition along a specified
2643 stream reach to gauge progress toward management objectives. The decision to perform long term monitoring and the specific
2644 quantitative monitoring technique will be left to the discretion of the SWCD and the landowner.
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2648 **APPENDIX D-1 - Modified Pace 180° Method Form**

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VEGETATION TREND MONITORING																Soil Surface (do not use litter): Species Code (for basal intercept) R = rock fragment (> 1/4 " diameter) BR = bedrock M = moss LC = lichen S = soil EL = embedded litter D = duff
Methodology _____				Ranch _____				Observer(s) _____				Date _____				
Pasture _____				Veg. Type _____				Ecological Site _____				Transect No. _____				
Top Layer																
Code 1																
Code 2																
Code 3																
Soil Surface																
Nearest Plant																
Toe Hit																
Top Layer																
Code 1																
Code 2																
Code 3																
Soil Surface																
Nearest Plant																
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Code 2																
Code 3																
Soil Surface																
Nearest Plant																
Toe Hit																

Top Canopy Codes:
Species code
Common Name
NONE (no canopy)

Lower Canopy Codes:
Species Code
Common Name
L (herbaceous litter)
W (woody litter >1/4")

Comments:

Additional comments on back

Page ____ of ____							
Site Location & Documentation Data							
Study (Transect) Number			Study Method				
Ranch/Project Area			Pasture				
Ecological Site ID			Plant Community				
Established by (Name)			Date Established				
Map Reference							
Elevation		Slope		Aspect		Aerial Photo Reference	
Township		Range		Section		¼ ¼ ¼	
GPS Coordinates:						Scale: _____ inches equals one mile	
Key Species							
1		2		3			
Distance and bearing between reference post or reference point and the transect location stake, beginning of transect, or plot.							
Transect Length							
Transect Bearing							
Notes (Description of study location, diagram of transect/plot layout, description of photo points, etc. If more space is needed, use reverse side or another page.)							

2686 **Appendix D-3 Annual Grazing and Habitat Summary Form**
2687 **ANNUAL GRAZING AND HABITAT SUMMARY**

2688 _____ **GRAZING SEASON**

2689 Ranch Name (tract # will be assigned for file retention) _____

2690 Pasture Name (tract # will be assigned for file retention) _____

2691 Yield Index _____ Weather Station _____

2692 Was there effective precipitation for early growth or regrowth? Yes No

2693 Indicators of Resource Conditions (check relevant indicators):

2694 Fire Riparian Insects Weeds Nutrient Cycling Wildlife Habitat

2695 Trespass Drought Watershed Function Utilization Wolf Plants

2696 Livestock Distribution Range Improvements Deviation in system or Season of use

2697 Summary of field notes, observations and data that describe range, livestock, and habitat conditions at
2698 the end of the year.

2699

2700

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2702

2703 Description of actions, events, or activities that may have caused resource objectives to be met, not
2704 met, or moved toward or away from. Recommended changes for next grazing season.

2705

2706

2707

2708 Individuals providing input or review: _____,

2709 _____,

2710 _____ DATE: _____

2711

2712

2713

2714

2715 **APPENDIX D-4–Baseline Inventory**

2716 The Upland Ecological State Documentation Form and the Riparian Ecological State
2717 Documentation Form are ocular assessments that will document each ecological state within a
2718 pasture and will provide the basis for selecting representative areas for each stratum, where
2719 quantitative data will be collected and serve as permanent monitoring sites for the management
2720 unit. For uplands, indicators will be surveyed within strata by applying the intuitive random
2721 meander method (Nelson 1984) that traverses each stratum. Sampling of each stratum should be
2722 conducted; however, certain strata (e.g., low elevation state C) will likely require less intensive
2723 observation for confirmation than areas preliminarily identified as year-round or seasonal sage-
2724 grouse habitat.

2725 The Upland Ecological State Documentation Form and the Riparian Ecological State
2726 Documentation Form will be used to document each strata, by:

- 2727 • ground truthing preliminary ecological state strata. The procedure for ground confirming
2728 preliminary ecological state strata will largely rely on an ocular assessment of key
2729 indicators within each stratum.
- 2730 • making adjustments to boundaries of mapped ecological states when field observations
2731 reveal deviations from preliminary strata.
- 2732 • taking a landscape photo with coordinates which represents the existing ecological state.

2733

2734

Upland Ecological State Documentation Form

Ranch _____ Observer(s) _____

Management Unit _____ Date _____

Preliminary Ecological State Designation _____

Ecological State Confirmed by Ocular Assessment _____

Vegetation Type _____ Habitat Function _____ Acreage _____

Transect Coordinates: Start _____ End _____

Rep. Landscape Photo _____

Dominant Plant Species List:

Grasses	Forbs	Shrubs

Estimated average density of mature, large perennial bunchgrasses (individuals/m²): _____

Sagebrush present? NO YES; if yes, species _____ Estimate of sagebrush cover _____

Juniper present? N/A NO YES; if yes, Estimate of juniper cover: _____ Phase of encroachment: _____

Exotic annual grass present? NO YES; if yes, species _____ Phase of Invasion¹: _____;

Infestations mapped? NO YES; if yes, date mapped _____

Other weeds present? NO YES; if yes, species _____;

Infestations mapped? NO YES; if yes, date mapped _____

Key area(s) identified in ecological state stratum? NO YES; if yes, location(s): _____

Potential Threats (check those present):

Threat	Present	Threat	Present	Threat	Present	Threat	Present
Fragmentation		Unmanaged Grazing		Flooding		Feral Horses	
Wildfire		Invasive Vegetation		Recreation		Insecticide	
Vegetation Treatment		Lack of Fire		Predation			
Juniper Encroachment		Drought		WNv			

Notes:

¹ **Phase I:** Interspaces primarily bare ground (≥90% interspaces bare ground) and multiple bunchgrass age classes represented; generally associated with Ecological States A & B. **Phase II:** Exotic annual grasses present at intermediate levels in interspaces (≤50% interspaces occupied by exotic annual grasses) and multiple bunchgrass age classes represented; generally associated with Ecological States A & B that are at risk of conversion to Ecological States C & D. **Phase III:** Interspaces primarily occupied by exotic annual grasses (>50% interspaces occupied by exotic annual grasses) and ≤ 1 bunchgrass age class represented; generally associated with Ecological States C & D.

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Riparian Ecological State Documentation Form

Ranch _____ Observer(s) _____

Management Unit _____ Date _____

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2744

Plant Functional/Structural Groups Represented (box dominant groups; circle subdominant but common groups):

Conifers	Deciduous Trees	Riparian Shrubs	Riparian Bunchgrasses	Riparian Rhizomatous Grasses	Native Forbs
Upland Perennial Grasses	Sedges	Rushes	Upland Shrubs	Exotic Grasses	Exotic Forbs

2745
2746

Greenline Vegetation Composition¹²:

- ___ ≥ 70% Groundcover of deep-rooted riparian species and anchored rock
- ___ 50-69% Groundcover of deep-rooted riparian species and anchored rock
- ___ < 50% Groundcover of deep-rooted riparian species and anchored rock

2751
2752

Potential Threats (check those present):

Potential Threat	Present	Potential Threat	Present	Potential Threat	Present
Excessive Lateral Movement		Mechanical Degradation		Juniper Encroachment	
Downcutting		Catastrophic Flooding		Recreation	
Invasive Vegetation		Drought		Unmanaged Grazing	

2754
2755

Ecological State Confirmed by Ocular Assessment _____

Designated Monitoring Area (DMA) Coordinates:

Upstream _____

Downstream _____

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2760

¹² *Greenline Vegetation Composition*: Groundcover of deep-rooted riparian species and anchored rock will be used as an indicator of stream channel condition. It involves the documentation of groundcover "hits" using the toe of a boot along 100 paces of the upstream and downstream greenlines of each stream segment. When the toe comes in contact with deep-rooted riparian species it is recorded and the total number of "hits" is then divided by the total paces (e.g. 140 hits divided by 200 paces = 70% groundcover).

2761 **APPENDIX E – Herbicides & Best Management Practices**

2762

2763 A major threat to sage-grouse within the CCAA area is the loss of habitat quality and quantity
2764 due to the increase of exotic invasive plant species (noxious weeds) replacing native sagebrush
2765 plant communities.

2766

2767 Herbicide use

2768 Herbicide application used alone or in combination with other methods may be used where
2769 appropriate to provide a feasible and effective strategy for controlling invasive species and
2770 preparing sites for desirable sage-grouse habitat restoration. Specific herbicides anticipated for
2771 restoration and management of sage-grouse habitat or potential habitat are described in further
2772 detail below. They were chosen for maximum effectiveness against wildland weeds and least
2773 environmental and non-target species' risks.

2774

2775 Background

2776 This herbicide list for the Greater Sage Grouse Programmatic Candidate Conservation
2777 Agreement with Assurances for Private Rangelands in Harney County, Oregon (CCAA) includes
2778 20 herbicides. 18 of those tier to the *Vegetation Treatments Using Herbicides on BLM Lands in*
2779 *Oregon FEIS July 2010* (FEIS). This July 2010 Oregon Final Environmental Impact Statement
2780 tiers to the *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in*
2781 *17 Western States Programmatic Environmental Impact Statement* (PEIS) and related Record of
2782 Decision completed in 2007, by the BLM Washington Office Rangelands Resources Division;
2783 this set of documents made 18 herbicides available for a full range of vegetation treatments in 17
2784 western states, including Oregon. The additional two herbicides are aminopyralid and
2785 rimsulfuron. The BLM intends to prepare an Environmental Impact Statement (EIS) to evaluate
2786 the use of these two herbicides in its vegetation treatment programs on public lands in 17
2787 Western States (Federal Register, Volume 77, Number 246, Dec. 21, 2012).

2788

2789 Sage-grouse Consideration

2790 Both the *Sage Grouse Conservation Assessment* (Connelly et. al 2004) and *Ecology and*
2791 *Conservation of Greater Sage Grouse: A Landscape Species and Its Habitats* (USGS 2009) were
2792 reviewed and considered in preparation of the Oregon EIS. Invasive plant treatments in infested
2793 sage-grouse habitats would be part of restoration projects carefully designed to benefit sage-
2794 grouse.

2795

2796 Consistency with Labels and Laws

2797 The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) establishes procedures for the
2798 registration, classification, and regulation of all herbicides. Before any herbicide may be sold
2799 legally, the EPA must register it. The EPA may classify an herbicide for general use if it
2800 determines that the herbicide is not likely to cause unreasonable adverse effects to applicators or
2801 the environment, or it may be classified for restricted use if the herbicide must be applied by a
2802 certified applicator and in accordance with other restrictions. The herbicide label is a legal
2803 document. Federal, state, and local law and all herbicide label requirements will be adhered to.
2804 Herbicides may be used only for the objectives and type of vegetation for which they are
2805 registered, as displayed on the herbicide label.

2806

2807 Best Management Practices

- 2808 1. All manufacturer’s label requirements and restrictions will be followed and
2809 recommendations will be used as appropriate.
- 2810 2. Conduct a pretreatment survey. This may include, but is not limited to, flagging areas for
2811 treatment, determining what noxious invasive species are within the area, defining the
2812 extent of area, and completing a through overview of the area before applying herbicides.
- 2813 3. Apply the least amount of herbicide needed to achieve the desired result.
- 2814 4. Minimize the size of application area, when feasible.
- 2815 5. Clean Off Highway Vehicles (OHVs) to remove plant material and herbicide residue to
2816 minimize impact to non-target sites.
- 2817 6. Sprayers will be set to minimize drift (e.g., with low nozzle pressure, large droplet size,
2818 low nozzle height) to the extent practical and feasible.
- 2819 7. Dyes may be used for herbicide application to ensure complete and uniform treatment of
2820 invasive plants as well as to immediately indicate drift issues.
- 2821 8. To minimize disturbance to sage-grouse populations, do not conduct broadcast
2822 applications of herbicides during nesting and early-brood rearing periods when sage-
2823 grouse are present (March 1 – June 30, at a minimum), unless this timeframe or target
2824 plant development stage is optimal for herbicide effectiveness.
- 2825 9. Most activities covered under this CCAA will occur on uplands, however, if herbicide
2826 treatments are planned in ephemeral or perennial watercourses where listed fish may
2827 occur, special attention will be paid to spraying at a distance away from the stream that is
2828 consistent with the label.

2829

2830 Herbicides

2831 It is also noted that during the 30-year life of this agreement many technological changes for
2832 control of invasives such as biological agents and herbicides will be developed for use on
2833 rangelands and may be applied to improve sage-grouse habitat. As such herbicides and biological
2834 control agents are approved by Environmental Protection Agency (EPA) and Oregon Department
2835 of Agriculture (ODA) for use on rangelands, they will be considered for use under this umbrella
2836 document to improve sage-grouse habitat. As previously noted, this document lists 20 specific
2837 herbicides, however if other herbicides are anticipated to be applied on enrolled rangelands,
2838 agricultural and crop lands, an analysis will be conducted by SWCD. This analysis will assess
2839 the risk associated with application of proposed chemicals, and if needed, additional Best
2840 Management Practice(s) will be developed (e.g., a different timing recommendation for herbicide
2841 application). For permit coverage, use of herbicides other than the following 20 listed will
2842 require a modification consistent with *Section N. Modification of SSP/CI* in Appendix B or with
2843 *Section 18. Modification of Programmatic CCAA*.

2844

2845 Herbicides can be categorized as selective or nonselective. Selective herbicides kill only a
2846 specific type of plant. For example, an herbicide selective for broadleaved plants can be used to
2847 manage such species while maintaining desirable grass species in rangeland communities. Non-
2848 selective herbicides kill all types of plants, and thus should only be applied to the target species.
2849 Herbicides can be used selectively to control specific types of vegetation (e.g. killing invasive
2850 weeds), or non-selectively to clear all vegetation on a particular area (e.g. keeping a roadway
2851 clear of vegetation). Some herbicides are post-emergent, which means they can be used to kill
2852 existing vegetation; others are pre-emergent, which stops vegetation before it grows (e.g.

2853 prohibiting seeds from germinating).

2854

2855

2856 **List**

2857 **2, 4-D**

2858 *Product(s):* Many, including Amine, Hardball, Unison, Saber, Salvo, Aqua-Kleen, and Platoon

2859 *Common Targets:* Annual and biennial broadleaf weeds. *Kochia, whitetop, perennial*

2860 *pepperweed, Russian thistle and knapweed, sagebrush, rabbitbrush.* Selective to broadleaf.

2861 *Application:* Post-emergent

2862 *Point of application:* foliar

2863

2864 **Bromacil**

2865 *Product(s):* Hyvar

2866 *Common Targets:* Annual grasses and broadleaf weeds. *Cheatgrass, puncturevine, ragweed, wild*
2867 *oat, dandelion, quackgrass, wildcarrot.* Nonselective.

2868 *Application:* Pre- and post-emergent

2869 *Point of application:* soil

2870

2871 **Chlorsulfuron**

2872 *Product(s):* Telar

2873 *Common targets:* *Thistles, wild carrot, giant horsetail, poison hemlock, Russian knapweed,*
2874 *marestail, perennial pepperweed, puncturevine, tansy ragwork, common tansy, common teasel,*
2875 *dalmation toadflax, yellow toadflax, whitetop, dyers woad.* Selective to broadleaf.

2876 *Application:* Pre- and early post-emergent

2877 *Point of application:* soil & foliar

2878

2879 **Clopyralid**

2880 *Product(s):* Transline, Stinger, Spur

2881 *Common targets:* *Thistles, common burdock, knapweeds, yellow starthistle, oxeye daisy,*
2882 *hawkweeds, prickly lettuce, dandelion, cutleaf teasel, kudzu, buffalobur.* Selective to broadleaf.

2883 *Application:* Post-emergent

2884 *Point of application:* foliar

2885

2886 **Dicamba**

2887 *Product(s):* Vanquish, Banvel, Diablo, Vision, Clarity

2888 *Common targets:* *Knapweeds, kochia, and thistles.* Selective to broadleaf and woody plants.

2889 *Application:* Pre- and post-emergent

2890 *Point of application:* foliar

2891

2892 **Diflufenzopyr + Dicamba**

2893 *Product(s):* Overdrive, Distinct

2894 *Common targets:* *Knapweeds, kochia, and thistles.* Selective to broadleaf.

2895 *Application:* Post-emergent

2896 *Point of application:* foliar

2897

2898

2899 **Diflufenzopyr**
2900 *Product(s):*
2901 *Common targets: Knapweeds, kochia, and thistles.* Selective to broadleaf.
2902 *Application:* Post-emergent
2903 *Point of application:* foliar
2904
2905 **Diquat**
2906 *Product(s):* Reward
2907 *Common targets: Giant salvinia, hydrilla, and watermilfoils.* Nonselective.
2908 *Application:* Post-emergent
2909 *Point of application:* aquatic
2910
2911 **Diuron**
2912 *Product(s):* Direx, Karmex
2913 *Common targets: Annual grasses. (including bluegrass) and broadleaf weeds. Lambsquarters,*
2914 *kochia and Russian thistle.* Selective to annual weeds, some perennials.
2915 *Application:* Pre-emergent
2916 *Point of application:* soil
2917
2918 **Fluridone**
2919 *Product(s):* Avast!, Sonar
2920 *Common targets: Hydrilla and watermilfoils.* Selective to submersed plants.
2921 *Application:* Post-emergent
2922 *Point of application:* aquatic
2923
2924 **Glyphosate**
2925 *Product(s):* Many, including Rodeo, Mirage, Roundup Pro, and Honcho
2926 *Common targets: Grasses (including Italian ryegrass), sedges, broadleaf weeds, and woody*
2927 *shrubs.* Nonselective.
2928 *Application:* Post-emergent
2929 *Point of application:* soil or foliar
2930
2931 **Hexazinone**
2932 *Product(s):* Velpar
2933 *Common targets: Annual and perennial grasses and broadleaf weeds, brush, and trees.* Selective
2934 *to grasses, broadleaf, woody plants.*
2935 *Application:* Pre- and post-emergent
2936 *Point of application:* soil or foliar
2937
2938 **Imazapic**
2939 *Product(s):* Plateau, Panoramic
2940 *Common targets: Cheatgrass, leafy spurge, medusahead, whitetop, dalmation toadflax and*
2941 *Russian knapweed.* Selective to some broadleaf and grasses.
2942 *Application:* Pre- and post-emergent
2943 *Point of application:* soil
2944

2945 **Metsulfuron methyl**
 2946 *Product(s):* Escort, Patriot, PureStand
 2947 *Common targets:* Whitetop, perennial pepperweed, and other mustards and biennial thistles.
 2948 Selective to some broadleaf and grasses.
 2949 *Application:* Post-emergent
 2950 *Point of application:* soil or foliar
 2951
 2952 **Picloram**
 2953 *Product(s):* Triumph, OutPost, Tordon
 2954 *Common targets:* Perennial and woody species. *Knapweeds, starthistle, thistle, bindweed, leafy*
 2955 *spurge, rabbitbrush, rush skeletonweed, and poison oak.* Selective to broadleaf and woody plants.
 2956 *Application:* Pre- and post-emergent
 2957 *Point of application:* foliar
 2958
 2959 **Sulfometuron methyl**
 2960 *Product(s):* Oust, Spyder
 2961 *Common targets:* Cheatgrass, annual and perennial mustards, and medusahead. Nonselective.
 2962 *Application:* Pre- and post-emergent
 2963 *Point of application:* Soil or foliar
 2964
 2965 **Tebuthiuron**
 2966 *Product(s):* Spike
 2967 *Common targets:* Sagebrush (thinning). Selective to broadleaf and woody plants.
 2968 *Application:* Pre- and post-emergent
 2969 *Point of application:* soil
 2970
 2971 **Triclopyr**
 2972 *Product(s):* Garlon, Renovate, Element
 2973 *Common targets:* Saltcedar, purple loosestrife, Canada thistle, tanoak, Himalayan blackberry.
 2974 Selective to broadleaf and woody plants.
 2975 *Application:* Post-emergent
 2976 *Point of application:* foliar
 2977
 2978 **Aminopyralid**
 2979 *Product(s):* Milestone
 2980 *Common targets:* thistles, knapweed, some broadleaf weeds. Selective to broadleaf plants.
 2981 *Application:* Post-emergent
 2982 *Point of application:* soil or foliar
 2983
 2984 **Rimsulfuron**
 2985 *Product(s):* Matrix, Resolve DF, Bais
 2986 *Common targets:* Used to control weeds in potato crops. Some use on annual grass medusahead
 2987 rye. Selective.
 2988 *Application:* Pre and post-emergent
 2989 *Point of application:* soil or foliar
 2990

2991 **APPENDIX F – Authorized Take Calculation**

2992 Authorized take was calculated based on the following information and calculations. There are
2993 an estimated 24,515 sage-grouse in Oregon based on a 10-year (2004-2013) average of the
2994 statewide total spring population (ODFW unpublished data 2013). According to Hagen (2011)
2995 90% of sage-grouse occupy PPH (core), which is estimated at 6.57 million acres in Oregon. The
2996 assumption was made that the remaining 10% of the sage-grouse population lie within PGH,
2997 which is estimated at 8.26 million acres in Oregon (Hagen 2011). Using the 10-year minimum
2998 breeding population average, sage-grouse densities in PPH are estimated at 0.0034 birds per acre
2999 (90% of 24,515 = 22,064 sage-grouse divided by 6.57 million acres of PPH). Average sage-
3000 grouse densities in PGH are estimated at 0.0003 birds per acre (10% of 24,515 = 2,452 divided
3001 by 8.26 million acres) (see Table 2 located in *Section 11. Type and Estimated Level of Take*).
3002 These statewide average densities were then multiplied by the number of acres of PPH (345,564
3003 ac x 0.0034 birds per ac) and PGH (824,556 ac x 0.0003 birds per ac) covered under this CCAA
3004 (see Table 1 located in *Section 8. Covered Area*) to come up with an estimated 10-year minimum
3005 population average of 1,406 sage-grouse for the covered area. Three percent of 1,406 equals
3006 42.17 birds per year, multiplied by the 30-year term of the CCAA and EOS permit, equals a total
3007 authorized take of 1,265 sage-grouse if 100% of the covered area is enrolled under the CCAA. If
3008 less area is enrolled under the CCAA, then the authorized take would be proportionally less (See
3009 Table 3, located in *Section 11. Type and Estimated Level of Take*). The authorized amount of
3010 take may be adjusted if the statewide 10-year minimum breeding population average changes by
3011 more than 10%.

3012

3013 Rationale for 3% Take

3014 The allowable take included in this CCAA (3%), combined with ODFW’s actual (3%) or
3015 allowed (5%) harvest rates (ODFW 2011) could account for an average 6-8% annual loss of the
3016 sage-grouse population in areas that are under this CCAA and where hunting of sage-grouse
3017 occurs. Cumulative impacts of harvest on sage-grouse populations in Oregon are evaluated
3018 annually by ODFW. A 6-8% loss is within range-wide sage-grouse management guidelines that
3019 recommend a harvest rate of 10% or less for healthy sage-grouse populations (Connelly et al.
3020 2000), and well below recently published peer-reviewed science for Colorado and Nevada,
3021 which found “at harvest rates <11% harvest is unlikely to have an important influence on local
3022 population dynamics of sage-grouse” (Sedinger et al. 2010). Additionally, the percent of the
3023 population taken as a result of implementing this CCAA, combined with harvest rates, will
3024 actually be lower than 6-8% for the following reasons: 1) it is unlikely the enrolled lands will
3025 also be fully harvested; 2) implementing the CMs in this CCAA are expected to offset the take
3026 and/or increase the population of sage-grouse on the enrolled lands; and 3) of the 3% annual
3027 allowable take, most of the impacts are anticipated to be in the form of harassment and are not
3028 anticipated to result in mortality.

3029

3030 Determining Estimated Level of Take

3031 When determining the estimated level of take, The Nature Conservancy’s Conservation Action
3032 Planning Workbook, User Manual, Version 6b (2010) and Conservation Action Planning
3033 Handbook: Developing Strategies, Taking Action and Measuring Success at Any Scale (2007)
3034 was used.

3035

3036

3037 **Table 4: Alternative threat ranking: severity-scope combined with irreversibility**

Covered Activity	Severity	Scope	Irreversibility	Threat Magnitude	Overall Threat Ranking
Rangeland Treatment	Low	Medium	Low	Low	Low
Livestock Management	Low	Very High	Medium	Low	Low
Recreation	Low	Medium	Low	Low	Low
Farm Operations	Medium	Low	High	Low	Medium
Development	High	Low	Very High	Low	Medium

3038

3039 The Nature Conservancy’s Conservation Action Planning Alternative Threat Ranking
 3040 methodology was used to estimate the level of take associated with each type of covered activity.
 3041 This methodology considers the severity, scope, and irreversibility of impacts caused by various
 3042 threats to a given conservation target. In this case, the severity, scope, and irreversibility of the
 3043 impacts of each type of covered activity on sage-grouse and their habitat was considered. The
 3044 procedure was as follows:

- 3045 1. Each type of covered activity was given a ranking of low to very high for both severity
 3046 and scope, according to the criteria below. The severity and scope rankings were then
 3047 used to determine the Threat Magnitude ranking using a lookup table located in the
 3048 Conservation Action Planning Workbook User Manual (TNC 2010, p. 139).
- 3049 2. Each type of covered activity was given a ranking of low to very high for irreversibility,
 3050 according to the criteria below. The Threat Magnitude ranking and irreversibility
 3051 rankings were then used to determine the Overall Threat Ranking using a lookup table
 3052 located in the Conservation Action Planning Workbook Use Manual (TNC 2010, p. 140).

3053 Table 4 shows the severity, scope, and irreversibility rankings assigned to each type of covered
 3054 activity, along with the resulting Threat Magnitude and Overall Threat Rankings.

3055 Rating Criteria for Severity, Scope, and Irreversibility

3056 **Severity** – The level of damage to the conservation target that can reasonably be expected within
 3057 10 years under current circumstances.

- 3058 • **Very High:** The threat is likely to destroy or eliminate the conservation target
 3059 over some portion of the target’s occurrence at the site.
- 3060 • **High:** The threat is likely to seriously degrade the conservation target over some
 3061 portion of the target’s occurrence at the site.

3062 • **Medium:** The threat is likely to moderately degrade the conservation target over
3063 some portion of the target's occurrence at the site.

3064 • **Low:** The threat is likely to only slightly impair the conservation target over some
3065 portion of the target's occurrence at the site.

3066 **Scope** – Most commonly defined spatially as the geographic scope of impact on the conservation
3067 target at the site that can reasonably be expected within 10 years under current circumstances.

3068 • **Very High:** The threat is likely to be very widespread or pervasive in its scope, and
3069 affect the conservation target throughout the target's occurrences at the site.

3070 • **High:** The threat is likely to be widespread in its scope and affect the conservation
3071 target at many of its locations at the site.

3072 • **Medium:** The threat is likely to be localized in its scope and affect the conservation
3073 target at some of its locations at the site.

3074 • **Low:** The threat is likely to be very localized in its scope and affect the conservation
3075 target at a limited portion of its location at the site.

3076 **Irreversibility** – The degree to which the effects of a direct threat can be restored.

3077 • **Very High:** The effects of the threat are not reversible (e.g. wetlands converted to a
3078 shopping center).

3079 • **High:** The effects of the threat are reversible, but not practically affordable (e.g.
3080 wetland converted to agriculture).

3081 • **Medium:** The effects of the threat are reversible with a reasonable commitment of
3082 resources (e.g. ditching and draining of wetland).

3083 • **Low:** The effects of the threat are easily reversible with at relatively low cost (e.g.
3084 off-road vehicles trespassing in wetland).