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2
3 **Greater Sage-Grouse Programmatic**
4 **Candidate Conservation Agreement with Assurances**
5 **for Private Rangelands in Lake County, Oregon**

6
7 Between the
8 Lakeview Soil and Water Conservation District
9 and the
10 United States Fish and Wildlife Service

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24 July 30, 2014
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104 **PURPOSE**

105 The purpose of this Candidate Conservation Agreement with Assurances (CCAA) is to maintain
106 and/or improve greater sage-grouse habitat while contributing to the economic sustainability of
107 landowners and maintaining the ranching culture and agricultural way of life in Lake County.

108 **INTRODUCTION**

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

117

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

124

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

132 Landowners wishing to enroll in this CCAA must agree to maintain contiguous habitat by
133 avoiding further fragmentation and address all other threats to sage-grouse and their habitats
134 within their control with one or more Conservation Measures (CMs), by doing this the enrolled
135 lands will meet the “CCAA Standard”². A CM is defined as an activity or action which, when
136 implemented or continues to be implemented, will reduce or remove threats to sage-grouse and
137 will improve or maintain their habitat. This CCAA provides, in Appendix A, a comprehensive
138 list of specific CMs from which the landowner and the SWCD can jointly select those measures
139 most appropriate to the property that will adequately address the identified threats to sage-
140 grouse. This CCAA also provides the landowner the opportunity of working with the SWCD,

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

² 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.”

141 and with approval of FWS, to develop additional CMs when an appropriate CM cannot be found
142 in Appendix A.

143
144 Since the agreement is voluntary, the landowner can end it at any point, although in doing so,
145 any assurances and incidental take coverage for the enrolled landowner under the EOS permit
146 would terminate.

147
148 There are three goals this programmatic CCAA is designed to meet:

- 149
- 150 • Provide participating landowners assurances that current ranch and land management
151 practices covered by this CCAA will continue in the event sage-grouse is listed under the
152 ESA, provided that the CCAA is being implemented as agreed upon.
 - 153 • Promote CMs that reduce or remove threats to sage-grouse through proactive ranch and
154 land management, providing comprehensive conservation to meet the CCAA standard.
 - 155 • Provide an ecological approach to maintain current sage-grouse habitat and to improve
156 habitat that is not meeting conservation objectives, as identified in enrolled landowners'
157 site specific plans.
- 158

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

163
164 ***Species Distribution and History***

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

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

185 improper grazing, wild horses, recreation, predation³, sagebrush defoliating insects (Aroga
186 moth), and energy development and other infrastructure (USFWS 2010).

187
188 In Lake County, as it is throughout sagebrush habitat in Oregon, wildfire in low elevation
189 sagebrush and its resultant increase of exotic annual grasses, as well as juniper encroachment in
190 high elevation sagebrush due to lack of fire are the two largest factors causing habitat loss.

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

201
202 ***Listing***

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

215
216 ***CCAA Development***

217 Representatives from Harney County SWCD met with a delegation of SWCD representatives
218 from Baker, Malheur, Lake, Grant, and Crook Counties on April 16, 2014. Following that
219 meeting Lake County SWCD formed a steering committee to develop a Lake County CCAA
220 patterned after the Harney County effort. The Lake County Greater Sage-Grouse Candidate
221 Conservation Agreement with Assurances Steering Committee (Steering Committee) and the
222 SWCD requested assistance from the FWS in developing a sage-grouse strategy for ranch and
223 land management activities that could offer landowners assurances that their practices could
224 continue in the event the species was listed under the ESA. Livestock production is a primary
225 use of Oregon’s rangelands, and listing the sage-grouse could have a significant impact on this
226 use and the communities of Lake County. Therefore, the Steering Committee, comprised of

³ 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).

227 representatives from local private landowners, Lakeview SWCD, FWS, Natural Resources
228 Conservation Service (NRCS), Lake County Commissioners, ODFW, Bureau of Land
229 Management (BLM), Oregon State University Extension (OSU Extension), The Nature
230 Conservancy (TNC), Lake County Umbrella Watershed Council and Lake County Cooperative
231 Weed Management Area have developed this programmatic CCAA.

232

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

- 235 • ODFW’s Greater sage-grouse conservation assessment and strategy for Oregon (hereafter
236 referred to as ‘ODFW Strategy’) (Hagen 2011)
- 237 • FWS March 23, 2010, 12-month Finding (75 FR 13910)
- 238 • FWS January 12, 2005, 12-month Finding (70 FR 2243)
- 239 • Greater sage-grouse ecology and conservation of a landscape species and its habitat
240 (Knick and Connelly 2011).

241 We refer the reader to these documents for a more in-depth analysis.

242 **1. Factors Affecting the Species**

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

251 **2. Conservation Approach**

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

260 **3. Application and Enrollment Process**

261 The following steps summarize the process:

- 262 • Landowner contacts the Lakeview SWCD in Lakeview. The SWCD will initially request
263 from landowners the necessary information to initiate project review (i.e. landowner
264 name; contact information; legal and general description of the property location;
265 description of land use and management).
- 266 • SWCD will announce a quarterly deadline for submission of applications. SWCD will
267 evaluate all applications received during that timeframe based on the following criteria
268 for prioritization.

269 Prioritization of Enrollment by Category of Habitat/Location:

270
271 Preliminary Priority Habitat (PPH), are areas that have been identified as having
272 the highest conservation value to maintaining sustainable sage-grouse
273 populations. These areas correspond to Core Area Habitat in the ODFW Sage-
274 grouse Conservation Assessment and Strategy for Oregon which includes known
275 breeding, late brood-rearing, and known winter concentration areas. These areas
276 also correspond to Priority Areas for Conservation (PACs) as identified in the
277 FWS 2013 Conservation Objectives Team Report which include the most
278 important areas for maintaining sage-grouse populations across the landscape.

279 Preliminary General Habitat (PGH), are areas of occupied seasonal or year-round
280 habitat outside of PPH. These areas include Low Density Habitat as described in
281 ODFW Sage-grouse Conservation Assessment and Strategy for Oregon, as well
282 as additional areas of suitable sagebrush habitat.

- 283 1. Private lands within PPH
284 2. Private lands within PGH and adjacent to PPH
285 3. Private lands within PGH and not adjacent to PPH
286 4. Private lands adjacent to PPH not within PGH
287 5. Private lands adjacent to PGH not within PPH
288 6. Private lands that will maintain or provide new connectivity between PGH
289 and PPH

290
291 The SWCD is responsible for the prioritization of private lands to be included in
292 this CCAA consistent with ODFW Strategy (Hagen 2011) and its local
293 implementation teams.

- 294 • SWCD will set a schedule to gather information needed to develop an SSP and to
295 perform an initial assessment of the land where enrollment is sought.
296 • SWCD staff will conduct this initial assessment of ecological states. Following the site
297 visit, the landowner and SWCD will identify the primary threats and the CMs that will
298 address those threats. If the CMs seem acceptable to the landowner and SWCD, both
299 parties will sign a Letter of Intent. The Letter of Intent is a non-binding agreement to list
300 anticipated CMs, to schedule completion of baseline inventory, to schedule completion of
301 an SSP and signing of the SSP/CI.
302 • SWCD will conduct a baseline inventory of the enrolled property within the timeframe
303 identified within the Letter of Intent.
304 • The baseline data (initial reading) for long term monitoring (trend) may be collected,
305 summarized, and completed prior to approval of the SSP, or a date for its completion will
306 be scheduled within the SSP.
307 • SWCD will discuss with the landowner the importance of participation in or creation of a
308 Rangeland Fire Protection Association (RFPA) to proactively protect private land from
309 fires ignited on public land (see CM 6d).
310 • Upon landowner and SWCD agreement of the SSP and the CMs included in it, the
311 SWCD will submit the SSP/CI to FWS for review and approval.

- 312 • FWS has up to 60 days to respond to the SSP application. Under the programmatic
313 CCAA and relevant regulations and policy, if the SSP/CI and permit issuance criteria are
314 met, the FWS will approve the SSP/CI through a Letter of Concurrence.
- 315 • Upon receiving a Letter of Concurrence from the FWS, both SWCD and the landowner
316 will sign the SSP/CI.

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

318 Each participating landowner will work with the SWCD to develop an SSP intended to promote
319 good land stewardship by implementing actions on their enrolled lands that benefit sage-grouse.
320 The landowner and SWCD will identify threats and select CMs identified in the programmatic
321 CCAA for inclusion in their SSP. Individual SSPs will be consistent with the activities and CMs
322 identified in the programmatic CCAA and will describe specific conservation practices that will
323 be implemented on the enrolled lands to maintain, rehabilitate, or enhance habitat for the species,
324 and remove or reduce any unfavorable impacts to the species arising from the management of
325 these lands. Since all appropriate CMs cannot be anticipated, additional CMs can be included in
326 the individual SSPs, which were not identified in the programmatic CCAA and that support
327 healthy sage-grouse habitat, provided the landowner, SWCD, and FWS mutually agree to the
328 CM. Once the individual SSP has been approved by the landowner, SWCD, and FWS, the
329 SWCD will issue a Certificate of Inclusion (CI) to cover the agreed upon rangeland management
330 practices and provide the landowner with coverage.

331 **5. Conservation Measures Development**

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

347
348 The process of selecting and/or developing specific CMs for individual properties will be based
349 on the threats identified for the enrolled property (detailed in the SSP/CI), recognizing that each
350 property is unique and CMs will be site-dependent. The SWCD will work with each landowner
351 to identify specific threats for the property and select and/or develop CM(s) to remove or reduce
352 each threat. Each identified threat within the control of the landowner will be addressed and will
353 have one or more corresponding CM(s); the FWS and SWCD recognize not every potential CM
354 listed for a particular threat is appropriate for a given property. Therefore, CMs selected or

355 developed will be based on their likely effectiveness, ability to be implemented, and should be
356 the most beneficial for sage-grouse conservation on that particular property.

357
358 If no threats are identified or if current management is addressing identified threats, a detailed
359 description of current management and a monitoring strategy may suffice as the SSP. **However,**
360 **each enrolled landowner must agree to CM 1: *Maintain contiguous habitat by avoiding***
361 ***further fragmentation***. The objective for this required CM is for no net loss in 1) habitat
362 quantity (as measured in acres) and 2) habitat quality (as determined by the ecological state). The
363 baseline determination of habitat quality and quantity will be completed during the baseline
364 inventory and will serve as a reference point in meeting the objective for CM 1. Losses in sage-
365 grouse habitat quantity may be offset by increases in sage-grouse habitat quality and vice versa,
366 as long as the action avoids further fragmentation (consistent with *Section 10: Covered Activities*
367 - development subsection).

368
369 While this is the objective of CM 1, FWS and SWCD understand that changes out of the control
370 of the landowner will be handled as a changed circumstance. If changed circumstances occur,
371 conservation measures need to be included consistent with *Section 14: Changed Circumstances*.
372 CM 1 does not exclude CMs that might create a short term loss of habitat quality or quantity
373 because such measures are intended to result in a long term improvement to sage-grouse habitat.
374 Development activities covered by this agreement will be described in the SSP at the time of
375 enrollment or can be added as a modification (consistent with *Section N. Modification of SSP/CI*,
376 located in Appendix B) to the SSP and internal mitigation may be required (consistent with
377 *Section 10: Covered Activities - development subsection*).

378
379 While these CMs should apply across the landscape, there may be circumstances where site-
380 specific modifications or conditions warrant changes to the standard prescriptions. Changes to
381 CMs and/or development of CMs will occur in consultation with the landowner and must have
382 concurrence from the FWS. The SWCD will note those changes on the SSP/CI for enrolled
383 properties, including rationale or justification for any modifications.

384
385 This CCAA incorporates, by reference, all conservation strategies in the ODFW Strategy (Hagen
386 2011) that are relevant to private lands. The landowner, SWCD, and FWS will draw from those
387 strategies while developing CMs in the SSPs and implementing actions for the sage-grouse on
388 lands enrolled in this CCAA. However, it is unlikely that the ODFW Strategy and this
389 programmatic CCAA cover all needs for certain circumstances, so site specific measures outside
390 of these references will be determined, as necessary, in consultation with landowners.

391 **6. Inventory and Monitoring Protocols**

392 The **overall management goal** is to facilitate maintenance of, or transition to, a desired
393 ecological state that can serve the habitat needs of sage-grouse using an ecologically-based
394 model (see state and transition diagrams for low elevation, high elevation, and riparian habitat
395 shown in Appendix C). Additional conservation measures may be used to further increase the
396 quality/value of sage-grouse habitat (e.g. timing of grazing in nesting habitat) or mitigate
397 species-specific threats (e.g. raptor perches in the vicinity of essential habitat). However,
398 focusing on species-specific conservation measures in habitat that is in, or at risk of, transition to
399 a non-desired state can divert resources from addressing underlying ecological issues that
400 ultimately define the current and future value of such habitats to sage-grouse and other sagebrush

401 obligate wildlife species. For this reason, an ecologically-based model will be used to determine
402 inventory, monitoring, and conservation needs during the site specific planning process (for a
403 detailed explanation of state and transition models, see Appendix C).

404
405 This section:

- 406 • Explains how individual enrolled lands are classified for upland and riparian sites (Site
407 Selection Protocol)
- 408 • Visually depicts with a flow chart the stepwise process of inventorying the existing
409 habitat conditions and establishing a data base for long term monitoring (Figure 1)
- 410 • Provides criteria for each ecological state and visually depicts how information about the
411 current ecological state of the enrolled property feeds into the process of identifying
412 potential threats, relevant objectives, needed conservation measures, and associated
413 monitoring (Figures 2-4)
- 414 • Explains the purposes of long term monitoring (trend) and annual monitoring and refers
415 the reader to each method's protocols and forms

416
417 ***Site Selection Protocol***

- 418 1. Background information-Stratifying enrolled lands into inventory and monitoring units
419 will require gathering any of the following background information that exists for each
420 property/properties for which a site specific plan is being considered: aerial photographs,
421 satellite imagery, written and oral histories, disturbance history (e.g., burn maps),
422 management history, property maps, plant species lists, ecological sites and site
423 descriptions, and soil maps.
- 424
425 2. Stratify by habitat suitability using existing data-The enrolled property will first be
426 stratified into areas of existing suitable (i.e., low elevation ecological states A, B, and D;
427 high elevation ecological states A and B; lotic riparian ecological states characterized by
428 consistent access to floodplain) or potentially suitable sage-grouse habitat (i.e. low
429 elevation ecological state C; high elevation ecological states C, D, and E; lotic riparian
430 ecological states without consistent access to floodplain) and areas of persistently
431 unsuitable habitat (e.g., historically non-habitat or permanently converted habitat –
432 infrastructure, agriculture, residential, etc.) (see Figure 1).
- 433
434 3. On-site documentation of upland ecological states -The upland property will then be
435 stratified by management unit (typically by pasture). Each upland management unit will
436 then be stratified into the two primary ecological types (i.e., high elevation sagebrush
437 rangeland and low elevation sagebrush rangeland) using a combination of existing
438 knowledge and/or data, ecological site descriptions, GIS techniques, and field
439 reconnaissance. Ecological types within management units will then be stratified by the
440 ecological states described in their respective state and transition model. Preliminary
441 ecological state strata will be determined using GIS data. The resultant preliminary strata
442 will then be used to direct ground truthing and associated habitat inventory efforts;
443 ground truthing of preliminary ecological state strata will be accomplished following
444 procedures outlined in the Upland Ecological State Documentation Form (Appendix D-
445 4). The ocular assessment outline located in Appendix D-4 will provide the basis for
446 selecting representative areas for each stratum, where quantitative data will be collected

447 and serve as permanent habitat monitoring sites for the management unit (long term
448 (trend) monitoring).

449
450 4. Establish and monitor upland trend sites – Sites which are representative of the ecological
451 status of sage-grouse habitat within a pasture will be determined during ocular
452 assessment and permanently marked on the ground and recorded using the Site
453 Documentation Form shown in Appendix D-2 (Johnson and Sharp 2012). Trend
454 monitoring, which consists of measurements of plant community attributes (ground
455 cover, foliar cover of shrubs, basal cover of perennial herbaceous species, density and
456 frequency of occurrence) will be recorded in an initial or baseline monitoring with
457 follow-up measurements recorded at intervals of 3 to 10 years. The frequency of trend
458 monitoring is dependent on site stability, baseline data determinations and the
459 conservation measures being applied. The changes in plant community attributes are
460 measured over time to determine if the ecological state of the plant community is
461 changing (transitioning) toward or away from desired habitat or remaining stable. This
462 information is assessed along with annual monitoring to determine cause(s) of change
463 which may be management or climatic or a combination of both. This becomes the basis
464 of determining if selected conservation measures are having the desired effect or if
465 adaptive changes are needed. The basic method of upland trend monitoring used in this
466 CCAA is a modified Pace 180° with step-point and density measurements with plot
467 photos and landscape photos in cardinal directions. However, the CCAA provides the
468 SWCD with the flexibility to employ (with the concurrence of the landowner) the most
469 efficient, generally accepted rangeland monitoring methodologies to measure change in
470 ecological states as related to specific objectives in the SSP. For a detailed explanation of
471 the upland protocols see Appendix D.

472
473 5. Stratify riparian areas - Each stream will be stratified by pasture. This will be done to
474 better identify the factors that are influencing change within each management unit (i.e.
475 pasture). A site visit will be performed on the stream segments to identify critical areas
476 (e.g. headcuts, extreme downcutting) and to perform ocular assessments. The ocular
477 assessment is a point-in-time measurement of visual indicators and will be used for initial
478 assessment to determine the ecological state of each stream reach within the model
479 (Appendix C). Ideally one ocular assessment will be done per stream segment; however,
480 due to stream heterogeneity and changes in ecological condition, multiple assessments
481 may be necessary.

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

493 The method selected will be determined by SWCD and the landowner for the specific
494 stream segment.

495

496 ***Annual Monitoring***

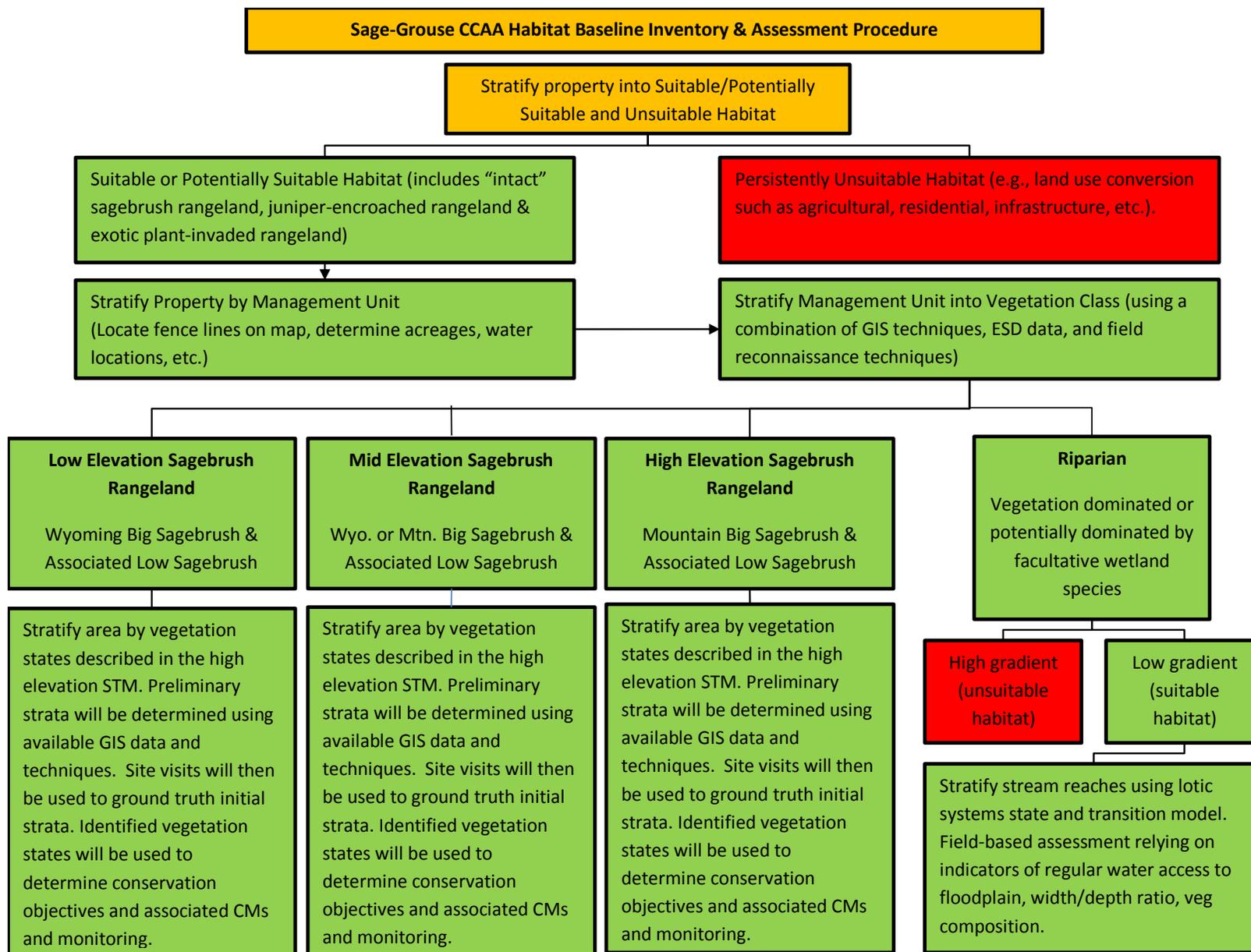
497 Sagebrush rangelands are dynamic systems that constantly change in response to fire, wildlife,
498 climate, insect infestations, weed invasions, and natural vegetation succession; not just to inputs
499 from management. Annual monitoring focuses on identifying management inputs and factors
500 external to the management program that affect the responses of sagebrush rangeland over time.

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

510 The following set of flow charts describes the step-by-step process for habitat stratification and
511 identifying current states of plant communities. Derived from that classification, the flow charts
512 continue on, identifying potential threats and the conservation measures that will maintain or
513 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.



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

Low Elevation Sagebrush Rangeland

Ecological State A	Ecological State B	Ecological State C	Ecological State D
<p>Site dominated by sagebrush, large perennial bunch-grasses, and perennial forbs. Sagebrush cover >10%. Capable of providing year around habitat for sage-grouse.</p> 	<p>Site dominated by large perennial bunchgrasses and perennial forbs. Sagebrush cover <10%. Capable of providing seasonal habitat for sage-grouse.</p> 	<p>Site dominated by decadent sagebrush and Sandberg bluegrass and/or annual grasses. Sagebrush cover > 10%. Capable of providing seasonal habitat.</p> 	<p>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>Conservation Objectives</p> <p>Prevent conversion to exotic annual grasses by maintaining dominance of large, deep-rooted perennial bunchgrasses and sagebrush.</p> <p>Manage for stable or improving trend.</p>	<p>Conservation Objectives</p> <p>Prevent conversion to exotic annual grasses by maintaining dominance of large, deep-rooted perennial bunchgrass and provide conditions for reestablishment of sagebrush.</p> <p>Manage for transition toward State A..</p>	<p>Conservation Objectives</p> <p>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>Conservation Objectives</p> <p>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 re-vegetate areas of exotic plants to veg dominated by deep-rooted perennial grasses.</p>
<p>Threats</p> <p>Wildfire Improper grazing Exotic Invasives</p>	<p>Threats</p> <p>Wildfire Improper Grazing Exotic Invasives Vegetative Treatment</p>	<p>Threats</p> <p>Wildfire Improper Grazing Exotic Invasives</p>	<p>Threats</p> <p>Wildfire Exotic Invasives Vegetative Treatment</p>
<p>Applicable CMs</p> <p>Listed by threat in Appendix A.</p>	<p>Applicable CMs</p> <p>Listed by threat in Appendix A.</p>	<p>Applicable CMs</p> <p>Listed by threat in Appendix A.</p>	<p>Applicable CMs</p> <p>Listed by threat in Appendix A.</p>

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Figure 3: Mid Elevation Sagebrush Rangeland Ecological Type

Mid Elevation Sagebrush Rangeland				
<p>Ecological State A</p> <p>Site dominated by sagebrush, large perennial bunchgrasses, and perennial forbs. Sagebrush cover >10%. Capable of providing year around habitat.</p> 	<p>Ecological State B</p> <p>Site dominated by large perennial bunchgrasses and perennial forbs. Sagebrush cover <10%. Capable of providing seasonal habitat.</p> 	<p>Ecological State C</p> <p>Co-dominance of conifers, perennial grasses and sagebrush. Areas of conifer cover >5% not capable of providing seasonal habitat.</p> 	<p>Ecological State D</p> <p>Site dominated by conifers. Depleted perennial understory. Exotica annuals present. Not capable of providing habitat in current state.</p> 	<p>Ecological State E</p> <p>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>Conservation Objectives</p> <p>Maintain sagebrush and large perennial bunchgrasses and perennial forbs. Maintain sagebrush cover >10%.</p>	<p>Conservation Objectives</p> <p>Provide conditions for an increase in the cover of sagebrush. Manage for transition toward State A.</p>	<p>Conservation Objectives</p> <p>Restore shrubs and perennial herbaceous vegetation by removing of conifers and post treatment restoration of desired species.</p>	<p>Conservation Objectives</p> <p>Restore dominance of shrub and perennial grasses and forbs through removal of dominant conifer overstory and reveg.</p>	<p>Conservation Objectives</p> <p>Manage fire risk and/or revegetate areas of exotic plants to vegetation dominated by deep-rooted perennial grasses.</p>
<p>Threats</p> <p>Lack of fire High severity fire Improper grazing Conifer encroachment</p>	<p>Threats</p> <p>High severity fire Improper grazing Conifer encroachment</p>	<p>Threats</p> <p>High severity fire Improper grazing Exotic Invasives Conifer encroachment</p>	<p>Threats</p> <p>Wildfire Exotic Invasives</p>	<p>Threats</p> <p>Wildfire Exotic Invasives</p>
<p>Applicable CMs</p> <p>Listed by threat in Appendix A.</p>	<p>Applicable CMs</p> <p>Listed by threat in Appendix A.</p>	<p>Applicable CMs</p> <p>Listed by threat in Appendix A.</p>	<p>Applicable CMs</p> <p>Listed by threat in Appendix A.</p>	<p>Applicable CMs</p> <p>Listed by threat in Appendix A.</p>

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

Lotic Riparian Systems			
<p>Ecological State A</p> <p>Highly stable channel (width/depth ratio <12), annual flow usually reaches floodplain creating a large riparian buffer. Vegetation is dominated by deep-rooted riparian species.</p>	<p>Ecological State B</p> <p>Moderately stable channel (width/depth ratio >12), annual flow usually reaches floodplain creating a large riparian buffer. Vegetation is dominated by deep-rooted riparian species.</p>	<p>Ecological State C</p> <p>Unstable channel (width/depth ratio >12), annual flow usually does not access floodplain. Deep-rooted riparian vegetation is limited by water table depth.</p>	<p>Ecological State D</p> <p>Unstable channel (width/depth ratio <12), annual flow usually does not access floodplain. Deep-rooted riparian vegetation is limited by water table depth.</p>
<p>Conservation Objectives</p> <p>Maintain stable water table and manage riparian vegetation</p>	<p>Conservation Objectives</p> <p>Maintain stable water table and manage riparian vegetation</p>	<p>Conservation Objectives</p> <p>Decrease depth to water table and improve riparian vegetation</p>	<p>Conservation Objectives</p> <p>Decrease depth to water table and improve riparian vegetation</p>
<p>Threats</p> <p>Catastrophic flood Improper grazing Exotic invasives Conifer encroachment</p>	<p>Threats</p> <p>Catastrophic flood Improper grazing Exotic invasives Conifer encroachment</p>	<p>Threats</p> <p>Catastrophic flood Improper grazing Exotic invasives Conifer encroachment</p>	<p>Threats</p> <p>Catastrophic flood Improper grazing Exotic invasives Conifer encroachment</p>
<p>Applicable CMs</p> <p>Listed by threat in Appendix A.</p>	<p>Applicable CMs</p> <p>Listed by threat in Appendix A.</p>	<p>Applicable CMs</p> <p>Listed by threat in Appendix A.</p>	<p>Applicable CMs</p> <p>Listed by threat in Appendix A.</p>

528 ***Scientific Studies and Species Monitoring***

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

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

541

542 ***Monitoring Summaries, Evaluation, and Reporting***

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

572

573

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

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

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

595 **7. Authorities**

596 ***SWCD Authorities***

597 Oregon Revised Statute (ORS) 190.110 gives Lakeview SWCD statutory authority to enter into
598 agreements. Additional statutory authority is given to carry out district responsibilities under
599 ORS 568.550:

- 600 1. The board of directors of a soil and water conservation district has the following powers:
601 (d) To enter into written agreements with and, within the limits of appropriations duly
602 made available to the board by law, to furnish financial or other aid to any
603 governmental or nongovernmental agency or any owner or occupier of lands within
604 the district, for the purpose of:
605 (A) Carrying on within the district soil erosion control and prevention operations,
606 water quality improvement, watershed enhancement and improvement, fish and
607 wildlife habitat management activities and other natural resource management
608 activities; or
609 (B) Carrying out district responsibilities under ORS 541.898, 568.225, 568.550 and
610 568.900 to 568.933.

611
612 ***FWS Authorities***

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

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

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

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

651
652 The five factors include:

- 653 • The present or threatened destruction, modification, or curtailment of the species’ habitat
654 or range
- 655 • Overutilization of the species for commercial, recreational, scientific, or educational
656 purposes
- 657 • Disease or predation
- 658 • The inadequacy of existing regulatory mechanisms
- 659 • Other natural or man-made factors affecting the species’ continued existence

660 **8. Covered Area**

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

664 Lake County may include portions of their ranch that are located in adjacent counties. If ranch
 665 base lands (i.e. ranch headquarters, agricultural production, meadows) are within Lake County, it
 666 may be reasonable to include contiguous pastures in adjacent counties for inclusion in this
 667 CCAA. The authorities granted to Soil and Water Conservation Districts in Oregon Revised
 668 Statutes (see *Section 7. Authorities*) allow for private lands in counties adjacent to Lake County
 669 to be included in this programmatic CCAA. The process that would allow Lakeview SWCD the
 670 jurisdiction to work with landowners who have property in both counties is: upon a joint request
 671 from Lakeview SWCD and the affected landowner, the neighboring SWCD may approve the
 672 request and pass a resolution.

673
 674 For purposes of analysis, FWS analyzed PPH and PGH as representing the best current estimate
 675 of sage-grouse habitat. However, private lands within the covered area that are not currently
 676 designated as PPH or PGH but have the characteristics of sage-grouse habitat or have known
 677 sage-grouse occupancy may be included in the agreement.

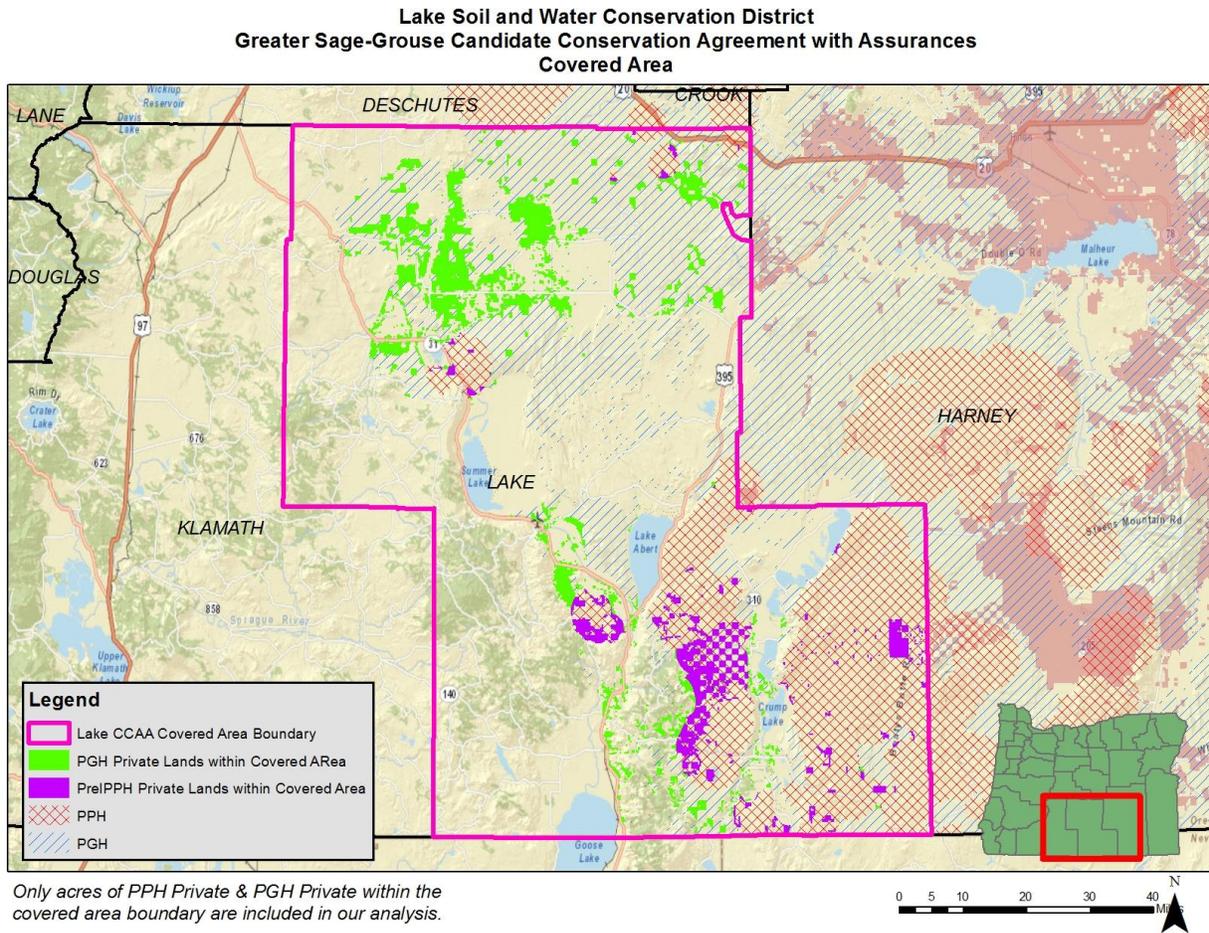
678
 679 In Lake County, there are over 2.5 million acres of potential sage-grouse habitat. See table below
 680 for a breakdown of these acreages in Lake County:

681
 682 **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>	283,439	115,185	398,624
<i>BLM in Lake County</i>	1,106,437	649,255	1,755,692
<i>Other*</i>	92,804	270,824	363,628
<i>Totals</i>	1,482,680	1,035,264	2,517,944

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

Figure 6: Covered area map



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9. Responsibilities of the Parties

Landowners will:

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

- 705 ***The SWCD will:***
- 706 • Conduct public outreach and education to encourage enrollment of landowners in the
 - 707 CCAA through Site Specific Plans (SSP)/Certificates of Inclusion (CIs)
 - 708 • Enroll landowners according to the steps outlined in *Section 3. Application and*
 - 709 *Enrollment Process*
 - 710 • Use the mutually agreed upon tracking system to protect landowner privacy
 - 711 • Prepare and review SSPs/CIs for accuracy and cosign the SSP/CI document upon
 - 712 receiving a Letter of Concurrence from FWS
 - 713 • Assist in the implementation of conservation measures, monitoring, or other measures if
 - 714 agreed upon during the development of the SSP by the landowner, SWCD, and FWS
 - 715 • Ensure terms and conditions included in the SSPs are being implemented as agreed upon
 - 716 • Collect and evaluate monitoring data to determine if CMs are providing the desired
 - 717 habitat benefit and provide a report of monitoring results to the landowner and copies of
 - 718 summary reports to FWS
 - 719 • Provide technical assistance to aid enrolled landowners in implementing the CMs
 - 720 • Work with enrolled landowners and other agencies (e.g., OSU Extension, NRCS) to
 - 721 facilitate appropriate rangeland monitoring and/or training
 - 722 • Provide support and assist in obtaining funding from other sources for the
 - 723 implementation of CMs
 - 724 • Monitor and report projects (e.g. implementation of CMs) in order to determine success
 - 725 and adaptations needed
 - 726 • Immediately report to FWS and ODFW any observed or reported mortalities of sage-
 - 727 grouse
 - 728 • Meet annually with FWS to present annual and trend monitoring information
 - 729 • Protect, to the maximum extent available under federal, state, and local laws, against the
 - 730 release or disclosure of all confidential personal and/or commercial information provided
 - 731 by enrolled landowners and collected, gathered, prepared, organized, summarized, stored,
 - 732 and distributed for the purposes of developing and implementing this CCAA
 - 733 • Provide notice to enrolled landowners when a request for public records concerning this
 - 734 CCAA is made, and allow the enrolled landowner to prepare a notification requesting that
 - 735 any confidential personal and/or commercial information be withheld

736

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

- 738 • Provide assistance in coordinating development and implementation of this CCAA
- 739 • Review each SSP⁴ and provide a Letter of Concurrence within 60 days if all issuance
- 740 criteria are met for all SSPs completed under the EOS permit
- 741 • Provide technical assistance to aid the landowners in implementing the CMs
- 742 • Review monitoring data for consistency with CCAA objectives to determine if
- 743 conservation measures are providing the desired benefit to sage-grouse
- 744 • Serve as an advisor, providing expertise on the conservation of sage-grouse

⁴ FWS will participate in the development of up to the first five SSPs that represent the diversity of habitat in Lake County, including site visits, baseline inventory, analysis or other aspects of plan development.

- 745 • Assist in the implementation of conservation measures, monitoring, or other measures if
- 746 agreed upon during the development of the SSP by landowner, SWCD, and FWS
- 747 • Provide FWS funding, to the extent funding is available consistent with *Section 23.*
- 748 *Availability of Funds*, of the programmatic CCAA, to support implementation of this
- 749 CCAA and associated SSPs/CIs
- 750 • Provide support and assist in obtaining funding from other sources for the
- 751 implementation of CMs
- 752 • Conduct outreach and public education efforts to promote the conservation of sage-
- 753 grouse
- 754 • Immediately report to ODFW any observed or reported mortalities of sage-grouse
- 755 • Protect, to the maximum extent permissible under federal laws, against the disclosure of
- 756 all confidential personal and/or commercial information provided by enrolled landowners
- 757 and collected, gathered, prepared, organized, summarized, stored, and distributed for the
- 758 purposes of developing and implementing this CCAA
- 759 • Provide notice to SWCD when a Freedom of Information Act (FOIA) request for records
- 760 concerning this CCAA is made, and allow the SWCD to prepare a notification requesting
- 761 that any confidential personal and/or commercial information be withheld

762 **10. Covered Activities**

763 The term “covered activities” refers to those activities carried out by the enrolled landowner or
 764 their authorized representative on enrolled lands that may result in authorized incidental take of
 765 covered species (e.g. sage-grouse) consistent with the EOS permit and CCAA during the term of
 766 the SSP/CI. In this case, covered activities include:

- 767 • Ongoing and planned rangeland practices listed below
- 768 • Conservation measures (Appendix A) and changed circumstances conservation measures
- 769 (Section 15)
- 770 • Limited use of specific herbicides as described in Appendix E
- 771 • Inventory and monitoring activities identified in the CCAA as well as Appendix D

772 **Ongoing and planned rangeland practices**

773 Activities that are covered by this CCAA and the associated EOS permit include most activities
 774 commonly practiced on rangelands. However, as complex as rangelands are, so are the
 775 landowners’ uses that depend on these for their livelihoods. If activities not included below are
 776 occurring on lands to be enrolled, the FWS will determine if they are consistent with the
 777 programmatic CCAA and permit issuance criteria as well as whether or not additional NEPA
 778 analysis is needed to cover them. Activities that meet all required standards may be considered
 779 for inclusion in individual SSPs, provided that the effect of including such activities does not
 780 significantly change the CCAA’s effect on the environment. Rangeland practices were divided
 781 into five categories: rangeland treatments, livestock management, recreation, farm operations,
 782 and development; and are described in more detail below and in association with the
 783 conservation measures in Appendix A.
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 785
 786

787 **Rangeland Treatments**

- 788 • Establishing and maintaining fire breaks or green strips of fire resilient vegetation

- 789 • Limited sagebrush removal in areas where the sagebrush canopy cover is too high (>25%) for
- 790 the development of understory grasses and forbs if they are determined to be limited
- 791 • Seeding or plugs with perennial grasses, forbs, and sagebrush to enhance both sage-grouse
- 792 habitat and livestock forage
- 793 • Juniper and conifer removal to enhance sage-grouse habitat
- 794 • Weed control (mechanical, herbicides, biological agents)
- 795 • General stewardship of rangelands

796

797 **Livestock Management**

- 798 • Grazing of forage
- 799 • Construction, placement, and maintenance of fences, ponds, stock-tanks and other watering
- 800 sources
- 801 • Feeding hay and dietary supplements in pastures
- 802 • Establishing and maintaining remote camps
- 803 • Gathering, moving, trailing, temporary penning, rounding-up and shipping livestock;
- 804 • Calving and branding operations
- 805 • Disposal of dead animals
- 806 • General stewardship and animal husbandry practices

807

808 **Recreation**

- 809 • Legal hunting and fishing with proper licensing and tags through ODFW (hunting of sage-
- 810 grouse is not a covered activity under the CCAA)
- 811 • Horseback riding
- 812 • Camping and hiking
- 813 • Use of recreational vehicles both on and off established roads (as may further be defined in
- 814 individual site specific plans)

815

816 **Farm Operations**

- 817 • Cultivation of existing fields, including planting, cultivation and harvesting crops
- 818 • Mechanical treatment of fields and pastures and application of soil amendments
- 819 • Irrigation by flooding or sprinklers
- 820 • Burning to control weeds within fields and along ditch banks
- 821 • Maintenance of houses, outbuildings, fences and corrals, irrigation equipment, and roads

822

823 **Developments**

- 824 • Existing ranch infrastructure and fences
- 825 • New buildings associated with ranch operations (e.g. hay barn, ranch house)
- 826 • Facilities such as new fences, roads, and power lines necessary for ranch operations

827

828 **Stipulations on Developments in this CCAA**

- 829 • If proposed new buildings and facilities impact existing sage-grouse habitat the proposal
- 830 will need to include internal mitigation that will ensure enrolled lands will still meet the
- 831 CCAA standard. These actions must be completed, or funded and scheduled prior to any
- 832 loss of habitat quality or quantity associated with the new construction. The type of
- 833 planned development, scale in relation to enrolled acres, and location relative to

- 834 important areas of sage-grouse use, present habitat condition, and conformance with
835 relevant regulatory policies will be taken into account when developing the SSP.
- 836 • Developments that are not associated with the immediate operations of the ranch (e.g.
837 multiple unit residential development or subdivisions, resort developments, energy
838 developments) are not covered activities under this agreement.

839 **11. Anticipated Incidental Take**

840 Take⁵ may occur as a result of covered activities or implementation of conservation measures.
841 Take that results from, but is not the purpose of, carrying out an otherwise lawful activity such as
842 rangeland management is known as incidental take. Incidental take will likely occur sporadically
843 on enrolled lands and is not expected to nullify the conservation benefits that are described under
844 this CCAA.

846 **Types of Incidental Take**

847 We considered three primary types of incidental take: (1) injury or death; (2) harm in the form of
848 habitat fragmentation, loss, or degradation and (3) harassment in the form of human activities
849 that significantly disrupt normal behavioral patterns such as breeding, feeding, or sheltering. For
850 each type of take we describe the associated covered activities and conservation measures that
851 will minimize the take.

852 **Injury or death**

- 854 • Haying and other farming operations that use heavy equipment can directly kill or injure
855 adult and juvenile sage-grouse especially brooding females and their young or eggs. If only
856 the female is killed or injured any young or eggs are likely to die due to lack of parental care.
857 The risk of this is low because areas that are under cultivation are typically not suitable sage-
858 grouse habitat however margins of fields that have sagebrush habitat nearby may be used for
859 nesting and foraging. These impacts will be minimized by implementation of practices
860 identified during site-specific plan development (Appendix B, Sections I and K).
- 861 • Fences used for livestock management, especially those in certain high-risk locations can
862 cause direct mortality to sage-grouse from collision (Beck and Mitchell 2000; Connelly et al.
863 2004; Crawford et al. 2004; Cagney et al. 2010) The risk of collision with fences will be
864 minimized by removing unnecessary fences; and marking fences in high-risk locations to
865 make them more visible to sage-grouse (see CM 28 and 29). Vertical structures such as
866 telephone and power lines and poles serve as raptor perches and therefore can indirectly
867 contribute to injury and death to sage-grouse from avian predators. This risk will be
868 minimized by removing unnecessary structures, undergrounding lines when feasible, and
869 limiting new construction (See CM 2 and 5).
- 870 • Sage grouse can drown in livestock water tanks when they use them as a water source. This
871 risk will be minimized by properly equipping stock-tanks with escape ramps (See CM 27).
- 872 • Standing water sources including stock-tanks and ponds managed for livestock watering can
873 attract mosquitoes and increase the risk of West Nile virus outbreaks (USFWS 2010). West

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.

874 Nile virus is known to injure or kill sage-grouse. This risk will be reduced by minimizing
875 unnecessary standing water sources (see CM 56).

- 876 • Use of the herbicides listed in Appendix E are not known to directly injure or kill sage-
877 grouse, however there have been limited studies that are specific to sage-grouse. The risk of
878 mortality associated with herbicide use will be minimized by only using approved herbicides
879 consistent with Appendix E, implementing all best management practices and applicable
880 CMs on enrolled lands (See CM 34, 40, and 46). If it is found that these herbicides do injure
881 or kill sage-grouse their use may be discontinued as a covered activity consistent with
882 changed circumstances provisions (See CCCM16).

883

884 **Harm:**

- 885 • Construction of new buildings, fences, powerlines for ranch operations are likely to decrease
886 habitat quantity and/or quality. Any actions of this type will be carefully designed to
887 minimize impacts and internal mitigation will be required to ensure that the impact of these
888 actions are mitigated in order to meet the CCAA standard and meet the objectives of CM 1
889 (See CM 1, 2, 4, 5).
- 890 • Removing sagebrush along roadsides to create firebreaks can decrease the amount of this
891 habitat available to sage-grouse. However, the benefits of firebreaks outweigh the harm.
892 Firebreaks can prevent large tracts of sage-grouse habitat from being degraded by fire or may
893 serve as an anchor point to effectively fight fire from. Risk will be minimized by limiting
894 size of firebreaks (See CM 6).
- 895 • Rangeland treatments may temporarily reduce sagebrush cover in order to inter-seed with
896 desired grasses and forbs to improve sage-grouse habitat, resulting in a short term loss but
897 long term gain in sage-grouse habitat This risk will be minimized by limiting size of
898 treatment area, consideration of how treatments will affect overall landscape for sage-grouse
899 and assessment of current vegetation condition or other effective measure as identified. (See
900 CM 43-48).
- 901 • Improperly managed livestock grazing can result in decreased beneficial grasses and forbs in
902 nesting and brood-rearing habitat (Hagen et al. 2007; Gregg et al. 1994). There are several
903 CMs that address impacts of livestock grazing and landowners will be required to modify
904 grazing practices if the threat of “improperly managed livestock grazing” is occurring on
905 lands to be enrolled. This risk will be further minimized with annual monitoring and
906 reporting of utilization on enrolled lands as well as adapting to drought or other
907 environmental factors that may increase or decrease forage (See CM 19-30).
- 908 • Concentration of livestock that results in compaction of soils and increased bare ground, can
909 degrade nesting and brood-rearing habitat and increase the risk of establishing invasive
910 weeds (Mack and Thompson 1982; Miller and Eddleman 2000). This risk will be minimized
911 if the threat is identified during site specific plan development by changing timing, intensity,
912 and duration of livestock grazing in areas at risk or other effective measure as identified.(See
913 CM 19-30).

914

915 **Harassment**

- 916 • Due to seasonal accessibility or weather issues, rangeland treatments such as juniper removal
917 from sagebrush habitat may need to be conducted when sage-grouse are nesting or otherwise
918 utilizing these areas. If so this would cause some temporary harassment of sage-grouse.
919 However without treatment, juniper encroachment can make habitat unsuitable for sage-

- 920 grouse. Harassment will be minimized through careful scheduling of treatments. (See CM
921 15)
- 922 • Livestock management activities such as moving cattle to different areas may cause sage-
923 grouse to flush or otherwise disrupt their behavior. In the majority of instances this
924 disturbance is expected to be of very short duration such that it does not rise to the level of
925 take. (See CM 20-21)
 - 926 • Farm operations including the use of heavy equipment, vehicles, noise from generators or
927 windmill powered pumps may cause short-term disturbances to sage-grouse or in the case of
928 ongoing noise and frequent activities, it may cause sage-grouse to avoid otherwise usable
929 habitat. These impacts are expected to be fairly localized as birds using the margins of fields
930 can easily retreat to sagebrush from machinery noise. When economically feasible new and
931 existing pumps would be converted to solar power to reduce noise and sage-grouse
932 disturbance. (See CM 4)
 - 933 • Recreational activities in the vicinity of active leks may cause birds to flush or abandon.
934 This risk will be minimized by limiting un-necessary access during certain times of the year
935 when sage-grouse are using enrolled lands (for example: lekking, wintering or brood-rearing)
936 as applicable. (See CM 53)
 - 937 • Development activities associated with construction of new buildings, fences, power lines for
938 ranch operations can cause harassment of sage-grouse. Risk of disturbance from these
939 activities can be minimized by timing them outside of the breeding and nesting season. (See
940 CM 20-21)

941 **12. Authorized Take**

942 Authorization of incidental take is provided in the EOS permit issued by the FWS, if sage-grouse
943 is listed. This authorization is limited to incidental take resulting from covered activities and
944 implementation of conservation measures identified in the CCAA/SSP or EOS Permit. The
945 amount of authorized incidental take from covered activities, if 100% of the covered area is
946 enrolled, would be a maximum of 660 sage-grouse over the 30-year term of the CCAA or 22
947 birds annually. If less than 100% of the area is enrolled under the CCAA, then the authorized
948 take would be proportionally less. If the species is listed, take will be authorized based on the
949 amount of acres of PPH and PGH enrolled in the CCAA. Additionally, evaluation of take will
950 be based on a rolling 5-year average such that if take is high in one year it will not exceed
951 authorized take unless the 5-year average annual take exceeds authorized take. Statewide
952 population estimates as well as the amount and types of sage-grouse habitat (PPH and
953 PGH)(Table 3, Appendix F) available under the Lake SWCD CCAA were used to come up with
954 this level of take.
955

956 Table 2: Estimated Take Calculation – Assuming 100% of lands are enrolled.*

Take Calculation:	Habitat Type	Acres Impacted	Birds Exposed	Rate of Injury or Mortality	Annual Take
Rangeland Treatments	5% of PGH	14,172	4	3.59%	0.15
	5% of PPH	5,759	19	3.59%	0.69
Livestock Management					
Nest Abandonment	PGH (5%)		14	3.59%	0.51
(60% of Birds Exposed = 667)	PPH (95%)		269	3.59%	9.64
Nest Trampling	PGH (5%)		14	1.11%	0.16
(60% of Birds Exposed = 667)	PPH (95%)		269	1.11%	2.99
Farm Operations					
Haying	PGH	37,423	11	0.95%	.11
	PPH	1,087	4	0.95%	.03
Development					
Fences (high risk marked)	PGH		84	1.62%	1.36
	PPH		387	1.62%	6.27
Additional Authorized Take	100% of PGH	283,439	84	0.50%	0.42
	100% of PPH	115,185	387	0.50%	1.93
Total authorized Annual Take					25
Total Take over 30 years					660
Annual Take Percentage					5.31%

*For details on how the numbers above were calculated see Appendix F.

957
958

959 **Impacts of the Taking**

960 Authorizing an average annual take of approximately 5% of the estimated statewide spring total
961 sage-grouse population will not adversely affect populations (Sedinger 2010; Connelly 2000;
962 ODFW 2010). The authorized take associated with this CCAA (~ 5%), combined with ODFW’s
963 actual (3%) or allowed (5%) harvest rates (ODFW 2011) could account for an average 8-10%
964 annual loss of the sage-grouse population in areas that are under this CCAA and where hunting
965 of sage-grouse occurs. Cumulative impacts of harvest on sage-grouse populations in Oregon are
966 evaluated annually by ODFW. A 8-10% loss is within range-wide sage-grouse management
967 guidelines that recommend a harvest rate of 10% or less for healthy sage-grouse populations
968 (Connelly et al. 2000), and below recently published peer-reviewed science for Colorado and
969 Nevada, which found “at harvest rates <11% harvest is unlikely to have an important influence
970 on local population dynamics of sage-grouse” (Sedinger et al. 2010).

971
972 The authorized amount of take may be adjusted if the statewide 10-year minimum spring
973 breeding population average changes by more than 10%. While the total amount of authorized
974 take will be proportional to the amount of enrolled properties, take will be counted against the
975 whole permit rather than individual properties in order to allow more management flexibility.

976
977 **Monitoring and Evaluation of Take**

978 Monitoring of take will be addressed through the monitoring strategies associated with the
979 SSP/CI. These include monitoring of the extent of occupied habitat and habitat condition.
980 Landowners will be required through their SSP/CI to report mortality from incidental take to the
981 SWCD, who will report to the FWS as required in *Section 9. Responsibilities of the Parties*.
982 While the total amount of authorized take will be proportional to the amount of enrolled
983 properties, take will not be allotted to individual landowners. All take that occurs will be counted
984 against the whole permit rather than individual properties in order to allow more management
985 flexibility. Evaluation of take will be based on a rolling 5-year average such that if take is high
986 in one year it will not exceed authorized take unless the 5-year average exceeds the amount of
987 take permitted.

988 **13. Expected Benefits**

989 Benefits to sage-grouse habitat in Lake County are expected as a result of implemented SSPs
990 developed under this agreement. The CMs identified in this CCAA are expected to benefit sage-
991 grouse through maintenance, enhancement, and rehabilitation of sage-grouse habitats by
992 reducing threats causing direct and indirect mortality. Enhanced survival of sage-grouse is the
993 objective of this agreement and implementation of the CMs identified in this CCAA is expected
994 to compensate any estimated take. Private rangeland management can be complementary to
995 sage-grouse habitat; livestock management was not a primary contributor to the 2010
996 “warranted” determination. In the FWS 2010 listing decision, the FWS determined the act of
997 grazing was not the specific threat affecting the species, but that some aspects of livestock
998 management have the potential to influence habitat loss, fragmentation, and degradation.
999

1000 The sage-grouse is affected rangewide by a variety of threats, such as habitat fragmentation from
1001 wildfire, invasive species, conifer encroachment, energy and other types of development as well
1002 as predation, recreation, sagebrush conversion and other threats. This CCAA addresses a subset
1003 of these threats on a portion of the species range, the occupied sage-grouse habitat of Lake
1004 County, Oregon. For this CCAA, the conservation measures must reduce all the threats within
1005 their control on enrolled lands. If actions identified in species conservation strategies⁶ were
1006 undertaken on all necessary properties rangewide, the declining trend would be reversed and
1007 there would be no need to list. This level of conservation benefit is more than just a net
1008 conservation benefit to recovery; it is a reversal in the species trend - if it could be replicated on
1009 all necessary properties. Thus, it is more than just an improvement in status on that property, it
1010 is significant reduction in threats.
1011

1012 Some specific benefits to sage-grouse habitat provided by rangeland management activities
1013 implemented in accordance with this CCAA include:

- 1014 • maintenance of large tracts of un-fragmented and undeveloped land;
- 1015 • managing fuels to help reduce the risk of catastrophic wildfires and associated fragmentation;
- 1016 • potentially increasing rangeland plant diversity, including perennial grasses and forbs;
- 1017 • weed and invasive species management;

⁶ Species Conservation Strategies have been developed rangewide by state and federal agencies e.g. ODFW’s 2011 Strategy other state sage-grouse plans, the National Technical Team Report (NTT), The Conservation Objectives Team Report (COT), and others.

- 1018 • maintenance and enhancement of healthy springs and seeps (Beck and Mitchell 2000;
1019 Connelly et al. 2004; Crawford et al. 2004; Cagney et al. 2010);
1020 • contributing to meeting the strategies and objectives of ODFW’s Strategy (Hagen 2011) that
1021 are relevant to enrolled private lands; and
1022 • ranking preference for obtaining resources from federal, state, and local programs for sage-
1023 grouse habitat improvement (e.g. NRCS Sage Grouse Initiative, FWS Partners, OWEB).

1024
1025 Enrolled landowners agree to manage their lands in a manner that provides a benefit to sage-
1026 grouse. Under an SSP, enrolled lands may be suitable for appropriate mitigation actions or
1027 conservation banking from off-site development (if and when available). As FWS, SWCD, and
1028 other cooperators become aware of any mitigation opportunities in Oregon or nationally, they
1029 will help direct such opportunities to enrolled landowners. Mitigation actions or conservation
1030 banks for off-site or on-site development may occur, but will have a separate agreement with
1031 independent requirements (for information about internal mitigation - mitigation within a
1032 landowner’s enrolled property- see *Development Subsection in Section 10. Covered Activities*).

1033
1034 Additionally, the assurances conferred under the CCAA program by section 10(a)(1)(A) EOS
1035 permits provide economic stability of current land and livestock management activities on
1036 enrolled lands. Since private landowners control substantial acreage of important habitat for
1037 sage-grouse, implementation of CMs by enrolled landowners throughout Lake County could
1038 potentially maintain or improve over 1 million acres of sage-grouse habitat, county wide. The
1039 FWS believes if similar conservation measures that address threats to sage-grouse were
1040 implemented throughout sage-grouse range; the need to list sage-grouse would likely be
1041 precluded.

1042
1043 **14. Assurances Provided**

1044 Through this CCAA, the FWS provides the SWCD and participating landowners enrolled
1045 through SSPs/CIs with assurances that no additional conservation measures or additional land,
1046 water, or resource use restrictions, beyond those voluntarily agreed to and described in the
1047 Conservation Measures (Appendix A) of this CCAA and associated SSPs/CIs will be required
1048 should sage-grouse become listed as a threatened or endangered species in the future, provided
1049 that the SSPs are being implemented as agreed upon (the ONLY exception is when an
1050 unforeseen circumstance occurs -see *Section 16. Unforeseen Circumstances*). These assurances
1051 will be authorized with the issuance of an EOS permit under ESA section 10(a)(1)(A).

1052 **15. Changed Circumstances**

1053 Changed circumstances are changes affecting sage-grouse or the geographic area covered by this
1054 CCAA that can reasonably be anticipated and can be planned for. This CCAA has identified
1055 wildfire, drought, West Nile virus, catastrophic flooding, habitat fragmentation from
1056 development, and herbicide use as potential changed circumstances that are expected to occur
1057 over the 30-year life of the permit.

1058
1059 If it is determined by the landowner, SWCD, or FWS that a changed circumstance(s) exist, the
1060 landowner will implement the appropriate changed circumstance conservation measures
1061 (CCCMs) or a mutually agreed upon approach to address the additional threat or threats created

1062 by the changed circumstance(s). CCCMs will be adopted to meet the CCAA standard on enrolled
1063 lands. All modifications, changes or additions to the SSP will be mutually agreed upon by the
1064 landowner, SWCD and FWS. If a changed circumstance(s) occurs, the SWCD will notify the
1065 FWS of the enrolled lands affected, the impact of the changed circumstance(s), and the CCCM(s)
1066 that will be implemented to address the changed circumstance(s), the FWS will provide a letter
1067 of concurrence (within 30 days) to the SWCD approving the CCCMs if the CCCM's will allow
1068 enrolled lands to continue to meet the CCAA standard. The following list provides possible
1069 conservation measures to address threats created by a changed circumstance(s). Conservation
1070 Measures not identified on this list may be developed with landowner agreement and with
1071 approval of FWS.

1072
1073 **Wildfire** - Wildfire impacts affecting landowners enrolled with SSPs/CIs will be handled on a
1074 case-by-case basis. SWCD will work with the individual landowners to determine the
1075 management practices to be applied, which may include:

1076 **CCCM 1.** SWCD will evaluate with the landowner the need for rehabilitation based on pre-
1077 fire plant community health, fire intensity, and proximity to invasive annual species (e.g.
1078 cheatgrass, medusahead). SWCD will provide a written summary to the landowner of their
1079 evaluation and need for active rehabilitation or for natural recovery.

1080
1081 **CCCM 2.** Landowner will allow for natural vegetation recovery where healthy pre-fire plant
1082 communities exist and observed fire intensity indicates natural recovery and proximity of
1083 invasive species are not a concern. Timing of livestock grazing following wildfire will
1084 depend on response of desirable vegetation. SWCD and the landowner will identify and set
1085 quantifiable objectives for post-fire vegetation recovery based on pre-fire monitoring data,
1086 returning livestock grazing once objectives have been met.

1087
1088 **CCCM 3.** Following wildfire, landowner will participate in rehabilitation where natural
1089 recovery is unlikely, due to fire intensity and/or proximity to invasive annual species, and
1090 where feasible, practicable, and if adequate funding is available. Where annual grasses are
1091 prevalent, plant aggressive fire-resistant perennial species to stabilize the site and allow for
1092 long term recovery of sagebrush and other native species.

1093
1094 **CCCM 4.** Landowner will implement, as needed, CMs listed under "Threat: Exotic Annual
1095 Invasion" in Appendix A.

1096
1097 **CCCM 5.** SWCD will conduct post-treatment monitoring to determine if rehabilitation
1098 techniques have been successful or if implementation changes are indicated (*see Section 6.*
1099 *Inventory and Monitoring Protocols*).

1100
1101 **CCCM 6.** Landowners will replace fence or temporarily fence where needed to protect
1102 recovering habitat post-fire, and, where appropriate, mark these fences with anti-strike
1103 markers or other agreed upon visual markers, as described by CM 30 in Appendix A.

1104
1105 **Drought** - When rangeland plants are deprived of precipitation, it affects the plant's growth
1106 cycle, volume of growth, and fruition. When drought conditions exist, annual monitoring will be
1107 used to determine site-specific recommendations. Drought is site specific and is typically

1108 considered to occur when two growing seasons of precipitation are below the long term average,
1109 affecting plant life cycles as described above. Prolonged drought is when the conditions
1110 described above persist for three or more growing seasons.

1111
1112 Variation in precipitation is common throughout the sage-grouse range. Annual rangeland
1113 monitoring and CMs on enrolled lands are expected to address year-to-year variations in
1114 precipitation. Droughts in important sage-grouse habitats may create conditions reducing
1115 seasonally available habitat resulting in changed circumstances. In some instances, failure to
1116 make timely adjustments in livestock use during drought has resulted in limited plant regrowth,
1117 overuse in wet meadows and riparian areas, and has negated gains in rangeland conditions made
1118 during higher-precipitation years (Thurow and Taylor 1999).

1119
1120 In the event of moderate to extreme drought, as determined by National Oceanic and
1121 Atmospheric Administration (NOAA)⁷ or if annual monitoring indicates drought conditions, the
1122 SWCD will meet with enrolled landowners to evaluate the drought condition effect on sage-
1123 grouse habitat and then consult with FWS. The following CCCM is intended to address the
1124 changed circumstance:

1125 **CCCM 7.** Utilize adaptive management to adjust levels and season of livestock grazing
1126 during drought conditions to maintain suitable sage-grouse habitat using the site specific
1127 conditions as determined in the baseline and subsequent trend monitoring. These adaptive
1128 management measures may include:

- 1129 a. Implement management changes, such as grazing rest, deferment, rotation, or
1130 other changes designed to maintain long term vegetation health for sage-grouse
1131 habitat.
1132 b. Develop grass banks for use during drought conditions.
1133 c. Develop additional water sources for livestock and sage-grouse.
1134 d. Employ other vegetation management to ensure long term plant community
1135 health.

1136
1137 **West Nile virus-WNV** has spread to eastern Oregon. In 2006, a die-off of at least 60 sage-
1138 grouse was documented near Burns Junction, and two other sage-grouse deaths were confirmed
1139 from WNV near Crane and Jordan Valley. Of the birds found dead, 3 provided suitable tissue
1140 samples and all were confirmed to be infected with WNV. No other significant mortalities have
1141 been documented in Oregon since 2006. However, there is the potential for an outbreak among
1142 sage-grouse, which are susceptible to the disease and suffer a high rate of mortality when
1143 infected. Currently, sage-grouse show low to no resistance to WNV, and mortality is assumed to
1144 be 100% (Naugle et al. 2004).

1145
1146 If outbreak occurs, as identified by state health officials⁸ or other appropriate regulatory agency,
1147 the landowner should implement the following CCCMs, as appropriate:

1148 **CCCM 8.** Report observations of dead or sick sage-grouse or other bird deaths that could be
1149 attributed to disease or parasites to SWCD or FWS within 48 hours.

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

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>

- 1150
1151 **CCCM 9.** Cooperate with responsible agencies to implement feasible mosquito control,
1152 which may include:
1153 a. Minimize unnecessary standing water that could be used as mosquito breeding
1154 grounds within sage-grouse habitat
1155 b. Use larvicides in areas that mosquito habitat cannot be reduced
1156 c. Evaluate the effectiveness of spraying for adult mosquitoes, and consider using
1157 mosquito specific control measures
1158

1159 **Habitat fragmentation and disturbance resulting from development** -Impacts can include
1160 both direct loss of habitat from agricultural conversion or sagebrush removal and habitat
1161 fragmentation by roads, pipelines, power lines, wind turbines, and other infrastructure.
1162 Accompanying noise disturbance can also reduce lek attendance and nesting success.
1163

1164 In the event of development on, or adjacent to, lands enrolled under this programmatic CCAA, in
1165 which the landowner does not have the legal ability (e.g. split estate mineral rights, noise
1166 disturbance from adjacent development) to exclude such development, the following measures
1167 may apply:

1168 **CCCM 10.** The SWCD, FWS and the landowner will evaluate the direct and indirect impacts
1169 to determine if the impacts will negate the intended benefits of the conservation measures
1170 being implemented or planned to be implemented on the enrolled lands.
1171

1172 **CCCM 11.** If these impacts are found to negate the CMs on some portion of the enrolled
1173 lands the landowner, SWCD and FWS will meet and develop alternative, mutually agreed
1174 upon conservation measures including, but not limited to, alternate CM implementation
1175 location within the enrolled lands.
1176

1177 In the event that planned development, on lands that the landowner chose not to enroll in the
1178 CCAA but *does* have legal control of, is likely to affect sage-grouse and their habitats on the
1179 landowner's enrolled lands, the following CCCMs may apply:

1180 **CCCM 12.** The landowner, SWCD, and FWS will evaluate the direct and indirect impacts to
1181 determine if the impacts are likely to negate the intended benefits of the conservation
1182 measures being implemented or planned to be implemented on the enrolled lands.
1183

1184 **CCCM 13.** If these impacts are found to negate the CMs to the extent that the CCAA
1185 standard is no longer being met, the landowner will work with the SWCD and FWS and
1186 develop an alternate approach for the planned development or for the enrolled lands to
1187 maintain the CCAA standard and landowner enrollment. If an agreement cannot be reached
1188 and the CCAA standard is no longer being met, the enrolled landowner or the SWCD or
1189 FWS can terminate the SSP and associated assurances provided under the CI.
1190

1191 **Catastrophic Flooding** –Excessive runoff resulting from catastrophic hydrological events (e.g.
1192 rain on snow event) are associated with mass-wasting of hill slopes, damage to river banks, and
1193 downstream flooding. These events have the capability to drastically change stream hydrology
1194 and vegetative composition of riparian corridors. These events are often associated with a 100-
1195 year flood cycle.

1196 **CCCM 14.** Utilize adaptive management based on evaluation of degree of flood impact.
1197 Adjust levels and season of livestock grazing after a catastrophic flood event to maintain
1198 and/or rehabilitate suitable sage-grouse habitat.
1199

1200 **CCCM 15.** Re-evaluate stream segments to identify critical areas and changes in ecological
1201 state and identify measures that could enhance stream function.
1202

1203 **Herbicide Use** – Currently, information is lacking on the direct effects of herbicides to sage-
1204 grouse; however, research on sage-grouse is ongoing and published studies and other new
1205 information often become available. If new research or other information indicates that one or
1206 more of the covered herbicides causes significant adverse effects to sage-grouse that outweigh
1207 the benefits of treating their habitats, the following CCCM may be implemented.

1208 **CCCM 16.** The Service can remove those herbicides (or group of herbicides) from the
1209 covered list; or if feasible require implementation of additional best management practices
1210 with SWCD and/or enrolled landowners to avoid and minimize take.
1211

1212 **16. Changed Circumstances Not Provided for in the CCAA**

1213 If FWS determines that additional conservation measures not provided for in the CCAA are
1214 necessary to respond to the changed circumstances, the FWS will not require any additional
1215 CMs in the CCAA or the SSP/CI without the consent of the enrolled landowner, provided the
1216 SSP is being properly implemented. The SWCD, FWS, and/or the landowner, if he or she
1217 desires, will assist by seeking funding to implement the agreed upon CMs.

1218 **17. Unforeseen Circumstances**

1219 Unforeseen circumstances are changes in circumstances affecting sage-grouse or the geographic
1220 area covered by the CCAA that could not reasonably have been anticipated by the landowner,
1221 SWCD and the FWS at the time of the CCAA's development, and result in a substantial and
1222 adverse change in the status of the sage-grouse.
1223

1224 The only situation where modification of conservation measures can be required by FWS is an
1225 unforeseen circumstance. To respond to unforeseen circumstances, the FWS may require
1226 modified or additional conservation measures by the landowner, but only if such measures
1227 maintain the original terms of the CCAA/SSP. The FWS will consider whether failure to adopt
1228 additional conservation measures would appreciably reduce the likelihood of survival and
1229 recovery of sage-grouse in the wild. Additional conservation measures will not involve the
1230 commitment of additional land, water, or landowner funds, or additional restrictions on the
1231 use of land, water, or other natural resources available for development or use under the
1232 original terms of the CCAA without the consent of the landowner, provided the SSP/CI is
1233 being properly implemented. Funding for conservation measures warranted under this section
1234 will be sought by FWS, SWCD, and/or other partners, including the landowner if he or she
1235 desires.
1236

1237 The FWS will have the burden of demonstrating that unforeseen circumstances exist, using
1238 information that is both reliable and credible and incorporates the best scientific and
1239 commercial data available. These findings must be clearly documented and based upon

1240 reliable technical information regarding the status and habitat requirements of sage-grouse.
1241 The FWS will consider, but not be limited to, the following factors:
1242 • Size of the current range of sage-grouse
1243 • Percentage of range adversely affected within the CCAA
1244 • Percentage of range conserved by the CCAA
1245 • Ecological significance of that portion of the range affected by the CCAA
1246 • Level of knowledge about sage-grouse and the degree of specificity of the species'
1247 conservation program under the CCAA

1248 **18. Duration of CCAA, EOS Permit, and SSP/CI**

1249 This programmatic CCAA will be in effect for 30 years following its approval and signing by the
1250 FWS. The section 10(a)(1)(A) EOS permit authorizing take of the species also will have a term
1251 of 30 years from the effective date of the permit. This duration should be sufficient to determine
1252 that the CMs are benefiting the sage-grouse. SSPs/CIs for enrolled landowners will be in effect
1253 for up to 30 years (or the amount of years remaining on the EOS permit for the programmatic
1254 CCAA) following FWS approval through a Letter of Concurrence and signing of the SSP/CI by
1255 the landowner and SWCD. This suits the practicalities of maximizing enrollment opportunities
1256 for interested landowners. While sage-grouse remain unlisted, the FWS may renew SSPs/CIs
1257 and permits, based upon reevaluation of the CCAA's ability to continue to meet the CCAA
1258 standard. An enrolled landowner may also voluntarily terminate a SSP/CI as described in
1259 *Section O. Termination of SSP/CI*, located in Appendix B. The FWS can only enroll new
1260 properties as long as sage-grouse has not been listed.

1261 **19. Modification of Programmatic CCAA**

1262 The FWS may not, through modification of the programmatic CCAA, impose any new
1263 requirements or conditions on, or modify any existing requirements or conditions applicable to,
1264 an enrolled landowner or successor in interest to the landowner to compensate for changes in the
1265 conditions or circumstances of any species or ecosystem, natural community, or habitat covered
1266 by the CI except as stipulated in 50 CFR 17.22(d)(5) and 17.32(d)(5).

1267
1268 17.22 is the section of the Code of Federal Regulations (CFR) pertaining to: Permits for
1269 scientific purposes, enhancement of propagation or survival, or for incidental taking.

1270 17.32 is the section of the Code of Federal Regulations CFR pertaining to: Permits – general.

1271
1272 Language for both CFR sections is identical, and is as follows:

1273 (5) *Assurances provided to permittee in case of changed or unforeseen circumstances.* The
1274 assurances in this paragraph (d)(5) apply only to permits issued in accordance with paragraph
1275 (d)(2) where the Candidate Conservation with Assurances Agreement is being properly
1276 implemented, and apply only with respect to species adequately covered by the Candidate
1277 Conservation with Assurances Agreement. These assurances cannot be provided to Federal
1278 agencies.

1279 **20. Succession and Transfer**

1280 Within the SSP, the enrolled landowner agrees to give 30 days' written notice to the SWCD of
1281 his or her intent to sell the enrolled property or of any transfer of ownership, so that the SWCD

1282 can attempt to contact the new owner, explain the baseline responsibilities applicable to the
1283 property, and allow the new owner to have the option of receiving CCAA assurances by signing
1284 the original SSP/CI. As a party to the original SSP/CI and permits, the new owner will have the
1285 same rights and obligations with respect to the enrolled property as the original owner.
1286 Alternatively, the new owner may enroll in a new SSP/CI if sage-grouse has not been listed.
1287 Assignment or transfer of the permit shall be governed by FWS regulations in force at the time.
1288 If a new owner chooses not to enroll, the permit authorizations and assurances will cease.

1289 **21. EOS Permit Suspension or Revocation**

1290 The FWS may suspend the privileges of exercising some or all of the EOS permit authority at
1291 any time if the permittee is not in compliance with the conditions of the permit, or with any
1292 applicable laws or regulations governing the conduct of the permitted activity. Such suspension
1293 shall remain in effect until the issuing officer determines that the permittee has corrected the
1294 deficiencies.

1295
1296 *The FWS may not revoke an EOS permit except as follows:*

1297 The FWS may revoke an EOS permit for any reason set forth in 50 CFR 13.28(a)(1) through (4).
1298 This regulation authorizes revocation if: the permittee willfully violates any Federal or State
1299 statute or regulation, or any Indian tribal law or regulation, or any law or regulation of any
1300 foreign country, which involves a violation of the conditions of the permit or of the laws or
1301 regulations governing the permitted activity; or the permittee fails within 60 days to correct
1302 deficiencies that were the cause of a permit suspension; or the permittee becomes disqualified; or
1303 a change occurs in the statute or regulation authorizing the permit that prohibits the continuation
1304 of a permit issued by FWS.

1305
1306 *A permit can be disqualified or revoked if:*

- 1307 1. A conviction, or entry of a plea of guilty or nolo contendere, for a felony violation of the
1308 Lacey Act, the Migratory Bird Treaty Act, or the Bald and Golden Eagle Protection Act
1309 disqualifies any such person from receiving or exercising the privileges of a permit,
1310 unless such disqualification has been expressly waived by the Director in response to a
1311 written petition.
- 1312 2. The revocation of a permit for reasons found in § 13.28 (a)(1) or (a)(2) disqualifies any
1313 such person from receiving or exercising the privileges of a similar permit for a period of
1314 five years from the date of the final agency decision on such revocation.
- 1315 3. The failure to pay any required fees or assessed costs and penalties, whether or not
1316 reduced to judgment disqualifies such person from receiving or exercising the privileges
1317 of a permit as long as such moneys are owed to the United States. This requirement shall
1318 not apply to any civil penalty presently subject to administrative or judicial appeal;
1319 provided that the pendency of a collection action brought by the United States or its
1320 assignees shall not constitute an appeal within the meaning of this subsection.
- 1321 4. The failure to submit timely, accurate, or valid reports as required may disqualify such
1322 person from receiving or exercising the privileges of a permit as long as the deficiency
1323 exists.

1324 The FWS may revoke an EOS permit if continuation of the permitted activity would either
1325 appreciably reduce the likelihood of survival and recovery in the wild of any listed species, or

1326 directly or indirectly alter designated critical habitat such that it appreciably diminishes the value
1327 of that critical habitat for both the survival and recovery of a listed species.
1328 Before revoking a permit for either of the two reasons in the preceding paragraph, the FWS, with
1329 the consent of the permittee, will pursue all options that FWS consider appropriate to avoid
1330 permit revocation. These options may include, but are not limited to: extending or modifying the
1331 existing permit, compensating the enrolled landowner to forgo the activity, purchasing an
1332 easement or fee simple interest in the enrolled property, or arranging for a third party acquisition
1333 of an interest in the property.

1334 **22. Remedies**

1335 Each party shall have all remedies otherwise available to enforce the terms of the CCAA and the
1336 EOS permit, except that no party shall be liable in monetary damages for any breach of this
1337 CCAA, any failure to perform an obligation under this CCAA, or any other cause of action
1338 arising from this CCAA.

1339 **23. Dispute Resolution**

1340 Landowner, SWCD, and FWS recognize disputes concerning implementation of, compliance
1341 with, or termination of the CCAA, EOS permit, or SSP/CI may arise from time to time.
1342 Landowner, SWCD, and FWS agree to work together in good faith to resolve such disputes,
1343 using the informal dispute resolution procedures set forth in this section, or such other
1344 procedures upon which the parties may later agree. However, if at any time any party determines
1345 circumstances so warrant, they may seek any available remedy without waiting to complete
1346 informal dispute resolution.

1347

1348 *Informal dispute resolution process*

1349 Unless the parties agree upon another dispute resolution process, or unless an aggrieved party
1350 has initiated administrative proceedings or suit in Federal court as provided in this section, the
1351 parties may use the following process to attempt to resolve disputes:

- 1352 • The aggrieved party will notify the other parties of the provision potentially violated, the
1353 basis for contending a violation has occurred, and the remedies it proposes to correct the
1354 alleged violation.
- 1355 • The party alleged in violation will have 30 days, or such other time as may be agreed, to
1356 respond. During this time it may seek clarification of the information provided in the
1357 initial notice. The aggrieved party will use its best efforts to provide any available
1358 information responsive to such inquiries.
- 1359 • Within 30 days after such response was provided or was due, representatives of the
1360 parties having authority to resolve the dispute will meet and negotiate in good faith
1361 toward a solution satisfactory to all parties, or will establish a specific process and
1362 timetable to seek such a solution.
- 1363 • If any issues cannot be resolved through such negotiations, the parties will consider non-
1364 binding mediation and other alternative dispute resolution processes and, if a dispute
1365 resolution process is agreed upon, will make good faith efforts to resolve all remaining
1366 issues through that process.

1367 **24. Availability of Funds**

1368 Nothing in this CCAA will be construed by any party to require the obligation, appropriation, or
1369 expenditure of any funds from the U.S. Treasury. The FWS will not be required under this
1370 CCAA to expend any federal agency’s appropriated funds unless and until an authorized official
1371 of that agency affirmatively acts to commit to such expenditures as evidenced in writing.

1372 **25. Relationship to Other Agreements**

1373 The Oregon Cattlemen’s Association, BLM, and FWS have signed a Candidate Conservation
1374 Agreement (CCA) for certain public lands. Most livestock operations in Lake County are
1375 dependent upon public land livestock grazing for much or portions of their livestock grazing
1376 operations. So, it is critical that both plans are complementary and the goal is for enrolled
1377 landowners to manage for sage-grouse across their private lands and onto their federal
1378 allotments. While coordination between the two documents is essential, federal and private lands
1379 are innately different, so some differences exist.

1380
1381 On May 21, 2014, the Harney SWCD and FWS signed a sage-grouse CCAA for private
1382 rangelands in Harney County. In addition, the remaining eastern Oregon SWCDs with sage-
1383 grouse habitat within their jurisdiction (Lake, Crook, Deschutes, Baker, Grant, and Malheur
1384 SWCDs) are working with the FWS on development of county sage-grouse CCAACCAA’s that
1385 will be nearly identical to the Harney County sage-grouse CCAA. These CCAA and CCA efforts
1386 in Oregon provide a unique opportunity for landscape-scale conservation of sage-grouse habitat
1387 in Oregon.

1388 **26. No Third-Party Beneficiaries**

1389 This programmatic CCAA and any subsequent SSPs/CIs signed under the programmatic CCAA
1390 do not create any new right or interest in any member of the public as a third-party beneficiary,
1391 nor shall it authorize anyone not a party to this CCAA to maintain a suit for personal injuries or
1392 damages pursuant to the provisions of this CCAA. The duties, obligations, and responsibilities
1393 of the landowner, SWCD, and FWS to this CCAA with respect to third parties shall remain as
1394 imposed under existing law.

1395 **27. Reports**

1396 Annual summary reports will be delivered to the person listed below:
1397 Field Supervisor, Bend Field Office
1398 U.S. Fish and Wildlife Service
1399 63095 Deschutes Market Road
1400 Bend, OR 97701

1401 **28. Notices**

1402 This programmatic CCAA was written with the participation of the Steering Committee (for list
1403 of parties, see p. 6). It is because of the collaborative efforts of those parties that this CCAA was
1404 completed.
1405

1406 IN WITNESS WHEREOF, THE SIGNING PARTIES HERE TO have, as of the last signature
1407 date below, executed this programmatic Candidate Conservation Agreement with Assurances to
1408 be in effect as of the date of the last signatory to sign this agreement.

1409

1410 _____

1411 Board Chair

1412 Lakeview Soil and Water Conservation District

1413

1414

1415 _____

1416 Deputy Regional Director, Region 1

1417 U. S. Fish and Wildlife Service

1418

1419

1420

Date

Date

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- 1558

1559 **APPENDIX A – Conservation Measures**

1560 Sage-Grouse Conservation Measures: All Conservation Measures (CMs) listed in this appendix
1561 and any CMs developed for a Site Specific Plan (SSP) will maintain or improve sage-grouse
1562 habitat, while contributing to the economic stability and sustainability of the individual
1563 properties/ranches of Lake County. The SSP developed for an individual property will identify
1564 threats to sage-grouse that exist on that property. This list implies possible conservation
1565 measures to be applied to address threats and will serve as a menu of options for all parties to use
1566 when developing SSPs. Each identified threat will be addressed with one or more CM from the
1567 list below and additionally, **conservation measures not identified on this list may be**
1568 **developed with landowner agreement and with the approval of FWS.**
1569

1570 This list of threats to sage-grouse has been subdivided into habitat-related and species-specific
1571 threats. The conservation objectives for habitat-related threats are listed in the programmatic
1572 CCAA under *Section 6. Inventory and Monitoring Protocols* in Figures 2-4, applicable
1573 objectives from these figures will be included in each SSP. The conservation objectives for
1574 species-specific threats are listed in this appendix, below the specific threat.
1575

1576 These conservation measures have been developed, some specific and some general, based on
1577 the best available knowledge, science, and experience.
1578

1579 **Habitat-Related Threats**

1581 **Threat: Fragmentation of the landscape** -Fragmentation of the landscape causes birds to leave
1582 leks or abandon nests or important habitats (i.e., direct impact to nests and brooding hens),
1583 resulting in decreased reproductive success.

1584 **Conservation Measures:**

- 1585 **1. All enrolled landowners must agree to: *Maintain contiguous habitat by avoiding***
1586 ***further fragmentation. The objective for this required CM is for no net loss in 1)***
1587 ***habitat quantity (as measured in acres) and 2) habitat quality (as determined by the***
1588 ***ecological state).*** The baseline determination of habitat quality and quantity will be
1589 completed during the baseline inventory and will serve as a reference point in meeting the
1590 objective for CM 1. Losses in sage-grouse habitat quantity may be offset by increases in
1591 sage-grouse habitat quality and vice versa, as long as the action avoids further
1592 fragmentation (consistent with *Section 10. Covered Activities* Development subsection).
1593 **2.** Consolidate new roads, buildings, and power lines.
1594 **3.** Consider entering into conservation easements.
1595 **4.** Convert generator or windmill powered pumps (noise) to solar, when economically
1596 feasible.
1597 **5.** Consider removing vertical structures (i.e. raptor perches) by burying new and existing
1598 power lines, and where possible cooperate with local utilities to retrofit powerlines to
1599 reduce raptor perches, when economically feasible.
1600

1601 **Threat: Wildfire**-Wildfires can remove long-lived species such as sagebrush, reducing sage-
1602 grouse habitat quality and quantity.

1603 **Conservation Measures:**

- 1604 **6.** Identify sage-grouse habitat as a high priority for protection and prevention in the SSP.

- 1605 Map lands as PPH and PGH. The following proactive prevention measures may apply:
1606 a. In years of high fuel load accumulation, strategically utilize livestock grazing to
1607 reduce fuel loads while maintaining suitable habitat for sage-grouse, consistent
1608 with the livestock management practices section.
1609 b. Design, establish, and maintain fire breaks or green-stripping along key existing
1610 roadways to provide a fuel break and safe zone from which to fight fire. Strips
1611 would be no larger than 50ft on either side of a road, which will provide foraging
1612 habitat for sage-grouse and provide >100ft of fuel breaks. Within fuel breaks
1613 where annual grasses are prevalent, plant aggressive, fire-resistant perennial
1614 species to stabilize the site, with the long term objective of re-establishing native
1615 species.
1616 c. In a SSP, identify key roads on a map that could serve as a fire break to be
1617 widened approximately 50ft on either side of the road, when wildfire actively
1618 threatens enrolled lands. These maps will be available to the fire personnel.
1619 d. Attain wildfire training certification. Where possible join or assist Rangeland Fire
1620 Protection Associations (RFPA) and state and federal fire officials (at
1621 landowner's discretion) with initial attack to protect existing or potential sage-
1622 grouse habitat.⁹
1623 7. Use direct attack tactics when it is safe and effective to reduce the amount of burned
1624 habitat. Direct attack supported by any available mechanized equipment (i.e. bulldozer,
1625 tractor w/blade, aerial drops) is the most efficient at reducing the overall size of
1626 rangeland fires thereby keeping habitat intact. It is most critical during initial attack
1627 before the fire gains momentum.
1628 8. Retain unburned areas (including interior islands and patches between roads and the fire
1629 perimeter) of sage-grouse habitat unless there is a compelling safety, resource protection,
1630 or control objectives at risk.
1631

1632 **Threat: Loss of sagebrush habitat due to lack of fire and associated conifer encroachment:**

1633 High elevation plant communities are dependent upon periodic fire to maintain healthy
1634 functional plant communities. The use of prescribed fire in low elevation sagebrush communities
1635 can result in a reduction of sage-grouse habitat in quality and quantity. Work with agency
1636 specialists to determine need for treatment and, if needed, the appropriate method (e.g.,
1637 chainsaw, heavy machinery, chemical, prescribed fire, or a combination). Choose methods that
1638 will minimize or prevent soil disturbance or sterilization and methods least likely to result in
1639 weed invasions.

1640 **Conservation Measures:**

- 1641 9. Utilize prescribed fire treatments which will generally occur at higher elevations, where
1642 there is little risk of invasive plant establishment post-treatment. Treatments will be
1643 conducted so there is a mosaic of sagebrush and burned areas to provide a seed source for
1644 sagebrush and native grass and forb regeneration.
1645 10. Remove encroaching juniper from sagebrush communities through cutting of juniper and
1646 burning piled trees and limbs ("jack-pot burning", which involves returning to juniper

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.

1647 piles when the ground is frozen or saturated to conduct burning), or other methods that
1648 are mutually agreed upon by the SWCD, landowner, and FWS. Ensure timing of these
1649 burns does not interfere with lekking or other known seasonal movements of sage-grouse
1650 (see “Threat: Juniper/Conifer Expansion” for full specifications).

1651 **11.** Limit use of prescribed fires at lower elevations. Prescribed fire at these elevations will
1652 only be used when there are no other options, or a pre-burn evaluation has determined the
1653 risk of cheatgrass and other invasive weeds is minimal, and there is low risk of reducing
1654 critical sage-grouse habitat features.

1655
1656 **Threat: Juniper/Conifer Expansion** –Juniper/conifer encroachment can lead to a reduction of
1657 sage-grouse habitat, use, or abandonment. Slash from mechanical or chemical removals may
1658 continue to compromise habitat use.

1659 **Conservation Measures:**

1660 **12.** Remove encroaching juniper/conifer within existing riparian and transitional zones.

1661 **13.** Treat/remove encroaching juniper/conifer in sage-grouse habitats.

1662 **14.** For Phase I, juniper felling and leaving may be effective. Limb any branches >4 ft in
1663 height on a felled tree (i.e., lop and scatter).

1664 **15.** For Phase I and Phase II, where jackpot burning is the most appropriate method of slash
1665 removal, consider a spring burn (Mar-Apr) when soils tend to be frozen but the moisture
1666 content of the felled trees is low. Ensure timing of these actions does not interfere with
1667 lekking or other known seasonal movements of sage-grouse.

1668 **16.** Conduct broadcast burns of juniper-invaded sagebrush, judiciously taking into
1669 consideration the spatial and habitat needs of sage-grouse relative to the size of the burn.

1670 **17.** Seed juniper treatment when current perennial grass community is in poor condition (<2
1671 plants /10ft², <1 plant/10ft² on dry and wet sites) or if exotic annual grasses are present.
1672 Broadcast seeding prior to soil disturbance or under slash may increase the chances of
1673 establishment.

1674 **18.** Rest treated area from grazing following treatment. Length of rest will depend on
1675 understory composition at time of treatment and response of desirable vegetation
1676 following treatment. Set quantifiable objectives for post-treatment vegetation recovery
1677 based on pre-treatment monitoring data, return livestock grazing once objectives have
1678 been met.

1679
1680 **Threat: Unmanaged and/or Improper Grazing**-Livestock, humans, and vehicles can
1681 physically disturb and cause birds to leave leks or abandon nests (i.e., direct impact to nests and
1682 brooding hens) resulting in decreased reproductive success. However, appropriate livestock
1683 grazing regimes (generally light to moderate utilization 25-50% (BLM Tech Reference 17-34-3)
1684 in nesting habitat) are compatible with sage-grouse habitat needs. The goal of grazing
1685 management is to maintain the desired ecological state or move the plant community toward the
1686 desired state. Adaptive management will be necessary to adjust levels and season of livestock
1687 grazing with a forage supply that is ever changing in response to varying growing conditions for
1688 vegetation (e.g., inter-annual climate variation) and habitat conditions. Annual monitoring
1689 information will be used by the landowner to make adjustments to grazing management to ensure
1690 a desirable vegetation trend is maintained (see *Section 6. Inventory and Monitoring Protocols*).

1691
1692 **Conservation Measures:**

- 1693 19. Avoid placing salt, water, or mineral supplements within 0.6 miles of the perimeter of an
 1694 occupied lek.
- 1695 20. Reduce disruptive activities one hour after sunset to two hours after sunrise from March 1
 1696 through June 30 within 0.6 miles of the perimeter of occupied leks, unless brief
 1697 occupancy is essential for routine ranch activities (e.g., herding or trailing livestock into
 1698 or out of an area at the beginning or end of the grazing season). Examples of disruptive
 1699 activities may include noise, human foot or vehicle traffic, or other human presence.
- 1700 21. Reduce off-trail vehicular travel in nesting habitat from March 1 through June 30 unless
 1701 travel is essential for routine ranch activities (including but not limited to: repairing
 1702 fence, “doctoring” livestock, finding lost livestock, and irrigation activities).
- 1703 22. Develop and/or use a written grazing management plan to maintain or enhance the
 1704 existing plant community to ensure a community suitable as sage-grouse habitat. If
 1705 available, use approved ecological site descriptions to set realistic goals for the plant
 1706 community. (Example: NRCS Oregon 2007; Conservation Practice Standard – Prescribed
 1707 Grazing Code 528).
- 1708 23. Change salting and watering locations to improve livestock distribution and maintain or
 1709 enhance sage-grouse habitat quality.
- 1710 24. Avoid alteration of winter habitat with winter feeding in occupied habitat unless it is part
 1711 of a plan to improve ecological health or to create mosaics in dense sagebrush stands that
 1712 are needed for optimum sage-grouse habitat, or is needed for emergency care of
 1713 livestock.
- 1714 25. Develop additional water sources for wildlife and livestock, to reduce impacts to riparian,
 1715 wetland, playas, and wet meadow areas important to sage-grouse.
- 1716 26. Spring developments should be constructed or modified to maintain their free-flowing
 1717 and wet meadow characteristics.
- 1718 27. Ensure wildlife accessibility to water and install escape ramps in all new and existing
 1719 water troughs.
- 1720 28. Avoid construction of new livestock facilities (livestock troughs, fences, corrals, handling
 1721 facilities, “dusting bags,” etc.) at least 0.6 miles from leks or other important areas of
 1722 sage-grouse habitat (i.e., known wintering and brood rearing areas) to avoid
 1723 concentration of livestock, collision hazards to flying birds, or avian predator perches.
- 1724 29. Refer to the model by Bryan Stevens for identification of areas that may contain fences
 1725 that pose the highest threat to sage-grouse. In high risk areas, remove unnecessary fences
 1726 and relocate or mark needed fences with anti-strike markers or other agreed upon visual
 1727 markers (Stevens 2011).
- 1728 30. Manage grazing in riparian areas to ensure bank stability, survival of deep-rooted riparian
 1729 vegetation, floodplain connectivity, and stream functionality.

1730
 1731 **Threat: Exotic Invasive Vegetation** -Establishment of plant communities that do not provide
 1732 suitable habitat (e.g., introductions and monocultures of non-native, invasive plants) are reducing
 1733 sage-grouse habitat quality and quantity. Prevention and early detection is needed. Invasive
 1734 weeds continue to expand from borders of large infestations. Many sagebrush-steppe
 1735 communities have crossed a threshold after which they are no longer recoverable by control
 1736 methods.

1737 **Conservation Measures:**

- 1738 31. Enrollees will work with county weed experts and other experts to ensure they can

- 1739 identify the invasives that are a threat to their land, to establish weed prevention areas,
1740 and to explore available assistance to implement treatments.
- 1741 **32.** Identify and implement treatments for enrolled lands that will promote an intact and
1742 functioning sagebrush landscape
- 1743 **33.** Systematic and strategic detection surveys should be developed and conducted in a
1744 manner maximizing the likelihood of finding new patches before they expand. Once
1745 patches are located, seed production should be stopped and the weeds should be
1746 eradicated. The most effective tools for eradication of many weeds are herbicides and
1747 possibly bio-controls.
- 1748 **34.** When using herbicides, all best management practices and only approved herbicides
1749 listed in Appendix E will be used on enrolled lands for coverage under the 10(a)(1)(A)
1750 permit associated with this agreement.
- 1751 **35.** Containment programs for large infestations should be maintained. Border spraying
1752 infestations, planting aggressive (even appropriate non-native species) plants as a barrier,
1753 establishing seed feeding biological control agents and targeted grazing to minimize seed
1754 production are all methods that could help contain large infestations.
- 1755 **36.** Areas with an adequate understory (> 20% composition) of desired vegetation should be
1756 identified and prioritized as high for control since they have a higher likelihood of
1757 successful rehabilitation than areas where desired species are completely displaced.
- 1758 **37.** Include in the SSP rehabilitation for areas with inadequate understory (< 20%
1759 composition) of desired vegetation. The species of choice should include perennial
1760 species that are competitive with invasive weeds. The goal should be to maximize niche
1761 occupation with desired species.
- 1762 **38.** Report any new annual grass (e.g., cheatgrass, medusahead) infestations and take
1763 immediate action to eradicate when practical and economically feasible. Site plan should
1764 describe whether there is a commitment to reporting incidental sightings, or whether
1765 there will be specifically planned surveys.
- 1766 **39.** Non-native perennial species such as crested wheatgrass may be seeded to stabilize and
1767 prevent further invasion of cheatgrass and medusahead. These species should be used
1768 with the intent to stabilize the plant community and allow for long term recovery of
1769 sagebrush and other native species.
- 1770 **40.** Aggressively treat noxious weeds and other invasive plants where they threaten quality of
1771 sage-grouse habitat and apply best management practices to prevent infestations from
1772 occurring.
- 1773 **41.** Use certified weed-free seed mixes and mulches.
- 1774 **42.** Manage livestock use on newly seeded/planted rangeland, allow adequate rest, generally
1775 a minimum of two growing seasons. Set quantifiable objectives for post-treatment
1776 vegetation recovery; return livestock grazing once objectives have been met.

1777
1778 **Threat: Vegetation Treatments** -Vegetation treatments (e.g., chemical, mechanical) can result
1779 in a reduction of sage-grouse habitat quality and quantity.

1780 **Conservation Measures:**

- 1781 **43.** Use brush beating in mosaic patterns as a tool to increase production of understory
1782 species and to increase diversity to benefit sage-grouse habitat. Current
1783 recommendations suggest brush beating (or other appropriate treatment) in strips (or a
1784 mosaic pattern) 12 to 50ft wide (with untreated interspaces 3 times the width of the

- 1785 treated strips) in areas with relatively high shrub cover (>25%) without an understory of
 1786 annual grasses to improve herbaceous understory for brood rearing habitats, where such
 1787 habitats may be limiting. Also, take into account aged sagebrush stands with minimal
 1788 recruitment and high shrub decadence. Such treatments should not be conducted in
 1789 known winter habitat (Dahlgren et al. 2006).
- 1790 **44.** Evaluate the role of existing seedings that are currently composed of primarily introduced
 1791 perennial grasses in and adjacent to priority sage-grouse habitats to determine if they
 1792 should be restored to sagebrush or habitat of higher quality for sage-grouse. Active
 1793 restoration success has been extremely limited using current technology, where it is
 1794 economically and logistically feasible, consider transplanting sagebrush or using
 1795 sagebrush plugs, if not economically and/or logistically feasible, allow sagebrush
 1796 recruitment into perennial herbaceous dominated communities (i.e., don't mow sagebrush
 1797 that is reestablishing in crested seedings).
- 1798 **45.** Any vegetation treatments conducted in plant communities dominated by exotic annual
 1799 species will be accompanied by rehabilitation (and if necessary, reseeding) to achieve
 1800 reestablishment of perennial vegetation and allow for long term recovery of sagebrush
 1801 and other native species.
- 1802 **46.** To minimize disturbance to sage-grouse populations, do not conduct broadcast
 1803 applications of herbicides during nesting and early-brood rearing periods when sage-
 1804 grouse are present (March 1 – June 30, at a minimum), unless this timeframe or target
 1805 plant development stage is optimal for herbicide effectiveness.
- 1806 **47.** The use of herbicides (primarily tebuthiuron) at low (0.1–0.3 kg ai/ha) application rates
 1807 may effectively thin sagebrush cover while increasing herbaceous plant production
 1808 (Olson and Whitson 2002). These treatments should be applied in strips or mosaic
 1809 patterns. Site conditions must be critically evaluated prior to treatment (including fire
 1810 rehabilitation, new seedings, and seeding renovations) to increase likelihood of the
 1811 desired vegetation response.
- 1812 **48.** Agency specialists will determine how sagebrush treatments are part of a larger landscape
 1813 plan. If sagebrush treatment is warranted after a plan is developed with agency
 1814 specialists, utilize a mosaic pattern of treatment (as described in CM 43) rather than a
 1815 large uniform block.

1816
 1817 **Threat: Drought-** When rangeland plants are deprived of precipitation, it affects the plant's
 1818 growth cycle, volume of growth, and fruition. When drought conditions exist, annual monitoring
 1819 will be used to determine site specific recommendations. Drought is site specific and is typically
 1820 considered to occur when two growing seasons of precipitation are below the long term average,
 1821 affecting plant life cycles as described above. Prolonged drought is when the conditions
 1822 described above persist for three or more growing seasons. Prolonged drought can harm plants
 1823 important to sage-grouse reducing sage-grouse habitat quality and quantity (*see Section 14.*
 1824 *Changed Circumstances* - drought subsection - for more information on determination of drought
 1825 conditions).

1826 **Conservation Measures:**

- 1827 **49.** Work with agency specialists to incorporate a drought management strategy for grazing
 1828 which considers the needs of sage-grouse.
- 1829 **50.** Adjust livestock use (season of use, timing, intensity, and/or duration) to reduce the
 1830 impact on perennial herbaceous cover, plant diversity, and plant vigor to enable enrolled

1831 lands to meet the seasonal habitat needs for sage-grouse identified for the site.

1832

1833 **Threat: Mechanical degradation of riparian area**-Those actions utilizing mechanical
1834 equipment that results in decreased water table stability and function.

1835 **Conservation Measure:**

1836 **51.** Consider stream system hydrology prior to development of any facility, feature, or
1837 infrastructure such as roads, dams, culverts, water crossings, bridges, and ditches.

1838

1839 **Threat: Catastrophic Flooding**- Excessive runoff resulting from catastrophic hydrological
1840 events (e.g. rain on snow event) is associated with mass-wasting of hill slopes, damage to river
1841 banks, and downstream flooding. These events have the capability to drastically change stream
1842 hydrology and vegetative composition of riparian corridors.

1843 **Conservation Measure:**

1844 **52.** Manage livestock use (season of use, timing, intensity, and/or duration) in a manner that
1845 promotes herbaceous and deep-rooted riparian vegetation that will stabilize stream bank
1846 morphology and aid in the recovery following a catastrophic flood event.

1847

1848 **Species-Specific Threats**

1849

1850 **Threat: Recreation** -Repeated disturbance and harassment of sage-grouse could reduce mating
1851 and reproductive productivity.

1852 **Conservation Objective:** Reduce the amount of sage-grouse disturbance and harassment, as
1853 well as direct mortality.

1854 **Conservation Measure:**

1855 **53.** If enrolled lands have high visibility leks and/or known winter concentration areas,
1856 protect existing habitat by restricting seasonal access for recreational use.

1857

1858 **Threat: Predation** – Some rangeland management activities can increase opportunities for
1859 predation of sage-grouse and sage-grouse nests. Predation may be underestimated as a limiting
1860 factor to sage-grouse population success in much of its occupied habitat. (Coates and Delehanty
1861 2010; Coates et al. 2008; Dinkins et al. 2012; Kolada et al. 2009; Kolada et al 2009b; Moynahan
1862 et al. 2007; Willis et al. 1993). In particular the impacts of predation on sage-grouse can increase
1863 where habitat quality has been compromised by anthropogenic activities (Coates 2007; Bui 2009;
1864 Hagen 2012).

1865 **Conservation Objective:** Minimize the effects of predation on isolated, translocated, or
1866 declining populations where predation has been identified as the limiting factor. Reduce direct
1867 mortality to individuals and broods.

1868 **Conservation Measures:**

1869 **54.** Minimize attractants for corvids, raptors, and coyotes (i.e., dump sites, bone piles, etc.).

1870 **55.** Utilize predator management programs when documented as a limiting factor on sage-
1871 grouse populations. If poor habitat conditions are causing a predator problem, habitat
1872 conditions should be addressed first if possible, or jointly with, or shortly after predator
1873 control. Predator management includes lethal and non-lethal methods (see ODFW
1874 Strategy - Hagen 2011).

1875

1876 **Threat: West Nile virus (WNV)** - Sage-grouse immune systems lack resistance to WNV.

1877 Surface water developments may increase habitat for mosquitoes, increasing the potential for
1878 WNV exposure.

1879 **Conservation Objective:** Reduce potential for direct mortality and/or disease transmission.

1880 **Conservation Measures:**

1881 **56.** Minimize unnecessary standing water that could be used as mosquito breeding grounds
1882 within sage-grouse habitat. Where new pond construction or water developments are
1883 proposed for rangeland management or habitat enhancement purposes, use innovative
1884 designs, when possible, to minimize the amount of mosquito habitat that could be
1885 created. Work with agency biologists on optimal locations for new water developments.
1886

1887 **Threat: Wild Horses and Burros** - Concentrated or overabundant wild horse and/or burro
1888 populations can reduce habitat quality and quantity.

1889 **Conservation Objective:** Reduce impacts to sage-grouse habitat.

1890 **Conservation Measures:**

1891 **57.** Document and report habitat damage on enrolled lands from wild horses and/or burros.

1892 **58.** On enrolled lands where base inventory, annual, or long term monitoring indicate wild
1893 horses may affect sage-grouse habitat, ensure all findings (as requested by the landowner)
1894 are reported to BLM. When habitat monitoring indicates negative impacts from wild
1895 horses to enrolled private lands, SWCD, FWS, and cooperators will provide written
1896 recommendations for the landowner to submit to BLM recommending gathering of wild
1897 horses and/or burros.

1898 **59.** To maintain and/or improve sage-grouse habitat on enrolled lands with wild horses,
1899 SWCD, FWS, and CCAA cooperators will submit recommendations in writing to BLM
1900 to manage wild horse and/or burro numbers for long term management at or below the
1901 appropriate management level.

1902 **60.** When habitat monitoring indicates damage from wild horses and/or burros on enrolled
1903 lands, upon the landowner's request SWCD, FWS, and CCAA cooperators will submit
1904 written recommendations to the BLM to relocate wild horses from affected private land.
1905

1906 **Threat: Insecticide** - Grasshoppers and Mormon crickets periodically have infestations which
1907 cause significant long term damage to sagebrush. The use of insecticides is not known to pose
1908 range-wide threats to sage-grouse. However, insecticides have been documented as causing
1909 mortality to sage-grouse. Some insecticides could have detrimental effects to individual sage-
1910 grouse through direct contact, either by consumption of insects exposed to certain insecticides or
1911 by reduction of insect populations during times when insects are a crucial part of the birds' diets
1912 USFWS 2010.

1913 **Conservation Objective:** Maintain important sage-grouse forage base and avoid or minimize
1914 direct mortality to sage-grouse.

1915 **Conservation Measures:**

1916 **61.** If possible, contract with Animal and Plant Health Inspection Service (APHIS) and/or
1917 Oregon Department of Agriculture (ODA) for all insecticide treatments.

1918 **62.** Consult with SWCD, ODA, and APHIS. Avoid carbaryl/malathion; use diflubenzuron
1919 (Dimilin) if at all possible.

1920 **63.** Work with agency specialists to plan and design control efforts to avoid harming sage-
1921 grouse and non-target species.

1922 **64.** Avoid spraying treatment areas in May and June (or as appropriate to local

- 1923 circumstances) to provide insect availability for early development of sage-grouse chicks.
- 1924 **65.** Use approved chemicals with the lowest toxicity to sage-grouse that still provide
- 1925 effective control.
- 1926 **66.** When feasible and as outlined by APHIS or ODA, use Reduced Area/Agent Treatments
- 1927 (RAAT) to control grasshoppers, which focuses control efforts along strips to avoid
- 1928 spraying entire fields.
- 1929

1930 **APPENDIX B – Site Specific Plan/Certificate of Inclusion**

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SITE SPECIFIC PLAN/CERTIFICATE OF INCLUSION

Under the
Candidate Conservation Agreement with Assurances
For the Greater Sage-grouse in Lake¹⁰ County, Oregon
Between
[insert landowner name– a tract # will be assigned for file retention]
and
Lakeview Soil and Water Conservation District
[insert date]

A. Legal Conveyance of Assurances

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

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

1967
1968
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1971

If it is determined by the landowner, SWCD, or FWS that a changed circumstance(s) exists, the landowner will implement the appropriate CCCM or a mutually agreed upon approach to address the additional threat or threats created by the changed circumstance(s). Conservation measures (referred to as changed circumstance conservation measures or CCCMs) will be adopted to maintain the benefit to sage-grouse and the meet the CCAA standard on the enrolled property.

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

1972 All modifications, changes or additions to the SSP will be mutually agreed upon by the
1973 landowner, SWCD and FWS. If a changed circumstance(s) occurs the SWCD will notify the
1974 FWS of the enrolled lands affected, the impact of the changed circumstance(s), and the
1975 CCCM(S) that will be implemented to address the changed circumstance(s).

1976
1977 A list of CCCMs is located in *Section 14. Changed Circumstances* of the programmatic CCAA.
1978 This list provides possible conservation measures to address threats created by a changed
1979 circumstance(s). Conservation Measures not identified on this list may be developed with
1980 landowner agreement and with approval of FWS.

1981
1982 **The only situation where modification of conservation measures can be required by the**
1983 **FWS is described in *Section 16. Unforeseen Circumstances* of the programmatic CCAA. To**
1984 **respond to unforeseen circumstances, the FWS may require modified or additional conservation**
1985 **measures by the landowner, but only if such measures maintain the original terms of the**
1986 **CCAA/SSP to the maximum extent possible. The FWS will consider whether failure to adopt**
1987 **additional conservation measures would appreciably reduce the likelihood of survival and**
1988 **recovery of sage-grouse in the wild. Additional conservation measures will not involve the**
1989 **commitment of additional land, water, or landowner funds, or additional restrictions on the**
1990 **use of land, water, or other natural resources available for development or use under the**
1991 **original terms of the CCAA without the consent of the landowner, provided the SSP/CI is**
1992 **being properly implemented.**

1993
1994 **B. Parties**

1995 This Site Specific Plan (SSP) and Certificate of Inclusion (CI) for sage-grouse conservation,
1996 effective and binding on the date of the last signature below is between the Lakeview Soil and
1997 Water Conservation District and Private Landowner.

1998
1999 **C. Responsibilities**

2000 ***Landowners will:***

- 2001 • Assist in the development of mutually agreeable SSPs in cooperation with the SWCD and
- 2002 FWS and cosign the SSP/CI document upon receiving a Letter of Concurrence from FWS
- 2003 • Implement all agreed upon CMs in their SSP
- 2004 • The property owner agrees to allow SWCD and FWS employees or its agents, with
- 2005 reasonable prior notice (at least 48 hours) to enter the enrolled properties to complete
- 2006 agreed upon activities necessary to implement the SSP
- 2007 • Continue current management practices that conserve sage-grouse and its habitats as
- 2008 identified in the enrollment process
- 2009 • Avoid impacts to populations and individual sage-grouse present on their enrolled lands
- 2010 consistent with this SSP
- 2011 • Record dates, locations, and numbers of sage-grouse observed on their enrolled lands to
- 2012 be included in the annual report
- 2013 • Record new observations of noxious weeds that they incidentally find
- 2014 • Report observed mortalities of sage-grouse to the SWCD within 48 hours
- 2015 • Cooperate and assist with annual and long term monitoring activities and other reporting
- 2016 requirements identified in the SSP
- 2017

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The SWCD will:

- Conduct public outreach and education to encourage enrollment of landowners in the CCAA through Site Specific Plans (SSP)/Certificates of Inclusion (CIs)
- Enroll landowners according to the steps outlined in *Section 3: Application and Enrollment Process*
- Use the mutually agreed upon tracking system to protect landowner privacy
- Prepare and review SSPs/CIs for accuracy and cosign the SSP/CI document upon receiving a Letter of Concurrence from FWS
- Assist in the implementation of conservation measures, monitoring, or other measures if agreed upon during the development of the SSP by the landowner, SWCD, and FWS
- Ensure terms and conditions included in the SSPs are being implemented as agreed upon
- Collect and evaluate monitoring data to determine if CMs are providing the desired habitat benefit and provide a report of monitoring results to the landowner and copies of summary reports to FWS
- Provide technical assistance to aid enrolled landowners in implementing the CMs
- Work with enrolled landowners and other agencies (e.g., OSU Extension, NRCS) to facilitate appropriate rangeland monitoring and/or training
- Provide support and assist in obtaining funding from other sources for the implementation of CMs
- Monitor and report projects (e.g. implementation of CMs) in order to determine success and adaptations needed
- Immediately report to FWS and ODFW any observed or reported mortalities of sage-grouse
- Meet annually with FWS to present annual and trend monitoring information
- Protect, to the maximum extent available under federal, state, and local laws, against the release or disclosure of all confidential personal and/or commercial information provided by enrolled landowners and collected, gathered, prepared, organized, summarized, stored, and distributed for the purposes of developing and implementing this CCAA
- Provide notice to enrolled landowners when a request for public records concerning this CCAA is made, and allow the enrolled landowner to prepare a notification requesting that any confidential personal and/or commercial information be withheld

The U.S. Fish and Wildlife Service will:

- Provide assistance in coordinating development and implementation of this CCAA
- Review each SSP¹¹ and provide a Letter of Concurrence within 60 days if all issuance criteria are met for all SSPs completed under the EOS permit
- Provide technical assistance to aid the landowners in implementing the CMs
- Review monitoring data for consistency with CCAA objectives to determine if conservation measures are providing the desired benefit to sage-grouse
- Serve as an advisor, providing expertise on the conservation of sage-grouse

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

- 2059 • Assist in the implementation of conservation measures, monitoring, or other measures if
- 2060 agreed upon during the development of the SSP by landowner, SWCD, and FWS
- 2061 • Provide FWS funding, to the extent funding is available, consistent with *Section 23.*
- 2062 *Availability of Funds* of the programmatic CCAA, to support implementation of this
- 2063 CCAA and associated SSPs/CIs
- 2064 • Provide support and assist in obtaining funding from other sources for the
- 2065 implementation of CMs
- 2066 • Conduct outreach and public education efforts to promote the conservation of sage-
- 2067 grouse
- 2068 • Immediately report to ODFW any observed or reported mortalities of sage-grouse
- 2069 • Protect, to the maximum extent permissible under federal laws, against the disclosure of
- 2070 all confidential personal and/or commercial information provided by enrolled landowners
- 2071 and collected, gathered, prepared, organized, summarized, stored, and distributed for the
- 2072 purposes of developing and implementing this CCAA
- 2073 • Provide notice to SWCD when a Freedom of Information Act (FOIA) request for records
- 2074 concerning this CCAA is made, and allow the SWCD to prepare a notification requesting
- 2075 that any confidential personal and/or commercial information be withheld
- 2076

2077 **D. Property Owner**

2078 [Insert name and if appropriate, include Leasee’s signature after review of lease agreement and
 2079 specific power of attorney documentation). A tract # will be assigned for file retention.]

2081 **E. Legal Description of the Enrolled Property**

2082 [Insert legal description of the land that is to be included under a SSP/CI and map of enrolled
 2083 lands. A tract # will be assigned for file retention.]

2085 **F. General Description of the Enrolled Property**

2086 [Include acreage of parcel(s), general location and surrounding ownership, distance from nearest
 2087 town, elevations and land forms, native and converted habitat types, observed use by sage-
 2088 grouse, lek locations and/or other important sage-grouse habitat. Include general habitat type
 2089 map or include on topographic map with property boundaries. Also include overview photos of
 2090 property.]

2092 **G. Covered Activities and Level of Take**

2093 Based on the FWS’ analysis in the Conference Opinion for the programmatic CCAA, incidental
 2094 take is expected to occur from rangeland treatment, livestock management, recreation, farm
 2095 operations, and development (see *Section 12. Covered Activities and Estimated Levels of Take,*
 2096 *Section 14. Changed Circumstances,* and Appendix A. Conservation Measures of the
 2097 programmatic CCAA, or as specifically identified herein). All other activities associated with the
 2098 operations of [insert Private Landowner name or tract #] are either not anticipated to adversely
 2099 affect sage-grouse on covered lands, or will not have adverse effects that rise to the level of
 2100 incidental take as defined by the FWS.

2101
 2102 The expected level of take of sage-grouse will be minimized and avoided through the
 2103 implementation of CMs and the actual take will be identified to the extent possible through the
 2104 monitoring methods associated with the SSP. Individual landowners with SSPs are not

2105 specifically allocated a certain amount of take. Any incidental take reported by [insert Private
2106 Landowner or tract #] will be considered in the cumulative amount of take permitted in the area
2107 covered under the programmatic CCAA.
2108

2109 **H. Historic Property Information**

2110 [Insert fire history, ownership, grazing history, drought, floods (5-10 years or additional if large
2111 scale event)]
2112

2113 **I. Current Property Uses and Management Practices**

2114 [Describe existing structures on the enrolled property (e.g. houses, barns, fences, power lines).
2115 Describe all routine and management activities to include current grazing, farming, haying, and
2116 ranching practices.]

2117 **J. Habitat Inventory, Assessment, and Monitoring**

2118 ***Site Selection Protocol***

- 2119 1. Background information-Stratifying enrolled lands into inventory and monitoring units
2120 will require gathering any of the following background information that exists for each
2121 property/properties for which a site specific plan is being considered: aerial photographs,
2122 satellite imagery, written and oral histories, disturbance history (e.g., burn maps),
2123 management history, property maps, plant species lists, ecological sites and site
2124 descriptions, and soil maps.
2125
- 2126 2. Stratify by habitat suitability using existing data-The enrolled property will first be
2127 stratified into areas of existing suitable (i.e., low elevation ecological states A, B, and D;
2128 high elevation ecological states A and B; lotic riparian ecological states characterized by
2129 consistent access to floodplain) or potentially suitable sage-grouse habitat (i.e. low
2130 elevation ecological state C; high elevation ecological states C, D, and E; lotic riparian
2131 ecological states without consistent access to floodplain) and areas of persistently
2132 unsuitable habitat (e.g., historically non-habitat or permanently converted habitat –
2133 infrastructure, agriculture, residential, etc.) (see Figure 1).
2134
- 2135 3. On-site documentation of upland ecological states -The upland property will then be
2136 stratified by management unit (typically by pasture). Each upland management unit will
2137 then be stratified into the two primary ecological types (i.e., high elevation sagebrush
2138 rangeland and low elevation sagebrush rangeland) using a combination of existing
2139 knowledge and/or data, ecological site descriptions, GIS techniques, and field
2140 reconnaissance. Ecological types within management units will then be stratified by the
2141 ecological states described in their respective state and transition model. Preliminary
2142 ecological state strata will be determined using GIS data. The resultant preliminary strata
2143 will then be used to direct ground truthing and associated habitat inventory efforts;
2144 ground truthing of preliminary ecological state strata will be accomplished following
2145 procedures outlined in the Upland Ecological State Documentation Form (Appendix D-
2146 4). The ocular assessment outline located in Appendix D-4 will provide the basis for
2147 selecting representative areas for each stratum, where quantitative data will be collected
2148 and serve as permanent habitat monitoring sites for the management unit (long term
2149 (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.
 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). A site visit will be performed on the 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.
 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 should be enacted. The method selected will be determined by SWCD and the landowner for the specific stream segment.

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Annual Monitoring

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

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

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

K. Threats Assessment, Conservation Objectives, Conservation Measures, Inventory and Monitoring

This section will identify threats to sage-grouse habitat. This will include a discussion of haying and farming practices and measures to minimize any possible hazards. Identified future plans for the enrolled property will also be documented in this section. Conservation Measures for the enrolled property will be identified with quantifiable conservation objectives and monitoring outlined to measure progress for each specific conservation measure.

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

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

2242 [Insert here all identified threats, conservation objectives, conservation measures, and monitoring
2243 requirements as outlined similar to the example below]

2244

2245 **Example:**

2246 *Threat:* In the Upper Pasture (1500 acres) of this property juniper has encroached into
2247 high elevation sagebrush rangeland. Juniper is in Phase II and III on 500 acres and is/has
2248 decreased available sage-grouse nesting and brood rearing habitat. (Based on
2249 stratification of habitat suitability from the Upland Ecological State Documentation
2250 Form).

2251

2252 *Conservation Objective:* Prevent transition to conifer dominated state by reducing or
2253 eliminating conifers on 250 acres of Ecological State C mountain big sagebrush/Idaho
2254 fescue range sites in the Upper Pasture over the next 10 years. (These 250 acres were
2255 selected based on an initial baseline assessment of their location within PPH/Core habitat,
2256 potential for recovery based on deep, north slope soils, and post management capabilities
2257 of the landowner).

2258

2259 *Conservation Objective:* Restore dominance of shrubs and perennial grasses and forbs
2260 through removal of dominant conifer overstory on 250 acres of Ecological State E
2261 mountain big sagebrush/Idaho fescue range sites in the Upper Pasture over the next 10
2262 years. (Information collected during the baseline inventory indicated restoration of these
2263 250 acres was important for providing connectivity between large areas of intact
2264 sagebrush habitat and for meeting the nesting and brood-rearing life history needs of
2265 sage-grouse).

2266

2267 *Conservation Measures:* # 10, 13, 15, 17, 18 (Due to the location of the treatment areas
2268 in proximity to potential invasive species, cutting, piling and pile burning with follow-up
2269 seeding will be utilized as conservation actions to improve the landscape capability for
2270 supporting sage-grouse).

2271

2272 *Monitoring:* Two representative, permanent monitoring locations will be established in
2273 each of the proposed treatment areas and Modified Pace 180° data, supplemented with
2274 density measurements and transect photos, will be collected prior to implementation of
2275 conservation measures to establish the baseline for trend monitoring. Trend monitoring
2276 will be repeated three and five years post treatment implementation. Subsequent trend
2277 monitoring will be conducted every five years.

2278

2279 *Interpretation of Trend Indicators and Associated Triggers for Adaptive Management:*
2280 Key indicators of vegetation trend will include perennial bunchgrass basal cover and
2281 density and sagebrush cover and density. An upward trend in these key indicators at
2282 representative monitoring locations (e.g. 1. perennial grass basal cover and density has
2283 increased and interspaces between perennial plants is either bare ground or occupied by
2284 desirable annual forbs and 2. sagebrush cover and density has increased) would suggest
2285 the applied conservation measures were successful in transitioning the ecological status
2286 of vegetation from being conifer dominated to being sagebrush/bunchgrass dominated. A
2287 static or downward trend in these key indicators would suggest the need for intervention

2288 with follow-up measures (e.g. weed control and/or re-vegetation treatments) to ensure
2289 progress is being made toward achieving conservation objectives. Conifer cover will
2290 become a key indicator of trend during longer term monitoring. An increase in conifer
2291 cover suggests a negative trend toward conifer dominance.

2292
2293 *Threat:* Medusahead rye has invaded 20 acres of low elevation rangeland in Ecological
2294 State B in the House Pasture. (This patch of medusahead rye was discovered during the
2295 first site visit and was found in a relatively intact Wyoming big sagebrush and blue bunch
2296 wheatgrass/Sandberg bluegrass range site).

2297
2298 *Conservation Objective:* Restore dominance of deep-rooted perennial vegetation to 20
2299 acres of medusahead rye to protect the surrounding 500 acres of intact low elevation
2300 rangeland in Ecological State B in the House Pasture.

2301
2302 *Conservation Measures:* #32, 37, 40 (Conservation Measure 40 will be implemented
2303 within one year of signing the SSP).

2304
2305 *Monitoring:* One representative, permanent monitoring location will be established in the
2306 proposed treatment areas and Pace 180 data, supplemented with density measurements
2307 and transect photos, will be collected prior to implementation of conservation measures
2308 to establish the baseline for trend monitoring. Trend monitoring will be repeated two and
2309 four years post treatment implementation. Subsequent monitoring intervals will be
2310 determined at this time based on the progress toward meeting the conservation objective.
2311 In addition to Lakeview SWCD conducting trend monitoring associated with medusahead
2312 control and re-vegetation treatments, the landowner has agreed to annually conduct
2313 planned searches for incipient infestations of medusahead with emphasis on roadways
2314 and livestock and ATV trails as part of an annual monitoring program.

2315
2316 *Interpretation of Trend Indicators and Associated Triggers for Adaptive Management:*
2317 Key indicators of vegetation trend will include perennial bunchgrass basal cover and
2318 density and niche occupation of interspace areas between perennial plants. An increase
2319 in the basal cover and density of perennial bunchgrasses and niche occupation by bare
2320 ground or desirable annual forbs of interspaces areas between perennial plants (i.e., not
2321 exotic annual grasses) would suggest perennial plants are fully occupying the site. An
2322 upward trend in these indicators at the representative monitoring location would suggest
2323 the applied conservation measures were successful in transitioning the ecological status
2324 of vegetation from being annual grass dominated to being perennial bunchgrass
2325 dominated. A static or downward trend in these key indicators would suggest the need
2326 for intervention with follow-up measures (e.g. weed control and/or re-vegetation
2327 treatments) to ensure progress is being made toward achieving conservation objectives.

2328 Conservation Measures will describe the actions that will be taken to maintain or improve habitat
2329 on lands covered by the Certificate of Inclusion (CI) and are the actions agreed to within the Site
2330 Specific Plan (SSP). On some properties existing management will provide for sage-grouse
2331 habitat needs while other properties will require specific habitat improvements (conservation
2332 measures to be taken to meet sage-grouse habitat needs).

2333 [Insert a list and a description of the specific habitat improvement techniques (conservation
2334 measures) that will be implemented on the lands covered by this agreement]

2335 [Include a map of the areas where these activities are to be implemented]

2336 [Insert a schedule of expected dates of implementation of Conservation Measures, or as an
2337 attachment to this SSP/CI]

2338

2339 **L. Funding**

2340 The SWCD and the enrolled landowners will be responsible for acquiring funds for conservation
2341 implementation through use of grant money or through partnerships with State and Federal
2342 agencies, county government, non-governmental organizations, or a combination of the above.
2343 The FWS will assist through its Partners for Fish and Wildlife program, or other funding
2344 opportunities when available. The FWS will also provide technical support to the SWCD and
2345 landowners applying for funding to implement CMs. Failure to complete the funded activities
2346 within an agreed upon timeframe may result in withdrawal of the assurances provided to the
2347 landowner under the CCAA and this CI.

2348

2349 [Insert anticipated/potential funding sources for the activities described in this CI]

2350

2351 **M. Duration of Site Specific Plan/Certificate of Inclusion**

2352 This SSP/CI and the coverage of "take" under the Permit are effective from the date of last
2353 signature below until expiration of the programmatic CCAA, unless terminated by either party
2354 prior to the expiration.

2355

2356 **N. Modification of SSP/CI**

2357 Any enrolled landowner, FWS, or SWCD may propose modifications to a SSP/CI, as provided in
2358 50 CFR 13.23. The party proposing the modification will provide a written statement to the other
2359 participating parties describing the proposed modification(s), the reason for it and the expected
2360 results. The landowner, SWCD, and FWS will use their best efforts to respond in writing to
2361 proposed modifications within 60 days of receipt of a request. Proposed modifications to a
2362 SSP/CI will only become effective upon the written concurrence of all participating parties.

2363

2364 If FWS determines that additional conservation measures not provided for in the CCAA are
2365 necessary to respond to changed circumstances the FWS will not require any modifications or
2366 additional CMs or CCCMs in the CCAA or the SSP/CI without the consent of the enrolled
2367 landowner, provided the SSP is being properly implemented. Modifications will be done in
2368 accordance with all applicable legal requirements, including but not limited to the ESA, the
2369 National Environmental Policy Act (NEPA), and the FWS's permit regulations at 50 CFR 13 and
2370 50 CFR 17.

2371

2372 For each proposed modification, the FWS must determine whether the proposed modification is
2373 minor or major in nature. Minor modifications involve routine administrative revisions or
2374 changes to the operation and management program associated with a SSP/ CI, and may or may
2375 not alter the conditions of the permit. For example, a minor modification might include a change
2376 in monitoring or reporting protocols based upon recommendations from new research. Upon the
2377 written request of one of the participating parties, the FWS can approve minor modifications if it

2378 does not conflict with the purposes of the programmatic CCAA or does not result in some
2379 material change to the FWS's NEPA analyses (i.e., with respect to meeting the CCAA standard,
2380 the amount of take authorized, the section 10 determination, or the NEPA decision). These
2381 minor modifications do not require a formal process, but do require written documentation that
2382 all participating parties approved the modification(s) prior to it becoming effective.
2383

2384 A major modification would either (1) result in a different level or type of take than was
2385 analyzed in association with the SSP/ CI or (2) result in a change to the cumulative conservation
2386 benefits to sage-grouse such that the CCAA standard might not be met. Major modification(s)
2387 may be subject to the procedural requirements of Federal laws and regulations, such as NEPA,
2388 and to require additional analysis by the FWS, public notification in the Federal Register, and a
2389 formal CCAA modification process. For example, a major modification might include a
2390 proposal to use an insecticide in sage-grouse habitat not specified in the SSP.
2391

2392 **O. Termination of SSP/CI**

2393 The landowner agrees to give 30 days' written notice to the SWCD of his or her intent to
2394 terminate this SSP/CI. The landowner may terminate implementation of this SSPs voluntary
2395 management actions prior to the SSP/CI expiration date, even if the expected benefits have not
2396 been realized.
2397

2398 If monitoring data indicates the landowner has failed to comply with or implement agreed CMs,
2399 reporting, or other responsibilities specified and agreed upon in his/her SSP/CI, the SWCD and
2400 or FWS may revoke the landowner's SSP/CI. This will not occur without an attempt by SWCD
2401 and/or FWS to work with the landowner through an informal resolution process as outlined in
2402 *Section 22. Dispute Resolution* of the programmatic CCAA, or through other agreed-upon
2403 methods. However, if no resolution can be achieved, revocation of the SSP/CI will be effective
2404 upon receipt of written notice of revocation from the SWCD and/or FWS. The landowner will no
2405 longer be covered under the provisions of the SSP/CI and the CCAA and relinquishes any
2406 assurances and take authority specified therein.
2407

2408 **P. Remedies**

2409 Each party shall have all remedies otherwise available to enforce the terms of the CCAA and this
2410 SSP/CI, except that no party shall be liable in monetary damages for any breach of the CCAA
2411 and this SSP/CI, any failure to perform an obligation under the CCAA and this SSP/CI, or any
2412 other cause of action arising from the CCAA and this SSP/CI.
2413

2414 **Q. Transfer of Property**

2415 The landowner agrees to give 30 days' written notice to the SWCD of his or her intent to sell the
2416 enrolled property so the SWCD and the FWS can offer the new owner the option of receiving
2417 CCAA assurances by signing a new SSP/CI. (For further information see *Section 19. Succession
2418 and Transfer* of the programmatic CCAA).
2419

2420 **R. Privacy Statement**

2421 The landowner provides and the SWCD receives all personal and confidential commercial
2422 information, including, but not limited to: names, contact information, general and legal
2423 description of the enrolled property, grazing practices, land use practices, commercial activities

2424 on the land, recreational activities on the land, site-specific species sightings, and site-specific
2425 species habitat condition, regardless of the form, under the belief and obligation that the
2426 information is personal and/or commercial and is confidential in nature. The landowner and
2427 SWCD acknowledge that the release or disclosure of information may result in an unwarranted
2428 invasion of personal privacy and/or cause substantial harm to the commercial interest of the
2429 landowner. Accordingly, SWCD will, to the maximum extent available under federal, state, and
2430 local law, protect against disclosure of the information by utilizing a case by case review and
2431 determination.

2432

2433 **S. Notice of Possible Disclosure**

2434 In the event that a request for information is made to SWCD that would result in the possible
2435 disclosure of personal and/or commercial confidential information, the impacted landowner shall
2436 receive notice of the request. Additionally, the landowner shall be provided with the opportunity
2437 to state, orally or in writing, why a release of the requested information would constitute a
2438 clearly unwarranted invasion of privacy and/or cause substantial harm to the his/her commercial
2439 interest.

2440

2485 **APPENDIX C – State and Transition Models**

2486
2487 The **overall management goal** is to facilitate maintenance of, or transition to, a desired
2488 ecological state (state “A” or “B”) using an ecologically-based model (see state and transition
2489 diagrams for low elevation, high elevation, and riparian habitat shown in Figures 2-4) that can
2490 serve the habitat needs of sage-grouse. Once this state is achieved, additional conservation
2491 measures may be used to further increase the quality/value of sage-grouse habitat (e.g., timing of
2492 grazing in nesting habitat) or mitigate species-specific threats (e.g., raptor perches in the vicinity
2493 of critical habitat). However, focusing on species-specific conservation measures in habitat that
2494 is in or at risk of transition to a non-desired state (states “C”, “D”, or “E”) can divert resources
2495 from addressing underlying ecological issues that ultimately define the current and future value
2496 of such habitats to sage-grouse and other sagebrush obligate wildlife species. For this reason, an
2497 ecologically-based model will be used to determine inventory, monitoring, and conservation
2498 needs during the site specific planning process.

2499
2500 The states in the models will be determined by a combination of information including: 1) NRCS
2501 ecological site descriptions; 2) data collected during the baseline inventory; 3) best professional
2502 judgment; 4) local climatic variation; 5) site history and other information collected as outlined
2503 in *Section 6. Inventory and Monitoring Protocols*, of this CCAA. Recovery of shrub-steppe
2504 habitat is slow (varies greatly from 20 -100 years depending on pre-disturbance state) and the
2505 CCAA is a 30-year permit, therefore the threshold for meeting the objectives in states A or B is
2506 that the vegetation on the site is trending towards the desired plant community. The restoration
2507 potential of the other states (C, D and E) depends on the degree of degradation; objectives for
2508 states C, D, and E will need to be based upon degree of degradation and probability of success of
2509 treatments.

2510
2511 ***Ecological States and their relationship to sage-grouse habitat***

2512 It is important to note that much of the knowledge base concerning vegetation composition and
2513 structure in habitats used by sage-grouse has been based on small (patch) scale measurements
2514 that reflect the immediate vicinity of the location of radio-marked or flushed birds (e.g., Gregg et
2515 al. 1994; Sveum et al. 1998; for detailed information on sage-grouse habitat at the patch scale see
2516 Connelly et al. 2000 and Hagen et al. 2011). This is significant because large-scale monitoring
2517 efforts (including procedures described in this document) are most feasible at the plant
2518 community scale or larger and current knowledge of successional change in the sagebrush steppe
2519 is firmly based on relationships described at the plant community scale. This discrepancy in
2520 scale can lead to problems when plant composition at the plant community scale is expected to
2521 conform to idealized vegetation attributes based on smaller scale measurements. For example,
2522 working at the community scale, Davies et al. (2006) examined over 100 “late-seral” Wyoming
2523 big sagebrush communities and reported that: “No sites met the nesting or optimum brood-
2524 rearing habitat vegetation cover values suggested by Bureau of Land Management (2000).
2525 Mesic and arid breeding vegetation cover values suggested by Connelly et al. (2000) were met
2526 by 0% and 18% of the sites, respectively”. Additionally, in a meta-analysis of sage-grouse
2527 nesting and brood rearing habitats Hagen et al. (2007) determined that sagebrush cover, grass
2528 cover and grass height was greater at nest sites than at random points and vegetation at brood
2529 areas contained less sagebrush, taller grasses and greater grass and forb cover than random sites.
2530 Understanding the optimum mix and spatial arrangement of these communities and their effects

2531 on demographic rates in a landscape could substantially enhance sage-grouse management.
2532 Furthermore, in the 2010 Warranted but Precluded Finding USFWS identified threats
2533 contributing to sage-grouse habitat fragmentation and loss that occur at the plant community and
2534 larger scales. The Finding went on to suggest that local regulatory mechanisms be
2535 developed/strengthened to address known threats to sage-grouse. Such mechanisms will
2536 logically occur at scales consistent with the identified problems. It thus follows that assessment
2537 of habitat and monitoring of the effectiveness of implemented conservation measures will be
2538 conducted at a scale consistent with the identified threats and the conservation measures
2539 designed to address those threats. Therefore, the focus in this document is at the scale of the
2540 plant community and the monitoring procedures reflect that scale-specific focus. Thus, the intent
2541 is to use best available knowledge to promote a sustainable composition of plants (termed
2542 “states” in these models) that provides elements necessary for sage-grouse habitat at the plant
2543 community scale.

2544
2545 The use of a color-coding system to label habitats as year-around (green), seasonal (yellow), or
2546 non-habitat (red) is based on the presumption of the presence or absence of specific vegetation
2547 components that comprise different elements of sage-grouse habitat. Those presumptions are
2548 based on characterizations of sage-grouse habitat elements as described by Crawford et al.
2549 (2004). Focusing on the low and high elevation models, different habitat needs with different
2550 vegetation states can be associated, and the sum of those associations can be used to broadly
2551 characterize habitat as year-around, seasonal, or non-habitat. However, just because a state may
2552 be suitable for, for example, nesting habitat, that doesn’t mean that it is currently being used or
2553 will be used in the future for nesting purposes. That said, in both the *low and high elevation*
2554 *models, states A and B* have the potential to support *nesting activities*, although the suitability of
2555 state B for this purpose could be limited by sagebrush abundance in some cases. *Brood-rearing*
2556 *habitat* could occur in either *state A or B, although riparian areas in other states* have potential
2557 to provide late season brood-rearing habitat. For the *low elevation model, winter habitat* will be
2558 associated primarily with states *A and D*, and in the *high elevation model winter habitat* would
2559 be mainly in *state A*.

2560
2561 ***Breeding Habitat:***

- 2562 • During the spring lekking period, sage-grouse use areas of low-statured vegetation (both
2563 shrubs and herbaceous) for purposes of display and breeding. There is strong fidelity to
2564 particular lekking sites and this habitat type is rarely limited on a landscape basis.
2565 Nesting habitat can be thought of as being comprised of two distinct time elements.
- 2566 • During the pre-laying period, which is the month prior to actual nesting, female sage-
2567 grouse continue to eat sagebrush but focus a growing portion of their diet on protein-rich
2568 forbs, which are thought to increase the nutritional status of the birds prior to the
2569 upcoming nesting period.
- 2570 • Sage-grouse typically nest under mature sagebrush, or in some cases other shrubs, and
2571 during the nesting period rely on perennial bunchgrasses in the immediate vicinity of the
2572 nest to provide screening cover from nest predators. Potential cover and height values for
2573 perennial grasses will vary strongly based on both ecological site and yearly conditions.
2574 Nests are often located near (e.g., < 3 km) lekking sites, but hens may move large
2575 distances from leks for nesting purposes. Mature sagebrush with umbrella-shaped
2576 canopies may provide increased screening cover of nests and this canopy shape also helps

2577 to decrease grazing of under-shrub screening cover by cattle (France et al. 2008).

2578

2579 **Brood Rearing Habitat:**

- 2580 • As with nesting, the brood-rearing period can be broken into distinct time phases. During
2581 **early brood-rearing**, the diet of chicks is focused on forbs and insects (chicks are
2582 actually obligate insectivores for roughly the first two weeks of life). From a vegetation
2583 standpoint, these habitats are often represented by areas of reduced sagebrush canopy
2584 cover, with increased herbaceous expression. As the growing season progresses, broods
2585 move into **late brood rearing habitat**, which is determined largely by the presence of
2586 succulent vegetation; primarily forbs, although some sagebrush is consumed. This
2587 succulent vegetation is often associated with riparian areas or seeps, however, broods
2588 may also migrate up in elevation, effectively staying ahead of the advancing desiccation.

2589

2590 **Winter Habitat**

- 2591 • The critical vegetation component during the **winter period** is sagebrush, given that
2592 winter diets are comprised almost entirely of sagebrush. Shrub height may or may not be
2593 important, depending on context. On sites with deep snow, a certain height is obviously
2594 necessary to ensure food availability and mature big sagebrush (*Artemisia tridentata*
2595 Nutt. ssp.) is of high importance, however, sage-grouse have also been reported to use
2596 smaller-statured low sagebrush (*Artemisia arbuscula* Nutt.) on wind-swept ridges with
2597 minimal snow cover.

2598

2599 **Interpretation**

2600 While state and transition models are typically viewed as being site specific, it is critical to
2601 recognize the consequences of spatial connectivity between vegetation states across the larger
2602 landscape. For example, a low elevation vegetation community in state “A” provides for year-
2603 around sage-grouse habitat. However, if a given community in this state is set within a larger
2604 landscape comprised mainly of low elevation state “C” (i.e., annual grass-dominated), then fire
2605 risk to state “A” will increase dramatically, suggesting that conservation measures to reduce
2606 annual grass abundance in the larger landscape will have significant implications to the security
2607 of state A. This example illustrates that conservation measures may have value to sustaining
2608 existing sage-grouse habitat, even if these measures are applied in locations that are currently
2609 non-habitat, and reinforces the importance of considering spatial connectivity between
2610 vegetation communities across the landscape when defining threats and associated conservation
2611 measures. This same concept can also be applied over time. For example, during wet years fuel
2612 accumulations across the landscape may be high enough to create high fire danger for most
2613 vegetation communities, regardless of what “state” they are in. In such cases, conservation
2614 measures to reduce fuel loading could be applied generally, regardless of vegetation state, to
2615 reduce risk of wildfire. This example illustrates that conservation needs vary over time and that
2616 application of conservation measures must take place within the framework of adaptive
2617 management.

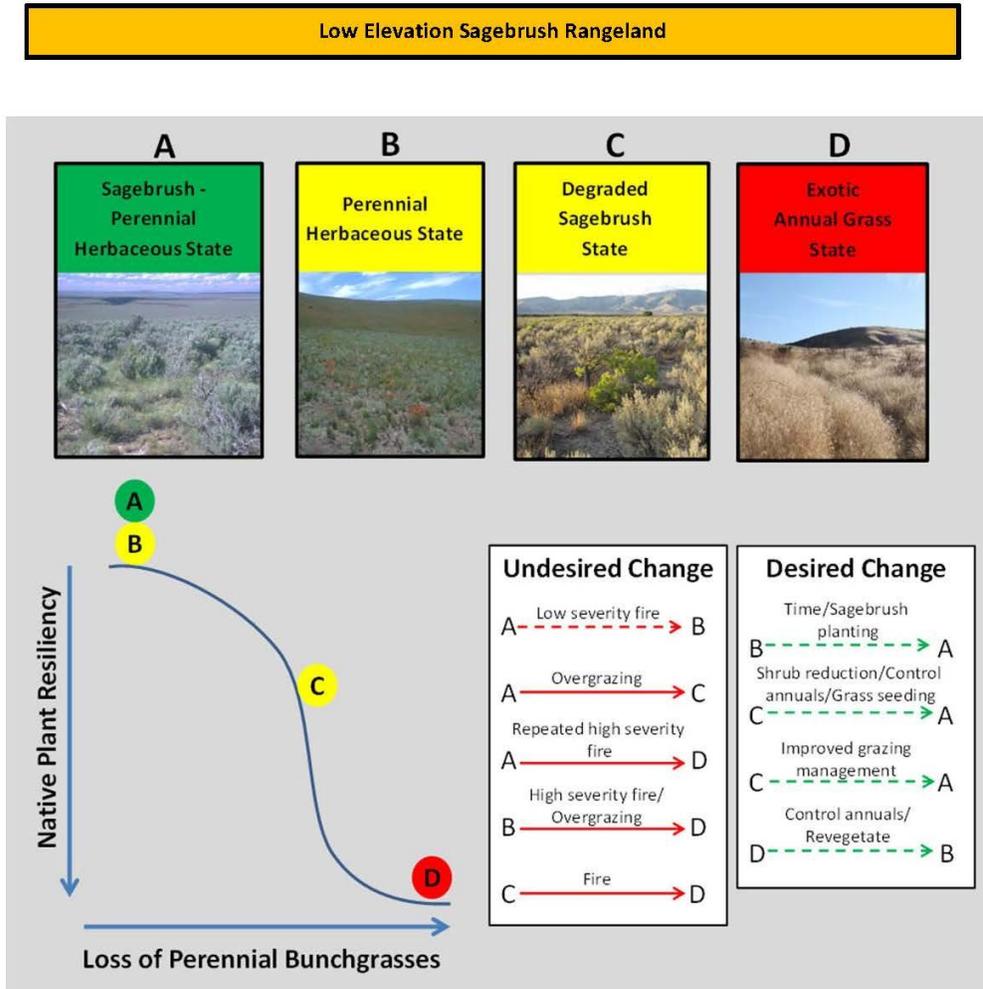
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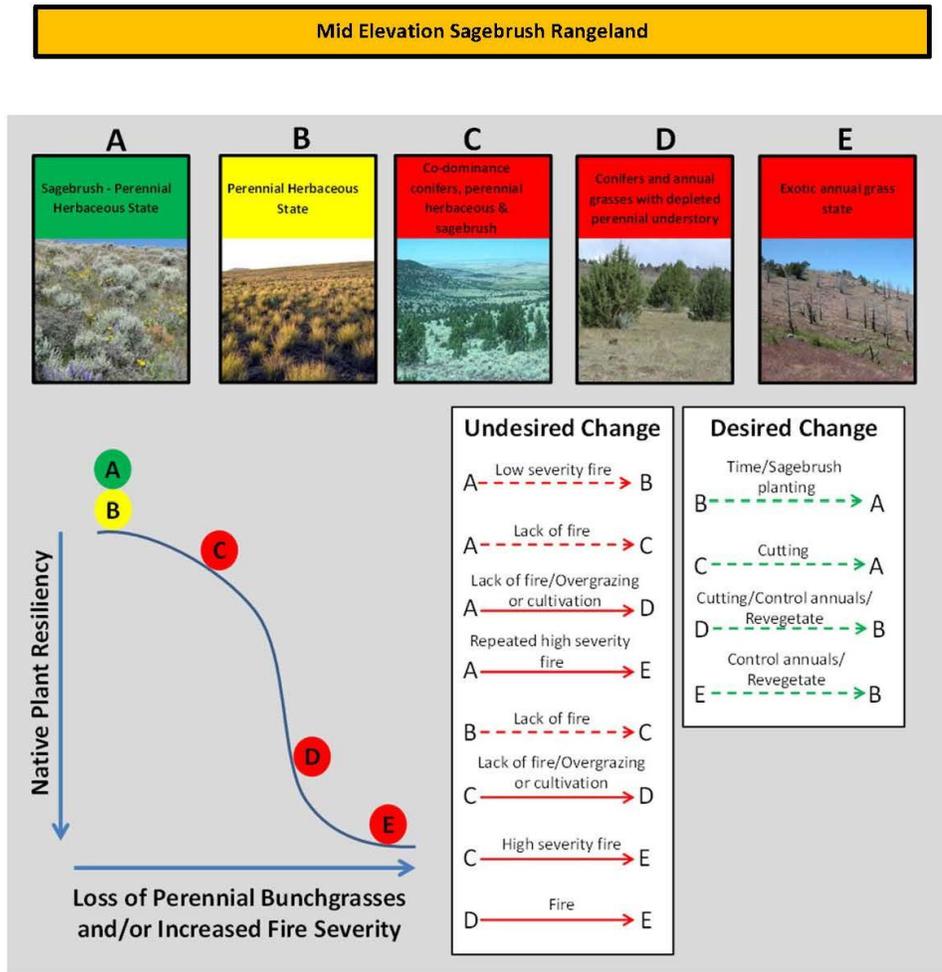
Figure 8. Low elevation sagebrush state and transition model.



Conceptual ecological framework for managing sage-grouse habitat using a generalized state-and-transition model for **low elevation sagebrush plant communities in Oregon with warm and dry or cool and dry soil temperature/moisture regimes** (Miller et al. 2013). Resiliency will be lower for communities on warm and dry sites. States (top) shaded in green indicate potential year-round habitat suitability for sage-grouse. States in shaded yellow and red indicate potential seasonal habitat and non-habitat, respectively. "Native plant resiliency" (lower left) indicates the relative likelihood of a plant community to recover to a native plant-dominated state following disturbance and decreases with loss of large perennial bunchgrasses. Persistent transitions (lower right) between states are depicted with solid arrows, while non-persistent transitions are arrows with dotted lines.

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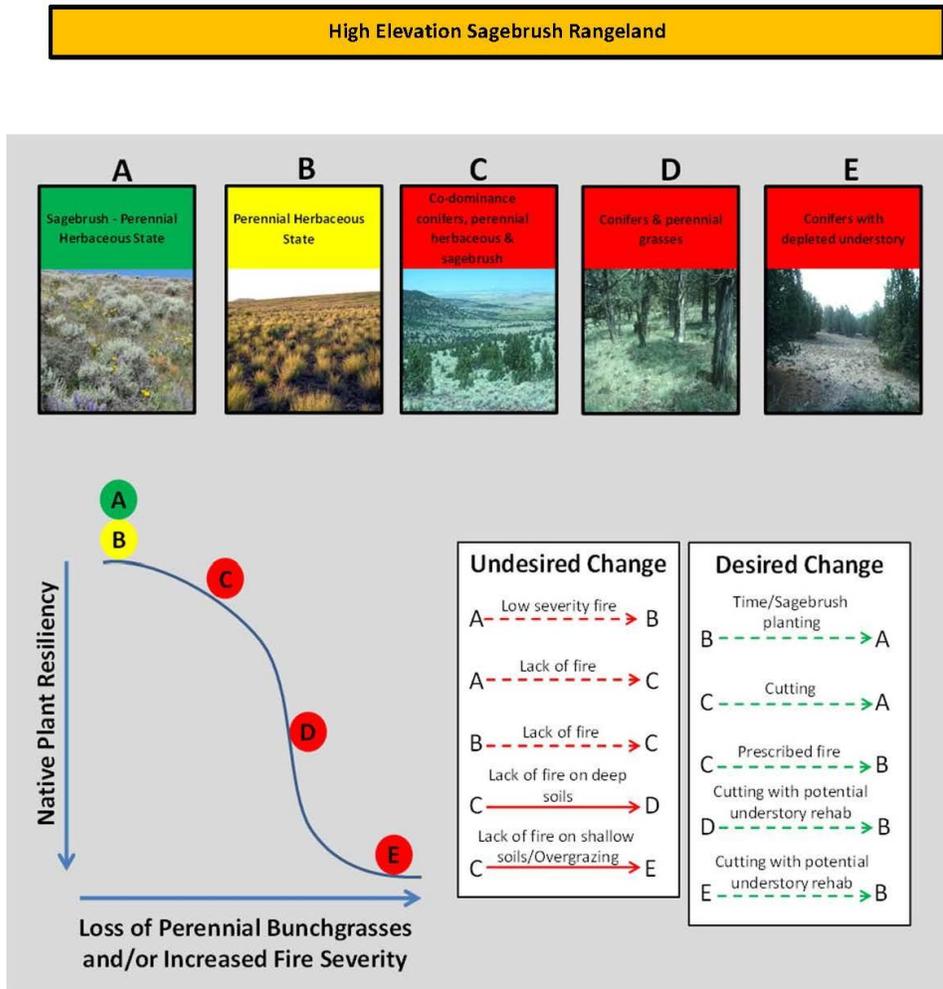
Figure 9. Mid Elevation Sagebrush State and Transition Model



Conceptual ecological framework for managing sage-grouse habitat using a generalized state-and-transition model for **mid to high elevation sagebrush plant communities in Oregon with a warm and moist soil temperature/moisture regime** (Miller et al. 2013) in Oregon. States (top) shaded in green indicate potential year-round habitat suitability for sage-grouse. States in shaded yellow and red indicate potential seasonal habitat and non-habitat, respectively. “Native plant resiliency” (lower left) indicates the relative likelihood of a plant community to recover to a native plant-dominated state following disturbance and decreases with loss of large perennial bunchgrasses and increasing fire severity. States with increased woody plant fuel loading (e.g. D) can be less likely to burn due to decreased fine fuel loading, but more likely to experience higher severity fire when they do burn (Miller et al. 2008). Persistent transitions (lower right) between states are depicted with solid arrows, while non-persistent transitions are arrows with dotted lines. Warm and dry sites often occur at the same elevation as cool and moist conditions, with differences being driving largely by aspect or other abiotic factors. Prescribed fire is depicted as a management option for reducing conifers on cool and moist sites, but not warm and dry sites, due to the potential for transition to annual grass dominance with fire in the latter.

2626
2627

Figure 10. High elevation sagebrush state and transition model.



Conceptual ecological framework for managing sage-grouse habitat using a generalized state-and-transition model for **high elevation sagebrush plant communities in Oregon with a warm/cool and moist soil temperature/moisture regime** (Miller et al. 2013) in Oregon. States (top) shaded in green indicate potential year-round habitat suitability for sage-grouse. States in shaded yellow and red indicate potential seasonal habitat and non-habitat, respectively. “Native plant resiliency” (lower left) indicates the relative likelihood of a plant community to recover to a native plant-dominated state following disturbance and decreases with loss of large perennial bunchgrasses and increasing fire severity. States with increased woody plant fuel loading (e.g. D and E) can be less likely to burn due to decreased fine fuel loading, but more likely to experience higher severity fire when they do burn (Miller et al. 2008). Persistent transitions (lower right) between states are depicted with solid arrows, while non-persistent transitions are arrows with dotted lines.

2628 **Figure 11: Riparian state and transition model.**

2629

2630 The **management goal is** to facilitate maintenance of, or transition to, a desired riparian state using a hydrology-based model.
2631 These states will be determined using Rosgen’s stream classification guide, focusing primarily on stream channel classifications that
2632 can serve or have the potential to serve the habitat needs of sage-grouse and excluding those not applicable to this area (type D) or too
2633 high gradient (type A and B channels). The Lake County region will be dealing primarily with lower gradient type E, C, F, and G
2634 channels. The functional riparian systems will be characterized by type E and C channels. E shape channels are characterized by their
2635 high sinuosity, well-vegetated banks, and low width/depth ratio. C shape channels have similar access to floodplain and well-
2636 vegetated banks, but have a higher width/depth ratio and possible slight entrenchment. Type F and G channels are typically going to
2637 be degraded C or E channel streams that have been incised and lost regular contact with their flood plain. Down cutting lowers the
2638 water table and prevents riparian bank vegetation access to adequate moisture. Entrenchment is the major characteristic of both F and
2639 G channel shapes. The major difference is the high width/depth ratio of F channels and the low width/depth ratio in G channels.
2640 Transitions between riparian states can be addressed through various conservation measures, which address ecosystem threats such as
2641 unmanaged grazing, juniper/conifer expansion, invasive vegetation management, catastrophic flooding events, and mechanical
2642 degradation. Proper Functioning Condition (PFC) can be utilized to identify the factors influencing change between riparian states
2643 and is used by management professionals, such as those at the Lakeview Soil and Water Conservation District (SWCD), to direct
2644 future conservation strategies.

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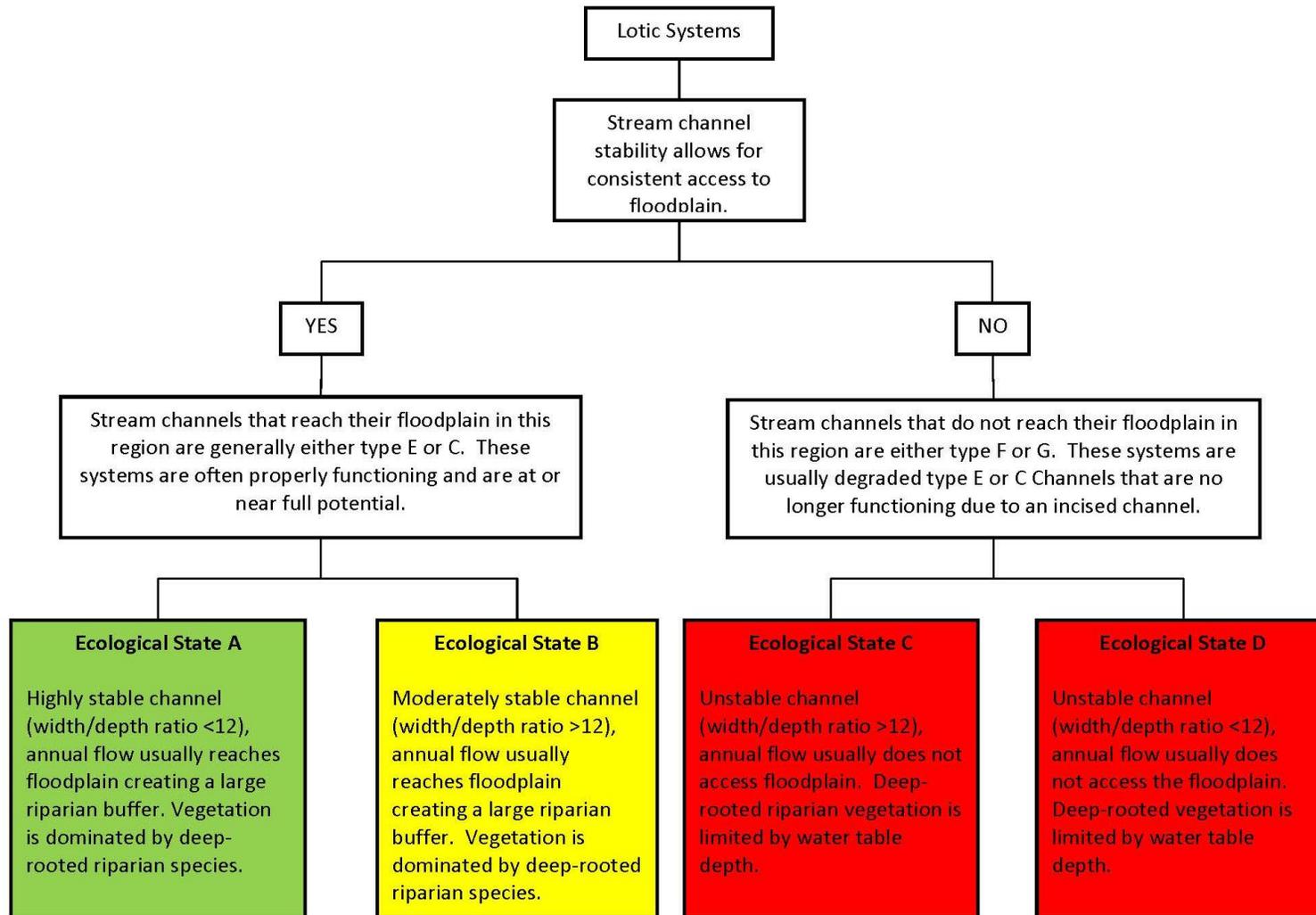
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Figure 12: Lotic systems



2665 **APPENDIX D – Inventory and Monitoring**

2666

2667 The basic method of upland trend monitoring used in this CCAA is a modified Pace 180° with
2668 step-point and density measurements with plot photos and landscape photos in cardinal
2669 directions, as described below. However, the CCAA provides the SWCD with the flexibility to
2670 employ (with the concurrence of the landowner) the most efficient, generally accepted rangeland
2671 monitoring methodologies to measure change in ecological states as related to specific objectives
2672 in the SSP.

2673

2674 **Upland Trend Monitoring**

2675 • The Pace 180° Method is a quantitative procedure for monitoring vegetation trend. It
2676 involves documenting groundcover “hits” using the toe of a boot along a pace transect at
2677 specified intervals. This method provides an estimate of ground cover (bare ground, litter,
2678 rock, perennial vegetation, annual vegetation, moss, and biological soil crusts), basal
2679 cover of perennial herbaceous plants (grasses and grass-like plants and forbs), foliar
2680 cover of woody species (trees and shrubs), and perennial plant composition (see Johnson
2681 and Sharp, 2012).

2682 • The Step-Point method employs a long pin flag or piece of welding rod dropped at the toe
2683 of the forward boot along a pace transect to arrive at an estimate of cover. While holding
2684 the pin flag vertical at the toe of the observer’s boot, he or she records all vegetation
2685 interceptions along the full length of the pin beginning with top vegetation layers and
2686 working down the pin flag to the soil surface. It measures cover for individual species,
2687 total cover, and species composition by cover. Pace 180° and Step-Point measurements
2688 will be collected every pace along a 100-point pace transect amounting to 100 samples
2689 (see Herrick et al., 2005 for a detailed description of the Step-Point Monitoring Method).

2690 • Density of perennial vegetation by species will be recorded every 5th pace in a 0.25 m²
2691 frame; amounting to 20 density measurements for each transect. Density is simply the
2692 number of plants per unit area. It is a particularly useful measurement for monitoring
2693 sagebrush rangelands in which the herbaceous understory is typically dominated by
2694 perennial bunchgrasses. Density is less well-suited to areas that support rhizomatous
2695 perennial grass species because of difficulties associated with identifying and counting
2696 individual plants. Density of perennial bunchgrasses is perhaps the best indicator of the
2697 resistance of sagebrush rangeland to conversion to undesirable vegetation states. A 3’x 3’
2698 photo plot will be established at the starting point of the modified Pace 180° transect (see
2699 Johnson and Sharp 2012 for a detailed description of placement of the photo plot). A
2700 landscape photo will be taken from the 3’x 3’ photo plot toward a permanent reference
2701 point that defines the direction of the modified Pace 180° transect. Landscape photos
2702 will also be taken in the cardinal directions from the 3’x 3’ photo plot.

2703 • Repeat Photo Monitoring involves establishing a permanent photo plot and periodically
2704 taking both ground level and transect view photographs. Comparing pictures of the same
2705 site taken over a period of years provides visual evidence of vegetation and soil trend. A
2706 properly located permanent photo point allows observation of changes in important
2707 rangeland attributes including plant species composition, total plant cover, perennial plant
2708 density, litter, spatial pattern of plants, plant vigor, and soil erosion. The form for
2709 recording data using the modified Pace 180° method is shown in Appendix D-1.

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Riparian Inventory and Trend Monitoring

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

2736 **APPENDIX D-1 - Modified Pace 180° Method Form**

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VEGETATION TREND MONITORING																			
Methodology _____					Ranch _____					Soil Surface									
Pasture _____					Observer(s) _____					Date _____									
Transect No. _____					Veg. Type _____					Ecological Site _____									
Top Layer				D					D					D			D	Soil Surface (do not use litter): Species Code (for basal intercept)	
Code 1				E					E					E			E		R = rock fragment (> 1/4 " diameter)
Code 2				N					N					N			N		BR = bedrock
Code 3				S					S					S			S	M = moss	
Soil Surface				I					I					I			I	LC = lichen	
Nearest Plant				T					T					T			T	S = soil	
Toe Hit				Y					Y					Y			Y	EL = embedded litter	
Top Layer				D					D					D			D	D = duff	
Code 1				E					E					E			E	Top Canopy Codes: Species code Common Name NONE (no canopy)	
Code 2				N					N					N			N		
Code 3				S					S					S			S		
Soil Surface				I					I					I			I	Lower Canopy Codes: Species Code Common Name L (herbaceous litter) W (woody litter >1/4")	
Nearest Plant				T					T					T			T		
Toe Hit				Y					Y					Y			Y		
Top Layer				D					D					D			D	Comments:	
Code 1				E					E					E			E		
Code 2				N					N					N			N		
Code 3				S					S					S			S		
Soil Surface				I					I					I			I		
Nearest Plant				T					T					T			T		
Toe Hit				Y					Y					Y			Y		
Top Layer				D					D					D			D	Additional comments on back	
Code 1				E					E					E			E		
Code 2				N					N					N			N		
Code 3				S					S					S			S		
Soil Surface				I					I					I			I		
Nearest Plant				T					T					T			T		
Toe Hit				Y					Y					Y			Y		

Site Location and 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.)							

2774 **Appendix D-3 Annual Grazing and Habitat Summary Form**
2775 **ANNUAL GRAZING AND HABITAT SUMMARY**

2776 _____ **GRAZING SEASON**

2777 Ranch Name (tract # will be assigned for file retention) _____

2778 Pasture Name (tract # will be assigned for file retention) _____

2779 Yield Index _____ Weather Station _____

2780 Was there effective precipitation for early growth or regrowth? Yes No

2781 Indicators of Resource Conditions (check relevant indicators):

2782 Fire Riparian Insects Weeds Nutrient Cycling Wildlife Habitat

2783 Trespass Drought Watershed Function Utilization Wolf Plants

2784 Livestock Distribution Range Improvements Deviation in system or Season of use

2785 Summary of field notes, observations and data that describe range, livestock, and habitat conditions at
2786 the end of the year.

2787

2788

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2791 Description of actions, events, or activities that may have caused resource objectives to be met, not
2792 met, or moved toward or away from. Recommended changes for next grazing season.

2793

2794

2795

2796 Individuals providing input or review: _____,

2797 _____,

2798 _____ DATE: _____

2799

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2802

2803 **APPENDIX D-4–Baseline Inventory**

2804 The Upland Ecological State Documentation Form and the Riparian Ecological State
2805 Documentation Form are ocular assessments that will document each ecological state within a
2806 pasture and will provide the basis for selecting representative areas for each stratum, where
2807 quantitative data will be collected and serve as permanent monitoring sites for the management
2808 unit. For uplands, indicators will be surveyed within strata by applying the intuitive random
2809 meander method (Nelson 1984) that traverses each stratum. Sampling of each stratum should be
2810 conducted; however, certain strata (e.g., low elevation state C) will likely require less intensive
2811 observation for confirmation than areas preliminarily identified as year-round or seasonal sage-
2812 grouse habitat.

2813 The Upland Ecological State Documentation Form and the Riparian Ecological State
2814 Documentation Form will be used to document each strata, by:

- 2815 • ground truthing preliminary ecological state strata. The procedure for ground confirming
2816 preliminary ecological state strata will largely rely on an ocular assessment of key
2817 indicators within each stratum.
- 2818 • making adjustments to boundaries of mapped ecological states when field observations
2819 reveal deviations from preliminary strata.
- 2820 • taking a landscape photo with coordinates which represents the existing ecological state.

2821

2822

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

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Ranch _____ Observer(s) _____

Management Unit _____ Date _____

2831 **Plant Functional/Structural Groups Represented (box dominant groups; circle subdominant but**
2832 **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

2833
2834

Greenline Vegetation Composition¹²:

2836 ___ **≥ 70% Groundcover of deep-rooted riparian species and anchored rock**
2837 ___ **50-69% Groundcover of deep-rooted riparian species and anchored rock**
2838 ___ **< 50% Groundcover of deep-rooted riparian species and anchored rock**

2839
2840

2841 **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	

2842
2843

2844 **Ecological State Confirmed by Ocular Assessment** _____

2845 **Designated Monitoring Area (DMA) Coordinates:**

2846 **Upstream** _____

2847 **Downstream** _____

2848

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).

2849 **APPENDIX E – Herbicides and Best Management Practices**

2850

2851 A major threat to sage-grouse within the CCAA area is the loss of habitat quality and quantity
2852 due to the increase of exotic invasive plant species (noxious weeds) replacing native sagebrush
2853 plant communities.

2854

2855 Herbicide use

2856 Herbicide application used alone or in combination with other methods may be used where
2857 appropriate to provide a feasible and effective strategy for controlling invasive species and
2858 preparing sites for desirable sage-grouse habitat restoration. Specific herbicides anticipated for
2859 restoration and management of sage-grouse habitat or potential habitat are described in further
2860 detail below. They were chosen for maximum effectiveness against wild land weeds and least
2861 environmental and non-target species' risks.

2862

2863 Background

2864 The herbicide list for this CCAA includes 19 herbicides. Seventeen of those tier to the
2865 *Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS July 2010* (FEIS) and
2866 related Record of Decision dated October 1, 2010. This July 2010 Oregon Final Environmental
2867 Impact Statement tiers to the *Vegetation Treatments Using Herbicides on Bureau of Land
2868 Management Lands in 17 Western States Programmatic Environmental Impact Statement* (PEIS)
2869 and related Record of Decision completed in 2007, by the BLM Washington Office Rangelands
2870 Resources Division; this set of documents made 17 herbicides available for a full range of
2871 vegetation treatments in 17 western states, including Oregon. The additional two herbicides are
2872 aminopyralid and rimsulfuron. The BLM intends to prepare an Environmental Impact Statement
2873 (EIS) to evaluate the use of these two herbicides in its vegetation treatment programs on public
2874 lands in 17 Western States (Federal Register, Volume 77, Number 246, Dec. 21, 2012). The
2875 risk assessment for these two chemicals (aminopyralid and rimsulfuron) have been completed
2876 and no additional best management practices will be required than those identified in the July
2877 2010 FEIS that this document is tiered towards and are outlined below. (BLM 2014 e-mail
2878 communication)

2879

2880 Sage-grouse Consideration

2881 Both the *Sage Grouse Conservation Assessment* (Connelly et. al 2004) and *Ecology and
2882 Conservation of Greater Sage Grouse: A Landscape Species and Its Habitats* (USGS 2009) were
2883 reviewed and considered in preparation of the Oregon FEIS. Invasive plant treatments in infested
2884 sage-grouse habitats would be part of restoration projects carefully designed to benefit sage-
2885 grouse.

2886

2887 Consistency with Labels and Laws

2888 The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) establishes procedures for the
2889 registration, classification, and regulation of all herbicides. Before any herbicide may be sold
2890 legally, the EPA must register it. The EPA may classify an herbicide for general use if it
2891 determines that the herbicide is not likely to cause unreasonable adverse effects to applicators or
2892 the environment, or it may be classified for restricted use if the herbicide must be applied by a
2893 certified applicator and in accordance with other restrictions. The herbicide label is a legal
2894 document. Federal, state, and local law and all herbicide label requirements will be adhered to.

2895 Herbicides may be used only for the objectives and type of vegetation for which they are
2896 registered, as displayed on the herbicide label.

2897
2898

2899 Best Management Practices

- 2900 1. All manufacturer's label requirements and restrictions will be followed and
2901 recommendations will be used as appropriate.
- 2902 2. To minimize risks to terrestrial wildlife, do not exceed typical application rates for
2903 applications of dicamba, diuron, glyphosate, hexazinone, tebuthron, or triclopyr, where
2904 feasible.
- 2905 3. Conduct a pretreatment survey. This may include, but is not limited to, flagging areas for
2906 treatment, determining what noxious or invasive species are within the area, defining the
2907 extent of area, and completing a through overview of the area before applying herbicides.
- 2908 4. Minimize the size of application area and use spot applications or low boom broadcast
2909 where possible to limit the probability of contaminating non-target food and water
2910 sources, when feasible.
- 2911 5. Where practical, limit glyphosate and hexazinone to spot applications in grazing land
2912 and wildlife habitat areas to avoid contamination of wildlife food items.
- 2913 6. Clean Off Highway Vehicles (OHVs) to remove plant material and herbicide residue to
2914 minimize impact to non-target sites.
- 2915 7. Sprayers will be set to minimize drift (e.g., with low nozzle pressure, large droplet size,
2916 low nozzle height) to the extent practical and feasible.
- 2917 8. Dyes may be used for herbicide application to ensure complete and uniform treatment of
2918 invasive plants as well as to immediately indicate drift issues.
- 2919 9. Do not use adjuvant R-11.
- 2920 10. Either avoid using glyphosate formulations containing POEA, or seek to use
2921 formulations with the least amount of POEA, to reduce risk to amphibians.
- 2922 11. Do not use bromacil or diuron in rangelands and use appropriate buffer zones.
- 2923 12. To minimize disturbance to sage-grouse populations, do not conduct aerial or ground
2924 broadcast applications of herbicides during nesting and early-brood rearing periods when
2925 sage-grouse are present (March 1 – June 30, at a minimum), unless this timeframe or
2926 target plant development stage is optimal for herbicide effectiveness.
- 2927 13. Most activities covered under this CCAA will occur on uplands, however, if herbicide
2928 treatments are planned in ephemeral or perennial watercourses where listed fish may
2929 occur additional coordination with the Service should occur.

2930

2931 Herbicides

2932 It is also noted that during the 30-year life of this agreement many technological changes for
2933 control of invasives such as biological agents and herbicides will be developed for use on
2934 rangelands and may be applied to improve sage-grouse habitat. As such herbicides and biological
2935 control agents are approved by Environmental Protection Agency (EPA) and Oregon Department
2936 of Agriculture (ODA) for use on rangelands, they will be considered for use under this umbrella
2937 document to improve sage-grouse habitat. As previously noted, this document lists 19 specific
2938 herbicides, however if other herbicides or biological agents are anticipated to be applied on
2939 enrolled rangelands, agricultural and crop lands, an analysis will be conducted by SWCD. This
2940 analysis will assess the risk associated with application of proposed chemicals, and if needed,

2941 additional Best Management Practice(s) will be developed (e.g., a different timing
2942 recommendation for herbicide application). For permit coverage, use of herbicides other than
2943 the following 19 listed will require a modification consistent with *Section N. Modification of*
2944 *SSP/CI* in Appendix B or with *Section 18. Modification of Programmatic CCAA*.

2945
2946 Herbicides can be categorized as selective or nonselective. Selective herbicides kill only a
2947 specific type of plant. For example, an herbicide selective for broadleaved plants can be used to
2948 manage such species while maintaining desirable grass species in rangeland communities. Non-
2949 selective herbicides kill all types of plants, and thus should only be applied to the target species.
2950 Herbicides can be used selectively to control specific types of vegetation (e.g. killing invasive
2951 weeds), or non-selectively to clear all vegetation on a particular area (e.g. keeping a roadway
2952 clear of vegetation). Some herbicides are post-emergent, which means they can be used to kill
2953 existing vegetation; others are pre-emergent, which stops vegetation before it grows (e.g.
2954 prohibiting seeds from germinating).

2955

2956 **List**

2957 **2, 4-D**

2958 *Product(s):* Many, including Amine, Hardball, Unison, Saber, Salvo, Aqua-Kleen, and Platoon

2959 *Common Targets:* Annual and biennial broadleaf weeds. *Kochia, whitetop, perennial*
2960 *pepperweed, Russian thistle and knapweed, sagebrush, rabbitbrush.* Selective to broadleaf.

2961 *Application:* Post-emergent

2962 *Point of application:* foliar

2963

2964 **Bromacil**

2965 *Product(s):* Hyvar

2966 *Common Targets:* Annual grasses and broadleaf weeds. *Cheatgrass, puncturevine, ragweed, wild*
2967 *oat, dandelion, quackgrass, wildcarrot.* Nonselective.

2968 *Application:* Pre- and post-emergent

2969 *Point of application:* soil

2970

2971 **Chlorsulfuron**

2972 *Product(s):* Telar

2973 *Common targets:* *Thistles, wild carrot, giant horsetail, poison hemlock, Russian knapweed,*
2974 *marestail, perennial pepperweed, puncturevine, tansy ragwork, common tansy, common teasel,*
2975 *dalmation toadflax, yellow toadflax, whitetop, dyer's woad.* Selective to broadleaf.

2976 *Application:* Pre- and early post-emergent

2977 *Point of application:* soil and foliar

2978

2979 **Clopyralid**

2980 *Product(s):* Transline, Stinger, Spur

2981 *Common targets:* *Thistles, common burdock, knapweeds, yellow starthistle, oxeye daisy,*
2982 *hawkweeds, prickly lettuce, dandelion, cutleaf teasel, kudzu, buffalobur.* Selective to broadleaf.

2983 *Application:* Post-emergent

2984 *Point of application:* foliar

2985

2986 **Dicamba**

- 2987 *Product(s):* Vanquish, Banvel, Diablo, Vision, Clarity
- 2988 *Common targets:* Knapweeds, kochia, and thistles. Selective to broadleaf and woody plants.
- 2989 *Application:* Pre- and post-emergent
- 2990 *Point of application:* foliar
- 2991
- 2992 **Diflufenzopyr + dicamba**
- 2993 *Product(s):* Overdrive, Distinct
- 2994 *Common targets:* Knapweeds, kochia, and thistles. Selective to broadleaf.
- 2995 *Application:* Post-emergent
- 2996 *Point of application:* foliar
- 2997
- 2998 **Diuron**
- 2999 *Product(s):* Direx, Karmex
- 3000 *Common targets:* Annual grasses. (including bluegrass) and broadleaf weeds. *Lambsquarters,*
- 3001 *kochia and Russian thistle.* Selective to annual weeds, some perennials.
- 3002 *Application:* Pre-emergent
- 3003 *Point of application:* soil
- 3004
- 3005 **Fluridone**
- 3006 *Product(s):* Avast!, Sonar
- 3007 *Common targets:* *Hydrilla and watermilfoils.* Selective to submersed plants.
- 3008 *Application:* Post-emergent
- 3009 *Point of application:* aquatic
- 3010
- 3011 **Glyphosate**
- 3012 *Product(s):* Many, including Rodeo, Mirage, Roundup Pro, and Honcho
- 3013 *Common targets:* Grasses (including *Italian ryegrass*), sedges, broadleaf weeds, and woody
- 3014 shrubs. Nonselective.
- 3015 *Application:* Post-emergent
- 3016 *Point of application:* soil or foliar
- 3017
- 3018 **Hexazinone**
- 3019 *Product(s):* Velpar
- 3020 *Common targets:* Annual and perennial grasses and broadleaf weeds, brush, and trees. Selective
- 3021 to grasses, broadleaf, woody plants.
- 3022 *Application:* Pre- and post-emergent
- 3023 *Point of application:* soil or foliar
- 3024
- 3025 **Imazapic**
- 3026 *Product(s):* Plateau, Panoramic
- 3027 *Common targets:* *Cheatgrass, leafy spurge, medusahead, whitetop, dalmation toadflax and*
- 3028 *Russian knapweed.* Selective to some broadleaf and grasses.
- 3029 *Application:* Pre- and post-emergent
- 3030 *Point of application:* soil
- 3031
- 3032 **Imazapyr**

- 3033 *Products:* Arsenal, Habitat
- 3034 *Common targets:* Whitetop, cheatgrass, common knotweed, north Africa grass, Russian olive
- 3035 *Application:* Pre- and post-emergent
- 3036 *Point of application:* soil or foliar
- 3037
- 3038 **Metsulfuron methyl**
- 3039 *Product(s):* Escort, Patriot, PureStand
- 3040 *Common targets:* *Whitetop, perennial pepperweed, and other mustards and biennial thistles.*
- 3041 Selective to some broadleaf and grasses.
- 3042 *Application:* Post-emergent
- 3043 *Point of application:*soil or foliar
- 3044
- 3045 **Picloram**
- 3046 *Product(s):* Triumph, OutPost, Tordon
- 3047 *Common targets:* Perennial and woody species. *Knapweeds, starthistle, thistle, bindweed, leafy*
- 3048 *spurge, rabbitbrush, rush skeletonweed, and poison oak.*Selective to broadleaf and woody plants.
- 3049 *Application:* Pre- and post-emergent
- 3050 *Point of application:* foliar
- 3051
- 3052 **Sulfometuron methyl**
- 3053 *Product(s):* Oust, Spyder
- 3054 *Common targets:* *Cheatgrass, annual and perennial mustards, and medusahead.* Nonselective.
- 3055 *Application:* Pre- and post-emergent
- 3056 *Point of application:* Soil or foliar
- 3057
- 3058 **Tebuthiuron**
- 3059 *Product(s):* Spike
- 3060 *Common targets:* *Sagebrush (thinning).* Selective to broadleaf and woody plants.
- 3061 *Application:* Pre- and post-emergent
- 3062 *Point of application:*soil
- 3063
- 3064 **Triclopyr**
- 3065 *Product(s):* Garlon, Renovate, Element
- 3066 *Common targets:* *Saltcedar, purple loosestrife, Canada thistle, tanoak, Himalayan blackberry.*
- 3067 Selective to broadleaf and woody plants.
- 3068 *Application:* Post-emergent
- 3069 *Point of application:* foliar
- 3070
- 3071 **Aminopyralid**
- 3072 *Product(s):* Milestone
- 3073 *Common targets:* *thistles, knapweed, some broadleaf weeds.* Selective to broadleaf plants.
- 3074 *Application:* Post-emergent
- 3075 *Point of application:* soil or foliar
- 3076
- 3077 **Rimsulfuron**
- 3078 *Product(s):* Matrix, Resolve DF, Bais

3079 *Common targets: Used to control weeds in potato crops. Some use on annual grass medusahead*
 3080 *rye. Selective.*
 3081 *Application: Pre and post-emergent*
 3082 *Point of application: soil or foliar*
 3083

3084 **APPENDIX F – Information Used to Calculate Take**

3085 **Sage-grouse Density Calculation:**

3086 The density of sage-grouse in the covered area was calculated as follows. There are an estimated
 3087 24,515 sage-grouse in Oregon based on a 10-year (2004-2013) average of the statewide total
 3088 spring population (ODFW unpublished data 2013). According to Hagen (2011) 90% of sage-
 3089 grouse occupy PPH (core), which is estimated at 6.57 million acres in Oregon. The assumption
 3090 was made that the remaining 10% of the sage-grouse population lie within PGH, which is
 3091 estimated at 8.26 million acres in Oregon (Hagen 2011). Using the 10-year minimum breeding
 3092 population average, sage-grouse densities in PPH are estimated at 0.0034 birds per acre (90% of
 3093 24,515 = 22,064 sage-grouse divided by 6.57 million acres of PPH). Average sage-grouse
 3094 densities in PGH are estimated at 0.0003 birds per acre (10% of 24,515 = 2,452 divided by 8.26
 3095 million acres) (Table 3, below). These statewide average densities were then multiplied by the
 3096 number of acres of PPH (115,185 ac x 0.0034 birds per ac) and PGH (283,439 ac x 0.0003 birds
 3097 per ac) covered under this CCAA (see Table 1 in *Section 8. Covered Area*) to come up with an
 3098 estimated 10-year minimum population average of 1,406 sage-grouse for the covered area.
 3099

3100 **Table 3: Estimated Number and Density of Sage-Grouse within Covered Area**

Distribution of Birds by Habitat Type	Number of Birds	Acres of habitat	Birds per Acre
10% of Birds in PGH	2452	8,257,373	0.0003/PGH
90% of Birds in PPH	22064	6,567,011	0.0034/PPH
Total: 2004-2013 Statewide Minimum Spring Breeding Population Average	24515	14,824,384	
	Acres of Habitat	Birds by Habitat Type	
PGH	283,439	84	Birds in PGH
PPH	115,185	387	Birds in PPH
Totals	398,624	471	

3101
 3102 **Information used to calculate take percentages:**

- 3103 • ***Rangeland Treatments:*** When determining the level of take associated with Rangeland
 3104 Treatments we used nest abandonment from livestock as a surrogate. We assumed that
 3105 the types of disturbances that would occur as part of the activities described as
 3106 “Rangeland Treatments” would have similar impacts to sage-grouse in the area being
 3107 treated as those associated with repeated disturbance that cause hens to abandon their
 3108 nests (see livestock management section below). We estimated that no more than 5% of
 3109 the covered area (all acres PPH and PGH) would be treated in any one year. We felt this
 3110 estimate was likely an overestimate because many rangeland treatments will occur in

3111 unsuitable habitats (juniper encroached areas, degraded sagebrush habitats etc.).
3112 Additionally, as described in the conservation measures under rangeland treatments,
3113 minimization measures (timing etc.) will be employed when treatments occur to lessen
3114 the impacts to the covered area.

3115
3116

3117 • **Livestock Management:** We were able to calculate levels of take associated with nest
3118 abandonment and trampling of nests from livestock grazing in occupied sage-grouse
3119 habitats. Three studies, identified nest abandonment due to disturbance from livestock
3120 grazing resulting in a total of 8 out of 223 or 3.59% of nests being abandoned.
3121 (Rasmussen and Griner 1938 (n=5/161 nests research conducted in Utah), Danvir 2002
3122 (n=2/36, research conducted in Utah), and Holloran 2003 (n=1/26 research conducted in
3123 Wyoming)). Two studies containing a total of 450 nests with five nests documented as
3124 destroyed or trampled by livestock resulting in a take percentage of 1.11%. (Rasmussen
3125 & Griner (n=2/161), Severson in progress unpublished (n=3/289)). According to ODFW
3126 60% of the population are females (ODFW 2014 email), we further assumed all females
3127 initiate nests and would be exposed to these threats. We placed 95% of females in PPH
3128 and 5% of females in PGH, we based this assumption on the information provided in the
3129 2011 ODFW Strategy that states 95% of nesting occurs in core habitats which is
3130 equivalent to PPH, so we assumed the additional 5% of nesting occurs on lands outside
3131 core or PGH.

3132

3133 • **Farm Operations:** The acres impacted in the covered area were developed using 2010
3134 LANDFIRE data, a GIS analysis was conducted by intersecting the data identified as
3135 “agricultural” and the acres identified in this CCAA as the “covered area”. The resulting
3136 acres (37,423 acres of PGH and 1,087 acres of PPH) are the acres we identified that
3137 interactions between sage-grouse and farm equipment are most likely to occur. Very
3138 little data exists documenting direct take from farm operations, one unpublished study by
3139 Davis in Oregon documented one sage-grouse being killed during haying out of 105
3140 collared birds, resulting in a take percentage of .95% (n=1/105). Additionally, when site
3141 specific plans are developed minimization measures (either those currently in place or
3142 new measures) related to haying/farming will be identified in Section K of the SSP.

3143

3144 • **Development:** Fences are currently present throughout much of the covered area and
3145 some new fences may be needed to protect sensitive areas of sage-grouse habitat or to
3146 evenly distribute livestock within the covered area. Fences pose a strike risk to sage-
3147 grouse. A Utah study concluded that 18% of documented mortalities to sage-grouse were
3148 from fence strikes. (Danvir 2002) The overall mortality rate for this population was 53%,
3149 making the relative risk of a sage-grouse hitting an unmarked fence at 9.54%. In 2011-
3150 2013, Stevens published 3 papers examining the relative risk of hitting fences and
3151 identifying key factors present in the habitat that would make a fence “high risk”, these
3152 factors led to the development of a lek based model taking into account distance from
3153 leks, slope, roughness and other factors, Stevens concluded that if high risk fences were
3154 marked with anti-strike markers or reflectors it would reduce mortalities by 83%, which
3155 would reduce overall fence strike mortality rate down to 1.62%. For our calculations we
3156 assumed 100% of all birds in the covered area would be exposed to fence strikes

3157 annually, we also assumed all high risk fences that are enrolled will be marked as part of
3158 enrolled landowners SSPs.

3159

3160 **Allowance of Additional 0.5% Take within covered area:**

3161 There may be additional take associated with both the direct and indirect aspects of rangeland
3162 management, however there have been very few cause and effect studies quantifying this.
3163 (Rowland 2004). We are providing an allowance of up to 0.5% as a result of these types of
3164 activities across all covered lands and affecting all birds.

3165 ***Examples might include:***

- 3166 • Striking a sage-grouse with a vehicle while landowners or their agents are performing
3167 covered activities, implementing conservation measures or recreating.
- 3168 • Small amounts of take from fence strikes to lower risk unmarked fences.
- 3169 • Non-commercial recreational activities.
- 3170 • Drowning in stock tanks fitted with escape ramps.