

PROPOSED ACTION AND ALTERNATIVES

An Environmental Assessment (EA) must consider a reasonable range of alternatives including the proposed action and a no action alternative. Other alternatives may be needed to resolve conflicts or to address new conditions or new information. If other alternatives are identified or proposed during scoping but are determined by the BLM not to reasonably address the purpose and need for action, or not to be technically or economically feasible, or not to be in conformance with the land use plan, or not to be substantially different from another alternative in design or effects, they may be dismissed from detailed analyses (BLM Manual H-1790-1).

Public scoping raised issues which generated four additional alternatives for detailed analyses. Four additional alternatives were also considered but eliminated from detailed analyses. All of the alternatives considered are described below.

Summary

Alternatives analyzed in detail:

1. No Action

No programmatic vegetation restoration program would be implemented. Case by case projects may be approved under separate NEPA analyses, but a landscape scale program would not be implemented. Under the No Action Alternative, on-going management in the Bodie Hills including monitoring programs, continued fire suppression, and all other approved projects and management would continue.

2. Proposed Action

A 10 year program of vegetation restoration treatments in specific vegetation conditions would be implemented. A maximum of 16,930 acres (10% of the total project area) would be treated in 6 upland ecological systems and 3 associated riparian systems where they are intermingled or adjacent and also meet treatment criteria. Treatment methods would include hand cutting, piling, chipping, mowing and broadcast prescribed burning. For details of this alternative, see the full description on pg. 23.

3. Increased Acreage

The Increased Acreage Alternative is the same as the Proposed Action above, except that the maximum acreage to be treated would be increased and one method would be added to treat the fuelbreak around Bodie State Historic Park. The total acreage would be the maximum acres allowed in the Bishop Fire Management Plan, 23,880 acres (14% of the total project area). This is a 40% increase over the treatment area in the Proposed Action. The added method would be targeted grazing around Bodie State Historic Park. Acreage targets are informed by the Ecological Management Scenario in the TNC report. For details of this alternative, see the full description on pg. 42.

This alternative was developed in response to comments that the amount of treatment proposed would not make a big enough difference in the ecological departure of the ecological systems in the Bodie Hills and that grazing was not considered as a tool.

4. Treatment in CWPP WUI area only

The Wildland Urban Interface (WUI) Alternative would be the same as the Proposed Action above except it restricts the treatments to within the Wildland Urban Interface as defined in the Mono County Community Wildfire Protection Plan (CWPP) and lowers the total amount of treatment to 10,268 acres (6% of the total project area). This is 61% of the area treated by the Proposed Action. The ecosystem types are not evenly distributed throughout the Bodie Hills, so treatment acreages were adjusted proportionally to the occurrence of ecosystem types and the target states. For the details of this alternative, see the full description on pg. 48.

This alternative was developed in response to comments that objectives could possibly be met by only treating areas where fire threatens communities and structures. The CWPP WUI area only alternative was designed to encompass the area where fire could reach communities within a single burn period (a day of burning). Treating in these areas could potentially moderate fire behavior that has the potential to adversely affect communities and structures.

5. Limited treatment in WSAs

The Limited Treatment in WSAs Alternative would be the same as the Proposed Action outside the WSAs. Inside the WSAs it would limit the methods used to prescribed burning (broadcast and spot burning) and would consequently lower the total acreage treated to 12,903 acres (8% of the total project area). This is 76% of the treatment area in the Proposed Action. There are several ecological and logistical factors that limit the use of broadcast burning in specific ecosystems, and the maximum treatment acreages were adjusted proportionally to the occurrence of ecosystem types and the target states in the WSAs. The treatment methods used outside of WSAs would remain the same as the Proposed Action. For the details of this alternative, see the full description pg. 53.

This alternative was developed to respond to the concerns expressed in scoping regarding impacts of mechanical methods on the wilderness characteristics of the WSAs and to follow BLM policy that “[r]estoration treatments should use the least disruptive techniques that have the best likelihood for success” (BLM Manual 6300 1.6.D.8.D and 1.6.C.2.f). Comparison of the effects of this alternative with the Proposed Action will determine if mechanical methods are necessary and if they would impair the wilderness characteristics of the WSAs.

6. No Treatment in WSAs

The No Treatment in WSAs Alternative would be the same as the Proposed Action outside the WSAs but would not allow for any treatment inside the WSAs. This would lower the total amount of treatment to 11,288 acres (7% of the total project area). This is 67% of the treatment area in the Proposed Action. The ecosystem types are not evenly distributed throughout the Bodie Hills so treatment acreages were adjusted proportionally to the occurrence of ecosystem types and the target states as shown in the detailed tables in the full alternative description below (pg. 59).

This alternative was developed to respond to the concerns expressed in scoping regarding the effects of treatment on the WSAs and to conform to BLM policy for analysis of proposals in WSAs. “A reasonable range of alternatives, including alternative approaches to accomplishing the same management objectives, must be analyzed in the NEPA document,

including alternative sites both inside and outside the WSA” (BLM Manual 6300 1.6.E.3.f.ii). Comparison of this alternative with the Proposed Action and the Limited Treatment in WSAs Alternative will help the BLM determine if treatment within the WSAs is necessary to achieve the purpose and need and to maintain or improve the wilderness characteristics of those WSAs.

Alternatives considered but eliminated from detailed analysis:

7. Community Protection Fuelbreaks Only

Under the Fuelbreaks Alternative, the only treatments would be fuel breaks to protect communities and structures. All treatment locations would be immediately adjacent to structures and along roads in the Mono Basin where there are dispersed structures and private holdings. The methods would be primarily mowing and hand cutting. A maximum of 3,766 acres would be treated (22% of the Proposed Action treatment area). The area where these fuelbreaks could be installed would be 20,581 acres or 12% of the Proposed Action project area (see map below). Treatment would include the following acreages of treatment in each ecosystem type:

Ecosystem type	Maximum acres	% of Proposed Action
1. Basin wildrye - big sagebrush	59	17%
2. Low sagebrush	66	3%
3. Montane sagebrush steppe	1575	15%
4. Mountain Shrub	156	16%
5. Wyoming sagebrush – loamy	833	98%
6. Wyoming sagebrush –sandy	971	65%
7. Montane riparian	12	41%
8. Stable aspen	39	8%
9. Wet meadows	54	54%
TOTAL	3,766	22%

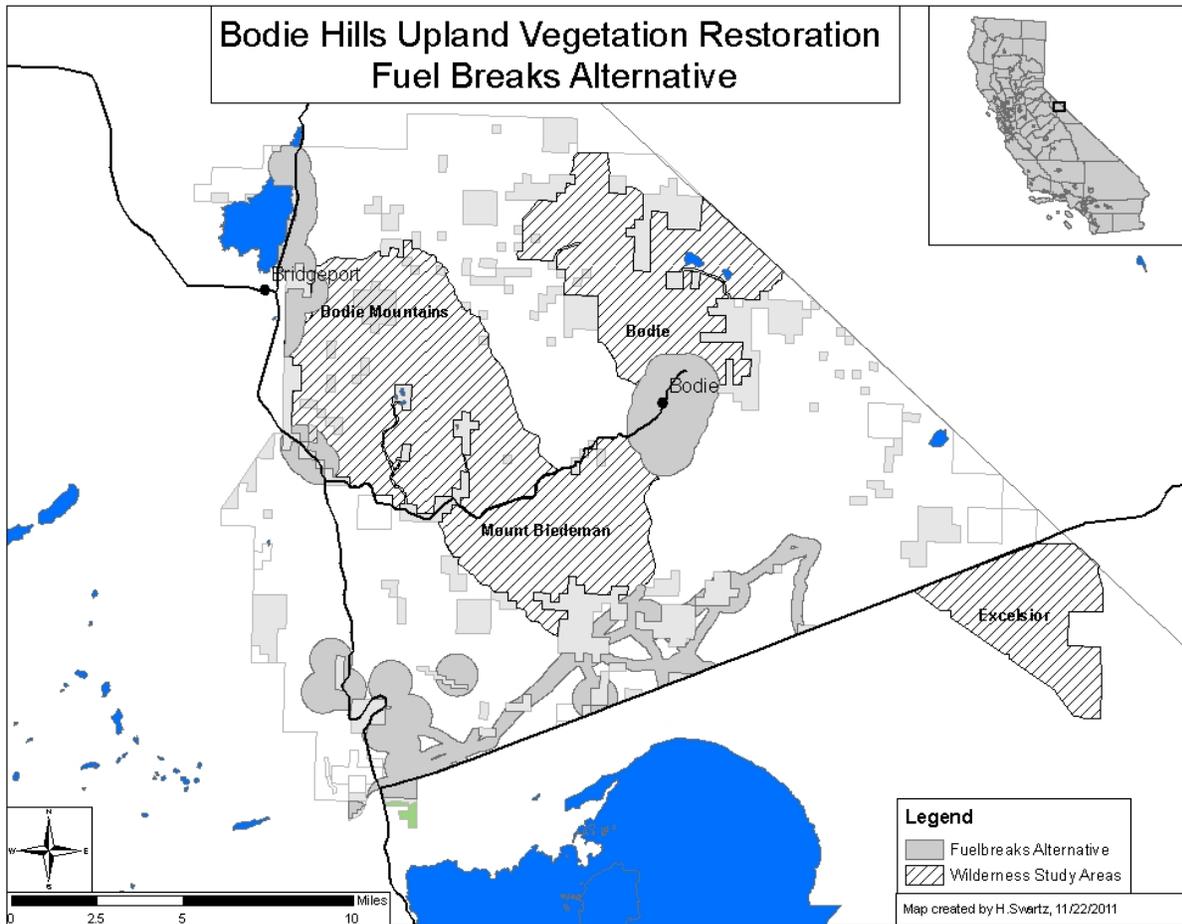


Figure 1: A fuel breaks alternative would include only the area immediately adjacent to structures and along roads in the Mono Basin where there are homes and developments to be protected.

This alternative was considered in response to comments that the scope of the proposal was too large and suggestions that treatment be limited to fuel breaks and protection of communities only.

Rationale for excluding from detailed analysis:

The Fuelbreaks Alternative would not meet the purpose and need of improving the ecological condition of the Bodie Hills landscape and reducing departure from the natural range of variability. Only one of the ecological systems found to be highly departed from the natural range of variability would be treated at a level large enough to change its departure; the Wyoming sagebrush – loamy system. A portion of the Wyoming sagebrush – sandy system would also be treated but all the other systems would receive a half or less of the treatment necessary to meet the objectives in the Proposed Action. Montane sagebrush, the largest and one of the most departed systems, would only be treated at 15% of the Proposed Action levels. This is much too little to prevent further departure from the natural range of variability and therefore does not meet the purpose and need for action.

A fuelbreak system alone would not allow for greater use of natural fire throughout the landscape because of the existing uniform conditions and fuel loading. The need to prevent fires from reaching very large sizes outside the natural range of variability due to the uniform fuel conditions would still require active suppression actions.

8. Front Loaded Alternative

The Front Loaded Alternative would be the same as the Proposed Action, but for some treatments, the entire area of treatment would be implemented in the first 2 to 3 years of the program. This alternative is based on the Front Loaded scenario developed in the public workshops for the analysis done by TNC. The treatments, total acres to be treated, and project area are all identical to the Proposed Action. The only difference is the timing of the treatments.

This alternative was developed because several public scoping comments referred to this scenario from the TNC report. It is included here to explain why it was not considered even though it was one of the scenarios developed by TNC and the public during that process.

Rationale for excluding from detailed analysis:

The effects of this alternative would be identical to the Proposed Action because the only difference is timing. The Proposed Action would allow for a variable number of acres to be treated each year, so the front loaded scenario could be implemented within the Proposed Action if funds and resources were available. In addition, this alternative is not considered economically feasible at this time based on recent and predicted funding levels.

9. Complete Restoration of Ecological Departure Alternative

The Complete Restoration Alternative would involve treatment levels that might completely restore all target ecosystems if implemented over the 20 years analyzed in the TNC report. The objective would be to reduce the departure of all the ecosystems of the Bodie Hills to less than 33% (FRCC1) over that time period. As in the Proposed Action, the goal is to accomplish the objectives in a 20 year window, but treatments would be planned for just the first half of that time period. An estimated 50,430 acres would have to be treated (a 298% increase over the Proposed Action). This is a conservative estimate because a complete simulation was not conducted. The project area would be the same as the Proposed Action. The treatments would be also be the same as those in the Proposed Action, but a larger number of acres would require intensive and very costly management techniques including mechanical treatment and then reseeding because sites with a much lower probability of success would have to be treated.

The following acreages of treatment would be required in each ecosystem:

Ecosystem type	Maximum acres	% of Proposed Action
1. Basin wildrye - big sagebrush	525	150%
2. Low sagebrush	2050	100%
3. Montane sagebrush steppe	37834	358%
4. Mountain Shrub	1354	135%
5. Wyoming sagebrush – loamy	1049	123%
6. Wyoming sagebrush –sandy	6920	461%
7. Montane riparian	93	310%
8. Stable aspen	500	100%
9. Wet meadows	107	107%
TOTAL	50432	298%

This alternative was developed to respond to questions about why the Proposed Action did not do more to restore the natural range of variability and in many cases only prevents increases in Ecological Departure or High Risk vegetation classes.

Rationale for excluding from detailed analysis:

The Complete Restoration Alternative was excluded from detailed analysis because it is inconsistent with existing direction in the Bishop Fire Management Plan and because it is not economically or technically feasible at this time. The total acreage that would have to be treated both mechanically and with prescribed fire would far exceed the limits allowed under the Fire Management Plan. It would also require a level of funding that far exceeds both the current and predicted funding levels the Bishop Field Office is likely to see for vegetation management work. Because it would require the treatment of sites that are not likely to have successful outcomes with today’s technologies, it would also be technically infeasible.

10. No Treatment in Areas with Inventoried Wilderness Characteristics

The No Treatment in Areas with Wilderness Characteristics Alternative would only implement treatments in areas without inventoried wilderness characteristics. This would lower the total maximum treatment area to 7,983 acres (47% of the Proposed Action). During the environmental review, the inventory of wilderness characteristics in the project area was updated. The finding was that units totaling 40,141 acres had wilderness characteristics. This area plus the 54,804 acres of WSAs (Bishop BLM GIS database as of Feb. 2013) which are managed for their wilderness characteristics leaves just 72,155 acres in the project area without wilderness characteristics (43% of the total project area). The ecosystem types are not evenly distributed throughout the Bodie Hills so the treatment acreages were adjusted proportionally to the occurrence of that ecosystem type and the target states as shown in the table below.

Chapter 2: Proposed Action and Alternatives

Ecosystem type	Maximum acres	% of Proposed Action
1. Basin wildrye - big sagebrush	183	52%
2. Low sagebrush	942	46%
3. Montane sagebrush steppe	4044	38%
4. Mountain Shrub	914	91%
5. Wyoming sagebrush – loamy	692	81%
6. Wyoming sagebrush –sandy	864	58%
7. Montane riparian	25	83%
8. Stable aspen	263	53%
9. Wet meadows	55	55%
TOTAL	7983	47%

This alternative was developed to respond to concerns about potential impacts to wilderness characteristics and a request by one of the commenters that an alternative be developed that did not implement high impact techniques in areas with wilderness characteristics.

Rationale for excluding from detailed analysis:

This alternative was excluded from detailed analysis because it would not meet the purpose and need for action. It would not treat enough of the landscape to maintain or reduce the ecological departure or to minimize the transition to high risk vegetation classes. Only two of the six primary upland ecological systems would be treated at a level that might be able to make a difference in their ecological condition, the Mountain Shrub and the Wyoming sagebrush – loamy ecological systems. Only one of the three associated riparian ecological systems would be treated at a level large enough that it might affect its ecological condition.

Summary Table

Alternative	Project Area: Acres BLM managed lands (% of Proposed Action)	Treatment: Acres (% of Proposed Action)	% of Bodie Hills landscape to be treated [BLM managed]	Approximate acres of treatment in WSA	% of treatment in WSA
Alt 1: No Action	0	0	0%	0	0%
Alt 2: Proposed Action	167,098	16,930	10%	~5,392	32%
Alt 3: Increased Acreage	167,098 (100%)	23,880 (141%)	14%	~7,403	31%
Alt 4: CWPP WUI	102,690 (61%)	10,268 (61%)	6%	~2,935	29%
Alt 5: Limited treatment in WSA	167,098 (100%)	12,903 (76%)	8%	~1,645	13%
Alt 6: No Treatment in WSAs	112,294 (67%)	11,288 (67%)	7%	0	0%
Alternatives not analyzed in detail					
Alt 7. Community Protection Fuel Breaks	27,548 (12%)	3,766 (22%)	2%	~452	12%
Alt. 8: Front loaded Scenario	Same as Proposed Action, timing of treatments is the only difference.				
Alt. 9: Complete Restoration of FRCC	167,098 (100%)	50,432 (298%)	30%	~15,634	31%
Alt. 10: No treatment in areas with wilderness characteristics	72,155 (43%)	7,983 (47%)	5%	0	0%

Alternative 1: No Action

No programmatic vegetation restoration program would be implemented. Case by case projects may be approved under separate NEPA analyses, but a landscape scale program would not be implemented. Under the No Action Alternative, on-going management in the Bodie Hills including monitoring programs, continued fire suppression, and all other approved projects and management would continue.

Alternative 2: Proposed Action

A set of vegetation treatments would be implemented over a 10 year period in the Bodie Hills landscape (see Chapter 1, Figure 1). Treatments would be designed and implemented to maintain and restore the natural range of variability and to reduce the risk to nearby communities and the historic resources in Bodie State Park from severe wildfire. The treatments are based on an analysis of the conditions in the Bodie Hills undertaken cooperatively by the BLM and The Nature Conservancy with input from many public stakeholders. The ecological systems and succession classes used here follow the final report (Provencher, Low et al. 2009).

The ecological systems targeted for treatment are primarily the upland types that were found to be at the greatest departure from their natural range of variability and at the greatest risk of conversion to uncharacteristic classes. Uncharacteristic classes are conditions outside of the historic vegetation states and include invasion by invasive plant species such as cheatgrass and pinyon/juniper encroached shrublands. Highly departed or at risk riparian vegetation types that are commonly embedded in the upland matrix or adjacent to it are also included in this proposal. The treatments in riparian systems that are included are only those that would also be used in the adjacent or surrounding uplands and can be applied continuously across both ecological systems. Because many riparian systems have experienced upland encroachment, it would benefit them to be included in the upland treatments such as prescribed burning or cutting pinyon and juniper. The report found that there are some other mechanisms in riparian systems causing departure from the natural range of variability (such as meadow incision and lowered water tables) which require very different management techniques to treat them. Those management actions are not included in this Proposed Action and would be analyzed in site-specific NEPA documents. The upland vegetation types proposed for treatment under this alternative are:

1. Basin Wildrye-Basin Big Sagebrush
 2. Low Sagebrush
 3. Montane Sagebrush Steppe
 4. Mountain Shrub
 5. Wyoming Big Sagebrush-loamy
 6. Wyoming Big Sagebrush-sandy
- Associated riparian systems to be included in some treatments are:
7. Montane Riparian
 8. Stable Aspen
 9. Wet Meadows

Computer simulations were performed to test the effectiveness of various management strategies suggested by public input at the workshops and to adjust the scale of application. The simulations showed that multiple strategies are required for most ecosystems. Upland sagebrush strategies include: prescribed fire; removing and/or thinning increasing pinyon and juniper; establishing fuel breaks along existing roads to prevent wildfire from spreading to human settlements and adjoining ecosystems; and restoration of depleted sagebrush through mowing and in some locations followed by seeding of native herbaceous species (Provencher, Low et al. 2009).

Chapter 2: Alternative 2 - Proposed Action

Of the various management scenarios tested in the analysis, the combined ecologically-based and wildfire protection management scenario meets the conservation and restoration objectives for the least cost for the majority of the priority ecological systems. In addition to ecological benefits, this scenario also reduces wildfire risks to Bodie State Historic Park and nearby human settlements (Provencher, Low et al. 2009). The treatments in this Proposed Action are based on this scenario for an initial 10 year period.

Site Selection:

Sites would be selected for treatment based on the vegetation conditions as described in the tables below. Only a portion of the vegetation meeting those criteria would be treated. Locations within those ecological system seral classes would be selected based on the ability to meet other objectives and the probability of success using the following principles:

- The highest priority sites will be those where multiple objectives can be accomplished. For example, site selection will prioritize benefits to sage-grouse habitat near leks or where the ecological treatments will also reduce fire risk to communities or cultural resources.
- Sites with the highest probability of success will be selected where the objectives of the treatment can be met. For example, the response of understory species and shrubs is usually much better under lower pinyon-juniper cover (earlier in the tree establishment and infilling process) than under higher cover. Pinyon-juniper cover on shrubland sites is classified in three stages and Stage I sites will have the highest priority for treatment. Other examples of sites with better probabilities of success are those without cheatgrass in the understory where increases in cheatgrass are less likely after treatment.
- Sites will be chosen with the lowest possible conflict with other resource concerns such as visual impacts, potential for OHV incursions, or special status plant populations as described in the Design Features of the project (pg. 33)

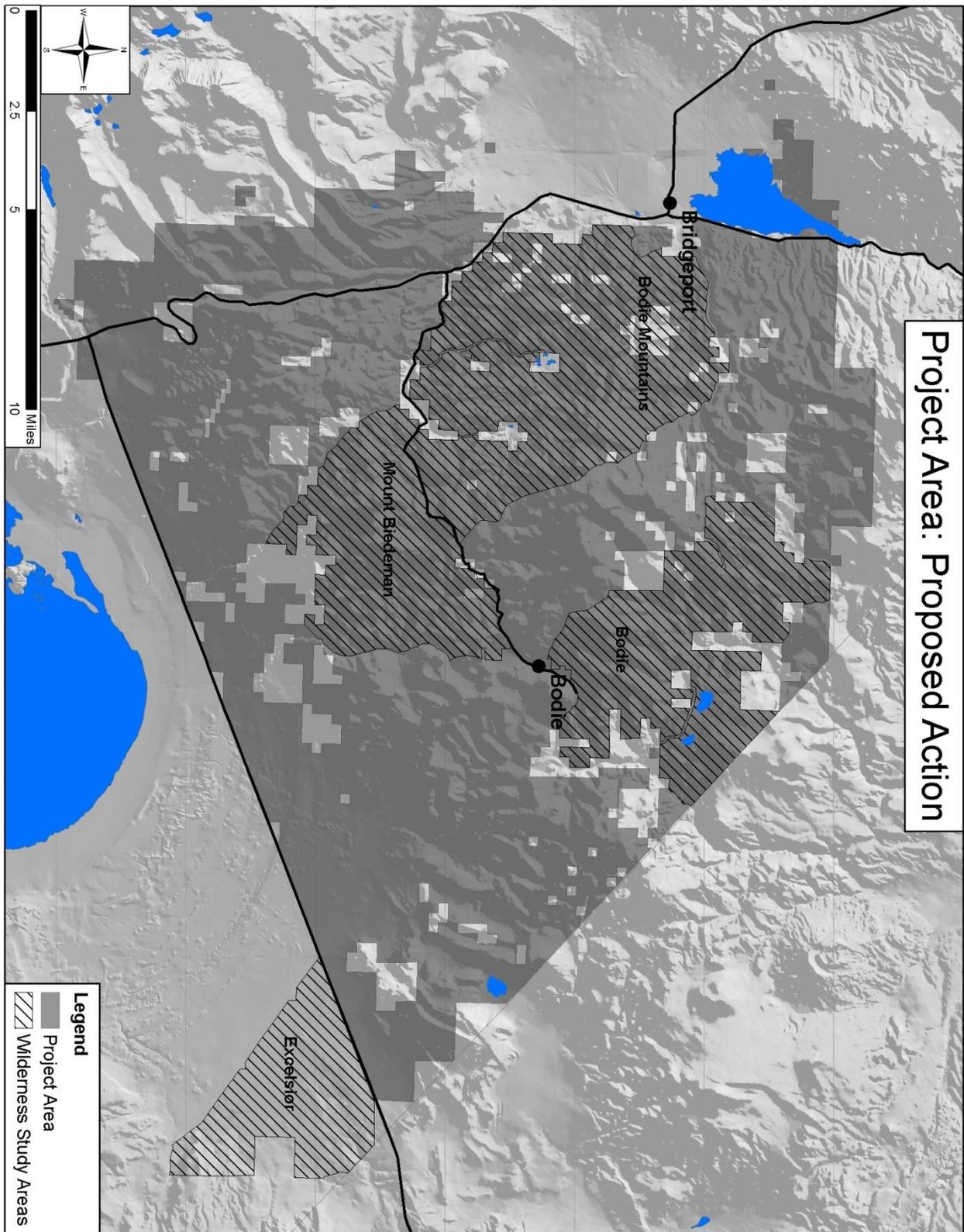


Figure 2: Project area for Proposed Action.

Upland Treatments

1. Basin Wildrye – Big Sagebrush			
Objective: Work towards the long term (20 year) goals of improving ecological condition of Bodie Hills basin wildrye from 73% departure from NRV to 50% departure or less and reducing depleted classes by 50%. Prevent any increase of exotic forbs.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late seral basin wildrye and classes lacking native herbaceous cover to convert them to early development classes (A and B).	Late seral-open (D), Shrub-Annual grass (U ShAG), Annual grass (U Ag)*	230	-Mowing -Hand cutting shrubs with piling and burning or chipping -Broadcast prescribed fire
II. Prevent conversion to pinyon/juniper by treating early establishment stages.	Late-open (D), Tree-encroached (U TrEnc), Tree-Annual grass (U TrAG)*	120	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		350	

*Classes with large annual grass components will only be treated if trials of methods such as spring burning are shown to be successful at restoring a greater percentage of natives. See adaptive management strategy.

2. Low Sagebrush			
Objective: Work towards the long term (20 year) goals of maintaining ecological condition of low sagebrush at ~40% departure from NRV or less and limiting increase of high-risk (tree encroached and annual grasses) classes to 10% or less.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Remove trees from later successional stages.	Late-open (E), Mid-open (B), Tree encroached (U TrEnc)	1250	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
II. Treat classes with an annual grass component to prevent increase.*	Annual grass (UAG) , Shrub-Annual grass-Perennial grass (U ShAP)	800	-Seeding native species with mowing, hand cutting or spot burning shrubs where necessary for establishment
Maximum acres of vegetation treatment		2050	

*Strategy II was added to the scenario analyzed in the Provencher report because California BLM does not have the option of using effective herbicides on annual grasses and this is the most effective strategy to minimize annual grasses without the use of chemicals. The area to be treated over 10 years was derived from the acres of annual grass mapped in the analysis. Treatment of those acres should limit the increase of annual grasses, however, the amount in the U ShAP class was likely underestimated because the current sites are small and hard to detect with remote sensing.

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3. Montane Sagebrush Steppe			
Objective:			
Work towards the long term (20 year) goals of improving the ecological condition from high departure (72%) from NRV to moderate departure (~55%) and limiting increase in highest risk classes to 20% or less. Establish a fuel break around Bodie State Historic Park that will also provide ecological benefits by increasing early successional classes.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional, depleted, and annual grass invaded classes to convert them to early development classes with greater native herbaceous cover.	Mid-closed (C) Late-open (D), Depleted (U DPL), Shrub-Annual grass-Perennial grass (U ShAP)*, Shrub-Annual grass (U ShAG)*	9500	-Broadcast prescribed burning -Mowing -Hand cutting small pinyon/juniper** -Seeding native species in the most depleted/high risk sites if necessary
II. Remove trees from classes with increasing pinyon/juniper to prevent and reduce conversion.	Late-open (D), Late-closed (E), Tree encroached (U TrEnc), Depleted (U DPL), Shrub-Annual grass-Perennial grass (U ShAP), Shrub-Annual grass (U ShAG)	750	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
III. Construct and maintain a 300 ft. fuel break around structures and values at risk (ex. Bodie State Park) to reduce fire risk and increase early development classes. This may include both BLM and State lands.	Several classes – site selection depends on location, not class.	300***	-Mowing -Hand cutting shrubs with piling and burning or chipping -Broadcast prescribed burning -Seeding native species if necessary
Maximum acres of vegetation treatment		10550	

* Classes with large annual grass components will only be treated if trials of methods such as spring burning are shown to be successful at restoring a greater percentage of natives.

**Early stages of pinyon/juniper establishment are difficult to map with aerial photography. Small trees may occur in class C and D.

*** Fuel break acres will be periodically maintained to keep fuel loading low.

4. Mountain Shrub			
Objective:			
Improve the ecological condition from moderate departure (39%) from NRV to low departure (~25%).*			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late developmental classes to return them to early developmental classes.	C (late-closed) and D (Late-open).	1000	-Broadcast prescribed burning
Maximum acres of vegetation treatment		1000	

*The Mountain shrub ecological system was not identified in the report as one of the highest priorities for treatment so the objectives for managing this system were not explored in detail. The Bishop Field Office chose to add this system and create management objectives for it because it has a high probability of success and can be included with adjacent ecosystems in prescribed burns.

Chapter 2: Alternative 2 - Proposed Action

5. Wyoming big sagebrush – loamy			
Objective: Work towards the long term (20 year) goals of improving ecological condition from highly departed (~74%) to moderately departed (<66%) and reducing the risk of wildfire spreading to adjoining ecosystems and properties or structures.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late development classes in fuel breaks mostly arranged along roads to return them to early development classes and reduce the fuel load and continuity.	Late-closed (C), Late2-open (D), Late2-closed (E), Depleted (U DPL), other classes as necessary to complete fuel break.	250**	-Mowing -Seeding native species
II. Remove trees from classes with increasing pinyon/juniper.*	Late-closed (C), Late2-open (D), Late2-closed (E), Tree encroached 9U TrEnc)	600*	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		850	

*Tree removal was not included in the management scenario for this ecological system in the Provencher report, but it was included in this Proposed Action because pinyon/juniper establishment into this system was under represented in the mapping based on field review. In addition, the analysis also predicts that there would be 600 acres of pinyon/juniper establishment by the end of the scenario without active management. No true juniper or pinyon woodlands will be treated.

** Fuel break acres will be periodically maintained to keep fuel loading low.

6. Wyoming big sagebrush – sandy			
Objective: Work towards the long term (20 year) goal of improving ecological condition by a small percentage (5%) while reducing risk of wildfire spreading into adjoining ecosystems and properties or structures.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Create fuel breaks mostly arranged along roads to convert to early developmental classes and reduce fuel load and continuity.	Many; site selection depends on location rather than class but majority of area will be in Depleted (U DPL), Late-closed (C), Late2-open (D), Late2-closed (E).	500**	-Mowing -Hand cutting shrubs with piling and burning or chipping -Seeding native species if necessary
II. Remove trees from classes with increasing pinyon/juniper.*	Late-closed (C), Late2-open (D), Late2-closed (E), Tree encroached 9U TrEnc)	1000*	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		1500	

*Tree removal was not included in the management scenario for this ecological system in the Provencher report, but it was included in this Proposed Action because pinyon/juniper establishment into this system was under represented in the mapping based on field review. In addition, the analysis also predicts that there would be 5670 acres of pinyon/juniper establishment by the end of the scenario without active management. No true juniper or pinyon woodlands will be treated.

** Fuel break acres will be periodically maintained to keep fuel loading low.

Associated Riparian Treatments

7. Montane riparian			
Objective: Contribute to the long term (20 year) goal of maintaining the riparian habitat at less than ~33% departure from the natural range of variability.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional classes to move them to early successional stages and reverse or prevent conversion to upland woody species.	Late-closed (E), Shrub-Forb-Encroached (U SFEnc)	30	-Broadcast prescribed burning
Maximum acres of vegetation treatment		30	

8. Stable aspen			
Objective: Contribute to the long term (20 year) goal of improving the ecological condition from 41% departure from the natural range of variability to ~33% departure and reduce “no aspen” classes by ~50%.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional classes to move them to early successional stages, reverse or prevent conversion to upland species, and promote healthy aspen regeneration.	Late1-closed (E), Late1-open (D), Depleted-open (U DPL), No aspen (U NAS)	500	-Broadcast prescribed burning -Hand cutting pinyon/juniper
Maximum acres of vegetation treatment		500	

9. Wet meadows			
Objective: Contribute to the long term (20 year) goal of maintaining the ecological condition of wet meadow at less than 33% departure from the natural range of variability, preventing any increase in exotic forbs, ensuring no additional desertification, and reducing iris/silver sage by 50%.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat areas of iris or sagebrush to convert them to early seral classes.	Shrub-Forb encroached (U SFEnc), Desertification (U DES), Tree encroached (U TrEnc)	100	-Broadcast prescribed burning*
Maximum acres of vegetation treatment		100	

* Other methods were recommended in the report in addition to broadcast burning. Those methods are outside the scope of this analysis because they are not among the tools also being used in the uplands.

Sum of All Ecological Systems:

Total maximum acres of vegetation treatment across all ecological systems*	16930
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* Does not include maintenance of established fuel breaks or weed treatments.

Methods:

Broadcast prescribed burning:

The controlled application of fire broadcast across a predetermined unit to consume a percentage of the vegetation. Resource management objectives are achieved by applying fire during specific

environmental conditions and by some preparation of the site to control spread or protect islands within the burned area for protection of cultural or natural resources. Prescribed burning will be used to consume shrubs in a mosaic pattern and small trees and ladder fuels. Unit boundaries will be designed to follow natural and existing features as much as possible. In shrub treatments where the objective is not to consume pinyon or juniper trees, burning will be done in small patches across the landscape when fuel moisture conditions are high to provide small openings with a natural appearance and avoid the use of fire line to control the edges of the fire. The conditions under which burning will take place to achieve the ecological and resource protection goals and to provide for safety will be specified in a prescribed burn plan written by a qualified burn boss. Some preparation of the site may be necessary before burning including wetlining, blacklining, hand cutting or mowing, or handline construction with hand tools. Tools such as drip torches and fusees and other firing devices will be used to ignite the fire. Where necessary, fire will be controlled with blacklining, water (engines where there are existing roads or bladder bags) and hand tools. The specific tools and methods will be determined by the qualified burn boss to allow for effective implementation and safety. Using adaptive management, the season of burning may be adjusted and the results monitored for cheatgrass response to test the possibility of using timing of burning to reduce risk of cheatgrass spread.

Spot burning of shrubs or trees:

The same as broadcast burning treatments above, but only isolated shrubs or trees are ignited so that the fire does not carry or spread on its own. Each shrub or tree is ignited individually. Minor control methods may be needed if fire begins to carry including the use of hand tools or water to extinguish the fire.

Mowing shrubs:

The use of a Bobcat™, ASV™ (a compact track loader), or similar-sized machine with low ground pressure (less than 10 psi) equipped with a mower or other appropriate attachment to mow and mulch shrubs and small trees. Chips remain on the ground. The height of mowing can be controlled to leave a percentage of existing shrub cover. Mower head height will be high enough to leave residual vegetation and avoid any impact to the soil except where the purpose of the treatment is a fuel break close to homes. Mosaic patterns and unit boundaries that follow natural features will be used wherever possible.

Hand cutting shrubs:

The use of chainsaws to hand-cut shrubs, usually in a mosaic pattern so that small patches or a percentage of the vegetation are left uncut. The resulting slash would be piled and burned or chipped depending on the access and resource concerns (See piling and burning and chipping method descriptions and selection criteria below).

Hand cutting pinyon/juniper:

The use of chainsaws to remove or thin pinyon and juniper moving into shrubland sites. Young (post Euroamerican contact) pinyon/juniper would be removed, but older pinyon/juniper will be maintained. Visual features of the trees as described in USGS Circular 1335 (Pinyon and Juniper Field Guide: Asking the Right Questions to Select Appropriate Management Actions) would be used to identify older trees. This will result in a mosaic on some sites. No true pinyon-juniper

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woodlands would be treated. A written prescription will guide treatment implementation and selection of trees to be cut.

Collection and use of material such as fuel wood and Christmas trees would be allowed where feasible and consistent with the Bishop RMP and current BLM policy for management of Wilderness Study Areas. Public fuelwood collectors would not be allowed to drive off existing routes. Any remaining slash (tree limbs and boles) will be treated with one of two methods depending on access and resource concerns (See Piling and burning and chipping method descriptions and selection criteria below) or could be removed off site for disposal.

Piling and burning:

Slash will be piled by hand and burned under favorable conditions once the slash has cured. The locations of piles will be carefully selected. Where possible, piles will be constructed in natural openings, on top of cut pinyon/juniper stumps where trees have been removed, and outside areas with high annual grass density. Piles will be constructed at least 10 feet from any remaining tree and piles will be no greater than 5 feet high and 10 feet in diameter by the time they are burned. A prescribed burn plan written by a qualified burn boss will be followed.

Chipping:

Slash will be chipped with a mechanical chipper. The chips will either be blown back onto the site at a depth no greater than 2 inches or hauled off the site. Chippers will not be used off existing routes.

Seeding native species:

A native species mix appropriate for the site and collected locally when possible would be used in situations where recruitment of natives is not occurring indicating a depleted native seed bank or where strong competition from natives is necessary to limit annual grass abundance. Seeds will be certified “weed free.” Seeding will be done by any accepted method including hand or rangeland drill (see method selection criteria below).

Method Selection Criteria:

The methods used will depend on the current vegetation state and the action necessary to move to the desired vegetation as described in the treatment tables above. Where there is a choice of treatment methods, the treatment most likely to achieve the desired vegetation state and cause the least disturbance to other resources or risk of adverse outcomes (i.e. cheatgrass) will be used. The following criteria describe some of the situations where one treatment will be favored over another:

Prescribed burning:

- The preferred method where the goal is to return the site to an early seral state (with low shrub cover) especially in WSAs or areas with inventoried wilderness characteristics.
- Would not be the preferred treatment method where the risk of annual grass increase is high (sites with existing annual grasses, south facing slopes and loamy soils) or other high risk classes.
- Would not be used where there is not enough surface fuel to carry a broadcast fire (i.e. late stages of pinyon/juniper conversion where understory is depleted or in habitats such as low sagebrush with very little surface fuel).

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- Could be used on any terrain.
- Would not generally be used in close proximity to structures and communities. Will be used where the Fire Management Officer determines that it can be done without undue risk.

Spot burning trees or shrubs:

- Would be used where the goal is to reduce or eliminate shrub or tree cover without disturbing the herbaceous understory.
- Will be one of the preferred methods where variable shrub cover and mosaic patterns are important especially in sage-grouse habitat, areas with complex vegetation patterns, high visual concerns, and in WSAs or areas with inventoried wilderness characteristics.
- Could be used on any type of ground including areas with poor access, steep topography, and rocky uneven surfaces.
- More labor intensive than broadcast prescribed burning or mowing.
- Preferred over broadcast burning where fuel loads are too low to carry fire.
- Would not be preferred in areas with especially high cheatgrass risk.
- Would not generally be used in close proximity to structures and communities. Will be used where the Fire Management Officer determines that it can be done without undue risk.

Mowing:

- Would be used where the goal is to reduce but not entirely remove shrub cover, remove small trees from the early stages of pinyon/juniper establishment, and not disturb the herbaceous understory. The resulting vegetation state would typically be class B-C.
- Used only on gently sloping (<15%), non-rocky areas.
- Would be one of the preferred methods (see also hand cutting) in areas of sage-grouse nesting or wintering habitat where maintaining some sagebrush cover is important.
- Would be one of the preferred methods (see also hand cutting) instead of broadcast prescribed burning where the risk of increasing annual grasses is high.
- Would be one of the preferred methods (see also hand cutting) instead of broadcast prescribed burning where there are fire control concerns especially near structures.
- Would be the least preferred method in WSAs.

Hand cutting shrubs:

- Would be used where the goal is to reduce or eliminate shrub cover and not disturb the herbaceous understory.
- Will be a preferred method where variable shrub cover and mosaic patterns are important especially in sage-grouse habitat, areas with complex vegetation patterns or high visual concerns.
- Could be used on any type of ground including areas with poor access, steep topography, and rocky uneven surfaces.
- More labor intensive than broadcast prescribed burning or mowing.
- Preferred over broadcast burning where there are fire control risks.
- Preferred over broadcast burning where the risk of annual grass increase is high.

Hand cutting pinyon/juniper:

- Would be used where larger trees need to be removed that would not be likely to be consumed during prescribed broadcast burning.

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- Would be used where there are increasing pinyon and juniper and the goal is to maintain shrub cover, for example in sage-grouse habitat.
- Would be applied primarily in the earlier stages of pinyon and juniper expansion where trees are smaller and densities are lower and there is less slash to dispose of. These earlier stage areas have the best outcomes and are usually the leading edges of the tree expansion. Late stage expansion with closed canopies and large trees would only rarely be treated where outcomes are expected to be good and where another value is achieved by the treatment, fuel reduction near communities, important wildlife habitat restoration, or protection of culturally important true woodland groves as examples.
- Could be used on any type of ground including areas with poor access, steep topography, and rocky uneven surfaces.

Piling and burning:

- Would be the preferred method of slash disposal after hand cutting of shrubs or trees.
- Could be used on any terrain.
- Would not be used where there is a high risk of increasing annual grasses in the burn pile footprint and chipping is a viable alternative (close to roads).
- Would not be the preferred method where visual impacts from key observation points would be undesirable and chipping is a viable alternative (close to roads).

Chipping:

- Would be preferred method of slash disposal close to roads where visual impacts of piles would be high, or where the risk of increasing annual grasses is high.
- Could only be used where road allows access for the chipper.

Seeding methods:

- Seeding would only be done if local native seedbank does not respond after treatment.
- Hand seeding will be preferred.
- A rangeland drill will not be used in WSAs or areas with inventoried Wilderness Characteristics.
- Fuel breaks in areas with annual grass may be seeded using a rangeland drill.

Design Features:

The following design features will be used to minimize negative effects of the treatments on other resources. Some design features are required by existing plans and BLM direction including the Bishop Resource Management Plan (Bishop RMP) (US Department of the Interior 1993), the Amendment to the Bishop Resource Management Plan to Incorporate Fire Management Plan Strategies and Objectives (Fire Management Plan) (US Department of the Interior 2004), and the BLM Manual for Management of Wilderness Study Areas (6330)(US Department of the Interior 1995).

Air quality:

- Prior to prescribed fire operations, appropriate permits would be obtained from Great Basin Unified Air Pollution Control Board (GBUAPCB).
- “Burn” or “No Burn” day conditions would be adhered to, as determined by the California Air Resources Board (CARB).

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- Degradation of air quality in Class I Airsheds would be minimized by conducting prescribed fire operations when meteorological conditions favor smoke dispersal away from these areas.
- Prescribed fire operations would be conducted when meteorological conditions favor minimal nuisance smoke in communities.

Cultural Resources:

- Cultural resources within the proposed project area will be identified and evaluated prior to project approval for the individual treatment units. This will be accomplished through a records search of previously identified resources, tribal consultation, and an intensive cultural resource survey within the Area of Potential Effect (APE). Formal tribal consultation will be initiated early in the planning process in order to identify Traditional Cultural Places, Sacred Sites, and properties of traditional and religious significance to the tribes. The findings from these identification efforts will be evaluated and documented in a Cultural Resource Inventory Report consistent with BLM guidelines.
- Following the identification and evaluation of cultural resources within the proposed project area protection measures will be implemented in order to mitigate potential impacts to cultural resources below the threshold of an adverse effect. These efforts will emphasize avoidance through project redesign but may also include site specific protection measures. The scheduling of proposed treatments will be designed to not impede Native American access to ceremonial sites or areas of traditional use.
- A combination of site specific Standard Resource Protection Measures (SRPM) may be used to protect cultural resources during project implementation. These measures are consistent with those detailed in the Supplemental Procedures for Sage Steppe Ecosystem Restoration and the Supplemental Procedures for Protection of Cultural Resources from Prescribed Fire Effects (CA BLM Protocol Agreement 2007). Site location information and SRPM prescriptions shall be conveyed in writing and depicted on maps by the Field Office Cultural Resource Staff to the Project Planner. Active monitoring of SRPM during the proposed activity will be used to determine protection measure effectiveness and to guide future protection strategies.
- SRPM for vegetation management will include but not be limited to the following:
 - Flag and avoid with buffering (establish protective boundary), edge feathering / gradual reduction of vegetation.
 - Lop and scatter with constraints on heavy fuel loads left on archaeological sites.
 - Hand treatment on archaeological sites in areas of heavy/dense vegetation where the hand treatment will not impact archaeological data associated with the site.
 - Areas may be left untreated where high site densities of archaeological sites have been identified.
 - Mechanical treatment on archeological sites with prescriptions; high-mow (10-12 inches aboveground) or combination of partial mechanical and hand treatments.
- SRPM for Prescribed Fire/Broadcast Burning will include but not be limited to the following:
 - Cultural resources may be protected by creating fire breaks that provide a sufficient buffer to ensure that resources are not impacted by fire.

- Mechanical equipment may be used to create fire breaks or grade existing roads only if the areas to be graded have been examined by a cultural resource specialist and found not to contain archaeological or historical resources.
- Fire shelter fabric may be used to protect cultural resources from radiant heat.
- Fire retardant foam wetting agents without dyes or colorants may be applied to the perimeter surrounding cultural resources.

Invasive Plants:

- Treatment units will be surveyed for invasive plants (see Glossary for definition) prior to the area being treated. If units are infested with invasive plants methods will be modified as necessary based on a risk assessment conducted by a BLM interdisciplinary team. Modifications would include avoiding prescribed burning at certain times of the year in units where cheatgrass is common throughout the unit, using a different treatment method (see method selection criteria above), treating the infestation before or after treatment, or moving the treatment to a different site.
- Invasive plant surveys: The first component of an early detection, rapid response (EDRR) strategy for preventing new infestations of invasive plants into a landscape. Target ecological systems will be surveyed for occurrences of invasive plants such as muskthistle (*Carduus nutans*), knapweed (*Centaurea* spp.), Canadian thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), perennial pepperweed (*Lepidium latifolium*), whitetop (*Cardaria* ssp.) and salt cedar (*Tamarix ramosissima*). Other targeted invasive plants include (but may not be limited to) species recognized by the Eastern Sierra and Walker River Basin Weed Management Area as species of concern. Currently the species listed above are known to occur very sparingly or not at all in the Bodie Hills. Any occurrences will immediately be documented and evaluated for treatment. Non-native species such as tansy mustard (*Descurainia sophia*), wooly mullein (*Verbascum thapsus*) and tumble mustard (*Sisymbrium* spp.) are not currently considered invasive in the Bodie Hills and are not specifically targeted for treatment. These species will be documented if encountered in target ecological systems and if infestations become invasive they will be treated as indicated below.
- Invasive plant treatment: The second component of an EDRR strategy for preventing new infestations of invasive plants into a landscape. If occurrences of invasive plants are detected, appropriate eradication measures will be implemented, as determined by interdisciplinary effort (Bishop Fire Management Plan pg. 53). Treatments will be conducted using physical treatment methods. Physical treatment includes hand pulling; use of manual hand tools such as loppers, shovels, rakes, pulaskis, etc.; motorized hand-held tools such as gasoline powered weed whips/weed eaters; or mowing. Treatment may occur repeatedly over several years to achieve control. Some invasive plant infestations can only effectively be treated by application of herbicides. Application of herbicides is not included in this Proposed Action, but will be used where necessary if approved in a separate NEPA analysis. Invasive plant treatments prescribed for specific ecological systems do not include treating annual grasses such as cheatgrass or red brome. Elsewhere in the Great Basin, cheatgrass treatment methods and success have been both varied and inconsistent. Some pre-emergent selective herbicides have been successful however these herbicides are not permitted for use in California by the BLM.

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- Equipment used from outside the area will be inspected and cleaned to remove remnant soil or vegetation material prior to the equipment being used in the project area.
- Any equipment moved from an infested area to a non-infested area will be cleaned. If a unit has documented invasive plants in one portion, that portion will be treated last to avoid spreading non-native invasive plants throughout the treatment area.
- Post-treatment surveys will be conducted to detect increases in invasive plants. If non-native species cover increases due to the treatments, appropriate control measures will be implemented, as determined by interdisciplinary effort according to the standards in the Bishop Fire Management Plan.
- Using adaptive management, if elevated levels of non-native species are detected in post-treatment surveys, future treatments will be modified to help prevent increases in non-native species due to treatment methods or locations.

Range:

- The BLM will consult and coordinate with range permittees in the design, layout and timing of the treatments.
- Treatment units will be rested from grazing. The extent of the rest depends on the treatment method and vegetation response. In general, mechanical vegetation treatments will be rested 2 growing seasons following treatment (Bishop RMP pg. 11). Prescribed burn treatments will be rested from grazing for 3 growing seasons following treatment (Bishop RMP pg. 12). The extent of the rest, if different from the standard due to vegetation response, will be determined by the Bishop Field Manager based on an interdisciplinary process. The BLM will work with permittees so that rest from livestock can be accommodated with as little impact to their grazing operation as possible. Tools that will be used to exclude grazing after treatment include temporary electric fencing, active herding, and shutting off nearby water sources. If the tool chosen is not effective in preventing grazing in the unit, it will be modified.
- Any subsequent infrastructure and/or projects (e.g. fencing) to aid in resting treatment areas will be analyzed in a separate NEPA document.

Recreation:

- Fire control lines will be rehabbed and barriers will be installed where necessary near roads and trails so that they are not used as OHV trails.
- Mowing treatments will leave a buffer of untreated vegetation along the road to reduce unauthorized access by OHVs except in treatments that are designed along roads as fuel breaks. Fuel breaks will not be implemented in VRM Class 1 areas or in WSAs.

Sensitive plant species:

- Prior to treatment, units will be analyzed for the presence of known or suspected occurrences of sensitive plants as well as for potential habitat for sensitive plant species. Potential habitat will be surveyed before treatment.
- Sensitive plants that occur within treatment units will be assessed by the BLM, if it is believed the species would be adversely affected by a treatment, the treatment will be modified to minimize or prevent adverse effects.
- Treatment modifications may include but are not limited to: establishment of exclusion areas to prevent sensitive plants from being mowed or burned; changing the treatment

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method near sensitive plant occurrences (e.g.; mowing instead of burning around an occurrence); establishment of exclusion areas to prevent occurrences from being piled or chipped directly onto or adjacent to.

- Using adaptive management, if evidence is found during the project implementation period of a positive (or negative) relationship of any sensitive plant with including or excluding the species from treatment, then the methods would be altered to benefit/protect the sensitive plant species. For example, if a wildfire burns through an occurrence and there is a positive response, then that species would be considered for prescribed burn treatments in future treatments.
- If sensitive species are found in the project areas which are not listed in Issue 2, they will be added and design features will be determined by interdisciplinary effort with input from the field office botanist.

Soils/Hydrology:

- The treatments are designed to meet the requirements of the Lahontan Regional Water Quality Control Board (LRWQCB) timber waiver regulations including the following design features:
- Mechanical equipment and vehicles will not be used off existing roads or routes on wet or poorly drained or erosive soils (Bishop RMP pg. 13). Only low ground pressure vehicles such as mowers will be used off existing routes.
- Public fuelwood collectors will not be permitted to drive off existing routes.
- Piles in the water body buffer zone (generally 75 ft. from the stream bank depending on the slope and type of watercourse, see definitions in the LRWQCB Timber Waiver) will not be located on the 100 year floodplain or within 25 ft of the stream. The piles will be less than 10 ft in diameter and 5 ft. high when they are burned and will not cover more than 10% of the area. They will be a minimum of 10 ft from any other pile or tree.
- Broadcast fire will not be actively ignited in the water body buffer zone but can be allowed to move into it passively.
- If fire lines are used to contain broadcast fire, they will be evaluated afterwards for risk of erosion. If there is a risk of elevated erosion they will rehabbed to and waterbars installed where necessary.
- Chipped material that is blown back onto the site will not exceed an average depth of 2 inches in water body buffer zones.
- Mower head height will be set high enough to prevent soil disturbance and leave some residual vegetation.

Visual resources:

- Treatments will be designed to conform to the appropriate VRM Class as designated in the Bishop RMP. A visual contrast rating will be conducted for each treatment unit when it is designed to ensure conformance with VRM standards. The methods to be used to ensure conformance with visual standards are listed below:
- Units will use irregular sinuous or curvilinear patterns (not straight line) following natural vegetation and topographic boundaries as much as possible, and islands of vegetation will be left to create a mosaic (Bishop RMP pg. 11). Where possible, the amount of vegetation removed will be graduated or “feathered” into the non-treated area. The treatment methods where this would be appropriate are primarily hand treatment methods. These

design features also benefit wildlife and wilderness character (See wildlife and WSAs). (Note: The linear fuelbreaks along roads that are proposed in the Wyoming sagebrush ecosystem do not occur in VRM 1 areas. These fuel breaks will also use irregular edges but will by necessity be a linear feature that follows roads or boundaries.)

- Where a treatment unit design initially does not meet VRM class objectives, the size, shape, and location can be modified to reduce visual contrast from the Key Observation Points. Likewise, treatment methods or season of treatment can be modified where desired conditions can still be met. Treatment units can be broken into multiple smaller units across the areas. Prescriptions can be written to reduce the amount of vegetation to be removed.

Wild and Scenic River Study Segments (Eligible)

- No hand cutting of trees will be used within ¼ mile of the ordinary high water mark in the segment of Rough Creek that was determined in the Bishop RMP to be eligible for possible inclusion in the National Wild and Scenic River System and tentatively classified as Wild. (BLM Manual 6400 p. 3-12). Prescribed burning methods can be used.

Wilderness Study Areas

- Methods that are least disturbing to the site (BLM Manual 6330 1.6.C.2.f) will be chosen where they will achieve the goals for the ecological system and vegetation class as described in the methods section. Prescribed burning will be used where it can accomplish the desired ecological restoration. If prescribed burning will not accomplish the ecological restoration necessary, the other methods described will be used as described in the methods section.
- Surface disturbance as defined in BLM Manual 6330 (1.6.C.1.b) will be prevented in WSAs. No new roads or routes will be created, and no vehicles will be used off existing roads and routes. Broadcast prescribed burning will use prescriptions that do not require cutting line whenever feasible. Broadcast burn units will use natural and existing features for control, and use Minimum Impact Strategies and Techniques (MIST) to limit ground disturbance.
- Collection and use of material such as fuel wood and Christmas trees would be allowed only where feasible and consistent with the Bishop RMP and current BLM policy for management of WSA, and no off route vehicle travel would be allowed. Current WSA policy does not allow for personal fuelwood collection.
- Trees will be low cut (less than 4”) to minimize visual impacts in the WSAs.
- Rangeland drills will not be used for seeding in WSAs.
- Linear fuel breaks along roads will not occur in WSAs.
- See also visual design features for methods that will reduce visual impacts and wildlife design features for methods that will limit size and encourage mosaics for habitat purposes.

Areas with inventoried wilderness characteristics:

- In inventory units having wilderness characteristics, broadcast prescribed burning will use prescriptions that do not require cutting line whenever feasible. Broadcast burn units will use natural and existing features for control and utilize Minimum Impact Strategies and Techniques (MIST) as much as possible to limit ground disturbance.

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- Trees will be low cut (less than 4") to minimize visual impacts in inventory units having wilderness characteristics.
- Rangeland drills will not be used for seeding in inventory units having wilderness characteristics.
- See also visual design features for methods that will reduce visual impacts and wildlife design features for methods that will limit size and encourage mosaics for habitat purposes.
- All the above design features will also be applied to the Cedar Hill acquisition which was found to have wilderness characteristics.

Wildlife:

- Treatment units will use irregular patterns to create more edge and islands of vegetation will be left for cover (Bishop RMP pg. 11). Units will be designed to be small enough to provide good edge and cover habitat nearby for wildlife species such as sage-grouse and to provide nearby seed sources for native vegetation recruitment. Prescribed burn and mowing units in sage-grouse habitat will not exceed 124 acres where possible¹. These features will also benefit visual and botanical resources.
- Treatments removing tree cover within 2 miles of active sage-grouse leks will be prioritized to create habitat with optimum characteristics for sage-grouse (Bishop RMP pg. 17). Treatment methods least disturbing to the stand of sagebrush will be used if the sagebrush stand meets sage-grouse habitat needs such as hand cutting expanding pinyon without disturbing the shrub layer or mowing with a high mower height to leave enough sagebrush cover.
- Alteration of Wyoming sagebrush habitats involving removal of sagebrush cover (both treatments and other disturbances such as wildfire) will not exceed the guideline to alter no more than 6% of Wyoming sagebrush in a decade². The Proposed Action will treat only 2.4% of currently mapped Wyoming big sagebrush, and if other disturbances such as wildfire alter the habitat type the total treatment acres will be adjusted to stay below the 6% guideline or eliminate treatment alterations in the case of natural disturbances above the threshold.
- Alteration of mountain big sagebrush habitats involving removal of sagebrush cover (both treatments and other disturbances such as wildfire) will not exceed the guideline to alter no more than 10% in a decade³. The Proposed Action will treat a maximum of 8.2% of currently mapped mountain big sagebrush, and if other disturbances such as wildfire alter the habitat type the total treatment acres will be adjusted to stay below the 10%

¹ Adapted from Connolly, J. W., M. A. Schroeder, A. R. Sands and C. E. Brown (2000). "Guidelines to manage sage grouse populations and their habitats." *Wildlife Society Bulletin* **28**(4): 967-985. "Discourage prescribed burns > 50 ha".

² Adapted from the guidelines to manage sage-grouse populations and their habitats (Connolly et al 2000). "When restoring habitats dominated by Wyoming big sagebrush, regardless of techniques used (e.g. prescribed fire, herbicides), do not treat >20% of the breeding habitat (including areas burned by wildfire) within a 30 year period."

³ Adapted from the guidelines to manage sage-grouse populations and their habitats (Connolly et al 2000). "When restoring habitats dominated by mountain big sagebrush, regardless of techniques used (e.g. fire, herbicides), treat ≤20% of the breeding habitat (including areas burned by wildfire) within a 20 year period."

guideline or eliminate treatment alterations in the case of natural disturbances above the threshold.

- In sage-grouse winter habitat, treatments involving removal of sagebrush cover will not exceed 10% of the area in a decade⁴. Treatment areas will be adjusted if other disturbances such as wildfire remove sagebrush cover during the time period.
- The proposed total treatment area of 16,930 acres in all vegetation and habitat types is well within the maximum of 23,899 acres (15% of the Bridgeport Valley and Bodie Hills Management areas) to be treated over 10 years (Bishop Fire Management Plan, pg. 24, 53). If wildfire acres exceed the fire management plan goal of 3,182 acres during the 10 year period, the acreages of treatments will be adjusted to account for those burned in wildfire (Bishop Fire Management Plan pg. 51). Acres in the target ecological systems that have been burned by wildfire will be considered treated and subtracted from the treatment targets.
- To reduce impacts to migratory birds, the project analysis and implementation will follow the guidance in the April 12th, 2010 MOU between the BLM and the US Fish and Wildlife Service (BLM MOU WO-230-2010-04) to promote the conservation of migratory birds.
- Treatments in sage-grouse habitat will conform with direction in the Bishop RMP and incorporate recommendations from the Bi-State Action Plan for Conservation of the Greater Sage-Grouse Bi-State Distinct Population Segment (Bi-State Technical Advisory Committee 2012a). To improve habitat for pinyon jays and other pinyon dependent birds, the edges of treatment units should be feathered, avoiding sharp-well defined linear edges (GBBO 2010).
- No treatments would occur in Sierra Nevada bighorn sheep critical habitat.
- Treatments in areas where Sierra Nevada bighorn sheep may occur would be limited to treatments that would have either no effect or long-term beneficial effects on bighorn.
- In areas of potential pygmy rabbit habitat, burrow surveys will be conducted before project implementation. To protect and improve habitat for pygmy rabbits, exclusion areas would be identified where surveys have identified extant pygmy rabbit populations and/or burrow systems that may be adversely affected by proposed treatment activities. No broadcast burning or piling and/or pile burning would be allowed in areas identified for exclusion.

Monitoring Plan:

- A subset of the treatment units will be selected in the Bishop BLM-Inyo National Forest Interagency vegetation treatment monitoring program to be monitored for effectiveness (fuel load, vegetation structure and composition). (Bishop Fire Management Plan pg. 147-151). The Bishop BLM-Inyo National Forest Interagency Vegetation Treatment Monitoring Program document is available on file at the BLM Bishop Field Office.
- Treatment units will be surveyed after implementation for non-native species (see weeds).

⁴ Adapted from the guidelines to manage sage-grouse populations and their habitats (Connelly et al 2000). “[D]o not burn >20% of an area used by sage-grouse during winter within any 20-30 year period (depending on the estimated recovery time for the sagebrush habitat).”

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- Any post prescribed burn cultural surveys will be done if they were identified during unit layout as needed based on site sensitivity (see cultural resources).
- Where monitoring shows that the desired conditions as described in the selected alternative are not being achieved, the treatment methods, locations or amounts will be modified in the future. For example, if the cheatgrass densities are higher than the range described in the desired vegetation state, the conditions associated with that increase will be identified. If treatment method appears to be one of the conditions associated with the increase, the methods will be modified to prevent increases due to future treatments. If the treatment modifications required are outside the conditions already analyzed in this EA, then additional NEPA will have to be completed.

Alternative 3: Increased Acreage

The goal of the Increased Acreage alternative is to treat the maximum allowable acreage to improve the likelihood of achieving ecosystem health objectives. The project area is the same as the Proposed Action. The treatments were created based on the Ecological Management scenario that came out of the public workshops for the TNC analysis, but it was modified to conform with the Bishop RMP, primarily by reducing some of the acreages to stay within the treatment limits prescribed in the Fire Management Plan Amendment.

The methods are the same as the Proposed Action with the exception of the addition of targeted grazing around Bodie State Historic Park to reduce fuels and to help protect the resources at risk from fire. Grazing would be coordinated with Bodie State Historic Park to ensure that there were no conflicts with management of the park and any grazing on the State Park lands would have to be authorized by the State. Grazing would be carefully controlled with active herding or temporary fencing. Sheep or goats would be used. The grazing prescription would be based on the amount of fuel reduction required and livestock would be removed as soon as the target was achieved. The grazing would not be associated with term grazing permits issued for allotments in the Bodie Hills. The more widespread grazing to reduce cheatgrass that was included in the scenario in the TNC analysis is not included because the TNC analysis did not show an advantage over the use of mechanical methods on a smaller number of acres.

Two other methods included in the TNC analysis were not included: mastication and herbicide use. Mastication is not considered because it did not have any advantages over cutting and piling in a study conducted in the Bodie Hills near Rancheria Gulch. In addition, none of the issues raised in public scoping suggested the use of mastication whereas several raised concerns with the potential use of this method. The amount of fuel left on the ground is a concern for soil impacts in the event of a wildfire and the soil disturbance is greater than hand cutting methods. Herbicide use is not considered because the currently available herbicides effective for the primary species of concern (cheatgrass) are not registered for use in California. The use of other herbicides on less common weeds is too speculative because it is unknown if they will occur. The proposal includes the same early detection monitoring to find new occurrences and the appropriate analysis will be done at that time to treat them.

The method selection criteria and design criteria are the same as the Proposed Action. The major differences from the Proposed Action are summarized below:

- Increase in tree removal from low sagebrush.
- Increase in treatment of montane sagebrush including more prescribed burning, mowing and seeding late successional and depleted stages and removing trees in late successional stages with tree establishment.
- The replacement of mechanical methods to create a fuel break around Bodie State Historic Park with targeted grazing.
- Increase in treatment of late successional stages of Wyoming Sagebrush – loamy using mowing, seeding, and some small prescribed burn treatments.
- Overall increase in acreage to 23,880 acres (a 40% increase over the Proposed Action).

Chapter 2: Alternative 3 - Increased Acreage

The Increased Acreage Alternative addresses the issues raised in public scoping that the Proposed Action may not be enough to improve the health of the target ecosystems.

The following tables describe the amounts of vegetation to be treated under this alternative. Differences from the Proposed Action are highlighted.

Upland Treatments

1. Basin Wildrye – Big Sagebrush (no change from the Proposed Action)			
Objective: Work towards the long term (20 year) goals of improving ecological condition of Bodie Hills basin wildrye from 73% departure from NRV to 50% departure or less and reducing depleted classes by 50%. Prevent any increase of exotic forbs.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late seral basin wildrye and classes lacking native herbaceous cover to convert them to early development classes (A and B).	Late seral-open (D), Shrub-Annual grass (U ShAG), Annual grass (U Ag)*	230	-Mowing -Hand cutting shrubs with piling and burning or chipping -Broadcast prescribed fire
II. Prevent conversion to pinyon/juniper by treating early tree establishment stages.	Late-open (D), Tree-encroached (U TrEnc), Tree-Annual grass (U TrAG)*	120	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		350	

* Classes with large annual grass components will only be treated if trials of methods such as spring burning are shown to be successful at restoring a greater percentage of natives. See adaptive management strategy.

Chapter 2: Alternative 3 - Increased Acreage

2. Low Sagebrush (146% of Proposed Action)			
Objective: Work towards the long term (20 year) goals of maintaining ecological condition of low sagebrush at ~40% departure from NRV or less and limiting increase of high-risk (tree encroached and annual grasses) classes to 10% or less.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Remove trees from later successional stages.	Late-open (E), Mid-open (B), Tree encroached (U TrEnc)	2,200	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
II. Treat classes with an annual grass component to prevent increase and achieve some conversion to earlier classes.	Annual grass (UAG) , Shrub-Annual grass-Perennial grass (U ShAP)	800	-Seeding native species with mowing, hand cutting or spot burning shrubs where necessary for establishment.
Maximum acres of vegetation treatment		3,000	

3. Montane Sagebrush Steppe (133% of the Proposed Action)			
Objective: Work towards the long term (20 year) goals of improving the ecological condition from high departure (72%) from NRV to moderate departure (~55%) and limiting increase in highest risk classes to 20% or less. Establish a fuel break around Bodie State Historic Park that will also provide ecological benefits by increasing early successional classes.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional, depleted, and annual grass invaded classes to convert them to early development classes with greater native herbaceous cover.	Mid-closed (C) Late-open (D), Depleted (U DPL), Shrub-Annual grass-Perennial grass (U ShAP)*, Shrub-Annual grass (U ShAG)*	12,300	-Broadcast prescribed burning -Mowing -Hand cutting small pinyon/juniper** -Seeding native species in the most depleted/high risk sites if necessary
II. Remove trees from classes with increasing pinyon/juniper to prevent and reduce conversion.	Late-open (D), Late-closed (E), Tree encroached (U TrEnc), Depleted (U DPL), Shrub-Annual grass-Perennial grass (U ShAP)*, Shrub-Annual grass (U ShAG)*	1,400	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
III. Reduce fuels around Bodie State Park to protect structures and values at risk by reducing fire risk and increase early development classes. This may include both BLM and State lands.	Several classes – site selection depends on location, not class.	300***	Targeted grazing (sheep or goats) using active herding or temporary fencing
Maximum acres of vegetation treatment		14,000	

* Classes with large annual grass components will only be treated if trials of methods such as spring burning are shown to be successful at restoring a greater percentage of natives.

**Early stages of pinyon/juniper establishment are difficult to map with aerial photography. Small trees may occur in class C and D.

Chapter 2: Alternative 3 - Increased Acreage

*** Fuel break acres will be periodically maintained to keep fuel loading low.

4. Mountain Shrub (no change from the Proposed Action)			
Objective: Improve the ecological condition from moderate departure (39%) from NRV to low departure (~25%).*			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late developmental classes to return them to early developmental classes.	C (late-closed) and D (Late-open).	1,000	-Broadcast prescribed burning
Maximum acres of vegetation treatment		1,000	

*The Mountain shrub ecological system was not identified in the report as one of the highest priorities for treatment so the objectives for managing this system were not explored in detail. The Bishop Field Office chose to add this system and create management objectives for it because it has a high probability of success and can be included with adjacent ecosystems in prescribed burns.

5. Wyoming big sagebrush – loamy (400% of Proposed Action)			
Objective: Work towards the long term (20 year) goals of improving ecological condition from highly departed (~74%) to moderately departed (<66%) and reducing the risk of wildfire spreading to adjoining ecosystems and properties or structures.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late development classes with some treatments designed as fuel break arranged along roads to return them to early development classes and reduce the fuel load and continuity.	Late-closed (C), Late2-open (D), Late2-closed (E), Depleted (U DPL) , other classes as necessary to complete fuel break.	2,800	-Mowing -Seeding native species -Small spring prescribed burns to test control of cheatgrass
II. Remove trees from classes with increasing pinyon/juniper.*	Late-closed (C), Late2-open (D), Late2-closed (E), Tree encroached 9U TrEnc)	600*	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		3,400	

*Tree removal was not included in the management scenario for this ecological system in the Provencher report, but it was included in this Proposed Action because tree establishment in this system was under represented in the mapping based on field review. In addition, the analysis also predicts that there would be 600 acres of pinyon/juniper establishment by the end of the scenario without active management. No true juniper or pinyon woodlands will be treated.

** Fuel break acres will be periodically maintained to keep fuel loading low.

6. Wyoming big sagebrush – sandy (no change from the Proposed Action)			
Objective: Work towards the long term (20 year) goal of improving ecological condition by a small percentage (5%) while reducing risk of wildfire spreading into adjoining ecosystems and properties or structures.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Create fuel breaks mostly arranged along roads to convert to early developmental classes and reduce fuel load and continuity.	Many; site selection depends on location rather than class but majority of area will be in Depleted (U DPL), Late-closed (C), Late2-open (D), Late2-closed (E).	500**	-Mowing -Hand cutting shrubs with piling and burning or chipping -Seeding native species if necessary
II. Remove trees from classes with increasing pinyon/juniper.*	Late-closed (C), Late2-open (D), Late2-closed (E), Tree encroached 9U TrEnc)	1,000*	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		1,500	

*Tree removal was not included in the management scenario for this ecological system in the Provencher report, but it was included in this Proposed Action because tree establishment in this system was under represented in the mapping based on field review. In addition, the analysis also predicts that there would be 5670 acres with pinyon/juniper established by the end of the scenario without active management. No true juniper or pinyon woodlands will be treated.

** Fuel break acres will be periodically maintained to keep fuel loading low.

Associated Riparian Treatments

7. Montane riparian (no change from the Proposed Action)			
Objective: Contribute to the long term (20 year) goal of maintaining the riparian habitat at less than ~33% departure from the natural range of variability.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional classes to move them to early successional stages and reverse or prevent conversion to upland woody species.	Late-closed (E), Shrub-Forb-Encroached (U SFEnc)	30	-Broadcast prescribed burning
Maximum acres of vegetation treatment		30	

8. Stable aspen (no change from the Proposed Action)			
Objective: Contribute to the long term (20 year) goal of improving the ecological condition from 41% departure from the natural range of variability to ~33% departure and reduce “no aspen” classes by ~50%.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional classes to move them to early successional stages, reverse or prevent conversion to upland species, and promote healthy aspen regeneration.	Late1-closed (E), Late1-open (D), Depleted-open (U DPL), No aspen (U NAS)	500	-Broadcast prescribed burning -Hand cutting pinyon/juniper
Maximum acres of vegetation treatment		500	

Chapter 2: Alternative 3 - Increased Acreage

9. Wet meadows (no change from the Proposed Action)			
Objective: Contribute to the long term (20 year) goal of maintaining the ecological condition of wet meadow at less than 33% departure from the natural range of variability, preventing any increase in exotic forbs, ensuring no additional desertification, and reducing iris/silver sage by 50%.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat areas of iris or sagebrush to convert them to early seral classes.	Shrub-Forb encroached (U SFEnc), Desertification (U DES), Tree encroached (U TrEnc)	100	-Broadcast prescribed burning -Mowing
Maximum acres of vegetation treatment		100	

* Other methods were recommended in the report in addition to broadcast burning. Those methods are outside the scope of this analysis because they are not among the tools also being used in the uplands.

Sum of All Ecological Systems:

Total maximum acres of vegetation treatment across all ecological systems*	23,880 (135 % of the Proposed Action)
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* Does not include maintenance of established fuel breaks or weed treatments.

Alternative 4: Treatment within CWPP WUI area only

The Mono County Community Wildfire Protection Plan Wildland Urban Interface (CWPP WUI) Alternative restricts the area for treatments to within the CWPP designated Wildland Urban Interface (Mono County 2009) only (see Figure 3 below). The project area and treatments are reduced to 61% of the amounts in the Proposed Action. The treatment amounts are scaled according to the proportion of the ecosystem type that occurs within the CWPP WUI area and are shown in detailed tables below. All differences from the Proposed Action are highlighted.

The methods, method selection criteria, and design criteria are the same as the Proposed Action.

The CWPP WUI Alternative was developed to respond to issues raised by the public about the magnitude of the treatment and project areas and the suggestion that the objectives could possibly be accomplished by limiting the treatments to areas that would help prevent wildfire threats to structures and communities. The CWPP WUI was designated by considering the area where fire could reach structures within one day. Another alternative with even more restricted treatments just within the immediate vicinity of structures was also considered but eliminated from detailed analysis (Alternative 6: Fuel Breaks Alternative, was found to not meet the purpose and need for action).

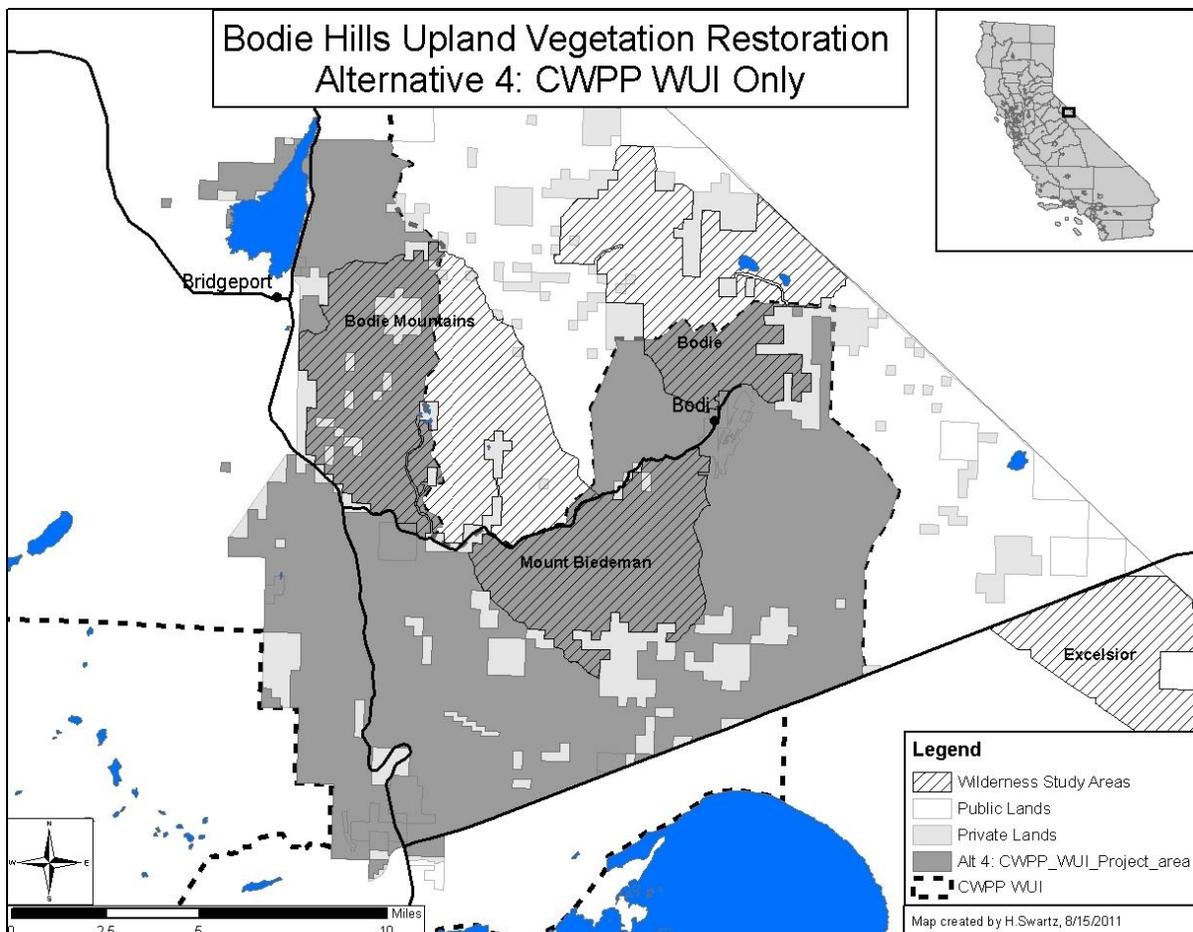


Figure 3. Modified project area for Alternative 4. Treatments would be restricted to the area of the Bodie Hills covered by the Wildland Urban Interface designated in the Mono County Community Wildfire Protection Plan.

Upland Treatments

1. Basin Wildrye – Big Sagebrush (68% of Proposed Action)			
Objective:			
Work towards the long term (20 year) goals of improving ecological condition of Bodie Hills basin wildrye from 73% departure from NRV to 50% departure or less and reducing depleted classes by 50%. Prevent any increase of exotic forbs.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late seral basin wildrye and classes lacking native herbaceous cover to convert them to early development classes (A and B).	Late seral-open (D), Shrub-Annual grass (U ShAG), Annual grass (U Ag)*	160	-Mowing -Hand cutting shrubs with piling and burning or chipping -Broadcast prescribed fire
II. Prevent conversion to pinyon/juniper by treating early tree establishment stages.	Late-open (D), Tree-encroached (U TrEnc), Tree-Annual grass (U TrAG)*	80	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		240	

* Classes with large annual grass components will only be treated if trials of methods such as spring burning are shown to be successful at restoring a greater percentage of natives. See adaptive management strategy.

2. Low Sagebrush (37% of Proposed Action)			
Objective:			
Work towards the long term (20 year) goals of maintaining ecological condition of low sagebrush at ~40% departure from NRV or less and limiting increase of high-risk (tree encroached and annual grasses) classes to 10% or less.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Remove trees from later successional stages.	Late-open (E), Mid-open (B), Tree encroached (U TrEnc)	460	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
II. Treat classes with an annual grass component to prevent increase.*	Annual grass (UAG) , Shrub-Annual grass-Perennial grass (U ShAP)	290	-Seeding native species with mowing, hand cutting or spot burning shrubs where necessary for establishment
Maximum acres of vegetation treatment		750	

*Strategy II was added to the scenario analyzed in the Provencher report because California BLM does not have the option of using effective herbicides on annual grasses and this is the most effective strategy to minimize annual grasses without the use of chemicals. The area to be treated over 10 years was derived from the acres of annual grass mapped in the analysis. Treatment of those acres should limit the increase of annual grasses, however, the amount in the U ShAP class was likely underestimated because the current sites are small and hard to detect with remote sensing.

Chapter 2: Alternative 4 - Treatment within CWPP WUI area only

3. Montane Sagebrush Steppe (60% of Proposed Action)			
Objective: Work towards the long term (20 year) goals of improving the ecological condition from high departure (72%) from NRV to moderate departure (~55%) and limiting increase in highest risk classes to 20% or less. Establish a fuel break around Bodie State park that will also provide ecological benefits by increasing early successional classes.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional, depleted, and annual grass invaded classes to convert them to early development classes with greater native herbaceous cover.	Mid-closed (C) Late-open (D), Depleted (U DPL), Shrub-Annual grass-Perennial grass (U ShAP)*, Shrub-Annual grass (U ShAG)*	5620	-Broadcast prescribed burning -Mowing -Hand cutting small pinyon/juniper** -Seeding native species in the most depleted/high risk sites if necessary
II. Remove trees from classes with increasing pinyon/juniper to prevent and reduce conversion.	Late-open (D), Late-closed (E), Tree encroached (U TrEnc), Depleted (U DPL), Shrub-Annual grass-Perennial grass (U ShAP), Shrub-Annual grass (U ShAG)	450	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
III. Construct and maintain a 300 ft. fuel break around structures and values at risk (ex. Bodie State Park) to reduce fire risk and increase early development classes. This may include both BLM and State lands.	Several classes – site selection depends on location, not class.	300***	-Mowing -Hand cutting shrubs with piling and burning or chipping -Broadcast prescribed burning -Seeding native species if necessary
Maximum acres of vegetation treatment		6370	

* Classes with large annual grass components will only be treated if trials of methods such as spring burning are shown to be successful at restoring a greater percentage of natives.

**Early stages of pinyon/juniper establishment are difficult to map with aerial photography. Small trees may occur in class C and D.

*** Fuel break acres will be periodically maintained to keep fuel loading low.

4. Mountain Shrub (85% of Proposed Action)			
Objective: Improve the ecological condition from moderate departure (39%) from NRV to low departure (~25%).*			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late developmental classes to return them to early developmental classes.	C (late-closed) and D (Late-open).	850	-Broadcast prescribed burning
Maximum acres of vegetation treatment		850	

*The Mountain shrub ecological system was not identified in the report as one of the highest priorities for treatment so the objectives for managing this system were not explored in detail. The Bishop Field Office chose to add this system and create management objectives for it because it has a high probability of success and can be included with adjacent ecosystems in prescribed burns.

Chapter 2: Alternative 4 - Treatment within CWPP WUI area only

5. Wyoming big sagebrush – loamy (100% of Proposed Action)			
Objective: Work towards the long term (20 year) goals of improving ecological condition from highly departed (~74%) to moderately departed (<66%) and reducing the risk of wildfire spreading to adjoining ecosystems and properties or structures.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late development classes in fuel breaks mostly arranged along roads to return them to early development classes and reduce the fuel load and continuity.	Late-closed (C), Late2-open (D), Late2-closed (E), Depleted (U DPL) , other classes as necessary to complete fuel break.	250**	-Mowing -Seeding native species
II. Remove trees from classes with increasing pinyon/juniper.*	Late-closed (C), Late2-open (D), Late2-closed (E), Tree encroached 9U TrEnc)	600*	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		850	

*Pinyon/juniper removal was not included in the management scenario for this ecological system in the Provencher report, but it was included in this Proposed Action because pinyon/juniper establishment into this system was under represented in the mapping based on field review. In addition, the analysis also predicts that there would be 600 acres of tree establishment by the end of the scenario without active management. No true juniper or pinyon woodlands will be treated.

** Fuel break acres will be periodically maintained to keep fuel loading low.

6. Wyoming big sagebrush – sandy (59% of Proposed Action)			
Objective: Work towards the long term (20 year) goal of improving ecological condition by a small percentage (5%) while reducing risk of wildfire spreading into adjoining ecosystems and properties or structures.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Create fuel breaks mostly arranged along roads to convert to early developmental classes and reduce fuel load and continuity.	Many; site selection depends on location rather than class but majority of area will be in Depleted (U DPL), Late-closed (C), Late2-open (D), Late2-closed (E).	295**	-Mowing -Hand cutting shrubs with piling and burning or chipping -Seeding native species if necessary
II. Remove trees from classes with increasing pinyon/juniper.*	Late-closed (C), Late2-open (D), Late2-closed (E), Tree encroached 9U TrEnc)	590*	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		885	

*Pinyon/juniper removal was not included in the management scenario for this ecological system in the Provencher report, but it was included in this Proposed Action because tree establishment in this system was under represented in the mapping based on field review. In addition, the analysis also predicts that there would be 5670 acres of pinyon/juniper established by the end of the scenario without active management. No true juniper or pinyon woodlands will be treated.

** Fuel break acres will be periodically maintained to keep fuel loading low.

Associated Riparian Treatments

7. Montane riparian (91% of Proposed Action)			
Objective: Contribute to the long term (20 year) goal of maintaining the riparian habitat at less than ~33% departure from the natural range of variability.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional classes to move them to early successional stages and reverse or prevent conversion to upland woody species.	Late-closed (E), Shrub-Forb-Encroached (U SFEnc)	27	-Broadcast prescribed burning
Maximum acres of vegetation treatment		27	

8. Stable aspen (46% of the Proposed Action)			
Objective: Contribute to the long term (20 year) goal of improving the ecological condition from 41% departure from the natural range of variability to ~33% departure and reduce “no aspen” classes by ~50%.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional classes to move them to early successional stages, reverse or prevent conversion to upland species, and promote healthy aspen regeneration.	Late1-closed (E), Late1-open (D), Depleted-open (U DPL), No aspen (U NAS)	230	-Broadcast prescribed burning -Hand cutting pinyon/juniper
Maximum acres of vegetation treatment		230	

9. Wet meadows (66% of the Proposed Action)			
Objective: Contribute to the long term (20 year) goal of maintaining the ecological condition of wet meadow at less than 33% departure from the natural range of variability, preventing any increase in exotic forbs, ensuring no additional desertification, and reducing iris/silver sage by 50%.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat areas of iris or sagebrush to convert them to early seral classes.	Shrub-Forb encroached (U SFEnc), Desertification (U DES), Tree encroached (U TrEnc)	66	-Broadcast prescribed burning*
Maximum acres of vegetation treatment		66	

* Other methods were recommended in the report in addition to broadcast burning. Those methods are outside the scope of this analysis because they are not among the tools also being used in the uplands.

Sum of All Ecological Systems:

Total maximum acres of vegetation treatment across all ecological systems*	10268 (61% of Proposed Action)
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* Does not include maintenance of established fuel breaks or weed treatments.

Alternative 5: Limited Treatment in WSAs

This alternative is similar to the Proposed Action, but broadcast burning or spot burning would be the only treatment method that would be used in WSAs. Outside the WSAs, the methods and treatments would be identical to the Proposed Action. The project area would remain the same (see map for Proposed Action).

The amount of treatment in the WSAs is reduced from the Proposed Action because broadcast burning and spot burning are not always the appropriate treatment methods depending on the ecosystem type and the site characteristics. For example, with our current techniques, broadcast burning cannot be used where there is already cheatgrass in the understory because of the risk of increasing the cheatgrass cover. Broadcast burning is also not desirable in vegetation classes that have good sagebrush cover near sage-grouse leks because of the impacts to sage-grouse nesting habitat. Spot burning could be used in priority sage-grouse habitat if it will meet the desired conditions. Near structures prescribed burning can be too risky without mechanical treatment. There are portions of the WSAs that are near communities and structures such as Bodie State Historic Park. Therefore the treatments are scaled from the Proposed Action amounts as shown in the tables below according to the available acres of the target ecosystem type and class that occur inside WSAs. This means that the treatment amounts for specific ecosystem types range from as little as 53% of the Proposed Action to as much as 100% of the Proposed Action. Overall the total treatment acreage is only 76% of the acreage in the Proposed Action (12,903 acres).

The method selection criteria remain the same as the Proposed Action except in the WSAs where broadcast and spot burning would be the only available methods. The design criteria also remain the same as the Proposed Action except that instead of being the preferred methods, broadcast and spot burning become the only methods to be used in the WSAs.

Alternative 5 was developed to respond to issues raised about potential impacts to WSAs, especially treatments that were considered high impact (mechanical treatments).

The treatment amounts and methods for each ecosystem type are shown in the tables below. Differences from the Proposed Action are highlighted.

Upland Treatments

1. Basin Wildrye – Big Sagebrush (90% of Proposed Action)			
Objective: Work towards the long term (20 year) goals of improving ecological condition of Bodie Hills basin wildrye from 73% departure from NRV to 50% departure or less and reducing depleted classes by 50%. Prevent any increase of exotic forbs.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late seral basin wildrye and classes lacking native herbaceous cover to convert them to early development classes (A and B).	Late seral-open (D), Shrub-Annual grass (U ShAG), Annual grass (U Ag)*	210	-Mowing (outside WSAs only) -Hand cutting shrubs with piling and burning or chipping (outside WSAs only) -Broadcast prescribed fire
II. Prevent conversion to pinyon/juniper by treating early establishment stages.	Late-open (D), Tree-encroached (U TrEnc), Tree-Annual grass (U TrAG)*	105	-Hand cutting pinyon/juniper with piling and burning or chipping (outside WSAs only) -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		315	

* Classes with large annual grass components will only be treated if trials of methods such as spring burning are shown to be successful at restoring a greater percentage of natives. See adaptive management strategy.

2. Low Sagebrush (53% of Proposed Action)			
Objective: Work towards the long term (20 year) goals of maintaining ecological condition of low sagebrush at ~40% departure from NRV or less and limiting increase of high-risk (tree encroached and annual grasses) classes to 10% or less.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Remove trees from later successional stages.	Late-open (E), Mid-open (B), Tree encroached (U TrEnc)	665	-Hand cutting pinyon/juniper with piling and burning or chipping (outside WSAs only) -Spot burning pinyon/juniper
II. Treat classes with an annual grass component to prevent increase.*	Annual grass (UAG) , Shrub-Annual grass-Perennial grass (U ShAP)	425	-Seeding native species with mowing, hand cutting or spot burning shrubs where necessary for establishment (outside WSAs only)
Maximum acres of vegetation treatment		1090	

*Strategy II was added to the scenario analyzed in the Provencher report because California BLM does not have the option of using effective herbicides on annual grasses and this is the most effective strategy to minimize annual grasses without the use of chemicals. The area to be treated over 10 years was derived from the acres of annual grass mapped in the analysis. Treatment of

Chapter 2: Alternative 5 - Limited Treatment in WSAs

those acres should limit the increase of annual grasses, however, the amount in the U ShAP class was likely underestimated because the current sites are small and hard to detect with remote sensing.

3. Montane Sagebrush Steppe (73% of the Proposed Action)			
Objective:			
Work towards the long term (20 year) goals of improving the ecological condition from high departure (72%) from NRV to moderate departure (~55%) and limiting increase in highest risk classes to 20% or less. Establish a fuel break around Bodie State park that will also provide ecological benefits by increasing early successional classes.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional, depleted, and annual grass invaded classes to convert them to early development classes with greater native herbaceous cover.	Mid-closed (C) Late-open (D), Depleted (U DPL), Shrub-Annual grass-Perennial grass (U ShAP)*, Shrub-Annual grass (U ShAG)*	6930	-Broadcast prescribed burning -Mowing (outside WSAs only) -Hand cutting small pinyon/juniper** (outside WSAs only) -Seeding native species in the most depleted/high risk sites if necessary
II. Remove trees from classes with increasing pinyon/juniper to prevent and reduce conversion.	Late-open (D), Late-closed (E), Tree encroached (U TrEnc), Depleted (U DPL), Shrub-Annual grass-Perennial grass (U ShAP), Shrub-Annual grass (U ShAG)	550	-Hand cutting pinyon/juniper with piling and burning or chipping (outside WSAs only) -Spot burning pinyon/juniper
III. Construct and maintain a 300 ft. fuel break around structures and values at risk (ex. Bodie State Park) to reduce fire risk and increase early development classes. This may include both BLM and State lands.	Several classes – site selection depends on location, not class.	200***	-Mowing (outside WSAs only) -Hand cutting shrubs with piling and burning or chipping (outside WSAs only) -Broadcast prescribed burning -Seeding native species if necessary
Maximum acres of vegetation treatment		7680	

* Classes with large annual grass components will only be treated if trials of methods such as spring burning are shown to be successful at restoring a greater percentage of natives.

**Early stages of pinyon/juniper establishment are difficult to map with aerial photography. Small trees may occur in class C and D.

*** Fuel break acres will be periodically maintained to keep fuel loading low. The acres are reduced from the Proposed Action because the Bodie WSA follows the boundary of the Park on one side. The fuel break will not be complete in this alternative because of the proximity of the WSA.

Chapter 2: Alternative 5 - Limited Treatment in WSAs

4. Mountain Shrub (100% of Proposed Action)			
Objective: Improve the ecological condition from moderate departure (39%) from NRV to low departure (~25%).*			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late developmental classes to return them to early developmental classes.	C (late-closed) and D (Late-open).	1000	-Broadcast prescribed burning
Maximum acres of vegetation treatment		1000	

*The Mountain shrub ecological system was not identified in the report as one of the highest priorities for treatment so the objectives for managing this system were not explored in detail. The Bishop Field Office chose to add this system and create management objectives for it because it has a high probability of success and can be included with adjacent ecosystems in prescribed burns.

5. Wyoming big sagebrush – loamy (96% of Proposed Action)			
Objective: Work towards the long term (20 year) goals of improving ecological condition from highly departed (~74%) to moderately departed (<66%) and reducing the risk of wildfire spreading to adjoining ecosystems and properties or structures.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late development classes in fuel breaks mostly arranged along roads to return them to early development classes and reduce the fuel load and continuity.	Late-closed (C), Late2-open (D), Late2-closed (E), Depleted (U DPL), other classes as necessary to complete fuel break.	240**	-Mowing -Seeding native species if necessary (All outside WSAs)
II. Remove trees from classes with increasing pinyon/juniper.*	Late-closed (C), Late2-open (D), Late2-closed (E), Tree encroached 9U TrEnc)	575*	-Hand cutting pinyon/juniper with piling and burning or chipping (outside of WSAs) -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		815	

*Tree removal was not included in the management scenario for this ecological system in the Provencher report, but it was included in this Proposed Action because pinyon/juniper establishment into this system was under represented in the mapping based on field review. In addition, the analysis also predicts that there would be 600 acres of pinyon/juniper establishment by the end of the scenario without active management. No true juniper or pinyon woodlands will be treated.

** Fuel break acres will be periodically maintained to keep fuel loading low.

Chapter 2: Alternative 5 - Limited Treatment in WSAs

6. Wyoming big sagebrush – sandy (100% of the Proposed Action)			
Objective: Work towards the long term (20 year) goal of improving ecological condition by a small percentage (5%) while reducing risk of wildfire spreading into adjoining ecosystems and properties or structures.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Create fuel breaks mostly arranged along roads to convert to early developmental classes and reduce fuel load and continuity.	Many; site selection depends on location rather than class but majority of area will be in Depleted (U DPL), Late-closed (C), Late2-open (D), Late2-closed (E).	500**	-Mowing -Hand cutting shrubs with piling and burning or chipping -Seeding native species if necessary (all outside of WSAs)
II. Remove trees from classes with increasing pinyon/juniper.*	Late-closed (C), Late2-open (D), Late2-closed (E), Tree encroached 9U TrEnc)	1000*	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		1500	

*Tree removal was not included in the management scenario for this ecological system in the Provencher report, but it was included in this Proposed Action because pinyon/juniper establishment into this system was under represented in the mapping based on field review. In addition, the analysis also predicts that there would be 5670 acres of pinyon/juniper establishment by the end of the scenario without active management. No true juniper or pinyon woodlands will be treated.

** Fuel break acres will be periodically maintained to keep fuel loading low.

Associated Riparian Treatments

7. Montane riparian (93% of the Proposed Action)			
Objective: Contribute to the long term (20 year) goal of maintaining the riparian habitat at less than ~33% departure from the natural range of variability.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional classes to move them to early successional stages and reverse or prevent conversion to upland woody species.	Late-closed (E), Shrub-Forb-Encroached (U SFEnc)	28	-Broadcast prescribed burning
Maximum acres of vegetation treatment		28	

8. Stable aspen (75% of the Proposed Action)			
Objective: Contribute to the long term (20 year) goal of improving the ecological condition from 41% departure from the natural range of variability to ~33% departure and reduce “no aspen” classes by ~50%.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional classes to move them to early successional stages, reverse or prevent conversion to upland species, and promote healthy aspen regeneration.	Late1-closed (E), Late1-open (D), Depleted-open (U DPL), No aspen (U NAS)	375	-Broadcast prescribed burning -Hand cutting pinyon/juniper (only outside WSAs)
Maximum acres of vegetation treatment		375	

Chapter 2: Alternative 5 - Limited Treatment in WSAs

9. Wet meadows (100% of the Proposed Action)			
Objective: Contribute to the long term (20 year) goal of maintaining the ecological condition of wet meadow at less than 33% departure from the natural range of variability, preventing any increase in exotic forbs, ensuring no additional desertification, and reducing iris/silver sage by 50%.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat areas of iris or sagebrush to convert them to early seral classes.	Shrub-Forb encroached (U SFEnc), Desertification (U DES), Tree encroached (U TrEnc)	100	-Broadcast prescribed burning*
Maximum acres of vegetation treatment		100	

* Other methods were recommended in the report in addition to broadcast burning. Those methods are outside the scope of this analysis because they are not among the tools also being used in the uplands.

Sum of All Ecological Systems:

Total maximum acres of vegetation treatment across all ecological systems*	12903 (76% of the Proposed Action)
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* Does not include maintenance of established fuel breaks or weed treatments.

Alternative 6: No Treatment in WSAs

This alternative is similar to the Proposed Action, but the project area is reduced by excluding the WSAs resulting in a total area of 112,294 acres of BLM lands (67% of the acreage in the Proposed Action) (See Figure 4). The treatments are scaled according to the proportion of the target ecosystem type and class that occurs outside of the WSAs as shown in the table for each ecosystem type below. This means that the treatment amounts for specific ecosystem types range from as little as 51% of the Proposed Action to as much as 100% of the Proposed Action and overall the treatment acreage is only 67% of the acreage in the Proposed Action (11,288 acres).

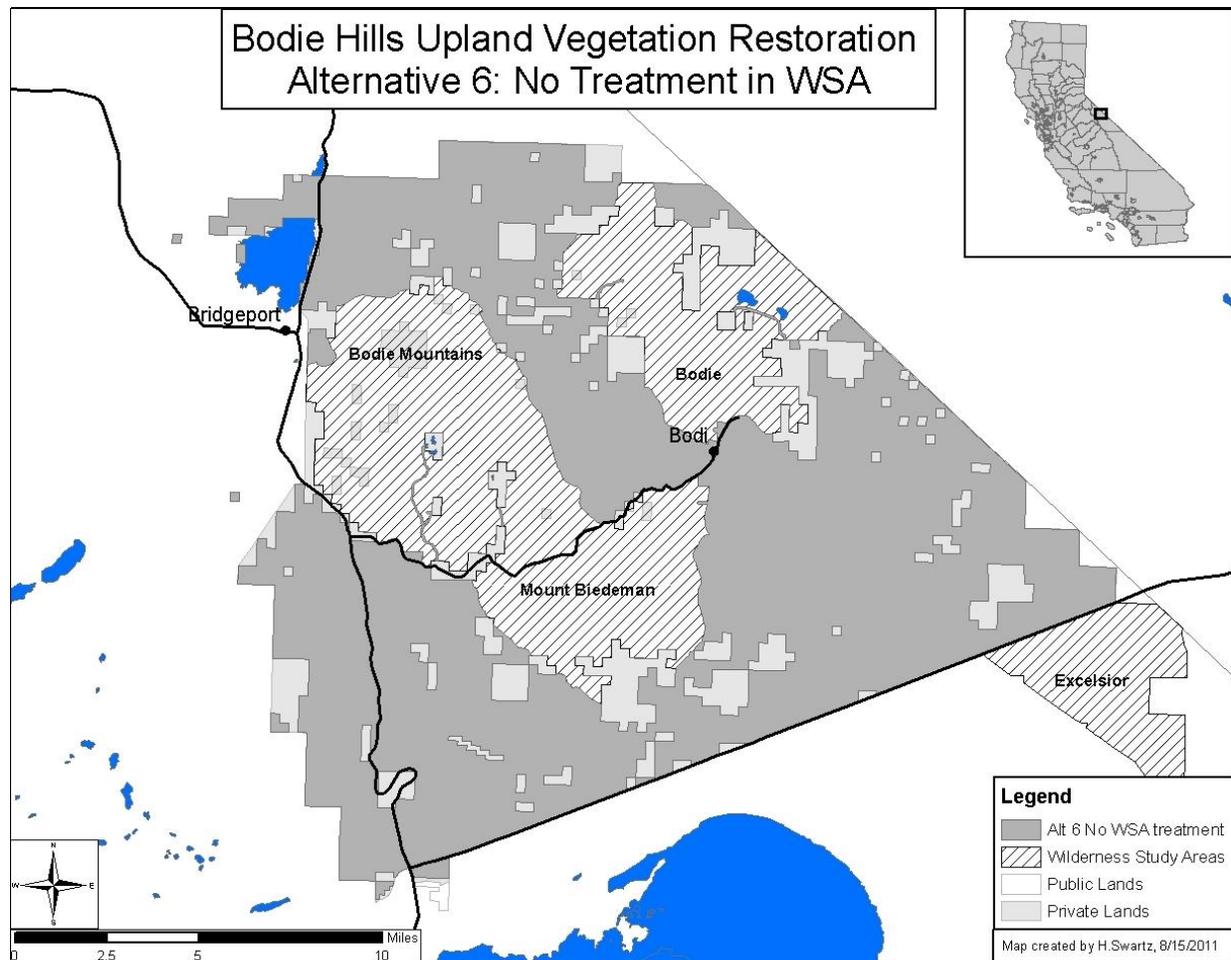


Figure 4. Alternative 6: No treatment in WSAs.

The method selection criteria remain the same as the Proposed Action. The design criteria also remain the same as the Proposed Action.

Alternative 6 was developed to respond to issues raised about potential impacts to WSAs and to provide a comparative analysis between treatments across the whole landscape and just outside these WSAs. This allows the Bishop Field Manager to evaluate whether treatment in WSAs is necessary for ecological restoration and maintenance or improvement of their wilderness characteristics as required by BLM policy. “A reasonable range of alternatives, including alternative approaches to accomplishing the same management objectives, must be analyzed in

Chapter 2: Alternative 6 – No Treatment in WSAs

the NEPA document, including alternative sites both inside and outside the WSA” (BLM Manual 6300 1.6.E.3.f.ii).

The treatment amounts and methods for each ecosystem type are shown in the tables below. Differences from the Proposed Action are highlighted.

Upland Treatments

1. Basin Wildrye – Big Sagebrush (87% of Proposed Action)			
Objective: Work towards the long term (20 year) goals of improving ecological condition of Bodie Hills basin wildrye from 73% departure from NRV to 50% departure or less and reducing depleted classes by 50%. Prevent any increase of exotic forbs.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late seral basin wildrye and classes lacking native herbaceous cover to convert them to early development classes (A and B).	Late seral-open (D), Shrub-Annual grass (U ShAG), Annual grass (U Ag)*	200	-Mowing -Hand cutting shrubs with piling and burning or chipping -Broadcast prescribed fire
II. Prevent conversion to pinyon/juniper by treating early establishment stages.	Late-open (D), Tree-encroached (U TrEnc), Tree-Annual grass (U TrAG)*	105	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		305	

* Classes with large annual grass components will only be treated if trials of methods such as spring burning are shown to be successful at restoring a greater percentage of natives. See adaptive management strategy.

Chapter 2: Alternative 6 – No Treatment in WSAs

2. Low Sagebrush (51% of Proposed Action)			
Objective:			
Work towards the long term (20 year) goals of maintaining ecological condition of low sagebrush at ~40% departure from NRV or less and limiting increase of high-risk (tree encroached and annual grasses) classes to 10% or less.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Remove trees from later successional stages.	Late-open (E), Mid-open (B), Tree encroached (U TrEnc)	640	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
II. Treat classes with an annual grass component to prevent increase.*	Annual grass (UAG) , Shrub-Annual grass-Perennial grass (U ShAP)	400	-Seeding native species with mowing, hand cutting or spot burning shrubs where necessary for establishment
Maximum acres of vegetation treatment		1040	

*Strategy II was added to the scenario analyzed in the Provencher report because California BLM does not have the option of using effective herbicides on annual grasses and this is the most effective strategy to minimize annual grasses without the use of chemicals. The area to be treated over 10 years was derived from the acres of annual grass mapped in the analysis. Treatment of those acres should limit the increase of annual grasses, however, the amount in the U ShAP class was likely underestimated because the current sites are small and hard to detect with remote sensing.

3. Montane Sagebrush Steppe (60% of the Proposed Action)			
Objective: Work towards the long term (20 year) goals of improving the ecological condition from high departure (72%) from NRV to moderate departure (~55%) and limiting increase in highest risk classes to 20% or less. Establish a fuel break around Bodie State park that will also provide ecological benefits by increasing early successional classes.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional, depleted, and annual grass invaded classes to convert them to early development classes with greater native herbaceous cover.	Mid-closed (C) Late-open (D), Depleted (U DPL), Shrub-Annual grass-Perennial grass (U ShAP)*, Shrub-Annual grass (U ShAG)*	5680	-Broadcast prescribed burning -Mowing -Hand cutting small pinyon/juniper** -Seeding native species in the most depleted/high risk sites if necessary
II. Remove trees from classes with increasing pinyon/juniper to prevent and reduce conversion.	Late-open (D), Late-closed (E), Tree encroached (U TrEnc), Depleted (U DPL), Shrub-Annual grass-Perennial grass (U ShAP), Shrub-Annual grass (U ShAG)	450	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
III. Construct and maintain a 300 ft. fuel break around structures and values at risk (ex. Bodie State Park) to reduce fire risk and increase early development classes. This may include both BLM and State lands.	Several classes – site selection depends on location, not class.	200***	-Mowing -Hand cutting shrubs with piling and burning or chipping -Broadcast prescribed burning -Seeding native species if necessary
Maximum acres of vegetation treatment		6330	

* Classes with large annual grass components will only be treated if trials of methods such as spring burning are shown to be successful at restoring a greater percentage of natives.

**Early stages of pinyon/juniper establishment are difficult to map with aerial photography. Small trees may occur in class C and D.

*** Fuel break acres will be periodically maintained to keep fuel loading low. The acres are reduced from the Proposed Action because the Bodie WSA follows the boundary of the Park on one side. The fuel break will not be complete in this alternative because of the proximity of the WSA.

4. Mountain Shrub (93% of Proposed Action)			
Objective: Improve the ecological condition from moderate departure (39%) from NRV to low departure (~25%).*			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late developmental classes to return them to early developmental classes.	C (late-closed) and D (Late-open).	930	-Broadcast prescribed burning
Maximum acres of vegetation treatment		930	

*The Mountain shrub ecological system was not identified in the report as one of the highest priorities for treatment so the objectives for managing this system were not explored in detail. The Bishop Field Office chose to add this system and create management objectives for it because it has a high probability of success and can be included with adjacent ecosystems in prescribed burns.

Chapter 2: Alternative 6 – No Treatment in WSAs

5. Wyoming big sagebrush – loamy (96% of Proposed Action)			
Objective: Work towards the long term (20 year) goals of improving ecological condition from highly departed (~74%) to moderately departed (<66%) and reducing the risk of wildfire spreading to adjoining ecosystems and properties or structures.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late development classes in fuel breaks mostly arranged along roads to return them to early development classes and reduce the fuel load and continuity.	Late-closed (C), Late2-open (D), Late2-closed (E), Depleted (U DPL), other classes as necessary to complete fuel break.	240**	-Mowing -Seeding native species if necessary
II. Remove trees from classes with increasing pinyon/juniper.*	Late-closed (C), Late2-open (D), Late2-closed (E), Tree encroached 9U TrEnc)	575*	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		815	

*Tree removal was not included in the management scenario for this ecological system in the Provencher report, but it was included in this Proposed Action because pinyon/juniper establishment into this system was under represented in the mapping based on field review. In addition, the analysis also predicts that there would be 600 acres of pinyon/juniper establishment by the end of the scenario without active management. No true juniper or pinyon woodlands will be treated.

** Fuel break acres will be periodically maintained to keep fuel loading low.

6. Wyoming big sagebrush – sandy (100% of the Proposed Action)			
Objective: Work towards the long term (20 year) goal of improving ecological condition by a small percentage (5%) while reducing risk of wildfire spreading into adjoining ecosystems and properties or structures.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Create fuel breaks mostly arranged along roads to convert to early developmental classes and reduce fuel load and continuity.	Many; site selection depends on location rather than class but majority of area will be in Depleted (U DPL), Late-closed (C), Late2-open (D), Late2-closed (E).	500**	-Mowing -Hand cutting shrubs with piling and burning or chipping -Seeding native species if necessary
II. Remove trees from classes with increasing pinyon/juniper.*	Late-closed (C), Late2-open (D), Late2-closed (E), Tree encroached 9U TrEnc)	1000*	-Hand cutting pinyon/juniper with piling and burning or chipping -Spot burning pinyon/juniper
Maximum acres of vegetation treatment		1500	

*Tree removal was not included in the management scenario for this ecological system in the Provencher report, but it was included in this Proposed Action because pinyon/juniper establishment into this system was under represented in the mapping based on field review. In addition, the analysis also predicts that there would be 5670 acres of pinyon/juniper establishment by the end of the scenario without active management. No true juniper or pinyon woodlands will be treated.

** Fuel break acres will be periodically maintained to keep fuel loading low.

Associated Riparian Treatments

7. Montane riparian (87% of the Proposed Action)			
Objective: Contribute to the long term (20 year) goal of maintaining the riparian habitat at less than ~33% departure from the natural range of variability.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional classes to move them to early successional stages and reverse or prevent conversion to upland woody species.	Late-closed (E), Shrub-Forb-Encroached (U SFEnc)	26	-Broadcast prescribed burning
Maximum acres of vegetation treatment		26	

8. Stable aspen (54% of the Proposed Action)			
Objective: Contribute to the long term (20 year) goal of improving the ecological condition from 41% departure from the natural range of variability to ~33% departure and reduce “no aspen” classes by ~50%.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat late successional classes to move them to early successional stages, reverse or prevent conversion to upland species, and promote healthy aspen regeneration.	Late1-closed (E), Late1-open (D), Depleted-open (U DPL), No aspen (U NAS)	270	-Broadcast prescribed burning -Hand cutting pinyon/juniper
Maximum acres of vegetation treatment		270	

9. Wet meadows (72% of the Proposed Action)			
Objective: Contribute to the long term (20 year) goal of maintaining the ecological condition of wet meadow at less than 33% departure from the natural range of variability, preventing any increase in exotic forbs, ensuring no additional desertification, and reducing iris/silver sage by 50%.			
Strategy	Classes to be treated (See Appendix B for class descriptions)	Acres over 10 years	Management tools to be used
I. Treat areas of iris or sagebrush to convert them to early seral classes.	Shrub-Forb encroached (U SFEnc), Desertification (U DES), Tree encroached (U TrEnc)	72	-Broadcast prescribed burning*
Maximum acres of vegetation treatment		72	

* Other methods were recommended in the report in addition to broadcast burning. Those methods are outside the scope of this analysis because they are not among the tools also being used in the uplands.

Sum of All Ecological Systems:

Total maximum acres of vegetation treatment across all ecological systems*	11288 (67% of the Proposed Action)
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* Does not include maintenance of established fuel breaks or weed treatments.