Forest Aquatic Restoration Project
NEPA Compliance and Implementation Checklist

Project Number: _____ **Date:** March 21, 2016

Title & Category: Headwaters Spring Protection / Category 9 **Location:** See table on following page

Project Description: See the following page

Heritage

☐ - Specific PDC for Heritage addressed (Heritage Surveys; Avoidance areas).

Botany

☐ - Specific PDC for Botany addressed (Sensitive Plant Surveys).

☐ - Specific PDC for Nox. Weeds addressed.

Land Management Consistency

X 4A	Big Game Winter range	☐9	Research Natural Areas
☐6A & 6B	Wilderness	☐10	Semi-Primitive Non-Motorized Recreation Areas
☐7	Scenic Area	☐22	Wild and Scenic River
☐8	Special Interest Areas	☐	Inventoried Roadless Areas

Comments:

Table 1. Projects Design Criteria and Forest Plan compliance checklist.

I have reviewed this project and have determined it is within the Project Design Criteria identified for my resource.			
Resource	Signature	Date	Comments
Heritage	/s/Robert Dickenson	4/26/2016	No effect to historic Properties
Botany	/s/ Joe Rausch	4/13/2016	Long-term beneficial impacts to botanical resources. Assure that all GDE/spring/seep design criteria are followed exactly as written.
Wildlife	/s/ Justin Hadwen	3/24/2016	Beneficial effects in the long term for wildlife. Follow PDCs.
Fish*	/s/ Bill Wall	3/24/2016	
Hydrology*	/s/ Hazel Owens	4/13/2016	
Range	/s/ Jason Spence	4/14/16	
Soils	/s/ Allison Torres	3/23/2016	Beneficial effects, follow established PDC.
Recreation	/s/ Shannon Winegar	4/6//2016	No effect to the Recreation Resource or Visual Resource
Lands and Special Uses	/s/ Stacia Kimbell	3/24/2016	Currently no Lands Special Uses were identified within the project areas. Paleontological Resources Project locations are mainly within areas where paleontological fossil occurrence is unlikely with some potential of being within areas of unknown or likely occurrence. If during project activities paleontological resources are encountered all activities shall cease immediately and the Malheur National Forest Minerals Program Manger shall be contacted for the evaluation of the discovery. Please see the attached *Paleontological Resources Likelihood of Occurrence: Malheur NF* map (2015) and Paleontology brochure FS-1058.
Engineering	/s/John La Liberte	4/27/2016	Any overflow pipe or culvert that needs to be installed in the road bed needs to be approved by an Engineer. Any fence being installed along the road bed, needs to be top of cut slope or bottom of fill slope, otherwise it needs to be approved by engineering.
Fuels / Fire	/s/ Sarah E. Bush	4/1/2016	Follow PDCs
Silviculture	/s/ Teresa Corning-Seavy	3/24/2016	

* Ensure that an experienced fisheries biologist or hydrologist is involved in the design of all projects covered by Aquatic Restoration Biological Opinion II. The experience should be commensurate with technical requirements of a project.

Line Officer Signature:_____ Date:_____

Purpose and Need:

These springs are being used by livestock each season with no source protection; this is causing heavy trampling of the source and degradation of surrounding area. The damage to the area inhibits the use by wildlife in relation to habitat as well as for water. The fisheries are affected farther downstream in several cases due to the lack of vegetation and warmer water temperatures as well more erosion in the early spring. Improvement of these springs will assist in the dispersal of the cattle over a larger area and allow for better overall use of the unit and assist in preventing heavy use in key areas. The improvement of the springs will assist in getting the cattle off the riparian areas and on to the uplands Protection of the head of the spring will allow for vegetative regrowth and prevent trampling of the spring and mudding of the water or stopping the flow. Several of these springs flow into key streams that are critical for ESA listed Bull Trout.

Proposed Action: To install water systems that will direct the water to a head box, when necessary, and on into troughs and then pipe it from the trough back to a natural drainage area or set up as a closed system with a float valve. It will also include fencing the spring head to protect them, preventing the degradation that has been occurring. Installing the head box may require hand digging in the spring site and graveling the back side and bentoniting the sides of the headbox. There would be either a hand dug pipe line or a trench dug by a ditch witch (a small machine), from the head box to the trough and from the trough to the drainage site. The drainage site would be 20 feet from the trough. Troughs are normally set on a rock base or treated 4x4 or 6x6.

Fencing would be barb wire or buck and pole.

Location and Management Areas: See attached management area maps and site specific maps

Spring Locations

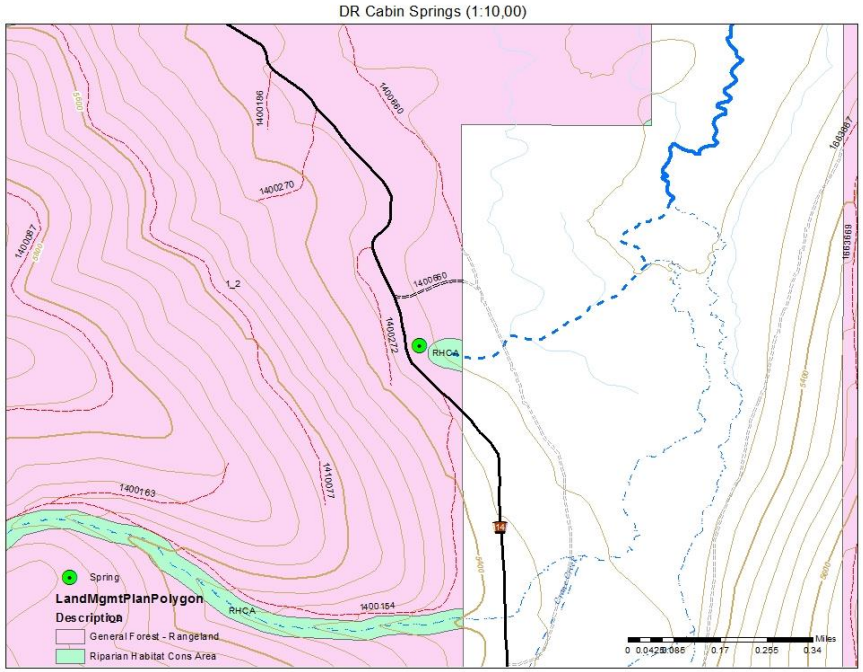
Springs	Latitude	Longitude	Township	Range	Section
DR CABIN SPRINGS	44.13622367	-118.47931411	16S	34E	36
OLD GROW SPRINGS	44.12620068	-118.47707371	17S	34E	1
CAGE SPRINGS	44.12784571	-118.45291623	17S	35E	6
KEG SPRINGS	44.19332500	-118.33853300	16S	35E	7
BASTARD SPRINGS	44.26956835	-118.35708635	15S	35.5E	13
16 PONDS	44.22970368	-118.34117138	15S	36E	30
BC 3 SPRINGS / 304	44.21001309	-118.31157052	16S	36E	5
BC 1 SPRINGS / CB	44.20267071	-118.30580830	16S	36E	4
BC 2 SPRINGS / JB	44.20266090	-118.30537646	16S	36E	4

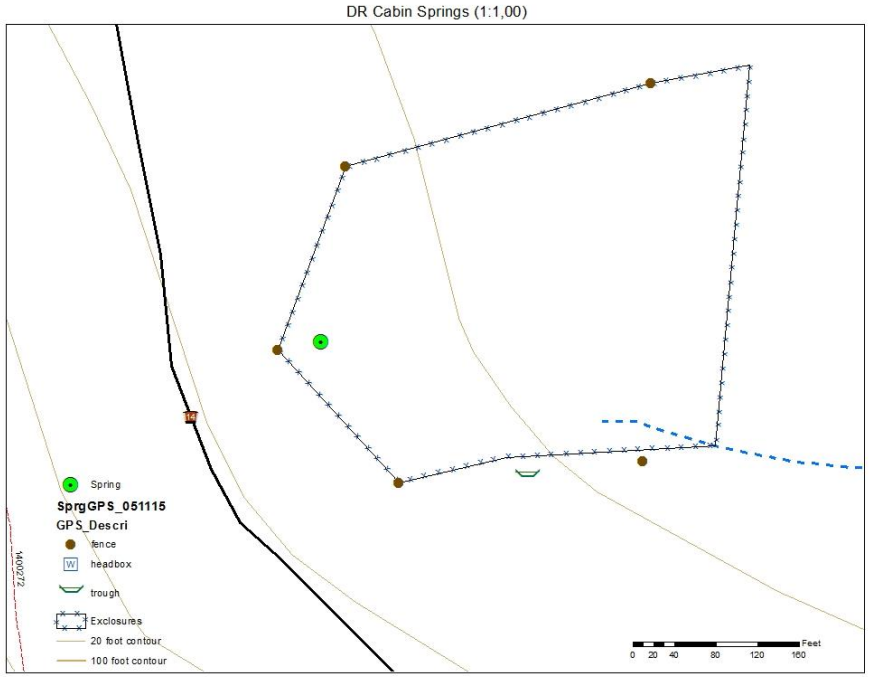
Site Specific descriptions are on the following pages.

Site visits to 8 Spring Sites on May 11, 2015 by Gale Shepard, Jaime McCormick, Hazel Owens, and Bill Wall
for the consideration of protecting and restoring these springs.

DR Cabin Springs

Good Flow. Spring temperature @ 0830 was 44ºF. No head box; piped only. Should not be an issue with shared flow. Mounded fens present. Diverse riparian vegetation. Hoof action herbivory, and browse impacts are visible. Pipe would run to trough through old ditch. Would require float at trough due to distance from main downstream flow. However, if botany is be able to determine that vegetation would not be affected with overflow as planned, then a float would not be required. Very good project for restoration. This project would fit category 9 of the Aquatic restoration EA, assuming there are no negative effects to TES botanical species.

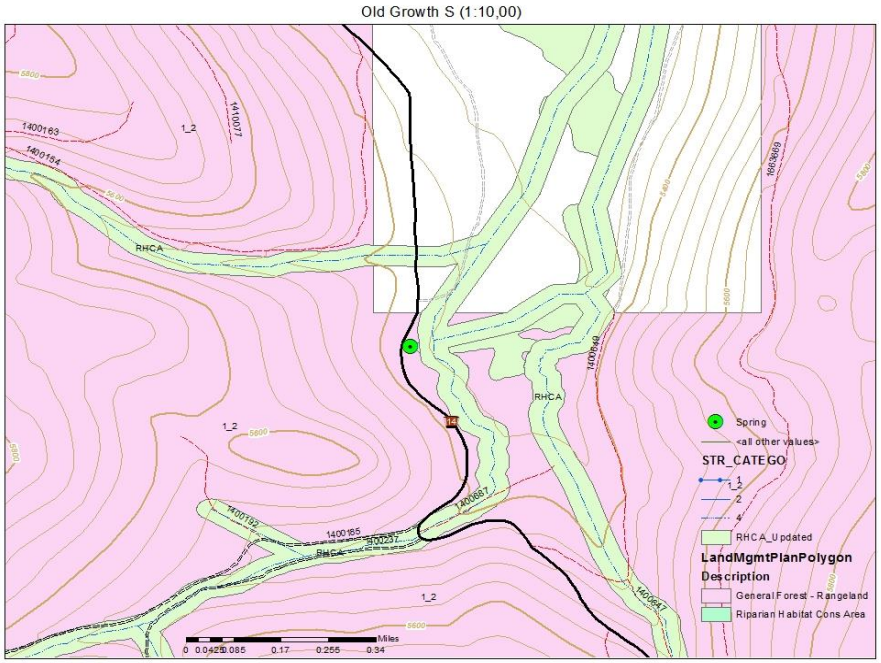


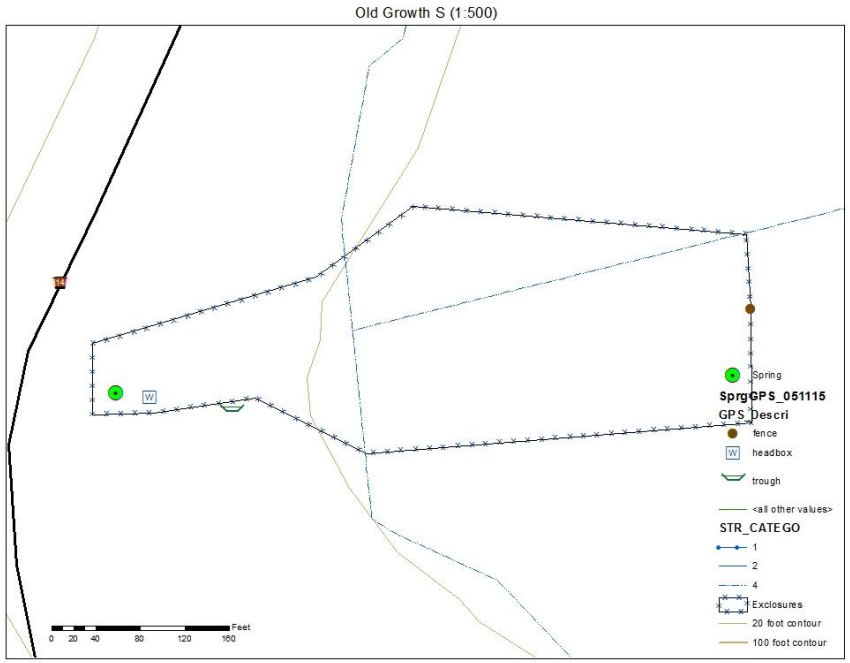


Old Growth S Springs

Flows are moderately low. Spring temperature @ 0920 was 44ºF. Would require float valve at the trough due to insufficient surface flow for spring and trough to maintain present saturated soils. Distance from proposed head box to trough is approximately 55 ft. Effect of surface saturation may be most evident be within this distance. There is likely to be adequate near surface ground water to not measurably affect riparian vegetation. Would not need to perk the springs to get adequate flow to trough. Hoof action, and grazing impacts are visible. Since it is not necessary to perk the springs and the near surface ground water and riparian

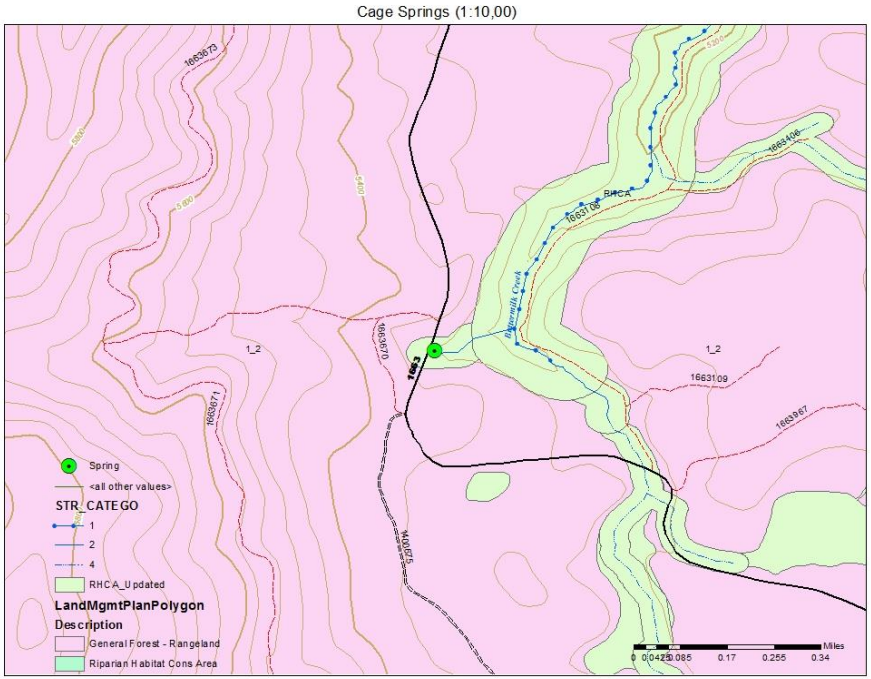
vegetation can be maintained, this project would fit category 9 of the Aquatic restoration EA. This is assuming there are no negative effects to TES botanical species.

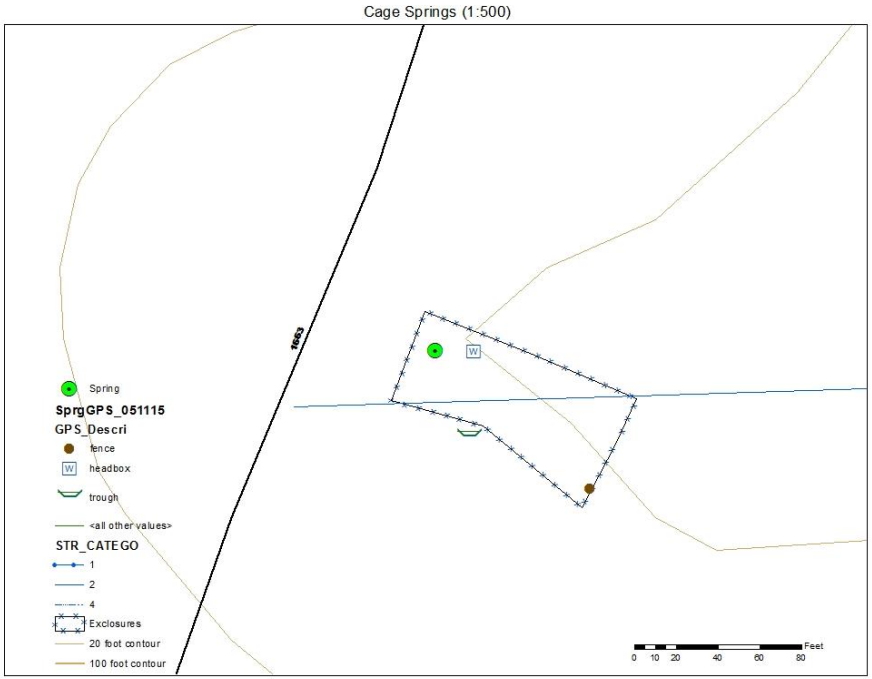




Cage Springs

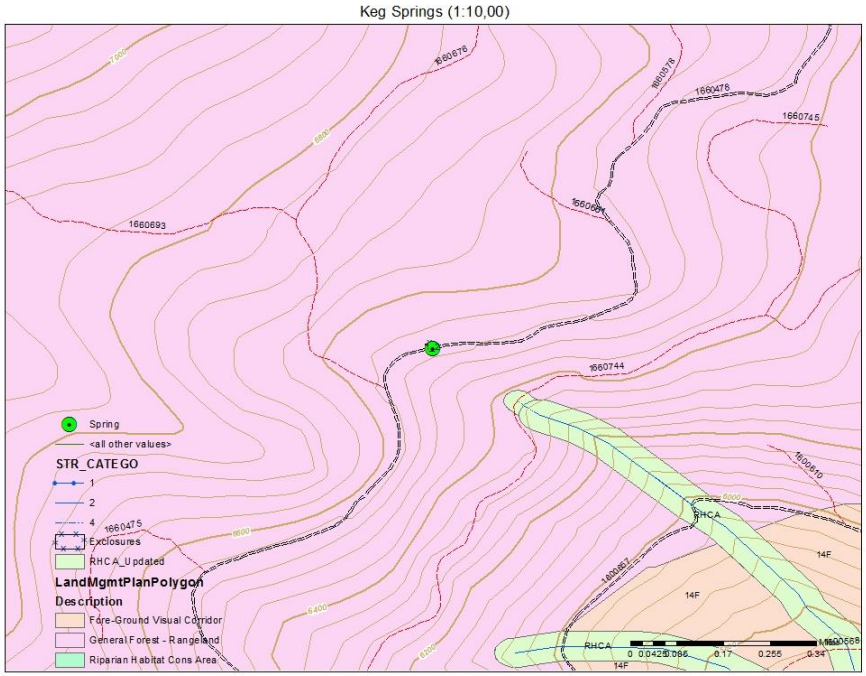
Flows are moderately low. Spring temperature @ 1015 was 44ºF. May require float valve at the trough due to insufficient surface flow for spring and trough to maintain present saturated soils. However, if botany is be able to determine that vegetation would not be affected with overflow as planned, then a float would not be required. Distance from proposed head box to trough is approximately 35 ft. Effect of surface saturation would likely be within this distance. There is a low diversity of riparian vegetation and is not continuous down drainage. Would not need to perk the springs to get adequate flow to trough. Hoof action and grazing impacts are visible. Drainage runs into Buttermilk Creek. Since it is not necessary to perk the springs and the near surface ground water and riparian vegetation would be maintained, this project would fit category 9 of the Aquatic restoration EA. This is assuming there are no negative effects to TES botanical species.

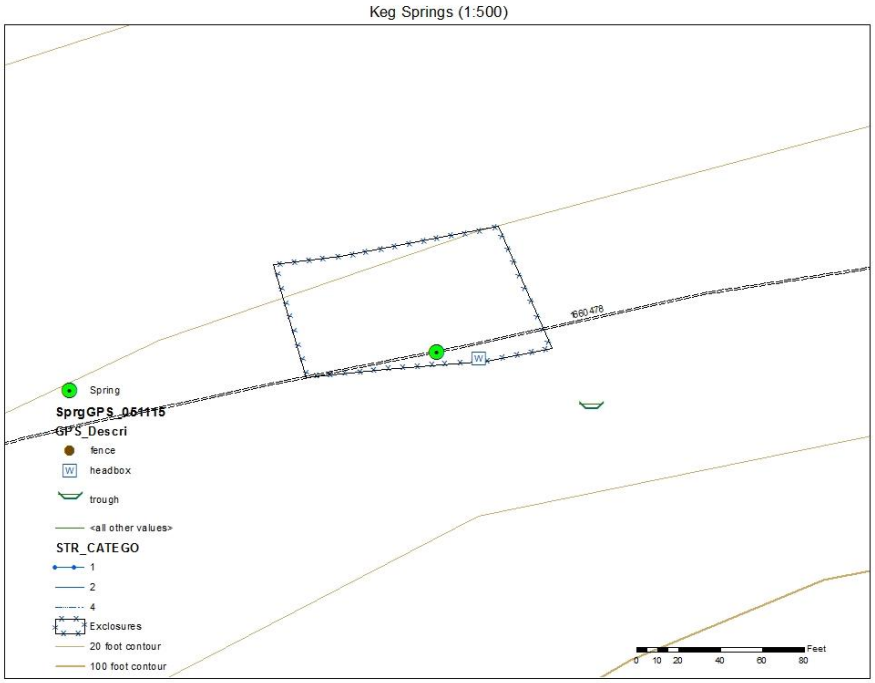




Keg Springs

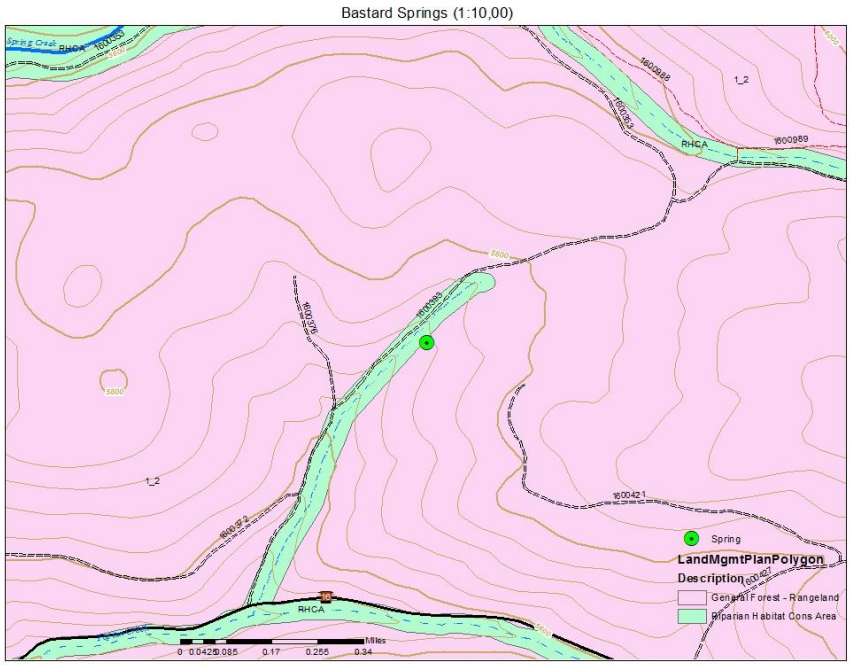
Good Flow. Spring temperature @ 1145 was 49ºF. Road prism is associated with spring. Area is boulder/cobble. Possible to pipe flows without head box, but may be too much sediment at present. Head box would be essentially within the inboard ditch of the road. Spring runs through a ditch to a stock pond that is on the opposite side of the road. Heavy sediment loads have filled the stock pond. Plan is to fill in the stock pond (not much fill needed) and place a trough in the same area with an overflow back to the drainage, which is close. Drainage downstream is dry within 30 feet of the old stock pond. Substrate is mostly small boulder. Drainage is the headwaters of Halfway Creek. Heavy impacts from hoof action and grazing are present. Project as proposed should allow significant recovery. Very good project for restoration. This project would fit category 9 of the Aquatic restoration EA, assuming there are no negative effects to TES botanical species.

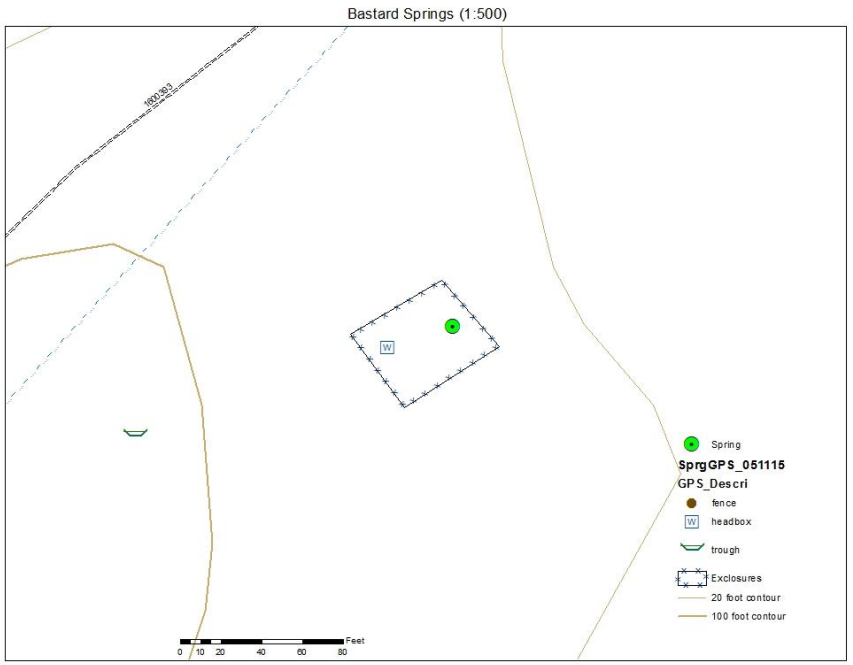




Bastard Springs

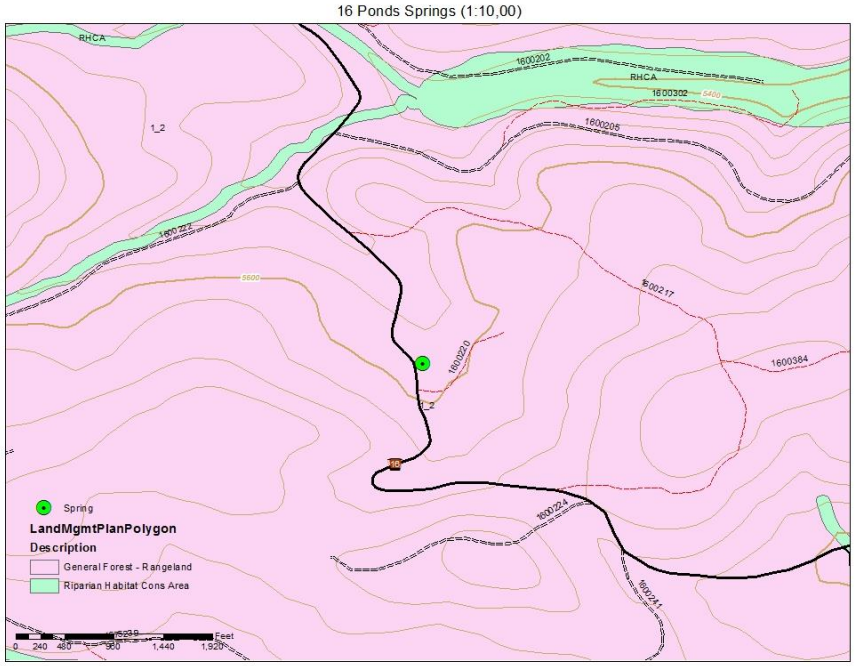
Very low flow. Did not record temperature by accident. May need to perk the springs to get adequate flow to trough. Head box would be placed at downstream end of pond. Pond is heavily silted in with very low diversity of riparian vegetation, likely due to hoof action and grazing impacts. Pond would be fenced to allow for veg recovery. Perking the springs may reduce recovery, but there would not likely be a loss of present diversity of vegetation. Would require float valve at the trough due to insufficient surface flow for spring and trough to maintain present saturated soils. Trough would be place as close to head box as possible, though presently proposed at approximately 90 ft. Due to low flow drainage would likely go dry for these 90 feet. What riparian vegetation is present is not continuous downstream. Flow from pond appeared to be less than 250 ft. Drainage has minimal riparian veg between the pond and Fopian Creek. Since the near surface ground water and riparian vegetation can be maintained, this project would fit category 9 of the Aquatic restoration EA. This is assuming there are no negative effects to TES botanical species.

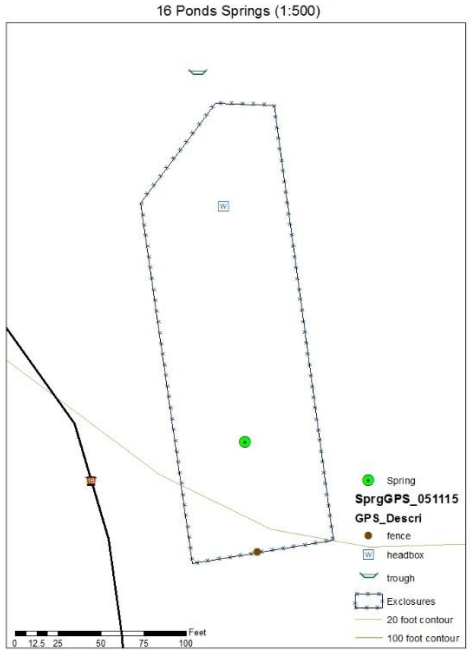




16 Ponds Springs

Moderate flow. Spring temperature @ 1240 was 54ºF. Distance from proposed head box to trough is approximately 80 ft. Effect of surface saturation would likely be within this distance. Likely to be adequate near surface ground water to not measurably affect riparian vegetation. Would not need to perk springs to get adequate flow to trough. Hoof action, herbivory, and browse impacts are visible. Probably get excellent recovery of willows and herbaceous vegetation. Very good project for restoration. This project would fit category 9 of the Aquatic restoration EA, assuming there are no negative effects to TES botanical species.

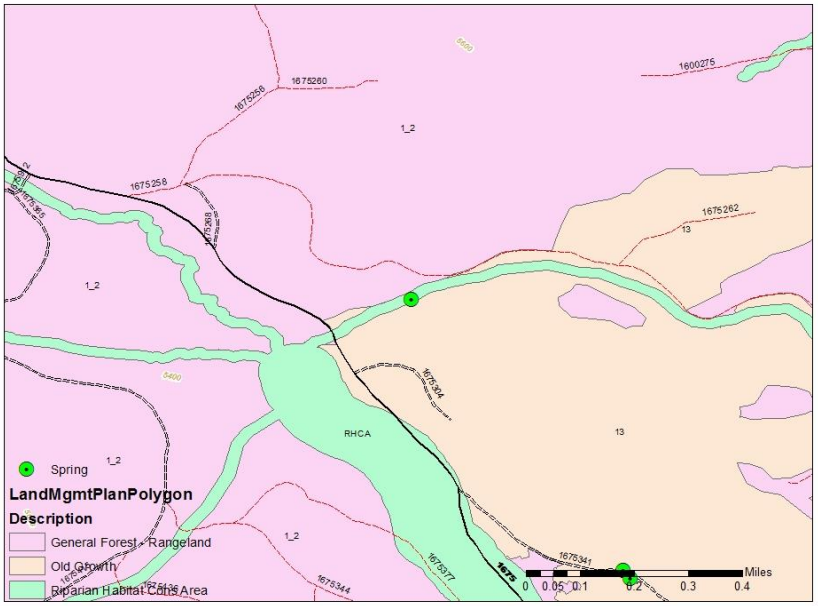




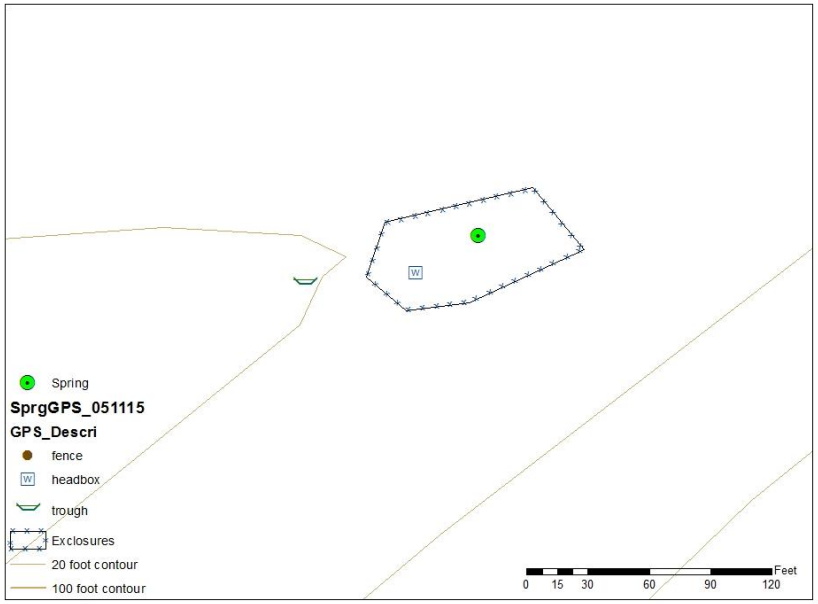
BC 3 Springs

Very low flow. Spring temperature @ 1340 was 43ºF. May need to perk the springs to get adequate flow to trough. Head box would be placed at downstream end of pond. Pond is heavily silted in with very low diversity of riparian vegetation, likely due to hoof action and grazing impacts. Pond would be fenced to allow for veg recovery. Perking the springs may reduce recovery, but there would not likely be a loss of present diversity of vegetation. May not be sufficient surface flow for spring and trough to maintain present saturated soils without a float valve at the trough. Trough would be place as close to head box as possible, though presently proposed at approximately 40 ft. Due to low flow drainage would likely go dry for these 40 feet. What riparian vegetation is present is not continuous downstream. Flow from pond appeared to be less than 300 ft. Drainage has minimal riparian veg between the pond and Bear Creek. Trough would be very close to drainage so ground around the trough may have to be hardened. Since the near surface ground water and riparian vegetation can be maintained, this project would fit category 9 of the Aquatic restoration EA. This is assuming there are no negative effects to TES botanical species.

BC 3 Springs (1:10,000)



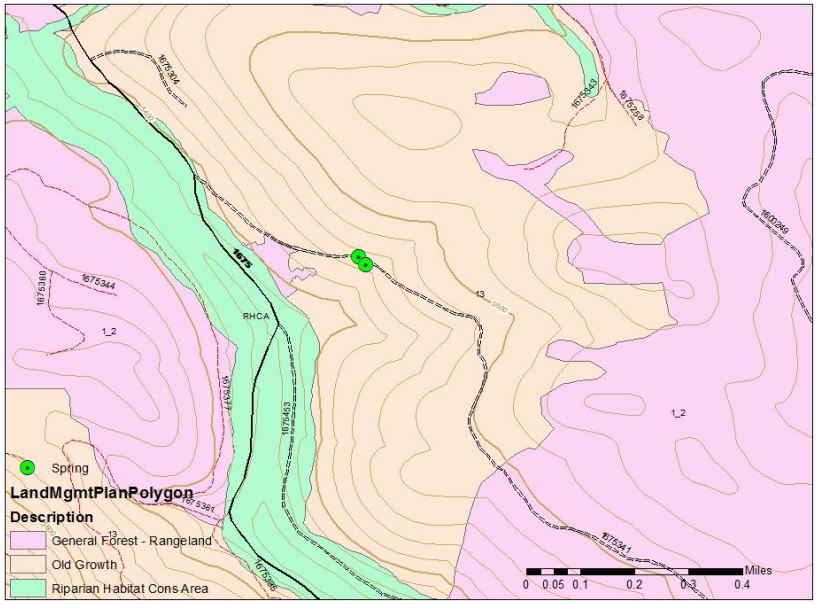
BC 3 Springs (1:500)



<u>BC 1 and 2 Springs</u>

Very low flow in BC 1 and moderately low flow in BC 2. Spring temperature @ 11420 was 50°F at BC 2. Springs are closely associated with the road prism. Proposal is to put a head box and trough for BC 2, but just protect the spring and riparian area at BC 1. Both springs are likely connected. Distance from proposed head box to trough is approximately 25 ft. Effect of surface saturation would likely be within this distance. Likely to be adequate near surface ground water to not measurably affect riparian vegetation. Would not need to perk springs to get adequate flow to trough. Hoof action and grazing impacts are visible. This project would fit category 9 of the Aquatic restoration EA. This is assuming there are no negative effects to TES botanical species.

BC 1 and 2 Springs (1:10,000)



BC 1 and 2 Springs (1:500)