



2016 Road Survey Report

During our 2016 citizen science surveys of road and culvert conditions in the Gifford Pinchot National Forest, we collected data on over 22 miles of roads and 157 culverts in the Trout Creek watershed and Iron Crystal Planning Area. The collection of this valuable information and the restoration initiatives that are planned as a result would not be possible without the hard work of our dedicated volunteers. This report aims to briefly outline the findings and recommendations. It includes summary information, detailed maps, and tables of the collected field data, all of which highlight the information that is to be used for stream restoration and roads planning.

Select Summaries and Recommendations

The full suite of information on roads and culverts can be found in the Appendix, and we will highlight several priority areas below.

NF-2515: Largely within a Riparian Reserve, this road has numerous areas in need of restoration. About 1.5 miles from where the NF-2515 meets the NF-25 there is a bend in the road that has two culverts that are completely plugged. These blocked culverts are contributing to the severe erosion on the road. Restoration on culverts [141](#) & [146](#) is strongly recommended. Road 2515 closely follows Fourmile Creek along almost its entire stretch. Current fish presence in Fourmile Creek is not known, but this creek and several other creeks that are crossed by 2515 flow into Iron Creek to the east, which is home to coho and steelhead. Restoration along 2515 would benefit aquatic species in Fourmile Creek as well as coho and steelhead living in Iron Creek. Bentham Creek, which lies 0.5 miles to the north of the road and approximately 300 feet away from several roads that branch off from 2515, contains populations of cutthroat trout. This road crosses through the middle of a northern spotted owl circle, a species that benefits from relatively low road densities. With the hydrological issues found along this road and the species that would benefit from restoration efforts, we recommend replacing the culverts that are not functioning yet occurring along needed road segments and closing the road segments that are less needed yet impacting wildlife and fish populations.

NF-2516: This road has at least four blocked culverts ([93](#),[94](#),[95](#),[96](#)) where the NF-021 and NF-2516 meet; these blocked culverts are contributing to the significant amount of erosion observed along this road. Two large collections of trash warrant an initial cleanup visit. The views along this road are truly spectacular, and the landscape is a unique mix of silver fir forest and rolling hills of native grasses. We feel this area should be protected and that the management units along its stretch be removed from consideration for logging. Moreover, this area is a prime candidate for expanding recreational opportunities with new hiking trails that can connect to the trails and recreation areas (near Mount St. Helens) on the western side of Strawberry Peak. This would align with Land Resources Management Plan (LRMP) objectives and would help support

isolated recreation opportunities in the face of growing population numbers. New opportunities for recreation also offer long-term support for local economies.

NF-021 and NF-2517: Road 021 is crossed by many small streams and is blocked at 0.5 miles (where it meets NF-2517) by an impassable stream and defunct culvert that is affecting stream flow. Confirmed observation of pika (117) suggests the possibility of a local population. Healthy patches of old-growth forest is present along this road and several trees measure >69" DBH (118). We recommend keeping 2517 closed at its intersection with 2517, yet repairing the large and smashed culvert that is disrupting streamflow in Big Creek, which is home to resident rainbow trout and an important tributary of Iron Creek. We recommend outlining specific protection measure for the oldest forest areas around these roads, thinning the areas of dense second growth, and following up on our observation of pika with a monitoring effort aimed at recording habitat use for improving our understanding of potential climate impacts to the species.

NF-2518: There are many obstructed culverts along this road as well as a fairly consistent presence of erosion. Road gets very narrow at several points (< 10 ft.), and there is heavy encroachment of brush on the road. This road parallels Hemlock Creek, which runs into fish habitat areas in Wakepish Creek and Iron Creek. This road intersects the buffer of a northern spotted owl nest site. Due to impacts and the sheer amount of stream crossings, this road is a priority road for closing or decommissioning.

NF-224: One blocked culvert (149) were found along NF-224. Several fallen trees and poor road maintenance limit vehicle movement along this road. Priority road for maintenance and repair.

NF-418: Large earthen mound makes blocks access approximately half mile after entrance (53); large amounts of trash were found before the blocked access.

NF-33: There is evidence of two different beargrass harvesting sites (33 & 39) and related trash and disturbance. There are several road obstacles and significant erosion obstructing this road. Three blocked culverts (36,44,84) were found along the stretches we surveyed. This is an important access road and should be a priority for repair and continued maintenance. NF-33 crosses Compass Creek (where a large floodplain exists and which serves as habitat for steelhead), parallels Layout Creek (one of the other local creeks that are home to steelhead), and crosses an unnamed creek (with rainbow trout).

NF-3301: Except for one plugged culvert (68) along this stretch of road, culverts are in good condition. There are, though, several areas with excessive amounts of trash (42,43,48) and a small patch of scotch broom (54). There is also evidence of a closed road being regularly used (49). Since this road contains many stream crossings and parallels Compass Creek, home to a population of steelhead, it should be regularly monitored for blocked culverts and other watershed impacts.

NF-42: Blocked culverts were found in three locations (13,14,21). Fallen trees, erosion, and encroaching vegetation all obstruct this road. Heavy impact from firewood collection was observed, however it appears to be within planned firewood harvest areas (12). NF-42 parallels streams with steelhead. This road is an important access road so should be considered as a priority road for repair and maintenance to support access and decreases impacts to fish and aquatic systems.

Debris in the forest

During the year, we hauled out and disposed of approximately **two full truckloads of trash** that we found while surveying forest roads. Most of this trash was taken to areas where we could separate the trash and recycle the bottles and cans. There were occasions when our teams were not able to pick up the trash due to either size of an object or the sheer amount of trash in a particular site. In these cases, we have marked the locations in our data collection system to help the Forest Service in identifying where dumping is occurring and cleanup efforts are needed. Many of the occurrences of trash are noted in the “Notes” table and indicated in yellow on the maps.

Similar to last year, we observed many negative impacts around sites that were used for beargrass harvesting (i.e., trash and trespassing with automobiles). We recommend establishing new guidelines for beargrass harvesting permits and requiring educational documents to be given to harvesters to increase awareness and to decrease these negative impacts. A little knowledge can go a long way in making a difference.

Culverts summary

We encountered ten culverts with *outlets* that were 100% plugged, five that were 75% plugged, and five that were 50% plugged (percentages were rounded up or down to the nearest quarter). We encountered seven culverts with *inlets* that were 100% plugged, three 75% plugged, and eleven that were 50% plugged. Some of the roads that contained substantially blocked culverts also had severe erosion, much of which was directly related to the blocked culverts. These roads should be priority restoration sites since the impact to streams is double: from fragmentation (blocked culverts) and sedimentation (erosion). Object IDs listed below can be referenced in the associated maps to identify where each of these culverts are located, and therefore, to prioritize the stream culverts most in need of restoration.

Priority Culverts

1. Object IDs for culverts with an inlet or outlet ~100% blocked

- 13
- 14
- 21
- 36
- 44
- 68
- 84
- 93
- 94
- 95
- 96

- 141
- 143
- 146
- 149

2. Object IDs for culverts with an inlet or outlet ~50% or 75% blocked

- 4
- 17
- 19
- 27
- 28
- 43
- 47
- 63
- 67
- 87
- 99
- 105
- 106
- 111
- 118
- 122
- 128
- 132
- 147
- 159

Full list of National Forest roads surveyed in 2016

1. 2515
2. 2516
3. 021
4. 2518
5. 224
6. 418
7. 33
8. 3301
9. 42

Maps and Tables

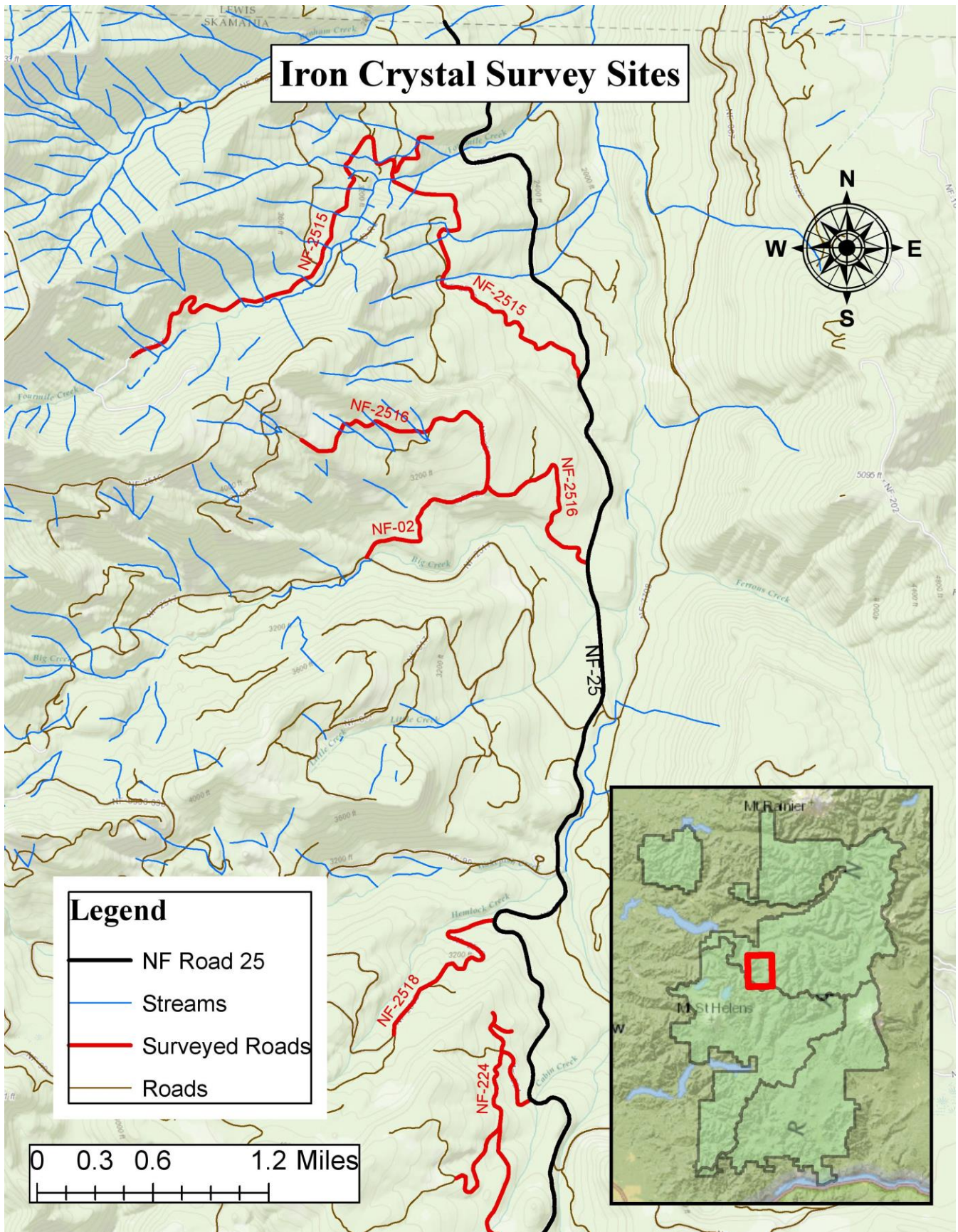
Perhaps most important for interpreting the findings of this report are the 14 maps and two associated tables; these are found in Appendix A and Appendix B, respectively. On the “culvert

survey” maps, the blue numbers correspond to a row in the associated culvert table (Appendix B). On the road “notes” maps, the purple numbers correspond to their own logged data in the table. Each map is labeled as either “Culvert Survey” or “Notes.” These titles delineate which table to refer to.

Instances of erosion are found in the “Notes” table, in the right-hand column of the “Culvert” table, and on the maps. The map icons provide a visual reference for priority culverts as well as identifying the particular categories of observations noted along the surveyed roads. The icons on the maps are layered and therefore some icons are hidden underneath another, which happens when two observations (e.g., culvert *and* trash) are recorded at the same location. In these instances, the number associated with the bottom icon is still displayed on the map, and therefore, the observation and the associated data are still able to be referenced.

All data recorded and mapped through this work were collected on iPads using the ArcGIS Collector system. We designed the data collection system to match our previously created road survey forms, which were created in collaboration with partners and Forest Service staff.

Appendix A: Maps

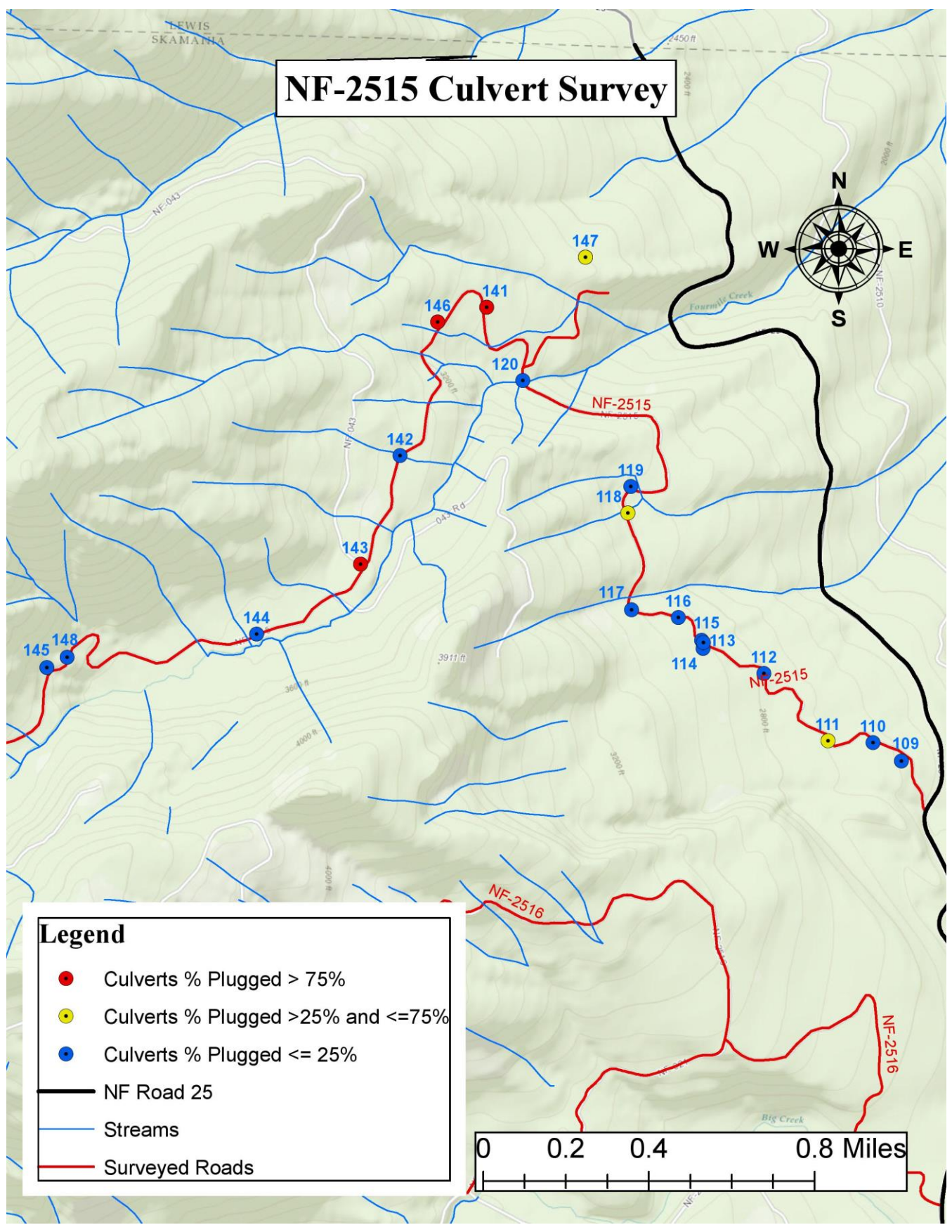
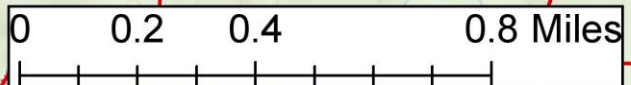


NF-2515 Culvert Survey

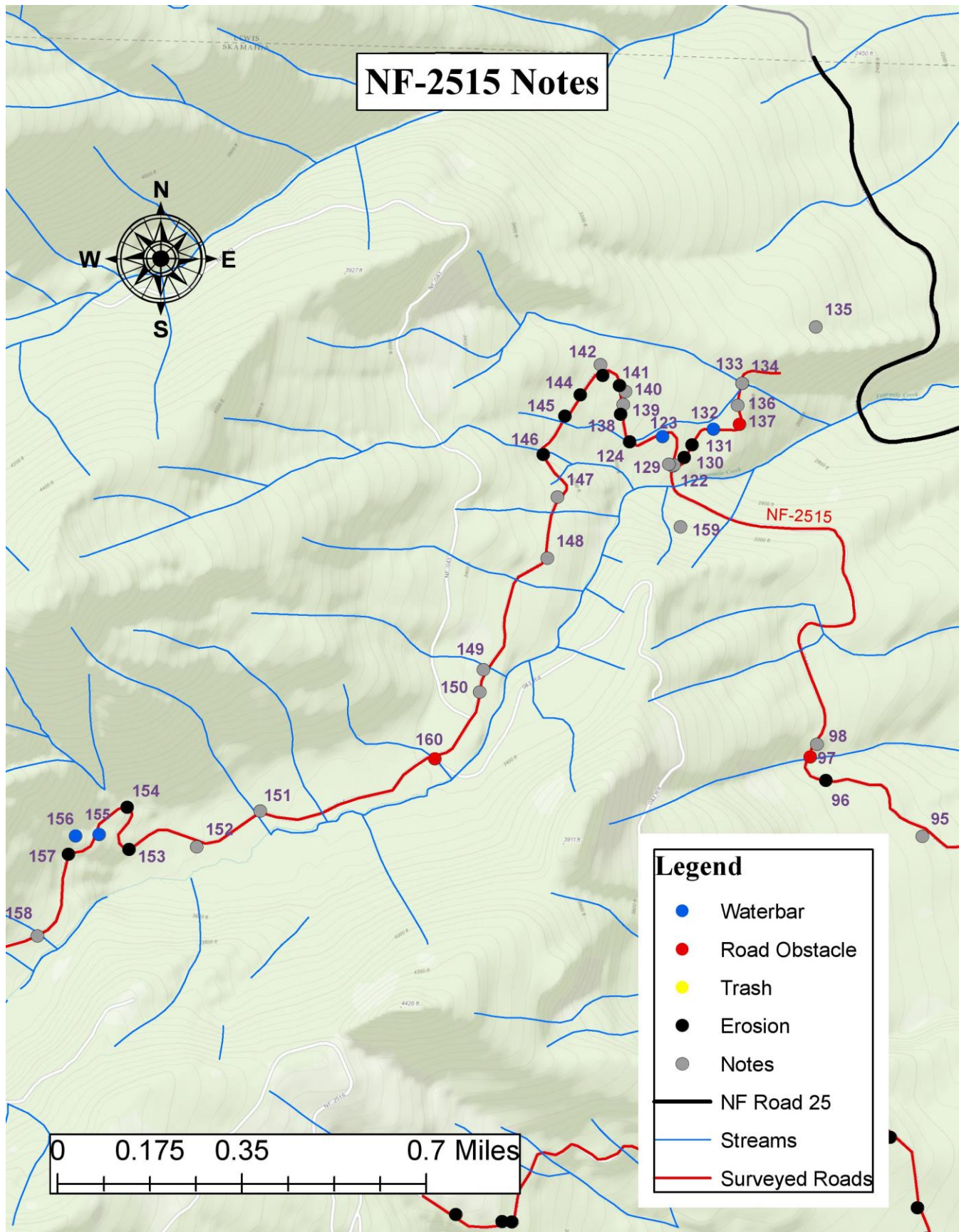


Legend

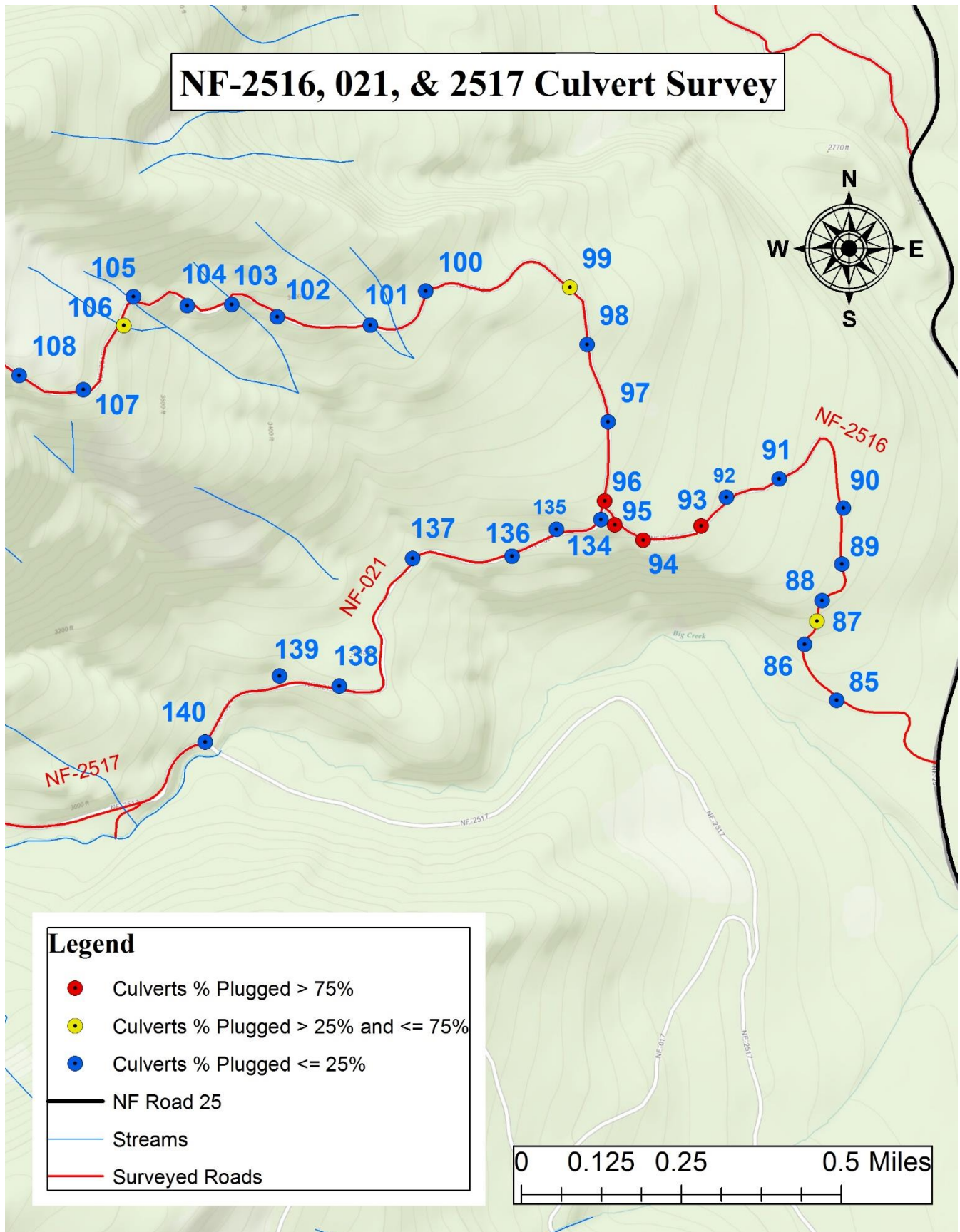
- Culverts % Plugged > 75%
- Culverts % Plugged >25% and <=75%
- Culverts % Plugged <= 25%
- NF Road 25
- Streams
- Surveyed Roads



NF-2515 Notes



NF-2516, 021, & 2517 Culvert Survey

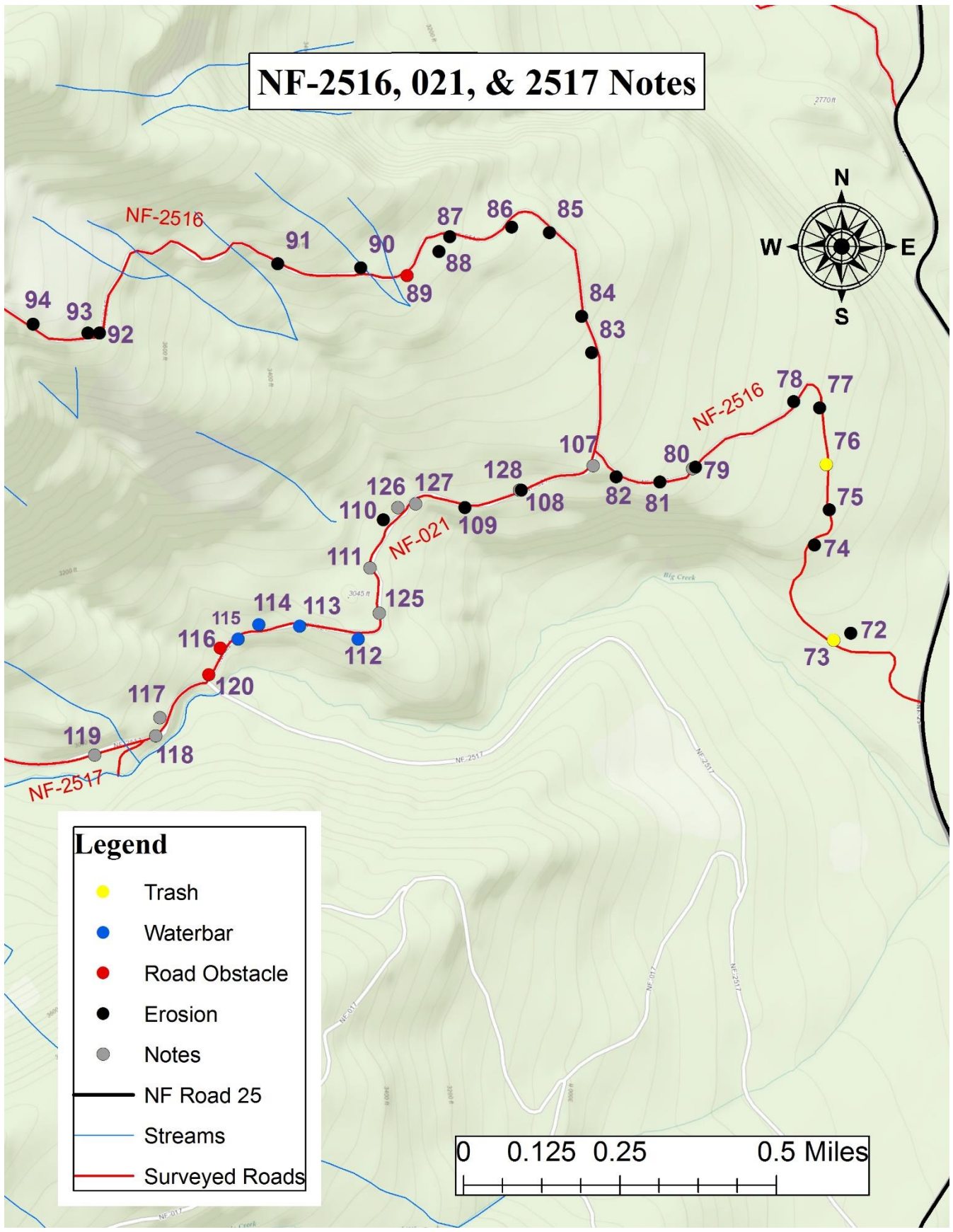
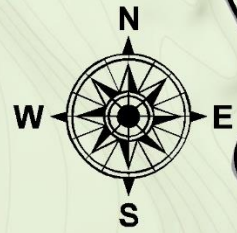


Legend

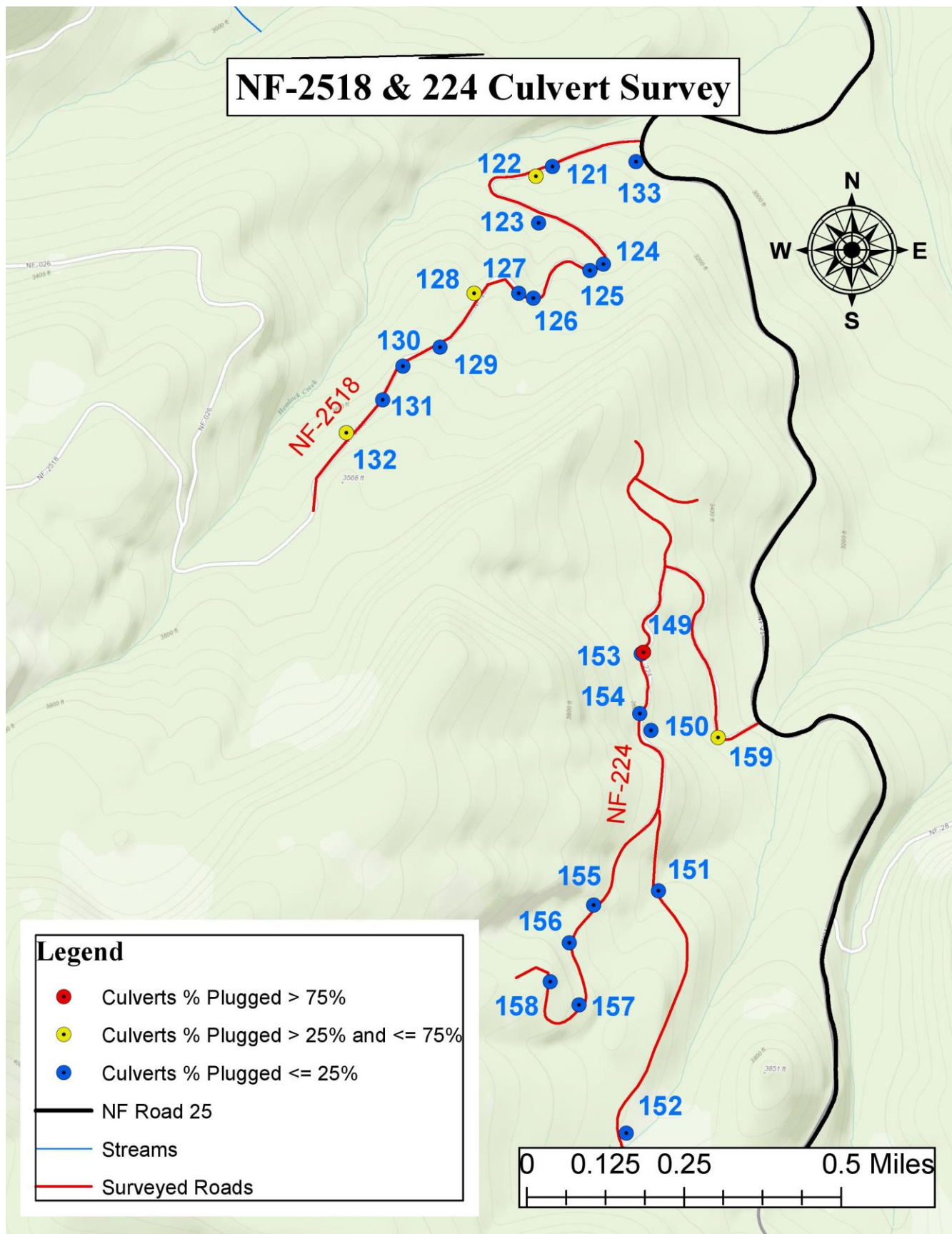
- Culverts % Plugged > 75%
- Culverts % Plugged > 25% and <= 75%
- Culverts % Plugged <= 25%
- NF Road 25
- Streams
- Surveyed Roads

0 0.125 0.25 0.5 Miles

NF-2516, 021, & 2517 Notes



NF-2518 & 224 Culvert Survey



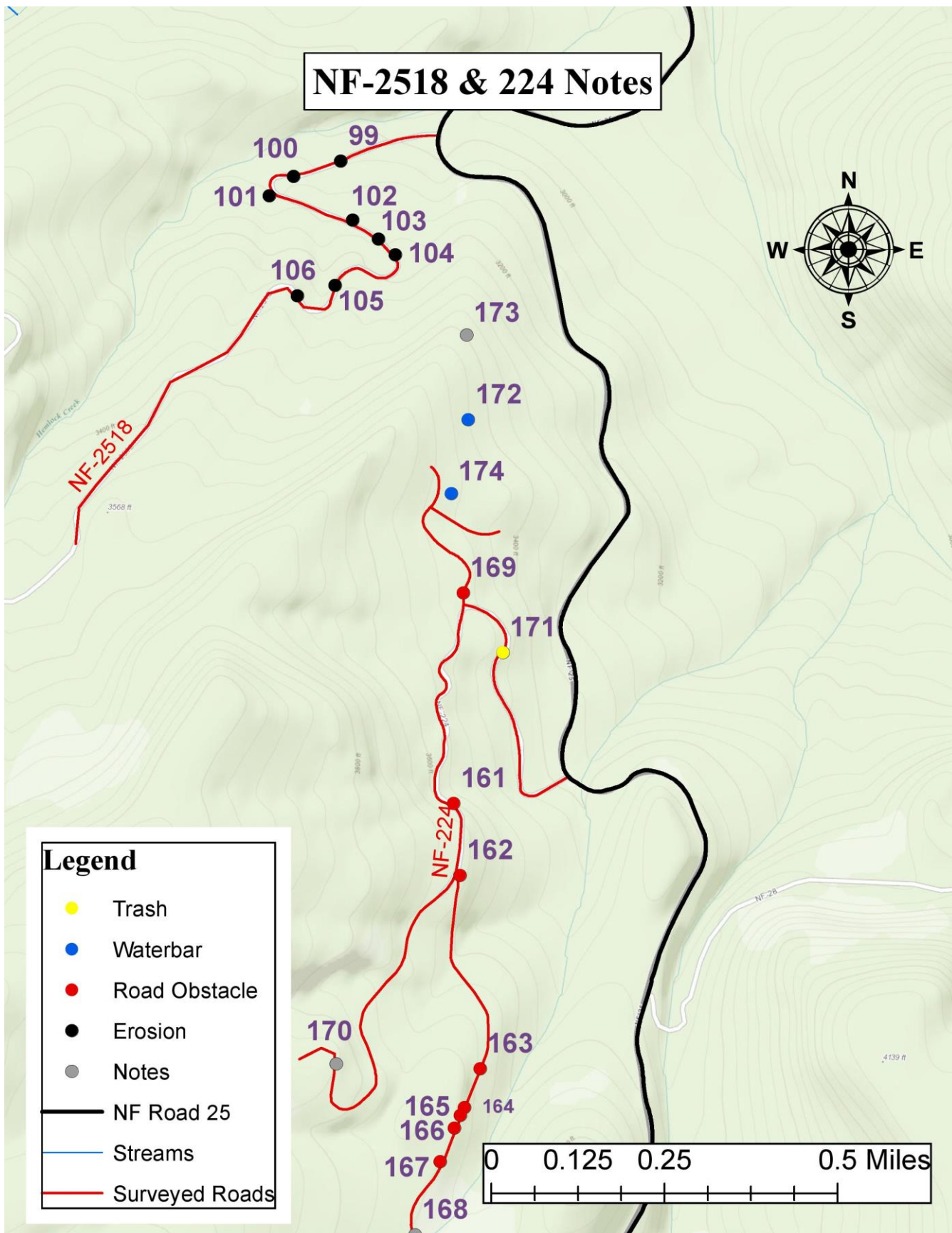
NF-2518 & 224 Notes



Legend

- Trash
- Waterbar
- Road Obstacle
- Erosion
- Notes
- NF Road 25
- Streams
- Surveyed Roads


0 0.125 0.25 0.5 Miles




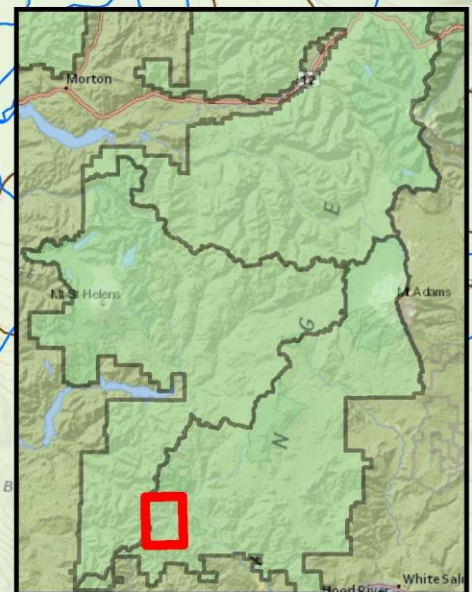
Trout Creek Survey Sites



Legend

-  Streams
-  Surveyed Roads
-  Roads

0 0.3 0.6 1.2 Miles

A horizontal scale bar with tick marks at 0, 0.3, 0.6, and 1.2 miles.

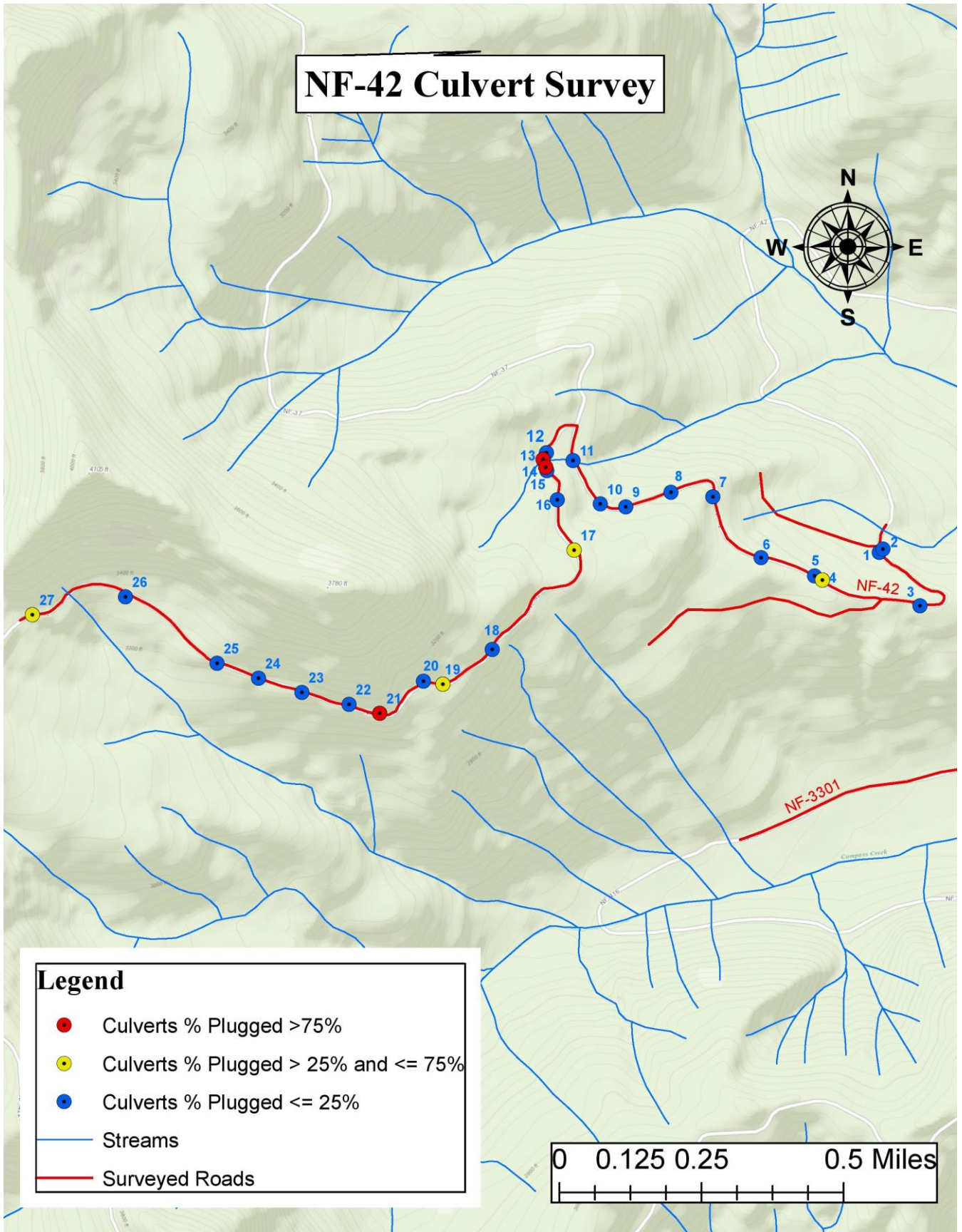
NF-42 Culvert Survey



Legend

- Culverts % Plugged >75%
- Culverts % Plugged > 25% and <= 75%
- Culverts % Plugged <= 25%
- Streams
- Surveyed Roads

0 0.125 0.25 0.5 Miles



NF-42 Notes

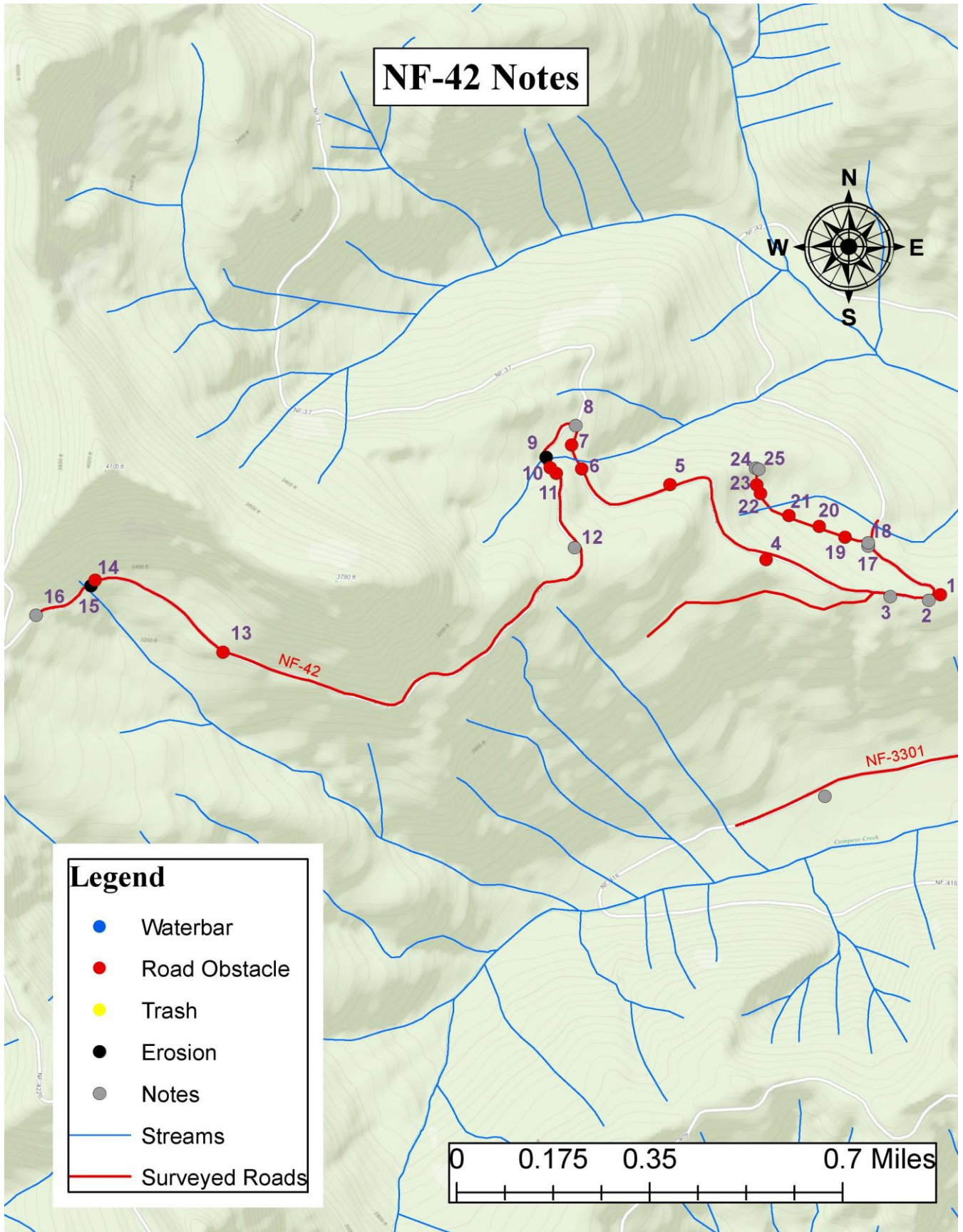


Legend

- Waterbar
- Road Obstacle
- Trash
- Erosion
- Notes
- Streams
- Surveyed Roads

0 0.175 0.35 0.7 Miles

A horizontal scale bar with tick marks at 0, 0.175, 0.35, and 0.7 miles.



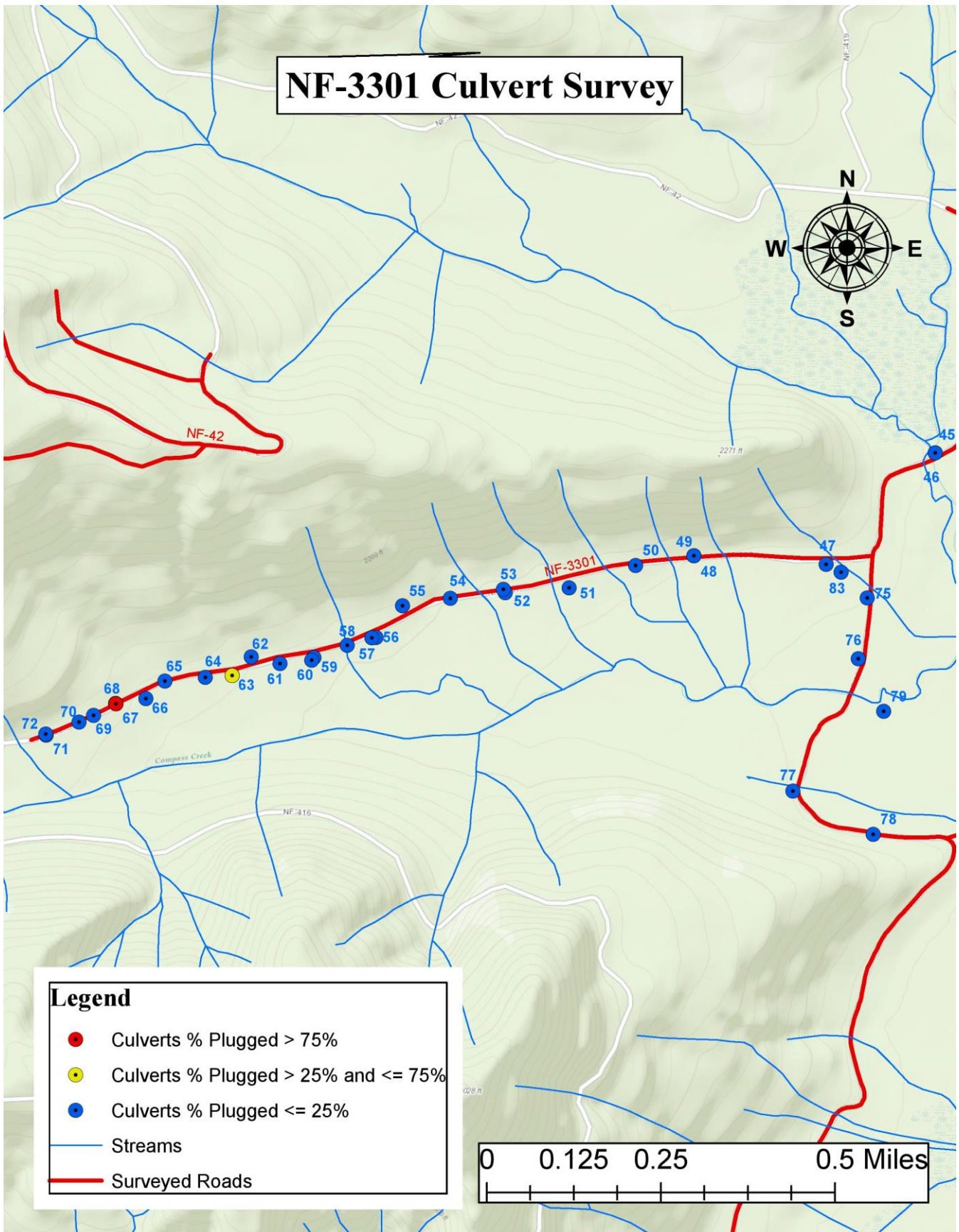
NF-3301 Culvert Survey



Legend

- Culverts % Plugged > 75%
- Culverts % Plugged > 25% and <= 75%
- Culverts % Plugged <= 25%
- Streams
- Surveyed Roads

0 0.125 0.25 0.5 Miles



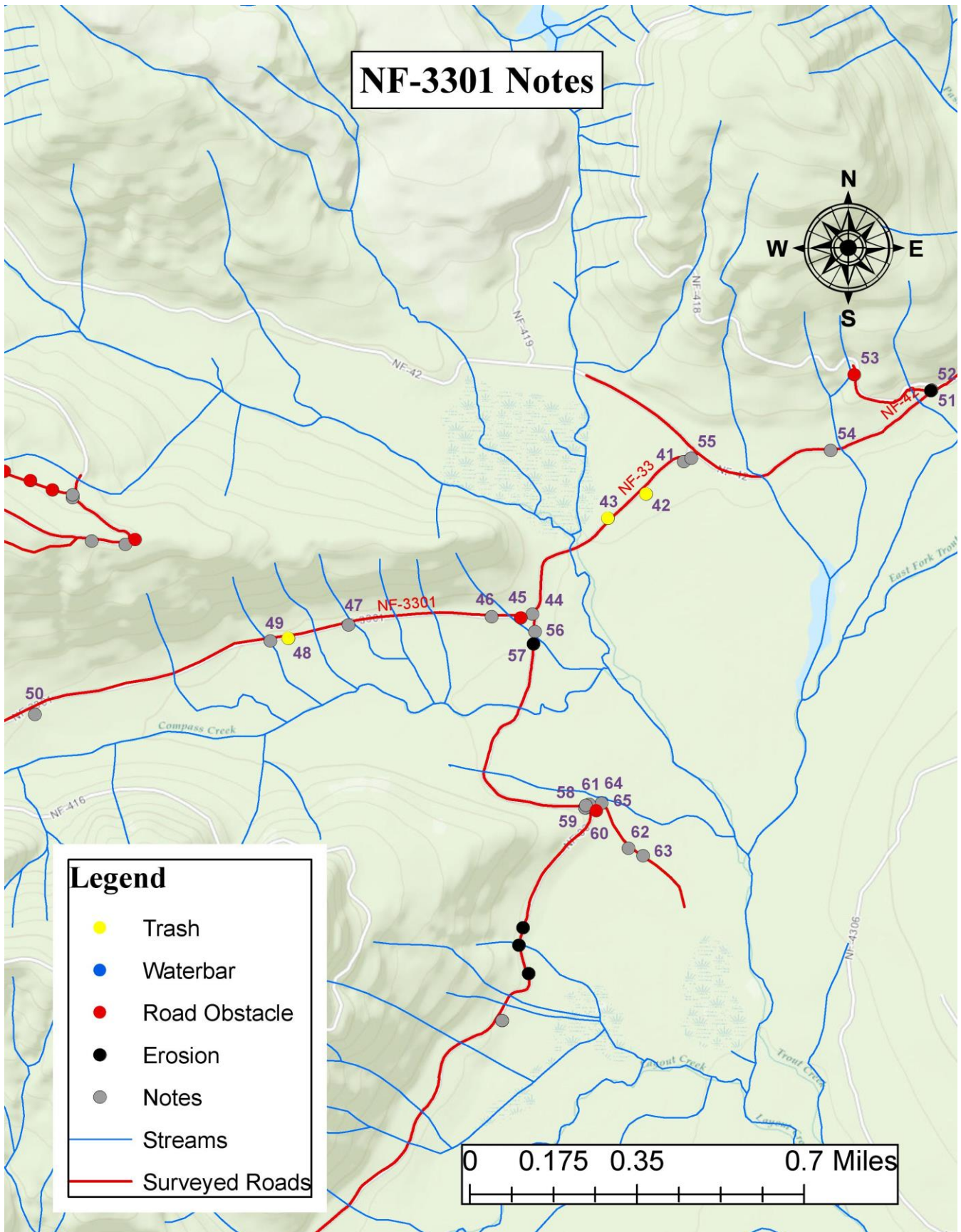
NF-3301 Notes



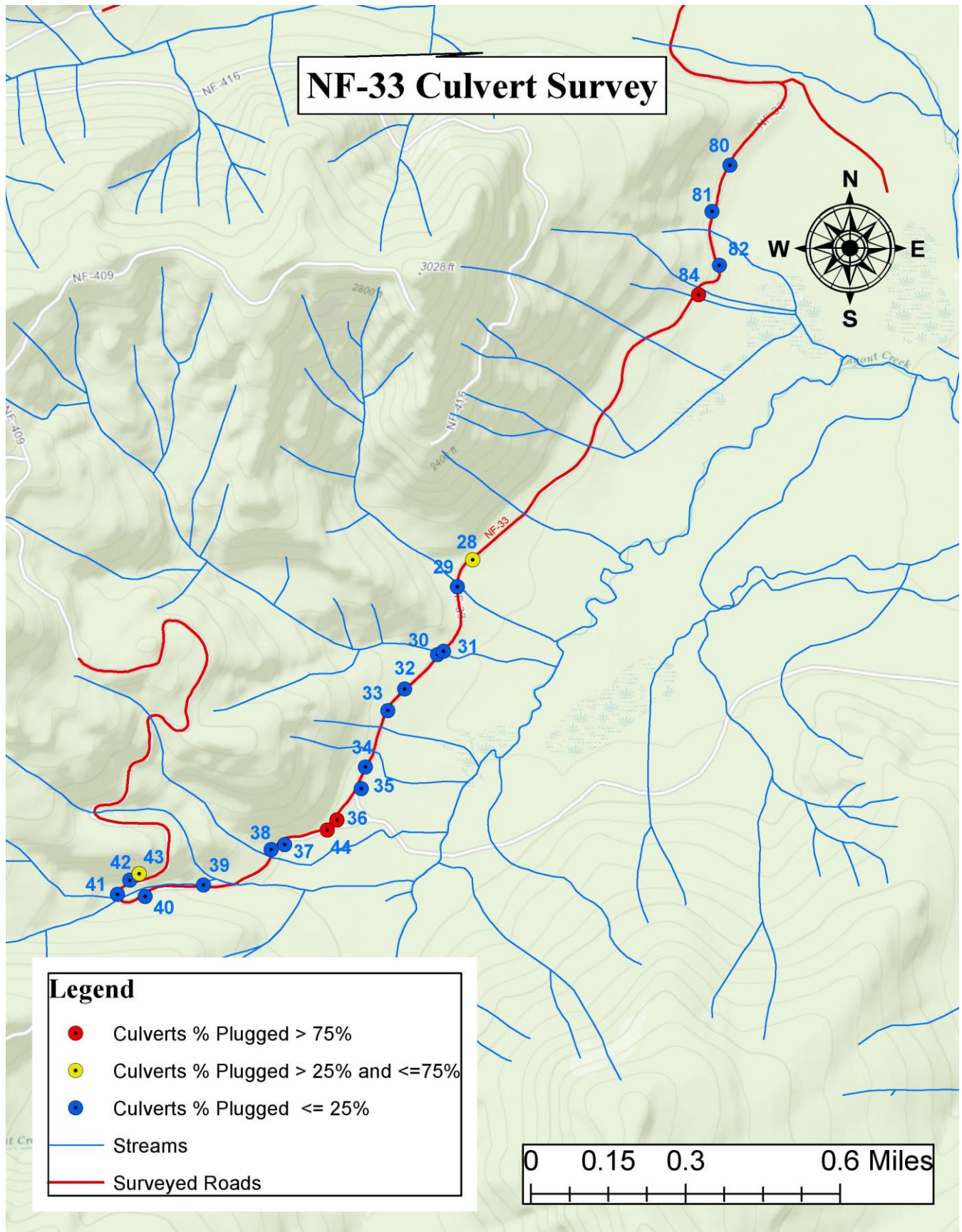
Legend

- Trash
- Waterbar
- Road Obstacle
- Erosion
- Notes
- Streams
- Surveied Roads

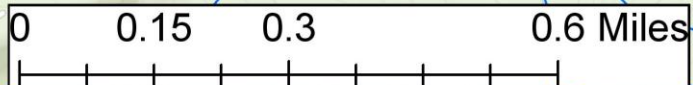
0 0.175 0.35 0.7 Miles



NF-33 Culvert Survey

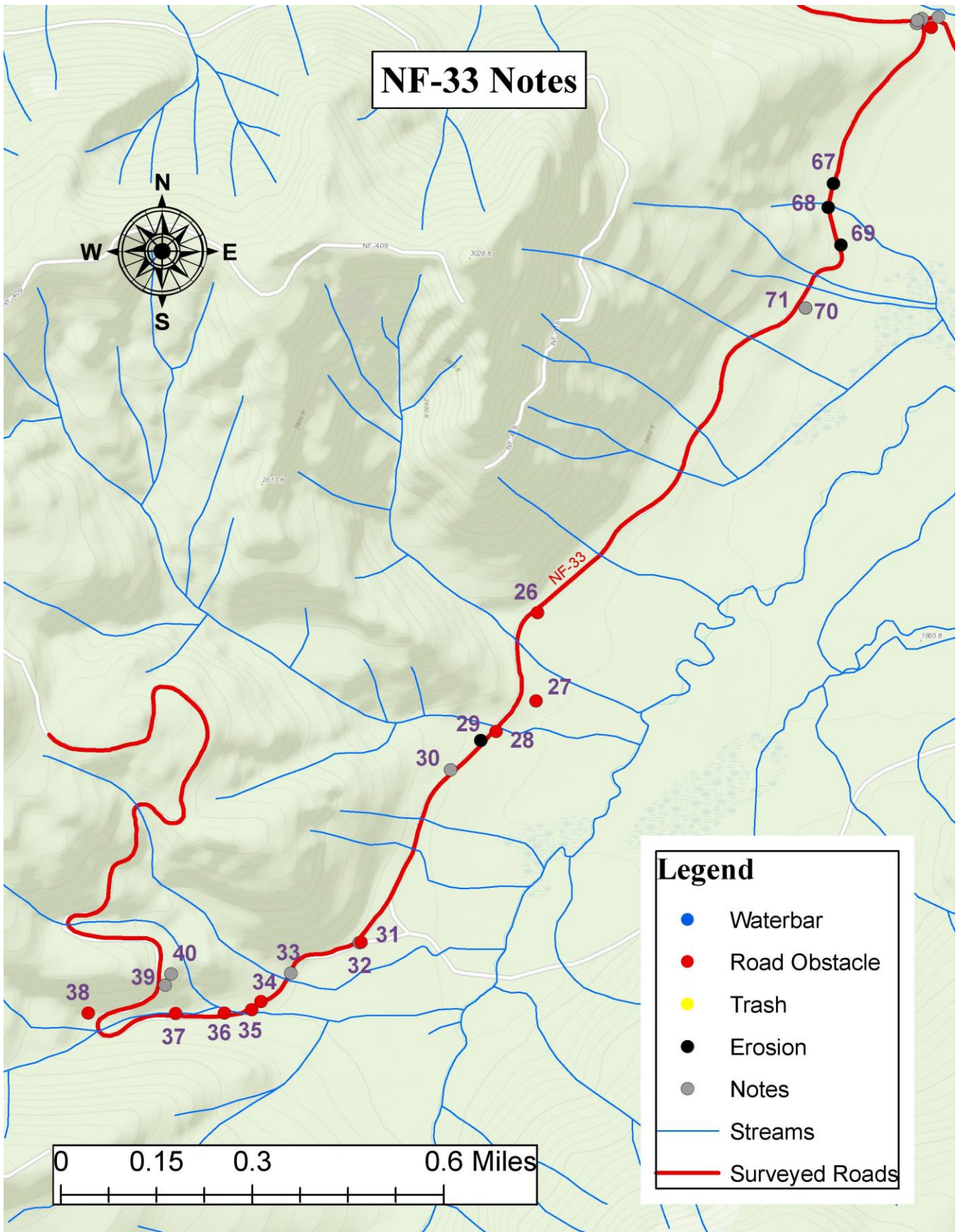


NF-33 Notes



Legend

- Waterbar
- Road Obstacle
- Trash
- Erosion
- Notes
- Streams
- Surveyed Roads



Appendix B: Tables

Culvert Surveys

Object ID	Culvert Diameter	Depth to Inlet	Depth to Outlet	% of Inlet Plugged	% of Outlet Plugged	Width of Road	Road Grade	Notes
1	16"	14"	28"	0%	0%	20'	Up	
2	16"	8"	19"	0%	0%	20'	Up	
3	16"	15"	13"	25%	25%	0'		Cleared gravel from culvert outlet
4	12"	3"	42"	0%	50%	17'	Up	Tree fell on steel culvert and crushed it
5	16"	6"	30"	25%	0%	14'	Up	
6	18"	42"	10"	25%	25%	13'	Up	Cleared outlet
7	16"	6"	48"	25%	0%	19'	Up	Erosion at outlet
8	16"	12"	12"	0%	0%	15'	Up	Erosion at outlet
9	18"	9"	36"	0%	0%	14'	Up	
10	36"	9"	48"	0%	0%	12'	Up	
11	24"	48"	72"	0%	0%	14'	Up	Cleared debris from culvert
12	16"	1"	10"	0%	0%	15'	Up	
13	16"	1"	36"	0%	100%	15'	Up	Pool of water and silt
14	24"	24"	40"	100%	0%	13'		
15	16"	12"	36"	0%	0%	13'	Up	2 culverts with pink flag and road erosion
16	18"	12"	24"	0%	0%	14'	Up	
17	16"	18"	38"	0%	75%	14'	Up	
18	16"	10"	40"	25%	0%	11'	Up	
19	16"	18"	18"	25%	50%	15'	Up	Side road culvert
20	16"	4"	36"	0%	0%	15'	Up	Side road culvert
21	16"	9"	0"	25%	100%	15'	Up	
22	16"	12"	18"	25%	0%	14'	Up	
23	18"	12"	24"	25%	0%	11'	Up	Sheared off pipe
24	16"	18"	20"	0%	0%	13'	Up	Eroding underneath
25	24"	18"	20"	0%	0%	13'	Up	
26	16"	14"	52"	25%	0%	12'	Up	
27	16"	40"	60"	50%	25%	14'	Up	
28	36"	16"	24"	75%	0%	17'		Culvert washed out, debris, erosion
29	24"	24"	24"	25%	25%	17'	Flat	
30	16"	30"	36"	25%	0%	0'	Flat	Outlet dented, inlet was totally covered with debris
31	24"	12"	24"	0%	0%	16'	Flat	Inlet opening covered, but not blocked. Corrosion on top of inlet pipe.
32	48"	24"	12"	0%	0%	14'	Flat	
33	18"	16"	22"	25%	0%	12'	Flat	Inlet was covered with sticks.
34	18"	10"	30"	0%	0%	13'	Up	
35	18"	18"	27"	0%	0%	12'	Up	
36	18"	16"	29"	100%	75%	0'	Up	Inlet is plugged. Second bent metal culvert or road marker found there too.
37	24"	21"	22"	25%	25%	13'	Up	Outlet opening is crushed into oval
38	36"	25"	30"	25%	0%	0'	Flat	
39	48"	10"	15"	0%	0%	14'	Up	
40	Other	7"	7"	0%	0%	13'	Up	

Object ID	Culvert Diameter	Depth to Inlet	Depth to Outlet	% of Inlet Plugged	% of Outlet Plugged	Width of Road	Road Grade	Notes
41	Other	60"	60"	0%	0%	13'	Up	
42	18"	0"	28"	0%	0%	14'	Up	
43	18"	30"	24"	50%	0%	16'	Up	Inlet is flattened into a square-like shape
44	18"	12"	0"	100%	100%	18'	Flat	Inlet is crushed, outlet is covered by a tree. We weren't able to measure the outlet at all.
45	36"	18"	36"	0%	0%	16'		
46	Other	48"	55"	0%	0%	14'		
47	16"	26"	18"	50%	0%	8'		
48	16"	10"	17"	25%	0%	8'		
49	16"	10"	17"	25%	0%	8'		
50	18"	8"	32"	0%	0%	8'		
51	18"	16"	23"	0%	0%	8'		
52	16"	30"	40"	0%	0%	8'		
53	16"	24"	44"	25%	0%	8'		
54	18"	17"	27"	0%	0%	8'		
55	18"	18"	39"	0%		8'		
56	16"	20"	33"	0%	0%	8'		
57	18"	12"	43"	0%	0%	8'		
58	18"	23"	21"	25%	0%	8'		
59	18"	18"	27"	25%	0%	8'		
60	24"	10"	30"	0%	25%	8'		
61	18"	8"	18"	0%	0%	8'		Water running through June 18
62	18"	8"	18"	0%	25%	8'		
63	18"	12"	36"	0%	75%	8'		
64	24"	17"	15"	0%	0%	8'		
65	24"	8"	20"	0%	0%	8'		
66	18"	15"	12"	0%	0%	8'		
67	18"	18"	24"	50%	0%	8'		
68	18"	13"	19"	100%	0%	0'		
69	24"	19"	22"	0%	0%	8'		
70	18"	12"	41"	0%	0%	8'		
71	18"	32"	20"	0%	0%	0'		
72	16"	15"	22"	0%	0%	8'		
73		0"	0"			0'		
74	Other	96"	144"			11'	Up	20" diameter culvert
75	24"	9"	12"		0%	11'		Invasive horsetail is present
76	18"	0"	24"		0%	13'		6 in. Drop to pool. 8'x8' pool. Inlet concealed.
77	24"	12"	24"	0%	0%	15'		
78	18"	20"	96"			12'	Down	Inlet/outlet plugged 10%. Cleared both.
79	16"	24"	48"	0%	0%	16'		
80	16"	12"	24"	25%	0%	14'	Down	Culvert bent
81	18"	24"	36"	0%	0%	14'	Down	
82	18"	36"	72"	0%		12'	Up	
83	12"	12"	96"			17'	Down	Inlet 10% plugged. Outlet concealed.

Object ID	Culvert Diameter	Depth to Inlet	Depth to Outlet	% of Inlet Plugged	% of Outlet Plugged	Width of Road	Road Grade	Notes
84		0"	48"	100%		13'	Down	Tree fell & plugged culvert
85	16"	12"	48"	25%	25%	14'	Up	
86	18"	12"	48"	0%	25%	15'	Up	
87	18"	12"	72"	0%	50%	0'	Flat	Significant road erosion
88	18"	48"	84"	25%	25%	14'	Up	
89	18"	24"	60"	25%	0%	15'	Flat	
90	18"	6"	24"	0%	25%	15'	Flat	
91	18"	24"	48"	0%	25%	16'	Up	
92	18"	12"	48"	25%	0%	14'	Up	
93	18"	12"	48"	0%	100%	14'	Up	
94	18"	6"	36"	100%	100%	13'	Up	
95	18"	36"	56"	50%	100%	12'	Up	
96	18"	24"	0"	50%	100%	20'	Up	
97	18"	12"	60"	0%	25%	16'	Up	
98	18"	24"	24"	25%	0%	16'	Up	
99	16"	12"	60"	0%	75%	17'	Up	
100	18"	24"	72"	0%	25%	16'	Up	
101	18"	24"	108"	0%	0%	15'	Up	
102	18"	12"	24"	0%	25%	14'	Up	
103	16"	6"	36"	25%	0%	15'	Up	
104	18"	24"	48"	25%	25%	13'	Up	Road erosion
105	18"	24"	132"	0%	50%	16'	Flat	Second culvert at outlet, couldn't reach. Water flowing through
106	16"	24"	48"	50%	0%	14'	Up	Exposed soil, collapsed culvert snapped in half water flowing
107	16"	24"	48"	25%	0%	16'	Up	
108	16"	24"	36"	0%	25%	13'	Up	Significant erosion overland of culvert
109	16"	12"	48"	25%	25%	15'	Flat	
110	18"	24"	60"	0%	0%	16'	Up	Old metal culvert debris
111	18"	0"	48"	50%	0%	14'	Up	Road erosion downslope of culvert
112	18"	0"	36"	25%	0%	12'	Up	
113	24"	60"	72"	0%	0%	14'	Up	Water flowing
114	24"	24"	72"	0%	0%	15'	Up	Water flowing
115	24"	60"	60"	0%	0%	11'	Up	Water flowing
116	16"	24"	72"	25%		19'	Up	Outlet covered by debris
117	18"	60"	120"	0%	0%	10'	Flat	Water flowing
118	16"	48"	72"	50%		13'	Flat	Outlet covered with debris
119	12"	72"	264"	0%	0%	12'	Flat	
120	48"	36"	72"	0%	0%	13'		Fish accessible. 3 identical culverts
121	16"	24"	48"	25%	25%	14'	Flat	
122	36"	24"	36"	25%	50%	10'	Up	Water flowing
123	18"	96"	480"	0%	0%	10'	Up	Water flowing
124	24"	360"	500"	0%	25%	12'	Up	
125	24"	36"	240"	0%	0%	11'	Up	

Object ID	Culvert Diameter	Depth to Inlet	Depth to Outlet	% of Inlet Plugged	% of Outlet Plugged	Width of Road	Road Grade	Notes
126	18"	120"	0"	0%	0%	10'	Up	Water flowing. Outlet depth unknown too far down to locate
127	18"	120"	84"	0%	25%	10'	Up	
128	16"	12"	48"	75%	25%	12'	Up	Road erosion
129	16"	60"	60"	0%	0%	8'	Up	Outlet culvert crushed in
130	16"	12"	36"	25%	25%	10'	Up	
131	16"	24"	60"	25%	25%	9'	Up	Road erosion
132	16"	24"	36"	50%	25%	9'	Up	
133	24"	36"	60"	0%	0%	9'	Flat	Road concave
134	18"	6"	36"	25%	25%	11'		
135	18"	12"	60"	25%	0%	9'	Down	
136	18"	72"	120"	25%	0%	10'	Down	2 foot drop outlet to ground
137		0"	0"			0'		Clear and running, cannot access because too deep
138	24"	12"	24"	25%	0%	8'	Down	
139	18"	12"	36"	0%	0%	0'	Down	
140	48"	0"	0"			0'		Transferring little water; caved and crushed in; stream running east of culvert; avg. pool 7"
141	18"	36"	0"	25%	100%	8'	Up	
142	24"	12"	48"	0%	0%	9'	Up	
143	24"	5"	0"	25%	100%	0'	Up	No outlet found; intersection
144	18"	12"	48"	25%	0%	7'	Flat	
145	18"	12"	72"	0%	0%	8'	Up	
146	18"	0"	160"	100%	0%	8'	Up	
147	18"	0"	96"	75%	0%	0'	Up	
148	18"	12"	18"	0%	0%	8'	Up	
149	16"	48"	0"	50%	100%	11'	Up	
150	16"	12"	48"	25%	25%	11'	Up	
151	36"	60"	120"	25%	0%	6'	Down	
152	24"	24"	48"	0%	0%	0'	Down	
153	18"	48"	72"	25%	0%	11'	Up	
154	16"	24"	18"	0%	0%	11'	Up	
155	36"	72"	144"	0%	0%	8'	Up	
156	18"	3"	36"	0%	0%	10'	Up	
157	48"	24"	72"	0%	0%	7'	Up	
158	48"	24"	24"	0%	0%	10'	Up	
159	16"	12"	24"	0%	75%	15'	Up	

Notes

Object ID	Observation	Notes
1	Rd. Obstacle	Side road blocked
2	Other	Road Significant debris
3	Other	Obscured road sign
4	Rd. Obstacle	
5	Rd. Obstacle	Tree / log over 3 ft. of road width (~15% blocked)
6	Rd. Obstacle	3ft of road width eroded on uphill side
7	Rd. Obstacle	Fallen tree across 3 ft of road
8	Other	Road fork, unclassified route
9	Erosion	Road erosion from culvert bypass
10	Rd. Obstacle	
11	Rd. Obstacle	Fallen tree across 3 ft of road
12	Other	Firewood collection
13	Rd. Obstacle	Brush encroaching on road 4ft
14	Rd. Obstacle	Brush obstructing 4 ft. of road
15	Erosion	Significant erosion
16	Survey Start	Beginning of return trip down past survey points
17	Survey Stop	
18	Survey Start	
19	Rd. Obstacle	
20	Rd. Obstacle	Tree
21	Rd. Obstacle	Many fallen trees
22	Rd. Obstacle	Many fallen trees
23	Rd. Obstacle	Many fallen trees
24	Road End	Cliff top
25	Survey Stop	
26	Rd. Obstacle	
27	Rd. Obstacle	Downed tree
28	Rd. Obstacle	Tree down, wash out on road
29	Erosion	Major erosion along the southwest side of the road.
30	Other	
31	Revegetation	
32	Rd. Obstacle	
33	Landscape	Beargrass harvesting
34	Rd. Obstacle	
35	Rd. Obstacle	
36	Rd. Obstacle	
37	Rd. Obstacle	Erosion
38	Rd. Obstacle	Erosion
39	Landscape	Beargrass harvesting
40	Survey Stop	
41	Survey Start	
42	Trash	
43	Trash	
44	Revegetation	
45	Rd. Obstacle	Open gate

Object ID	Observation	Notes
46	Revegetation	
47	Other	OHV trail, unclassified route
48	Trash	Old junked up culvert
49	Other	Road being used despite blockade. Mountain bikes or OHV maybe.
50	Survey Stop	
51	Survey Start	
52	Erosion	
53	Rd. Obstacle	Earth mounded. Impassable after this point.
54	Invasive Species	Scotch broom; 3 individual plants, 4 ft. Tall, 1 pulled, 2 left on-site
55	Road End	
56	Survey Start	
57	Erosion	Erosion just south of culvert
58	Survey Stop	
59	Survey Start	
60	Rd. Obstacle	
61	Other	Heavy cable on ground
62	Revegetation	
63	Road End	
64	Survey Stop	
65	Survey Start	
67	Erosion	
68	Erosion	
69	Erosion	
70	Survey Stop	
71	Survey Stop	
72	Erosion	Significant road erosion
73	Trash	Significant uncollected trash
74	Erosion	Significant road erosion
75	Erosion	
76	Trash	
77	Erosion	Erosion
78	Erosion	Erosion on road, needs culvert
79	Erosion	Road erosion
80	Other	Barrel in woods, trash
81	Erosion	Significant two lane road erosion for 100 yards
82	Erosion	Erosion
83	Erosion	Cross Erosion
84	Erosion	Erosion
85	Erosion	Light Erosion
86	Erosion	Cross Erosion
87	Erosion	Erosion
88	Erosion	Erosion
89	Rd. Obstacle	Blocked Road
90	Erosion	Significant erosion
91	Erosion	Erosion
92	Erosion	Erosion

Object ID	Observation	Notes
93	Erosion	Significant erosion
94	Erosion	Significant erosion
95	Landscape	Trees cut
96	Erosion	Erosion, visible overland flow
97	Rd. Obstacle	Road blocked
98	Other	No road
99	Erosion	
100	Erosion	Significant erosion
101	Erosion	Erosion, needs culvert
102	Erosion	Erosion, needs culvert
103	Erosion	Significant erosion, needs culvert
104	Erosion	Significant erosion, need culvert
105	Erosion	Significant erosion, need culvert
106	Erosion	
107	Survey Start	
108	Erosion	
109	Erosion	Minor erosion
110	Erosion	No culvert; streambed; minor erosion
111	Other	Streambed with no culvert
112	Waterbar	
113	Waterbar	
114	Waterbar	
115	Waterbar	
116	Rd. Obstacle	3 ft. wide creek running across road; average pool depth 4"
117	Landscape	Rockfall w/ pika; squeaks and observation
118	Other	Old-growth trees; Douglas-fir 69" dbh
119	Survey Stop	
120	Rd. Obstacle	Stream makes road impassable
121	Survey Stop	
122	Survey Start	
123	Waterbar	
124	Erosion	Erosion
125	Landscape	Well-spaced trees, healthy forest
126	Landscape	Dispersed camping observed, low impact
127	Landscape	Long, steep slope for stream
128	Landscape	Small trees and large, vertical canopy 50%+
129	Survey Start	
130	Erosion	Erosion on road
131	Erosion	Erosion on road
132	Waterbar	
133	Landscape	Free flowing stream, in good shape
134	Survey Stop	
135	Revegetation	
136	Landscape	Good biodiversity and regrowth
137	Rd. Obstacle	Road ends, trail begins. Large slash pile.
138	Erosion	Two lane road erosion

Object ID	Observation	Notes
139	Landscape	Thick, dark, small stem forest
140	Landscape	Pocket of wider spaced trees and healthy forest floor
141	Erosion	Significant, two-foot deep erosion
142	Landscape	Cut up forest area, slash on ground, 15% canopy left in place
143	Erosion	Deep erosion on road, two feet crevices
144	Erosion	More deep erosion, four feet deep
145	Erosion	Streambed, beginning of serious erosion, culvert needed
146	Erosion	Minor erosion
147	Landscape	Nice open forest on south side of road
148	Landscape	Pockets of old trees near road
149	Other	Could be culvert, willow too thick to find anything
150	Landscape	More pockets of old trees south side of road
151	Landscape	Two acre meadow area north side of road (possible meadow protection area)
152	Landscape	One acre meadow area south side of road (possible meadow protection area)
153	Erosion	
154	Erosion	
155	Waterbar	
156	Waterbar	
157	Erosion	Erosion above culvert
158	Survey Stop	
159	Survey Start	
160	Rd. Obstacle	Shrubs growing in from side, not driveable
161	Rd. Obstacle	Uneven road, 18" difference
162	Rd. Obstacle	Over vegetation
163	Rd. Obstacle	Fallen tree
164	Rd. Obstacle	Logs
165	Rd. Obstacle	Fallen tree
166	Rd. Obstacle	Fallen tree
167	Rd. Obstacle	Fallen tree
168	Survey Stop	
169	Rd. Obstacle	West-bound road bermed and closed
170	Survey Stop	
171	Trash	Two tires, one mattress, off the right hand side of the road
172	Waterbar	Water runoff, 15 inches wide. Also, several waterbars on the road
173	Road End	
174	Waterbar	Large waterbar, evidence of large amounts of standing water