2006 Joseph Creek Watershed Upland Water Rehabilitation

BPA Contract #00028948
BPA Project #1992-026-01

Completion Report
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Abstract
The 2006 Joseph Creek Watershed Upland Water Rehabilitation Project was successfully completed from July – October, 2006. Twenty-seven new troughs, 15 springboxes, and 3,100 feet of new drainage were installed and nearly two miles of fence constructed at 26 different sites across the uplands of Upper and Lower Joseph Creek watersheds.

Introduction
Throughout the Joseph Creek watershed, water from springs is captured using ponds or troughs to provide upland water for livestock. Over time these sites have become a benefit to the wildlife in the area and are still an important part of livestock management. Often, they were created without adequate drainage. Animal use at the site creates "mudhole" conditions, compromising habitat value and, in some cases, contributing to stream sedimentation during intense thunderstorms. In addition, many of the trough developments are now at the end of their serviceability – time, rusted bottoms, rotten supports and vandalism have compromised their function.

The overall objective of the project is to improve spring site conditions in the Joseph Creek Watershed, thereby improving riparian and upland conditions and continuing implementation of project recommendations developed through the Upper Joseph Creek Watershed Assessment (see also www.wallowaresources.org/ujc_assessment). Many of the sites in this proposal were identified by area permittees as priorities for treatment to improve cattle distribution as described in the range section of the assessment.

This project was designed to improve riparian areas and water quality for threatened steelhead and a variety of other wildlife species within the Joseph Creek Watershed. Twenty-five spring sites were targeted for spring box and trough installation or replacement, trough relocation, and fencing wet or sensitive areas to protect them. These spring site improvements will encourage cattle distribution, pulling use away from riparian areas by offering clean water in the uplands.

Methods and Materials

Methods and materials for each project component are described below (Table 1).

Table 1. Methods and Materials for 2006 Joseph Creek Watershed Upland Water Rehabilitation Project.

Project Component	Materials Description	Accomplished by:
Spring Site Improvement or Development	Map, GPS, wire, poles, steel posts, fence pliers, fence stretcher, spring boxes, troughs, and PVC pipe	USFS seasonal employees and TEC youth crew

Project Description

A comparison of the 2006 original BPA contract tasks and the final accomplishments are listed below in Table 2 and displayed in Figures 1 and 2a-j.

Table 2. Summary of spring site improvements, Joseph Creek, 2006.

Tasks	Location	Date	Final Accomplishments	Original Contract	Difference
Spring Site Improvement or Development	T5N, R45E,Sec.'s 24, 30, 32, 34, 35; T4N, R45E, Sec.'s 4, 5, 8, 9, 14, 15; T4N, R46E, Sec.'s 1, 2, 7, 8, 17; T4N, R47E, Sec.'s 20, 26; T3N, R47E, Sec. 10; T3N, R48E, Sec.'s 9, 30	07/06 – 10/06	26 spring sites	25 spring sites	+1 spring site

Figure 1. Overview map of spring site improvements, Joseph Creek Watershed, 2006.

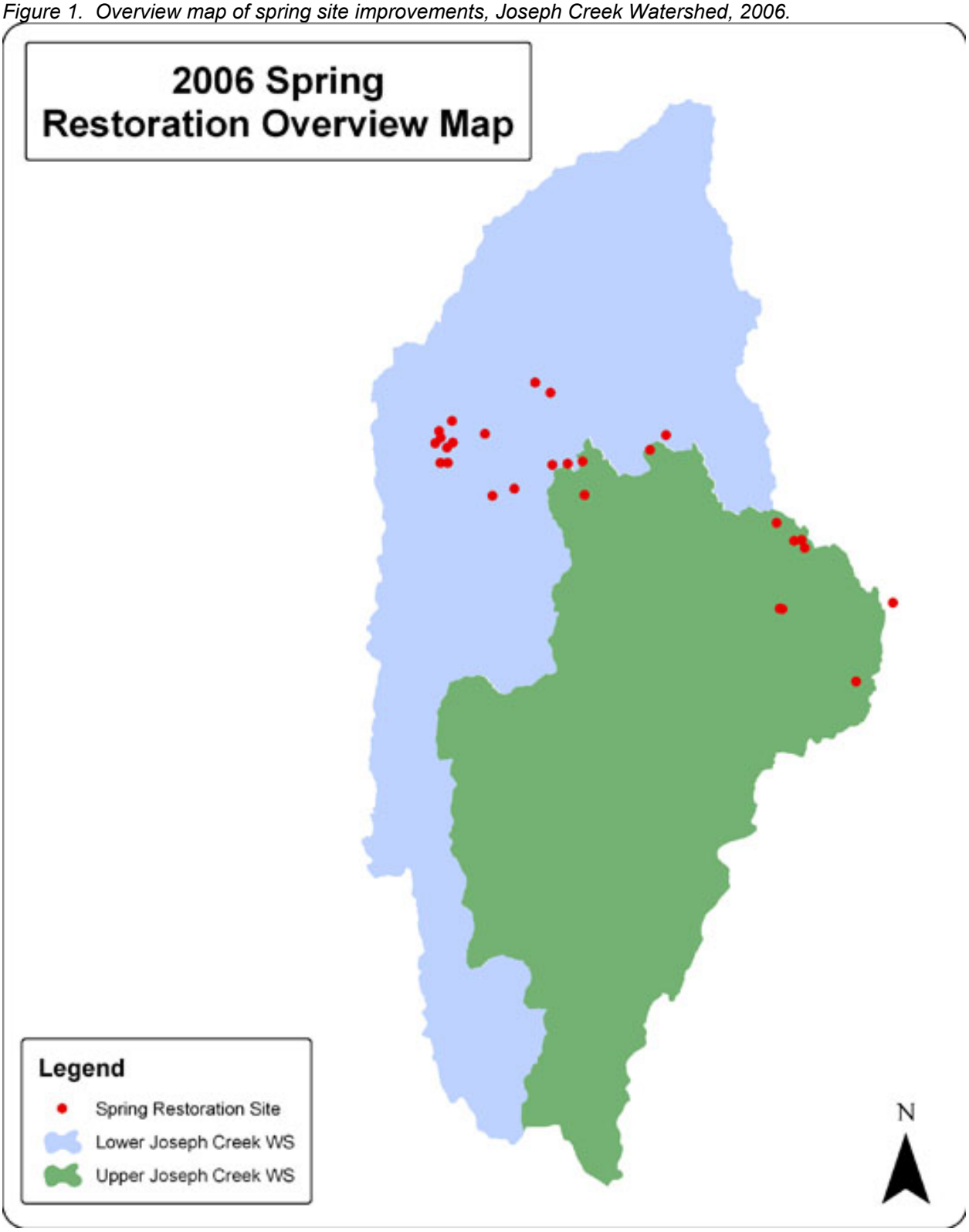


Figure 2a. Detail map of Allen and Hunting Camp #2 spring site improvements, 2006.

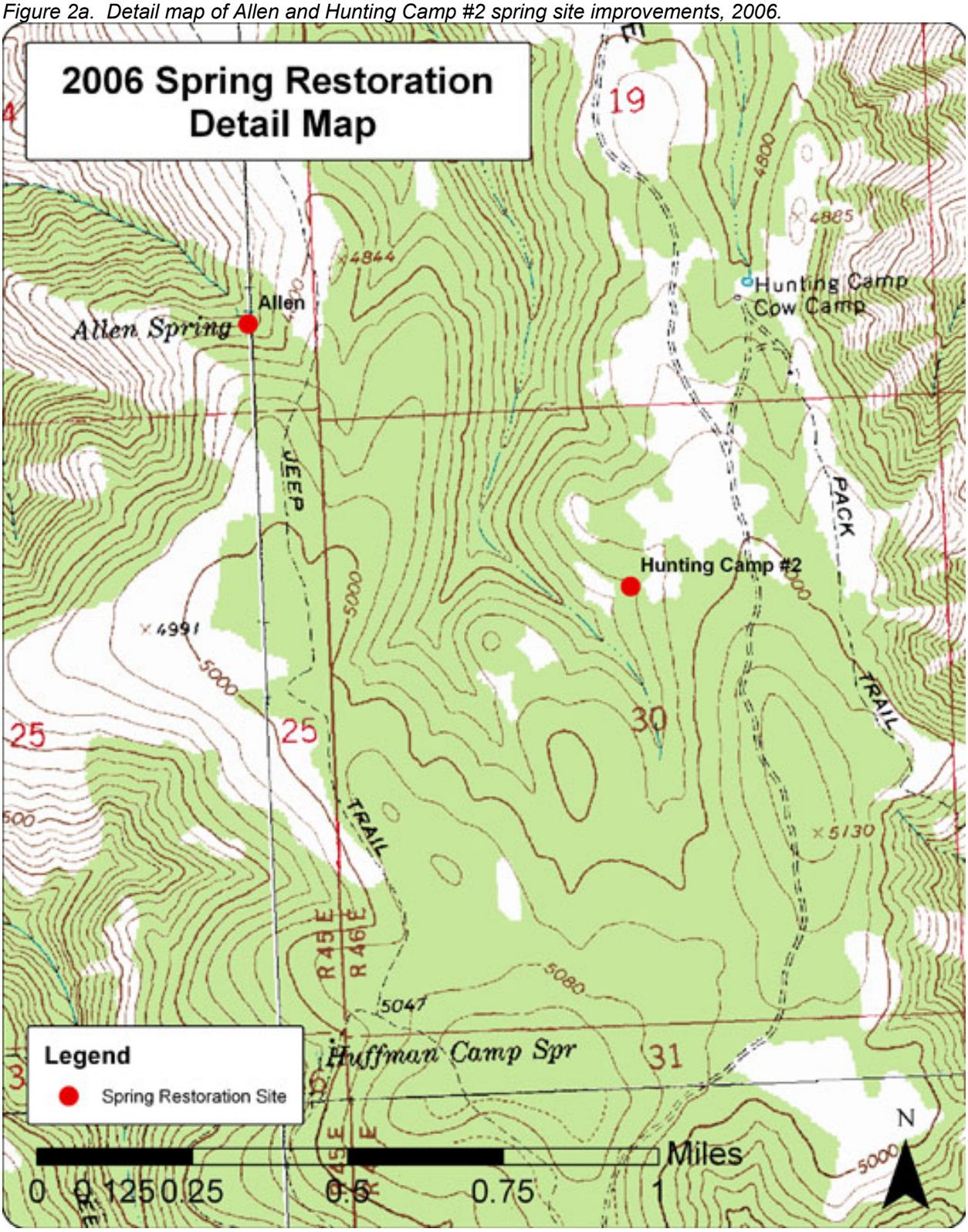


Figure 2b. Detail map of Peter, Rock Cairn, North Cabin, Table Mountain #1 & 3, and Roadside spring site improvements, 2006.

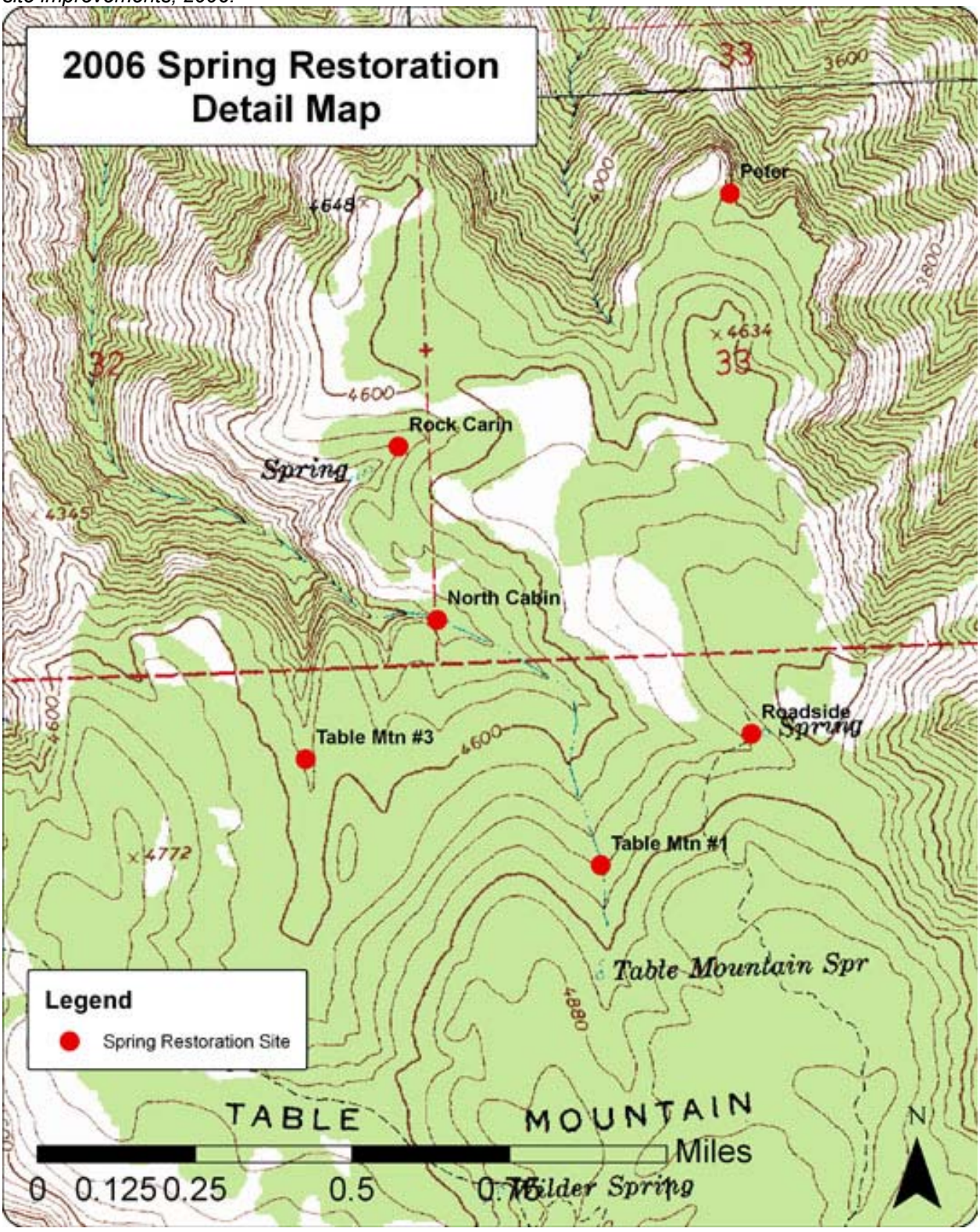


Figure 2c. Detail map of Wilder and Milk spring site improvements, 2006.

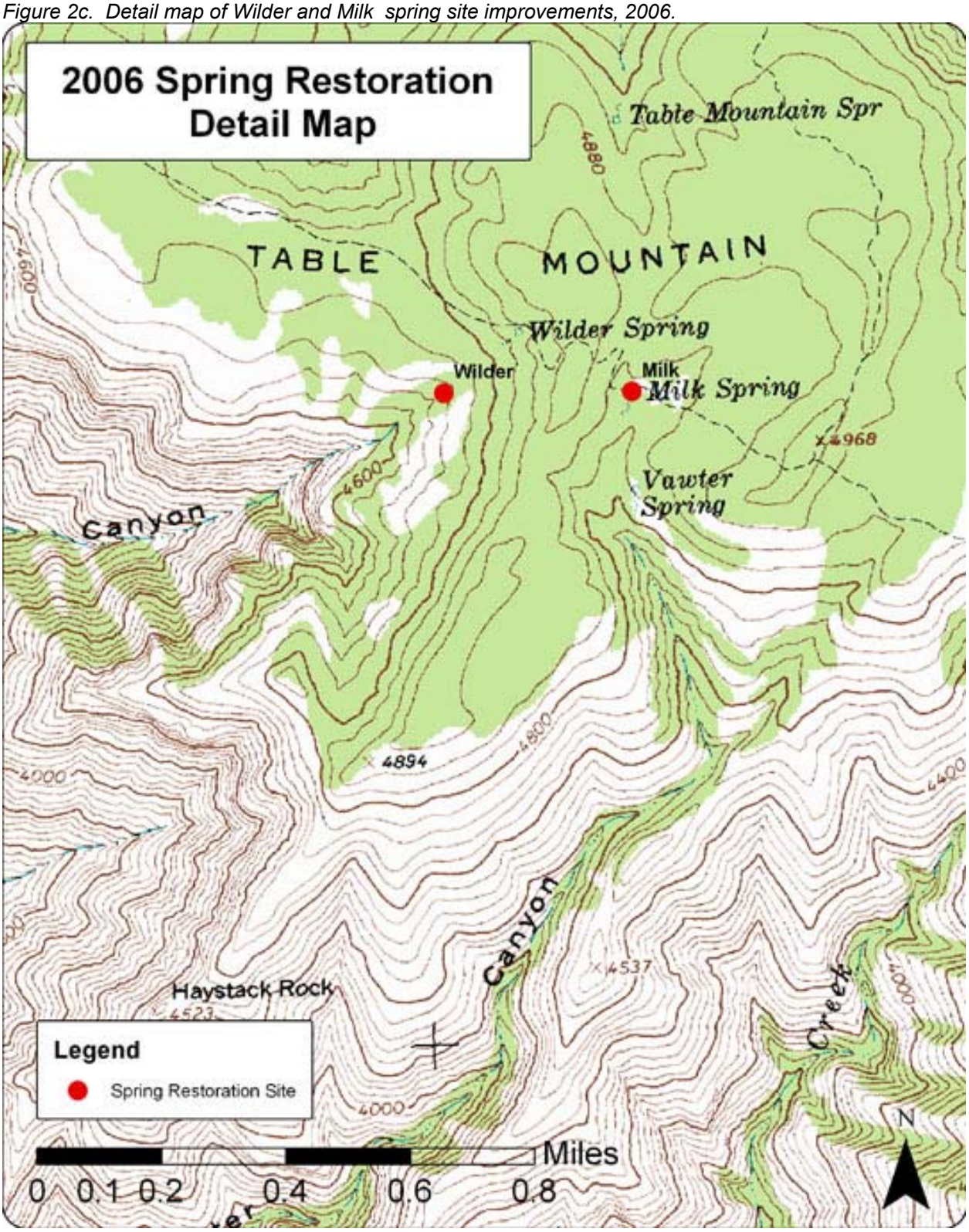


Figure 2d. Detail map of Hotel Rock spring site improvement, 2006.

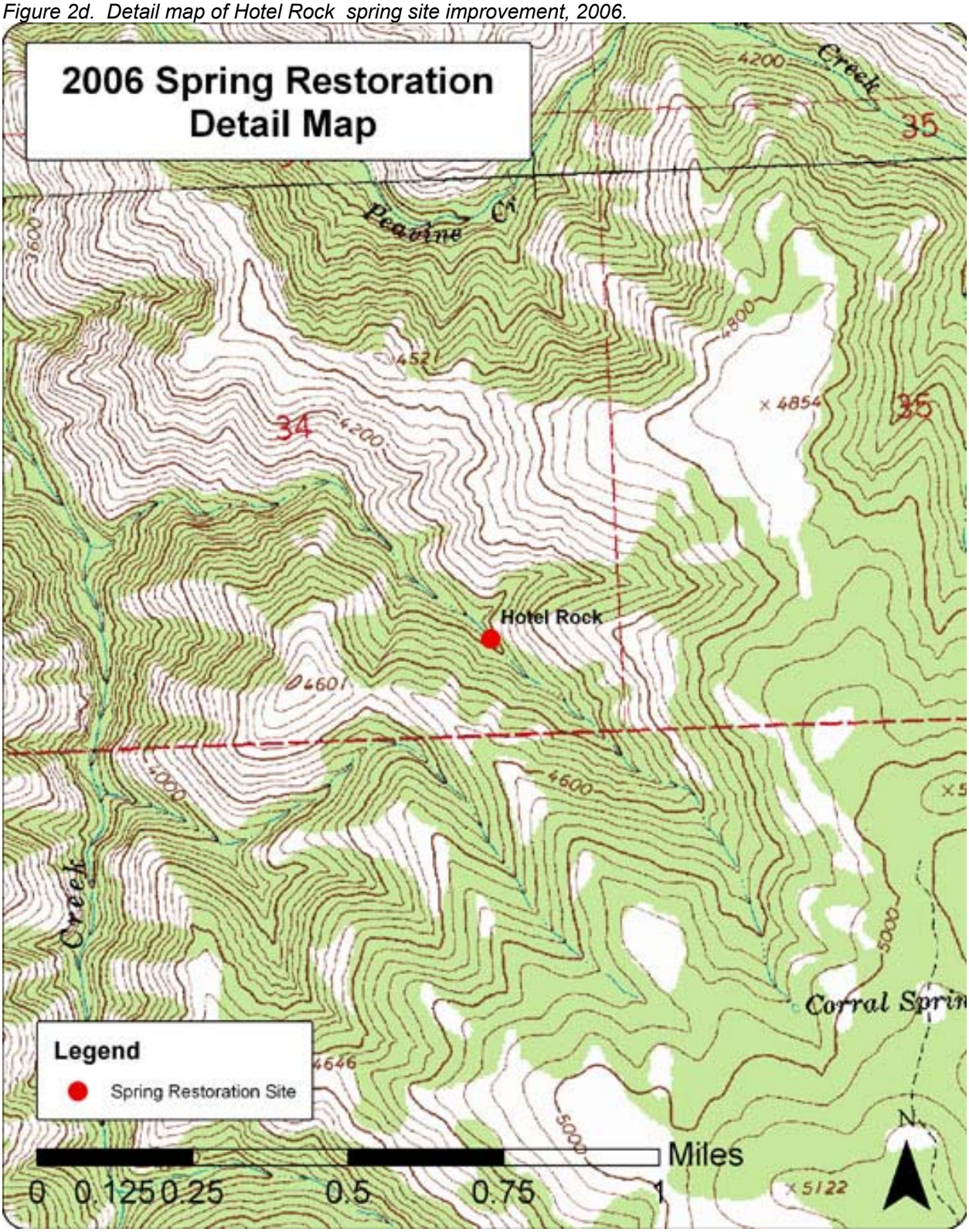


Figure 2e. Detail map of Coyote, Yew Wood, Poker Bill and Quirk spring site improvements, 2006.

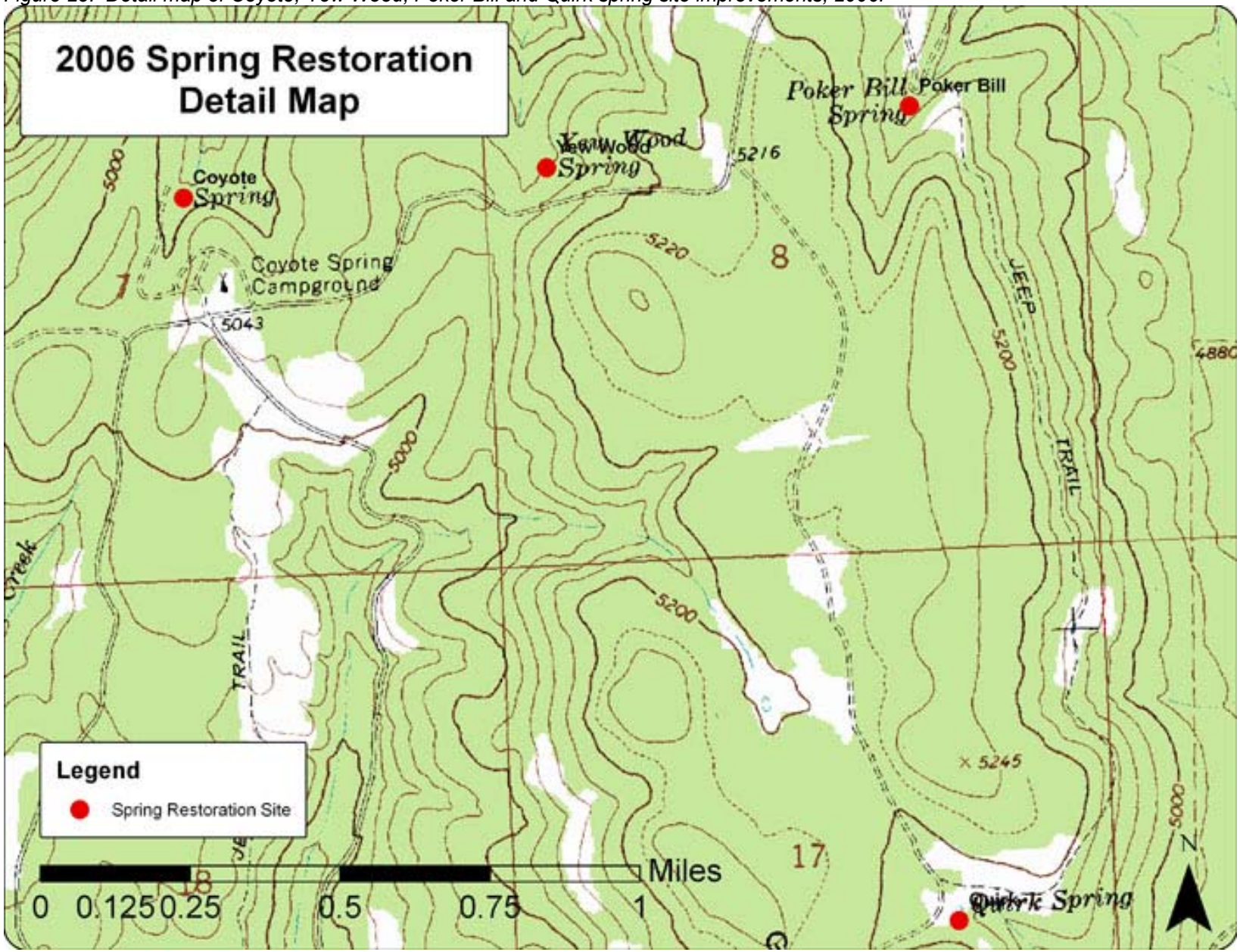


Figure 2f. Detail map of Kernan and Dougherty spring site improvements, 2006.

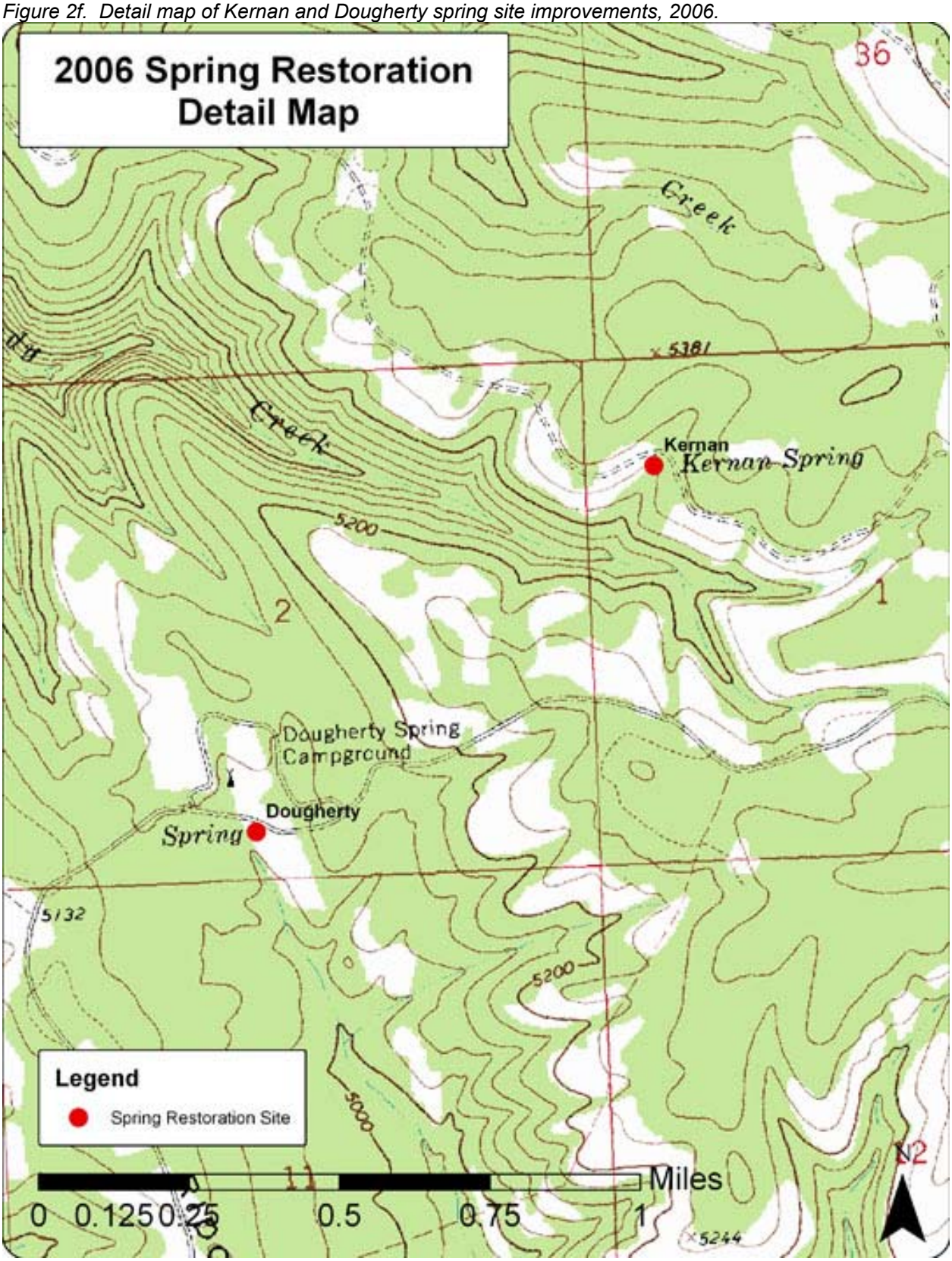


Figure 2g. Detail map of Myrtle and Kirkland spring site improvements, 2006.

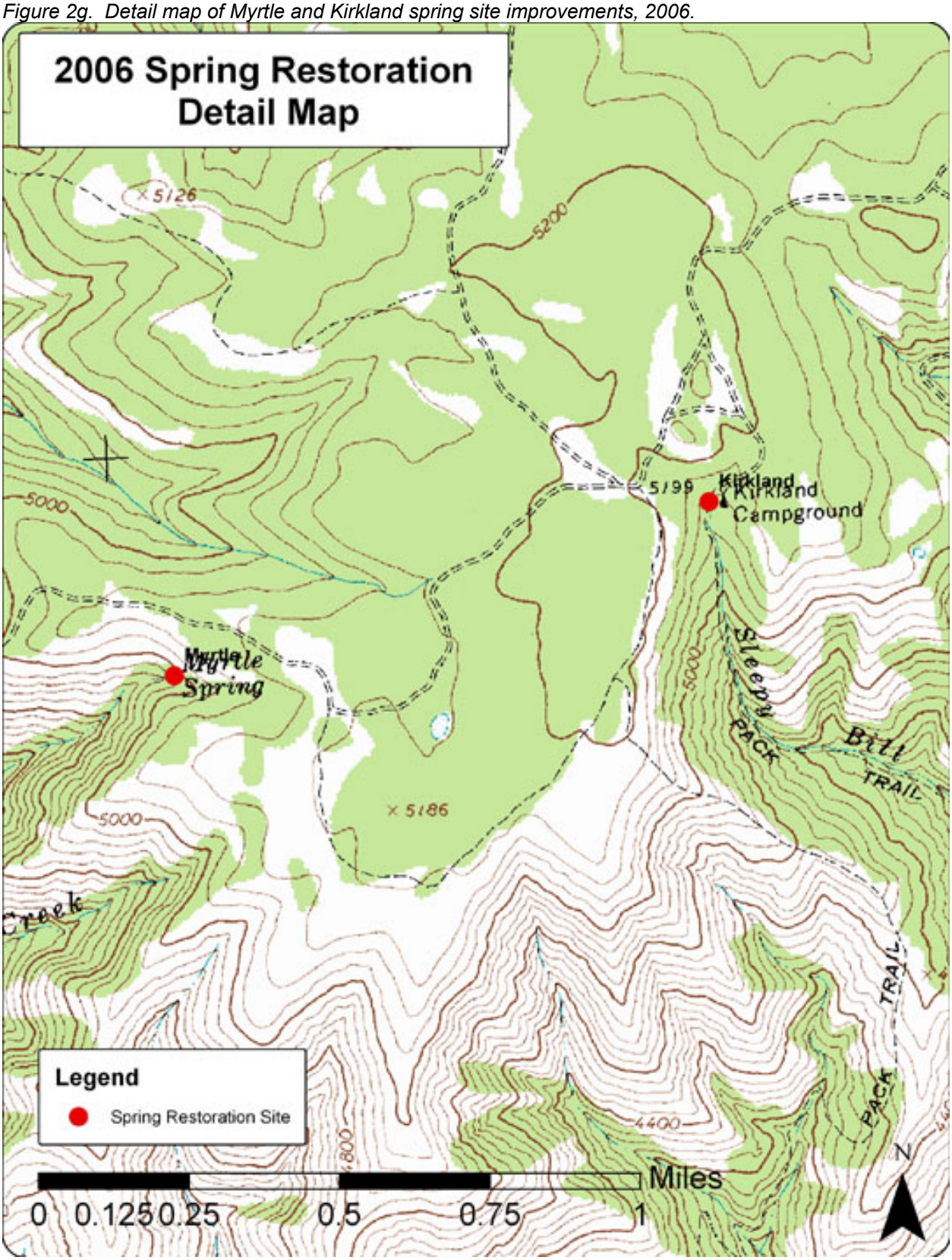


Figure 2h. Detail map Summit Ridge and Yandall #2 &3 spring site improvements, 2006.

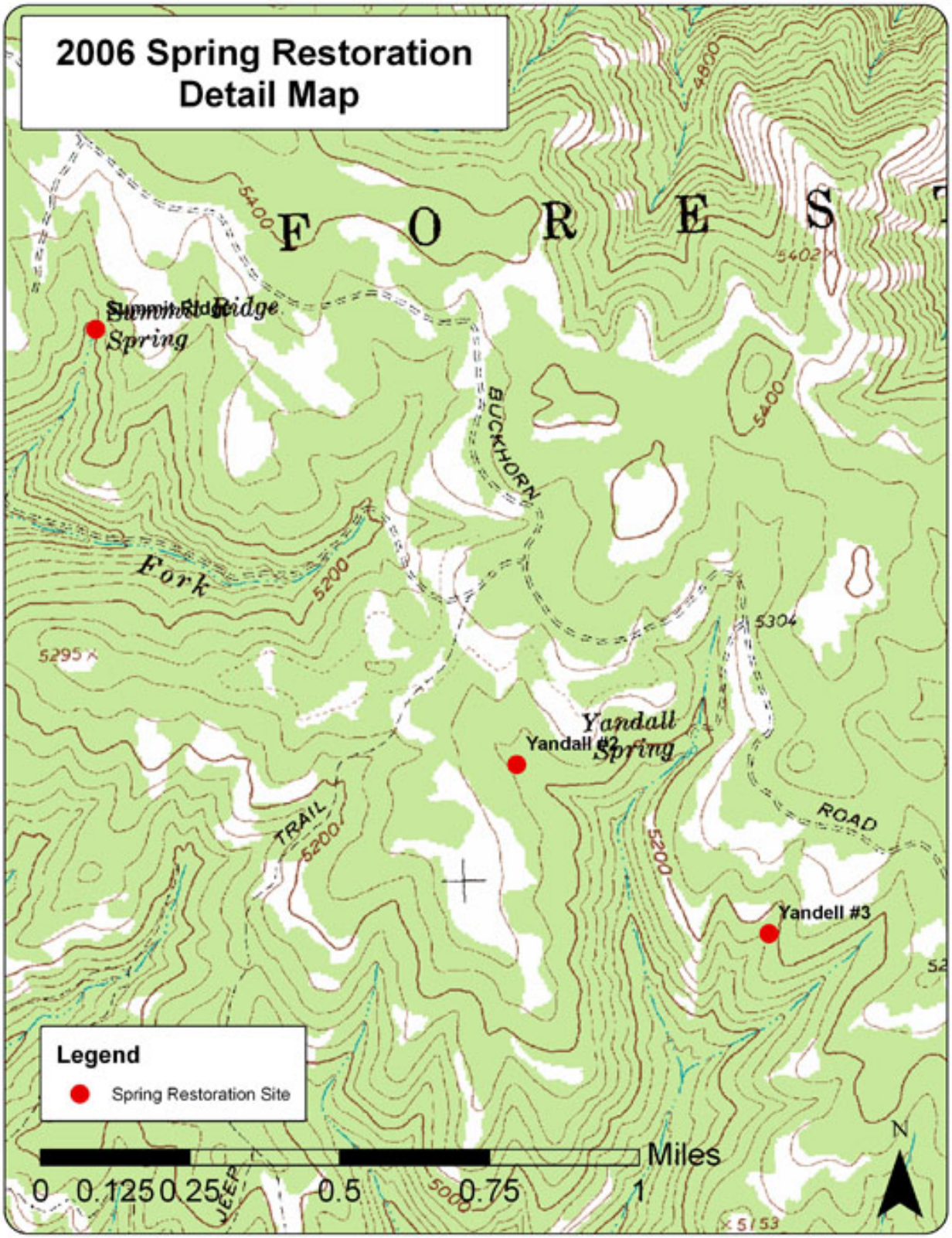
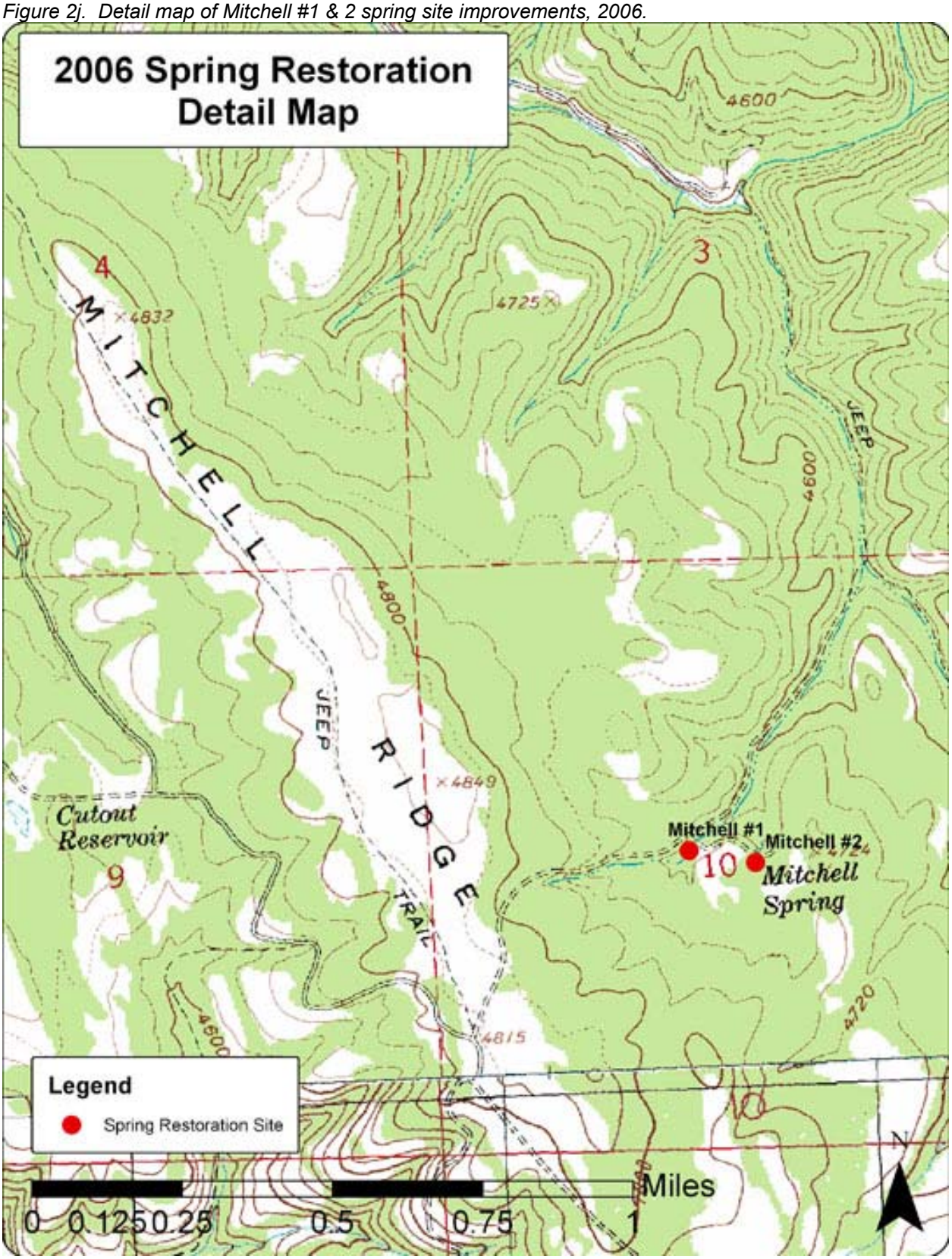


Figure 2i. Detail map of Buckhorn and Huckleberry spring site improvements, 2006.

Figure 2j. Detail map of Mitchell #1 & 2 spring site improvements, 2006.



Project Participants

Table 3. Summary of 2006 Joseph Creek Watershed Upland Water Rehabilitation project participants, responsibilities and fiscal contributions.

Participant	Responsibilities	Fiscal Contribution
Wallowa Resources	Assisted in developing agreements with USFS; wrote reports; fiscal management	$27,022
USFS	Coordinated heritage clearance; assisted in developing agreements with WR; performed site improvements; wrote reports	$10,291
Bonneville Power Administration	Fiscal contributor	$28,571
Grande Ronde Model Watershed	Assisted in project quality control	

Description of Project Area

This project is located in the uplands of the Lower and Upper Joseph Creek Watersheds, Wallowa County, Oregon. See Figures 1 and 2a-j in Project Description section above and Table 2 for legal description.

Results and Discussion

Twenty-six spring sites were improved in Upper and Lower Joseph Creek Watersheds in July-October 2006. One additional spring site was discovered in the Yandell Spring area, increasing the number of spring sites improved by one. Most springs received new troughs, spring boxes, drainage, and fence reconstruction. Details are provided below in Table 4.

Table 4. Site improvement details, Joseph Creek Watershed Upland Water Rehabilitation, 2006.

Spring Name	Notes	Troughs	Springbox	Fence (feet)
Allen*	Replaced both troughs; existing springbox in fine condition and re-used; other pipe pulls water out of ground - left as is; working great	2	0	759
Buckhorn #1	Replaced/relocated trough (move out of draw ~50ft)	1	0	150
Coyote	Replaced/relocated trough (moved to other side of draw)	1	0	381
Dougharty	Replaced and relocated trough (moved out of draw); built buck & pole fence	1	0	943
Hotel Rock	Replaced and relocated trough	1	1	0
Huckleberry*	Replaced and relocated trough/springbox (moved out of draw ~50ft)	1	1	225
Hunting Camp #2	Replaced trough/installed drain; fence is in fair condition	1	0	15
Kernan	Replaced/relocated trough (wooden one will be left in excl)	1	1	672
Kirkland	Trough is fine; built fence around 2 springs	0	0	825
Milk	New Site. Installed 2 troughs/2 springboxes below pond; one is fed by spring, the other the pond; built fence around pond	2	2	1386
Mitchell #1	Replaced/relocated trough/springbox	1	1	120
Mitchell #2	Replaced/relocated trough (~50 ft)	1	0	237
Myrtle*	New Site. Installed trough/springbox ~300 ft down draw	1	1	315
North Cabin	Replaced/relocated trough; used existing springbox	1	0	732
Peter	Installed springbox; none there before; needs new trough - hole in side	0	1	0
Poker Bill	Replaced trough; installed drain	1	0	0
Quirk*	Replaced/relocated trough (moved to below pond); extended fence; did not install springbox b/c pipe out of ground running good water	1	0	366
Roadside*	New Site. Installed 2 troughs/springboxes	2	2	924
Rock Carin	New Site. Installed 1 trough & 2 springboxes - 2 sources for 1 trough/box; put poles around spring for protection	1	0	0
Summit	Replaced trough and installed drain	1	0	471
Table Mtn #1*	New Site. Installed trough/springbox	1	2	513
Table Mtn #3	New Site. Installed trough below pond; fenced spring site but not pond	1	1	567
Wilder	Replaced/relocated trough (~220 ft downstream on old road bed); built little exclosure around springbox.	1	0	126
Yandell #2	Replaced trough; metal trough has no water in it but could not find problem; relocated fence is fair.	1	0	0
Yandell #3	New site. Not part of original project- arch found when surveying Yandell#2	1	0	0
Yew Wood	Replaced and relocated trough below springbox site	1	1	702

**TEC youth crew assisted with these spring site improvements.*

Summary and Conclusions

Furthering a successful working partnership between Wallowa Resources and the USFS, we installed 27 new troughs, 15 springboxes, 3,100 feet of new drainage and constructed nearly two miles of new fence to protect wet and sensitive areas.

Training and Employment Consortium provided youth crews that assisted on-site for approximately two weeks. In keeping with the education goals of the program, they developed a new, diverse skill set for improving springs including: fence building, trough site selection, trough and spring box installation, and appropriate drainage. Most importantly, they were actively engaged in improving their landscape: an outdoor classroom at its best.

This project represents the first big step away from instream restoration efforts following the Upper Joseph Creek Watershed assessment. Throughout the assessment, limited distribution of livestock over time and space was noted as a factor contributing to several lingering problem areas in riparian zones. Permittees in particular felt that improved upland water would encourage better use of upland areas and help them meet management goals. Their response to the project has been a loud "thank-you" – especially for the project's landscape scale approach. The sites are now in a new condition and their care can be taken over completely by the permittees, ending years of controversy over responsibility for random springs.

This project and our instream structure modifications represent the type of systematic restoration projects we will be pursuing in the coming years. Coordinated effort provides efficiencies in implementation, mobilization, contracting, permitting, consulting, and reporting.

Summary of Expenditures

Table 5. Summary of expenditures for the 2006 Upper Joseph Creek Restoration Project.

	BPA	Wallowa Resources*	USFS	Total
Spring Site Improvement or Development				
Labor (USFS Seasonal employees)		$22,715		$22,715
Supplies (fence material, spring boxes, troughs, pipe)	$24,206	$1,207		$25,413
Subtotal	**$24,206**	**$23,922**		**$48,128**
Personnel Costs				
Wallowa Resources Project Manager	$2,500	$2,000		$4,500
USFS Personnel			$8,736	$8,736
Subtotal	**$2,500**	**$2,000**	**$8,736**	**$13,236**
Direct Project Total	**$26,706**	**$25,922**	**$8,736**	**$61,364**
Administration Costs				
Wallowa Resources Indirect Expenses	$1,865	$1,100		$2,965
USFS Indirect Expenses (17.8% of direct project costs)			$1,555	$1,555
Subtotal	**$1,865**	**$1,100**	**$1,555**	**$4,520**
Grand Total	**$28,571**	**$27,022**	**$10,291**	**$65,884**
Original Contract	$28,571	$56,098	$10,291	$94,939
Percent of budget	**43%**	**41%**	**16%**	**100%**

***** *Funders: The Nature Conservancy and National Forest Foundation.*

Project Photographs – Joseph Creek Watershed Spring Site Improvements, 2006

Coyote site before improvement.

Coyote site after improvement.

Wilder site before improvement.

Wilder site after improvement.

Project Photographs – cont.'d

TEC youth crew building fence at Huckleberry spring.

New trough and buck & pole fence at Dougherty spring.

Summit Spring site before improvement – provided here as particularly bad before condition.

Rock Carin site after improvement – provided here as an example of better condition following improvement.