

Report on 2009 Grant-Supported Project to Control Invasive Exotic Plants on the Yellow Creek Property

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In 2009, the Land Trust for the Little Tennessee (LTLT) was awarded a \$5,000 grant from the Cheoah Fund to eradicate and control the spread of invasive, exotic plant species on abandoned farm fields and within the riparian areas of LTLT's Yellow Creek tract. This undertaking was part of an ongoing, long-term effort to protect and restore wetland and early successional habitat on the property. This report is prepared at the request of the Cheoah Fund Board and details our efforts, results, and expenditures associated with the project. LTLT wishes to thank the Board for their generosity in providing these critical funds to assist in our mission of conserving and restoring terrestrial and aquatic habitats on our lands.

Invasive exotic plant (IEP) control utilizing the Cheoah Fund grant was conducted in two phases. Phase I, which occurred in October, focused on clipping vines overtopping trees and foliar herbicide application of Accord® (53.8% glyphosate) at a 5% solution concentration, with Agri-Dex® surfactant at a 0.5% concentration. Targeted species included *Pueraria montana* (kudzu), *Celastrus orbiculatus* (Oriental bittersweet), *Ligustrum sinense* (Chinese privet), *Lonicera japonica* (Japanese honeysuckle), and *Hedera helix* (English ivy). This work was contracted to John Stalcup, a local IEP control contractor, who provided two workers for six days to complete approximately 21 acres of control in riparian areas (see Map 1). Mr. Stalcup billed \$400 per day for the work, for a total of \$2,400 including all equipment and materials. Oversight, administration, and inspection by LTLT staff cost an additional \$814 including travel, bring the total expenditure for this phase of the project to \$3,214.

Phase II of the project occurred in November and December and involved cut stump or frill applications of Accord® at a 50% solution concentration, as well as reduction of invasive biomass by hand, using chainsaws and fire, in specific, heavily infested riparian locations on the property. Treatment was by LTLT staff, including Executive Director Paul Carlson and Land Programs Associate Philip Moore, and covered 3.3 acres (see Map 2). The treatment area was smaller than in Phase I, but work was more intense. Targeted species included *Ligustrum sinense* and *Lonicera japonica*. Total cost including travel was \$1,786. A detailed summary of both phases of the project appears in the tables on the following page:

Phase I: IEP Control by Contractor (reference attached Map 1)			
Description	Work Date 1	Work Date 2	Targeted Species
0.2 acre (south)	07 Oct 2009	09 Oct 2009	<i>P. montana</i> ; <i>C. orbiculatus</i>
0.2 acre (north)	07 Oct 2009	11 Oct 2009	<i>P. montana</i> ; <i>C. orbiculatus</i>
0.8 acre	07 Oct 2009		<i>P. montana</i> ; <i>C. orbiculatus</i>
2.8 acre	08 Oct 2009		<i>P. montana</i>
1.3 acre	09 Oct 2009		<i>H. helix</i>
2.6 acre	11 Oct 2009		<i>P. montana</i>
3.7 acre	13 Oct 2009		<i>L. sinense</i> , <i>C. orbiculatus</i>
7.7 acre	14 Oct 2009		<i>L. sinense</i>
1.6 acre	14 Oct 2009		<i>L. sinense</i>

Phase II: IEP Control by LTLT Staff (reference attached Map 2)			
Description	Work Date 1	Work Date 2	Targeted Species
1.8 acre	17 Nov 2009	17 Dec 2009	<i>L. sinense</i>
0.8 acre	19 Nov 2009		<i>L. sinense</i> ; <i>L. japonica</i>
0.7 acre	19 Nov 2009		<i>L. sinense</i> ; <i>L. japonica</i>

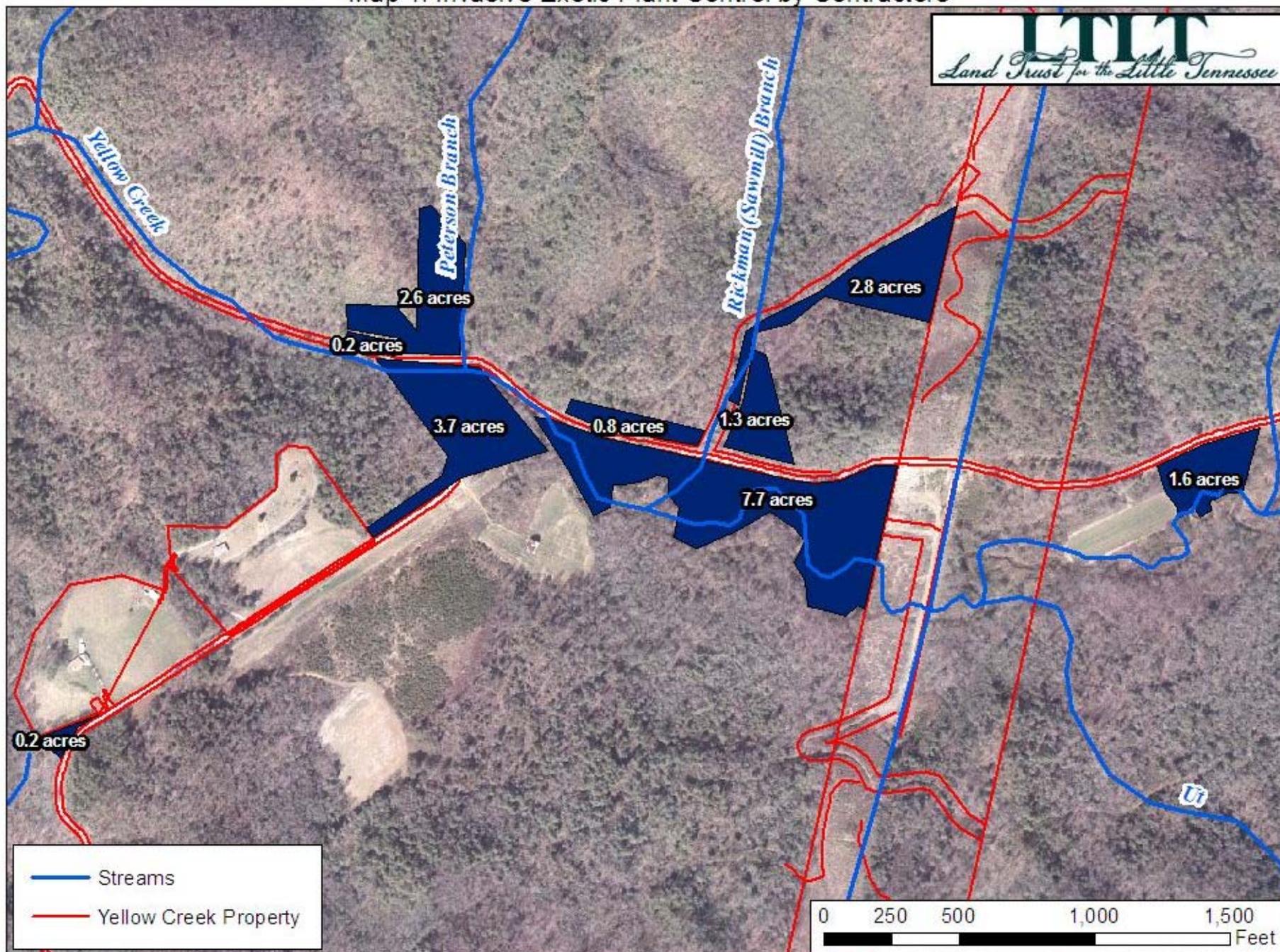
Results

These treatments appeared to be successful in providing significant control to targeted species. See the attached “before-and-after” photographs of a *Pueraria montana* infestation in the 2.8-acre area controlled by the Contractor on October 8. Additional work will be required, and is planned, including additional foliar herbicide applications in 2010, and planting of native riparian species in the 1.8-acre area shown on Map 2, in order to compete with and shade out *Ligustrum sinense* seedlings.

Attachments

Treatment Area Maps (2)
 Before-and-After Photographs

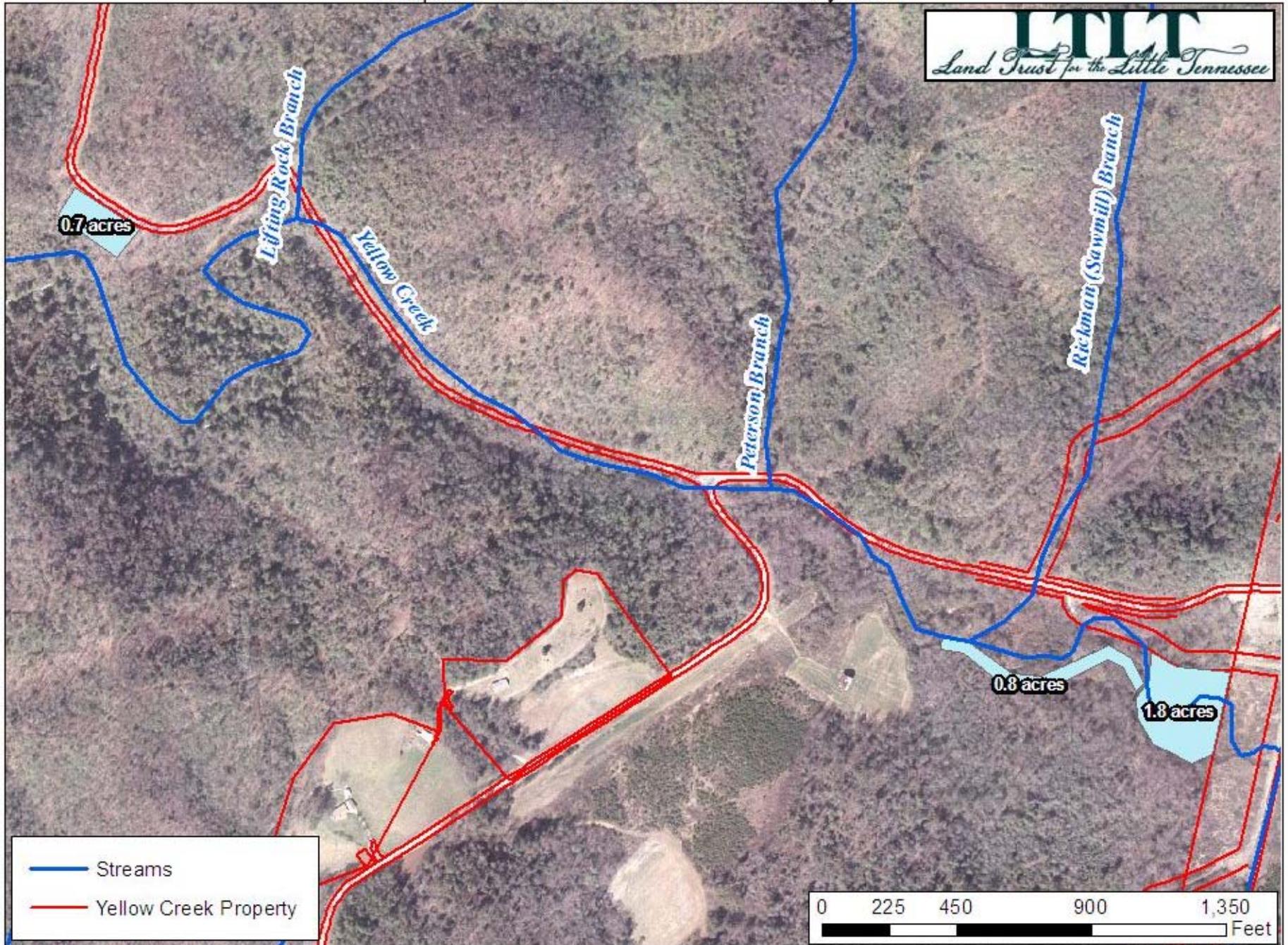
2009 Cheoah Fund Grant to LTLT
Map 1: Invasive Exotic Plant Control by Contractors



2005 Aerial Image Courtesy of Graham County
Map by PWM 07-January-2010

1 inch = 500 feet

2009 Cheoah Fund Grant to LTLT
Map 2: Invasive Exotic Plant Control by Staff



2005 Aerial Image Courtesy of Graham County
Map by PWM 07-January-2010

1 inch = 450 feet



BEFORE CONTROL: Kudzu (*Pueraria montana*) infestation along unnamed tributary stream to Yellow Creek at 2.8-acre area on Map 2, 07 October 2009.



AFTER CONTROL: Same kudzu infestation at 2.8-acre area, on 21 October 2009, after clipping of overtopping vines and foliar application of glyphosate and surfactant. Note leaf curl and early stages of yellowing and necrosis on ground infestation, in response to herbicide (due to generally mild and wet weather, frost damage had *not* yet occurred).