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### **Spiraea virginiana Monitoring & Management NCDENR Contract No. WO8003 Year Three Annual Summary August 31, 2010**

The basis of this contract was to survey the Cheoah River corridor for invasive plant species and to perform control activities at specified priority areas (within 100' of all *Spiraea virginiana* populations) and into other areas as time permitted. Due to the necessary completion of the Environmental Assessment allowing use of chemical, control work did not begin until the initial cut stump treatment in June 2009. Since the 2007 survey, many existing infestations had matured and expanded and new ones continue to develop.

Initial control work has been completed within the priority zones with the exception of the Kudzu at Site#1, which was treated only on the island containing *Spiraea* subpopulation 1-1 and within and 40' upriver from *Spiraea* subpopulation 1-2. Given the nature of kudzu and its root location under boulders, without on-going treatment it is only temporarily suppressed.

As each site is unique, so is each species of invasive plant, requiring different methods, timing, and levels of treatment for effective control. Much depends on the plant's physiology and stored energy. While some species, such as Chinese Privet and Mimosa, and small new infestations generally can be controlled with only one treatment, other species and well established infestations often require multiple treatments. Vines are usually the most difficult to control due to their extensive root systems and ability to root along runners. Cut stump treatment with 50% Garlon 3A was conducted at each site and foliar treatment with 5% Garlon 3A was used as needed, as well as seedlings being hand pulled at each visit and seed removed when possible.

Full control of some existing infestations has not been reached. An extension of time has been requested and received, moving the end date of this contract from August 31<sup>st</sup> to October 31<sup>st</sup>, to be able to recheck each site and do follow-up treatment where necessary. Of continued concern within the *Spiraea* zones are:

- Kudzu at Site#1 is only temporarily suppressed.
- Oriental Bittersweet at Site#16 has an extensive root system where it is intermixed with *Spiraea* making control a delicate process. Follow up monitoring is necessary. Bittersweet is also established under boulders at Site#5 (though the *Spiraea* itself is gone-most likely washed down river-the site was worked due to its location at Yellow Creek on Alcoa land) and is also encroaching on Site#9 and from private land close to Site#14.

- Chinese Yam at Site#2 required several treatments to obtain control and may recur.
- Japanese Honeysuckle was treated only where it directly impacted Spiraea and reoccurs at Sites 10-1, 15 & 12-3.
- Princess Tree at Sites 5, 6, 8, & 11, cut down by an unknown source, have been producing root sprouts. Trees that were properly treated are not producing root sprouts.
- Current seed bank and outside influence will continue to affect the entire corridor. Follow-up monitoring is strongly recommended for all areas.

Once stimulus dollars were obtained for invasive plant control on USFS land along the Cheoah River corridor, Alcoa property became the focus beyond the Spiraea buffer zones. The Yellow Creek and upper penstock areas have had initial control. The lower penstock area has been only partially treated. Mature invasive plants have been removed between the penstock and the USFS boundary to the west. From the penstock east is still highly infested.

**Total control time and chemical used:**

Spiraea virginiana sites	198.5 hours	81oz. 50% triclopyr	20.25gal. 5% triclopyr
Oriental bittersweet sites	15.5 hours	10oz. 50%	0
Other areas treated	7 hours	3.5oz. 50%	1.1 gal. 5%
Travel time	56 hours		
Chemical pickup	3.5 hours		
Recon, review, hand pull	71.5 hours		

Detailed information including waypoint numbers, descriptions, treatment dates, amount of time and chemical usage per site is available.

Total contract amount		<u>\$22,500</u>
Billings (all paid)		
10/30/07 survey	6,400	
2/22/08 planning meeting	500	
11/7/08 yr.1 summary	500	
2/5/09 revisions	500	
1/4/10 2009 control	<u>6,200</u>	
Total billed as of 8/31/10		14,100
2010 control		6,900
2010 yr.3 summary		500
October 2010 recheck		<u>1,000</u>
		<u>\$22,500</u>