Literature Cited

American Whitewater. 2006. Overflow Creek, GA: USFS road 86b to Overflow Creek Road bridge. Available at http://www.americanwhitewater.org/content/River_detail_id_495_

Beyer, H. L. 2004. Hawth's Analysis Tools for ArcGIS. Available at http://www.spatialecology.com/htools

Benke, A. C. and J. B. Wallace. 2003. Influence of wood on invertebrate communities in streams and rivers. *In* McMinn, J. W., D. A. Crossley, Jr. Biodiversity and coarse woody debris in southern forests, proceedings of the workshop on coarse woody debris in southern forests: effects on biodiversity; 1993 October 18 – 20; Athens, VA. General Technical Report SE-94. Asheville, NC: U. S. Department of Agriculture, Forest Service, Southern Research Station.

Boyer, K. L., D. R. Berg, and S. V. Gregory. Riparian management for wood in rivers. 2003. *In* McMinn, J. W., D. A. Crossley, Jr. Biodiversity and coarse woody debris in southern forests, proceedings of the workshop on coarse woody debris in southern forests: effects on biodiversity; 1993 October 18 – 20; Athens, VA. General Technical Report SE-94. Asheville, NC: U. S. Department of Agriculture, Forest Service, Southern Research Station.

Dolloff, C. A. 1996. Large woody debris, fish habitat, and historical land use. *In* McMinn, J. W., D. A. Crossley, Jr. Biodiversity and coarse woody debris in southern forests, proceedings of the workshop on coarse woody debris in southern forests: effects on biodiversity; 1993 October 18 – 20; Athens, VA. General Technical Report SE-94. Asheville, NC: U. S. Department of Agriculture, Forest Service, Southern Research Station.

Dolloff, C. A. and M. L. Warren, Jr. 2003. Fish relationships with large wood in small rivers. *In* Gregory, S. V., K. L. Boyer, and A. M. Gurnell, editors. The ecology and management of wood in world rivers. American Fisheries Society, Symposium 37, Bethesda, Maryland.

Ellison, A. M. M. S. Bank, B. D. Clinton, E A. Colburn, K. Elliott, C. R. Ford, D. R. Foster, B. D. Kloeppel, J. D. Knoepp, G. M. Lovett, J. Mohan, D. A. Orwig, N. L. Rodenhouse, W. V. Sobczak, K. A. Stinson, J. K. Stone, C. M. Swan, J. Thompson, B. Von Holle, J. R. Webster. 2005. Loss of foundation species: Consequences for the structure and dynamics of forested ecosystems. Frontiers in Ecology and the Environment 3:479-486.

Flebbe, P. A., and C. A. Dolloff. 1995. Trout use of woody debris and habitat in Appalachian wilderness streams of North Carolina. North American Journal of Fisheries Managment 15:579-590.

Hedman, C. W., D. H. Van Lear, W. T. Swank. 1996. In-stream large woody debris loading and riparian forest seral stage associations in the southern Appalachian Mountains. Canadian Journal of Forestry Research 26: 1218 – 1227.

Hornbeck, J. W. and J. N. Kochenderfer. 2000. Linkages between forests and streams: a perspective in time. *In* Verry, E. S., J. W. Hornbeck, and C. A. Dolloff, editors. Riparian management in forests of the continental eastern United States. Lewis Publishers, Washington D. C.

Jacobs, R. 2004. Revised land and resource monitoring plan, Sumter National Forest. Management bulletin R8-MB-116A. Atlanta, GA: U. S. Department of Agriculture, Forest Service, Southern Region.

Koch F. H., H. M. Cheshire, and H. A. Devine. 2007. Landscape-scale prediction of hemlock woolly adelgid, Adelges tsugae (Homoptera: Adelgidae), infestation in the southern Appalachian Mountains. Environmental Entomology 35:1313-1323.

Manganiello, C. J. 2006. The new Georgia encyclopedia: Chattooga River. Available at http://www.georgiaencyclopedia.org/nge/Article.jsp?id=h-2629

Minnesota Department of Natural Resouces. 2001. DNR Garmin. Available at http://www.dnr.state.mn.us/mis/gis/tools/arcview/extensions/DNRGarmin/DNRGarmin.html

Montgomery, D. R., B. D. Collins, J. M. Buffington, and T. B. Abbe. 2003. Geomorphic effects of wood in rivers. *In* McMinn, J. W., D. A. Crossley, Jr. Biodiversity and coarse woody debris in southern forests, proceedings of the workshop on coarse woody debris in southern forests: effects on biodiversity; 1993 October 18 – 20; Athens, VA. General Technical Report SE-94. Asheville, NC: U. S. Department of Agriculture, Forest Service, Southern Research Station.

Nakamura, F., and F. J. Swanson. 1994. Distribution of coarse woody debris in a mountain stream, western Cascade Range, Oregon. Canadian Journal of Forest Research 24:2395-2403.

Nakamura, F., and F. J. Swanson. 2003. Dynamics of wood in rivers in the context of ecological disturbance. *In* McMinn, J. W., D. A. Crossley, Jr. Biodiversity and coarse woody debris in southern forests, proceedings of the workshop on coarse woody debris in southern forests: effects on biodiversity; 1993 October 18 – 20; Athens, VA. General Technical Report SE-94. Asheville, NC: U. S. Department of Agriculture, Forest Service, Southern Research Station.

USDA Forest Service. 2007. List of states and counties with known hemlock wooly adelgid infestations. Morgantown, WV: U. S. Department of Agriculture Forest Service, Forest Health Protection. Available at http://www.na.fs.fed.us/fhp/hwa/infestations.shtm.

Wallace, J. B. J. W. Grubaugh, and M. R. Whiles. 1996. Influence of course woody debris on stream habitats and invertebrate biology. *In* McMinn, J. W., D. A. Crossley, Jr. Biodiversity and coarse woody debris in southern forests, proceedings of the workshop on coarse woody debris in southern forests: effects on biodiversity; 1993 October 18 – 20; Athens, VA. General Technical Report SE-94. Asheville, NC: U. S. Department of Agriculture, Forest Service, Southern Research Station.

Tables

Table 1. Length and location of LW inventories, November 2007.

	Length (km)	Start	End
Chattooga River	32.8	West Fork Chattooga	Forest boundary near road 1108
West Fork Chattooga	9.7	mainstem Chattooga	Three Forks
Holcomb Creek	4.4	Three Forks	confluence with Addie Branch
Overflow Creek	4.6	Three Forks	confluence with unnamed tributary in from west; downstream of road 86b crossing
Total:	51.5		

Table 2. Size classes used for LW inventories in the Chattooga River watershed, November 2007.

Size Class	Length (m)	Diameter (cm)
1	1 - 5	10 - 55
2	1 - 5	> 55
3	> 5	10 - 55
4	> 5	> 55

Table 3. Counts of LW in each of four size classes, November 2007. See Table 1 for LW size classes.

	LW 1	LW 2	LW 3	LW 4	Total LW
Chattooga River	1974	24	2118	65	4171
West Fork Chattooga River	954	23	1142	35	2154
Overflow Creek	156	0	389	6	551
Holcomb Creek	646	1	788	11	1446
	3730	48	4437	117	8322

Table 4. LW per km in each of four size classes, November 2007. See Table 1 for LW size classes.

	LW 1	LW 2	LW 3	LW 4	Total LW
Chattooga River	60	1	65	2	127
West Fork Chattooga River	98	2	118	4	222
Overflow Creek	34	0	85	1	120
Holcomb Creek	147	0	179	3	329

Table 5. Percentage of LW in each size category, November 2007. See Table 1 for LW size classes

	LW 1	LW 2	LW 3	LW 4
Chattooga River	47%	1%	51%	2%
West Fork Chattooga River	44%	1%	53%	2%
Overflow Creek	28%	0%	71%	1%
Holcomb Creek	45%	0%	54%	1%

Table 6. Rootwads and LW obstructions encountered, November 2007.

	Rootwads		LW Obstructions	
	n	per km	n	per km
Chattooga River	143	4	26	1
West Fork Chattooga River	37	4	10	1
Overflow Creek	5	1	12	3
Holcomb Creek	28	6	24	5
	213	4	72	1

Figures

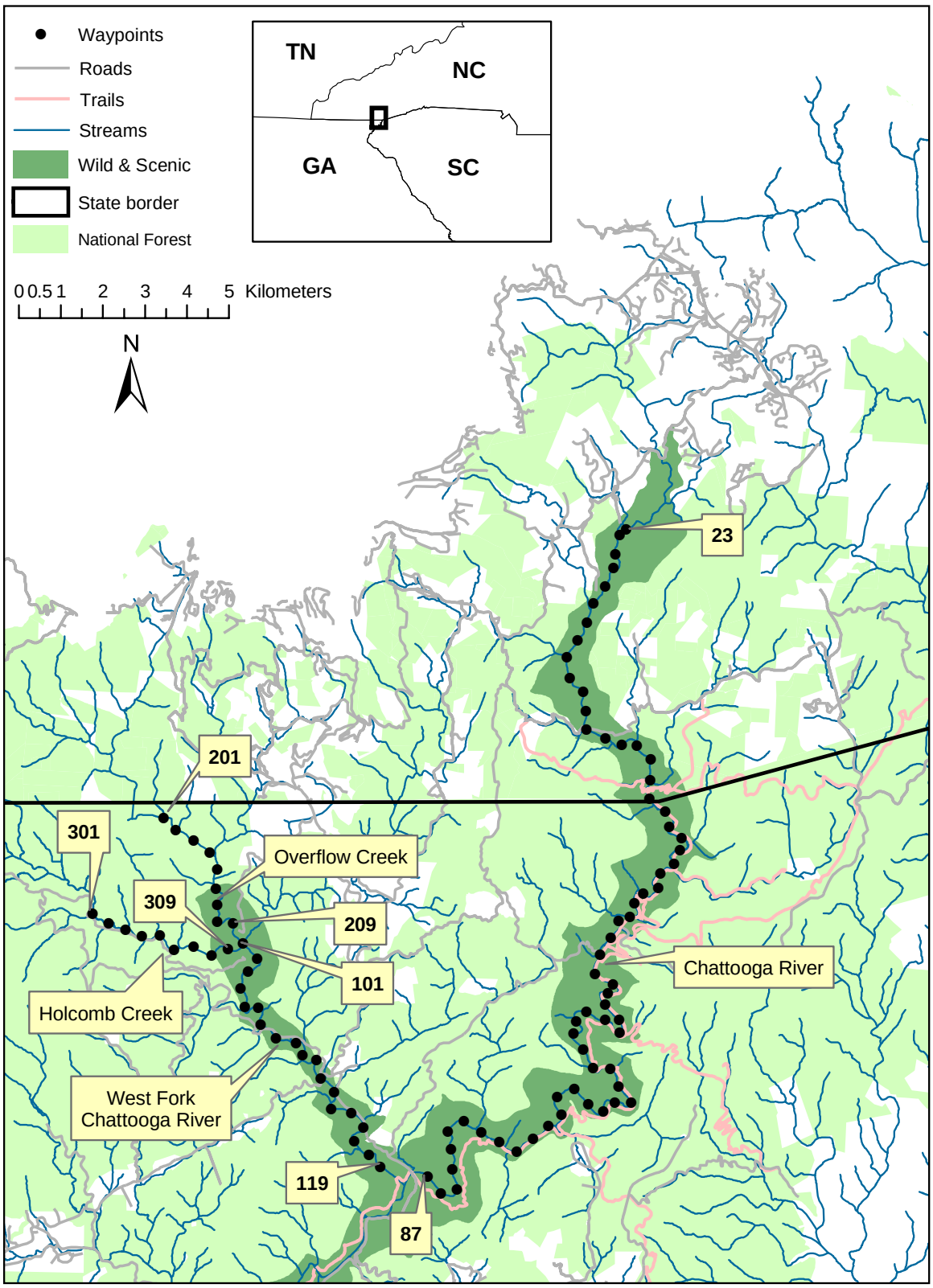

Figure 1. Waypoints marking upstream extent of corresponding reaches inventoried in November 2007. Waypoint numbers increase consecutively by 1 in a downstream direction.

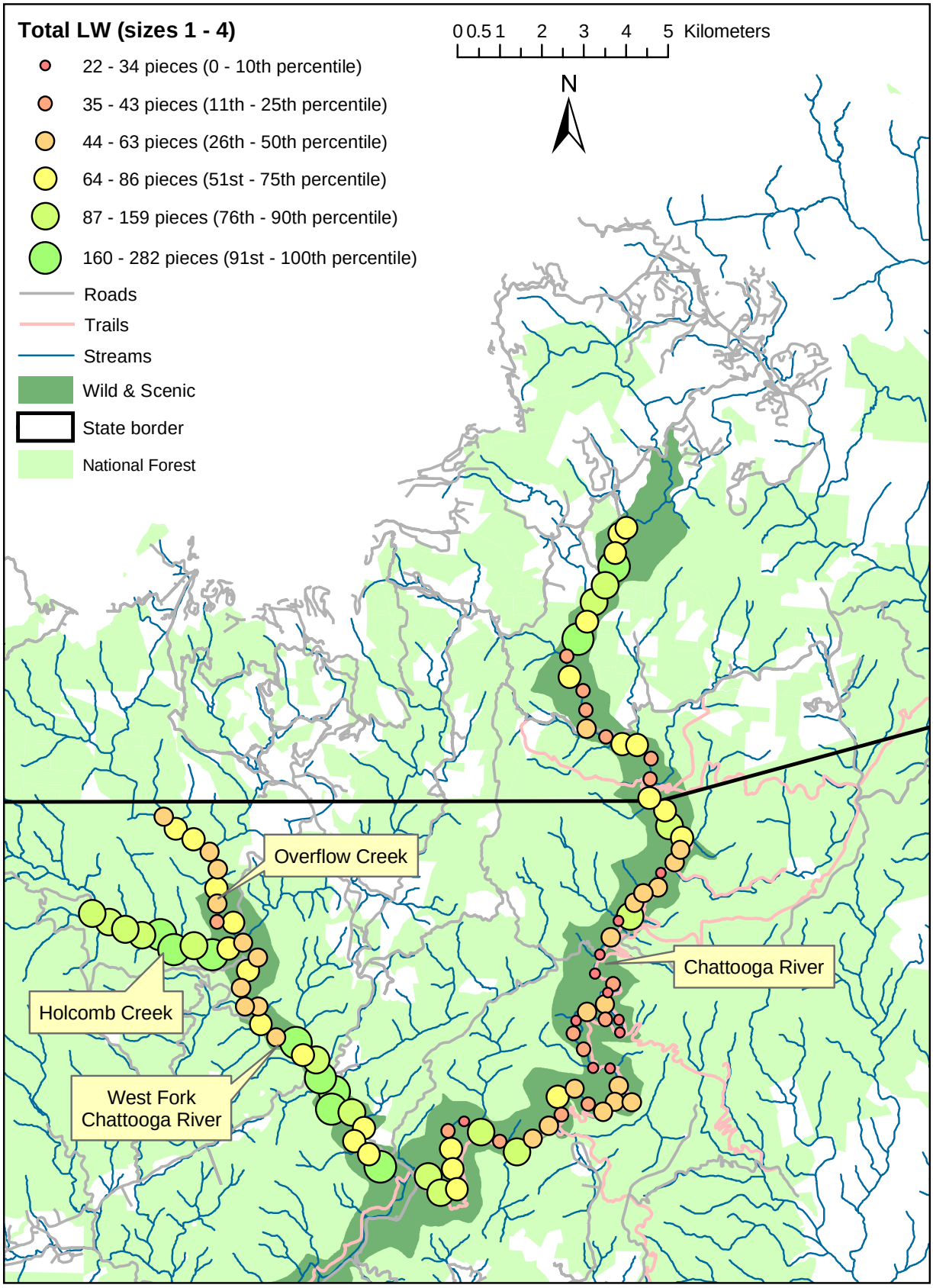

Figure 2. Total pieces of LW counted in 0.5 km reaches, November 2007.

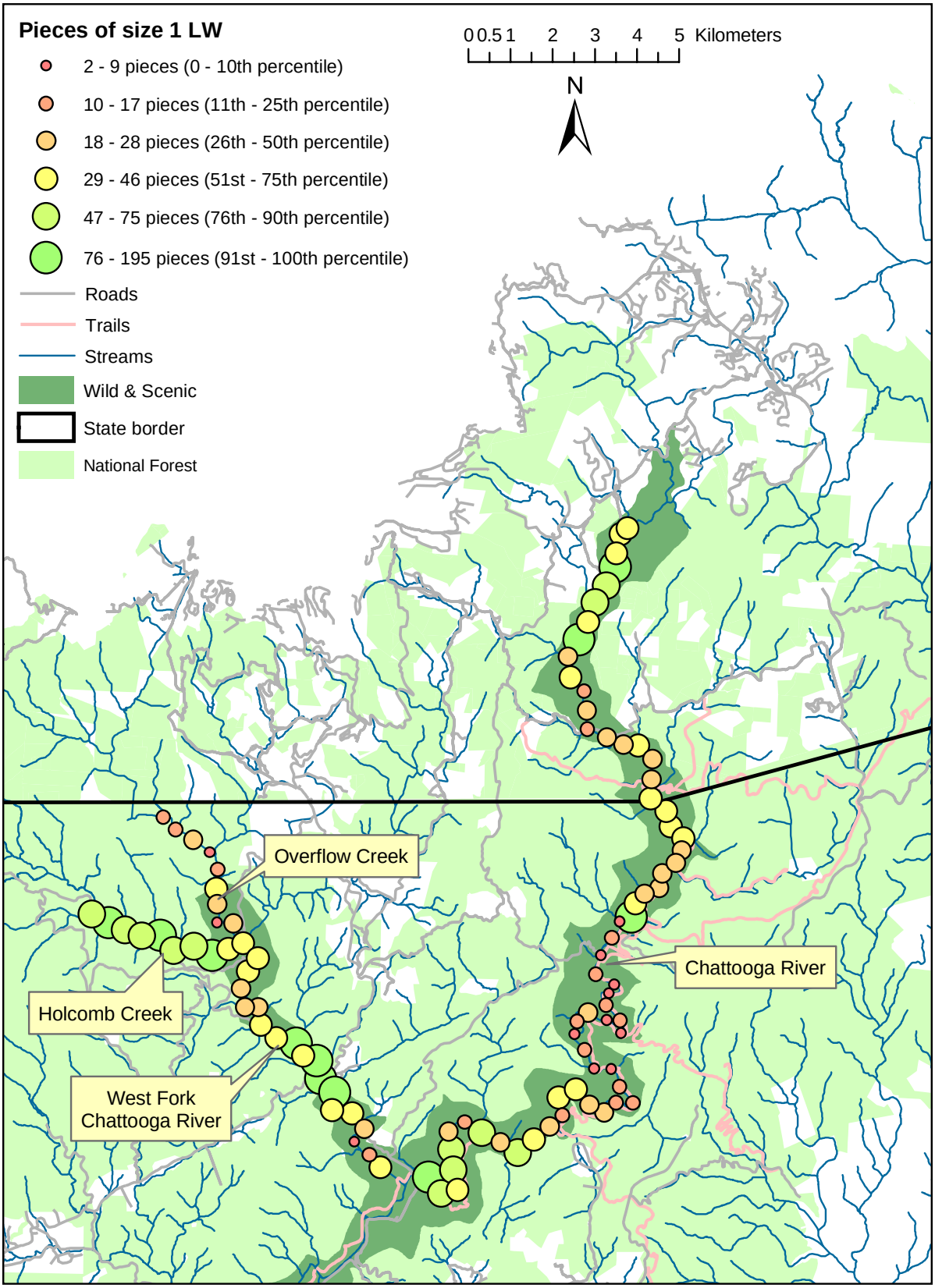

Figure 3. Pieces of size 1 LW (1 – 5 m long, 10 – 55 cm diameter) counted in 0.5 km reaches, November 2007.

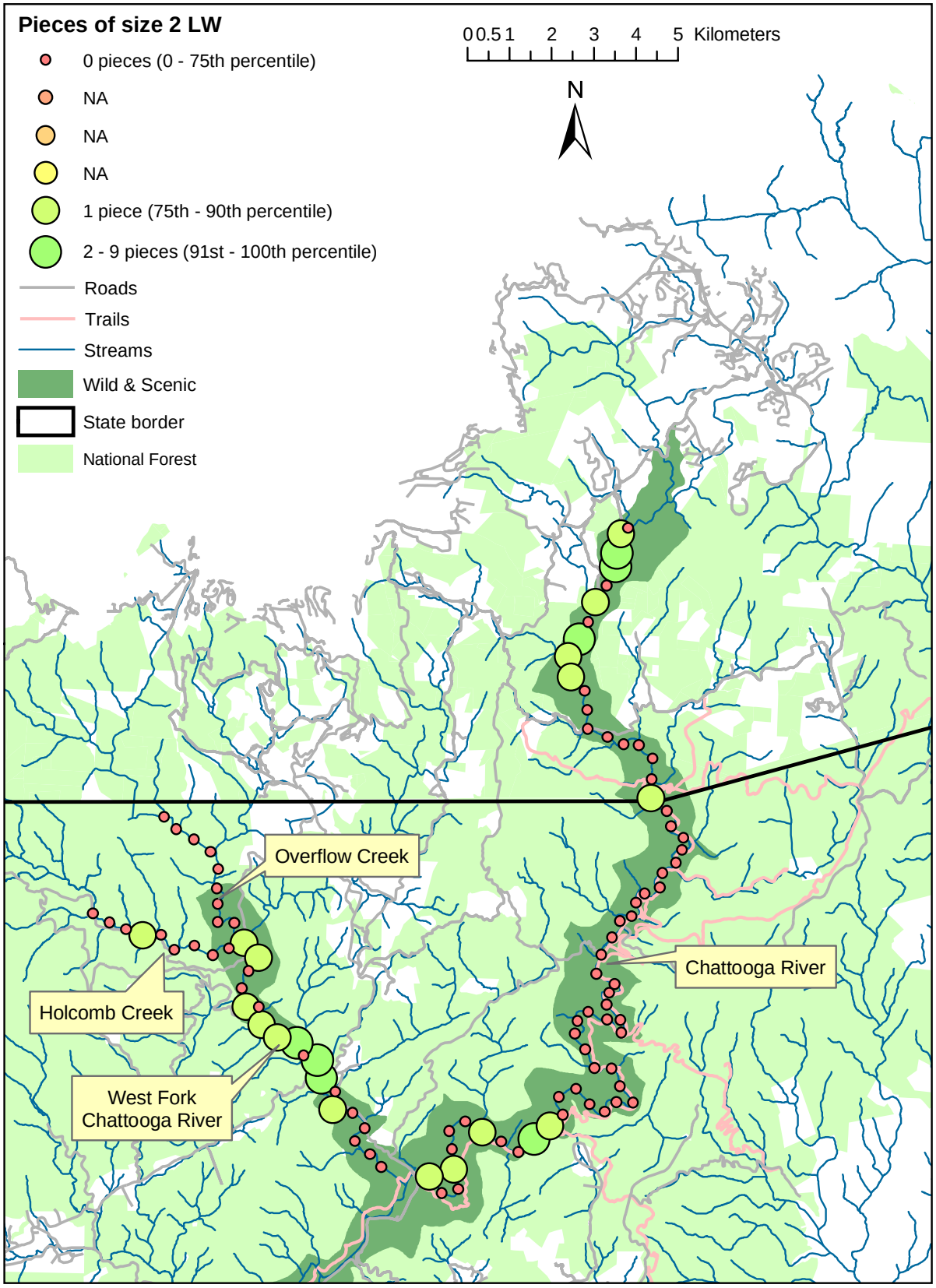

Figure 4. Pieces of size 2 LW (1 - 5 m long, > 55 cm diameter) counted in 0.5 km reaches, November 2007. Seventy-five percent of reaches contained no size 2 LW.

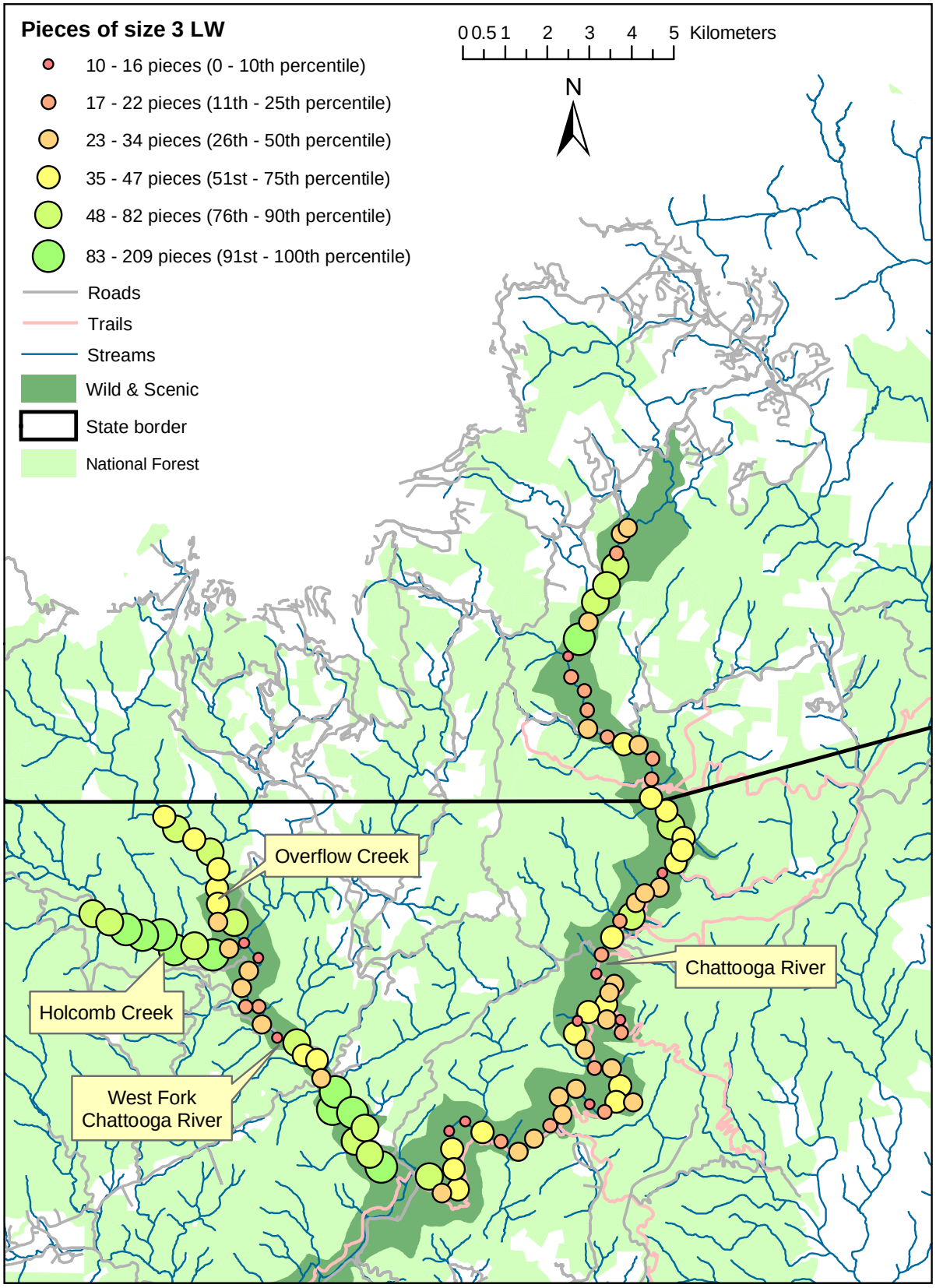

Figure 5. Pieces of size 3 LW (>5 m long, 10-55 cm diameter) counted in 0.5 km reaches, November 2007.

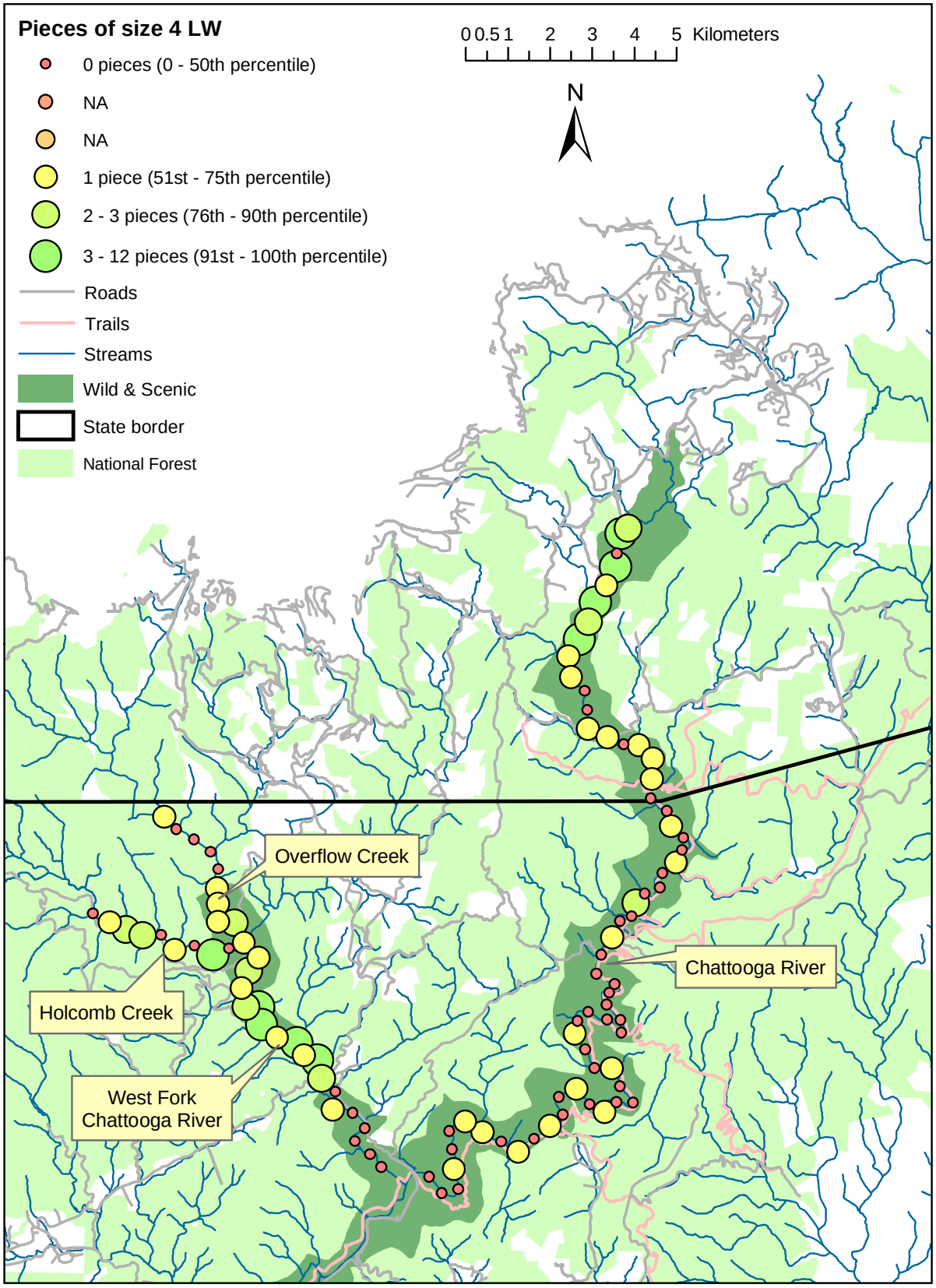

Figure 6. Pieces of size 4 LW (> 5 m long, > 55 cm diameter) counted in 0.5 km reaches, November 2007. Half of all reaches contained no size 4 LW.

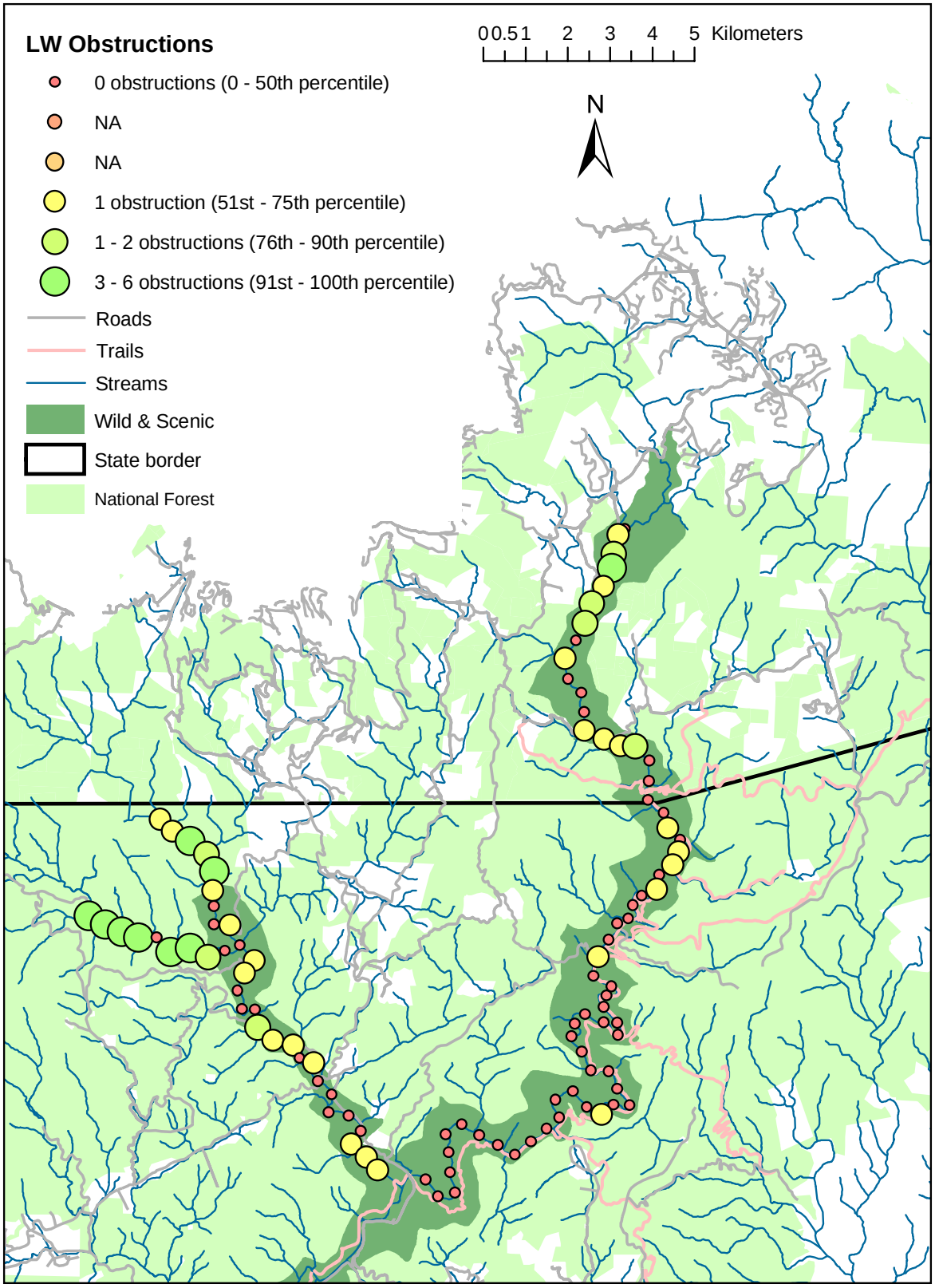

Figure 7. LW obstructions encountered in 0.5 km reaches, November 2007. Obstructions are single or multiple pieces of LW spanning at least 50% of the bankfull channel. Over half of all reaches contained no obstructions.

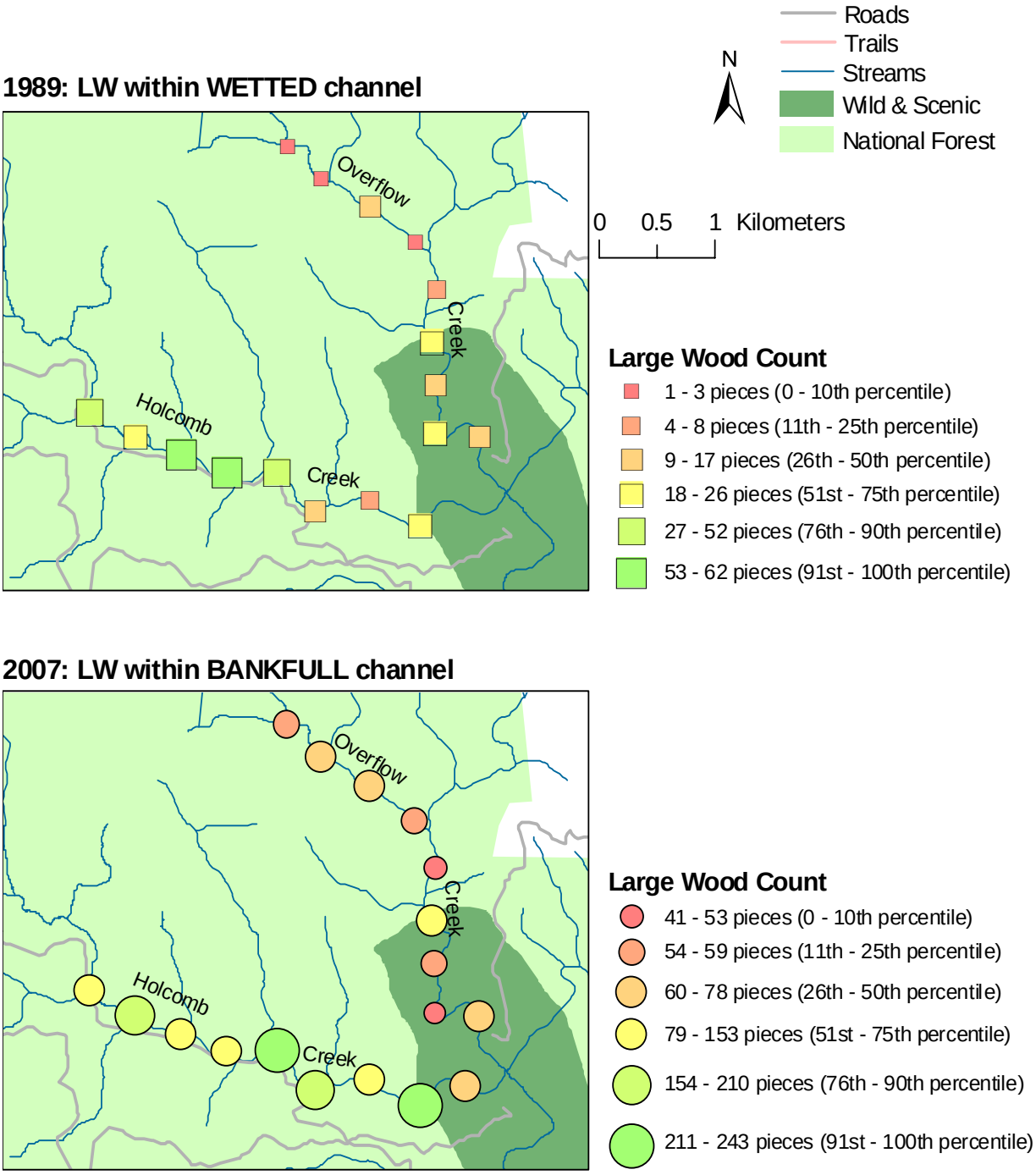

Figure 8. LW counts in 0.5 km reaches on Overflow Creek and Holcomb Creek in 1989 and 2007. In 1989, pieces within the wetted channel were counted. In 2007, pieces within the bankfull channel were counted.

Appendix A: Chattooga River Data

Table A1. Large wood (LW) counts in the Chattooga River, November 2007. River km 0.0 is at the confluence with West Fork. See table 2 for LW size categories. Total LW is sum of sizes 1 – 4.

Reach ID	River km	Length (km)	LW 1	LW 2	LW 3	LW 4	Total LW	Rootwads	Obstructions
23	33.0	0.5	33	0	32	2	67	7	0
24	32.5	0.5	46	1	33	5	85	3	1
25	32.0	0.5	43	2	20	0	65	4	2
26	31.5	0.5	102	4	67	7	180	6	6
27	31.0	0.5	68	0	55	1	124	2	1
28	30.5	0.5	67	1	61	11	140	3	2
29	30.0	0.5	41	0	33	2	76	2	2
30	29.5	0.5	132	5	133	12	282	2	0
31	29.0	0.5	26	1	10	1	38	1	1
32	28.5	0.5	43	1	22	1	67	1	0
33	28.0	0.5	17	0	20	0	37	0	0
34	27.5	0.5	19	0	18	0	37	0	0
35	27.0	0.5	17	0	31	1	49	2	1
36	26.5	0.5	19	0	21	1	41	0	1
37	26.0	0.5	28	0	42	0	70	1	1
38	25.5	0.5	34	0	33	1	68	1	2
39	25.0	0.5	19	0	17	1	37	0	0
40	24.5	0.5	24	0	17	1	42	2	0
41	24.0	0.5	37	1	38	0	76	2	0
42	23.5	0.5	38	0	41	0	79	4	0
43	23.0	0.5	42	0	60	1	103	1	1
44	22.5	0.5	34	0	42	0	76	0	0
45	22.0	0.5	18	0	37	0	55	2	1
46	21.5	0.5	18	0	44	1	63	3	1
47	21.0	0.5	19	0	11	0	30	3	0
48	20.5	0.5	26	0	34	0	60	4	1
49	20.0	0.5	23	0	28	0	51	2	0
50	19.5	0.5	29	0	30	2	61	6	0
51	19.0	0.5	89	0	64	0	153	7	0
52	18.5	0.5	2	0	20	0	22	4	0
53	18.0	0.5	10	0	37	1	48	3	0
54	17.5	0.5	4	0	19	0	23	1	1
55	17.0	0.5	11	0	16	0	27	2	0
56	16.5	0.5	8	0	34	0	42	0	0
57	16.0	0.5	8	0	26	0	34	0	0
58	15.5	0.5	15	0	45	0	60	0	0
59	15.0	0.5	12	0	10	0	22	1	0
60	14.5	0.5	9	0	18	0	27	0	0
61	14.0	0.5	5	0	32	0	37	0	0
62	13.5	0.5	18	0	45	0	63	2	0
63	13.0	0.5	13	0	16	0	29	0	0
64	12.5	0.5	4	0	35	1	40	3	0
65	12.0	0.5	12	0	24	0	36	0	0

continued next page…

Table A1 (continued).

Reach ID	River km	Length (km)	LW 1	LW 2	LW 3	LW 4	Total LW	Rootwads	Obstructions
66	11.5	0.5	2	0	22	0	24	0	0
67	11.0	0.5	7	0	25	1	33	0	0
68	10.5	0.5	17	0	45	0	62	1	0
69	10.0	0.5	17	0	27	0	44	0	0
70	9.5	0.5	16	0	37	0	53	1	0
71	9.0	0.5	24	0	19	1	44	1	1
72	8.5	0.5	24	0	13	0	37	0	0
73	8.0	0.5	31	0	23	1	55	0	0
74	7.5	0.5	38	0	26	0	64	2	0
75	7.0	0.5	11	0	25	0	36	2	0
76	6.5	0.5	28	1	22	1	52	4	0
77	6.0	0.5	35	2	26	0	63	4	0
78	5.5	0.5	61	0	32	1	94	3	0
79	5.0	0.5	20	0	20	0	40	6	0
80	4.5	0.5	56	1	35	1	93	7	0
81	4.0	0.5	11	0	15	1	27	1	0
82	3.5	0.5	20	0	16	0	36	0	0
83	3.0	0.5	49	0	37	0	86	0	0
84	2.5	0.5	47	1	37	1	86	5	0
85	2.0	0.5	37	0	38	0	75	7	0
86	1.5	0.5	55	0	33	0	88	4	0
87	1.0	0.8	85	1	71	0	157	8	0
Total:		32.8	1974	24	2118	65	4171	143	26
Total per km:		--	60	1	65	2	127	4	1