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1. Accession 0217246	Agency Identification No. 2. CSREES 3. LA.B	5. Work Unit/Project No. LAB93961	6. Status Annual Report
7. Title Best Management Practices in Louisiana Forested Headwaters			
12. Investigator Name(s) (Last Name and Initials) Xu, Y. J.			
20. Termination Date 09/30/2013		40. Period Covered (mo/da/year): 01/01/2011 TO 12/31/2011	
Outputs: Fourteen publications, two graduate theses, and a technical report summarizing major findings from this project were completed during 2011. The project activities and major research findings were also disseminated to communities at local meetings, as well as at national and international conferences, including four presentations at the 16th Biennial Southern Silvicultural Research, four presentations at the 4th International Conference on Water Resources and Sustainable Development, and two presentations at the 2011 International Union of Geodesy and Geophysics Conference. Invited seminar talks were given at the Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, helping develop international research collaborations. Graduate Student Years: 4			
Outcomes/Impacts: Findings from the research help identify silvicultural impacts on stream water quality, critical areas of non-point source pollution, and the effectiveness of current best management practices in forested headwater areas. Such information is directly useful for forest land owners, resource managers, and government agencies to develop and implement effective management plans for water quality protection.			
Publications: Beebe, J., G. Ice, Y.J. Xu, A. DaSilva, and R. Stich. 2011. Effects of silvicultural management on low gradient stream water quality in Louisiana. In Abstracts: The 16th Biennial Southern Silviculture Research Conference, February 14 -17, 2011, Charleston, South Carolina. Brown, K. and Y.J. Xu. 2011. Hydrologic responses to forestry management practices in low-gradient headwaters of the northern Gulf of Mexico Coastal Plain. P. 368-372 in Proc.: The 4th International Conference on Water Resources and Sustainable Development, 22-25 February 2011, Algiers, Algeria. DaSilva, A., D. Davis, and Y.J. Xu. 2011. BMP effectiveness in preventing dissolved oxygen depletion and nutrient enrichment in a low-gradient watershed, Louisiana, USA. P. 378-382 in Proc.: The 4th International Conference on Water Resources and Sustainable Development, 22-25 February 2011, Algiers, Algeria. DaSilva, A., Y. J. Xu, G. Ice, J. Beebe, and R. Stich. 2011. Spatial and temporal dynamics of dissolved oxygen, nitrogen, and phosphorus in a low-gradient watershed, Louisiana. In Abstracts: The 16th Biennial Southern Silviculture Research Conference, February 14 -17, 2011, Charleston, South Carolina. Klimesh, D., Y. J. Xu, and A. Viosca. 2011. Characterizing benthic macroinvertebrate communities in low-gradient, oxygen-depleted streams of forested headwaters in central Louisiana. In Abstracts: The 16th Biennial Southern Silviculture Research Conference, February 14 -17, 2011, Charleston, South Carolina. Rosen, T. and Y.J. Xu. 2011. Sediment yields of major coastal rivers along Louisiana's coast, USA. P. 383-387 in Proc.: The 4th International Conference on Water Resources and Sustainable Development, 22-25 February 2011, Algiers, Algeria. Rosen, T., Z. Ma, Y.J. Xu, and X. Xu. 2011. Comparison of changes in deltaic development of the Mississippi and Yellow Rivers. 2011 Annual Conference of Chinese Society of Geography - The Yellow River, July 16 - July 20, 2011, Xiling, China. Wang, F., Y.J. Xu, and T. J. Dean. 2011. Projecting climate change effects on forest net primary productivity in subtropical			

Louisiana, USA. AMBIO 40: 506-520.

Xu, Y.J., and A. BryantMason. 2011. Modelling nitrate contribution from the Red River to the Atchafalaya River Basin of the northern Gulf of Mexico, USA. In Abstracts: the 2011 IUGG Conference, June 28 - July 7 2011, Melbourne, Australia.

Xu, Y.J., and A. DaSilva. 2011. Long-term monitoring of the effectiveness of forestry best management practices in the flat creek watershed, Louisiana. In Abstracts: The 16th Biennial Southern Silviculture Research Conference, February 14 - 17, 2011, Charleston, South Carolina.

Xu, Y.J. and T.R. Rosen. 2011. Riverine Sediment Sources to the Chenier Plain, Louisiana, USA. In Abstracts: the 2011 IUGG Conference, June 28 - July 7 2011, Melbourne, Australia.

Xu, Y.J. and F. Wang. 2011. Transport and delivery of suspended sediment to Atchafalaya Bay of the northern Gulf of Mexico. P. 373-377 in Proc.: The 4th International Conference on Water Resources and Sustainable Development, February 22 - 25 2011, Algiers, Algeria.

Zhong, B. and Y.J. Xu. 2011. Risk of Inundation to Coastal Wetlands and Soil Organic Carbon and Organic Nitrogen Accounting in Louisiana, USA. Environmental Science & Technology 45: 8241-8246.

Zhong, B. and Y.J. Xu. 2011. Scale Effects of Geographical Soil Datasets on Soil Carbon Estimation in Louisiana, USA: A Comparison of STATSGO and SSURGO. Pedosphere 21: 491-501.

Participants:

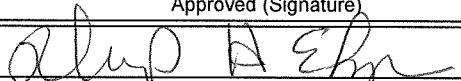
Xu, Y.J., (PI), A. DaSilva, A. Bryant-Mason, D. Klimesh, and T. Rosen, LSU AgCenter; G. Goay, Louisiana Department of Environmental Quality; J. Beebe and G. Ice, National Council for Air and Stream Improvement; and R. Stich, Plum Creek Timber Company.

Target Audiences:

Findings gained from this project are relevant to forest industries, practitioners, resource managers, and government agencies to develop effective strategies and management plans in water resource protection of headwater streams.

Project Modifications:

Nothing significant to report during this reporting period.

Approved (Signature)	Title	Date
		3/23/12