

Upper Mississippi River Restoration–Environmental Management Program
Long Term Resource Monitoring
FY2012 Scope of Work

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead
Aquatic Vegetation Component						
2012A1	Complete data entry and QA/QC of 2011 data; 1250 observations.					
	a. Data entry completed and submission of data to USGS	30-Nov-11	30-Nov-11	30-Nov-11		Popp, Fischer, Bierman
	b. Data loaded on level 2 browsers	15-Dec-11	15-Dec-11	15-Dec-11		Schlifer
	c. QA/QC scripts run and data corrections sent to Field Stations	28-Dec-11	28-Dec-11	28-Dec-11		Sauer
	d. Field Station QA/QC with corrections to USGS	15-Jan-12	15-Jan-12	15-Jan-12		Popp, Fischer, Bierman
	e. Corrections made and data moved to public Web Browser	30-Jan-12	30-Jan-12	30-Jan-12		Sauer, Schlifer, Caucutt
2012A2	WEB-based annual Aquatic Vegetation Component Update with 2011 data on Public Web Server.					
	a. Develop first draft	28-Feb-12	28-Feb-12	7-Mar-12		Sauer
	b. Reviews completed	28-Mar-12	28-Mar-12	28-Mar-12		Popp, Fischer, Bierman, Sauer, Yin
	c. Submit final update	18-Apr-12	18-Apr-12			Sauer
	d. Placement on Web with PDF	31-Jul-12	31-Jul-12			Sauer, Caucutt
2012A3	Complete aquatic vegetation sampling for Pools 4, 8, and 13 (Table 1)	31-Aug-12	31-Aug-12			Yin, Popp, Fischer, Bierman
2012A4	Web-based: Creating surface distribution maps for aquatic plant species in Pools 4, 8, and 13; 2011 data	31-Jul-12	31-Jul-12			Yin, Rogala, Schlifer
2012A5	Final draft LTRM completion report: FY05-07 data--Analysis and support of aquatic vegetation sampling data in Pools 6, 9, 18, and 19 (2008APE4a)	30-Sep-12	30-Sep-12			Yin
2012A6	Draft LTRM completion report: Thirteen years (1998 – 2011) of aquatic vegetation in Pool 4 of the Upper Mississippi River.	30-Jun-12	30-Jun-12			Moore
2012A7	Rewriting of aquatic vegetation annual summary statistics computer code (revision of strata weights due to safety concerns)	31-Aug-12	31-Aug-12	20-Jan-12		Yin
2012A8	Modify aquatic vegetation graphical browser code	30-Sep-12	30-Sep-12			Schlifer
2012A9	Summary graphs: Sampling the impaired reach of the UMR (Pools 2 and 3) for submersed aquatic vegetation using LTRM methods.	30-Sep-12	30-Sep-12			Moore
On-Going						
2009APE1a	Draft manuscript: Have the recent increases in aquatic vegetation in Pools 5 and 8 been the result of water level management drawdowns, HREPs, or natural fluctuations? (2009APE1a)	1-Sep-10	28-Feb-12	13-Apr-12		Yin
2011A5	Final Draft LTRM Report: Ecological Assessment of High Quality UMRS Floodplain Forests (2007APE12)	30-Sep-11	30-Dec-11	13-Feb-12		Guyon, Battaglia, Chick
Intended for distribution						
Completion report: LTRM Aquatic Vegetation Program Review (Heglund; 2007A9)						
Manuscript: Importance of the Upper Mississippi River Forest Corridor to Neotropical Migratory Birds (Kirsch, 2007APE1)						
LTRM Report: Ecological Assessment of High Quality UMRS Floodplain Forests (Chick, Guyon, Battaglia; 2007APE12)						
LTRM Technical Report; Experimental and Comparative Approaches to Determine Factors Supporting or Limiting Submersed Aquatic Vegetation in the Illinois River and its Backwaters (2008APE5, Sass)						

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Fisheries Component						
2012B1	Complete data entry, QA/QC of 2011 fish data; ~1,590 observations					
	a. Data entry completed and submission of data to USGS	31-Jan-12	31-Jan-12	31-Jan-12		Popp, Fischer, Bierman, Chick, Sass, Hrabik
	b. Data loaded on level 2 browsers; QA/QC scripts run and data corrections sent to Field Stations	15-Feb-12	15-Feb-12	15-Feb-12		Schlifer
	c. Field Station QA/QC with corrections to USGS	15-Mar-12	15-Mar-12	15-Mar-12		Popp, Fischer, Bierman, Chick, Sass ¹ , Hrabik
	d. Corrections made and data moved to public Web Browser	30-Mar-12	30-Mar-12	30-Mar-12		Sauer and Schlifer
2012B2	Update Graphical Browser with 2011 data on Public Web Server.	31-May-12	31-May-12	30-Mar-12		Sauer, Popp, Fischer, Bierman, Chick, Sass, Hrabik
2012B3	Complete fisheries sampling for Pools 4, 8, 13, 26, the Open River, and La Grange Pool (Table 1)	31-Oct-12	31-Oct-12			Ickes, Popp, Fischer, Bierman, Chick, Sass, Hrabik
2012B4	Final draft completion report, compilation of 3 years of sampling: Fisheries (2009R1Fish)	30-Sep-12	30-Sep-12			Chick et al.
2012B5	Draft manuscript: Sturgeon Life History on the UMR	30-Sep-12	30-Sep-12			Hrabik, Phelps
2012B6	Database development: Flooding of the New Madrid floodway and Duck Creek Conservation Area	30-Sep-12	30-Sep-12			Hrabik, Phelps
2012B7	Fisheries sampling and database increment: Population characteristics and habitat use of American eel	30-Sep-12	30-Sep-12			Hrabik Ridings, Phelps
2012B8	Draft Manuscript: Influence of Asian carp on planktivorous fish	30-Sep-12	30-Sep-12			Hrabik, Phelps
2012B9	USACE Internal Report: Fish Habitat Availability Huron Island Complex Habitat Rehabilitation and Enhancement Project.	31-Jan-12	31-Jan-12		Waiting for data from Nate Richards, USACE	Hrabik, Phelps
2012B10	Database increment: Asian carp age and growth	30-Sep-12	30-Sep-12			Sass, Ruebush, Solomon
2012B11	Fisheries sampling: Asian carp control	30-Sep-12	30-Sep-12			Sass, Ruebush, Solomon
2012B12	Preliminary analysis: Asian carp reduction	30-Sep-12	30-Sep-12			Sass, Ruebush, Solomon
2012B13	Database increment: Rehabilitation of backwater habitat in select Pool 12 backwaters	30-Sep-12	30-Sep-12			Bierman, Bowler
2012B14	IDNR Fisheries Management Completion Report: Fisheries Monitoring in Pool 13, Upper Mississippi River, 2011	30-Apr-12	30-Apr-12			Bierman, Bowler
2012B15	Fish Component Hoop net study feasibility assessment, internal document	2-Mar-12	2-Mar-12	2-Mar-12		Ickes
2012B16	Fish Component Hoop net study: Field sampling	15-Oct-12	15-Oct-12			Bartels, Ridings, Ickes, Schlifer
2012B17	Database increment: Stratified random day electrofishing samples collected in Pools 16–19	30-Sep-12	30-Sep-12			Bierman, Bowler, Schlifer
2012B18	Database increment: Fisheries HREP Monitoring; Huron Island (Pool 18)	30-Sep-12	30-Sep-12			Bierman, Bowler, Schlifer
On-Going						
2006B6	Draft manuscript: Spatial structure and temporal variation of fish communities in the Upper Mississippi River. (Dependent on 2008B9 acceptance into journal)	30-Sep-11	TBD			Chick
2007APE3	Draft LTRM report: Testing the Fundamental Assumption underlying the use of LTRM fish data: Does variation in LTRM catch-per-unit-effort data reflect variation in the abundance of fishes?	30-Apr-10	30-Dec-12	27-Mar-12		Chick
2007B4	Draft completion report: Proportional biomass contributions of Non-native fish to UMRS fish communities	30-Jul-10	30-Jun-12			Ickes

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2008B9	Draft manuscript: Standardized CPUE data from multiple gears for community level analysis (a previous manuscript was submitted and rejected by the journal, 2006B5; 2008B9 is a revised manuscript)	30-Dec-09	30-Mar-12			Chick
2008APE1a	Draft completion report: Developing an empirical framework for reconstructing and modeling UMRS floodplain disturbance histories: Year 1, historic data extraction and summaries.	30-Sep-09	30-Mar-12		Extractions completed	Ickes
2010B4	Draft revision and update of the LTRM fisheries component procedures manual	30-May-12	30-May-12			Ratcliff, Gittinger
Intended for distribution						
Manuscript: Evaluation of a Catch and Release Regulation for Largemouth Bass in Brown's Lake, Pool 13, Upper Mississippi River (2007B7; Bowler)						
Completion report: LTRM Fisheries Component collection of six darter species from 1989–2004. (2006B13; Ridings)						
LTRM Report: An Evaluation of Macroinvertebrate Sampling Methods For Use In The Open River Reach of The Upper Mississippi River; Kathryn N. S. McCain, Robert A. Hrabik, Valerie A. Barko, Brian R. Gray, and Joseph R. Bidwell (2005C2)						
LTRM report: Relationship of juvenile abundance of select fish species to aquatic vegetation in Navigation Pools 4, 8, and 13 of the Upper Mississippi River, 1998-2007 (2007B5; 2009B5; Popp and DeLain)						
Completion Report: A Proposal to restore Specific Monitoring Elements to the LTRM (Year 1 of restored monitoring; 2007APE8)						
LTRM technical report; Setting quantitative fish management targets for LTRM monitoring (2008APE2; Sass)						
Water Quality Component						
2012D1	Complete calendar year 2011 fixed-site and SRS water quality sampling	30-Dec-11	30-Dec-11	31-Dec-11		Houser, Popp, Fischer, Bierman, Chick, Sass, Hrabik
2012D2	Complete laboratory sample analysis of 2011 fixed site and SRS data; Laboratory data loaded to Oracle data base.	15-Mar-12	15-Mar-12	30-Mar-12		Yuan, Schlifer
2012D3	1st Quarter of laboratory sample analysis (~12,600)	30-Dec-11	30-Dec-11	30-Dec-11		Yuan, Kreiling, Manier, Burdis, Giblin, Kueter, L. Gittinger, Cook, Crites
2012D4	2nd Quarter of laboratory sample analysis (~12,600)	30-Mar-12	30-Mar-12	30-Mar-12		Yuan, Kreiling, Manier, Burdis, Giblin, Kueter, L. Gittinger, Cook, Crites
2012D5	3rd Quarter of laboratory sample analysis (~12,600)	29-Jun-12	29-Jun-12			Yuan, Kreiling, Manier, Burdis, Giblin, Kueter, L. Gittinger, Cook, Crites
2012D6	4th Quarter of laboratory sample analysis (~12,600)	28-Sep-12	28-Sep-12			Yuan, Kreiling, Manier, Burdis, Giblin, Kueter, L. Gittinger, Cook, Crites
2012D7	Complete QA/QC of calendar year 2011 fixed-site and SRS data.					
	a. Data loaded on level 2 browsers; QA/QC scripts run; SAS QA/QC programs updated and sent to Field Stations with data.	30-Mar-12	30-Mar-12	30-Mar-12		Schlifer, Rogala
	b. Field Station QA/QC; USGS QA/QC.	15-Apr-12	15-Apr-12			Rogala, Popp, Fischer, Bierman, Chick, Sass, Hrabik
	c. Corrections made and data moved to public Web Browser	30-Apr-12	30-Apr-12			Rogala and Schlifer
2012D8	Complete FY12 fixed site and SRS sampling for Pools 4, 8, 13, 26, Open River, and La Grange Pool (Table 1)	30-Sep-12	30-Sep-12			Houser, Popp, Fischer, Bierman, Chick, Sass, Hrabik
2012D9	WEB-based annual Water Quality Component Update with 2011 data on Public Web Server.	30-May-12	30-May-12			Rogala

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2012D10	Draft manuscript: Nutrients, chlorophyll, and suspended sediments in channel and off-channel areas of the Upper Mississippi River	1-Sep-12	1-Sep-12			Houser
2012D11	Thesis submission: Spatial and temporal dynamics of phytoplankton assemblages in selected reaches of the UMR: Navigation Pools 8, 13, and 26 (2010OUT2c)	30-Jul-12	30-Jul-12			Manier, Houser
2012D12	Draft Manuscript: Temporal evaluation of factors influencing metaphyton biomass, distribution and composition within UMR backwaters (Continued analysis from 2010out2a)	30-Sep-12	30-Sep-12			Giblin et al.
2012D13	Data preparation: manipulation of DNR Biology Lab zooplankton data (Final product will be a manuscript in FY13 similar to 2006D7)	30-Sep-12	30-Sep-12			Burdis
2012D14	Draft Manuscript: A Decade of Monitoring on Pool 26 of the Upper Mississippi River	30-Sep-12	30-Sep-12			Chick et. al
2012D15	Technical review of a YSI Optical sensor	30-Sep-12	30-Sep-12			Chick, L. Gittinger, Lubinski
2012D16	Final draft completion report, compilation of 3 years of sampling: Water Quality (2009R1WQ)	30-Sep-12	30-Sep-12			Giblin, Burdis
2012D17	Final draft completion report: Temporal evaluation of factors influencing metaphyton biomass, distribution and composition within UMR backwaters (2010OUT2a)	30-Sep-12	30-Sep-12			Giblin et al.
On-Going						
2010D6	Draft LTRM Completion Report: Changes in substrate, water quality, aquatic vegetation, zooplankton, and fish community from Geomorphic Reach 1 (above Lake Pepin) to Geomorphic Reach 3 (below Lake Pepin).	30-Sep-10	30-Jun-12			Popp, De Lain, Burdis, Moore
Intended for distribution						
Completion report: Examining nitrogen and phosphorus ratios N:P in the unimpounded portion of the Upper Mississippi River (2006D9; Hrabik & Crites)						
LTRM report: Main channel/side channel report for the Open River Reach. (2005D7; Hrabik)						
Manuscript: Primary production, and dissolved oxygen dynamics in UMRS backwater lakes and main channel. (2008D8; Houser)						
LTRM report: A Decade of Monitoring on Pool 26 of the Upper Mississippi River: Water Quality and Fish Data with Cross Component Analyses (Chick et al.; 2005APE26)						
Manuscript: Causes and consequences of metaphyton abundance in backwater lakes of the UMR near La Crosse, Wisconsin. (2009APE3, Houser) Submitted to Journal 5 March 2012						
Land Cover/Land Use with GIS Support						
Intended for distribution						
Completion Report: Assessment of high-resolution digital imagery for UMRS vegetation mapping and software-based vegetation classification (2007APE13; Robinson)						
Completion report: Aerial Imagery Processing and Classification Training for 2010 LCU (2009LCU1; Robinson)						

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Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead
Development of 2010–2011 Land Cover/Land Use GIS Database and Aerial Photo Mosaics						
2012V1	Complete orthorectified photo mosaics of all imagery collected in 2010 using OrthoVista	31-Dec-11	31-Dec-11			Robinson, Ruhser
2012V2	Complete orthorectified photo mosaics of all imagery collected in 2011 using OrthoVista	30-Jun-12	30-Jun-12			Robinson, Ruhser
2012V3	Complete 2010/11 LCU databases for UMR Pool 26 and Open River South	29-Feb-12	29-Feb-12		Open River South has been QC'd and needs a bit more work do determine the best way to handle flooded AG that was alternately mud, water, annual veg.; Pool 26 is undergoing QC currently. Both databases should be online by 4/30 if not before.	Robinson, Hoy, Hanson, Langrehr
2012V4	Complete 2010/11 LCU database for UMR Pool 9	30-Apr-12	30-Apr-12			Robinson, Hoy, Hanson, Langrehr
2012V5	Complete 2010/11 LCU database for UMR Pool 18	31-May-12	31-May-12			Robinson, Hoy, Hanson, Langrehr
2012V6	Complete 2010/11 LCU database for UMR Pool 14	30-Jun-12	30-Jun-12			Robinson, Hoy, Hanson, Langrehr
2012V7	Complete 2010/11 LCU databases for UMR Pools 6 and 19	31-Aug-12	31-Aug-12			Robinson, Hoy, Hanson, Langrehr
Thematic accuracy assessment and validation for the Upper Mississippi River System floodplain from 2010/2011 land cover/land use data (FY11 Deferred)						
2012AA1	Pool 13 accuracy assessment analysis	30-Jun-12	30-Jun-12			Lubinski, Langrehr, Ruscher
2012AA2	Pool 13 validation analysis	30-Jun-12	30-Jun-12			Lubinski, Langrehr, Ruscher
2012AA3	La Grange Pool accuracy assessment analysis	30-Jun-12	30-Jun-12			Lubinski, Langrehr, Ruscher
2012AA4	Pool 26 validation analysis	30-Jun-13	30-Jun-13			Lubinski, Langrehr, Ruscher
2012AA5	Open River South validation analysis	30-Jun-13	30-Jun-13			Lubinski, Langrehr, Ruscher
2012AA6	Draft LTRM Completion Report	30-Sep-13	30-Sep-13			Lubinski, Langrehr, Ruscher
LiDAR and Bathymetry (Not base monitoring)						
2012LB1	LiDAR Tier 2: Pools 2-7, 8 (p), 9, 11-12, 13 (p), 20, 22-24, St. Croix. Further process LiDAR data: QA/QC, reclassify data errors, mask water, and smooth contours	30-Dec-12	30-Dec-12			Dieck, Rohweder, Nelson, Fox
Statistical Evaluation						
2012E1	Draft completion report: Trend depiction approaches for the LTRM.	30-Sep-12	30-Sep-12			Gray
2012E2	Draft completion report: Summer water temperature in the Upper Mississippi River	30-Jun-12	30-Jun-12			Gray, Robertson, Rogala, Houser
2012E3	Final draft completion report: An assessment of trends in water temperature in La Grange Pool as functions of water discharge and mean air temperature (using LTRM water temperature data) (2011E1)	30-Sep-12	30-Sep-12			Gray, Robertson, Rogala, Houser
Intended for distribution						
Completion report that describes methods of estimating variance components from LTRM water quality data (2008E1; Gray)						
Completion Report: Duckweed and filamentous algal associations with submersed aquatic vegetation in contiguous floodplain lakes of the Upper Mississippi River. Gray and Holland. (2009APE3a)						
Manuscript: Inferring decreases in among- backwater heterogeneity in large rivers using among-backwater variation in limnological variables (2010E1, Gray, Rogala, Houser)						
Manuscript: Among-lake variability in limnological characteristics of backwaters of the Upper Mississippi River (2010E2, Rogala, Gray, , Houser)						

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Data Management						
2012M1	Update vegetation, fisheries, and water quality component field data entry and correction applications.	30-May-12	30-May-12			Schlifer
2012M2	Load 2011 component sampling data into Oracle tables and make data available on Level 2 browsers for field stations to QA/QC.	30-Jun-12	30-Jun-12			Schlifer
2012M3	Integration of SAS and SQL QA/QC code into one cohesive QA/QC program for aquatic vegetation	30-Nov-11	30-Nov-11	30-Nov-11		Schlifer, Yao, Sauer
2012M4	Development of indicator figures	30-Sep-12	30-Sep-12			Schlifer, Ickes, Houser, Rogala
Landscape Pattern Research and Application (Not base monitoring)						
2012L1	Summary letter on work completed 2010-2012	30-Sep-12	30-Sep-12			De Jager
2012L2	Draft fact sheet: Landscape Ecology on the Upper Mississippi River: lessons learned, challenges, opportunities	30-Sep-12	30-Sep-12			De Jager
2012L3	Develop a beta-version Graphical Browser with landscape pattern indicators	30-Sep-12	30-Sep-12			De Jager, Rohweder, Schlifer
2012L4	Complete manuscript: Regional food selection and functional response of white-tailed deer in floodplain forest restorations of the Upper Mississippi River valley, USA	30-Sep-12	30-Sep-12			Ben Cogger& Meredith Thomsen (UWL), De Jager
2012L5	Complete manuscript: White-tailed deer herbivory increases flood-induced tree mortality in an UMR floodplain forest	30-Sep-12	30-Sep-12			Ben Cogger& Meredith Thomsen (UWL), De Jager
2012L6	Develop database: reciprocal effects of flood inundation on plant community type and nutrient cycling in an UMR floodplain forest	30-Sep-12	30-Sep-12			Eric Strauss (UWL), Yin, De Jager
Intended for distribution						
Manuscript: De Jager, N.R., Thomsen, M., Yin, Y. 2012. Threshold effects of flood duration on the vegetation and soils of the Upper Mississippi River floodplain, USA. Forest Ecology and Management. 270:135-146. (2010OUT2b1) 27 February 2012						
Manuscript: Houser, J.N. and De Jager, N.R. In press. Spatial clusters of high and low concentration of total nitrogen (TN), total phosphorous (TP), and TN:TP in the Upper Mississippi River, USA (2010OUT2b2)						
Manuscript: De Jager, N.R, Rohweder, J.J., and J.C. Nelson. Past and Predicted Future Changes in Land-Cover of the Upper Mississippi River Floodplain, USA. (DeJager, 2009APE4a&b): 13 Dec. 2011, DOI: 10.1002/rra.1615						
Development of vital rates to assess the relative health of UMRS mussel resources (FY11 Deferred)						
2012U1	Summary letter describing results to date from Phase 1, Objective 3	30-Nov-12	30-Nov-12			Ries, Newton, Zigler
Continuing existing work on survival of mussels using PIT tagging						
2012U2	Letter report with field-based survival estimates	31-Dec-12	31-Dec-12			Newton
LTRM Staff Contributions to an External Research Framework on Lateral Connectivity for the Upper Mississippi River System						
2012CRF1	Time Contribution to an External Research Framework on Lateral Connectivity for the Upper Mississippi River System	30-Sep-12	30-Sep-12			Houser, Rogala, McCain
Development of Initial Strategies for LTRM/HREP Integration						
2012LH1	Proposal outlining concepts for integration of LTRM and HREP	30-Sep-11	30-Sep-11	30-Sep-11		Ickes
2012LH2	Initiate discussions regarding next steps for instituting concepts. Incorporate outcomes into HREP strategic planning, LTRM FY13 Scope of Work, and HREP's, as appropriate.	30-Sep-12	30-Sep-12			Johnson, Hubbell
2012LH3	Initiate HREP monitoring	30-Sep-12	30-Sep-12			Johnson, Hubbell

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Quarterly Activities						
2012QR1	Submittal of quarterly activities	13-Jan-12	13-Jan-12	13-Jan-12		All LTRM staff
2012QR2	Submittal of quarterly activities	13-Apr-12	13-Apr-12	13-Apr-12		All LTRM staff
2012QR3	Submittal of quarterly activities	13-Jul-12	13-Jul-12			All LTRM staff
2012QR4	Submittal of quarterly activities	12-Oct-12	12-Oct-12			All LTRM staff
LTRM Fact Sheet						
2012FS1	Draft Fact Sheet: Taking the Pulse of a River System #3	29-Jun-12	29-Jun-12	11-Dec-11		LTRM staff as needed
2012FS2	Final Draft Fact Sheet: Taking the Pulse of a River System #3	28-Sep-12	28-Sep-12			LTRM staff as needed
2012FS3	Draft Fact Sheet: Taking the Pulse of a River System #4	28-Sep-12	28-Sep-12			LTRM staff as needed
AFS Symposia: Upper Mississippi River Restoration: Combining Habitat Rehabilitation, Monitoring, and Research to Enhance Fish Communities						
2012AFS	Symposium presentations	19-Aug-12	19-Aug-12			Potter et al.
On-line Tracking Form for Equipment Refreshment						
2012ER1	Property inventory and tracking	On-going	On-going			Sauer, Mulholland, Yuan, Popp, Langrehr, Bartels, Giblin, Bierman, Chick, Hrabik, Sass
2012ER2	Beta-version: Development of an Intranet-based field equipment life cycle tracking tool	30-Sep-12	30-Sep-12			Schlifer, Sauer, Popp, Langrehr, Bartels, Giblin, Bierman, Chick, Hrabik, Sass, Caucutt
Maintenance of the Water Quality Laboratory Information Management System, Part I (FY11 Deferred)						
2012LAB1	Maintenance of computer code for the LTRM Laboratory Information Management System	30-Sep-12	30-Sep-12			Soballe, Yuan, Schlifer, Kreiling, Houser, Rogala
LTRM Team Meeting (FY11 Deferred)						
2012FM1	Meeting date coordination	7-Oct-11	7-Oct-11	7-Oct-11		All LTRM Staff
2012FM2	Agenda development	30-Nov-11	30-Nov-11	1-Nov-11		All LTRM Staff
2012FM3	Meeting logistics	On-Going	On-Going	Completed		Johnson, Sauer
2012FM4	Meeting participation	15-Feb-12	15-Feb-12	17-Feb-12		All LTRM Staff
Geospatial Data Upgrades						
2012G1	Projection files (.prj) and metadata files (.xml) will be created for all publically served data (vector and raster).	30-Mar-13	30-Mar-13			Nelson
Maintenance of the Water Quality Laboratory Information Management System: Part II¹						
Maintenance and Calibration of Equipment						
	Marsh-McBirney Flo-Mate – for Measuring Water Velocity					
	Mapping Electrical Fields Surrounding Electrofishing Boats and Updating Wiring Diagrams					
	Replacement of Autoclave in WQ Laboratory					
USACOE Technical Support						
2012COE1	SOW for updating/upgrading Wind Fetch/Wave model	1-Feb-12	1-Feb-12	1-Feb-12		Potter
2012COE2	Writing support for <i>ad hoc</i> Indicators Report	30-Sep-10	30-Sep-12			McCain
2012COE3	Technical support for Adaptive Management for Pool 12 HREP	30-Sep-12	30-Sep-12			Theiling

¹ Sass placeholder for Illinois River Biological Station Team Leader