

**Long Term Resource Monitoring Program (LTRMP) FY05 Additional Program Element Proposals**

<b>List of all titles submitted</b>	<b>Proposals sent for review</b>	<b>Funded</b>	<b>Title under LTRMP FY05 Scope of Work</b>
Automate annual compilation of hydrology data.	X	X	Feasibility study: Investigate the possibility of automating annual compilation of USACE hydrology data and create a database of existing UMESC hydrology data
Enter pre-2002 Quality Factor fields into the Water Quality database.	X	X	Enter pre-2002 Quality Factor fields (for Laboratory Measurements) into the Water Quality Database
Analyze connectivity metrics as predictors of water quality + Study if backwater differences account for variation in water quality within backwater strata.			
Complete development of new internet products and tools, especially Web browsers for vegetation and water quality data.		X	Data Access and Delivery online tools
Initiate cross component analysis of to see if oxygen is limiting under ice and to describe communities within distinct spatial complexes of the Upper Mississippi River.			
Coauthor report on Pool 8 vegetation near Habitat Rehabilitation and Enhancement Projects with the Upper Midwest Environmental Sciences Center and Wisconsin Department A32of Natural Resources staff.			
Derive products from Land Cover/Land Use component to support event driven analysis.			
Develop an "event driven" monitoring plan for significant events (drought, floods, spills).			
Apply previously developed LTRMP models of submersed plant growth to new areas of the river (e.g., Pools 13 and 4). (Much work already accomplished.)			
Develop status and trends report for general public on health of Upper Mississippi River System		X	Status and Trends
Continue work on bathymetry and bathymetric mapping for the Upper Mississippi River System		X	Bathymetry
Continue monthly fixed site water quality sampling during 2005 in Pool 5, to study impacts of drawdown planned for summer 2005.		X	Water Quality monitoring to Evaluate Effects of Pool 5 Drawdown
Reduce water quality fixed site sampling to 1-day every 2-weeks, then conduct mini-stratified random sampling at 10-15 backwater sites once a month at all field stations during Apr-Sept.			
Determine why turbidity curves from LTRMP and various agencies don't coincide with each other.			
Use light penetration data collected in Pools 8 & 13 in 2003 to improve submersed vegetation models			
Cross component analyses to define sensitive indicators (especially wild rice) in various aquatic area types.			

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Cross component analyses of the gradient of ephemeral to permanent wetlands to identify physical/chemical factors associated with specific plant and animal communities.			
Integrate Wisconsin DNR and LTRMP fish data to study fish over-wintering in Pools 4-11.			
Compare LTRMP night shocking to EMAP day shocking			
Integrate historical data into LTRMP database for cross component analyses, including interpretation of 1929 air photos and digitization of pre-lock-and-dam flow easement surveys.			
Have Upper Midwest Environmental Sciences Center perform channel trawling near the Pool 8 phase III Habitat Rehabilitation and Enhancement Project.			
Reinstate invertebrate sampling, with new comprehensive design.			
Update nutrient loading data from tributaries for use by foresters.			
Sampling in Pools 14-25			
Case history paper on largemouth bass in Brown's Lake. Combination of LTRMP and Iowa DNR data.			
Description and analyses of spatial complexes in Pool 13 that are managed as distinct units. Use LTRMP data on fish, vegetation, water quality, and bathymetry to describe physical and biological characteristics and determine how distinct they are and how they are structured.			
Analysis of summer habitat use by fish species by using LTRMP data to relate fish distribution to habitat features.			
Work on method to identify recovery of aquatic vegetation in Pool 26.			
Develop retrospective report of all LTRMP data for Pool 26 for managers. Individual chapters on each component plus chapter on initial pool-specific cross component analyses.	X	X	Develop retrospective, cross-component analysis report of all LTRMP data for Pool 26 for managers. Individual chapters on the water quality and fish components plus a chapter on cross component analyses
Establish aquatic vegetation baseline abundance information for the entire Illinois River.			
Determine contribution of tributaries to riverine fish communities of the Upper Mississippi River System.			
Refine accurate remote sensing or alternative vegetation assessment techniques on Illinois River.			

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Investigate effects of newly completed Habitat Rehabilitation and Enhancement Projects (HREP) (Chatauqua, Banner Marsh) in La Grange Pool on fish production, including larval fishes, using LTRMP and HREP data.			
Winter habitat use by fishes of the Illinois River.			
Analysis of fish age structure and growth in the Illinois and Mississippi Rivers.	X	X	Analysis of fish age structure and growth in the Illinois River
Follow up winter backwater sedimentation surveys if water and weather conditions allow			
Develop retrospective report of all data for La Grange Pool including state managed areas.			
Study ecological linkages between floodplains and main channel fisheries in Open River.			
Automate and analyze Pool 5 vegetation data collected by Minnesota DNR to help with Pool 5 drawdown.			
Continue additional year of minimal sustainable program for Macroinvertebrates			
Analysis and modeling of native mussel species in beds across multiple scales.			
Develop improved method for analyzing water quality data when many entries are below detection limits.			
Establish simple and scientifically valid methods to communicate the capabilities of the program to detect long term change.			
Evaluation of bioacoustic techniques to locate sturgeon spawning beds			
Pool-based georeferenced mosaics of the 1890's Mississippi River Commission maps		X	Pool-based Georeferenced Mosaics of the 1890s Mississippi River Commission Maps
An assessment of freshwater mussel resources in the Upper Mississippi River System			
Asian carp in Mississippi River System: impact on native fish and dispersal	X	X	Asian Carp in the Mississippi River: Their impact on native fish species and predicted dispersal within the system
Water quality modeling - initial analyses of relations between nutrients, chlorophyll, and discharge.	X	X	Model chlorophyll a and suspended solids levels in backwater lakes of the UMRS
Complete detailed (genus-level) analysis of land cover in pool 8 using aerial photography flown in 2003.			
Complete aquatic area assessment and delineation for key pools.			

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Fast-tabs model		x	Development of Two-dimensional Numerical Hydraulic Models for Mississippi River Pools 17 and 18 in Support of the LTRMP
LTRMP field equipment refreshment	x	x	LTRMP field equipment refreshment
Develop control charts ("red flags") for selected water quality constituents	x	x	Develop control charts ("red flags") for selected water quality constituents
Habitat Needs Assessment query tool update and maintenance	x	x	HNA Query Tool Update and Maintenance
Analysis of factors limiting the abundance of Centrachids in the Upper Mississippi River System	x	x	Analysis of factors limiting the abundance of Centrachids in the UMRS