

WATERWAY SYSTEMS

UPPER MISSISSIPPI RIVER

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The scope of the Upper Mississippi study is to focus on authorized federal navigation projects and the ecological floodplain resources that are affected by those projects. The goal is to create a system that is economically and environmentally sustainable system.

- There are 29 locks located on the Upper Mississippi river.
- The Illinois River is a major tributary of the Mississippi with 8 locks and dams.
- The Upper Mississippi transportation season is only 9 months due to ice. The Lower Mississippi to the locks on the Illinois has open river availability about 40% of the time.
- The system has 1,200 miles of channel
- The river is important to the nation's exports. Corn & soybeans are big players, generically the grain industry. David Weekly talked about coal on the Ohio. The Mississippi counterpart to that are the corn and soybean movements. (Over 50% of each moves on Mississippi.)
- Vessels can enter the river from multiple terminals along the waterway. As you trace down the waterway, the cumulative tonnage grows as new movements entering the system are added to those already on the waterway. This is where vessels have longer delays.
- The majority of locks are 600 ft in length. Some have 1200 ft chambers
- The problem arises when a modern day tows with 15 barges has to process through the older locks which requires a 2-step process.
- When the study began, 8 of the locks on the Mississippi and 3 on Illinois were within the top nationwide for total delays.
- The proposed structural measures include making locks bigger and extending guide walls (enabling vessels to latch back together after multiple cuts more easily outside the lock, thus speeding the entire process).
- The proposed non-structural measures (to manage the traffic efficiently) include helper boats, scheduling (up/down requirements), and tradable permits.
- To give a better view of what could happen we try to forecast future scenarios. The problem with this is it makes final decisions more difficult.
- There are many players out there that are interested in what the study is showing. They have collectively driven the scope and defined how to go about studying the area.
- Throughout the study we are really trying to balance the environmental and economic aspects. The environmental considerations are not just considered at each lock location but also at the system level. What are the environmental consequences when the whole system is considered with the different locks operating? Multiple improvements will have systematic impacts on the environment.
- The environmental objectives were developed using a collaborative process. One of the environmental objectives is being able to do adaptive management. We need to

be able to monitor the system and as we learn more about what is going on environmentally, adjustments in implementation will be required.

- Adaptive management will also influence the economic formulation aspects of the project analysis- decision criteria will include the adaptability of the alternative.
- A scheduling scheme is also being considered, but the study is not far enough through the process to know how it might be designed- uncertain if it would be a large systemic scheme or something implemented at each lock.
- Forecasts- there is more volatility in the agriculture market now than there was 20 yrs ago. There is also an issue of export traffic- Ohio river traffic has been stable because it is primarily domestic trade whereas the Mississippi trade must incorporate international trends and market shifts when developing forecasts.