Final Minutes

37th Meeting of the NECC
December 10th, 2002
Holiday Inn – Davenport, Iowa

Nicole McVay
(CEMVR-PM-A)

NECC 27
December 10, 2002

8:05 Welcome
Introductions
Col. Bayles presented Bill Bertrand the Commander's Coin and a Certificate of Appreciation for 32 years of service to the ILDNR, Service to Interagency team, dredging team, and the GREAT Study. List of attendance is in Attachment A.

8:12 – Minutes
Discussion of the Draft Minutes from the 36th meeting of the NECC on September 5, 2002. Gretchen Benjamin noticed that the minutes showed Ken Lubinski mentioning that Dr. Harwell's information should be included in the workshop read-aheads, but they did not get included. She noted that the minutes should be reviewed and acted upon.

Minutes from the 36th meeting of the NECC were approved.

8:14 – Barr – Expert Panel
The Corps has received confirmation from all expert panel participants. The Corps is currently working on the contractual process. There will be a conference call before Christmas. The first meeting will be sometime in Jan. Ken Lubinski and John Barko are the co-chairs of the Expert Panel. See the January Navigation Study Status Report for dates and locations.
The Expert Panel and supporting agency persons are:

	Expert Panel	**Support**
River Biologist	Gordon Farabee	
Terrestrial Ecology	Carl Korschgen	Bob Clevenstine
Aquatic Ecology	Mark Bain	Chuck Theiling
Hydrology	Tatsauki Nakato	Kevin Landwehr
Geomorphology	Robb Jacobson	Rob Davinroy and John Hendrickson
Water Quality	Dave Sabalee	Clint Beckert
Ecological Modeling	John Nestler	Steve Bartell and Jean O'Neil

There are four Major Themes for the expert panel. Each meeting will be one month apart. The first meeting will focus on Goal and Objectives from the four environmental objective setting workshops. They will review the reports and provide comments. Most importantly they need to become familiar with types of objectives that will be set. It is important for them to assist in establishing metrics that can be used to adaptively monitor objectives.
The second meeting will look at various models to better understand management measures. The will be looking at both conceptual and numerical modeling.
The third workshop will focus on Management Actions and will take place sometime in March. During the fourth workshop the expert panel will pull it all together and come up with a report (both documentation and recommendation). The Expert Panel will be available to meet with the NECC.

Here is the tentative schedule for the expert panel:
End of January: Phone Conference
End of February: Face-to-face Maybe we can piggy back a NECC meeting and the expert panel meeting with the GLC/EMPPC meetings. We could have the NECC Meeting ½ day on Monday and ½ day on Tuesday. By then the expert Panel should have 2 meetings in and get a subset to report to the NECC.
April timeframe: Before the report we will get a bulk of the Expert Panel to report to the NECC

Comments/Questions:
Lubinski – The UMR-IWW has overarching goals and objectives that have to be achieved. From those a smaller subset there will be the goals and objectives that the Corps will address for their Navigation Study? Which will the first meeting of the expert panel look at?

Barr – Broader objectives; toe-of-bluff, to toe-of-bluff. The follow on meeting will focus on Management Actions that are in the context of the Navigation Study
Lubinski – We need to say what expert panel will not be associated with. They will not be involved with Tradeoff analysis and NED. They will be focusing on the ecological portion, not on economical portion of the study.
Beorkrem – Will any of the meetings be available for observers?
Barr – Yes, we never really close the doors, but this is really set up for a small group. We will announce meeting locations and times out in the monthly reports.
Moore – My intent was to have the entire expert panel at NECC meetings..
Barr – The Feb meeting may have a few, but we will try to get the entire panel there in April. However, it will be based on availability.
Moore – I may be less than satisfied if I don't get to see all of them, especially if there are some panel members that I never get to meet.
Gretchen – It may be more meaningful to meet in May.
Barr – To meet after the Draft would be good, but I was thinking to get NECC input to them before the draft in May.
Lubinski – If members of the NECC want to draft up some communications concerning ideas you want relayed to the Expert Panel, I can make sure it gets to them.
Barr – Jon, what we laid out here - will this meet what you had in mind at the UMRCC?
Duveyjonck – UMRCC has not met to discuss this any further. I don't have any comments at this time.
Benjamin – So, NECC members can provide a fact sheet to the expert panel. Do we want to do this? Could FWS take the lead on this?
Nelson – We will take a shot at a draft and send it out to everyone.
Bertrand – What will this include?
Moore – Is there a scope of work drawn up yet?
Barr – Not yet, but there a draft of objectives.
Moore – That would be helpful to see this.
Barr – OK, we will send it out to you.
Barr – It would be helpful to have the fact sheet from FWS to the expert panel before they meet in Mid January.

8:39 – DeHaan –Environmental Objective Workshops (Attachment B)
Thank you to those of you who attended the workshops. The workshops are tied to the Environmental Sustainability component of the Navigation Feasibility Study. Workshops addressed the first two of five tasks associated with developing environmental sustainability alternative plans for the UMR-IWW (Slide 2). The primary goals of the workshops included identifying and reviewing UMR-IWW environmental objectives; determining potential management actions that would contribute to achieving the identified objectives; discussion of species level objectives; and discussion of evaluation tools, data, and conceptual models (Slide 3). Previously identified UMR-IWW objectives (e.g., HNA, Side Channel Plan, and Pool Plans) were reviewed, refined and added to. What Happened? Workshops were productive and well attended by a good cross-section of stakeholders (slide 8). Breakout groups worked well to gather a tremendous amount of information. Plenary -Good discussion and further refinement of the objectives identified by the groups. Objectives and management actions were more important, so due to time constraints, additional information on evaluation data and tools was not gathered. **Objectives**: Data was captured thematically into a database. Process to capture: Breakout groups with 10 people. Looked at maps, reviewed 2,100 existing site-specific objectives and modified, removed and added objectives as needed. We then reconvened as a plenary group and went pool by pool to update and add objective information. Other databases with objective info were identified and were added to the database. Over 500 new site-specific objectives were identified. Key objectives from each workshop are displayed in slides 14-17. **Management actions:** List from the back of the Interim Report (Attachment 5) was modified and updated with management actions that address the identified environmental objectives. **Species and Population Parameters**: Abundance not necessary at large scale (not accurate). Want to do pre and post project evaluations. Because of the cost and time involved it may be better to concentrate on physical attributes (habitat). **Project Schedule:** Try to get draft workshop reports out before Christmas. NECC, GLC, etc. will get copies of all meetings. We need comments back in about two weeks (by mid Jan).
Comments/Questions:

Beorkrem – Part of what we will be wrestling with is the uncertainty in this planning process. Is there some way that someone could write up a defense as to why we are using these particular parameters?
Barr – We have the expert panel and the workshop participants. If you want to know if you've achieved an objective then you need to have the metrics. Our intent is to try and adaptively manage for ecological integrity.
Duveyjonck – As a biologist that's enough for me. But if we are trying to get the money we have to show how it will provide an economic base. We need to do that to get the money.
Wilcox – We will need to have some ecological/economic accounting. Similar to Robert Castanza work.
Bertrand – Please include the flow chart in the minutes.

9:11– Kevin Landwehr – Water Level Regulation/Control

We will be trying to identify water level regulation opportunities and how to implement. The St. Paul District has done a lot of good work looking at opportunities within their District. What they have done will serve as an example to help us conduct our analysis in Rock Island. We will focus on actions affecting Dam regulation, rather than small-scale manipulation of isolated backwater areas. The St. Paul Team is: Hendrickson, Jutilia, Wilcox. The Rock Island Team is: Landwehr, Theiling. The St. Louis team is: Busse, Laux. In St. Paul they have developed a water reduction matrix– dredging requirements, estimates of how often you can achieve drawn-down and the chance to achieve and maintain length of time. There are some physical constraints (water supply, rec). For example, some areas can't be dredged because of rock bottom and some locks have very shallow sills. We will estimate costs associated with dredging, modifications to water intakes and other factors. We will also be looking into authorities and what would need to be done to modify the water control plans to implement measures. In St. Louis, there may be different opportunities because of the method of operation used in that district. They have in the past looked at moving from hinge-point to dam point control. We are building off of other efforts – Peoria pool, Pool 13, Busse and Dalrymple et. al. We need to identify pools that have the best opportunity; in terms of constraints and environmental benefits
Comments/Questions:
Beorkrem – If we have to go into an area and dredge we will be changing it hydraulically. Will this multiply the effect in the backwaters?
Landwehr – We have not done any modeling to determine this. When we do this type of analysis associated with a dredging event, we assume that it will fill back in over time for the purpose of determining long-term impacts.
Wilcox – We are studying pool 8 and the jury is still out. The carryover effects seem to last a little while. Dredging in a historic dredge cut doesn't change the hydraulics much. Pretty minor effect for water level.
Beorkrem – The effect may be minor pool wide, but it could be significant on a local backwater. As a scientist we need to address this.
Wilcox – We could look at 2-d modeling to see the effects of advanced dredging. But since we want to drawdown the backwaters I don't see the necessity.
Barr -We conduct that type of detailed site-specific evaluations as part of a subsequent design phase, not as part of this effort.
Beorkrem – Will you be able to identify in what pools a drawdown will be possible?
Landwehr – We can identify constraints and benefits. After that it becomes a tradeoff.
Bertrand We can identify which pools have the greatest potential for habitat restoration via WLC.
Wilcox – We can identify how well it may meet our objectives. In the lower pools turbidity and water level fluctuations will not allow perennial plants, we may need annual plants, so drawdown may have to be different. If drawdown is to grow more plants we need to keep that in mind. We can identify at least generically what our objectives will be.
McCalvin – It sounds like you are considering other things than just drawdowns.
Landwehr – We are mostly focusing on a drawdown in Rock Island and St. Paul, but are also looking at hinge point in St. Louis, other factors on the IL. Winter drawdown has been minimized in RI.
McCalvin – I think you should officially address water level control issues in addition to drawdowns.
Brummett – Will you be sharing this info with the NECC
Barr – Yes, preliminary results will be shared with NECC and NECC identified groups.

9:50 – Wilcox – Fish Passage–An invitation to participants to a virtual team has been sent out. A report much like the water level management team for plan formulation for the Navigation system will be prepared. Seasonal timing movements, hydrologic conditions, develop alternatives for fish passage. Identify most promising alternatives. On a site-by-site basis identify benefits (migratory species). Improved access to spawning habitats might be beneficial to some species. Look at best location structurally based. Do a preliminary design and do an estimated cost of construction and maintenance. I have a fair number of replies and we will have a good group of experienced people, for example: Steven Zeigler (USGS), Luther Onlin (MNDRN), and John Nestler (ERDC). This report will be put together over the next 5-6 months.

Comments/Questions:

Lubinski – Is it fish passage upstream/down, or lateral as well (flood plain)

Wilcox – We hadn't talked about lateral passage, but we could look into it.

Barr – There have been some concerns that fish passage will help exotic species spread.

Wilcox – We will be looking at the exotic species issues. We know that fish can get through lock chambers. We will use previous efforts.

Bertrand – You may need to consider more than one type of fish passage.

Wilcox – Fish-ways that mimic natural rapids seem to be the best. There is surprisingly little work to study what fish passages really do to the populations.

Moore – With respect to the exotic species issue are you going to be looking at preventing fish passage?

Wilcox – I think we can. If you are building a fish-way to allow most migratory species movement you are providing ways for exotics to move north faster than before. Lock 19 is a big barrier, but they can get through the lock chamber.

Moore – Yes, but if you could prevent them from moving through the lock chamber you could have an effective barrier.

Wilcox – This system is very connected to other waterways. You would have a solid waste issue if you kill them in the lock chamber. However you could use acoustic deterrents to keep them from entering the chamber. Aside from site by site we need to take a system-wide look. We may want to have some sort of barrier on the system.

Wilcox – The problem with deterrent systems is you can startle them and turn them back, but some might swim erratically and inadvertently enter the lock chamber anyway. Just a few might be too much. That is why an electric barrier was chosen for the IL

Clevenstine – Wouldn't this be the group to decide that if we improve passage for native fish they will be better able to compete with the invasives?

Wilcox – European Carps are causing havoc to aquatic plants. But some species might do better.

Clevenstine – Other than a totally lethal barrier from the Great Lakes, it might be better for species to be allowed to have passage.

Wilcox – We have some long-range migratory species that would be impacted by a complete barrier at 19.

Barr – So, until we can actually control exotics we should not talk about fish passage? Or are they coming anyway and we should help out the natives?

Wilcox – I think they are coming, but when is the issue?

Schonhoff – Does your team have a schedule yet?

Wilcox – I don't, but I hope to have this finished by June.

10:11 – Barr – Project Schedule (Flowchart in Attachment C)

Keep 4 different thoughts in mind.

1) Traditional, old Navigation study – traffic effects
2) Effects of water-level control, ongoing OM
3) Objective setting and management actions
4) Implementation issues

These have to progress side by side.

Navigation Effects –In December economic modelers at Oak Ridge should give us first cut of the "without project" traffic forecasts based on Spark's scenarios. Between now and March we will be running this through other models – mussels, side channel… At the end of March we should get the with- project traffic forecasts. We are likely to have 7-10 different sets of measures/alternatives. Plus evaluate with 5 traffic forecasts, so 35 alternatives to run through models. Should come out by the end of June. That gives us a

few months (July – August) to work on mitigation programs (site specific and direct effects). In September, Rich Manguno will re-do cost/benefit ratios to go out in an October timeframe. We will also try to shoot for first cut of environmental measures by April- June. Integrated Economics/Environmental alternatives will be presented in the report.

Implementation Issues – A real challenge is in the programmatic and institutional arrangements area (July – Dec timeframe). We will need to work with states and NGO's. We need to keep talking all along the way. From GLC – Until we have some idea what the Corps can do under dual authority it is hard to know where the states can participate. Our Division office is working hard to get with governors office early next year. Federal Task force will meet next year. We haven't had a detailed discussion on this issue yet.
Comments/Questions:
Duveyjonck – I disagree with the GLC waiting for institutional framework. We will have some measures to mitigate navigation effects and a basket for O&M effects. Why can't we look at the baskets and start developing alternatives? If you wait until July – August this will be to late.
Barr – We do need to continue to focus on this area.
Duveyjonck – What kind of team are we going to develop that will evaluate O&M? Come to consensus about these things now. We had a 2-day NECC workshop on institutional arrangements need to re-institute things set up there. We need to do this at the next NECC Meeting.
Wilcox – I think the baskets idea is conceptually flawed. Talk about Corps of engineers funding baskets. If you look at management actions they are done on different scales, different organizations and different money. This is really complex. This system is institutionally fragmented. What would be better? We need to do an institutional analysis of this study. What will be revealed is that what defines the river (sediment input) is already defined, but where is the USDA for example? I think we need to think seriously what will be a truly collaborative, adaptive, cost sharing institutional arrangement. We need to think how effective are we now (implementation, money)? We often fall into this trap that we have this exiting arrangement and all we need to do is tweak it. This is a really complex system. How can we make this more streamline and ecologically efficient? Give me a good example of crosscut budgeting plan that actually works.
Barr – These issues will be the second item on the agenda for the Taskforce meeting. How much do USDA, EPA, USDOT want to be a part of the Navigation Study. Right now we don't know that
Duveyjonck – It concerns me when you ask, "How much can we reference other agencies". If the NRCS are not here is there something that prevents us from saying we need to get them there and if we don't have them there we won't meet our objectives.
Barr – The Corps would not write the paragraph that says NRCS needs x $'s and needs to talk to other agencies, Dept of Agriculture needs to do that. This needs to come from stakeholders and others.
Duveyjonck – Maybe Expert Panel needs to be the first ones to do this.
Barr – We took this off of their plate at the La Crosse meting.
Nelson – We can take this to the principals group. They will say what do you guys want? It will fall back to us. This group will have to come up with strong approaches.
Barr – Are we going to explicitly say we have x acres of forest, prairie, … based upon FWS Refuge plan they will be able to accomplish 10% of this?
Nelson – There is a guy on the Federal principals team that would welcome input from NECC. He has been trying to get NRCS engaged.
Brummett – The Federal Principal Group needs to make recommendations and get people involved. Since there is no one form USDA here then can we say that they aren't interested?
Fenedick – The Upper Miss is not the entire topic of the Principals meeting. NEPA Regulations point to alternatives that aren't in your jurisdiction to show who has capability to address this. Then that is what this study is all about. The extensive cumulative effects help us to do this. Your recommendations don't force NRCS or others to do it.
Barr – I would prefer to write it with them rather than to write it without their input.
Fenedick – Absolutely, but if they don't want to come to the table, then we have a responsibility to do it anyway. If they have capabilities to help us I believe that we need to say that. We don't have to say they need x dollars, but list possible solutions that they can do. This is my personal and agency opinion. "Lead agencies are responsible to identify solutions even if outside of their jurisdiction NEPA."
Barr - How much specificity ends up in the Navigation Study depends on the success of our efforts to get others involved.

Brummett – It should be expressed to the principals groups that we are concerned that certain groups aren't involved in the NECC. Does it need to be sent up to get participation?
Wilcox – We are going to identify things that can be handled by other organizations. State, county, federal are all involved in things going in the basin. This is outside the scope of the navigation study to identify management actions for what to do in the floodplain. We aren't going to be able to identify TMDL. We can say what is going on in the basin, but everyone already knows this. What might be opportunities to reduce sediment in the river – we can talk generically, but not specifically.
Barr –We are going to go through a series of exercises to sort out what objectives we will seek authority with the Navigation Study to address. How many objectives can we bite off in the dual authority? How best from a geographic standpoint (GIS) can we clip out what is affected by navigation. In 1992/1993, we had a similar challenge with the archeology data. We created a clip cover using the listed rules (PowerPoint). For the objectives we could do something similar. For the objectives that are spots on the map this could work pretty well.
Wilcox – Why would we put our objectives through a sieve?
Barr – Because I think some of our objectives are outside the scope of the navigation study.
Wilcox – Navigation doesn't affect some areas directly. You cannot deny that leveed areas are part of the floodplain. We can get really nitpicky about where we can spend our money.
Barr – I am not talking about existing authorities, but we won't be addressing some areas that are well away from the Navigation system.
Wilcox – This restructured Navigation study is to rethink our present system of river management and propose what a new system of river management might be. We can paint a picture of where the navigation system effects hydraulically… and put that on the map.
Barr – There are several ways to do this map. We can look at real estate purchases, but this data is not readily available. If you have a better set of simple rules…
Wilcox – 20 years ago no one would have thought a drawdown was possible, no one would have thought we could get rid of houses on Creel island in Prairie du Chein, but they are now gone. We shouldn't limit ourselves. The Mississippi River has been well defined, and we have been working with it for the EMP.
Bertrand – I think for new authorities we do need to have the area well defined.
Beorkrem – We still have to be somewhat unconstrained in order to recommend new authorities. We need not be constrained by the old rules if we are going to ask for new authorities.
Wilcox – Hydraulically the river effects extends to where the navigation system affects the system. Remove the levees in a model and see what area is affected by the navigation system. We talked to Kevin about using a UNET model, but we didn't feel that it would give us a lot more. Mark points, that in the future, under the revised authority, we could affect the river ecosystem as a whole instead of as parcels owned by different entities.
Barr – How comprehensive will this study be? This is still a navigation study (UMRBA, Principal task force, and our HQ have told us this). We are still trying to figure out where to draw the line.
Beorkrem – In the context of authorities for proper river management we should be constrained by previous authorities. We aren't asking you to plan it, but we need to address floodplain acquisitions and restoration. We need you to address the authorities to do that.
Brescia –You are really trying to focus to establish parameters to what you are trying to achieve, yet we are being asked to think outside the box. I hope you can do both. Hone in on where the federal project has a direct influence, but then draw in what else is affecting that area. We are challenged to identify where additional authorities and linkages need to be evolved. Let what IS being done not be for naught because of what is still NOT being done.

<u>11:12 – Barr – Define Full Federal Interest</u>
There are three types of funding for the Environmental projects: Full Federal Funding, Fuel Tax for new improvements and Cost-share with non-federal sponsor. We need to get a straw document out and then can get some comments.
Comments/Questions:
Nelson – Are you saying you are drafting a straw man to define federal interest. When will that be out?
Barr – That should be discussed at the next GLC – Feb.
Unknown – Shouldn't this come out after a full institutional analysis? We shouldn't be playing around the edge of existing authority.

Barr – We aren't playing around with the edges of the authorities, but we are playing around the edge of the existing navigation project.

12:20 – Barr – Program Integration

At the workshops we told people not to be concerned about which programs would be used for the objectives. But it keeps coming up. One of the big questions is the Comprehensive Plan (floodplain study, COMP).

Comments/Questions:

Beorkrem – Some believe the study should be very focused. Others think the mission is broader. The question of scope: Comprehensive plan vs. flood reduction plan.

Clevenstine – Groups could come up with a mission statement. As for Program integration, could you put together a small group that deals with this – like fish passage and water control?

Barr – I think that is a good idea. Are there people who would be willing to sever on this?

Clevenstine – I can provide a name or 2.

Barr – What do you have in mind? There was the Galloway Report recommendations?

Clevenstine – There has been a lot of work – UMRCC, Galloway… someone needs to summarize this work and the agency response.

Beorkrem – You can put me on the list for this group.

Duveyjonck – Need a person who can weigh benefit pros and cons. If we can identify what capabilities…

Beorkrem – We need someone to say what authorities we need to accomplish what we need to do. The management action framework is already a good start.

Benjamin – We need to get all of the players together to figure out what direction we need to go. Maybe turn the next GLC meeting into a workshop.

Barr – We have been told by the states (GLC) that this is a good idea, but they want a better idea of where we are going before we do this. In our timeframe we have this placed prior to public meetings.

Clevenstine – My personal opinion is: the fragmented management of the river is a big problem. We need to do something to address this. I don't see waiting to initiate this effort as a good idea.

Beorkrem – At the second to last GLC meeting – we said we would hold a joint meeting in May. That means we would have a draft drawn up.

Barr – We need to do a lot of legwork prior to that time. I will take this recommendation to have a workgroup to Denny Lundberg and we will try to have something going so that on the Feb NECC meeting we will have something more to work with.

DeHaan – Rebecca Soileau has written a report dealing with this; it may be helpful.

Duveyjonck – You might think about having an independent facilitator for the combined May meeting.

Gretchen – Is Rebecca's Report a green report?

DeHaan – No, it is part of the environmental support documentation used for the interim report

Benjamin – Could you send that out to us?

DeHaan – Yes.

Wilcox – As part of the Navigation Study we should do an institutional analysis of management efforts for the Upper Mississippi River and make a recommendation as to what should take place in the future.

Barr – We will get the minutes and notes from the NECC meeting that covered this topic as well as Rebecca Report out to all of you. We can talk about this more in Feb and get this to the GLC in May.

Program Integration (cont)

Refugee CCP – Should we tie our objectives to the CCP?

Comments/Questions:

Nelson – We are tying our objectives to the Pool plans. We need to talk to the Corps and state partners and see what make sense. Land acquisition is a really sensitive thing. We can come up with a plan for land acquisition but there may be limits based on Congressional approval. We have the authority to acquire land, but Congress may limit it.

EMP – The EMP program itself reflect any changes that need to be made. We are working closely with the report to Congress. The Navigation Study has been asked to look at EMP authority. How many objectives would the EMP be able to bite off. There will still be a sizeable amount that EMP won't be able to do.

Comments/Questions:

Beorkrem –I feel it is unlikely that 2 restoration plans will be fully funded and recognized by Congress.

Bertrand – The failure to obtain stable funding for EMP needs to be addressed and remedy offered.
Brescia – I personally think that given the timing efforts it's taken to get EMP recognized on Capital Hill, the new program needs to be an outgrowth of the existing program. Or, you may want to start an entirely new program, but do that at the expense of the existing EMP.
Clevenstine – EMP is being looked at from both the Navigation Study and The Comp plan. Chris – is it better to build on the current program or a new one?
Brescia – I think it depends on what you want. Can you achieve what you want by slightly modifying EMP or do you need to revamp the entire thing? Also, do you want to deal with political baggage? EMP is still felt as political mitigation, rather than a consensus and documented need.

Flow Frequency/ Comp Plan – Still evolving. I understand any restoration will be closely tied to flood damage reduction. If we are going to be able to capitalize on floodplain restoration issues it will be tied to damage reduction. If we can identify certain levee districts that are being routinely overtopped, and the amount of damage they receive, one might look to these landowners and determine willing participants. There will be a lot of information that will come out of this, but what the Comp Plan will recommend is questionable.
Comments/Questions:
DeZellar – The study is not moving as fast we would like. Everything I have heard is that any environmental restoration as well as recreation has to be tied to flood reduction. It is important to have expectations managed. People think the Comp plan will fill the gaps of the Navigation study. In my opinion the Comp plan will not be filling in those gaps. I don't want to send a wrong signal and disappoint our stakeholders.
Beorkrem – I agree with your assessment. How do we address the ecosystem sustainability goal for floodplain management issues within the Navigation System?
Barr – I think the Comp plan will still give us good data, even if it doesn't make any recommendations. The data will help get other agencies queued up so that when there is another big flood it will be a jumping off point to accomplish other objectives.
DeZellar – We have to make our report in 2004, I don't know if it will go on beyond that.
Wilcox – The Navigation study may not be able to get the information from the Comp plan; we will do what we can. However, at the workshops there were some objectives set in the floodplain. The need for floodplain restoration work is there. We can include recommendations in the navigation study, but the Comp plan might clue us in to how this can be accomplished. The Navigation Study will be done well before the Comp plan.
DeZellar – Information from the Navigation Study can be put into the Comp plan. Additional work and additional studies are going to be called out from the Comp plan.
Beorkrem – What comes out from the Comp plan and the Ecological sustainability Navigation Study are both reconnaissances; maybe we can merge them later. The level of detail of the Comp plan won't be there to do anything.
Wilcox – The real question is how much do we need to do. Hopefully the expert panel can add some value to this. Reconnecting the floodplain to the river will take a long time but I do think that some good recommendations from the Navigation Study will help us.

Illinois Ecosystem Study – Certain projects that the IL 2020 is implementing are similar to the types of projects we might be able to do with modified O&M.
Stuewe – The biggest project is Peoria Lake – create islands and deep water.
Barr – If you had to give proportion of watershed vs. main stem?
Stuewe – More money spent in the watershed then on the river (in the next 10 years).
Comments/Questions:
Bertrand – It might be nice to have someone talk about the watershed treatment to the group. Don Roseboom?
Wilcox – Minnesota main stem has had greatly reduced phosphorus loading due to watershed management actions. Some progress is being made. USDA and states are spending hundred of millions of dollars in the watershed.
Brummett – Could we get a summary of all of the projects that are going on in the system? Missouri River, Illinois 2020…
Barr – That would be an important context of this report.

Wilcox – Compiling a summary of all of the watershed efforts being done in the basin would be difficult. There are probably over 1000 projects in the MN river watershed alone. There are projects at various scales. What I think would be useful for this study would be to have the Expert Panel expand on the sediment budget. It should be pretty plain where our sediment is coming from. What might be a reasonable target?
Brummett – I don't think this would be such a big effort because each state keeps records of that.
Wilcox – One of the criticisms is that of all the money spent, it is not as well targeted, as it should be. It is not achieving certain ecological changes. The EPA is encouraging the state to set TMDL to help to targeting efforts. On the Upper Mississippi river we have a lot of efforts that won't make much difference, yet other tributaries could really use some BMP's, but aren't getting any. We really need to help target BMP's.
Barr – I think Ken's suggestion is a good idea. Is this something we can funnel back through you? Does FWS track this through the private lands?
Clevenstine – Yes, we do track this.
Nelson – We can start with Wayne Fisher in our office. WRP, CRP, 566, … it is all there.
Barr – How about other programs? 206, IL 2020, MN River???
Brescia – Raccoon River Project in Iowa.
Wilcox – Potters work. It would be worthwhile to compile all of this stuff. As well as the effectiveness to reduce input to the main stem Mississippi River (sediment, nitrogen, phosphorus). Good work done by USDS, University of Iowa.
Brummett –Nakato's report showed some areas.
Bertrand – Simone's study on the Colorado.
Bertrand – Summaries of the watershed work will be good to some extent. Shows that there is work being done in the watershed.
Brummett – Concentrate on sediment and nutrients.
Wilcox – USGS did that (Sabalee). We have that to build upon.
Bertrand – There has been some background work about how much each tributary is dumping in.
Lubinski – We do know about the tributaries at where they enter the Mississippi, but not up higher where they split. Let's talk to Fred Kroman (NRCS) and Bill Frantz (EPA).
Barr – OK, and we'll talk with Wayne Fisher from RI FWS.

1:17 – Barr – Monitoring
Comments/Questions:
Duveyjonck – Some of this goes back to previous program integration. Adaptive Management and how this plays into the LTRM. Is the consensus that we ought to designate LTRM to assume that responsibility. Is USGS willing to take on that role?
Barr – We want to do this to allow us to assess if our management actions are doing what we want. If we are going to start to manipulate things we are going to want to know what has happened as a result of these actions. There will be lots of monitoring. May have 1/3rd of the cost of the action. How might we start portraying this adaptive monitoring program?
Wilcox – We have to have quantitative things to monitor. Identify what you want to keep track of. We have an existing monitoring program that had no objectives to monitor for. Now we are getting objectives, which will make this easier. This adaptive management program relies on monitoring. We have been doing this.
Bertrand – The LTRM monitoring will not address evaluating the effectiveness of a program. There would have to be additional funding to do this.
Brummett – You will have to include monitoring and evaluation costs into each action. Plus, anything new will have to be added onto their priority list. You will need to give them a budget list of what they can expect to get so they can get the people on board to do this work.
McCalvin – We need to decide how this data will be reported back and who will decide how management actions should be changed based on the data.
Wilcox – Couple different levels of monitoring: Overall and Individual Projects. If some are more experimental need to monitor quite a bit, if others are more routine, don't need to monitor as much. Much like we've done with the EMP programs, we try to monitor the most uncertain ones.
Barr – We do need to identify funds. Perhaps a certain percentage of each program would be recommended.

Lubinski – For expert panel to be effective they would like to know what adaptive management framework will be recommended. Who will the monitoring be providing the data to, and what will be done with it. How often will you review current conditions, who will make decisions about success, how will you measure success?
Wilcox – River management includes things other than large-scale restoration. Daily stuff – river level management. For everyone there is a basic need for decision-making. For every management action there is some monitoring. It's not just EMP monitoring that needs to be evaluated.
Benjamin – You need to see if systemically you are meeting your goals. Need long-term trends. It can't just be focused monitoring, you must be able to see the whole picture.

<u>1:30 – Fristik – Backwater Sedimentation</u>
Waterways Experiment Station – Purpose: to get more data from backwater and side channels. There are10 sites on Mississippi and IL rivers. 3 sites were identified to place instrumentation for more detailed analysis. That is in the process of being handed off to verify models used in study. Initially WES's work was scheduled to be done in Dec, but it will be delayed a bit. We have in hand now a draft report of the larval fish; I received it in late November. Should we distribute to committee for review? It is a data review.
Barr – Let's distribute final when available.
Fristik – 14 families, 1000+ fish. Elliott Stefanik – was the technical POC and will continue evaluation.

Kilgore Study – Jack completed fall sampling. 48 trawls. 10 at night, 2400 fish 1700 in single trawl. Same species distribution as September: Shad, gizzard, skipjack. Of 1700, only 2 killed. Going out week of Jan13 or 27 for winter sampling.
Johnson –As for ***lock study***, it was finished last week. As a reminder - we trawled the lock after a barge passed through. Trawled after 24 tows, and very few fish were found. Hydroacuoustic didn't find very much either. Shocking isn't showing much. So summary – not too many fish in lock right now. Since most of river is shutting down we won't be out until spring.

HydroAcoustics – finished sampling at Grafton 3 weeks ago. Last Thursday got data back from August. 37 events, densities were low. Night was higher than day. You don't see fish moving out of the way until the tow is right there, then they disappear immediately. Get out of the way in the last minute. Might not see much for behavior. Looking at x and y plane. Looks like they are moving in the y plane.
Comments/Questions:
Barr – Can Tom Keevin give a presentation in Feb?
Johnson – Sure, I will commit him to that. In July – August we looked from Pool 26 up to lower IL to find highest density of fish and that was Grafton.
Brummett – Have you looked at displacement to scour holes?
Barr – I don't think they every got around to do that. Maynard was going to look behind wingdams, but never did. There was a flood or drought. Maybe remind Keevin about this.
Johnson –OK.
Nelson – Is your tow loaded?
Johnson – It is not loaded. It is one deep, three wide.
Beorkrem – These are being done in one pool and only in certain seasons. They aren't being done during spawning… these limitations need to be written up.

Plants – **Wilcox**
This last summer – Elley Best made arrangements at USGS lab in La Crosse. Set up field and lab experiments. Better calibrate and evaluate potamogeton and vallisneria. Set out buckets of plants. Measured velocity, biomass and rate of growth. Study went really well. Effects of epiphytes (bacteria and algae growing on leaves, shading plants). Experimented by removing epiphytes and compared plants. Survey of distribution, relative abundance, species abundance 14-19, main channel border. Was a good year for plant growth and did find plants in the pool. We will be getting a GIS database of this data. Will add to effects of traffic models.

Benjamin – The plants quantified were all submergents?
Wilcox – Yes.

Benjamin – We have some really nice emergent plants right next to the MC in pool 8.
Wilcox – Effects of Navigation on emergent plants? Once they are above the water they are pretty robust. Think recreation boats may be more problematic than navigation.
Wilcox –Rock Island district is working on an extended contract with Steve Bartell. Take extended plant growth model and convert Fortran model to Visual Basic. This will be a menu driven thing. Monte Carlos simulations from variety of input parameters. Then get output of distributions. That will enable us to do hard number crunching for all of these alternate plans and scenarios.

O&M Effects 1:53 Barr
The team has met a couple of times with FWS. ***Fleeting issues***, where is it a concern and what are different districts doing? The team is looking at the report done for earlier study. They will publish a summary report of ***the 404 studies***. 6 years of individual studies have been written, but no summary has been written. This will be given to the NECC in the not to distant future. As for ***channel maintenance work***, St. Paul the team can work on that. Rock Island has just published their ***historical dredging***. Comments were due last week, so get them in if you haven't. ***History, consequences and possible future***: don't know what St. Louis will be doing. Don't know if it will be a standalone, or just provide information to be used in the Navigation study. ***Baseline traffic effects***, applying existing tools and get a handle of what the effects are.
Comments/Questions:
Wilcox – There is a GIS database that was created for Navigation Study. In St. Louis we didn't have records that went back very far. We put together a summary of records for what was available.
Exotic Species – We've talked around that. Mentioned how the fish passagework may help with that. Corps has and R&D study, other studies.
Beorkrem – Will there be something developed on the exotic species?
Barr – Nothing specifically for the Navigation Study. Chicago District is doing exotic barrier, and there is the threatened and endangered work focused on zebra mussels.
Beorkrem – Since this has come up so many times we need to look at connection with Lake Michigan.
Nelson – We have some recommendations. Jerry Rasmussan did this.
Wilcox – There is some innovative thinking going on. What fraction of the bed load transport is being dredged? What does that imply to the movement of material. From Great Study we went from over dredging to as-needed dredging. However, there may be some benefits to advanced/over dredging; less disturbance.
Barr –

Overall Study Status –Barr –2:05
Ken presented a few slides. Turn to page 104 of Interim Report. We had a team meeting last week and revisited those 7 alternatives. With slight changes we think these still are good to move forward.

1 – No Action – If we do nothing on the system what would we see in the next x years based on the 5 scenarios.

***b** – shutting down system for 60 days every 5 years (July and August). We will define what part of the system. This will be run through economic models and will determine what the economic cost will be. The environmental group will have to figure out what the benefits are. We will look at no action, minor modification, major modification.

***a** – Couldn't determine if modifications on IL changed the entire system. So will run Miss first, and then add in Guide Wall Extensions at Peoria and LaGrange (5) and new Locks at Peoria and LaGrange (6 and 7).
This is not new to interim report, just some fine-tuning.
Comments/Questions:
Beorkrem – Drawdown at Peoria and LaGrange – the only way you could do a drawdown would be to have a physical dam.
Lundberg – Keep monitoring monthly status reports. We will try to send you information as we get it.
Barr – There is a desire to have a small group to look at institutional arrangements. We thought we could talk about it in Feb. Have a facilitator at the May GLC Meeting.

Lubinski – I remain cautious about the study so far. Eventually we are going to get to the alternative and trade-of evaluations. That is still a black box. What evaluations are going to be done, how will it be done? That needs to be brought forward to us. It will be very valuable to the expert panel. Let's do a couple of examples in the Feb. meetings.
Barr – Rubs – shutting down for 2 months every few years. Fleeting – not on top of mussel beds, aesthetically pleasing. Evaluate base on the planning criteria: Risk, completeness, acceptability, effectiveness.
Wilcox – Need to identify what combination will be most effective in a timely way. Have different levels of effort that may take different timeframes to achieve this. But how do you match up with navigation alternatives?
Lubinski – I am afraid that this process will lead to winnowing out things that are less do-able.
Wilcox – I am hoping that evaluation is not screening out objectives, just looking at most cost effective measures to do this.

NECC Succession Planning
Goodbye, and Thank you Rich Fristik and Bill Bertrand
Butch Attwood will be replacing Bill on NECC, but we will need to appoint another oval team representative.
Pick another state rep. We don't have to decide that today. We will work with the states to do this.

Fristik – It's been interesting to see the changes over the years as this group has metamorphosed. I started out taking notes. A lot of ups and down, trials and tribulations. Who knows, I might still have some little hand in us getting there. Best wishes to all here.

Closing Remarks
None substantial.

NECC Future Meetings
1 - Phone Conference
Tuesday Jan 28th, 9:00 AM – Conference call.

2 - NECC Meeting in Feb
Feb 24th afternoon, Feb 25th Morning – In the quad cities.

Combined NECC/ECC
Discussion of before or after draft report?
Have panel come to April meeting
Benjamin – Will we be getting reports from the expert panel after every meeting?
Barr – Yes

3 - April 22nd – Earth Day Combined NECC/ECC with full expert panel.

Attachment A

Attendence List

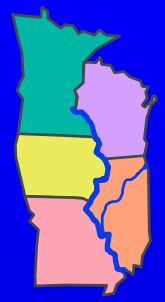
NECC Meeting 10 December 2002

Holiday Inn, Davenport, IA

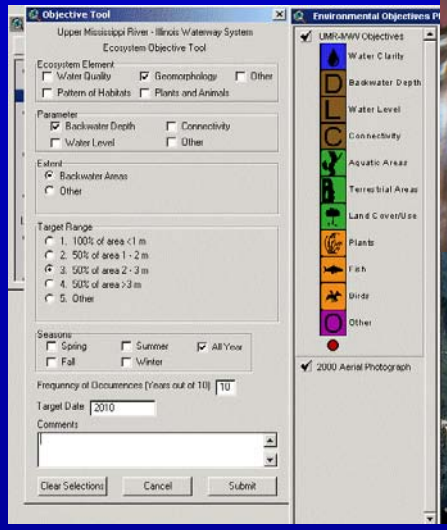
Name	Affiliation	Address	Phone	E-mail
Ken Barr	CEMVR-PM-A	P.O. Box 2004, Clock Tower Bldg. Rock Island, IL 61204-2004	309.794.5349	Kenneth.A.Barr@mvr02.usace.army.mil
Gretchen Benjamin	WI DNR	3550 Mormon Coulee Rd. La Crosse, WI 54601	608.785.9982	Gretchen.Benjamin@dnr.state.wi.us
Mark Beorkrem	Sierra Club/MRBA	P.O. Box 370 Morrisonville, IL 62546	314.882.8425	beorkrem@ctitech.com
Bill Bertrand	IL DNR	P.O. Box 149, 2106 Southeast Third Aledo, IL 61231	309.582.5611	bbertrand@dnrmail.state.il.us
Chris Brescia	MARC 2000	906 Olive Street, Ste. 1010 St. Louis, MO 63101	314.436.7303	Bresh@aol.com
Ken Brummett	MODOC	653 Clinic Rd. Hannibal MO 63401	573.248.2530	brummk@mdc.state.mo.us
Bob Clevenstine	USFWS	4469 48th Ave. Ct. Rock Island, IL 61201	309.793.5800	Robert_Clevenstine@fws.gov
Julianna Cruz	U.S. Maratime Admin.	2860 S. River Rd., Suite 185, Des Plaines, IL 60018	847.298.4838	Julianna.Cruz@marad.dot.gov
Hank DeHaan	CEMVR-PM-M	P.O. Box 2004, Clock Tower Bldg. Rock Island, IL 61204-2004	309.794.5853	Henry.C.DeHaan@mvr02.usace.army.mil
Jeffrey DeZellar	CEMVP-PM-A	190 Fifth Street East St. Paul, MN 55101-1638	651.290.5433	Jeffrey.T.DeZellar@mvp02.usace.army.mil
Jon Duyvejonck	UMRCC	4469 48th Ave. Ct. Rock Island, IL 61201	309.793.5800	Jon_Duyvejonck@fws.gov
Al Fenedick	USEPA	Mail Code: B-19J 77 West Jackson Boulevard Chicago, IL 60604	312.886.6872	Fenedick.Al@epa.gov
Rich Fristik	CEMVR-PM-A	P.O. Box 2004, Clock Tower Bldg. Rock Island, IL 61204-2004	309.794.5308	Richard.Fristik@mvr02.usace.army.mil
Brian Johnson	CEMVS-PM-EA	1222 Spruce Street St. Louis, MO 63103-2833	314-331-8146	Brian.L.Johnson@mvs02.usace.army.mil
Kevin Landwehr	CEMVR-ED-HH	P.O. Box 2004, Clock Tower Bldg. Rock Island, IL 61204-2004	309.794.5578	Kevin.J.Landwehr@mvr02.usace.army.mil
Eric Laux	CEMVS-PM-EA	1222 Spruce Street St. Louis, MO 63103-2833	314.331.8148	eric.a.laux@mvs02.usace.army.mil
Ken Lubinski	USGS-UMESC	575 Lester Ave Onalaska, WI 54650	608.783.7550	Ken_lubinski@usgs.gov
Denny Lundberg	CEMVR-PM	P.O. Box 2004, Clock Tower Bldg. Rock Island, IL 61204-2004	309.794.5632	Denny.A.Lundberg@mvr02.usace.army.mil
Catherine McCalvin	TNC	PO Box 305 Trempealeau, WI 54661-0305	608.534.6514	CMcCalvin@tnc.org
Rick Moore	Isaac Walton League	820 Brickl Rd, West Salem, WI 54669	651.649.1446	rxmoore@iwla.org
Rick Nelson	USFWS	4469 48th Ave. Ct. Rock Island, IL 61201	309.793.5800	Richard_Nelson@fws.gov
Bernard Schonoff	IA DNR	3390 Hwy. 22 Muscatine, IA 52761	563.263.5062	fishiowa@muscanet.com
Scott Stuewe	ILDNR	One Natural Resources Way, Springfield, IL 62702	217.785.8263	sstuewe@dnrmail.state.il.us
Dan Wilcox	CEMVP-PE-M	190 Fifth Street East St. Paul, MN 55101-1638	612.290.5276	Daniel.B.Wilcox@mvp02.usace.army.mil

Attachment B

Upper Mississippi River - Illinois Waterway System
Navigation Feasibility Study

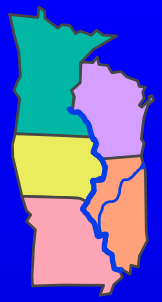


Environmental Objectives Planning Workshops



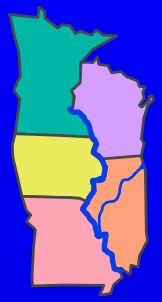
Parameter	Extent	ID	Location	Range	Season	Frequency of Occurrence	Target Date	Comments
Water Quality	**Main Channel Area (5)**	**1**	*River Miles 155-157*	*TR=2*	*Spr - Sum*	*5*	*2007*	*This should be implementd along with increase in aquatic plants*
Comments/ Additions:								
	Back Water Area		*Worley Lake*	*NTU <20*	*Spr-Sum*	*5*	*2007*	*This should be implemetned along with #1*
Geomorphology								
Comments/ Additions:								

Process for Establishing UMR-IWW Environmental Sustainability Alternatives



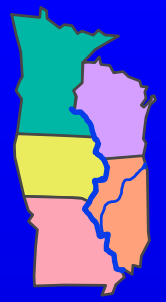
1. <u>Establish Goals and Objectives</u>
2. <u>Determine Management Actions</u>
3. Establish Costs and Expected Outcomes
4. Develop Env. Alternative Plans (NER Analysis)
5. Perform Integrated Alternatives and Tradeoff Analysis

Environmental Workshop
Primary Goals



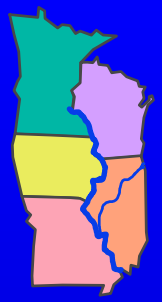
1. Identify and review existing/new env. objectives
2. Provide measurable objectives
3. Tie management actions to objectives
4. Initiate discussion on species level objectives
5. Gather info on evaluation tools and data

Environmental Workshop
What Happened?



- Workshops were well attended (30-40 participants)
- Facilitation structure was well met and successful
- Objectives and management action info was reviewed and captured

Environmental Workshop
What Happened?

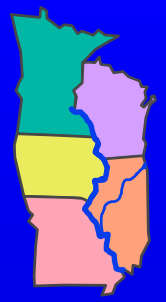


- Quantitative target ranges were usually noted with pool-wide objectives
- The ability to set species objectives was discussed
- Due to time constraints, additional info on evaluation tools and data was not gathered

EXIT
Working Group 1
Recommended Objectives

Sustainability

Attendance and Representation



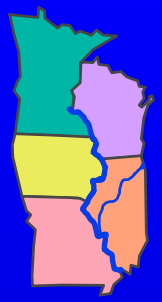
Peoria: (30) – USFWS (3); USACE (10); USDOT (1); ILDNR (8); INHS (1); ISWS (1); IDWR (1); MARC 2000 (1); MRBA (1); LTRMP (2); UMIMRA (1).

St. Louis: (40) – USFWS (4); USACE (11); USDOT (1); ILDNR (6); INHS (1); ISWS (1); IDWR (1); MDOC (5); MODNR (1); MARC 2000 (5); MRBA (1); LTRMP (2); UMIMRA (1); UMRCC (1); Sierra Club (1); Audubon (1); MO Coalition for the Env. (1); SIU (1).

La Crosse: (38) – USFWS (5); USACE (11); WIDNR (5); MNDNR (2); MODNR (1); Env. Defense (1); Sierra Club (1); Audubon (1); TNC (1); IWL (1); MARC 2000 (4); LTRMP (1); UMESC (3); Mississippi River Revival (1).

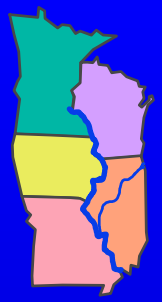
Moline: (31) - USFWS (4); USACE (8); USEPA (1); ILDNR (5); IADNR (3); MODNR (1); MODOC (1); Sierra Club (1); MRBA (1); UMRCC (1); Univ. of Miami (1); Audubon (1); IA Farm Bureau (1); UMIMRA (1); Quincy Park District (1).

Environmental Workshop
Setting Environmental Objectives



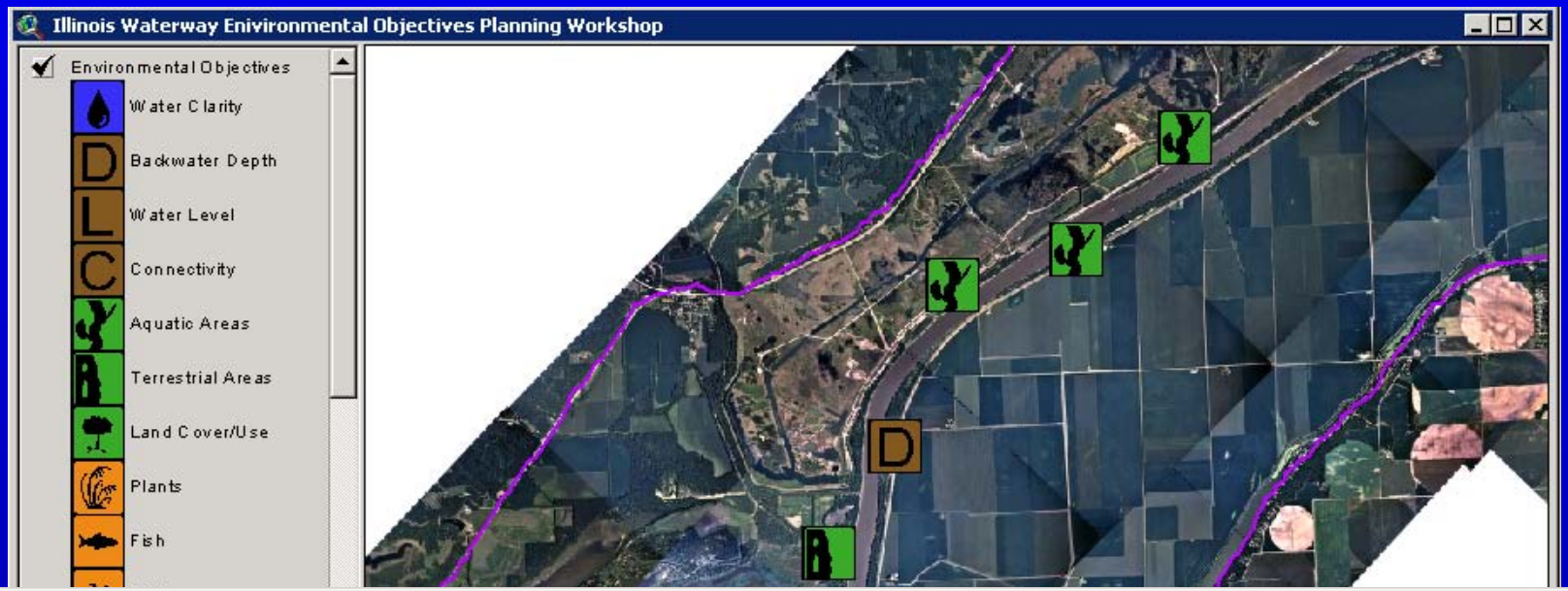
- Review, refine, and add to an environmental objective database
- Quantitative target ranges if possible
- Identify both site-specific and pool-wide objectives

Framework for Setting Objectives



Ecosystem Element	Parameter	Extent	TR	Target Range
Pattern of Habitats	Aquatic Areas	Main Channel	1	<10% of area
		Secondary Channel	2	10-20% of area
		Tertiary Channel	3	20-40% of area
		Impounded Area	4	40-60% of area
		Contiguous Backwater	5	>60% of area
		Isolated Backwater		
	Terrestrial Areas	Contiguous Floodplain	1	<10% of area
		Isolated Floodplain	2	10-20% of area
		Island	3	20-40% of area
			4	40-60% of area
			5	>60% of area
	Land Cover/Use	Open Water	1	<10% of area
		Submersed Aquatics	2	10-20% of area
		Emergent Aquatics	3	20-40% of area
		Grassland	4	40-60% of area
		Shrub	5	>60% of area
		Forest		
		Agriculture		
		Developed		
Plants and Animals	Plants	Emergent Aquatics	1	<10 plants/m2
		Submersed Aquatics	2	10 - 20 plants/m2
			3	20 - 50 plants/m2
			4	50 - 100 plants/m2
			5	>100 plants/m2
	Fish	Protected Fish Species		CPUE, Length distribution, or kg/ha
		Sport Fish Species		
		Commercial Fish Species		
		Forage Fish Species		
		Exotic Fish Species		
	Birds	Dabbling Ducks	1	0 - 1,000 use days/yr
		Diving Ducks	2	1,000 - 10,000 use days/yr
			3	10,000 - 100,000 use days/yr
			4	>100,000 use days/yr

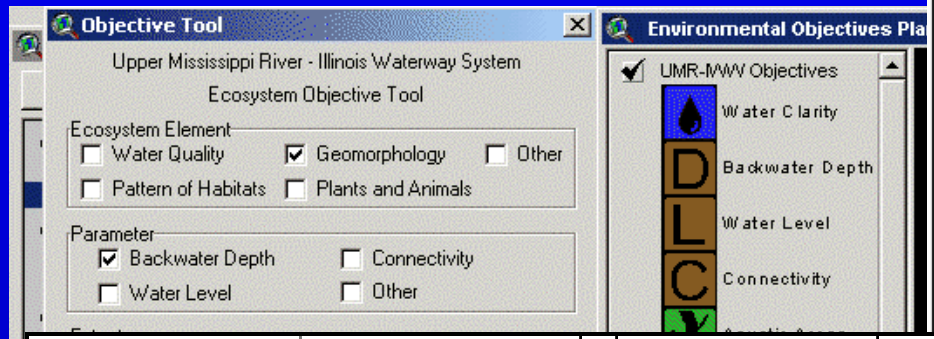
Environmental Objectives Database

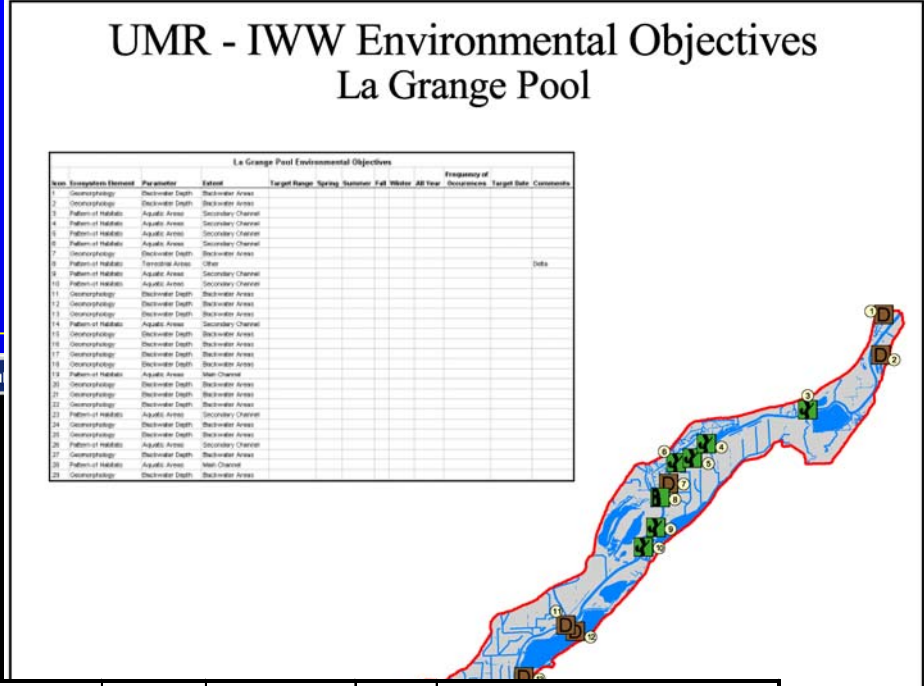


Attributes of Environmental Objectives

Ecosystem Element	Parameter	Extent	Tr	Target Range	Spring	Summe	Fall	Winter	All Yea	Frequency	Target Date	Comments
Pattern of Habitats	Aquatic Areas	Secondary Channel	0							0	0	
Pattern of Habitats	Aquatic Areas	Secondary Channel	0							0	0	
Pattern of Habitats	Aquatic Areas	Secondary Channel	0							0	0	
Geomorphology	Backwater Depth	Backwater Areas	0							0	0	
Pattern of Habitats	Terrestrial Areas	Other	0							0	0	Delta
Pattern of Habitats	Aquatic Areas	Impounded Area	0							0	0	
Pattern of Habitats	Aquatic Areas	Impounded Area	0							0	0	
Pattern of Habitats	Aquatic Areas	Impounded Area	0							0	0	
Pattern of Habitats	Aquatic Areas	Impounded Area	0							0	0	
Pattern of Habitats	Aquatic Areas	Main Channel	0							0	0	
Pattern of Habitats	Aquatic Areas	Main Channel	0							0	0	

Review and Identify Env. Objectives





Ecosystem Element/ Parameter	Extent	ID	Location	TR/ Target Range	Season	Frequency of Occurrence	Target Date	Comments
Water Quality								
Comments/ Additions:								
Dissolved Oxygen	*Backwater Areas*		*RM 103, Stewart Lake*	*5 PPM*	*All*	*10*	*2007*	*Address northern part of lake.*
Geomorphology								
Backwater Depth	Backwater Areas	7	*RM 138.5*	*TR= 2*	*All*	*10*	*2010*	
Comments/ Additions:								
Water Level	*Backwater Areas*		*Rice Lake Conservation Area*	*TR = 3*	*Summer*	*3*	*2006*	*Will impact about 1,000 acres.*

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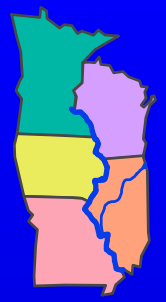
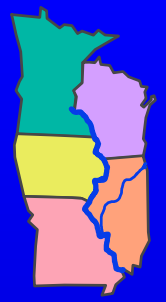
Environmental Workshop
Env. Objective Results



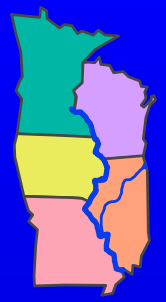
- Pool-wide and site-specific environmental objectives were discussed
- 2100 site-specific objectives were reviewed
- Over 500 new site-specific objectives identified
- Quantitative target ranges were usually noted with pool-wide objectives

Environmental Workshop
Peoria Objectives



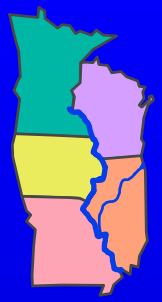
- Maintain 50% of currently isolated backwaters for exclusion of exotics and protection of high quality habitat.
- Recreate the natural hydrograph.
- Regulate and develop environmentally friendly fleeting areas.
- Remove sunken and abandoned barges.

Environmental Workshop
St. Louis Objectives



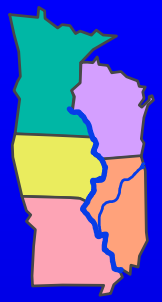
- Open river is sediment starved. So, allow river to be more dynamic. Allow to meander.
- Restore floodplain habitat.
- Restore-maintain riparian corridor to provide a broad base range of benefits.
- Implement side channel and dike alteration plans.

Environmental Workshop
La Crosse Objectives



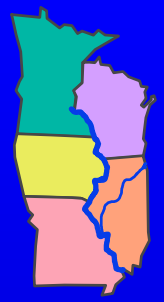
- Reduce Connectivity.
- Increase water levels for overwintering habitat.
- Improve urban stormwater runoff water quality.
- Develop early warning system for contaminant spills.
- Include St. Croix in planning because it is part of the authorized navigation system.

Environmental Workshop
Moline Objectives



- Provide blocks of habitat for species corridors.
- Reduce erosion and habitat loss due to barge fleeting.
- Restore islands in all pools to provide protection from wind fetch.
- Secchi depth of 1 m during high water event for 5 out of 10 years.

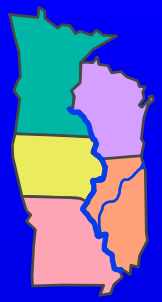
Environmental Workshop Management Actions



Purpose: Review and identify management actions that are most likely to contribute towards achieving the established goals and objectives.

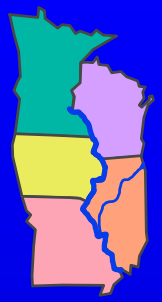
Definition: Regulatory, operational or structural tools or activities that can be implemented to positively address the environmental objectives (e.g. hydraulically dredge a backwater area).

Environmental Workshop Management Actions



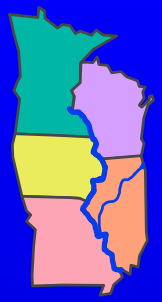
- **Background:**
  - **Management Actions were derived from UMRS resource managers, engineers, scientists, and others.**
  - **Management Actions will be linked with objectives to formulate environmental alternative plans.**

Environmental Workshop Management Actions



Geomorphology	Water Level	Main Channel	Growing season drawdowns
			Water control decision-making
			Directions to lockmasters
			Dam gate operation
			Higher, slight pulsing of winter water levels
			Lower early summer water levels to strand carp eggs
			Acquire real estate rights, modify regulation of Pools 24,25,26
			Drawdowns to consolidate sediment
			Build dam gates, naturalize hydrologic regime IL River
			Manage water levels
			Growing season pool drawdowns to reestablish vegetation
			Small scale drawdown of floodplain lakes for vegetation
			Introduce flow to isolated backwater areas
			Restore flow to secondary channels
			Restore flow to floodplain areas isolated by levees

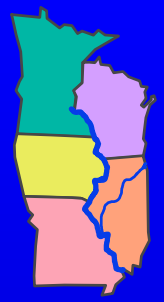
Species and Population Parameters



- Purpose: To identify plant and animal species and appropriate units of measure that should be considered for future environmental objectives planning efforts.

- Results:
- Abundance estimates are unnecessary at large scales
- Develop community indices (i.e., IBI, diversity, etc…)
- Focus on project areas (pre and post project)
- Focus on T&E organisms, representative, or exotic organisms
- Use existing data from many sources (LTRM, States, Audubon)
- Establish baseline or reference conditions
- Use HEP, WHAG, AHAG and other metrics
- Focus on physical attributes

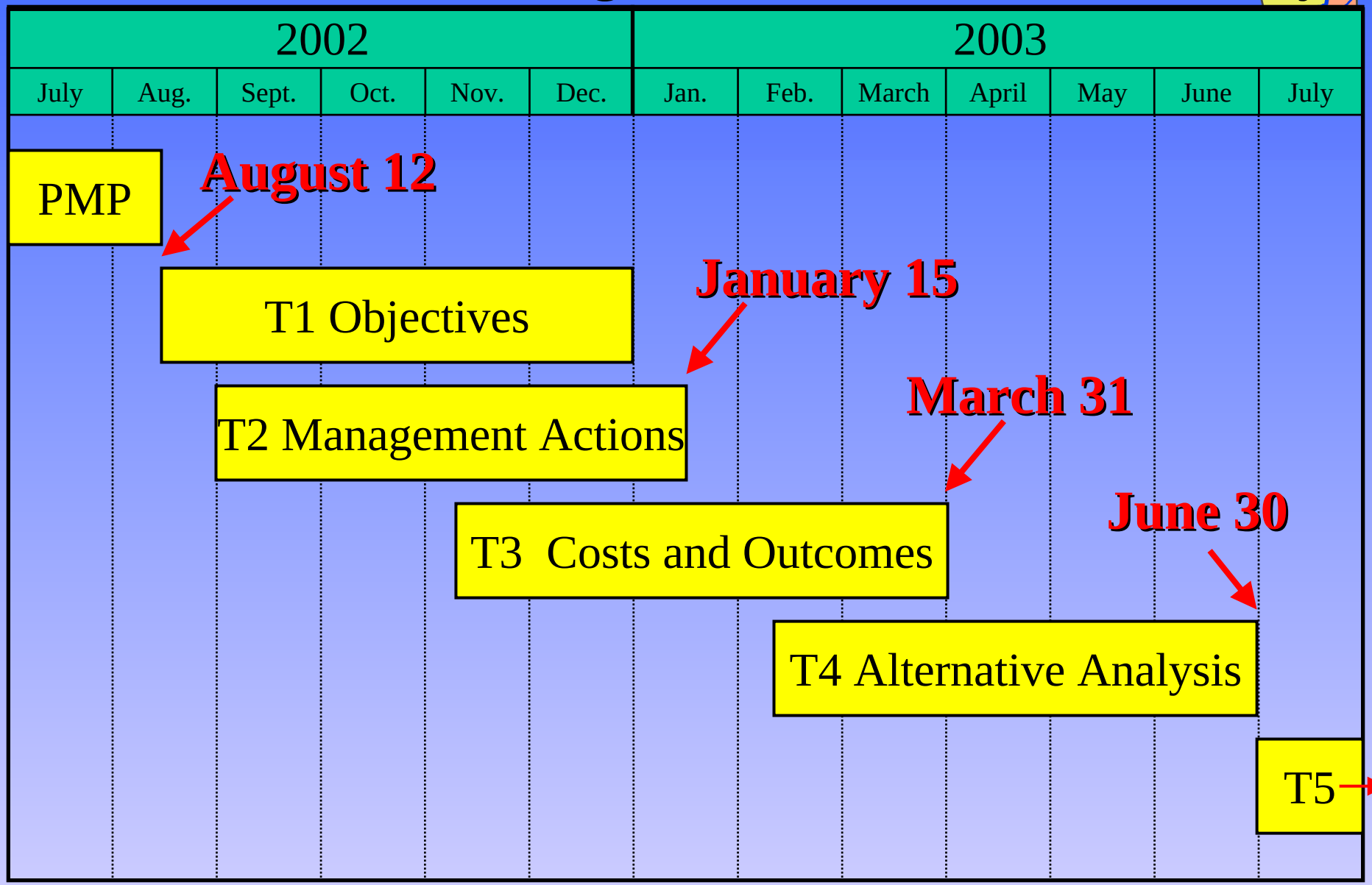
Environmental Workshop Product Schedule



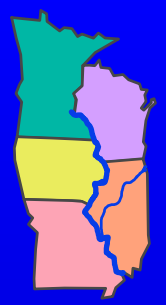
- DRAFT Workshop Reports – Dec 02
- Objective Database – Dec 02
- FINAL Workshop Reports – Jan 03
- DRAFT Green Report integrating the results from all four workshops – Jan 03

Study Schedule

Process for Establishing Environmental Sustainability



Navigation Study Flowchart



Nav. Improvement Effects

- UMR-IWW Navigation Improvement/ Environmental Effects
- Monitoring and Analysis (bank erosion, fish entrainment,etc.) **Jan 03**
- Site-specific and System Impacts **Jan 03**
- Without-project Traffic Effects **Jan-Mar 03**
- With-project traffic effects **Mar-June 03**
- Cumulative impacts **June 03**

Effects of Nav. O&M

- Examine UMR-IWW navigation O&M environmental effects **Started Aug 01**
- Water level control
  Fleeting
  Channel maintenance
  Fish passage
  Trust species
  Exotics
  Aug 01-June 03

Env. Sustainability

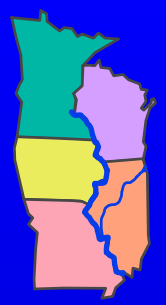
- UMR-IWW Environmental Objectives **Oct-Dec 02**
- Are Objectives related to the Navigation System? **Dec 02**
  - **No** → Identify proper authority/ agency (e.g., EMP, Comp. Study, FWS CCP, USDA) to move forward with objective outside of the Navigation System **Jan-Feb 03**
  - **Yes** → Identify Management Actions **Nov 02-Jan 03**
- Establish Costs and Expected Outcomes **Jan-Mar 03**
- NER analysis on selected environmental alternative plans (multiple actions) **Mar-June 03**

Implementation Issues

- UMR-IWW Institutional Arrangements and Authorities **Started Mar 02**

June 2003

Navigation Study Flowchart



Economic **Environmental** **Social**

Mitigation, integration, and tradeoff analysis on Nav. and Env. alternative plans **July-Aug 03**

Develop institutional arrangement implementation plan **July-Dec 03**

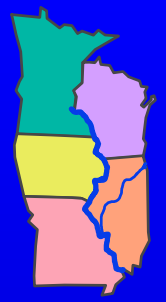
Integrated alternative plans with potential outcomes **Sept 03**

Sort management actions (within alternative plans) into cost-share baskets **Oct-Dec 03**

DRAFT Navigation Feasibility Study Report (With preliminary Recommended Plan) **Jan 04**

FINAL Navigation Feasibility Study Report (With final Recommended Plan) **Aug 04**

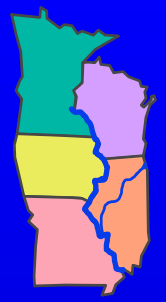
Navigation System
Zone of Potential Impact



- UMR-IWW main channel corridor extending landward ¼ mile past the railroad grade or principal meander belt levee
- Publicly owned sloughs in levied drainage districts where water levels are controlled
- USACE General Plan lands
- Does not include the crest of bluffs

Attachment C

Environmental Component Flowchart



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June 03

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Without-project Traffic Effects **Jan-Mar 03**

With-project traffic effects **Mar-June 03**

Cumulative impacts **June 03**

Env. Sustainability

UMR-IWW Environmental Objectives **Oct-Dec 02**

Navigation System Objectives? **Dec 02**

No

Yes

Identify Management Actions **Nov 02-Jan 03**

Establish Costs and Expected Outcomes **Jan-Mar 03**

NER analysis on selected environmental alternative plans (multiple actions) **Mar-June 03**

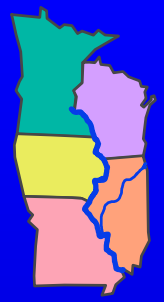
Implementation Issues

UMR-IWW Institutional Arrangements and Authorities **Started June 02**

Identify proper authority/ agency (e.g., EMP, Comp. Study, FWS CCP, USDA) **Jan-Feb 03**

June 2003

Environmental Component Flowchart



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FINAL Navigation Feasibility Study Report **Aug 04**