

Upper Mississippi River – Illinois Waterway System Navigation Study
49th NECC/ECC Face-to-Face
May 3-4, 2005
Davenport, IA
Radisson

1. Attendees:

Angela Anderson-MRBA	Keith Hofseth - CEIWR	Rebecca Soileau - CEMVP
Richard Astrack - CEMVS	Richard Manguno – CEMVN	Chuck Spitzack - CEMVP
Butch Atwood - ILDNR	Catherine McCalvin - TNC	Jeff Stamper – CEMVS
Ken Barr - CEMVR	Nicole McVay – CEMVR	Dick Steinbach - USFWS
Gretchen Benjamin -WIDNR	Rick Nelson – USFWS	Janet Sternburg - MODOC
Doug Blodgett - TNC	Paul Rohde – MARC 2000	Holly Stoerker - UMRBA
Jack Carr - CEMVR	Greg Ruff - DEMVD	Chuck Theiling - CEMVR
Mark Cornish – CEMVR	Bernie Schonhoff – IADNR	Scott Whitney – CEMVR
Hank DeHaan - CEMVR	Rob Simmonds - USFWS	Dan Wilcox - CEMVP
Jon Duyvejonck – USFWS		

Notes: **Missing Attachments**

2. Calendar:

- **May 27th** – Mussel Mitigation Scope of Work conference call – Agenda will also include floodplain restoration
- **June 1** – Comments due for Draft Institutional Arrangements Concept Plan (NECC/ECC)
- Upcoming meetings – LD 22 and LD 25. LD 22 – expansion and fish passage. LD25 – expansion and dam point control.

3. Actions Items:

- **NECC/ECC** should provide feedback on the monthly report to Spitzack.
- **Spitzack** will send out a mock-up of a monthly NECC/ECC report for the Committees to review.
- **Kincaid** will provide specifics as to how ProjectWise will work to the group.
- **Spitzack** will organize a group to look at the NESP newsletter that goes out to the public.
- **Barr** will send out notice to the group with the fish trawling sampling is occurring.
- **Barr** will send out draft Mussel scope of work to the NECC/ECC early next week.
- **McVay** will send out draft PDT POC list

- NECC/ECC will review draft PDT POC list and provide updates to McVay
- **Barr** will send out Science Panel acronym list
- **Barr** will look into the use of easements concerning floodplain restoration.
- **Theiling** will send out Science Panel presentation to Benjamin/Group

4. Notes:

- A substantive agenda for NECC/ECC meeting will be released 30 days ahead of each meeting. **Motion carried with no objections.**

5. Notes:

Introductions and Opening Remarks – Barr/Carr

Barr introduced the group (see attendance list). Minutes from the Jan 19th meeting were approved and finalized – no changes.

NESP Program Overview – Spitzack

(Attachment 1 – PowerPoint, Attachments 2, 3, 4, 5, & 6 – Handouts)

Ruff gave overview of authorization. Feasibility Report is still at Assistant Secretary of the Army for Civil Works. They will brief Secretary Woodley at the end of May.

Authorization – Senate bill – haven't heard date of when it will be on the floor. House report – a lot of activity lately – three different data calls the last week of April, but no schedule of when we will see the first mark up on the House side. No questions were asked of Greg

Spitzack had a PowerPoint Presentation (Attachment 1). He reminded the group that the Institutional Arrangements (IA) team is asking for comments on the IA Draft Concept Paper by June 1st. He discussed the next steps and reviewed the draft Concept Plan. He said that a concept of Institutional Arrangements is important regardless of the authorization of NESP – however without NESP, the institutional arrangements may be different (different levels of intensity depending upon levels of funding). There is value in developing a proposal and then seeing what can be done from there. The Institutional Arrangements transition can start now. The EMPCC and A-Team should remain the same for now. However NECC/ECC can take on interim role of River Management Council. NECC/ECC may sunset in Sept/Oct as EMPCC becomes RMC. Chuck discussed the IA Organizational Chart (Attachment 2) and the Communication Plan (Attachment 3).

- **Soileau** said that ERDC should be crossed out from the RMC box on the IA organizational chart.
- **Duyvejonck** asked about the workshop that will be held after the review of the IA document. **Spitzack** replied that he was just talking to Corp folks about what should be done. The purpose of the workshop is to review the comments from the concept plan draft. There will probably be new faces in the meeting. See what issues come out and develop operational documents.

Spitzack passed out the Program and Budget Development handout (Attachment 4). He said the process is laid out in 2 years 2005 and 2006 – dealing with 4 budgets. We are executing FY05, determining FY06: providing input to the administration budget for FY07 – Jan 06 kicks off budget for FY08. Late summer and early fall is really important

for program development over 3 years. **Spitzack** next discussed collaboration on integrated program development (Attachment 5). We can take system vision goals and objectives and address system needs and priorities, to develop an integrated program. This is based upon the years of building the vision, goals and identifying needs and priorities. He said this is something to think about when considering the role of the NECC/ECC. He next handed out 2 pages of Institutional Arrangements Issues (Attachment 6). He said this wasn't the complete list, but the main issues. He then continued with his PowerPoint on Slide 6. There are communications gaps that need to be addressed. He said the communications plan is in the PgMP and the final FY05 PgMP will be coming out to the NECC/ECC in the next few days. For Communications, Spitzack said he will provide a monthly report to the NECC/ECC. He will send out a mock-up to review for comment.

- **Schonhoff** asked what the content will be – an executive summary?
- **Spitzack** replied that it would be a fact sheet containing all projects with a synopsis of the project with contact names. New issues will be bolded. This was used in the Red River Basin and was effective to keep people informed.
- **Spitzack** continued by saying that there needs to be regularly scheduled NECC meetings. He would also like to get the project decisions moved to the RMC but there are systemic decisions that need to be made to the NECC. He expects state representatives to participate on each Project Delivery Team. He next discussed access to documents. The PgMP's and PMP's are living documents that others not on the PDT may want to access. NECC/ECC members may also want access to completed documents and calendar of meetings and events. He said the Corps and the Science Panel will be using ProjectWise to be able to share documents. He also mentioned upcoming meetings: LD 22 – expansion and fish passage; and LD25 – expansion and dam point control.

Questions/Comments:

- **Kincaid** said he would get specifics to how ProjectWise will work out to the group.
- **McCalvin** asked why those two sites are having project meetings now. **Spitzack** replied because people are starting to be out in the field as well as the fact that these projects are the first to be ready.
- **Benjamin** asked how we move ahead with institutional arrangements with or without NESP authorization. **Spitzack** said that his thoughts are just his – We need to learn from the process and implement some aspects of it. **Benjamin** said that with the RMT's, the process has been in place for 20 years but that it hasn't been integrated among the Districts. She sees the benefit for doing it but is wondering where the energy and resources for the change would come without NESP. **Spitzack** said that the Corps' Program Development is changing – we report across 8 project lines. If our system of developing programs becomes smoother across the 3 districts, it will help the projects at the Division level. See the O&M program alongside the EMPCC program would be the next step.

- **Nelson** asked how Chuck would foresee the EMPCC and the O&M. **Spitzack** replied that O&M may have equal footing as EMP. Look out for 3 years of program development – if you have an understanding of multiple programs you would have a better understanding of the system. Within the Corps we would gain from having more system planning before we go to the Division. **Barr** said that this is being done in Pool 18 by integrating Channel Management Pool Plans as well as NESP water level drawdown. This is already being done locally but we are talking about doing this programmatically and systemically. The 3 Districts will be looking at their 3 Program Management Business processes and see what they can learn and then integrate them. Then look at how they deal with the institutions. If NESP isn't funding in FY06 we are in place to make some steps to change IA's.
- **Stoerker** stated that most of these examples seem to be how the Corps does business. Some of these institutions have been in place for over 30 years. How have these institutions been preventing the Corps from doing things? You can do business in a new way with the same institutions. Why are you proposing these changes? **Spitzack** said that there are very few changes being proposed with the institutional arrangements.
- **Nelson** said he isn't seeing the value added. **Spitzack** replied – value added at what cost. There is very little cost to this. We could take this group and have it look at O&M issues and see if there is some value added.
- **Duyvejonck** asked if the organizational chart is showing both the Navigation Efficiency and Ecosystem Sustainability. **Spitzack** said that the Science Panel right now is specifically focused on ecosystem sustainability.
- **Soileau** summarized the discussion – 1 there is the concept paper, which talks about having the NGO's at the table with the States and the Corps, to look at the institutional arrangement and have the Science Panel input for sequencing these projects. Have the stakeholders involved in the process. 2 – What if NESP isn't funding in FY06 – The Corps is trying to change internally – this needs to be kept alive through the CCP programs and within the Corps (EMPCC). Start this process by bringing in O&M into EMPCC. The Corps is trying to look at a broader concept.
- **Benjamin** said that it seems she has been involved in this discussion before – RRF and RRCT, which are supposed to cross pollinate – there was a regional dredging team that was supposed to cross-pollinate, one division that was supposed to cross pollinate. MVP has been very successful and she hopes that this success will be moved downstream. However she feels that we have been there and we aren't making much progress – frustrated. **Spitzack** replied that there are 2 divisions in the Corps – Program and Operations. Right now Chuck was focused on the Program side of things – but there is also the operational side of things.
- **Benjamin** is concerned that there will be more resources needed – that she will be going to a lot more meetings. **Spitzack** said that this can be discussed at the workshop. It will depend on how we develop the IA and how involved each person is.

Navigation Economic Technologies (NETS) - Keith Hofseth

(Attachments 7 & 8 – PowerPoints, Attachment 9 – Handout)

Hofseth showed the first PowerPoint Presentation (Attachment 7) There was a lot of inconsistency in the way the Corps runs models – planning and economics. NETS is for both inland navigation and deep draft navigation. Slide 6: The Corps’ Global Forecasting Model has been under criticism. Global has 7 gross regions. The regional routing model tries to figure out how things are getting there (rail, truck, water). The Microscopic System Model is for individual ships – costs, delays, permits, etc. Slide 7: a model should have the ability to hind cast (last 5-7 years). Slide 8: The World Grain Model identifies risk and uncertainty over a 50-year forecast – try to identify some point in the future where we transition from risk uncertainty to scenario based forecasts. If this works for grain then we need to take it to other commodities such as petroleum, containers, and coal. This should force a uniformity of forecasting among all the different ports and groups. Slide 10: The regional routing model will hopefully be able to help determine pollution increases, etc with and without a Corps’ projects. With the Naval Academy, NETS is looking at different vessel designs – trying to understand the new draft requirements of the new vessels. Also, be able to do wake analysis. Slide 11: The Microscopic Systems Models evaluate: tradable locking permits – thoughts are focusing on the queue; scheduling – they are evaluating from no control to complete control on the waterway – this report is coming out in June. Simulated activities on Lock 20-25 – there are some lock policy changes that changed the efficiency of the system, such as always locking a “single-lock” vessel ahead of a “double-lock” vessel, when both are in a queue. Glass Box example (not in hand out) – allows consistent modeling for ports that can then be viewed by stakeholders. Slides 14-21: he defined Elasticity – Shipper response function, and discussed the Mid-American Grain Study. This study demonstrated that you can empirically determine the shipper response function. Both alternative mode assumptions said that people will leave the system easily. However, based on the survey model, more facilities are tied to the river. It turns out that on the Ohio we may have underestimated benefits, but have overestimated benefits on the Miss (this is Keith’s interpretation). There is other survey work going on to demonstrate this model on several waterways for several commodities. Slide 28: Spatial Equilibrium Theory – try to better understand market power and to understand how important it is to the system. Slide 29: Tradable Permits – rejected the idea of a timeslot, but they have another idea which may be feasible (Keith did not discuss this idea). The NETS program has a peer review program – this is done anonymously. You can visit their website for NETS News www.corpsnets.us

Questions/Comments:

- **Anderson** – how is ITR set up, is there one firm that does this? **Hofseth** replied that only 1 contractor is handling the peer review issues – they developed the list of qualified candidates who Keith approved. Depending upon the type of study there are different numbers of reviewers – the Mid-American Grain Study had 3 reviewers.
- **Benjamin** asked about the policy changes at the locks that would add efficiency. **Hofseth** said that there was a model developed by Dr. Sweeney.

In his model he showed that in a queue, if a single cut always went before any double cuts it made the system 9% more efficient. However this did not look at different efficiencies between different types of barges (electronic winches).

- **Wilcox** said that he read an article based upon making decisions in uncertainty. The article supported scenarios based decision making over prediction, and risk and uncertainty. Examine near term actions and how they may affect scenarios (Scientific America and Journal of Science). Is NETS working scenario analysis into their models? **Hofseth** replied explicitly “no”. However, he said that what Dan is talking about is called “real options” – being you wouldn’t do something that would preclude your other options. As NESP moves forward with Adaptive Management they will be dealing with these issues.
- **Anderson** – Regional Routing – looking at rails vs. barges. Is it also looking at value added facilities – such a turning grain to ethanol prior to shipment? **Hofseth** replied that we need to first look at the Global Model. In Iowa, there is production of grain and demand of ethanol. This model is looking at forecast of capacity and demands of ethanol. We will gain insights as to how ethanol expansion affects capacity on the river.
- **Stamper** asked how the review comments were addressed. **Hofseth** said that all the comments and responses are listed in the back of the report. **Stamper** asked what happens if the comments can’t be resolved. **Hofseth** said that he is allowing his team to respond as they see fit.
- **Stamper** asked if it is up to the study team to choose what products are relative to the NESP. **Hofseth** said yes – he will provide models, studies, and expert opinions.; however, it will be the study team to decide what to do with the material. **Manguno** said that the NESP economic team is coordinating very closely with the products and processes on which the NETS team is working. The NESP economic team has been participating and contributing to the NETS process; therefore, what comes out of the NETS will not be new and we won’t have to make the decisions about whether it applies to our study once they are done.

Hofseth showed another presentation (**Attachment 8**) – this was given to Secretary Woodley – the focus of this presentation is how NETS is being integrated to the Upper Miss Study. He first showed a timeline for the NaSS model (Navigation System Simulation Model). We have developed a timeline for the models coming out as well as a procedure for turning the information over to the study team. We have started the process for turning the information over to the study team.

Questions/Comments:

- **Stamper** asked if there was any reaction from Woodley or the NAS? **Keith** replied that Woodley is pleased with the process. NAS asked how much independence does the NETS team have and he replied that he has total autonomy. They also asked about the budget – Keith said it’s \$12 million over 6 years – very robust. Over 10% of the Corps, civil works study budget. This is a huge commitment for the Corps.

- **Stamper** asked how will you engage the industry? **Hofseth** said he was hoping the industry would be here today. MARC2000 wasn't cooperating. **Rohde** said that without being able to see the information from UMCEL then the industry couldn't comment. **Hofseth** said that the model will be on the website in June and that NETS wants industry to review it. He said the model is there, the data is there, and the report is there. NETS wants the industry's participation and feedback on these studies. The tradable permits study is at the point where they want to sit down with industry. He asked Paul to help organize a meeting – **Rohde** did not respond.
- **Stamper** asked if the Sweeney report went through Peer Review? **Hofseth** said that no, it wasn't Peer Reviewed, but went through IWR's standard review process.

NESP Economics – Manguno

(Attachment 10 – PowerPoint)

Manguno discussed a PowerPoint presentation. Slide 2: Notification Report (March 2008) – The *Feasibility Report* recommended proceeding in an adaptive framework. The study team committed to a notification report. This would be essentially a “where are we now” report that would go to Congress. This would be at the end of the process of completing the design of some of the locks.

- **Stamper** added that this is time driven – design is funding driven but this report will be done at the end of the third year regardless of the design of the locks.

Manguno continued that the report would discuss any new information/monitoring/modeling that is known. Slide 3: another report is the Evaluation Report (5 years out- March 2009) – this will be written once the models are out there and have been released and critiqued. It will be a reevaluation of the previous work – Go, No Go, or Go but in some different way. Another subject addressed would be a recommendation for the NESP and EMP.

- **Stoerker** asked why the EMP issue would be addressed in the evaluation report? **Spitzack** said that at this point this is only a thought. This will be discussed at the UMRBA. The team is still wondering how to address this issue – in one of the reports (notification or evaluation) or as a separate report. **Stoerker** said she would prefer to have a separate report for this. **Ruff** said that if we have a 5-year report it would be appropriate (a 5-year report being both Navigation, Ecosystem, Adaptive Management etc.) However, if this is only a Navigation report it wouldn't be appropriate.

Manguno continued with Slide 4: Updated Feasibility Report – justify remaining program for both Navigation and Ecosystem – this would present any new information. This would be another 10 years out in the future. It doesn't seem logical that the 2004 *Feasibility Report* would stand up for the entire 50-year framework.

- **Benjamin** said that most Corps studies she has been in go from a Feasibility Report to Plans and Specs. Is this updated Feasibility Report actually Plans and Specs or what? **Spitzack** replied that we are doing plans and specs for the current 15-year increment, but we will need to have another Feasibility Report to get authorization for the additional increments.

Manguno continued –Slide 5: Monitoring Analysis – Currently we are not gathering much information on other export markets – some of this monitoring would be to pay attention to this. This could be compiled in the Notification Report. However, the monitoring and analysis will continue over the duration of the program – it will not end with the Notification Report. Rich then continued on with the Economic Activities part of the presentation. Slide 8: The four main activities are Monitoring, New Annual Model, Traffic Forecasting Model, and Appointment Scheduling. Monitoring includes – performance monitoring of small-scale features (mooring cells and switchboats). We still need to understand switchboat performance – boat size, number of boats, how many locks do they need to be at to have system-wide performance benefits.

- **Rohde** asked is any of this is being done now at any of the 600’locks that have switch boats? **Manguno** replied only in the way the locks are typically gathering performance data. The economic teams needs to determine if there is any other data that needs to be gathered to determine performance.

Manguno continued. The next 3 activities are being driven by the NETS program that Keith has been describing. The New Annual Model is the economic benefit model. An annual model means that it exists at an annual resolution. One of the things that came out of the economic dialogues is “how comprehensive does your economic model need to be?” From NRC – Spatially explicit – other markets and uses for grain – explicitly listed in your model. This is the ideal. The direction that the NETS program is headed is something short of the fully developed spatial model. The NETS model is the level of detail that the study team was trying to capture when the team originally began. By specifying the demand function you could capture the majority of these other effects. That’s the kind of new annual model that NETS is developing. Retain the framework that we are using in our existing Corps benefits model, but empirically specify what the demand curves look like. Keith is also pursuing the question as to how comprehensive the model needs to be. There will be a report that analyzes if this new annual model is broad enough. This will be an important report.

- **Anderson** asked how is the model falling short of the NRC’s recommendation. **Manguno** said it falls short because there is nothing explicitly discussing the feed lot, the ethanol plant etc. We aren’t building demand curves for each of these. However, by building the shippers demand curve it is taking these into account – the change in shipping costs takes this into account.
- **Anderson** summarized that if the ethanol price goes up regardless of transportation the model won’t capture that change if rates don’t change. **Manguno** – said that is correct. If the cost of ethanol goes up or down this model will not be able to determine what that effect will have on other markets. However, you don’t have to be perfect in order to capture the NED benefits that we are attempting to capture. That truly developed spatial model could be a significant cost in time and money. However, we aren’t missing things by much.
- **Schonhoff** asked if there will be some risk analysis/confidence limits on the model since this is not the full spatial model. **Manguno** said he doesn’t think this model can do this – this model is still deterministic – there is no formal capturing of risk and uncertainty.

- **Wilcox** asked if the model could be amenable to this? **Manguno** replied only through the inputs. It is an avenue that could be pursued, but is not part of the plan right now.

Manguno continued with the Traffic Forecasting Model. He said he likes to think of this as the replacement of the scenarios. The traffic forecasting model does the same things as the Navigation Study scenarios, but more specific – What if x happens in China – what does that do to grain exports in the US and then the upper Miss. It will be constructed to be able to talk about probabilities of these “what ifs”. There are some probabilities in the inputs. The routing model is an additional level of detailed refinement on this model. Instead of being able to say “in aggregate I expect the grain export flows from the upper miss to be x,” you may be able to carve that number to a much more detailed info. The routing model requirements have not been completely scoped out right now – it will take some time to develop this model.

- **Spitzack** asked how this benefits Regional economic benefits. **Manguno** said that some of the RED is based on work hours and that will not come out of this model. The second piece of RED is cost of transportation and how that leads to RED – some of this information could come from the routing model. It hasn’t been thought of at this point, but it could be. **Spitzack** thought that the RED evaluation is important for the evaluation reports. There needs to be some discussion regarding the criteria for decision making and to see if the RED needs to be included. The Corps is currently looking at NED.

Manguno continued with Appointment Scheduling – The start of this is the work UMCEL is doing – a report is coming out in June for pursuing this improvement. It is expected that the NaSS model (small scale, non-structural changes model) will need to be used to evaluate the proposal. Rich continued with the schedule on Slide 9: First part is the coordination – December 2005 – complete independent Peer Review of the Next Generation Annual Model. This is a critical time point. At this point the study team can make the decision if the Next Generation Annual Model is applicable to the study. The study team is not just jumping in at that point, but has been part of this. If there is a favorable review of the model then the study team will probably endorse the model. However, if there are issues with the peer review of the model – or if the other team comes back and says this model is not good enough for capturing all issues, then the study team may rethink accepting the model. The December date is an optimistic date. Oct 2006 – complete and alpha version of the NaSS model – and alpha version is not a peer reviewed version of the model. A peer reviewed version is not planned out of quite a while. The Notification Report will not contain results from the new annual model but will contain evaluation of the appointment scheduling.

Questions/Comments:

- **Greg Ruff** – The Annual model will not be available at that time – but what about the traffic forecast model and back casting? **Manguno** said that yes that information should be available, and should be included in the notification report.
- **Stoerker** asked if the Notification Report of the appointment scheduling would contain testing? **Manguno** replied no – it would not include testing. He said that the economic team feels that there would need to verify this with

field testing. The Notification Report would report where the team was at that moment. The field testing wouldn't happen until at least 2008 and be a year in duration. **Stoerker** said that the assumption of the Notification Report would be to tell Congress the status of building the large-scale measures – she asked if there would be a decision of the small –scale measures. **Manguno** agreed – there would be no hard go/no-go decisions based on the appointment system. As to other small-scale measures – as much as the monitoring has been done it will be reported.

- **Steinbach** asked what information is being gathered and inputted into the new models that will make it better. **Manguno** replied that the annual model is describing the relationship between the quantity we expect to be shipped on the waterway and the cost of that shipping. In the past, we made some assumptions – but it was never empirically based. But it needs to be. The work Keith was describing was the empirical description of the demand. By having the empirically based demand function in the existing framework you gain a whole lot. This is the willingness to pay to use the waterway – the shippers' response curve – this is based on survey work from actual shippers.
- **Steinbach** asked if this will be a massive effort annually to determine the annual curve or is this not really an empirical curve. **Manguno** said to think of this as a mathematical specification . As we put the individual pieces of traffic into the model, we are describing the response function, given some general functional form, but with specific values needed to complete that specification. The functional form is the general thing that comes out of the shippers' response effort. Annual has to do with describing traffic flow for the year, delays for the year, and benefits for the year; this is the resolution of the model. The functional form that comes out of this is assumed to be the appropriate functional form.
- **Steinbach** asked how often does the form get refreshed? **Manguno** replied that updating the functional form is something that the team needs to decide. Updating traffic forecasts don't need to be done annually. It would generally fall into the same category of the other pieces of information used to do the analysis. Whenever you believe something has changed, that will fundamentally change the data; you will need to update the functional form.
- **Stamper** asked what years has that surveyed covered? **Manguno** said the surveys were done in 2004. The questions posed to the shippers dealt with relatively recent actions – they didn't go back in time. It is a fairly recent snapshot of current business practices. You wouldn't expect these fundamental relationships to change unless there were fundamental structural changes going on in markets. However, at some point you have to be at a place where you have a dataset and you use it to make decisions.
- **Stamper** asked where is the Tow Cost model in all of this. **Manguno** said that this is part of the discussion. Take the shipper response data and work it into the Tow Cost Model. This is something that is a little bit further out in the process.
- **Stoerker** asked what he saw as the roll of the RMC or this group today in the future. How does the work you describe going on intersect with these groups?

Manguno replied that the team has some specific time points identified and when those points are met the team would engage the formal institutional groups and NGO's who would like to participate in this. There is nothing that precludes involvement in this process.

Navigation Program – Stamper **(Attachment 11 – PowerPoint)**

Stamper discussed the PowerPoint. He reviewed the first 15-year increment. Appointment Scheduling includes costs for testing. Slide 7: Moorings – plan to implement moorings in FY06 – preparing contract documents in FY05 – Tim Grundhofer is the lead on this. The primary purpose is for navigation efficiency, not environmental – though it may have positive environmental impacts as well. Relooking at mooring cell locations because the system has changed since the original studies.

- **Nelson** asked if the team has any ideas as to dates of coordination with the Service and States. **Stamper** replied that he didn't. First they will screen the sites with known mussel sites and those sites will be coordinated with the States and Service – sometime late summer.
- **Benjamin** said that when they did this originally the States, FWS, Corps and industry all met at once to develop sites.
- **Duyvejonck** said that there may be something other than mussels that will need to be considered. He recommended coordinating sooner than later.
- **Cornish** suggested beginning an informal coordination with what maps we have.
- **Barr** recommend that the next time the mooring cell group has a workshop they need to have the FWS and States at the table.

Stamper continued with Slide 10: Buoys are floating – possible redesign to add a floating rope that would allow deck hands to grab the rope and hold the buoy in place as they tie off – currently the floating cell gets bumped by barge and moves around. Slide 11: Switchboats are planned to be implemented in FY06. First implement 2 boats – could be used at any of the lower 5 locks, or in tandem at one lock, in order to evaluate them. When coordinating with the industry we need to take care to be fair to all users since the users may also be the contract bidders – release the information on the web. Slide 13: Appointment Scheduling – he said he had nothing that adds to previous discussion from today. Slide 14: New Locks – There are two stages of construction as planned right now. Stage 1 is the guide walls; Stage 2 is the lock walls itself. In total this is 13 years assuming full funding.

- **Soileau** asked how adaptive management is going to work with the new locks – she's heard people complain that it looks like these will simply be built. **Stamper** said that the Notification Report (year 3) and Evaluation Report (year 4-7) are part of the adaptive management. The Notification Report is a chance for Congress to stop or change the plan. The Evaluation Report is during a time where there is construction going on at a few locks, but may be able to change construction or stop at any sites not under construction.

Stamper continued with Slide 18: Temporary Downstream Guidewall – this would be used to help guide the barges during construction to prevent impacts to environmentally sensitive areas – these may be tied together barges. These locks must remain open during

the standard navigation season. They may be closed during 90 days in the winter. There has been some discussion that during the winter there may be 1 day when the locks are open per week to allow some traffic to pass. Slide 19: Locks 22 and 25 are on parallel path. LaGrange has 4 years of PED because it is a complicated site. Peoria, 21, and 24 will start in later years. Environmental mitigation – site specific will be in place with each lock – most systemic mitigation will be in place during the first 15 years. Funding is a challenge – there are years where the Upper Miss will need \$160 million. Wintertime Closures – Full and Partial - Partial means locks would be available one day a week in the winter. These delays have been accounted for in the economics. If we don't get full funding there will be several more years of partial and full closings. Milestones – economics workshop – to inform public on NETS. Where do we go from here? ECC members will probably morph into RMC.

Questions/Comments:

- **Duyvejonck** asked if there was some PED work being done for site-specific mitigation? **Cornish** replied that there will be some mussel and bat survey work being done and he will talk about that some more later on. The HAT will be meeting again in June. Also, since some of the mooring cells may be changing they will need to be reevaluated.

Day Two

Ken Barr began with introductions.

Institutional Arrangements Round Table – Led by Chuck Spitzack

- **Whitney** asked the group to please let the team know if you feel that you are not receiving information that you need.
- **Sternburg** replied that they had a RRAT meeting. Our big concern is that a PDT would contact one of our regular field folks and if they couldn't make a meeting then it may get dropped. In the beginning we need to coordinate this on a higher level – to ensure that the proper people are staffing this and that the State personnel understand their roles (State rep and/or technical). There is also a concern that there are 2 Corps Districts and 2 different reps for MODOC and MODNR. So once the office of MODOC understands all of the projects then they will staff it. Right now things are still being organized. **Barr** said that at the 9:00 item (Ecosystem Restoration Projects) there will be a handout of all of the different projects and the Corps' Point of Contacts. **Sternburg** said that the site specific items have been helpful, but the systemic plans are still a little unclear (Barge fleeing Plan). **Benjamin** said that she is feeling the same way. There are several people in WIDNR working on items and she is unsure of who is doing what. **Barr** said that this should be cover on the website – list who the Corps Team Leaders is.
- **Benjamin** asked what the current newsletter contains. **Whitney** said that it introduces the readers to Chuck Spitzack, talks about what the program is doing and informs the of current activities in light of the fact that the program doesn't have authorization. **Benjamin** says that this is just what needs to be going out. Many people don't know that anything is happening. We have a huge public information campaign ahead of us. **Spitzack** said that we could

start addressing the public information. Communication can be worked on before some of the Institutional Arrangements get started. He asked if anyone on the NECC was involved in the production of the newsletter. No one said yes, so he said that it was important to get the group involved. **Benjamin** said that the newsletters are very dense and the public doesn't have the time to read them. We need to get information out there that can be read in 5-10 minutes. If we want people to understand the program we will have to change the format to make it more appealing. **Duyvejonck** said that other newsletters for other ecosystem projects are more colorful and have stories and articles that get your attention. **Stoerker** thought that instead of sending out a dense newsletter every 6 months we should have shorter Newsletters sent out more often. We need to maintain interest in the programs – continuity over time is very important. She recommended a 1 page newsletter every month rather than quarterly or semi-annually. **Spitzack** asked what the focus of the newsletter should be, the program or the system? Does it confuse people if we go out with EMP, NESP ect? Should we be program specific or systemic specific? **Whitney** said that the public has problems with systemic – they prefer what goes on in their back yard. **McCalvin** said that for their NGO's, they market and have a group that specializes in marketing. The most effective way is short mailings and newspaper articles – may need to break out your huge mailing list into smaller groups. **Barr** asked about FWS's CCP public information strategies. **Steinbach** replied that this is just starting so they will be learning right now. **Spitzack** said that he will get a group of people together. He also mentioned the Kevin Bluhm is developing a Public Involvement Team.

- **Nelson** asked about the Midwest Natural Resources Group and the Regional Principal Group. **Spitzack** said that the Midwest Natural Resources Group will be meeting and that we (NESP) will be providing a presentation on institutional arrangements because the regional directors will all be there. This is an opportunity to make a presentation to all the directors. He does not anticipate that the Midwest Natural Resources Group will become the Regional Principals Group. **Nelson** said that the Midwest Natural Resources Group has very little interaction with the FWS people who are sitting at this table. **Barr** said that we are still going to be using what is shown in the IA strawman. **Spitzack** said that the meeting next week is to get their ideas and get their endorsement on institutional arrangements moving forward on the Upper Miss.
- **Stoerker** said that we need to spend some time being clear of what we expect from people at a meeting. The difference between knowing that they will get information versus being able to be prepared to make valuable input. People need to understand what the function of the group and what their role is in the group – feel valued. It becomes increasingly important to be clear of what you are seeking from these groups. In the UMRBA meeting, Chuck and I have had specific discussions as to the goals of that meeting. This is an important key to the successful implementation of institutional arrangements. **Spitzack** said that he is trying to develop specific themes for each meeting

and that he agrees that it is important to get that information out ahead of time. **McCalvin** said that she agrees with Stoerker. In regards to voting – what kinds of decisions do the various groups have – do they vote, or is it consensus? It will be helpful to know what kinds of questions will be asked, is it advising or decision making. **Stamper** said that Holly made a very good point in the way that we hold a meeting. He asked for a show of hands for everyone who supports her idea – does everyone agree with this? (no one responded to his request) **Wilcox** said that this is how some of the IA's are already being conducted. He said that the River Resources Forum is already doing this. At one meeting they decide what will be done at the next meeting. If a decision needs to be made they write up an issue paper and send it out ahead of time. Then people are prepared. If everyone agrees then that is good. If not then they write a dissention paper. Then everything is written down and the meetings become based on action items. We need to act more that way both in the RMT's and RMC's – we would have a more actively participating membership and a better record of what has been done. This groups (NECC/ECC) has met 50 times but almost never made a decision. People feel more empowered if they can make decisions. **Nelson** said that in the NECC he has felt that the Corps didn't want votes. Up until 2000, 2001, the Corps put most issues in the parking lot. So, what does the Corps want from the RMC? The legislation says it is an advisory group. He's not against voting on things, but he is curious as to what the Corp wants. **Duyvejonck** said this is an important question because it determines who is going to be sitting on these groups. If it just a sounding board there will be different people then if it is a group that makes decisions. How it operates determines who will be on the committees. **Barr** said that in the late 1990's this group really helped to form the scopes of work. We used to send out the scopes well in advance. We are committed to doing this again. **Spitzack** said that both sides need to be committed to this. This whole issue needs some discussion and understanding overtime. **Whitney** said that what we are talking about is not just the Corps and not just the NECC. We are talking about EMP, NESP, CCP, and state programs. If you say voting, you are implying that the group can dictate to the federal and state programs. What we more want is endorsement. The group should come to a common understanding – information sharing – this should be the primary focus of these bodies. **Stamper** said that Scott is describing a charter and asked if that is written down. **Barr** called a vote for a substantive agenda to be released 30 days ahead of time – motion carried with no objections.

- **Soileau** asked to hear from other organizations about how they are handling responses to the IA strawman, specifically FWS. **Nelson** said that their intent is to have one letter signed by Charles Woodley. **Sternburg** said that the MODOC and others are going to try to get together and come up with a letter from the State's perspective. From a DOC perspective we don't really understand how it will affect us until it gets going. One large concern is that the existing programs are as well attended as the past. They don't want the existing programs to fall by the wayside while the new groups are coming on

line. Until the RMC participants are identified we may have 2 groups going. She asked how long will the NECC continue? **Spitzack** said until we decide to enact the IA's – so until this fall or maybe latter. **Benjamin** said that the comments from WIDNR were sent to the central office. They will send the comments to Rebecca.

- **Benjamin** was concerned that the strawman had no mention of the EMPCC A-team. **Spitzack** said, at the moment, there are no plans to change the EMPCC A-team, but those details need to be addresses at the workshop. **Duyvejonck** said that he went to the A-team meeting last week; there are some NESP issues that are coming up; in specific, over programming items. Maybe 6 activities proposed seem more related to NESP than EMP. A question came up, is someone is looking at that. NESP projects and HREP projects – there are duplicate projects on both lists. We need to resolve some of these conflicts. **Wilcox** said that there is some coordination with the prioritization group on EMP and the Science Panel. For now, we do need to continue on with separate analysis teams. However, what is being proposed under NESP is very similar to the LTRM program, but under a grander scale. There will have to be some large changes to the LTRM program to make it apply to the NESP. Right now the LTRM program is at a historic low point and can hopefully be reinvigorated by the NESP.

Systemic Mitigation – Cornish

(Attachment 12 – PowerPoint)

Cornish discussed the 7 systemic activities in FY05 and then discussed site-specific mitigation as well. He said that as navigation efficiency projects are reevaluated, site-specific mitigation may be changed. The Habitat Assessment Team (HAT) will be stood up in June to revisit assumptions and then revisit actions. LD22 example: In a recent Dredge Material Management Program (DMMP) report, there is enough space for the navigation efficiency staging area and material placement in the DMMP project; so we may not affect bottomland hardwood forests, which may change funding. We also need to verify assumptions – are there endangered species present. We are currently looking at LD14 mooring cell, and LD 22 and 25 New Locks. Slide 3: Grey areas, are areas that we are coordinating. Buoys and Mooring cells may go up to LD 10.

- **Benjamin** asked if the capacity of the DMMP would be affected for O&M placement if we use it for lock construction. **Cornish** said that capacity is adequate, but there is a timing issue. If we use that area for LD22 staging, we need to make sure it won't affect the dredging placement.

Barr discussed Fish Trawling (Slides 4-6). He discussed the plan for this year. He then discussed the modifications to previous methods. He said that they have also modified the anchor weights – they are now able to monitor exactly where the anchor weights are in the water column – able to know how much of the water they are sampling (net angle of deployment). He said the team is hoping to be in the field in August.

- **Wilcox** asked how much work was already accomplished **Barr** said these are all locations yet to be sampled. We will get a notice out to the NECC group if anyone is interested in observing.

Barr continued with Mussels (Slides 7-17). We were going to review this with the mussel scopes of work – but they did not want to be involved in this. Mike Davis has been reviewing the scope of work. This will be developed through the NECC. The objective is to dive on 15 mussel beds to validate assumptions in the *Feasibility Report*. However, we think that an additional 15 dives onto of what we've already done, may be no better than to reanalyze the data that we already have. Drew Miller is going to assemble data and put together a summary report. However, the data the Drew has won't drive Bartell's models; however, info from the DeAngelis' paper may have helpful information. Having a working population model for mussels could help us in designing restoration features. Diving at more sites without specific ideas of what we are looking for may not be helpful. However, this \$80K proposal will get Drew's information published into a format that is usable for everyone and then develop a model. From there we could decide if, and where, we need to dive. Barr was looking for support from the NECC for the proposed changes to the Mussel scope of work – from sampling to assembling Drew's data.

- **Duyvejonck** asked if the scope of work is in progress. **Barr** said yes and he could send out the Draft SOW out to the group by early next week.
- **Benjamin** said there was a lot of email traffic on this. Had she known that this question was going to be asked she would have been able to get this information before the meeting. She is hoping that Ken will give the group more time to answer this question. She also remembered that many mussel folks don't want to spend NESP money on Drew's data. **Barr** said that what is being proposed does not agree with what we said in the EIS. However, what is proposed in the EIS may not really help us understand the system better. Dan Kelner has come up with a new proposal, which is being discussed now. Can Miller's data be helpful with Bartell's model? Can this new information help us make better decisions on where to dive?
- **Duyvejonck** asked if we should we change the focus of those dives – still be traffic related but look at fleeting concerns – is that doable?
- **Wilcox** said another area that hasn't been looked at is the barge effect in fleeting areas on mussels – prop disturbance and grounding. When planning for future fleeting areas we should come up with criteria that would allow fleeting and mussels to coexist. However, and traffic and main channel border – we may not get much more information.
- **Cornish** said that Nakato has been looking at shear stress and microhabitats in Pool 16 and 17. A body of research is out there as to what it takes to dislodge mussels and at micro-habitats.
- **Barr** asked how long should the group have to review the scope and then set up a conference call with Kelner and Wilcox to discuss. Conference call will be 2 weeks from when the scope is sent out.

McVay discussed Bank Erosion (Slides 18-20). She provided an updates on the status of the systemic mitigation bank erosion work, went over sources of funding (Nav Efficiency – Systemic Mitigation; Ecosystem Restoration – Cultural Stewardship and bank stabilization). For mitigation sites, the criteria used to select sites is to only look at

sites where erosion is caused by commercial navigation. For FY05, the study team will identify 2 sites in each district for potential bank erosion work – these sites may be mitigation sites or ecosystem sites. She then asked NECC members to please identify any high priority sites that you know of and provide this information to her.

- **Clevenstine** defined CARS – Committee to Assess Regulation Structures (wing dams, closing dams, etc.)
- **Wilcox** recommended looking at areas of erosion caused by recreational craft. **McVay** responded that this would not be appropriate for mitigation, but would lend itself to other bank erosion projects.
- **Steinbach** asked about the source information for the navigation effects. **McVay** replied that the information came from Environmental Report #9.
- **Cornish** said that the team will send people out in the field once priority sites are identified. He said stakeholders are welcome to participate in those field activities.

Wilcox discussed Submersed Aquatic Vegetation – See his presentation (Attachment 13). For Pools 14-19 – These southern pools may have more inter-annual variation due to turbidity fluctuations. FY05 Field work – goal to eliminate areas that are not potential growth zones, but also to help design effective mitigation.

- No Questions.

Ecosystem Objectives and Monitoring – Wilcox and Barr

(Attachment 14 – PowerPoint, and Attachment 15 - Handout)

Wilcox discussed the PowerPoint presentation (Attachment 14). Slide 2: Objectives and Essential Ecosystem Characteristics are by scale (scale slide did not make it in) – by reach or by scale. Slide 3: For each type of project there are a set of objectives at the project scale that might apply. Slide 4: we are hoping to clarify this hierarchy by using this database to learn. Slide 6: We need to keep track of what we are monitoring and lessons learned. Slide 7: progression from data to wisdom (data-information-knowledge-wisdom)

Questions/Comments:

- **Stoerker** asked if there is a very deliberate expression of what the goals and objectives going to be at the beginning of implementation – legislative language requires a statement of objectives and monitoring plan. It has to be really clear – for the future of the whole program we have to be simple and straight forward at the very beginning. At the beginning of EMP we didn't do this very well. **Wilcox** said, that as stated in the *Feasibility Report*, we have the vision and objective statements, we are not planning on changing this. We have a list of projects. As far as the hierarchical objectives – we expect that will be refined as we understand more about the river system. Right now, it is organized in a relational database linked to GIS. For each NESP project there are project objectives in that project area. We need to be very explicit as to what those objectives are and which objectives will be monitored.
- **Barr** said that the Science Panel used the draft legislation language to help them understand what is expected. They are taking the Goals and Objectives

and nesting them into ecological objectives. The Science Panel is going into this to provide tools to the stakeholders.

Barr discussed the NESP PDT handout (Attachment 15). There is a Corps point of contact (POC) for each activity. The POC is responsible for this fiscal year. We will get this document on the website – we will include phone numbers. The FWS has already added their POC's to this list. He asked the group to provide feedback on member names to this list. Nicole will be POC to this. We will send a complete list out in 2 weeks.

- **Stoerker** asked what it mean to be on the list. **Barr** replied that “non-Corps PDT member” means that some of these players need to be involved.
- **DeHaan** – Project N – There are 22 non-Corps members who have been involved in this project. They have been involved at different points – identify monitoring and data needs in those reaches – prioritize monitoring needs. Now the PDT team is reviewing the PMP. At important phases of the project they need to be able to help share information and make decisions.
- **Barr** said that the NECC and agencies may not know that these people are representing the agency at these PDT meetings – so the NECC needs to be aware of these team members and who is responsible for what.
- **Sternburg** asked if project N includes floodplain as well. **DeHaan** said that project covers the ecosystem entire program – yes, including floodplain – and keeps track of all of the different projects that are being involved. **Sternburg** said that the MODOC representative is mostly a fisheries person, so if this is looking at all of the programs they made need to get more representation.
- **Stoerker** asked if this is a proposal or is there an assumption that these people have already been contacted. **Theiling** said that where there are names this on this list, a person has already been identified as a team member and is already participating on the team. **Barr** said if the NECC needs to review this and identify any changes.
- **McCalvin** said that this seems chaotic right now. The ecosystem restoration plan is focused on a few subset areas – there needs to be a more systemic approach. There needs to be more communication between that team and other projects. It is particularly challenging to get this information out.
- **Wilcox** said that this is a good example of how we are flailing about in coming up with more integrated river management. The Science Panel will help interject more science. The pool planning efforts will help – but we are getting a very local perspective rather than a systemic perspective. This is simply growing pains. There may be some duplicative efforts; but as good ideas come out, we will make use of this. **Duyvejonck** asked for electronic copies of the 2 handouts. He also asked for a new acronym list. **Barr** said that we could get out the glossary from the Science Panel. We could get these two products out this week.
- **Stoerker** asked about the groups that aren't here today, are you outreaching to them? **Spitzack** said that the PDT team leaders need to pay attention to that. **Barr** asked the NECC to help represent the State in this regard.

Floodplain restoration- Barr

Barr and Ruff reviewed Emiquon and why the PDT didn't proceed any further. Because the NESP hasn't been authorized there is no authority for the cost-sharing of this project. The team had met with the TNC, but had to stop due to lack of authority. We pick Emiquon because of the difficulties that we knew would be encountered. We think it is appropriate to use 100% federal funding to identify evaluation tools, figure out how to deal with known issues (NRC and WRP). Once we get an authority we will be able to continue with TNC. **Barr** asked if any states had any potential floodplain restoration sites that they would like to propose as a NESP project by providing fact sheets and getting design agreements in place. If no projects come forward the \$100K will get reprogrammed very soon.

- **Duyvejonck** asked **Barr** to define floodplain projects – reconnect floodplain – what other types of projects. **Barr** said this is not just connectivity but can include increased mosaic habitat – restore floodplain – topographic diversity. It is being distinguished as projects above the ordinary high water mark.
- **Steinbach** asked what distinguishes this from Project N (Pool Planning). **Barr** said that the difference between these is that Project N looks at everything in a 30 mile reach – more systemic and synergistic – so it could contain floodplain restoration.
- **Ruff** said what triggers the design agreement is that it would be not on federal land. **Barr** said we can do floodplain restoration on federal land (FWS) but would not need design agreement – some of the \$'s for design agreement can be reprogrammed to this.
- **Stoerker** said that Floodplain was a shorthand for land acquisition – are there concerns about design agreements for land acquisition without the authorization? **Barr** replied that the Corps can do the work but cannot sign a design agreement until the authorization.
- **Wilcox** asked if there was another group that could be a broker between the Corps and TNC? **Blodgett** said that their lawyers wouldn't be able to agree to using the levee and drainage districts in the near term. Also, we could look at the DNR, but with all the issues and the time limits it isn't feasible. **Wilcox** thought that the UMRBA should look at how a non-federal entity could act as a broker between the NGO's and the Corps. In MVP we have been able to affect some cost-share agreements where the MN Quality Board has acted as a broker for other groups.
- **Steinbach** asked if floodplain restoration is being limited to land acquisition only by cost-sharing with non-federal agencies and NGO's? **Barr** said that there is no plan for federal acquisition.
- **Barr** asked about other state projects – He did mention that MN has a Root River Project.
- **Stoerker** asked how quickly does the Corps need this list? She said that the EMP was criticized for not having the States prepared to cost share. She thinks it's important that the States demonstrate a long-term commitment from up front for the health of the program. She thinks that we need to have a more focused discussion rather than just through projects out on the table.

- **Barr** asked if we can bring this discussion to the UMBRA meeting in 3 weeks? He said the Corps will not sit on \$100K for the entire fiscal year.
- **Benjamin** said that the Wisconsin owns land in Pool 3 and has talked about doing restoration on it for years. If this projects fits into floodplain restoration it would be a candidate – Coney Islands area- Chippewa River Bottoms.
- **Sternburg** said that there are some areas that MODOC has made some bids on. One is an island, there is a small-scale one within the 100-year floodplain – have approval to purchase – but this is a small area. There is another opportunity in the pooled area to work with the levee districts. But we haven't followed through with these ideas right now.
- **Benjamin** said that there is a possibility for 800 acres being donated.
- **Stoerker** asked about how the States can use their cost-share. **Barr** replied that the cost of the acquisition can only be credited if the acquisition was done recently; however, the value of the land is counted regardless of when or how it was acquired. There was some discussion regarding cost of land versus cost of the project.
- **Steinbach** asked what kind of floodplain restoration could be done on an island – simply purchasing is not restoration. **Wilcox** said that there needs to be some definition about what floodplain restoration is. On some islands it may be forestry management or topographic diversity. As far as meeting our target of 35,000 acres, we need to define what is floodplain restoration and begin to get a list of projects that are doable.
- **McCalvin** asked about double dipping – if we do topographic diversity do we double count that as topographic diversity and floodplain restoration?
- **Attwood** didn't think there were any opportunities in Henderson 3 for immediate planning, but there is something with the Middle Mississippi Partnership – so that may be an opportunity.
- **Steinbach** said that there are some restoration opportunities in the Middle Mississippi, but he was still unclear as to what was floodplain restoration. Why is this separated out? There was some discussion regarding land acquisition. **Blodgett** added that it is restoring something that is not currently floodplain now to the floodplain. **Theiling** said that this is not a requirement – to reconnect disconnected areas – we can do floodplain on the Upper River even though they are already connected. This was formulated into the original costs.
- **Sternburg** brought up that the current WRDA legislation is mentioning the use of easements – can the Corps do work on the lands if the Corps has an agreement with the states and the states have an easement with the landowner? **Barr** said he'd look into it.

Science Panel – Theiling

(Attachment 16 – PowerPoint, Attachment 17 – Handout)

Theiling discussed the PowerPoint Presentation (Attachment 16). How can the Science Panel help the PDTs? Planning. Engineering, Science, and Monitoring. He next reviewed the Science Panel Objectives – Goals and Objectives – Dave Galat is heading this up. They will be meeting next week to better organize existing goals and objectives.

Science Panel Tasks - Barko is on both EMP SET and NESP Science Panel so he will help to make sure both are sequencing projects together. Chuck listed the main projects that will be focused on first (get this from him).

- **Clevenstine** added that the Report Card needs to be added to the main projects up front. We need to link our goal, objectives, and monitoring and that Congress will be looking for this.
- **Barr** said that a chairman from the Science Panel will need to be present at the NECC/RMC meetings to answer questions and keep the group updated.
- **Clevenstine** reviewed the members of the Report Card Subgroup.
- **Sternburg** asked how the Science Panel groups will keep the RMC informed. **Clevenstine** said that they will keep in touch through the extant groups. The report card the team will have to go out to a broad group of stakeholders for comments on the draft. **Barr** said that the really important relationship is between the Science Panel and the FWIC and FWIGS as well as the analysis teams. **Sternburg** said that this is really important to set this right now to avoid the “I didn’t even know what you were talking about at that meeting”. **Wilcox** said learning through adaptive management requires the science panel interact with the River Management Teams – need face-to-face interaction. RMT’s need to feel ownership of the Goals and Objectives. **Clevenstine** said that the makeup of the Science Panel subgroups are large enough that they will be present at most of the other types of meetings.
- **Stoerker** asked how what the Science Panel develops become embraced and owned by the main community of managers. **Barr** said that there will be a major public involvement action as well as going through the RMC and RMTs. **Stoerker** said another way to look at this is to keep your science separate from your management. This is what we have heard in the Everglades – don’t insulate them, but keep them clearly separate. This discussion needs to happen – this is more part of the Institutional Arrangement rather than Science Panel. **Theiling** said that the Science Panel recognizes this because of their national scope. They are discussing this issue. Currently the overwhelming feeling is to not separate the management and science. **McCalvin** said that there is a need for this group to educate the managers on how this is happening so that they know this is valuable.
- **Benjamin** asked for copies of the slides that Chuck presented – it is a clear summary rather than the 34 pages of minutes from Sandy.

Theiling continued by discussing the Monitoring handout (Attachment 17). He said this is draft. There is a tendency to write a comprehensive monitoring plan that would cover everything that could be monitored – this needs to be pared down to what we afford, and what should be done first. He said we are looking to the Science Panel to help identify what systemic monitoring needs to be done. Systemic monitoring will be done through the system monitoring funding line rather than the project specific monitoring.

- **Benjamin** said that the Pool 5 monitoring is being paid for by the States, USGS, and others, not just NESP.
- **Wilcox** said in St. Paul has tried to be very clear as to the reach objectives in an area and to use those objectives to identify what should be monitored. It is up to the PDT’s to decide what should be monitored for a particular project.

Then it is also identified what areas need to be learned – monitor some of those as well. The Science panel should be to develop links between objectives, areas, and monitoring actions – then the PDT’s can use those tools.

Theiling then discussed the idea of synthesis papers. These would be documents of restoration activities that we know a lot about, such as island building, drawdown effects, and bank stabilization (possibly wrapped into island building). We may take a process that works well in WI and bring it to IL and see what it does. The timeline is the end of the fiscal year. The authors would be part of the regional support teams for the science panel.

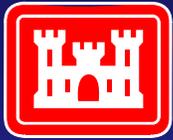
Stakeholder Perspectives - All

- **Rohde** He expanded on what Holly said about getting information out ahead of time. Regarding industry – it will be easier to get them to the table if we have more advanced information – dates of meetings and subject matters.
- **Simpson** seconded what Paul said. These meetings are very beneficial to me.
- **McCalvin** said she sees a lot of challenges. This is very exciting. Communication will be hugely important – make all meetings efficient and effective
- **Anderson** had a question about RMC. She had assumed it would be a quarterly meeting? **Soileau** replied that originally it may be more often but then quarterly.
- Theiling said we will do our best to get info out.
- **Nelson** said that Jim Nissen and Pan Theil briefed our OMB examiner – he gave some thoughts on cross-cut funding. Maybe sometime we can get a joint trip from these guys.
- **Steinbach** commented on communication and coordination. It seems to me it really is important to have our act together in what we do with public involvement. It is important that these public meetings start by putting things in context – Last time we were here we talked about this, now we are talking about this other part. **Spitzack** replied that the meeting is structured this way, but the announcement wasn’t structured that way. **Steinbach** said that it needs to be. If people go to 5 different meetings on NESP they need to understand how these go together.
- **Stoerker** said that Barb Naramore is leaving so she is unsure how the UMRBA is going to be connected. By losing ½ the staff it is a good time to rethink how things are arranged, so she is asking for advice if it should be restructured.

Next meetings

- Mussel Conference Call – May 27th – agenda also include floodplain restoration
- Face-to-face – There we lots of upcoming meetings – couldn’t decide on a date, but will discuss further on 27th of May conference call. Second face-to-face - November UMRBA meeting is 15-17 UMRBA on 16 and EMPCC on 17th in Twin Cities. Possible NECC on 15th in Twin Cities. Holly has room and everything.

Attachment 1



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NECC/ECC

3-4 MAY 2005



- **Institutional Arrangements**
- **Communications**



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NECC/ECC

3-4 MAY 2005

Institutional Arrangements



- **Concept Plan**
 - **Comments by 1 June 2005**
- **Next Steps**
 - **Reconstruct stakeholder group**
 - **Meet in workshop format – develop proposal from concept + comments**
 - **Review by agencies**
 - **Begin implementation in Sep-Oct 05**



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NECC/ECC

3-4 MAY 2005

Institutional Arrangements



- **Implement change with or without NESP**
 - **Institutional complexity and intensity varies with level of investment**
 - **Multi-purpose focus remains constant – navigation and environment**
 - **Vision, goals, and objectives will be the same**
 - **Sophistication of adaptive management varies**
 - **Number and size of management actions varies**



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NECC/ECC

3-4 MAY 2005

Institutional Arrangements



- **Start transition now**
 - **EMPCC + A-Team continues as is ... steady state**
 - **NECC/ECC takes on interim role of River Managers Council (RMC)**
 - **RRF, RRCT, and RRAT + WG start addressing NESP planning and projects**
 - **Begin establishing communication between NECC/ECC and RMT+WG with SP**

- **In Sep-Oct EMPCC transitions to RMC and NECC/ECC sunsets**



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NECC/ECC

3-4 MAY 2005

Institutional Arrangements



- **Tomorrow's roundtable discussion**
 - **Responsibilities - NECC/ECC and RMT+WG**
 - **Expectations of Science Panel**
 - **Time and location of meetings**
 - **Agendas for next few meetings - what's important**

- **Handouts**
 - **Expanded view of IA**
 - **Program-budget development process**
 - **Diagram of IA in program development**



US Army Corps
of Engineers ®

NECC/ECC

3-4 MAY 2005

Communications



- **Periodic report to NECC/ECC**
 - **Frequency**
 - **Content**
- **Regularly scheduled NECC/ECC meetings**
 - **Frequency**
 - **Agenda**
- **States on Project Delivery Teams**



US Army Corps
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NECC/ECC

3-4 MAY 2005

Communications



- **Access to information**
 - PGMP and PMPs
 - Project/Program Information Papers
 - Calendar of meetings and events
 - Documents

- **Other**
 - Newsletter
 - Public meetings
 - ProjectWise



US Army Corps
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NECC/ECC

3-4 MAY 2005

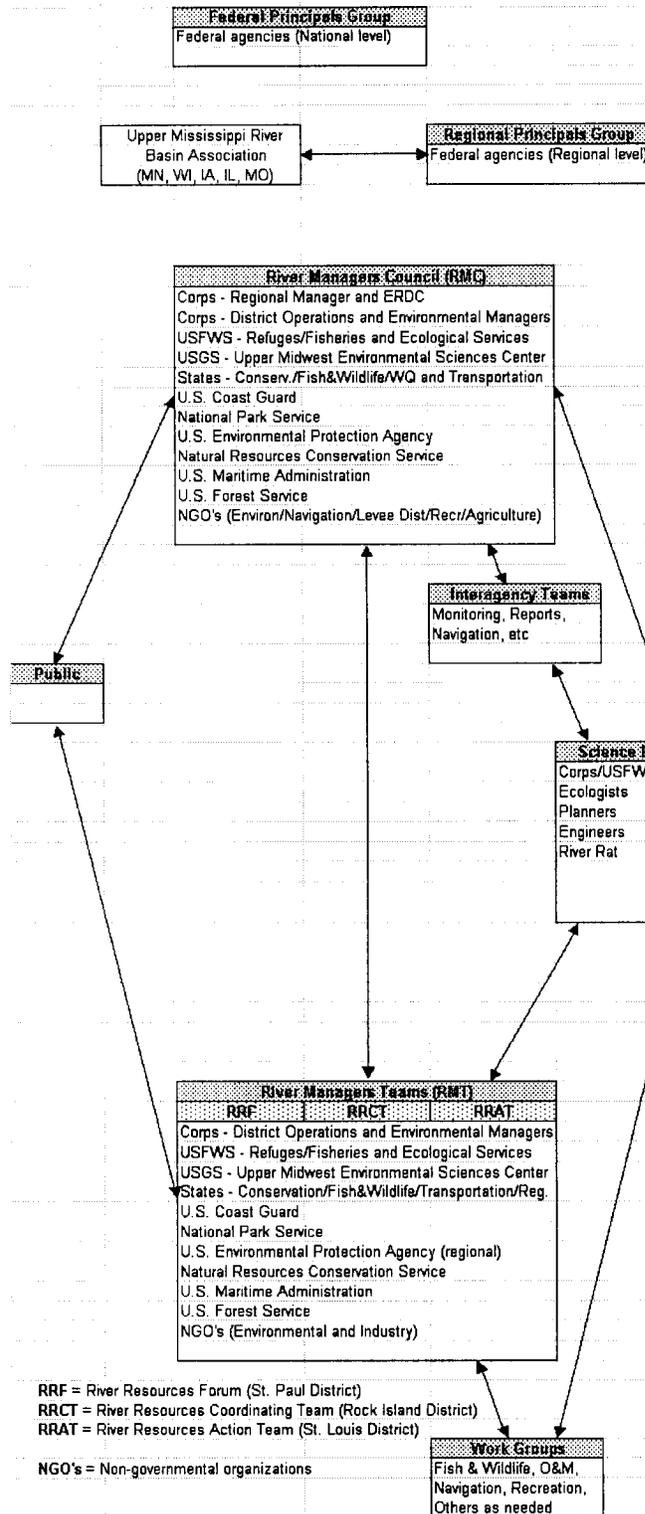
Communications



- **Longer term**
 - **Revamp newsletter**
 - **Revamp website – two steps**
 - **Systemic public involvement**
 - **Data management and sharing**
 - **Communication Panel**

Attachment 2

Organizational Chart



Roles & Responsibilities

FEDERAL PRINCIPALS GROUP

Align national priorities among river agencies
Resolve policy and program issues
Discuss and collaborate on broad river issues

REGIONAL PRINCIPALS GROUP

Align regional priorities among river agencies
Resolve policy and program issues
Collaborate with UMRBA
Monitor effectiveness of institutional arrangements

RIVER MANAGERS COUNCIL

Establish integrated vision, goals, & objectives for the river system
Agree on a system plan for achieving objectives
Agree on principles and practices for adaptive management
Develop process that leads to info for decision-making by agencies
Facilitate system-wide communication among stakeholders/public
Provide systemic linkage to RMT and member organizations
Evaluate & reach conclusions on effectiveness of integrated river mgmt
Provide forum for inter-organizational discussion of agency initiatives
Participate in preparation of reports to Congress
Facilitate communication with watersheds and lower river interests
Form inter-agency teams for specific purposes

INTERAGENCY TEAMS

Provide support to RMC for specific purposes

PUBLIC

Participate on and/or provide input to RMT and RMC

SCIENCE PANEL

Collaboratively develop framework for creating ecosystem models
Provide guidance to refine/expand objectives for ecosystem condition
Set endpoints & metrics for monitoring and performance evaluation
Evaluate the learning potential of proposed projects
Develop protocols to quantify outputs of ecosystem investments
Develop science-based recommendations to sequence work
Assist RMT in identifying river management information needs
Develop & implement protocols for biological response studies
Recommend revisions to protocols, endpoints, goals, & objectives
Evaluate monitoring results; report on progress
Organize workshop w/ national experts; participate in river conferences
Review/collate the results & effects of previous management actions
Develop an ecosystem report card; publish analysis/reviews of results
Recommend how to set up structure & mgmt of data clearinghouse

RIVER MANAGERS TEAMS

Enhance/formalize coordination process to meet agency requirements
Foster a cooperative partnership among signatory agencies
Identify issues & recommend policy and program changes to RMC
Achieve consensus for river programs/projects/activities/studies
Review/endorse/recommend programs/projects/activities/studies
Assist in expediting projects
Coordinate between technical work groups and RMT
Incorporate adaptive management into river management activities
Represent position of member agency
Coordinate with Science Panel on adaptive management tasks
Evaluate monitoring results; review and report on progress
Communicate with the broader community, including the public
Establish & direct work groups as necessary for technical support
Establish vision/goals/objectives for integrated river management

WORK GROUPS

Provide technical support to RMT
Conduct studies requested by RMT
Recommend sequencing of projects within District boundaries

Figure 3-2. Institutional Arrangements for the Upper Mississippi River System – Participants, Roles, Responsibilities and Relationships

Attachment 3

*Collaboration by National Leaders
Concerning the Upper Mississippi
River Basin (UMRB)*

*Collaboration by Regional Leaders
Concerning the UMRB*

*System (UMRS)
Planning*

*Subsystem and
Specific Project Planning*

Connecting lines represent primary communication channels, not lines of authority.

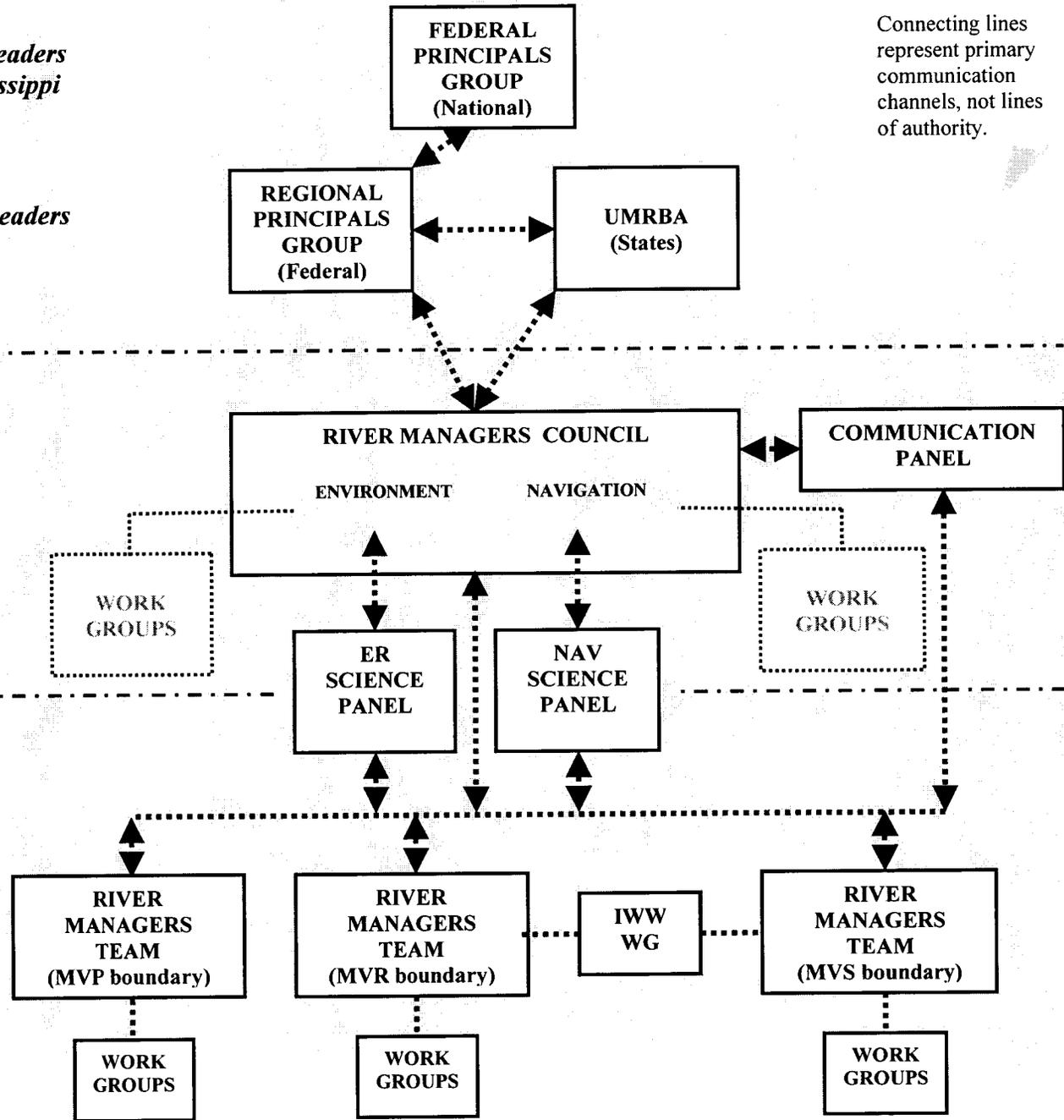


Figure 4-4. (DRAFT) Components of Institutional arrangements, Upper Mississippi River System.

Attachment 4

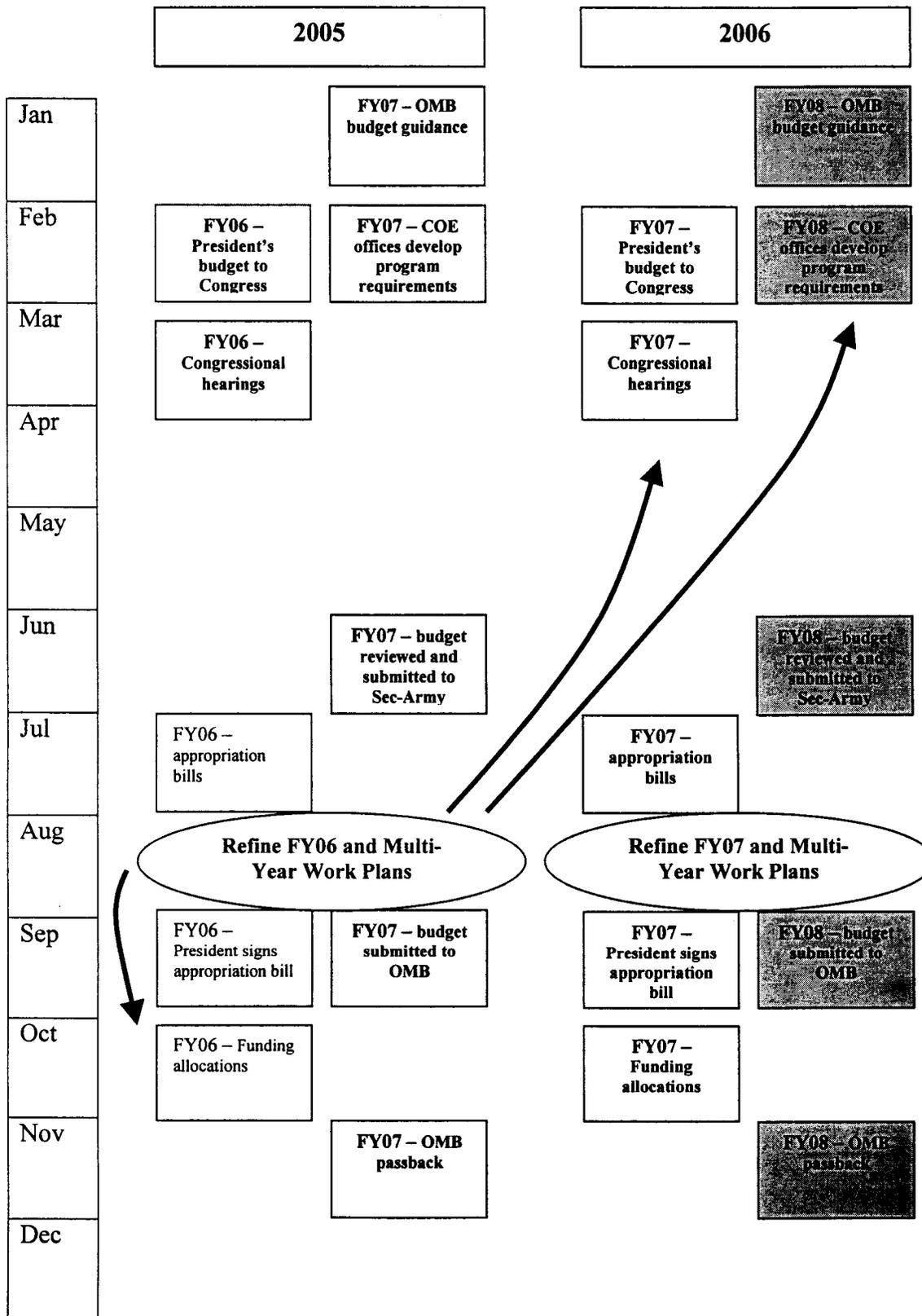
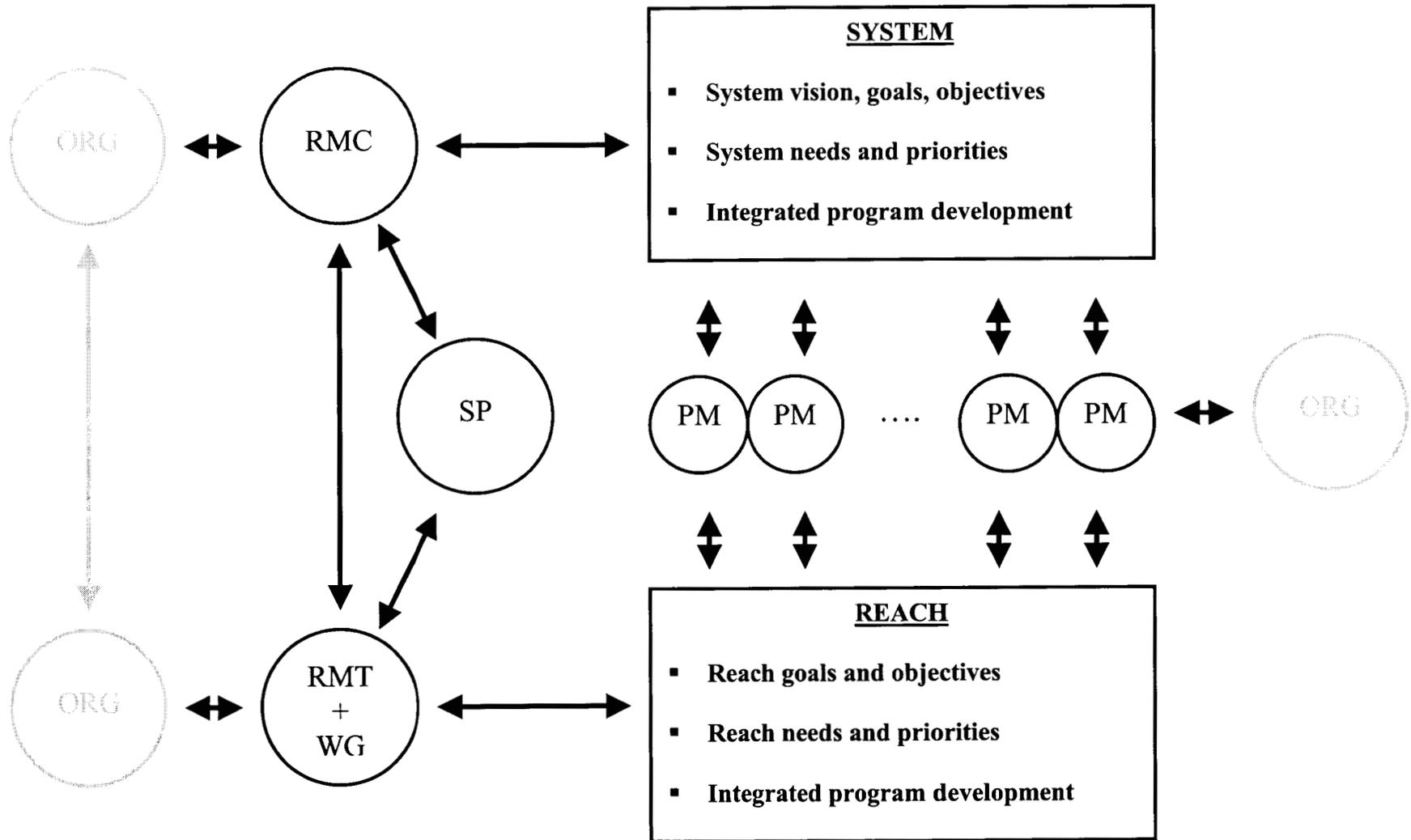


FIGURE 2. Program and budget development

Attachment 5



Collaboration on integrated program development

Attachment 6

The issues given at least one vote are shown below in priority order. The issues with the same number of votes are not listed in any priority order within that ranking.

- 1** 1 - Role of existing governmental institutions (EMPCC, NECC, ECC, LTRM, GLC, Federal Principals Group, Illinois Ecosystem group, etc.) in new institutional framework (16 votes) (Roles & Rules)
- 2** 20 – *Integration of Nav (& O&M) & Ecosystem (needs to be)* (13 votes) (Roles & Rules)
- 3** 2 - Authorities, responsibilities, decision-making processes (i.e. voting, consensus, other) within and between new institutions and existing agencies (RMC, RMTs, Science Panel) (9 votes) (Roles & Rules)
- 4** 4 - Implementation of adaptive management (including role of LTRM, Science Panel, RMTs, etc) (7 votes) (Adaptive Mgmt)
- 4** 27 – *How will we address system-wide ecological needs?* (7 votes) (Adaptive Mgmt)
- 5** 3 - Role and involvement of NGOs (transportation, environmental, agricultural, and floodplain interests) and does it make a difference if they are cost share sponsors? (5 votes) (IA Development)
- 6** 18 - Is the basic Big Block Structure acceptable? Is it what is needed? (4 votes) (Roles & Rules)
- 6** 11 - How can we promote science-based decision-making? (4 votes) (Adaptive Mgmt)
- 7** 8 - Necessity of an Illinois Waterway River Management Team (logistics, leadership, etc) (3 votes) (Roles & Rules)
- 8** 9 - Public involvement (extent, logistics, etc) (2 votes) (Roles & Rules)
- 8** 15 - As the new NESP programs are implemented there will be a need for increased staffing across agencies. How will this be laid out in terms of what types of positions are needed and where the funding will come from? (2 votes) (IA Development)
- 9** 25 – *How can institutions better define needs to provide ecosystem goods & services?* (1 vote) (Roles & Rules)
- 9** 26 – *Roles need to support Integrated River Management* (1 vote) (Roles & Rules)
- 9** 12 - How can we address system-wide ecological needs and maintain political equity? (1 vote) Adaptive Mgmt)
- 9** 16 - Adaptive Management – parallel development of Adaptive Management needs and Institutional Arrangements (1 vote) (Adaptive Mgmt)
- 9** 22 - *How can improved IA facilitate real environmental sustainability?* (1 vote) (Adaptive Mgmt)
- 9** 5 - Schedule for implementation of institutional framework (1 vote) (IA Development)

3. Issues and Alternatives

ISSUE QUESTIONS

1. Issue: What does the RMT need from the Science Panel?

- Ability to give and receive ideas
- Assistance on prioritization and regionalization
 - System scale
 - Region scale
- Unbiased (no baggage) technical input
- Direct interaction with the technical work groups
- Assistance in developing SOW to ensure we are evaluating and following adaptive management principles
- Validation of existing programs and initiatives

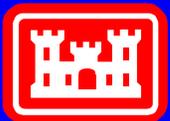
2. Issue: What does RMT need from RMC?

- Funding of projects – planning, implementation, evaluation, etc.
- Future staffing considerations should include all agencies (Corps or other Federal or State agencies) seeking the best technical people with the best understanding of the issues (i.e. LTRMP)
- Clear policies for implementation of NESP
- Seat for a representative from each RMT on the RMC

Attachment 7

Navigation Economic Technologies NETS

3-May-2005

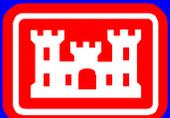


US Army Corps
of Engineers

Institute For Water Resources - IWR

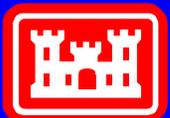
NETS Goals:

- The goal of NETS is to advance the Corps world-class engineering with state-of-the art tools and techniques for economic modeling and analysis.



NETS vs. Upper Miss

- NETS is a research program aimed at both Inland and Deep Draft navigation economic evaluation.
- Many NETS research efforts have focus on the Upper Mississippi river in the hope that some products would be useful to the Upper Miss study team.
- It is up to the Upper Miss study team to determine the usefulness or appropriateness of any NETS product to the Upper Miss study.



NETS Team

- Includes:

Academics from seven universities

Representatives from

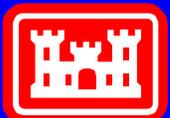
ORNL

TVA

Corps Centers of Expertise for Inland and Deep Draft

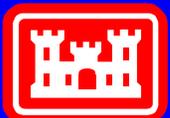
IWR

US Naval Academy



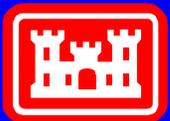
Activities

1. Modeling
2. Data Gathering
3. Knowledge Base
4. Peer Review
5. Communications



Modeling

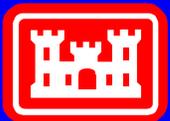
1. Global Forecasting Models
2. Regional Routing Models
3. Microscopic Systems Models



Forecasting

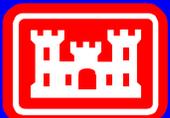
The forecasting of commodity movements into the future can be a dominant factor in estimating benefits of navigation improvements. The NETS research team is developing state of the art techniques for commodity forecasting. These techniques combine spatial equilibrium modeling, risk and uncertainty and scenario analysis.

A significant test of any technique will be the ability to hind cast.



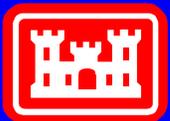
World Grain Model

- The purpose of this study is to illustrate the development of a spatial equilibrium model to forecast international commodity flows from a specific region.
- The methodology will be robust enough to provide credible projects in flows for 50 years.
- The uncertainties of key variables will be explicitly considered.
- Forecasting of policy variables will be evaluated using “scenario analysis.”
- The methodology will be illustrated by an application to the grain sector on the Mississippi river system.
- The conceptual model and data acquisition have been completed. Model estimation and has begun and draft for review is expected shortly.



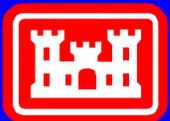
Other Commodity Groups

- Using grain as the “proof of concept” model. This technique will be applied to other commodity groups. Commodity groups to be examined next:
 1. Petroleum
 2. Containers
 3. Coal

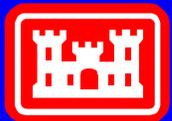
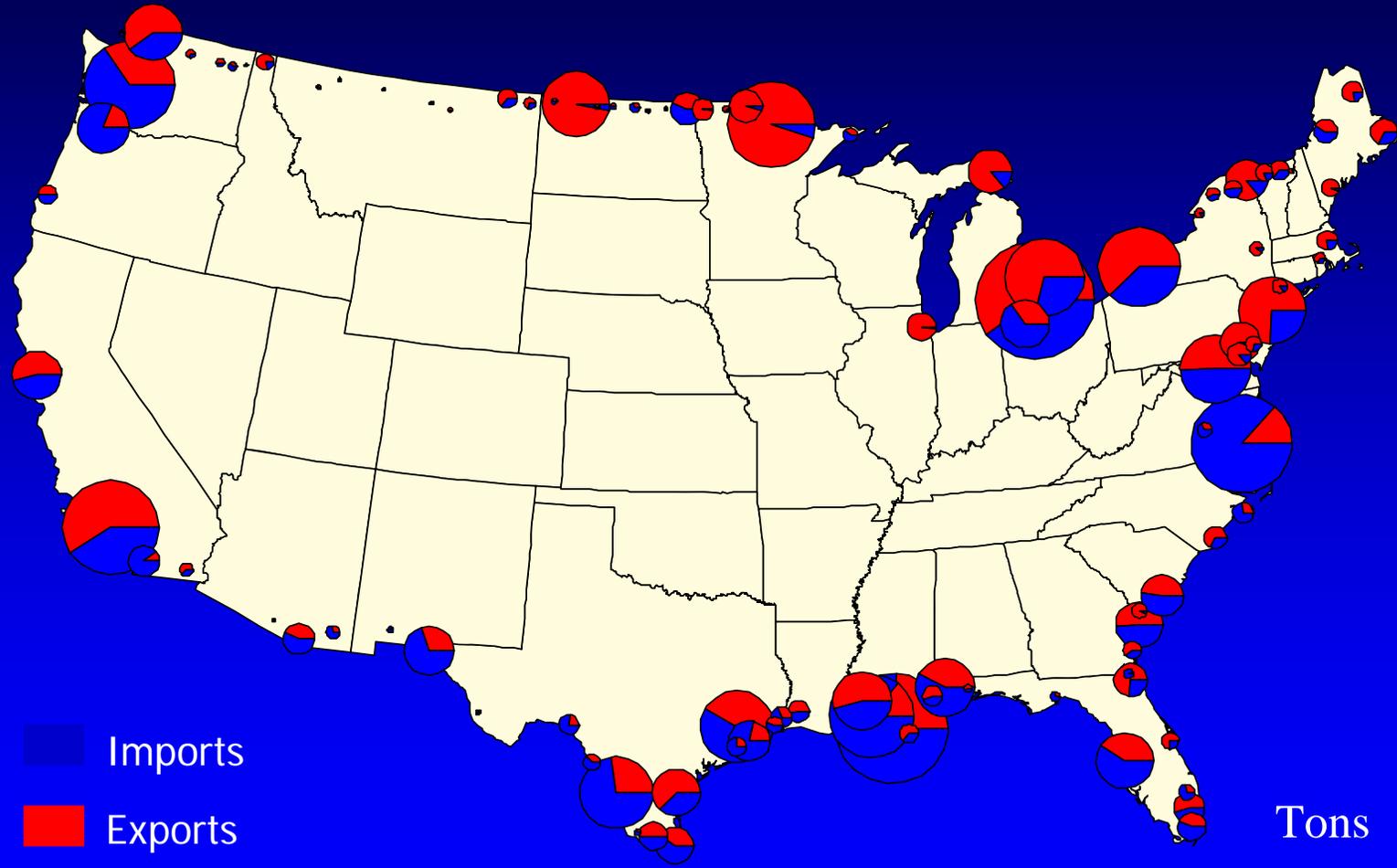


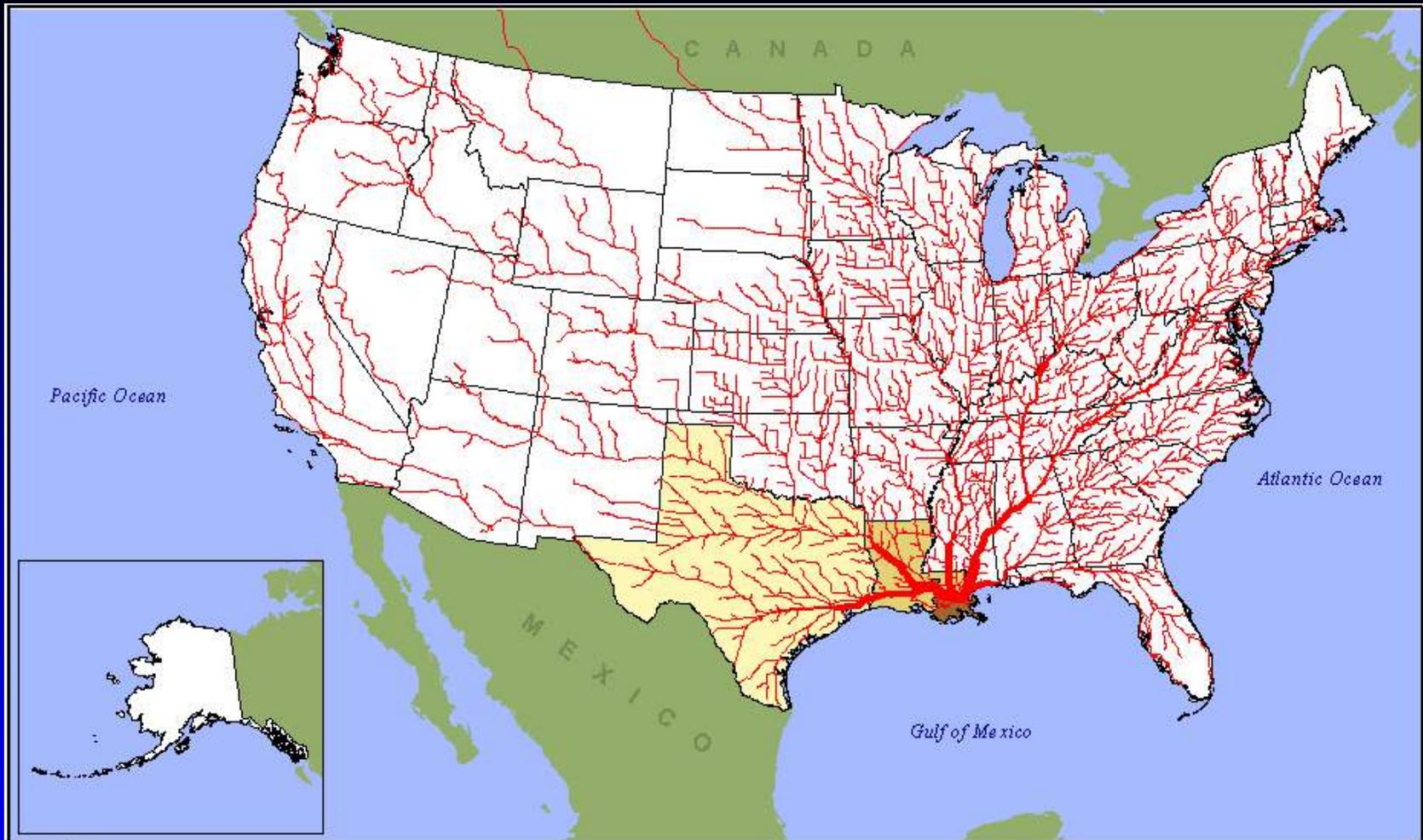
Regional Routing Model

- The aggregate flows from the Global SEM forecasting model will assigned specific routes and modes.
- This will allow the project specific estimate of future traffic.
- Also, the affects to congestion and emission on the overland modes will be possible with this model.



Top Gateways for International Trade for Truck, Rail and Water





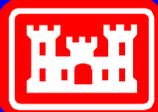
U.S. Department of Transportation
 Federal Highway Administration
 Office of Freight Management and Operations
 Operations Core Business Unit

LOUISIANA-MISSISSIPPI RIVER PORTS

Inland Movement of Maritime Cargo by Truck
 (1998)

Port to State Flows (Tons)	
	1 to 250,000
	250,001 to 500,000
	500,001 to 1,000,000
	More than 1,000,000

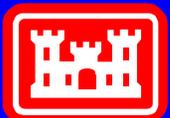
Network Flows (Tons)	
	1 to 250,000
	250,001 to 500,000
	500,001 to 1,000,000
	More than 1,000,000



Microscopic Systems Model

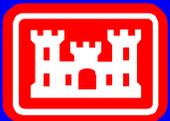
Evaluation of:

- **Tradable locking permits**
- **Scheduling – Appointment system**
- Congestion pricing
- Lockage efficiency measures
- Locking policies



Inland Waterways Model Development

1. CXIN Coordination and Tech Transfer
2. WAM BPP Improvements
3. WAM-NavSym Synthesis and Next Gen. Model
4. ORNIM modifications
5. Simulation/visualization
6. Planning Model – Generic ORNIM
7. Glass Box Model Development



Glass Box Example

Network builder

Data explorer

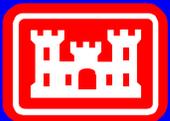
Network

Data entry tables

Reach	Number	Origin	Destination	Length	Width	Depth	Description	Type	Depth Outside Channel	Reach Safety Zone Active
	1	1	2	0	0	0		0	0	<input type="checkbox"/>
	2	2	3	0	0	0		0	0	<input type="checkbox"/>

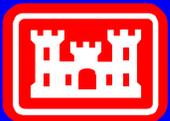
Activities

1. Modeling
2. Data Gathering
3. Knowledge Base
4. Peer Review
5. Communications



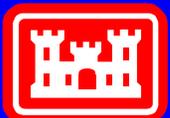
Revealed Choice and Stated Preference Choice Models

The NETS team is using stated preference and revealed choice techniques to shape the “shipper response function”. The idea is to attempt this on several waterways for several commodity groups.



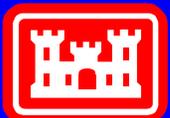
Mid-America Grain Study

- Professor Kenneth Train of the University of California at Berkeley and Professor Wesley W. Wilson of the University of Oregon and the Institute for Water Resources form the study team.
- A survey of grain shippers was conducted to obtain information about the mode and origin/destination (O/D) of their shipments, the next-best alternative mode and O/D, as well as factors that might induce the shipper to switch to the next-best alternative.
- An econometric model was estimated on the combined revealed-preference data (the shippers' observed choices in the market) and stated-preference data (the choices that shippers said they would make if transportation costs or times rose for their current mode and O/D.)



Mid-America Grain Study

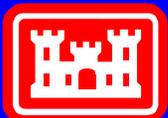
- This study has gone through an independent peer review process and the final report is complete. Also, a paper illustrating this study has been submitted to the Transportation Research Board (TRB) for publication and presentation at the January 2005 conference.



Mid-America Grain Study

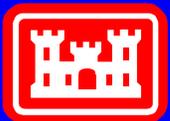
This study demonstrated several things.

- The most important being that it is possible (though difficult) to collect the necessary information to estimate shipper response.
- Also, the study confirms the shortcoming of traditional methods. Specifically that the reservation price (alternative rail price) understates the willingness to pay and that perfectly inelastic demand overstates willingness to pay. The net result of these two offsetting affects is unknown.



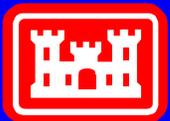
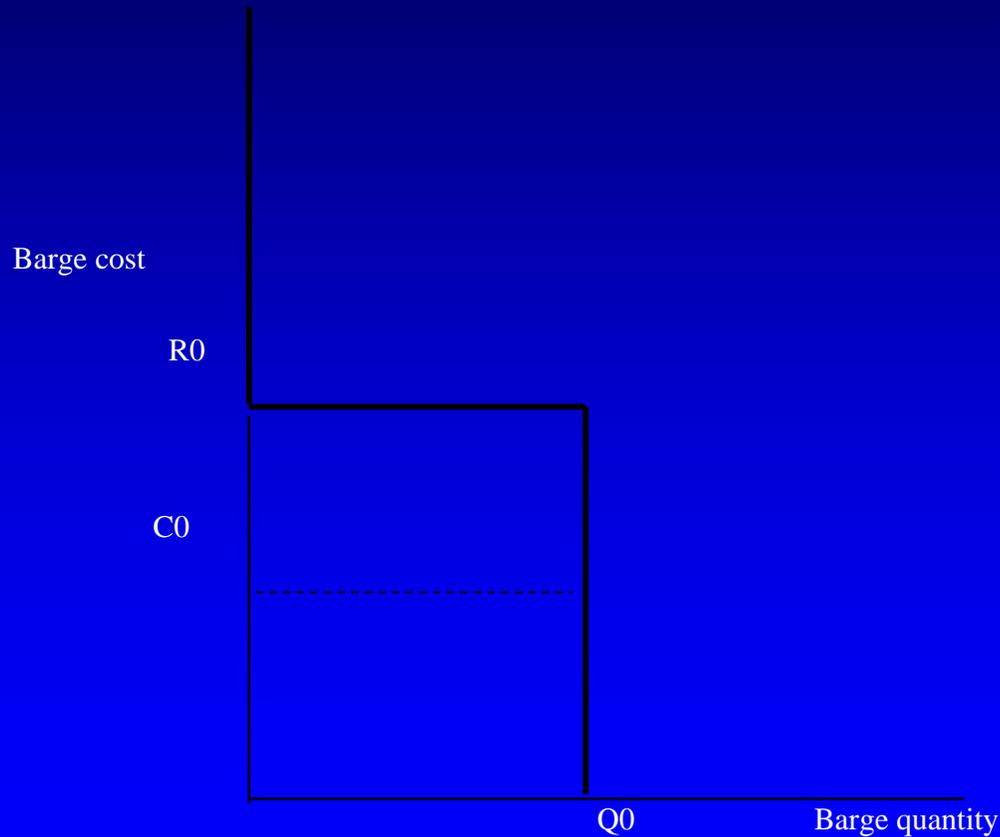
Mid-America Grain Study

- The study developed a generic method for shaping the shipper response curve. An effort has been scoped to train Corps employees on apply this technique to specific origin-destination-commodity triplicates typical of Corps models.



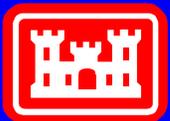
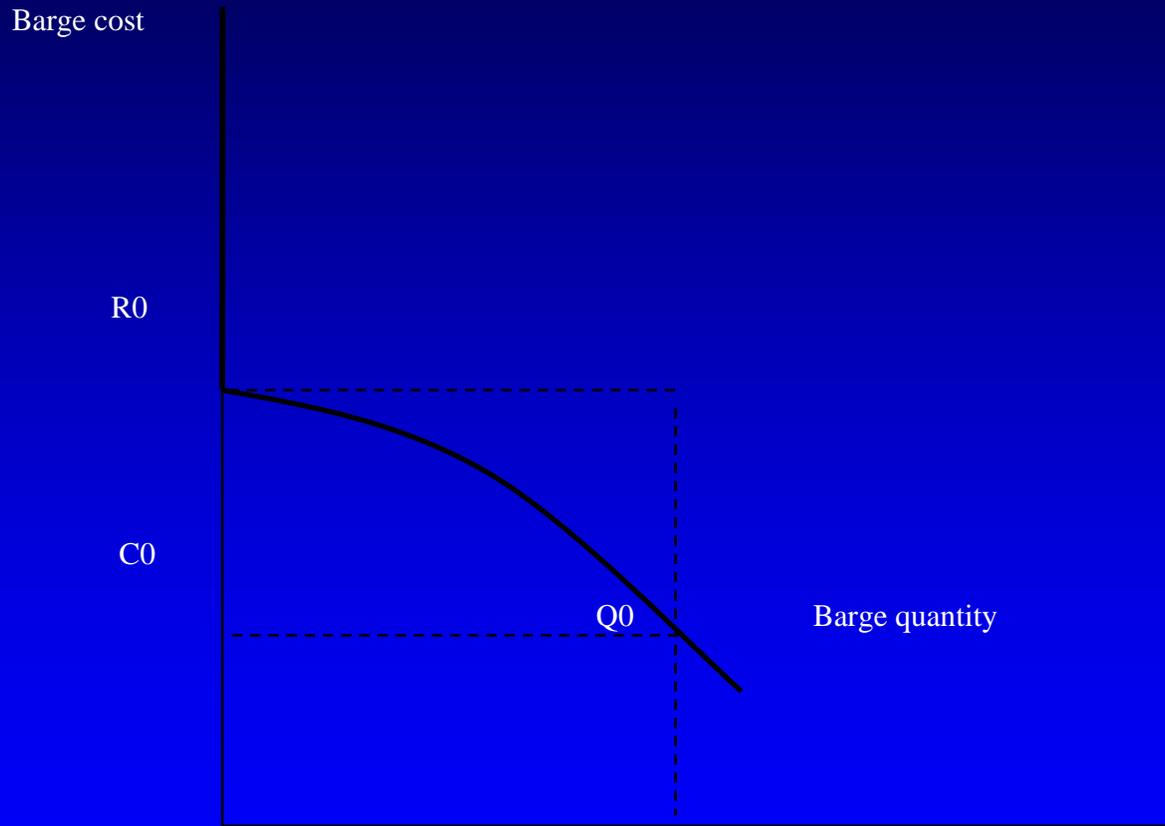
ODC Triplicate Demand Curve Shaped as Inelastic

-Two Stark assumptions

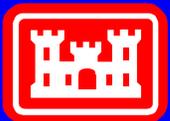
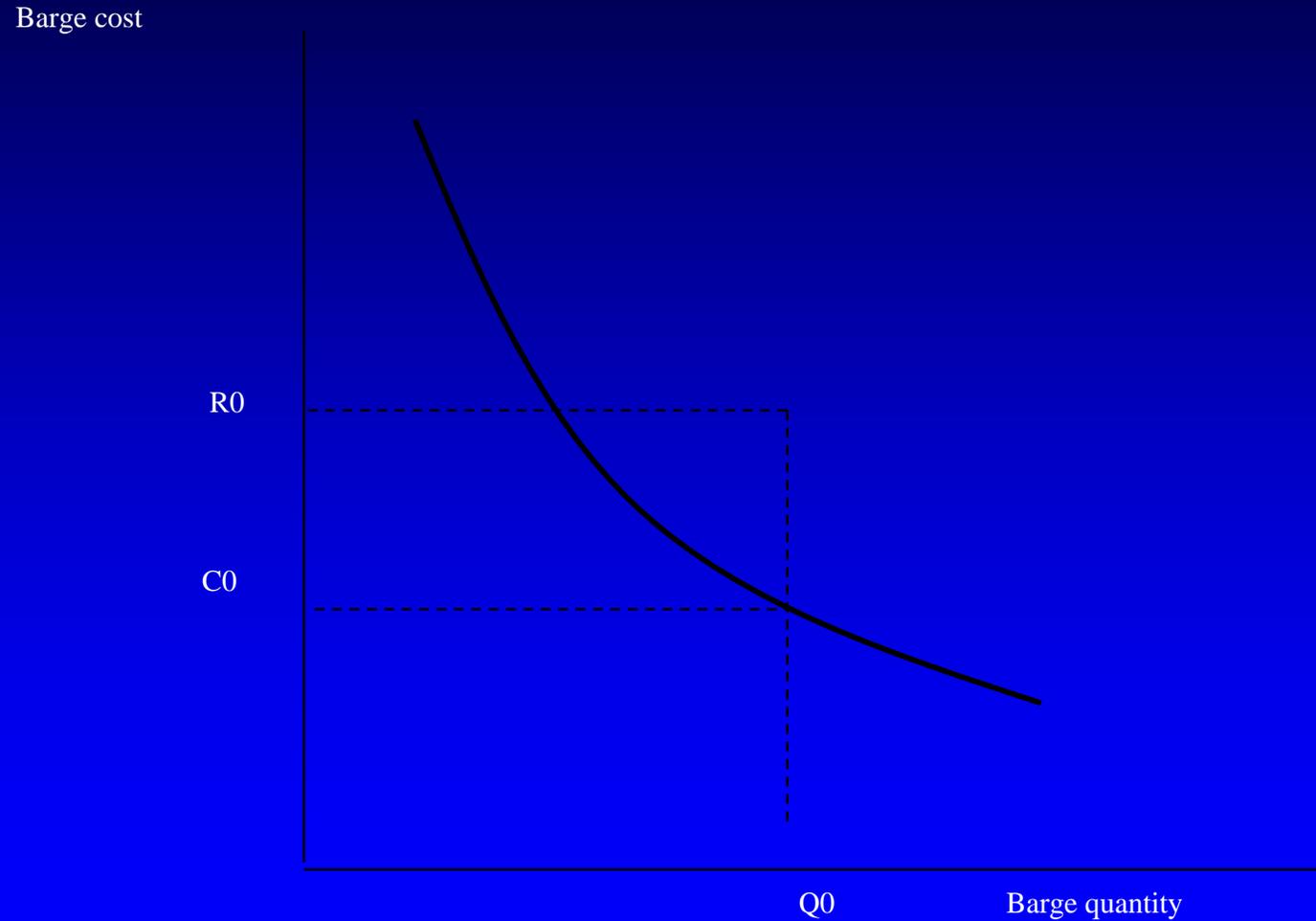


Demand curve shaped by Essence

-addresses one of the stark assumptions – but not empirically based.

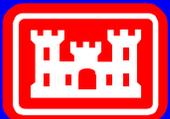


Demand curve as shaped by Survey Model



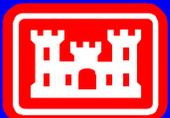
Other Survey Work

- The study team is trying to repeat this effort on different rivers and commodity groups. The efforts are (or will be) focused on Ohio River coal and non-coal, the Columbia River grain and the Mid-America non-grain. Also, because of difficulties in sampling the study team is considering repeating the Mid-America Grain survey.
- TVA survey of waterside elevators.



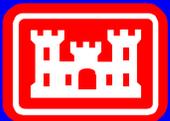
EVENT STUDIES

- Forensic Economic analysis of an event.
- Coordinated and being executed by the LRD Cx for Inland Navigation.
 - Greenup closure
 - McAlpine L&D
 - L&D 27



Activities

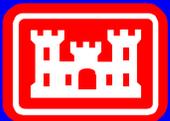
1. Modeling
2. Data Gathering
3. Knowledge Base
4. Peer Review
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Spatial Equilibrium Theory & Models

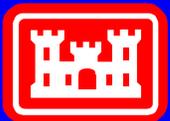
Spatial Equilibrium Theory

- Assumptions about market structure
 - Infinite capacity on alternative mode
 - Market power in rail sector
 - Market power in barge sector
- Dr. Simon Anderson of UVA



Tradable Permits

1. Investigating the use of market mechanism to increase the efficiency of the waterway.
 - Dr. Joe Cook – NERA
 - Dr. Charles Plott – Cal Tech



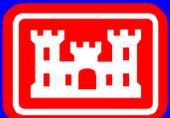
Appointment System

1. NETS is teaming with UMSL-CTS to investigate the potential effectiveness



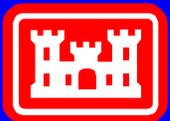
Industrial Organization Study

1. Designed to examine the degree of vertical and horizontal integration in the barge industry.
2. Attempts to develop cost functions for service delivery.



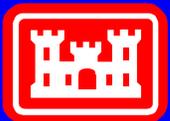
Reveal Choice Estimate

1. Dr. Ken Boyer and Dr. Wes Wilson augment LPMS data to estimate the demand for barges on the Mississippi river.



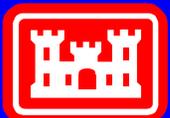
Activities

1. Modeling
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3. Knowledge Base
4. Peer Review
5. Communications



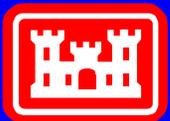
Independent Peer Review

- An independent peer review process has been established and is being followed for critical research.
 - A list of experts is maintained by the contractor. This list is by area of expertise.
 - When a study is to be reviewed, IWR submits the product and identifies the areas of expertise needed to evaluate the effort.
 - The contract randomly selects from the list and contracts for review. The contractor manages the review.
 - Comments are then submitted anonymously from the contractor to IWR.
- The Mid-America Grain study was the first effort to go through this review process.



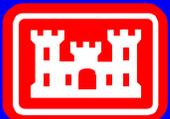
Activities

1. Modeling
2. Data Gathering
3. Knowledge Base
4. Peer Review
5. Communications



Communications

- NETS web site launched in January 2005.
- NETS NEWS!
 - An email alert with summary information about new developments will go out to team members and other interested parties. The email will provide a link to the product on the NETS web site.



NETS

navigation • economic • technologies



[About Us](#) | [Contact Us](#) | [Search](#) | [Site Map](#)

ISSUES

APPROACHES

ACTIVITIES

- Coastal Navigation
- Inland Navigation
- Multimodal Transportation

BOOKSHELF

TOOLBOX

NETS TEAM

NETS NEWS

Developing State-of-the-Art Tools and Techniques for Economic Modeling & Analyses to Help Meet Tomorrow's Navigation Challenges



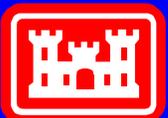
The U.S. Army Corps of Engineers is committed to spending the nation's tax dollars wisely by investing in navigation projects that provide the best value for the dollar long term. The Navigation Economic Technologies (NETS) program supports this mission by developing independently-verified economic models, tools and techniques.

Our web site is designed to provide the latest information on the [NETS team](#), the [issues](#) we are addressing, the [approaches](#) we are using and the status of our [activities](#). The NETS [bookshelf](#) contains final reports and policy guidelines, while the [toolbox](#) holds final instruments, models, etc. that result from our research. For regular updates on our progress, [sign-up](#) for [NETS News](#), a monthly e-newsletter delivered directly to your inbox.



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of Engineers ©

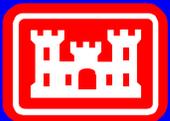
www.corpsnets.us



US Army Corps
of Engineers

Institute For Water Resources - IWR

Questions?



US Army Corps
of Engineers

Institute For Water Resources - IWR

Attachment 9

NETS

Creating a Planning Toolbox

NETS is a suite of tools that will help the Corps evaluate the impact of navigation infrastructure changes on the nation's economy. The tools will help the Corps evaluate the impact of navigation infrastructure changes on the nation's economy. The tools will help the Corps evaluate the impact of navigation infrastructure changes on the nation's economy.

International Traffic Flow Models

Effective forecasting of international traffic flows is essential for evaluating port improvements. The suite of tools will allow for development of a port infrastructure model that can be used to evaluate the impact of port infrastructure changes on the nation's economy.

Regional Traffic Routing Models. The suite of tools will evaluate the impact of and routes traveled by goods being exported from U.S. ports to a grain from Minnesota, traveling along the Mississippi river, or by rail to New Orleans.

Microscopic Systems Model. This suite of tools generate and route individual shipments from commodity origin to destination. This model is essential to evaluating non-structural and reliability based navigation control measures.

These three models can enable Corps planners across the country to develop scenarios, evaluate the effects of proposed data regarding the likely impact of changes to navigation infrastructure.



Our Commitment

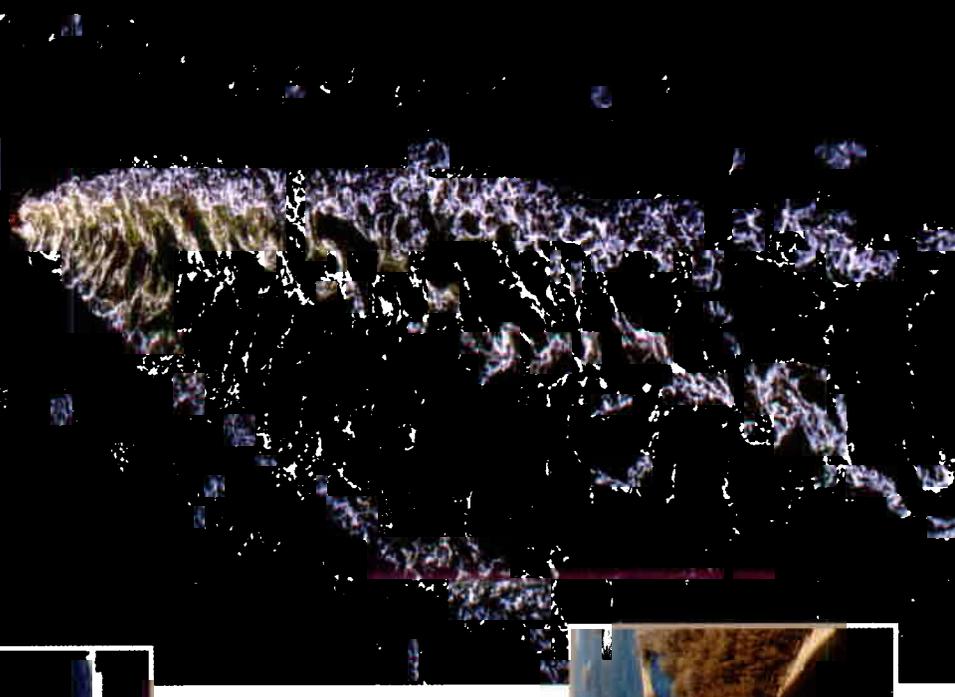
The Corps is committed to spending the nation's tax dollars wisely by investing in navigation projects that will provide the best value for the dollar long term. The Navigation Economic Technologies (NETs) program has been created to help the Corps achieve this objective by providing independently verified economic models, tools and techniques.

The NETs research program is managed by the Corps of Engineers Institute of Water Resources. For more information about the NETs Program, contact Keith Hufsch at NETs@iwrce.army.mil



US Army Corps of Engineers

NETS

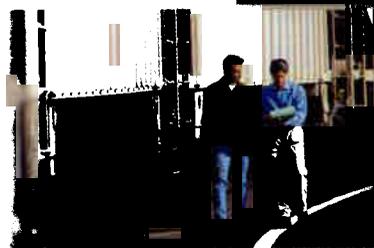


Our Challenge

For more than a century the U.S. Army Corps of Engineers has played a key role in keeping the nation's economy moving by ensuring that farmers, manufacturers and businesses can easily transport goods up and down our nation's rivers and out to sea via coastal ports.

Our world class engineers have helped plan, construct, operate and maintain hundreds of navigation channels and locks and dams. They have also dredged to maintain channel depths at numerous U.S. harbors and on inland waterways. Today, more than 67 percent of all consumer goods purchased by Americans pass through harbors maintained by the Corps. Inland waterways operated by the Corps handle over 630 million tons of consumer goods per year valued at over \$70 billion.

As our nation's economy grows increasingly larger and complex, though, the Corps navigation program faces a significant challenge. To ensure that our nation's navigation system remains as efficient, effective and affordable as possible, we must continually update and improve systems to enhance operational efficiency and upgrade infrastructure to keep pace with increasing commercial traffic, larger ships, new technologies and the globalization of the economy.



Our Vision

The goal of NETS is to advance the Corps world class engineering with state-of-the-art tools and techniques for economic modeling and analyses.

Every NETS project must meet four basic standards:

Grounded in reality. Models and analyses must be based on accurate and complete data and all procedures, assumptions and conclusions must be well-documented.

Intuitive. The procedures, assumptions and sensitive variables underlying analyses and models should be reasonably transparent to users both inside and outside of the Corps.

Verifiable. All NETS tools, techniques and models will be peer-reviewed by a panel of independent experts.

Transportable. Models will be designed so that they can easily be applied across geographic boundaries to projects of varying sizes and scopes.

The NETS program has two focus points: expanding the body of knowledge regarding the economics underlying use of the waterways and creating a toolbox of practical planning models, methods and techniques that can be applied to a variety of situations.

Expanding the Body of Knowledge

Through the development of scientific papers and reports, NETS will strive to expand the body of knowledge available about core concepts underlying navigation economic models.

For example, NETS will explore how the economic benefits of building new navigation projects are affected by changes in shipper behaviors, particularly decisions to switch to non-water modes of transportation, and/or market conditions. These types of studies will help Corps planners determine whether their economic models are based on realistic premises.

NETS also will prepare reports analyzing the practical applicability of various solutions to navigation challenges such as easing congestion on the nation's waterways. For instance, NETS teams will prepare reports examining a variety of proposed solutions to helping ships move more quickly and efficiently through locks and dams. Proposed solutions to be considered include:

- Congestion fees
- Scheduling
- Tradable locking permits
- Lockage efficiency measures
- Locking policies

Attachment 10



F. Navigation Adaptive Management

Task Name	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
<u>NESP F. NAVIGATION ADAPTIVE MANAGEMENT</u>		[Redacted]															
Project Mgmt Plan (PMP)		[Redacted]															
NAVIGATION ADAPTIVE MANAGEMENT ADMINISTRATION		[Redacted]															
MONITORING & ANALYZING DATA		[Redacted]															
NOTIFICATION REPORT		[Redacted]															
EVALUATION REPORT		[Redacted]															
UPDATED FEASIBILITY REPORT FOR AUTHORIZATION												[Redacted]					



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Notification Report

- **Sent to Congress before construction start**

- **Present any new information**
 - **Monitoring navigation traffic**
 - **Monitoring markets**
 - **Any results of improved models and analysis**



Evaluation Report

- **New and accepted economic analysis and models**
- **Recommend to Congress whether to stop or not**
 - **INCLUDES**
 - **Monitoring navigation traffic**
 - **Monitoring markets**
 - **Any results of improved models and analysis**
- **Recommend relationship of Nav Program & EMP**



US Army Corps
of Engineers ®



Updated Feasibility Report

- **Justify remaining Nav Program**
 - **Navigation**
 - **Ecosystem**

- **Present any new information**



Monitoring & Analysis

- **Navigation traffic monitoring to include:**
 - **NETS Program**
 - **Transportation rates**
 - **Drivers and markets**
 - **Lock performance without and with small scale measures**
 - **Other data required by new models**



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NESP Economic Activities



F. Navigation Adaptive Management

Task Name	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	
<u>NESP F. NAVIGATION ADAPTIVE MANAGEMENT</u>		[Redacted]															
Project Mgmt Plan (PMP)		[Redacted]															
ITR		[Redacted]															
NAVIGATION ADAPTIVE MANAGEMENT ADMINISTRATION		[Redacted]															
MONITORING & ANALYZING DATA		[Redacted]															
NOTIFICATION REPORT		[Redacted]															
EVALUATION REPORT		[Redacted]															
UPDATED FEASIBILITY REPORT FOR AUTHORIZATION											[Redacted]						



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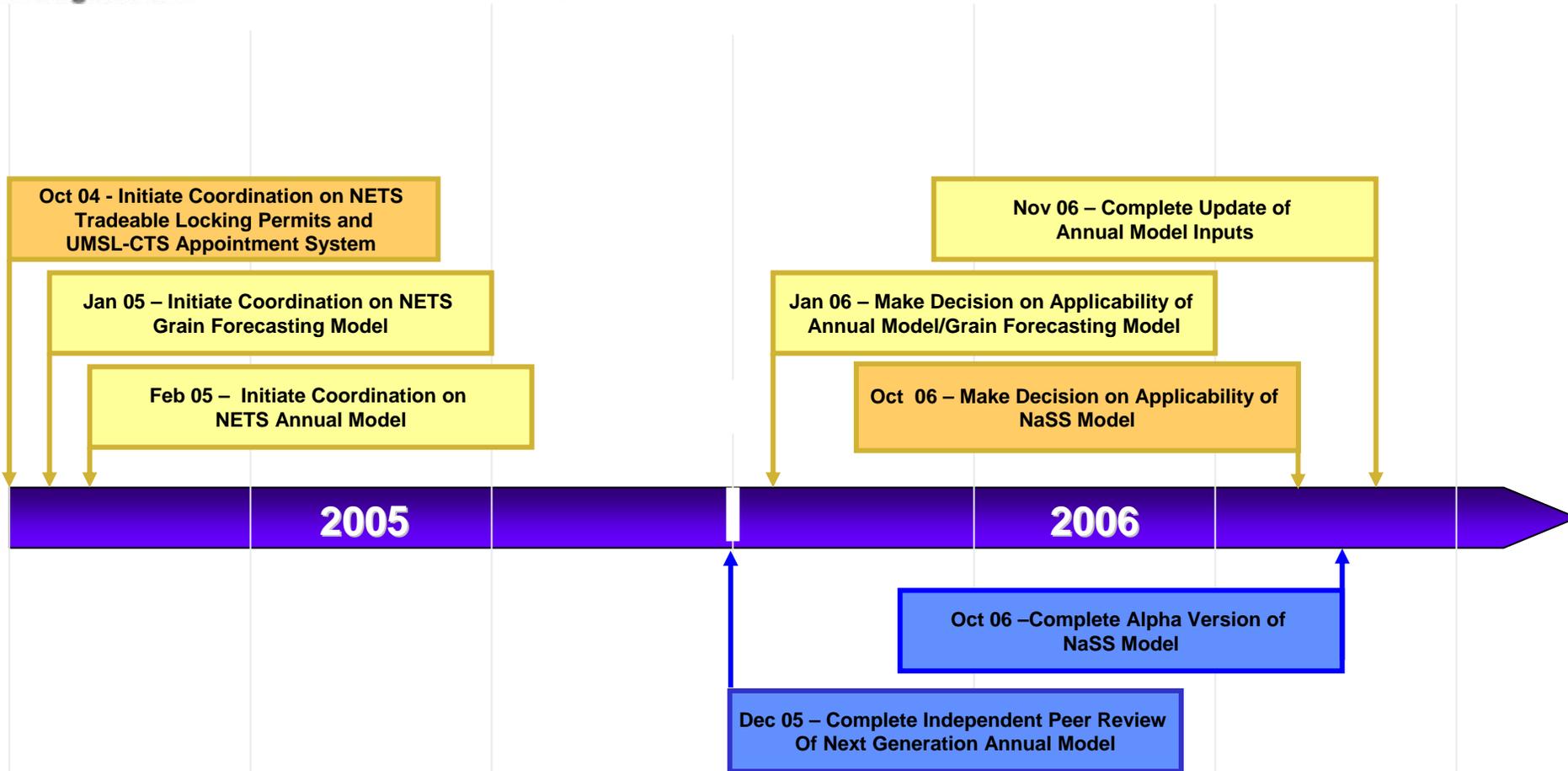


Major Activities

- **Monitoring**
- **New Annual Model**
- **Traffic Forecasting Model**
- **Appointment Scheduling**

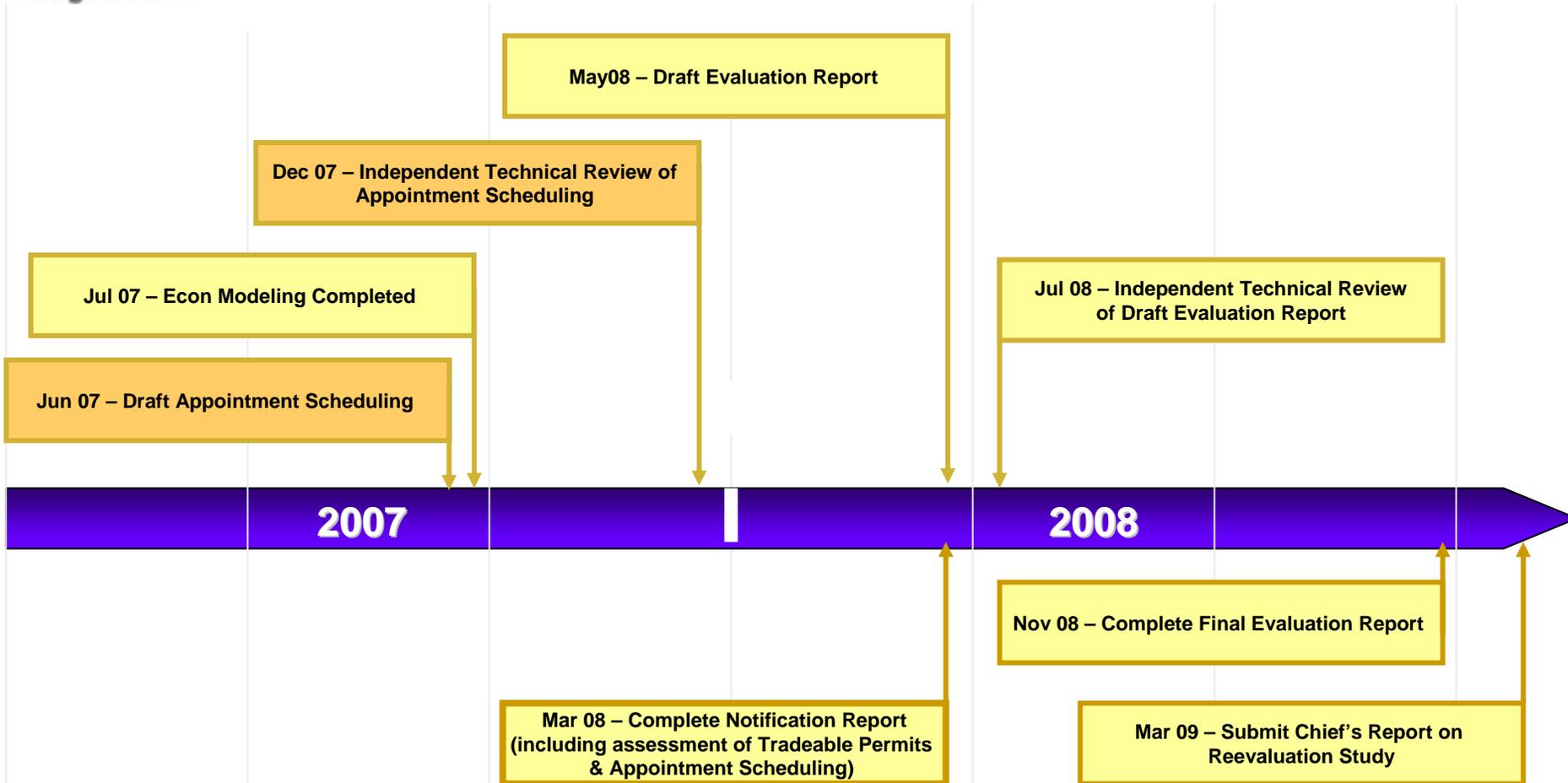


Major Activities Timeline





Major Activities Timeline



Attachment 13

**Upper Mississippi River – Illinois Waterway
Navigation and Environment Sustainability Program**



NECC Meeting

May 2005

**Field Work in Support of Systemic
Mitigation Planning**

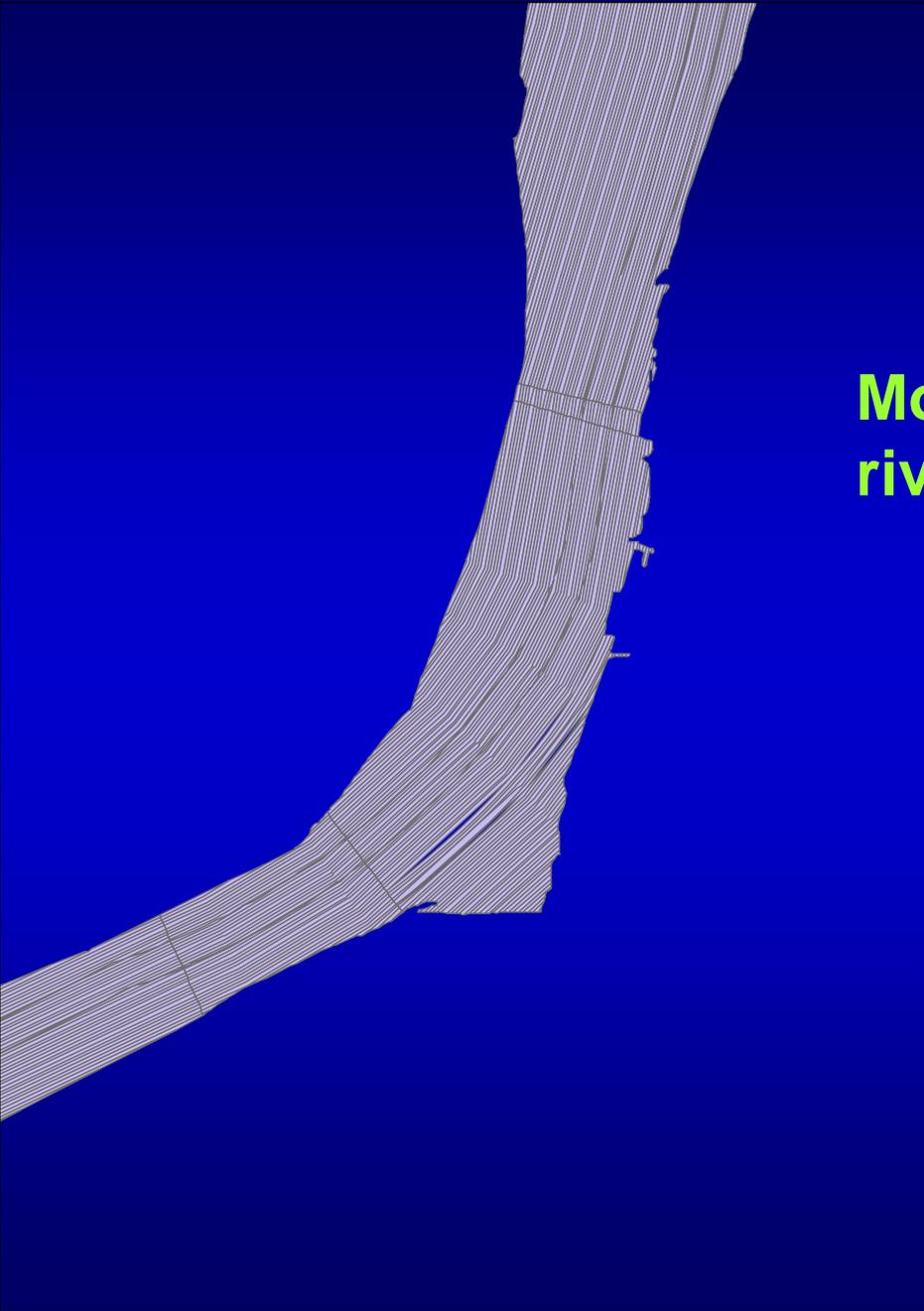
Submersed Aquatic Plants

Spatial Prediction of Navigation Traffic Effects on Aquatic Plants

- Channel border areas where waves and current velocities may damage plants
- Locations along UMRS where sediment resuspension may suppress plant growth
- Estimated of percent growth reduction at each location

Modeling Effects of Resuspended Sediment on SAV

- Generate time series of vessel passage events
- Generate time series of sediment concentration (from NAVEFF and NAVSED)
- Generate time series of light attenuation coefficient
- Simulate plant growth and reproduction (using VALLA and POTAM, reprogrammed in Visual Basic)
- Identified channel border cells where plant growth would be suppressed >5%



**Model system divided
river into 10m wide cells**

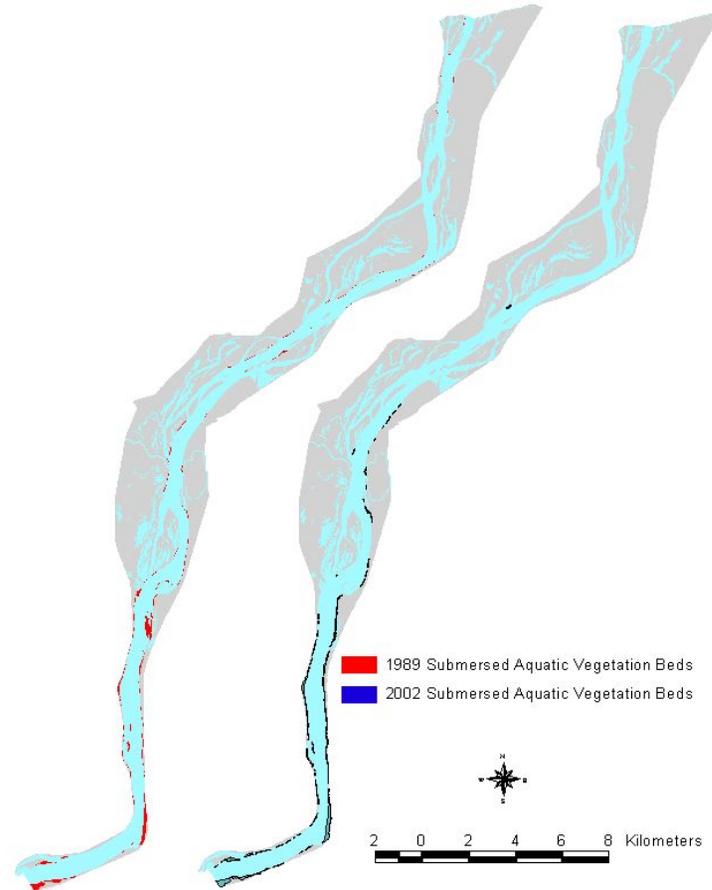
Pools 14 Through 19 SAV Survey

- In 2002, SAV beds were present in the main channel border areas of Pools 14, 15, and 19 but absent in the main channel border areas of Pools 16, 17, and 18
- SAV in Pools 14, 15, and 19 **dominated by Vallisneria**
- **Less SAV in Pools 14 – 19 than in 1989**

Y.Yin, P. Boma, J. Sauer. 2003. Aquatic vegetation survey for the Upper Mississippi-Illinois Waterway Navigation Study: Pools 14-19. Upper Midwest Environmental Sciences Center, U.S. Geological Survey, LaCrosse, Wisconsin.

SAV Distribution in Pool 14

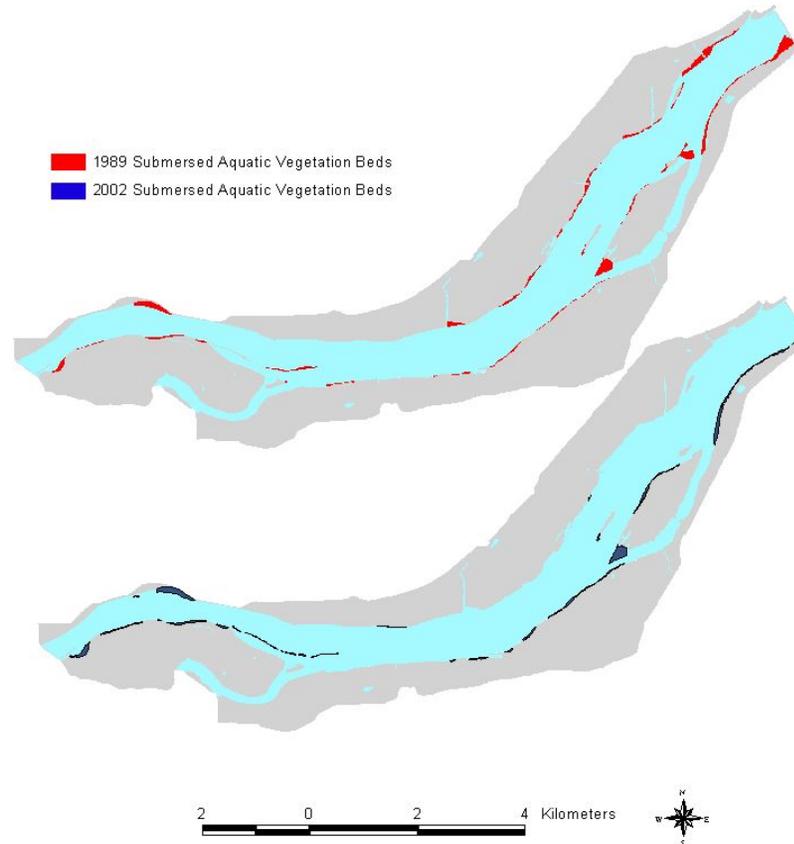
Figure 8. Pool 14 1989 and 2002 Submersed Aquatic Vegetation Comparison



1989 submersed aquatic vegetation data derived from digital coverages based on color infrared aerial photo interpretation. 2002 submersed aquatic vegetation data derived from on ground GPS mapping. Mapping occurred in main channel border only.

SAV Distribution in Pool 15

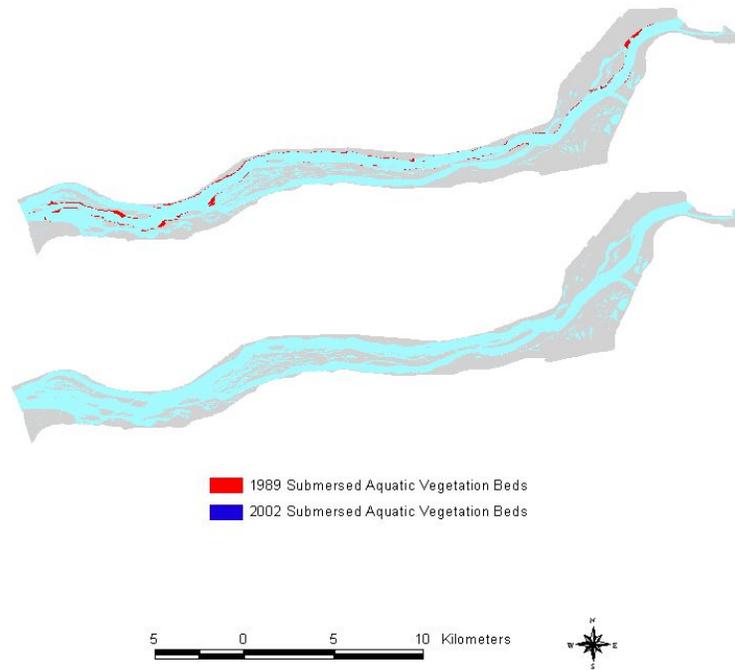
Figure 9. Pool 15 1989 and 2002 Submersed Aquatic Vegetation Comparison



1989 submersed aquatic vegetation data derived from digital coverages based on color infrared aerial photo interpretation. 2002 submersed aquatic vegetation data derived from on ground GPS mapping. Mapping occurred in main channel border only.

SAV Distribution in Pool 16

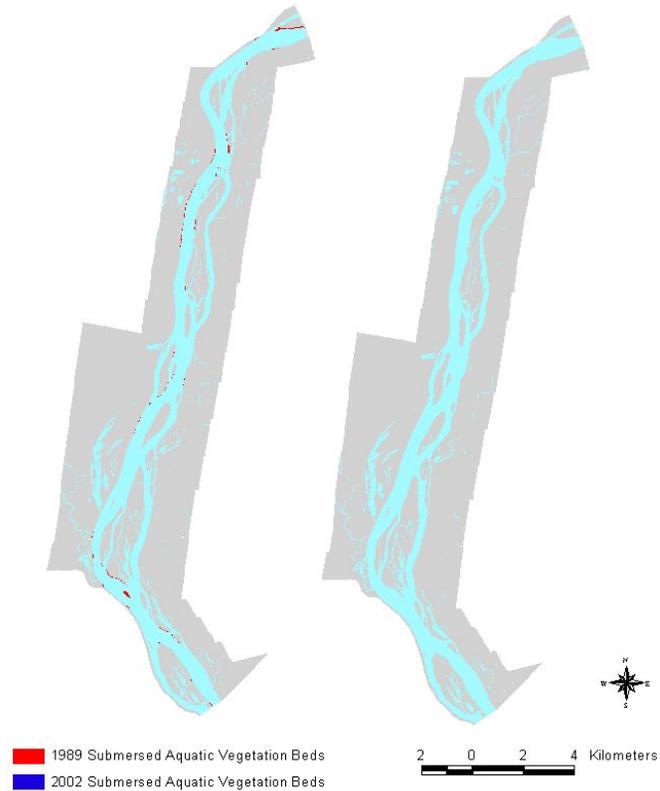
Figure 10. Pool 16 1989 and 2002 Submersed Aquatic Vegetation Comparison



1989 submersed aquatic vegetation data derived from digital coverages based on color infrared aerial photo interpretation. 2002 submersed aquatic vegetation data derived from on ground GPS mapping. Mapping occurred in main channel border only.

SAV Distribution in Pool 17

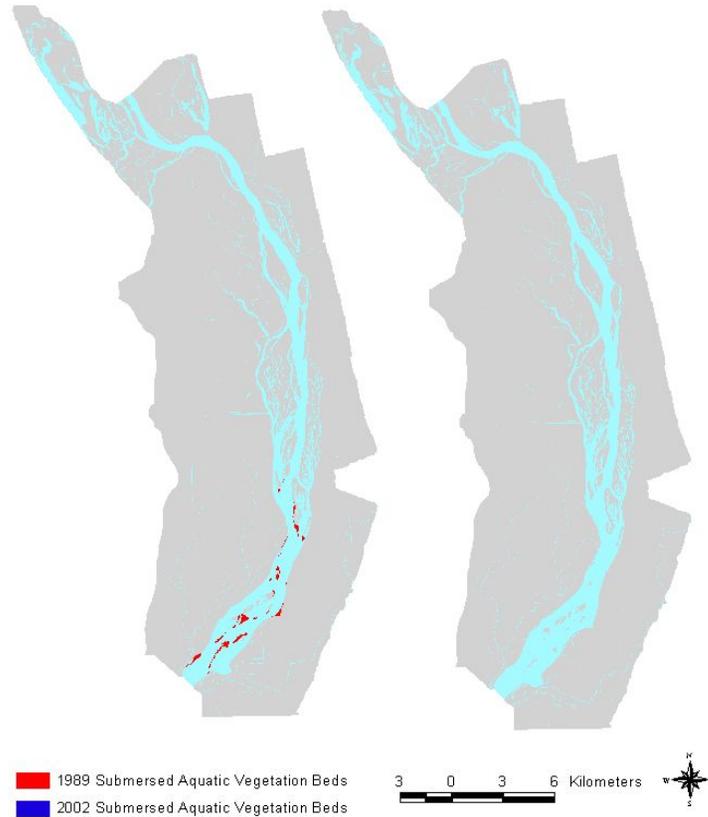
Figure 11. Pool 17 1989 and 2002 Submersed Aquatic Vegetation Comparison



1989 submersed aquatic vegetation data derived from digital coverages based on color infrared aerial photo interpretation. 2002 submersed aquatic vegetation data derived from on ground GPS mapping. Mapping occurred in main channel border only.

SAV Distribution in Pool 18

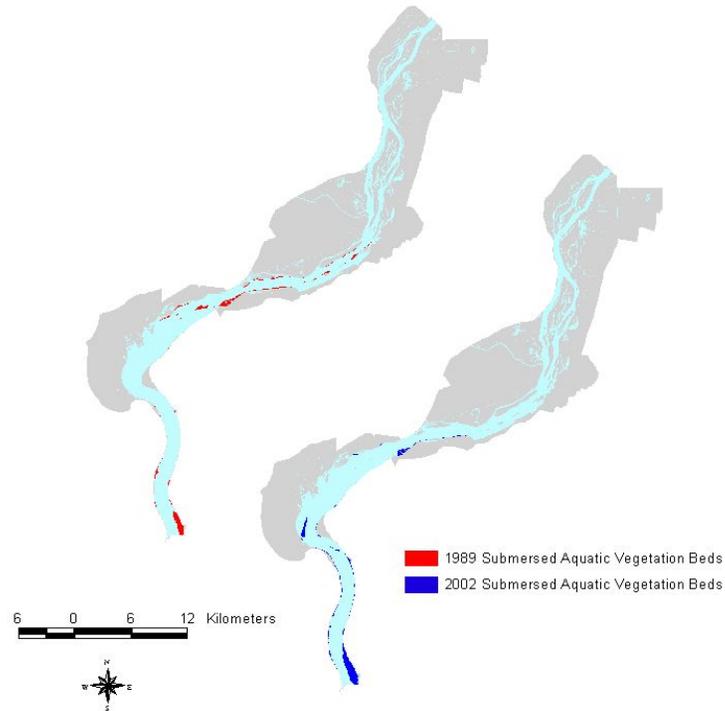
Figure 12. Pool 18 1989 and 2002 Submersed Aquatic Vegetation Comparison



1989 submersed aquatic vegetation data derived from digital coverages based on color infrared aerial photo interpretation. 2002 submersed aquatic vegetation data derived from on ground GPS mapping. Mapping occurred in main channel border only.

SAV Distribution in Pool 19

Figure 13. Pool 19 1989 and 2002 Submersed Aquatic Vegetation Comparison



1989 submersed aquatic vegetation data derived from digital coverages based on color infrared aerial photo interpretation. 2002 submersed aquatic vegetation data derived from on ground GPS mapping. Mapping occurred in main channel border only.

FY2005 Field Work: Survey potential plant impact zones (cells) in Pools 5, 9, 11, 13, and 19

- **Bathymetric survey**
- **SAV survey (LTRMP methods)**
- **Substrate type**
- **Turbidity**

Additional SAV surveys will be conducted in FY06.

Information will be used to plan effective SAV mitigation measures and to eliminate areas that are not potential plant growth zones.



Attachment C

**Upper Mississippi River – Illinois Waterway
Navigation and Environment Sustainability Program**



NECC Meeting

May 2005

Ecosystem Objectives and Monitoring

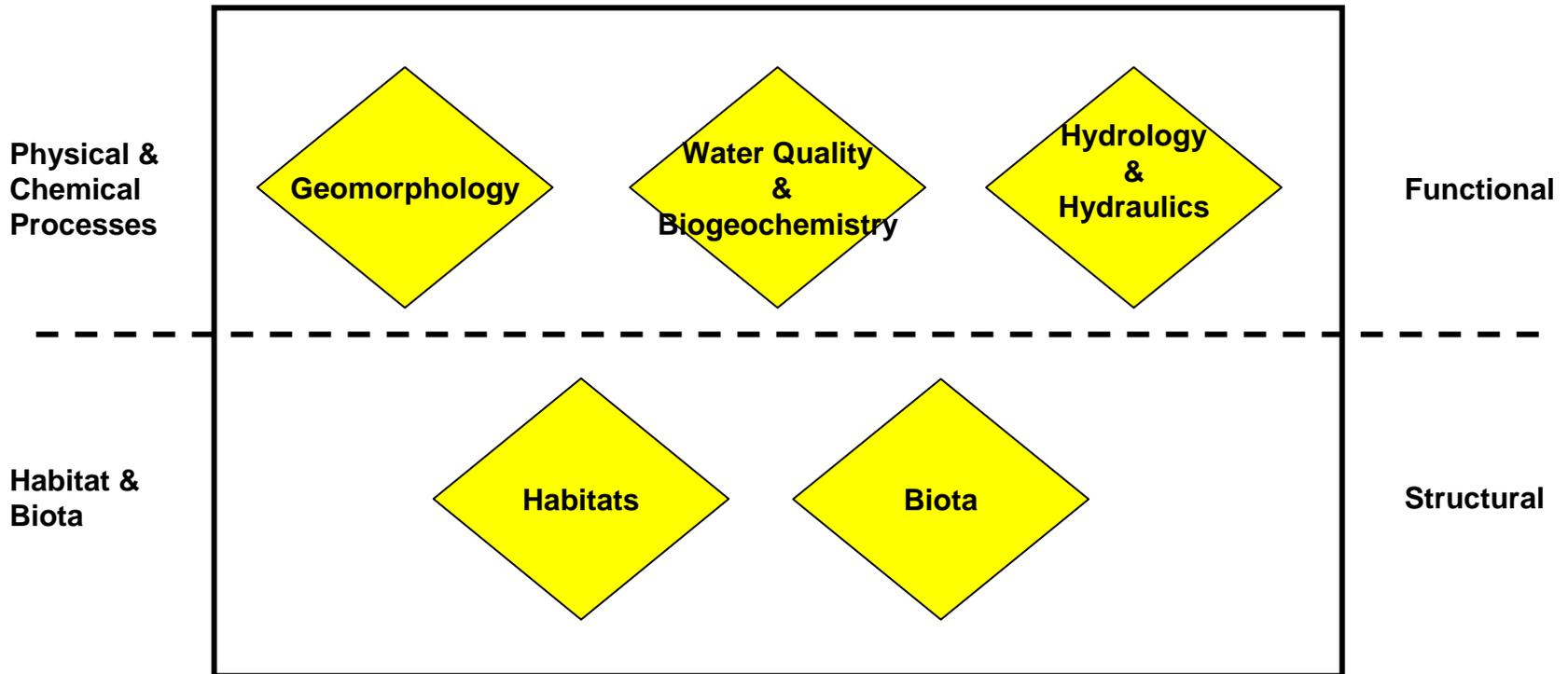
Monitoring Linked to Project Objectives

Example for a fish passage improvement project

Project Objective: Increase the number of migratory fish passing upriver through LD22 by 200 percent by 2008.

Monitor: Number of fish passing upriver through lock, dam gates and fishway using hydroacoustic sensing and fish capture techniques.

Essential Ecosystem Characteristics



Floodplain Forest and Grasslands Restoration

Islands Building

Fish Passage Improvements

Floodplain Connectivity Restoration

Water Level Management

Secondary Channel Restoration

Backwater Restoration

Wing Dam Modifications

Island Protection

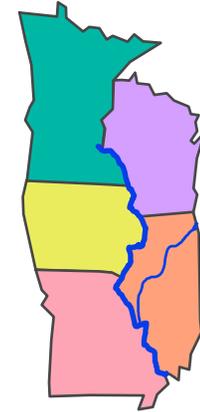
Shoreline Protection

Floodplain Topographic Diversity Restoration

Change River Regulation to Dam Point Control (Pools 16, 25)

Dam Embankments Modifications

Reduce Illinois River Water Level Fluctuations

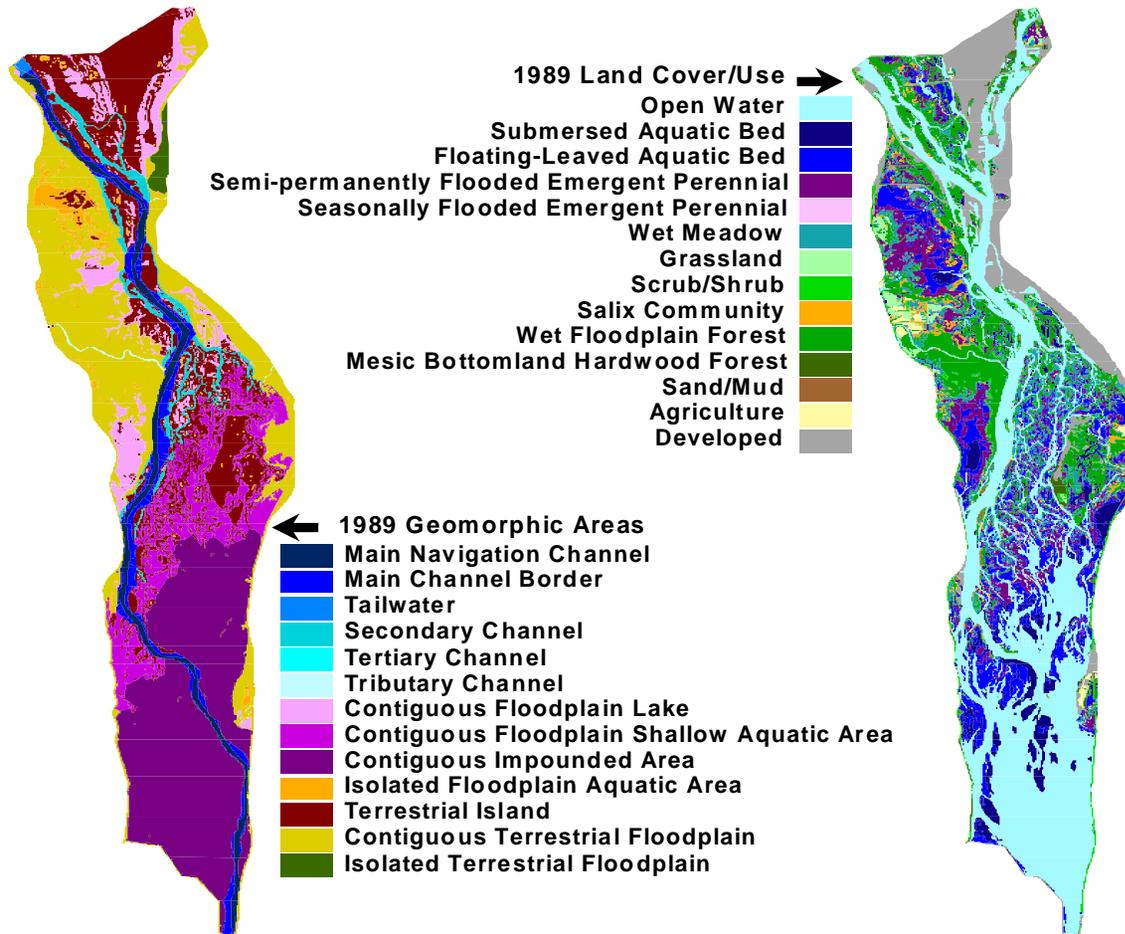


Types of NESP Ecosystem Restoration Projects

Ecosystem Objectives Database for the UMRS

- **Incorporates the HNA and Pool Plans**
- **~2,600 site-specific objectives identified by stakeholders during Nav Study workshops**
- **Objectives by EEC**
- **Objectives addressed by management actions**

Habitat Objectives – Land Cover and Aquatic Areas



Progression from Data to Wisdom



Data

With careful experimental design, measurements and quality control, good data can be obtained

Information

With analysis, interpretation and reporting data becomes information

Knowledge

With application of information to decision-making and action, careful monitoring and evaluation, information can become knowledge

Wisdom

With much more application, experience, deep reflection and sharing with others, knowledge can become wisdom

Attachment 15

NESP Project Delivery Teams - May 2005

Project	COE Manager	Non-Corps PDT Members	Agency	FWS Assignment	Coordination Work Description
B. Program Management	Spitzack, Charles		NECC River Managers Council UMRBA EMPC	Rick Nelson - ES Don H. - Refuges	Fed. Task force Regional Team Other planning assistance
D. Institutional Arrangements	Soileau	See attached		Jon Duyvejonck - ES Don Hultman - Refuge	NECC, RMC, RMT
E. Public Involvement	K. Bluhm			Georgia Parham - RO	Input to strategic plan for public involvement Coordinate public meetings
G. Navigation Mitigation	M. Cornish		NECC	Jon Duyvejonck	Mitigation planning for navigation impacts Erosion Aquatic Vegetation Backwater Sedimentation Mussels Forests Cultural
I. Mooring Buoys	J. Rapp			Jon Duyvejonck	Review impacts @ L/D 14 MVS ???
K. L/D 22	M. Tarpey			Jon Duyvejonck	HAT meetings, pubic meetings, review impacts
L. L/D 25	S. Hobbs			Joyce Collins	HAT meetings, pubic meetings, review impacts
N. Ecosystem Restoration Plan	H. DeHaan	Jeff Janvrin John Sullivan Tim Schlagenhalt Scot Johnson Dan Dieterman Judy Mader Gary Wege Eric Nelson Tony Batya Mike Griffin Bill Ohde Bernie Schonhoff Kevin Oller Ed Walsh Tom Cox Bob Clevestine Danny Brown Butch Atwood Joyce Collins John Magera	Wisconsin DNR Wisconsin DNR Minnesota DNR Minnesota DNR Minnesota DNR Minnesota PCA USFWS USFWS USFWS Iowa DNR Iowa DNR Iowa DNR Illinois DNR Illinois DNR USFWS USFWS Missouri DOC Illinois DNR USFWS USFWS	Jon Duyvejonck - RIFO Pam Thiel - Fishery Gary Wege - St. Paul Joyce Collins - St. Louis Dick Steinbach - Refuge Rob Simmonds - Fishery	Review & compile objectives - pilot reaches Develop site specific plans Prioritize near term projects Engage stakeholders
O. Adaptive Management	K. Barr	River Managers Council River Managers Teams		Bob Clevestine - ES	Develop ecosystem restoration project Develop ecosystem restoration Develop a "report card" framework to Further evaluate and refine goals and objectives of ecosystem restoration Integrate numerical models for forecasting applications on the UMRS Define projected ecological outcomes (benefits) in terms of goods and services provided through ecosystem restoration
Q. Forest Management	R. Ulrich			Dick Steinbach - Refuge	Prepare forest management plan
R. Fleeting Plan	D. Bollman	Gretchen Benjamin Scot Johnson Mike Griffin Larry Kieck Dick Lambert Robert Goodwin, Jr. Don Hultman Ross Adams Sammy Dickey Darren Melvin Paul Rhode	Wisconsin DNR Minnesota DNR Iowa DNR Illinois DNR Missouri DNR Wisconsin DOT Minnesota DOT Iowa DOT Illinois DOT Missouri DOT U.S. Coast Guard Maritime Marine Administration U.S. Fish & Wildlife Service U.S. Fish & Wildlife Service River Industry Action Committee Illinois River Carriers Association MARC 2000 UMRBA Audubon Society	Jon Duyvejonck - ES Dick Steinbach - Refuges	GIS development Meetings with industry
S. Island Building Pool 11	D. Niles	Jeff Janvrin Mike Griffin Kristen Lundh	Wisconsin DNR Iowa DNR USFWS	John Lindell - Refuges Jon Duyvejonck - ES	Coordination /compliance of final DPR
T. Fish Passage L/D 26	T. Atchley	Travis Moore Butch Atwood Jon Duyvejonck See Workshop Attendance	Missouri DOC Illinois DNR USFWS	Joyce Collins - ES Tim Petranski - RO Rob Simmonds	Asian Carp monitoring Design assistance

NESP Project Delivery Teams - May 2005

Project	COE Manager	Non-Corps PDT Members	Agency	FWS Assignment	Coordination Work Description
U. Fish Passage L/D 22	M. Cornish	See Workshop Attendance		Jon Duyvejonck - ES Tim Petranski - RO Rob Simmonds - FRO	Asian Carp monitoring Design assistance
V. Floodplain Restoration	B. Thompson	Doug Blodgett Tharran Hobson Jason Beverlin David Hiatt Ross Adams Bob Clevestine Mike Demissie Josh Stafford Historic Preservation Officer Dickson Mounds Eric Schenck	TNC TNC USFWS USFWS ISWS DU	Jon Duyvejonck - ES Ross Adams - Refuges	Monitoring input for floodplain restoration Restoration planning Restoration design
W. Water Level Management	DeZellar Landwehr	Kevin Oller Dan Sallee Mike Griffin Bob Clevestine	Illinois DNR Illinois DNR Iowa DNR USFWS	Jon Duyvejonck ES (all) Tony B. (Pool 5) John L. (Pool 9) Tom Cox (Pool 18)	Input to monitoring and impact assessment Pools 5, 9, 18
X. BW Restoration	Plumley		ISWS ISGS Illinois WMA INHS Illinois EPA Illinois Ag US Fish and Wildlife Service - Tri-County Regional Planning The Nature Conservancy Ducks Unlimited	Jon Duyvejonck Rob Simmonds	Peoria Lake Monitoring input
Z. SC Restoration - Buffalo 1.	B. Johnson			Joyce Collins - ES Rob Simmonds	Design input
AA. Wing Dam Alteration-Herculeaneum	L. Hopkins			Joyce Collins Rob Simmonds	Input on contaminants & design
AB. Wing Dam Alteration - P1 2	E. Stefanik			Gary Wege Pam Thiel	Design/monitoring input
AC. Island Protection	T. Kirkceng			Jon Duyvejonck Don Hultman	Location/design
AD. Dam Point Control Dam 25	M. Kniep			Joyce Collins Dick S.	Assist in pre-monitoring and feasibility initiation
AE. Dam Embankment Lowering L/D 8	DeZellar			Gary Wege Jim Nissen	Design, monitoring, impact assess
AF. Reduce IWW water fluctuation	K. Landwehr	Jim Mick Mike Demissie Mike Cochran Doug Blodgett	Illinois DNR ISWS Illinois DNR TNC	Jon Duyvejonck	Monitoring, impact assess

Attachment 16

Science Panel Members

John Barko—co-chair

Barry Johnson –co-chair

Bob Clevestine

Larry Weber

Steve Bartell

Ken Lubinski

John Nestler

Mike Davis

Charlie Berger

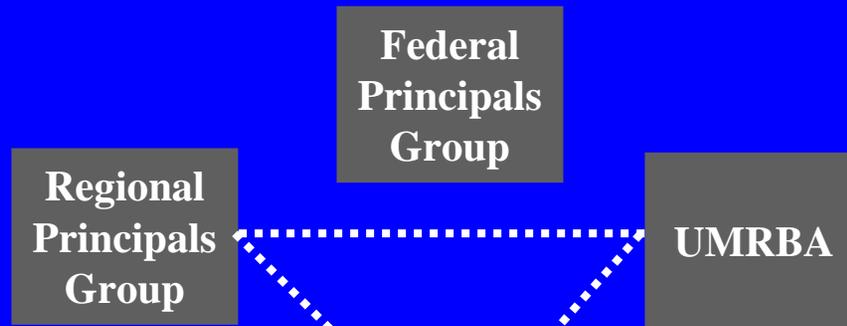
David Galat

Regional Support Team

- **Rob Davinroy**
- **Jon Hendrikson**
- **Kevin Landwher**
- **Tom Keevin**
- **Dan Wilcox**
- **Chuck Theiling**

INSTITUTIONAL ARRANGEMENTS For Integrated Management

Collaboration
at national and
regional levels



River
Management
Council

System (UMRS) planning

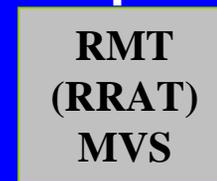
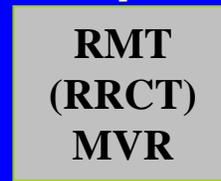
Science
Panel

Subsystem and specific project planning

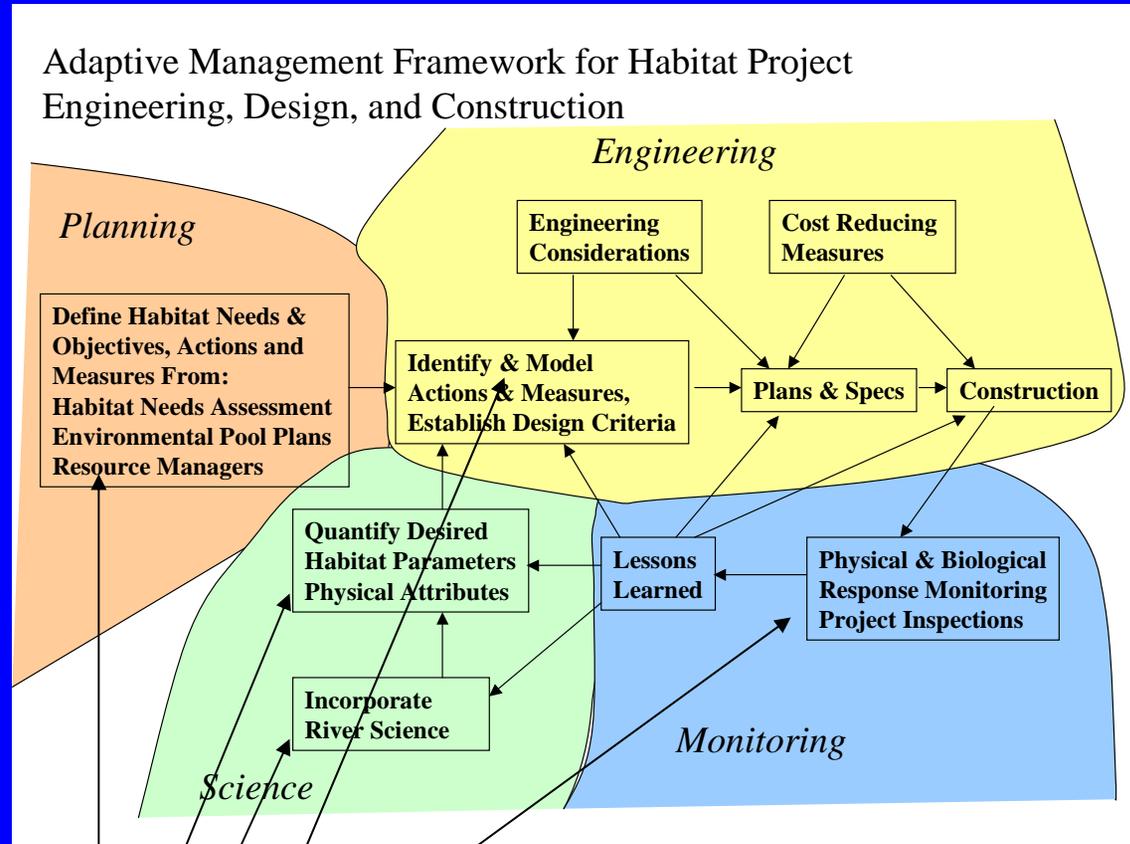
RMT
(RRF)
MVP

RMT
(RRCT)
MVR

RMT
(RRAT)
MVS



PDTs & the Science Panel



**Science
Panel
Guidance**

Science Panel Objectives

- **Develop ecosystem restoration project evaluation and sequencing criteria**
- **Develop ecosystem restoration monitoring protocols over multiple spatial and temporal scales**
- **Develop a “report card” framework to track progress in restoring the UMRS**
- **Further evaluate and refine goals and objectives of ecosystem restoration**
- **Integrate numerical models for forecasting applications on the UMRS**
- **Define projected ecological outcomes (benefits) in terms of goods and services provided through ecosystem restoration**

Science Panel Progress

- **Initial Meeting – March 23-24 Davenport**
 - **Briefings**
 - Activities of 1st Science Panel - Lubinski**
 - Status & Trends Reports and “A River that Works” – Lubinski/John**
 - NESP overview – Barr**
 - Cumulative Effects Report – Theiling**
 - Goals and objectives for river restoration – DeHaan**
 - Habitat Needs Assessment and pool plans – Clevens**
 - River Engineering – Davinroy**
 - EMP & Science Evaluation Team (SET) – Perk**
 - **Discussion of functional areas of responsibility (see last slide)**

Science Panel Progress

- **Evaluation of Goals and Objectives – Galat**
- **Project Evaluation and Sequencing – Barko**
- **Monitoring Protocols – Johnson**
- **Report Card Development – Clevens**
- **Ecological Benefits – Lubinski**
- **Model Integration and Application – Nestler**
- **Institutional Arrangements – Barr**

Attachment 17

NESP Monitoring - May 2005

Project	COE Manager	PMP Date (status)	Monitoring Plan Date	Monitoring Parameters
B. Program Management	Spitzack, Charles	PgMP March 05	NA	NA
D. Institutional Arrangements	Soileau	2 May 05 (draft)		
E. Public Involvement	K. Bluhm			
G. Navigation Mitigation	M. Cornish	15 April 05 (draft)	Apr-05 May-05	
I. Mooring Buoys	J. Rapp			
K. L/D 22	M. Tarpey	12 April 05 (draft)	Apr-05	
L. L/D 25	S. Hobbs			
M. La Grange L/D	A. Werner	20 April 05 (draft)		
N. Ecosystem Restoration Plan	H. DeHaan	8 April 05 (draft)		3 Pool-wide plans – Teams formed; prelim project level plans; require help with pool/reach scale plans
O. Adaptive Management	K. Barr			System-wide plan – Requires SP recommendation for system-wide plan
P. Cultural Stewardship	K. Barr	19 April 05 (draft)		
Q. Forest Management	R. Urich	Apr-05		System-wide plan – team formed and working
R. Fleetng Plan	D. Bollman	29 March 05 (draft)		System-wide plan – team formed and working
S. Island Building - Pool 11	D. Niles	20 April 05 (draft)		White Paper topic – several evaluations and design docs completed
T. Fish Passage L/D 26	T. Atchley	Apr-05	Apr-05	Fish movement Fish populations Mussel populations Site specific/system wide – team formed, draft plan in preparation
U. Fish Passage L/D 22	M. Cornish	29 March 05 (draft)	Apr-05	Fish movement Fish populations Mussel populations Site specific/system wide – team formed, draft plan in preparation

NESP Monitoring - May 2005

Project	COE Manager	PMP Date (status)	Monitoring Plan Date	Monitoring Parameters
V. Floodplain Restoration	B. Thompson	14 April, 05		Site specific/system wide -- Wetland Functional Assessment
W. Water Level Management	DeZellar Landwehr	Pools 5 April 05 Pools 9 - 18 March Pool 18 - 29 March	Apr-05 --	Water quality Sediment characteristics Aquatic Plants Nutrient processing Food web dynamics Aquatic plants <i>Sediment characteristics</i> Pool-wide – 1 plan done, 2 in preparation; significant monitoring completed in Pool 8 and 25; entire body of lit. in moist soil units and reservoirs. Synthesis Paper Topic
X. BW Restoration	Plumley	13 April 05 (draft)		Site specific – Several site specific bioresponse studies done; physical/mechanical issues in IR reviewed; White paper possible?
Z. SC Restoration Buffalo I.	B. Johnson		Apr-05	Fish community Overwintering fishes Water quality Morphometric changes
AA. Wing Dam Alteration-Herculaneum	L. Hopkins		Apr-05	Fish community Seasonal use Water quality Site specific/regional – pre-project monitoring complete; lots of physical monitoring completed; need more bioresponse
AB. Wing Dam Alteration – P1 2	E. Stefanik			Physical changes Fish use Invertebrates
AC. Island Protection	T. Kirkeeng	29 March 05 (draft)		Synthesis Paper (with islands)
AD. Dam Point Control Dam 25	M. Kniep			See Garvey et al. 2003
AE. Dam Embankment Lowering L/D 8	DeZellar	21 April 05 (draft)		Site specific – Ideas presented in PMP; need proposal.
AF. Reduce IWW water fluctuation	K. Landwehr	1 April 05 (draft)		Hydrology Aquatic plants Regional – Ideas discussed among team; need proposal