US Army Corps of Engineers

UPPER MISSISSIPPI RIVER SYSTEM FLOW FREQUENCY STUDY
(Upper Mississippi, Lower Missouri, & Illinois Rivers)

PUBLIC INVOLVEMENT NEWSLETTER

February 1999

In November 1997, the first Upper Mississippi, Lower Missouri, and Illinois Rivers Flow Frequency Study newsletter was mailed to an extensive distribution list announcing the study's initiation. The study was initiated to develop flow frequencies for the study area described in the paragraph below. The purpose of this second newsletter is to provide an update on the study's progress.

Please note that the name of the study has changed. However, the study area has **NOT** changed. The study area still includes the main-stem Upper Mississippi, Lower Missouri, and Illinois Rivers. The Upper Mississippi is that portion of the river above the mouth of the Ohio River and includes the Illinois River. The Lower Missouri is that portion of the river below Gavins Point Dam. Flow frequencies will not be developed for the tributaries.

BACKGROUND INFORMATION

The U.S. Army Corps of Engineers, in partnership with State and Federal agencies, initiated the 4-year study to develop flow frequencies for the study area mentioned above. The study partners formed a Task Force which includes representatives from the U.S. Army Corps of Engineers; Bureau of Reclamation; Federal Emergency Management Agency; National Weather Service; Natural Resources Conservation Service; United States Geological Survey; and the States of Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, and Wisconsin.

A Technical Advisory Group, consisting of a panel of nationally renowned scientists knowledgeable in flow frequency analysis, has been contracted by the Corps of Engineers to review and discuss study issues and findings.

By the end of the study, the Corps and partnering State and Federal agencies will select and apply the appropriate flow frequency analysis method and analyze the effects of reductions in flood runoff attributable to flood control reservoirs. The Task Force also will consider potential effects of levee overtopping and/or breaches, determine and select the appropriate hydraulic model and relevant hydrologic and hydraulic data with which to develop water surface profiles for a range of flow frequencies, and develop these profiles.

COMMENTS FROM THE STUDY'S "PARTNERS"

As stated on the first page, six Federal agencies are members of the Task Force. Each agency brings its own expertise to the Task Force. Following are statements from two of the Task Force members on why the study is important to their agency.

- Dr. William H. Kirby, U.S. Geological Survey (USGS) Hydrologist:

The USGS appreciates the opportunity to be involved in the Upper Mississippi River System Flow Frequency Study. The USGS is participating by serving on the study's Task Force.

The study is important to the USGS because the USGS, in cooperation with State, local, and other Federal partners, conducts investigations of flood magnitude and frequency throughout the Mississippi River basin and the rest of the Nation. The results of these investigations are published for use by all parties, public and private, in mitigating and managing flood hazards and risks (see, for example, M.E. Jennings and others, 1994, Nationwide summary of USGS regional regression equations for estimating magnitude and frequency of floods for ungaged sites, 1993, USGS Water-Resources Investigations Report 94-4002, or World-Wide Web page http://water.usgs.gov/public/osw/programs/nffp.html).

To promote effective and efficient planning and management, it is important that the methods and results of flood studies be uniform and consistent among localities and agencies. Participation in this study gives the USGS the opportunity both to become aware of developments and adaptations of standard flood-frequency analysis methods that may be needed for large main-stem rivers and to help ensure consistency between methods used in this and other flood studies.

- Mr. Donald E. Woodward, National Hydraulic Engineer, Natural Resources Conservation Service (NRCS):

The NRCS is interested in the study because the outcome impacts the level of protection provided by the existing levees and determines the design requirements of future levees in agricultural areas. The results will determine procedures to use to develop frequency curves for other large gaged river basins. The results also add to the knowledge of development of frequency curves for gaged river basins. NRCS is providing peer review of the procedures being used and oversight to the conduct of the study.

NRCS, at this point in time, does not anticipate any changes in our policy or regulations as a result of this study.

STUDY PROGRESS TO DATE

The Task Force has collected data, estimated unregulated flows, and made a preliminary analysis of flood frequencies. One of the key questions is: which analytical flood frequency relationship is appropriate for the Upper Mississippi River System? The previous Interagency study limited their analysis to basins less than 3,000 square miles, and all of the main-stem gages are significantly larger than that. Also, about 30 years of additional stream flow data have been collected since that original study, and new statistical methods and more powerful computer resources are now available for this analysis. The target date for the methodology recommendation is April 1, 1999. With guidance from the Corps of Engineers' Hydrologic Engineering Center in Davis, California, the selected methodology will be applied to the unregulated flow values by the Corps districts. The target completion date for the hydrology study is September 1999.

TASK FORCE MEETS

The Task Force met on March 26, and November 18, 1998. Both meetings were held in St. Louis, Missouri, which is the location where the meetings will most likely continue to be held.

The Plan of Study was approved by the Corps of Engineers' Headquarters in Washington, D.C., at the March 26 meeting. All Task Force members concurred with the study plan.

At the November 18 meeting, Dr. David Goldman, a Senior Hydraulic Engineer at the Hydrologic Engineering Center, gave a status report on the Flow Frequency Study's hydrology methodology. A representative from each of the five participating Corps districts reported on progress made to date on work items pertaining to hydrology. Dr. Eugene Stakhiv, the Chief of the Policy and Special Studies Division at the Corps of Engineers' Institute of Water Resources, elaborated on risk and uncertainty procedures.

CITIZENS' PUBLIC INVOLVEMENT GROUP FORMED/MEETS

In the November 1997 newsletter, members of the public were invited to join a Citizens' Public Involvement (P.I.) Group to work with the Federal/State Study Team (Task Force) to develop ways to involve the public in the study process. Forty persons indicated an interest in joining the group.

The P.I. Group has held two meetings. P.I. Group meetings are held in the afternoon before the Task Force meetings. Results of the P.I. Group meetings are reported at the Task Force meetings.

The first meeting took place on March 25, 1998, with 14 members attending.

The second P.I. Group meeting was held on November 17, 1998, with 11 members attending. Members in attendance included:

- Coy Again, New Franklin, Missouri
- Joseph B. Gibbs, P.E. Columbia, Missouri
- Norman L. Haerr (Fabius River Drainage District), Taylor, Missouri
- Charles L. Kempf (Ameren/UE), Eldon, Missouri
- Mike Klingner (Klingner & Associates, P.C.; Upper Mississippi, Illinois, & Missouri Rivers Association), Quincy, Illinois
- Bill Lay, Fayette, Missouri
- David McMurray (Upper Mississippi, Illinois, & Missouri Rivers Association), Burlington, Iowa
- Nancy Philippi (Wetlands Initiative), Chicago, Illinois
- F. John Taylor, Virginia, Illinois
- M. J. (Jim) Whiting (Retired Farmer), Whiting, Iowa
- Clair Wilson (Hillview Levee & Drainage District), Winchester, Illinois

Many of the same issues were discussed at both meetings. The Citizens' Public Involvement Group represents the public and most members of the group live within the study area and will be directly affected by the decisions that will be made at the end of the study. The group stressed the importance of a close working relationship with the Task Force so the Task Force understands study issues from the group's perspective. The P.I. Group also expressed a concern that it be included and involved throughout the study process.

Mr. Arlen Feldman, a Hydraulic Engineer and Chief of the Research Division at the Corps of Engineers' Hydrologic Engineering Center, was present at the second P.I. Group meeting to explain study issues to the group and to answer technical questions. Mr. Feldman is also a member of the Task Force.

Many group members questioned how and if the results of the Flow Frequency Study would affect the Missouri River Master Manual. Two questions arose: Which of the eight Missouri River Master Plans will be used? Will the Master Plan be used in the study? "Several new operation plans are being considered in that study; the Flow Frequency Study will use the currently authorized plan," Mr. Feldman answered. He further stated that if the Missouri River operating plan does change significantly as to effect peak flows, the new operating plan can be examined using the methodology developed in this Flow Frequency Study.

The P.I. Group asked how reservoirs fit into the study. The study team will look at the natural flow of the rivers and at reservoir regulations and at how much the reservoirs reduce flooding, Mr. Feldman said. The first part of the study is concentrating on determining the unregulated frequency curve by analyzing the river system without reservoirs. After the basic analytical flood frequency relationships are determined for unregulated conditions, the reservoirs will be added to the system to determine the regulated flood frequency curves. Reservoirs have different functions; however, any significant reservoirs in the river system which have an impact on flooding will be included in the study. Non-Corps reservoirs will be included. Each of the five involved Corps of Engineers districts (Rock Island, St. Paul, St. Louis, Kansas City, and Omaha) will evaluate which reservoirs have significant impacts.

The group also discussed the effects of wetlands. Members were concerned about the impact wetlands have; e.g., will more concrete in an area change the amount of flow and cause larger runoffs? Currently, the Corps of Engineers' Institute for Water Resources is looking at uncertainty in respect to land use development; however, the Corps hydrologists do not think so.

When asked if there were studies on the effect of wetlands, Mr. Feldman replied that he hasn't seen any studies that are definitive for the whole Upper Mississippi River, Illinois River, and Lower Missouri River basin area. "Several studies conducted by the Hydrologic Engineering Center and others show that wetlands only have significant impacts on the magnitude of smaller (say, 4% (25-year) or smaller) floods," he said. "The Floodplain Management Assessment, dated June 1995, did examine the effect of wetlands on the 1993 flood event. Due to the large basin size and amount of rainfall in the 1993 event, wetlands would have impacted discharges only in localized areas."

Would you like to join the Citizens' Public Involvement Group?

If you would like to become a member of the Citizens P.I. Group, please contact the Group's chairman, Mr. Paul Soyke, Chief of the Economic and Social Analysis Branch at the Rock Island District, Corps of Engineers. You may contact Mr. Soyke by telephone 309/794-5231, Fax 309/794-5883, or email Paul.D.Soyke@usace.army.mil. If you prefer, you may write to him at the Rock Island District office, ATTN: CEMVR-PM-A (Soyke). See the Study Point of Contact section on page 6 for the address.

We are grateful to those who have agreed to become members of the group and who have taken their time to attend group meetings. To provide understanding and information about *all* aspects of the study area to the Task Force, a well-balanced group is necessary. **Environmental groups are welcome and encouraged to join the group.** A notice of the next P.I. Group meeting will be sent to group members. Meetings are held the day before the Task Force meetings. The next meeting is scheduled for April 1999 in St. Louis, Missouri.

Citizens' Public Involvement Group members comment

We've asked a few members of the Citizens' Public Involvement Group to state why belonging to the group is important to them. Following are their replies.

- Paul Soyke, Citizens' Public Involvement Group Chairman:

The Citizens' Public Involvement Group was organized to represent the interested publics and to provide information to the Federal/State Study Team (Task Force) on public issues and concerns related to this study. The group meets to receive information about the study and to provide information and public concerns to the Task Force. One of the major tasks of the Public Involvement Group is to assist the Corps of Engineers and the Task Force in developing the overall public involvement program for the study.

Most of the work being done during this study is highly technical. A Task Force member attends the P.I. Group meetings to hear what the issues are and to answer questions.

As the study progresses and it is time for public forums (tentatively scheduled for summer 2000), the group will be a valuable asset in helping the Corps explain the issues to the public and in designing the most appropriate format for the public forums. During the interim, the group is encouraged to discuss the issues and the study progress with their organizations, friends, and neighbors.

We have a very interested and dedicated group who spend considerable time and resources being involved with this study. By having a core group that represents a variety of interests and locations within the study area, we can learn of the issues and concerns and address them during the study. Citizens, in their own language, can then also explain those issues and the interim results to other members of the public. We believe that their service to the public at large will be valuable to the public's understanding of the results. The group's efforts are very much appreciated.

- Coy Again, New Franklin, Missouri:

My reason for joining the P.I. Group was to gather firsthand information that would be of value to the four levee districts in my area (Boone Femme Levee District No. 1 and Howard County Levee Districts Nos. 1, 2, and 3, which cover an area from below Glasgow, Missouri, to below Boonville, Missouri).

All I can see that will be accomplished will be updating the group on progress of the Flow Frequency Study. Everyone's main concern is how and when releases are made at Gavin's Point. That is the real concern of all the levee districts in my area.

- Charlie Kempf, Ameren/UE:

The main reason Ameren/UE wanted me to join the Citizens' P.I. Group was to see what changes might take place which would affect the reservoirs (especially Lake of the Ozarks) in the Osage River Basin, and also any changes that would be affecting flows on the Lower Missouri River.

The main thing I would like to see the Citizens' P.I. Group accomplish is to not only have their input heard, but also factored into the decisions which the Corps of Engineers will be making on the Missouri Master Manual and other river related issues. Thanks for allowing us to participate.

- Dave McMurray, Upper Mississippi, Illinois and Missouri Rivers Association (UMIMRA):

I am currently serving as Chairman of UMIMRA. The Association and its membership are extremely interested in supporting accurate science in understanding and management of river flows and ultimately flood protection systems.

The Citizens' P.I. Group must, as its name implies, be involved in the study and determination of flow rates and their frequency. As in most studies there are facts, there are assumptions made for unknown facts, and there are assumptions as to how the facts and assumptions interrelate to describe the study's ultimate conclusion. The group should be used to evaluate those assumptions made by the statisticians and other scientists. The results of the study may affect legal rights and social policy for many years. It is important that the results be accurate and be based upon reality and not only upon conservatively derived statistical assumptions. In the alternative it is important to know the difference between the facts and assumptions; understand what the impact of each may be upon affected areas, people, and communities; and to make sure that policy makers understand the difference by including each in the final report.

- F. John Taylor, Virginia, Illinois:

My reason for joining the Citizens' P.I. Group was the concern of representatives of the various drainage districts in the Illinois Valley Flood Control Association as to what impact the study might have on agricultural drainage districts. One important thing would be for all governmental agencies, both State and Federal, to use the same criteria. If we are going to make proper decisions we need accurate and current data which I would hope this study would provide.

STUDY POINT OF CONTACT

For further information or questions about the Flow Frequency Study, or if you have comments about the study, please contact Mr. George F. Gitter, AICP, Study Coordinator, Rock Island District, Corps of Engineers, by telephone (309) 794-5387, Fax (309) 794-5710, or email: George.F.Gitter@usace.army.mil. If you prefer, you may write to Mr. Gitter at the address listed below:

U.S. Army Engineer District, Rock Island
ATTN: CEMVR-PM-M (Gitter)
Clock Tower Building
P.O. Box 2004
Rock Island, Illinois 61204-2004

If you are aware of others who should be informed of this study and who may want to be added to our mailing list, please ask them to contact Mr. Gitter.

We welcome your input.