

# Interagency Levee Task Force

**RAISING THE STANDARD**

October/November 2008

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### Interagency Levee Work Group Team Leads

#### Iowa

**Jerry A. Skalak** (309) 912-5153  
[jerry.a.skalak@usace.army.mil](mailto:jerry.a.skalak@usace.army.mil)

#### Illinois

**Hank DeHaan** (309) 794-5853  
[henry.c.dehaan@usace.army.mil](mailto:henry.c.dehaan@usace.army.mil)

#### Indiana

**Roger Setters** (502) 315-6891  
[roger.d.setters@usace.army.mil](mailto:roger.d.setters@usace.army.mil)

#### Wisconsin

**Dick Otto** (507) 895-6341  
[richard.j.otto@usace.army.mil](mailto:richard.j.otto@usace.army.mil)

#### Missouri

**Matthew Hunn** (314) 346-9563  
[matthew.j.hunn@usace.army.mil](mailto:matthew.j.hunn@usace.army.mil)

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Submit articles to:

Karen Buehler at [karen.buehler@usace.army.mil](mailto:karen.buehler@usace.army.mil)  
 Candy Walters at [candice.s.walters@usace.army.mil](mailto:candice.s.walters@usace.army.mil)

## Interagency Levee Task Force Forging Forward



**Ken Tingman, FEMA Deputy Federal Coordinating Official, Illinois Joint Field Office, addresses the Interagency Levee Task Force partners at the Oct. 23 meeting in Springfield, Ill. (photo by Pam Vedros)**

Members of the Interagency Levee Task Force continue to move forward in forging a regional partnership when it comes to addressing the aftermath of the June 2008 Midwest Floods.

Meeting Oct. 23 in Springfield, Ill., the task force discussed the current operation activities of the five work groups in Missouri, Illinois, Indiana, Iowa and Wisconsin, shared some of the challenges relative to flood risk management and heard briefings on several different initiatives and opportunities for the task force.

“One of the things we’re constantly doing is communicating risk” Brig. Gen. Michael C. Walsh, commander of the U.S. Army Corps of Engineers Mississippi Valley Division and chairman of the Interagency Levee Task Force, said. “A lot of folks live behind levees and think that everything is OK, that they don’t have risk that they need to mitigate.

“Not everything can be done by the federal government; not everything can be done by the state government; not everything can be done by the local government, but by a combination of all of our governments perhaps all of us can communicate risk to people,” he said. “There’s going to be risk and we need to help communicate that to the people who live behind those levees.”

Brigadier General Walsh encouraged the group to use the meeting as both a listening and learning session, building upon a similar sentiment expressed by Gary Clark, director of the Illinois Department of Natural Resources. Clark told the group that he hopes there will be an opportunity “to go over lessons learned and what we learned from this major event in many different basins and how we may respond more appropriately and effectively in the future.”

As part of the meeting, Barbara Naramore of the Upper Mississippi river Basin Association presented her group’s 2008 Flood Statement, Ken Hinterlong and Norb Schwartz explained the Federal Emergency Management Agency’s Map Modernization and Buy-Out Program, Ken Murray of the National Resources Conservation Service discussed Flood Plain Easement Sign-Ups and the Wetlands Recovery Program, and Josh Weger of the Illinois Department of Commerce talked about potential partnership opportunities for the task force with the Illinois Long Term Recovery Council.

The task force’s next meeting is set for Nov. 25 in Jefferson City, Mo. It begins at 9 a.m. at the Missouri State Emergency Management Agency Emergency Operations Center, 2302 Militia Drive, Jefferson City. Presentations include a panel discussion on the Corps’ Silver Jackets Program, the Upper Mississippi River-Missouri River Association, and initiatives by the Missouri State Emergency Management Agency to address a long-range flood recovery plan among others.

# Illinois Long Term Recovery Council Presents Partnership Opportunities

*(Editor's Note: This is the presentation Josh Weger of the State of Illinois, representing the Illinois Long Term Recovery Council, made to the Interagency Levee Task Force at its Oct. 23 meeting.)*

Parts of Illinois experienced severe storms and major flooding in June, resulting in 25 counties receiving federal disaster declarations. Most of the affected counties were along the Mississippi River in Western Illinois, the Wabash River in Southeastern Illinois, plus Lake and Winnebago in the north.

When the flood waters receded, the rebuilding and recovery began, with a lot of work to be done.

At the end of August, Gov. (Rod) Blagojevich announced the formation of a Long Term Recovery Council (LTRC) to explore issues related to long term community recovery and mitigation of future flood events in these regions.

The governor named four regional co-chairs for the LTRC, all well-known and highly respected public servants: Rock Island County Board Chairman Jim Bohnsack (Northwest); Quincy Mayor John Spring (West Central); Madison County Board Chairman Alan Dunstan (Southwest); and IECC CEO/former congressman Terry Bruce (Southeast).

The Governor's Office was contacted by the federal Economic Development Administration (EDA) and invited to apply for a federal grant from the flood disaster relief appropriation passed by congress to help fund the LTRC initiative and develop a robust long-term flood recovery strategy.

At the end of last month we received notice that we would be awarded an EDA grant for this purpose.

After exploring our options of how best to use the grant funds, we have decided to contract with our flagship university, the University of Illinois, to carry out the LTRC's work.

The end product of the LTRC initiative will be a Final Report to the Governor that lays out an overall strategy for long term recovery, as well as recommendations to the Governor to address: 1) the remaining needs left unmet by existing disaster assistance programs; 2) projects/funding needed to promote full economic recovery to make communities economically stronger than they were before the flood; and 3) legislative and policy changes to mitigate the impact of future disasters.

The recommendations contained in the Final Report may involve statutory, regulatory, policy or funding changes and may apply to local, state or federal laws and programs.

Since the LTRC is an EDA-funded initiative, EDA expects a strong emphasis on *community economic recovery*. As the state commerce department, we find this approach very appropriate.

The plan is for the university to hold a series of Regional Focus Group meetings to facilitate conversations with local leaders about: needs unmet by FEMA programs, project funding needs, recovery best practices, and long term planning to mitigate the damage of future floods. This could be a partnership opportunity for the Interagency Levee Task Force members.

Attendees at the focus groups will include:

- County board chairmen
- County Emergency Management Agency directors
- County economic development directors
- Local nongovernmental organization relief agencies
- County farm bureau managers

- Local levee commissioners

Next the university will convene Subject Specific Follow-Up meetings with state and federal officials to take a closer look at the issues raised by local leaders during the focus groups, another possible partnership opportunity for ILTF members.

Once we've completed the focus group meetings with local leaders and subject specific meetings with state and federal personal, the university will then draft the Final Report to the Governor. Again, a partnership opportunity for ILTF members.

For this process to work and have a good outcome, it has to be an interagency partnership -- like the ILTF.

The university will need assistance and support from other state and federal agencies -- i.e. 1) attend focus groups and subject matter meetings to give presentations and distribute materials; 2) share data, reports and studies with the university, 3) answer phone calls and emails, discuss issues, etc -- all with the purpose of working together as partners to ensure the university has the tools and info it needs to develop a well-researched and authoritative Final Report that integrates the perspectives and interests of both local leaders and our key state and federal agency partners -- like those represented on the ILTF.

We will start holding Regional Focus Groups next month. Those will be followed by some Subject Specific Meetings with state and federal personnel. Data collection and analysis will be ongoing throughout the process. We plan to have a report to the Governor by late February or March.

We look forward to working with ILTF members and others to make this initiative a success, and we hope you look forward to

## Flood Response and Recovery in the Wake of the 2008 Flooding: An Update to UMRBA's 1993 Flood Statement

*(Editor's note: Barbara Naramore, of the Upper Mississippi River Basin Association, presented the organization's 2008 Flood Statement as part of the Oct. 23 meeting of the Interagency Levee Task Force.)*

The spring and summer of 2008 have once again been marked by significant flooding on the Upper Mississippi River and many of its tributaries, with flood stages exceeding record levels in many areas.

Damages to homes, businesses, crops, and public infrastructure are extensive, as is the toll in terms of human suffering and disruption to communities.

The economic damages are still being assessed, but are well into the billions. Immediate relief efforts are underway, and have been providing significant assistance.

However, flooding of this magnitude and geographic extent raises broader challenges as well. As the organization formed to represent the Governors of Illinois, Iowa, Minnesota, Missouri, and Wisconsin on a wide range of Upper Mississippi River issues, the Upper Mississippi River Basin Association (UMRBA) spoke to many of these same challenges in the wake of the 1993 flood.

This current statement is intended as an update to that 1993 document, informed by the insights gained in the interim.

### Key Principles

Following the 1993 flood, UMRBA identified a series of key principles to guide that flood response and recovery effort. They included the following:

**1. Offer genuine, comprehensive options for flood recovery and risk reduction** – provide communities and landowners with the planning assistance and time needed to explore available options; ensure sufficient flexibility that supports innovative and

locally appropriate flood control and floodplain management measures; and modify programs to increase the potential for environmental resource enhancement in conjunction with flood recovery and risk reduction.

**2. Repair damaged levees** -- repair and restore damaged levees to their pre-flood condition, where that is the local desire.

**3. Enforce building restrictions** -- enforce requirements for communities participating in the National Flood Insurance Program, including the requirement that substantially damaged structures be elevated above the 100-year flood as part of repair or reconstruction.

**4. Limit future damages behind agricultural levees** -- limit future damages to habitable structures behind levees that do not provide 100-year protection by encouraging public purchase of flood prone structures, demolition of structures, and conversion of sites to flood-compatible uses.

**5. Avoid floodway encroachments** -- enforce regulations that prohibit construction of new floodway encroachments that raise flood stages.

**6. Pursue opportunities to modify levees** -- devise and implement levee modification projects where economically and environmentally feasible and where property rights issues have been satisfactorily resolved.

UMRBA believes these fundamental principles are equally valid in 2008 and should guide the response and recovery efforts following this year's flooding.

### Lessons Learned

In addition to the key principles described above, there are important lessons to be learned from the 2008 flood. Some of these lessons reinforce the fundamental principles articulated following the 1993 flooding, while others point to additional needs and insights.

These lessons include the following:

**1. Flood risk reduction efforts pay off** -- following the 1993 flood, all levels of government, as well as businesses and individual landowners, made significant investments in reducing vulnerability to future floods. Examples of these investments included the relocation of entire communities, conversion of uses behind agricultural levees, relocation of key public infrastructure such as drinking water supplies, and modification of countless individual structures.

The 2008 flood brought similar, and even higher, river stages to many areas that were devastated in 1993. The payoff on flood risk reduction investments was significant in terms of damages avoided this year.

**2. There are many more opportunities for flood damage reduction** -- despite the kinds of payoffs noted above, this year's flooding also provided many examples of the human and financial costs associated with repetitive loss structures, which again accounted for a significant share of damages. Continued investment in flood damage reduction and enforcement of building restrictions are critical to making progress with these repetitive loss structures.

**3. A strong river gauging system is essential** -- limited river gauging information constrained the National Weather Service and others in developing timely and accurate river stage forecasts during this year's flooding. This experience underscores the need to reverse the trend of recent years, during which federal support for the USGS-operated system of river gauges has eroded and non-federal partners have not been able to fill the gaps completely. Adequate and reliable federal funding is essential to maintaining the robust regional gauging system needed to help ensure public safety on the Upper Mississippi River and its tributaries.

*(see UMRBA, next page)*

**4. Tools should be integrated to maximize effectiveness** -- there are many potential tools available to help communities and landowners in their flood recovery and flood risk reduction efforts.

In addition to the well-known national programs of FEMA and the Corps of Engineers, these include i) the NRCS's Emergency Watershed Protection program for purchasing floodplain easements; ii) emergency supplemental funding that may be made available to resource agencies for land and easement acquisitions that provide

both ecosystem and flood damage reduction benefits; and iii) the Corps of Engineers' recently enacted Navigation and Ecosystem Sustainability Program, which includes authority for 35,000 acres of floodplain restoration on the Upper Mississippi River System. Coordination and integration are essential to maximizing the efficacy of these tools. Toward this end, UMRBA appreciates the Corps of Engineers' leadership in establishing a regional Interagency Levee Task Force and parallel interagency working groups for each of the affected states.

**5. There are important unanswered questions** -- as UMRBA noted in 1993, every record-breaking flood event presents a need to review the accuracy of the stage-discharge, discharge frequency, and stage-frequency relations that underpin flood control planning, floodplain regulation, and flood insurance ratings. Considerable work was done in these areas following 1993. However, this work should be assessed against our experience in 2008, with particular attention to whether changes in land use patterns and, potentially, climate are fundamentally altering any of these relationships.

## U.S. Geological Survey - Rainfall-River Forecast Summit

Members of the Interagency Levee Task Force had the chance to learn more about the recent Rainfall-River Forecast Summit, thanks to a presentation by Gary Johnson at the task force's Oct. 23 meeting in Springfield, Ill.

Johnson, chief of the Hydrologic Data Section of the U.S. Geological Survey, Illinois Water Science Center, summarized the summit, which was conducted Oct. 7 through 9 in St. Louis.

The summit, convened by Brig. Gen. Michael Walsh, commander of the U.S. Army Corps of Engineers Mississippi Valley Division, brought together the federal agencies involved in river forecasts (the Corps, The National Weather Service, and the USGS).

Brigadier General Walsh told those at the summit that his vision was to look at the entire forecast process -- starting at data collection, to the actual modeling, to the forecast issuance, all the way to interaction with the public.

The Summit was designed along three themes: to discuss what went well, what did not go well, and what can be done to improve forecasts during the next major flood.

A public meeting, conducted on the summit's second day, allowed members of the public to offer their thanks, present their needs, and to discuss their concerns about rainfall and river forecasts.

What went well? --- Generally, coordination and data exchange went well. New products and instrumentation and sharing of personnel and resources are examples of other successes.

What did not go well? --- Significantly more rainfall fell than was predicted/expected, resulting in record stages that were not forecasted with sufficient lead time.

Coordination and data exchange in some cases could have been better. Some discrepancies of reported data created forecasting challenges and raised doubts of forecast reliability. Loss of gage data occurred at crucial times.

As a result of all these factors, some river forecasts were not correct., resulting in not meeting public expectations and needs in some cases.

What can be done to improve for next flood? --- Better coordination, communication, and collaboration all are needed. More and better discharge measurements are needed, but this likely will not happen to a

significant degree without more resources. Rating curve extensions need to be addressed. Education is needed about how to retrieve available data.

To address these items, Brigadier General Walsh organized a smaller, multi-agency subgroup called a "Fusion cell" and admonished them to "*Get crackin'!!!*"

The group has followed up since then and already has prepared a Mission Statement prepared, and is planning future meetings.

Discussion among ILTF members followed the presentation. A question was asked regarding the loss of crucial gages and the relative unstable funding of gages. Johnson discussed the funding process for gages, which led to a discussion about the National Streamflow Information Program ("NSIP", more information is available at <http://water.usgs.gov/nsip/>). Presentation of data in an easier format also was discussed, which led to a lengthy discussion about inundation mapping. Johnson discussed USGS efforts toward inundation mapping in Illinois, Indiana, Ohio and North Carolina..

## FEMA Offers Grant Programs for Buyouts

During the Oct. 23 Interagency Levee Task Force meeting, Norbert Schwartz, mitigation division director for the Federal Emergency Management Agency (FEMA) Region V, presented information on FEMA grant programs.

FEMA does not have a **Buyout** program per se, Schwartz told the group, but it does have a handful of grant programs that address the need, such as the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance (FMA), the Pre-Disaster Assistance (PDM) program, the Severe Repetitive Loss (SRL) program, and the Repetitive Loss Program (RLP).

FEMA first got into buyouts in the late 1980's with a program called 1362 working through a contractor.

But since 1993 and the Great Midwest Floods, we got into it on a much larger scale, Schwartz said.

Most assistance requests were addressed with the HMGP program.

- HMGP is for all things mitigation.
- Through the program, 15 percent of disaster funds are set aside for mitigation projects.
- Basic requirements for assistance:
  - reduce future impacts
  - Be cost beneficial
  - Long lasting, not temporary fix
  - Not infringe on another federal program, such as levees or dams
  - For buyouts, deeded as open space in perpetuity
  - Assistance is provided working through the state.
  - A Local Mitigation plan must be in place

"We have come a long way in promoting local mitigation planning," Schwartz said.

It is important that interested federal agencies get on board with this activity.

The key components include:

- Risk Identification and hazard analysis;
- Involvement of local, state, and federal shareholders;
- Implementation plan; and
- Ensuring that the implementation plan is kept current and updated every five years.

As far as the current level of activity for acquisitions or buyouts:

- Expect around a one-year turn around from declaration to actual offer.
- Initial requests often exceed actual purchases due to waning interests.
- The state is the selecting party; FEMA approves the grant money.
- It is a gratifying program in that it provides a permanent solution for all practical purposes.

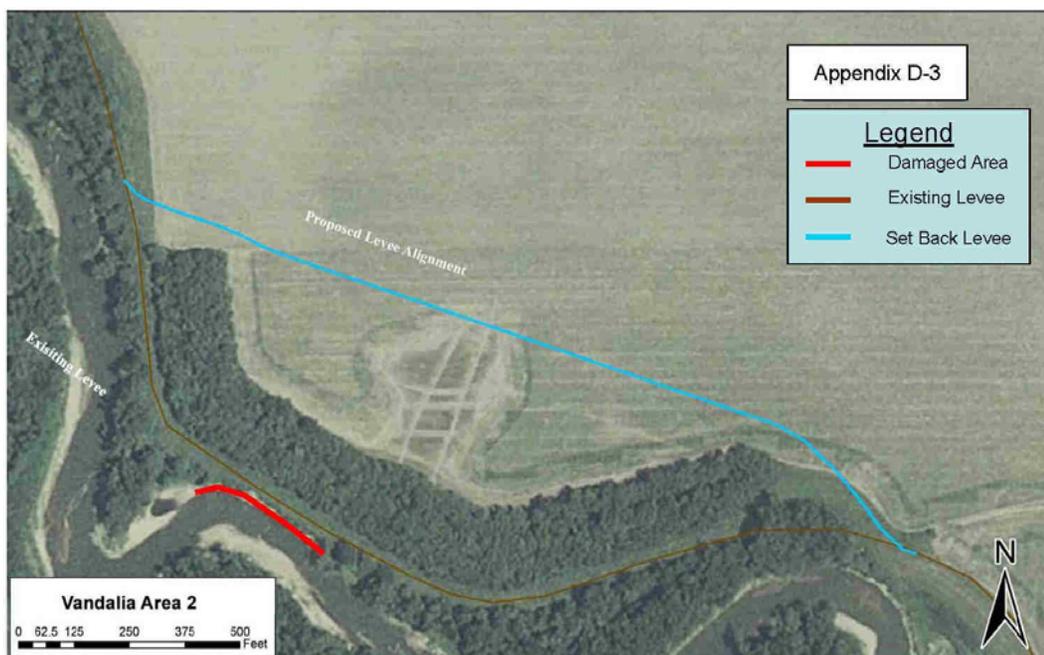
Currently there is a \$150 million shortfall in available HMGP dollars versus buyout applications.

## Potential Non-Structural Alternative in Illinois: Levee Setback in the Vandalia Drainage & Levee District

The Illinois Interagency Levee Work Group (ILWG) has been focusing their efforts on several non-structural alternatives (NSAs) that will reduce future flood risks to the state. A potential NSA currently being examined by the group is a levee setback in the Vandalia Drainage & Levee District.

The Vandalia Drainage & Levee District is located in Fayette County in south-central Illinois along the Kaskaskia River (see map last page). The levee system was designed to protect 12,000 acres of highly productive agricultural lands. The 16.5 miles of clay levee that make up the district protects the internal area from up to a five-year flood event.

The Vandalia levee system was damaged by a large flood event that occurred in the spring of 2008. Two areas along the levee experienced severe erosion with the toe of the levee being scoured away. This is an ongoing issue with the levee system due the fact that it closely follows the meandering channel of the Kaskaskia River.



The recommended alternative now being moved forward with sponsor support are levee setbacks that would allow repair of the levee and gain needed standoff between the levee and the river to better protect it from future damages.

(see Vandalia, page 8)

# Iowa Interagency Levee Work Group Establishes “Fusion Cell” to Explore Non-structural Options for Louisa County #11 Levee

The Iowa Interagency Levee Work Group is hard at work exploring all options, including possible non-structural ones, for the Louisa County #11 Levee in Louisa County, Iowa. The non-federal levee along the left descending bank of the Iowa River was constructed in the early 1900’s. It is approximately eight miles long and was originally designed to provide flood protection to approximately 3,200 acres of agricultural land. Interior drainage is accomplished by gravity (i.e. there are no pumps). The levee has been in the Corps Public Law 84-99 program for more than 70 years.

## The Flood of 2008

Prior to the June 2008 flood, this levee was providing approximately a 1 percent (100-year) level of protection to 820 acres of agricultural land and 2,388 acres of wetlands; 12 residences, and several county roads.

As a result of the flood, more than 2,800 linear feet of levee were lost due to seven breaches, two at the upper end and five at the lower end. There were extensive damages to county highways, detour costs were incurred, most structures were partially or completely destroyed and remaining crop lands were impacted.

Current cost estimate to repair all seven breaches is estimated to be \$1.87 million. The current benefit-to-cost ratio based on this repair cost estimate is 1.05. Independent Technical Review and formal ILWG review of the Corps’ levee repair decision document is expected to be accomplished yet this month.

## Alternatives

The ILWG established a Fusion Cell to look at the levee and the area impacted by the flood waters. The Fusion Cell identified several potential options that represent both purely nonstructural as well as combined structural and nonstructural alternatives.

These include:

- the no action alternative (no levee repairs, no road improvements);
- repairing all seven levee breaches;
- repairing upper two levee breaches only;
- repairing upper two levee breaches only and elevating interior roads.

The pros and cons of these alternatives have been captured in a preliminary report developed by the Fusion Cell members. Further development and evaluation of these considerations by the overall work group is under way.

## Recent Events

To date there have been several meetings between the Corps, State and Federal agency representatives, county officials, levee district members, and other local interests to discuss the future of this levee. Two major concerns

exist: future protection of county roads; and funding for future levee repair costs.

Due to the current hydraulic dredging bidding environment and seasonality of hydraulic dredging, a decision has been made to not pursue a repair contract, regardless of structural/nonstructural decision, until next year.

## Next Steps

The Corps, along with the ILWG and the various local interests, will continue to evaluate the alternatives. Best available data and information will be assembled and analyzed, additional map products will be produced to communicate impacts and visualize pros and cons, and existing agency authorities and programs, applicable to both short and long term decisions, will be confirmed.



View of typical NRCS wetland easement area within Louisa County #11 Levee District.

# Calendar of Events

## November 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10 MO ILWG	11 IN ILWG IL ILWG	12	13 IA ILWG	14	15
16	17 MO ILWG	18 UMRBA IN ILWG IL ILWG	19	20 IA ILWG	21	22
23	24 MO ILWG	25 ILTF Mtg	26	27	28	29
30						

### *Upcoming Events and Points of Contact*

**Nov. 25, 9 a.m. - 3 p.m.** —Interagency Levee Task Force meeting, Missouri State Emergency Management Agency, 2302 Militia Drive, Jefferson City, MO

**Nov. 11 & 18 at 1 p.m.**—Interagency Levee Work Group meeting  
JFO, Springfield, IL, Point of Contact: Hank DeHaan, 309-912-4532

**Nov. 13 & 20 at 1 p.m.**—Interagency Levee Work Group meeting  
JFO, Urbandale, IA , Point of Contact: Jerry A. Skalak, 309-912-5153

**Nov. 10, 17 & 24 at 1 p.m.**—Interagency Levee Work Group meeting  
JFO, Jefferson City, MO, Point of Contact: Matthew Hunn, 314-346-9563

**Nov. 11 & 18 at 1 p.m.**—Interagency Levee Work Group meeting  
JFO, Indianapolis, IN, Point of Contact: Roger Setters, 502-315-6891

**Nov. 18 at 12:30 p.m.** — UMRBA Meeting, Radisson Quad City Plaza Hotel, Davenport, IA, Point of Contact: Barbara Naramore, 651-224-2880

## (Vandalia)

The U.S. Army Corps of Engineers is currently working with the Vandalia Drainage and Levee District to develop plans for repair of these damages. The ILWG has been involved with this process through reviewing and offering input on the potential repair alternatives.

This setback levees will be constructed with material from the old levee and would allow for a portion of the floodplain (75-100 acres) to be reconnected with the river.

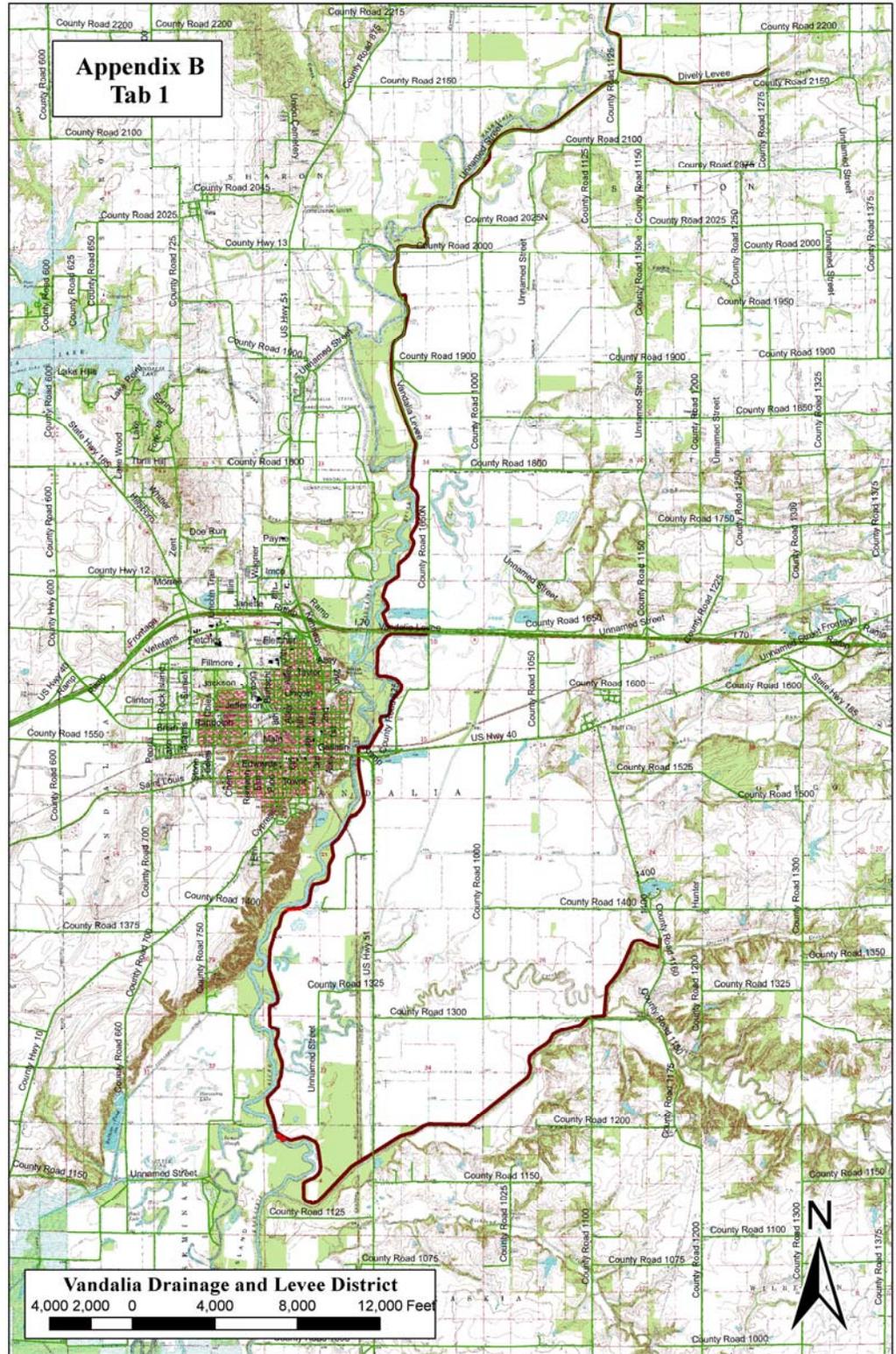
The setback levee NSA offers several benefits including:

- reduced likelihood of damage to the levee in the future,
- increased flood retention in the floodplain which results in lowering the flood levels and risks in other areas,
- environmental restoration of floodplain forest and wetland habitat, and
- the setback allows the levee district to continue farming a large portion of the protected area.

Most of the costs (80 percent) for this project will be covered by the Corps' PL 84-99 program. Entry of the reconnected floodplain lands into the Natural Resources Conservation Service (NRCS) Wetland Reserve Program is also being explored to help offset costs to the sponsor associated with the levee repair and taking land out of agricultural production.

In the future, the ILWG would be interested in seeing the levee setback area significantly enlarged to include multiple areas along the levee that are currently at risk of erosion. The larger reconnected floodplain would have a more significant effect on reducing flood risk and also result in reduced repair cost over time because of the fewer instances of mobilizing and demobilizing repair crews.

Future coordination with the NRCS also needs to occur to help identify setback areas as priority for entry into the Wetland Reserve Program or Floodplain Easement Program. Multiple benefits would be realized through doing this including helping offset the cost of land use change within the district, reducing flood risk to the area, and restoring the environment.



The Vandalia Drainage & Levee District is located in Fayette County in south-central Illinois along the Kaskaskia River.