



US Army Corps
of Engineers®
Rock Island District

Periodic Basin Management Report 2014



Eastern Iowa Basins Iowa and Minnesota

PERIODIC BASIN MANAGEMENT REPORT 2014

EASTERN IOWA BASINS IOWA AND MINNESOTA

EXECUTIVE SUMMARY

The Rock Island District's mission is to provide water resource-related services to stakeholders and communities that include the Eastern Iowa Basins of the Iowa, Cedar, Skunk and Wapsipinicon River Basins. These services help manage flood and ecosystem problems in local communities. It is our goal to meet communities' needs by using a proactive approach to bring solutions to their water resource problems by informing and matching relevant U.S. Army Corps of Engineers' programs.

By focusing at the watershed level, related problems may become more visible and opportunities for solutions may become integrated, better balancing social needs while reducing economic impacts. Using an Integrated Water Resource Management approach allows generating a watershed management plan that identifies issues, concerns, projects and priority areas throughout the basins. This type of plan would align with interagency missions, provide support for interagency watershed-informed budgeting, could develop a system-wide conceptual model for communication between various parties, develop system-wide hydrologic/water quality models, and develop a system-wide ecosystem services model that could capture environmental scenario analysis and economic analysis tradeoffs.

2014 BASIN STATUS

Eastern Iowa Basins Fiscal Year 2014 Allocations - Rock Island District

| | |
|---|--------------------|
| General Investigations | |
| Upper Mississippi River Comprehensive Study | \$50,000 |
| Cedar Rapids (Preconstruction Engineering and Design) | \$0.0 |
| Jefferson County (Planning Assistance to States) | \$12,000 |
| Sac & Fox Tribe Master Planning | \$0.0 |
| Construction | |
| | \$0.0 |
| Continuing Authorities Program - Traditional | |
| Cedar River, 290th St Bridge | \$0.0 |
| Continuing Authorities Program - Environmental | |
| Iowa River & Clear Creek | \$5,000 |
| Blackhawk Bottoms | \$1,277,000 |
| Operations & Maintenance | |
| Coralville Reservoir | \$4,400,000 |
| TOTAL ALLOCATION | \$5,744,000 |

**PERIODIC BASIN MANAGEMENT REPORT
2014**

**EASTERN IOWA BASINS
IOWA AND MINNESOTA**

EXECUTIVE SUMMARY ES-I

SECTION I. PURPOSE OF THE PERIODIC BASIN MANAGEMENT REPORT..... I-1

SECTION II. BUSINESS LINE ASSESSMENT II-1

A. Flood Risk Management II-1
B. Regulatory..... II-1
C. Environmental Protection and Restoration II-2
D. Emergency Management II-2
E. Recreation II-2

SECTION III. HISTORICAL OVERVIEW..... III-1

A. Existing Corps of Engineers Projects III-1
B. Corps of Engineers Constructed Projects..... III-1
C. Other Water Resources Projects III-2
D. Recent Emergency Actions..... III-2
E. Ongoing Corps of Engineers Studies III-2
F. Previous Corps of Engineers Planning Studies..... III-3
G. Other Studies in the Basins III-3
H. Studies by Other Stakeholders III-7
I. Some Recent Study Efforts..... III-7
J. Study Efforts Currently Underway III-8

SECTION IV. INTRODUCTION TO BASINS..... IV-1

A. Iowa, Cedar, Skunk, and Wapsipinicon River Basin IV-1
B. Coralville Reservoir IV-2
C. Existing Conditions in the Watershed IV-3

**SECTION V. RELEVANT INFORMATION ON RECENT (PAST DECADE) AND..... V-1
CURRENT PROJECTS BY BUSINESS LINE**

A. Flood Risk Management V-1
B. Regulatory Function – Corps V-4
C. Ecosystem Restoration..... V-5
D. Emergency Response and Flood Recovery..... V-7
E. Recreation V-7
F. Planning Assistance to States and Tribes..... V-9

SECTION V FACT SHEETS

SECTION VI. STAKEHOLDER ROLES IN THE WATERSHED VI-1

- A. City Planning and Development Department VI-1
- B. County Planning and Zoning VI-1
- C. County Conservation Departments VI-2
- D. Conservation Districts of Iowa VI-2
- E. Iowa Department of Natural Resources VI-3
- F. Iowa Department of Transportation..... VI-3
- G. Iowa Homeland Security & Emergency Mgmt Division - County Emergency Planning VI-4
- H. Iowa Department of Agriculture and Land Stewardship VI-5
- I. Federal Emergency Management Agency VI-5
- J. U. S. Environmental Protection Agency VI-6
- K. Natural Resources Conservation Service..... VI-6
- L. Resource Conservation and Development VI-7
- M. Farm Service Agency..... VI-8
- N. United States Department of Agriculture..... VI-8
- O. United States Geological Survey VI-9
- P. Iowa National Guard VI-9
- Q. Water Resources Coordinating Council..... VI-10
- R. Watershed Planning Advisory Council..... VI-10

Table III-1 History of FRM Studies and Projects..... III-5

Photograph IV-1 Coralville Reservoir IV-2

Figure IV-1 Waterflow Diagram..... IV-5

Figure IV-2 Eastern Iowa Basins Aquifer Map..... IV-6

Figure IV-3 Approximate Location of Virgin Forests in 1620, 1850, and 1920..... IV-9

APPENDICES

- Appendix A Resource Guide
- Appendix B Basin Map
- Appendix C Program Overview Fact Sheets

SECTION I. PURPOSE OF THE PERIODIC BASIN MANAGEMENT REPORT

The intent of this document is to provide a comprehensive reference for all U.S. Army Corps of Engineers' (Corps) programs and projects in the eastern Iowa basins. The Corps has numerous mission responsibilities within the basins. This document seeks to synthesize these activities regardless of District or Division boundaries or Program restrictions.

The Rock Island District (District) is responding to the region's water resource challenges through integrated water resources management with a watershed (river basin) focus. The benefit of the District's watershed approach is that it requires us to think about water resources development and management in the context of a larger system, rather than a single project, function or business program and thus facilitates the search for comprehensive and integrated solutions to achieve objectives set by all concerned parties. By taking into account a multitude of water uses over a wide area as opposed to concentrating on a single use at one location, it becomes possible to integrate a complex array of public values, institutional policies and priorities, regulatory procedures, planning criteria, public participation, and private sector business interests. The District has had a historical presence in these basins and is committed to providing future products and services to meet the needs of the region and the Nation.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION II. BUSINESS LINE ASSESSMENT

A. FLOOD RISK MANAGEMENT

The Corps' flood risk management (FRM) system is comprised of three major components—urban levees or floodwalls, agricultural levees and reservoirs. When performance of a FRM system is evaluated, all components must be considered and evaluated as a whole system and not as separate features. As a Federal leader in FRM, it is the District's vision to provide and sustain a comprehensive FRM system within the river basins that reliably minimizes risk to lives and property damage.

Urban levees are built high to protect cities and towns against floods of great magnitude. Agricultural levees are smaller levees that provide relatively lower levels of protection to thousands of acres of cropland against more frequent, less severe floods. Reservoirs provide flood storage capacity to minimize downstream flooding and support other Corps' missions, such as water supply, hydropower, environmental stewardship and recreation.

Cost-shared Federal levees are built by the Corps and then turned over to the customer/sponsor (state, city, county, levee district) for operation and maintenance. Non-Federal levees are built by public entities or are publicly sponsored without Federal assistance or funding. Private levees, built by private concerns, are typically built to a lower level of protection than Corps standards, although some private levees may meet or exceed Corps standards. To qualify for Federal assistance following a flood event, levee systems must be active in the Corps' Public Law 84-99 (PL 84-99) program. To become active in the program, non-Federal levees must be built to Corps standards and pass an eligibility inspection. Both federally-constructed and privately-constructed levees must pass annual inspections to remain active in the PL 84-99 program.

The system in this region cannot prevent all damages caused by all floods because it is not designed to do so. The Corps is working with Federal, state, and local officials as well as levee districts and sponsors to study, design and construct solutions for these issues. In addition to building projects, the Corps of Engineers, through its Flood Plain Management Services, advises communities, industries, and property owners on protection measures they can take themselves, such as zoning regulations, warning systems and flood proofing. The Corps was first called upon to address flood problems in the early 1900s. The Flood Control Act (FCA) of 1936 gave the Corps the mission to provide flood protection to the entire country.

B. REGULATORY

The mission of the Corps' Regulatory Program is to protect the Nation's aquatic resources, while allowing reasonable development through fair, flexible and balanced permit decisions. The Corps evaluates permit applications for essentially all construction activities that occur in the Nation's waters, including wetlands. Corps permits are also necessary for any work, including construction and dredging, in the Nation's navigable waters. The Corps balances the reasonably foreseeable benefits and detriments of proposed projects, and makes permit decisions that recognize the essential values of the Nation's aquatic ecosystems to the public, as well as the property rights of private citizens who want to use their land. During the permit process, the Corps considers the views of other Federal, state and local agencies, interest groups, and the public. The results of this careful public interest review are fair and equitable decisions that allow reasonable use of private property, infrastructure development, and growth of the economy, while offsetting the authorized impacts to the waters of the

*Eastern Iowa Basins
Iowa and Minnesota*

United States. The adverse impacts to the aquatic environment are offset by mitigation requirements, which may include restoring, enhancing, creating and preserving aquatic functions and values. The Corps strives to make its permit decisions in a timely manner that minimizes impacts to the regulated public. The District's Regulatory Program ensures that any environmental impact on aquatic resources from construction projects is avoided, minimized or mitigated. The District reviews approximately 1,800 permit requests a year for construction of structures and facilities, and the discharge of dredged material in wetlands and navigable waterways.

C. ENVIRONMENTAL PROTECTION AND RESTORATION

The District's environmental efforts include multiple ecosystem restoration projects, forest management programs, and watershed studies. The District works with local sponsors to aid with ecosystem restoration throughout its five major river basins: Eastern Iowa, Des Moines River, Mississippi River, Illinois River and the Rock River. As an example, under the Upper Mississippi River Restoration - Environmental Management Program, the District plans, designs and builds environmental enhancement projects to restore and create spawning and feeding habitats for fish and wildlife in the backwaters and side channels of the Mississippi and Illinois Rivers. The District's Natural Resources Management mission also manages and conserves natural resources, consistent with ecosystem management principles, while providing quality public outdoor recreation experiences.

D. EMERGENCY MANAGEMENT

Under the National Response Plan, the Federal emergency response to natural disasters is divided among different Emergency Support Functions. The Corps has the lead for Emergency Support Function #3, which is Public Works and Engineering. Though the Corps has capabilities to support the Department of Homeland Security's Federal Emergency Management Agency (FEMA) or other Federal agencies in a large number of ways, typical activities and mission assignments include:

- Debris Clearance and Removal
- Drinking Water
- Emergency Power
- Ice Distribution
- Structural Safety Assessments
- Technical Assistance
- Temporary Housing
- Temporary Roofing
- Unwatering
- Urban Search and Rescue

E. RECREATION

As an added benefit to FRM and navigation missions, the District is able to provide a variety of public recreational opportunities at its Coralville reservoir. (See Section V.7.B.)

SECTION III. HISTORICAL OVERVIEW

A. EXISTING CORPS OF ENGINEERS PROJECTS

The District operates and maintains one existing project in the basins, Coralville Reservoir; and one existing navigation project that is directly impacted by the basins, the Upper Mississippi River (UMR) 9-foot Navigation Channel.

1. Coralville Reservoir. The Corps operates and maintains the Coralville Reservoir near Iowa City, IA. The project was authorized by the Flood Control Act of 1936, Public Law 74-738 and was partially constructed by the Works Progress Administration. The Corps began construction in 1949 and completed in 1958. This project was originally authorized for the purpose of FRM but is operated today as a multi-purpose reservoir. The primary purpose authorized by Congress is flood risk management for areas below the lake. However, the lake must also be operated to ensure its flood-control pool does not impact areas above the lake. Other purposes include recreation and conservation. Coralville Lake maintains a conservation summer pool to augment low flows during drought and implements a fall pool raise to accommodate migrating bird species.

The dam is integral to the life and safety of residents living alongside the Iowa River to include Coralville, Iowa City, Columbus Junction, and Wapello, and to a limited extent from its confluence with the Mississippi River to Burlington, IA.

2. Upper Mississippi River – Illinois Waterway 9-foot Navigation Channel. The navigation project on the Upper Mississippi and Illinois Rivers was authorized in 1867 and provided for the removal of snags and boulders on the Mississippi River from St Paul, MN, to Cairo, IL, and on the Illinois River from its confluence with the Mississippi River to downtown Chicago. The Eastern Iowa River Basins are not specifically authorized for navigation but as major tributaries to the UMR, they do have an impact on river levels within the 9-foot navigation channel. The Corps maintains the 9-foot channel with dredging operations using dredged material disposal located along the river banks.

B. CORPS OF ENGINEERS CONSTRUCTED PROJECTS

The Corps participated in the construction of the following projects in the Eastern Iowa Basins where local interests own, operate and maintain the projects.

- ***Section 14, Emergency Streambank Protection***
 - Cedar River, 290th St Bridge, Cedar Rapids, City, IA

- ***Specifically Authorized Projects***
 - Waterloo Flood Control; City of Waterloo, IA
 - Evansdale Flood Control; City of Evansdale, IA
 - Marshalltown Flood Control; City of Marshalltown, IA
 - Marengo Flood Control; City of Marengo, IA
 - Tama Flood Control; City of Tama, IA

C. OTHER WATER RESOURCES PROJECTS

Many other locally constructed, owned and operated water resources projects are in the basins. Extensive artificial drainage networks have been constructed to drain land for agricultural use and for road drainage. Landowners have drained many wetlands, constructed ditches, and installed thousands of miles of underground drainage tile. Townships and counties have constructed thousands of miles of road ditches, and many bridges and culverts that connect with the agricultural drainage system. Drainage districts have constructed hundreds of miles of legal “judicial” drainage ditches and channelized hundreds of miles of streams. The U.S. Department of Agriculture’s (USDA) Natural Resources Conservation Service (NRCS), local watershed districts, and landowners have constructed many smaller FRM impoundments. Townships, cities and counties have constructed a number of dams, fords and crossings in the Eastern Iowa Basins. The dams vary from low head rock rubble dams to large dams. Specific information on these dams may be found at http://www.iowadnr.gov/portals/Iowa_DNR/uploads/riverprograms/dam_chap2.pdf?amp;tabid=878.

D. RECENT EMERGENCY ACTIONS

In the last three decades, the Corps provided emergency assistance during the major flood events of 1993, 1999, 2004, 2008, 2013 and 2014. The primary focus areas during these events was on communities that have FRM systems (Marshalltown, Tama, Marengo and Amana on the Iowa River; and Cedar Falls, Waterloo and Evansdale on the Cedar River) or communities with higher populations at risks. Some of the higher risk response areas included Iowa City, Coralville and Cedar Rapids during these major flood events. Response efforts also assisted many other communities and counties throughout the watersheds which are not listed due to their large number.

E. ONGOING CORPS OF ENGINEERS STUDIES

The Rock Island District is currently conducting the following studies for specific projects within the basins:

- ***Section 905(b) Analysis (Water Resources Development Act of 1986)***
 - Iowa-Cedar Rivers Basin, Reconnaissance Study, Iowa and Minnesota.
- ***Section 14, Emergency Streambank Protection***
 - Cedar River 290th Street Bridge near Rochester Iowa; Cedar County, IA
- ***Section 22, Planning Assistance to States***
 - Developing scope of work for planning assistance to a variety of Watershed Management Authority (WMAs) in Iowa. These include the Indian Creek Watershed Management Authority, Upper Cedar River WMA and the newly formed English River WMA.
- ***Section 205, Small Flood Control***
 - Cedar River at Waverly, City of Waverly, IA
 - Indian and Dry Run Creeks, Linn County, IA
 - Iowa River at Iowa City, City of Iowa City, IA
 - Iowa River at Wapello, City of Wapello, IA

- **Section 206, Ecosystem Restoration**
 - Freeborn Aquatic Ecosystem Restoration Project, Freeborn County, MN
- **Flood Plain Management Special Services Studies**
 - Non-Structural Landuse Change Impacts on Structure Losses in Cedar River Communities; Cedar River Basin, IA
 - Community Based Hydrologic Warning System in Indian Creek, IA; Indian Creek Watershed, IA
 - Living Behind a Levee. Cedar Falls Levee Break Scenario Stakeholder Engagement; City of Cedar Falls, IA
- **Institute for Water Resources - Center for Conflict Resolution and Public Participation**
 - Stakeholder Engagement to Support Risk-informed Decision Making in the Upper Cedar River Basin; Upper Cedar River Basin, IA.

F. PREVIOUS CORPS OF ENGINEERS PLANNING STUDIES

The Corps has conducted a number of planning studies under various authorities (table III-1).

G. OTHER STUDIES IN THE BASINS

- **Flood Control Studies.** 1941, 1946, 1964, 1965, 1980 review of reports for flood control on the Iowa and Cedar Rivers.
- **Section 205, Small Flood Control.** Village of Plainfield, Plainfield, IA
- **Iowa-Cedar River Basin Feasibility Report.** A watershed planning process was conducted in 1982 to study problems associated with flooding, drainage, navigation, municipal and industrial water supply, water quality, recreation, cultural resources, erosion and sediment. This process also included a public participation component as part of alternatives identification.
- **Cedar Rapids Feasibility Report.** A planning process was conducted following record setting flood events in 2008. This feasibility report determined a Federal interest (benefits exceed the costs) in constructing a levee system on the east side of the Cedar River to protect infrastructure in the City of Cedar Rapids. This project was approved by Congress for construction and is awaiting construction funding from Congress.
- **Coralville Climate Change Pilot Project.** A pilot project was conducted in 2011 by the Rock Island District in support of the Institute for Water Resources' Responses to Climate Change Program. This pilot effort evaluated historical trends and climate change projections to evaluate whether the operation of the FRM reservoir may need to be modified to account for climate changes.
- **Iowa-Cedar Climate Change Pilot Project.** A pilot project was conducted in 2012 by the Rock Island District in support of the Institute for Water Resources' Responses to Climate Change Program. This pilot effort included a public and stakeholder process (Indian Creek, IA) to explore the impacts of land use and climate change within a watershed perspective.

*Eastern Iowa Basins
Iowa and Minnesota*

- **Iowa Silver Jackets Pilot Project.** The Silver Jackets is an innovative program that provides an opportunity to consistently bring together multiple state, Federal, and sometimes tribal and local agencies to learn from one another and apply their knowledge to reduce risk. State agencies, including those of the State Hazard Mitigation Officer and State NFIP Coordinator, come together with the Federal family of agencies, including the Corps and FEMA, in a common forum to address the state's FRM priorities. A pilot project was conducted in 2012-2013 by the District in support of the National Flood Risk Management Center's Silver Jackets Program. This pilot project leveraged silver jacket partner data, models and information to develop a georeferenced database of flood risk for each of the communities in the Iowa-Cedar River Basin. This pilot also included communication of that risk through mapping visualization techniques and presentations. Information regarding the Iowa Silver Jackets Program can be found on the web at <http://www.nfrmp.us/state/factIowa.cfm>.
- **Farm Service Agency (FSA) Pilot Project.** A pilot project was conducted in 2013 by the Rock Island District through an interagency partnership agreement signed by the Director of the USDA-FSA and the Mississippi Valley Division Commanding General. This pilot project used a physically based hydrologic model to evaluate downstream urban flood impacts due to upstream Conservation Reserve Program (CRP) lands. This pilot concluded that type and spatial location of CRP lands does have an effect on flood stage and related flood damages to urban areas in the Indian Creek, IA HUC-10 basin. This pilot also included development of a visualization platform to display the results through a web-based user interface.

Periodic Basin Management Report - 2014

Eastern Iowa Basins
Iowa and Minnesota

Table III-1. History of Flood Risk Management Studies and Projects

| Date | Summary |
|---|---|
| 1945 Iowa & Cedar Rivers | <i>Review of Reports (Preliminary Examination) for Flood Control on the Iowa and Cedar Rivers, IA and MN</i> , War Department, Corps, Rock Island District, 01 Jul 1946; this was an inventory of flood control structures built along the Iowa and Cedar Rivers prior to 1946. |
| 1964 Indian & Dry Creeks | <i>Flood Plain Information on Indian and Dry Creeks, Linn County, IA</i> , prepared for the Iowa Natural Resources Council by the Corps, Rock Island, IL, Dec 1964. It was the purpose of this study to “provide the state and local agencies with specific information on past and present flood hazards, as well as to provide a guide to the expected frequency of occurrence of future floods ...” The study area was limited to the lower reaches of Indian Creek and Dry Creek, incorporating the cities of Hiawatha and Marion as well as a portion of Cedar Rapids. |
| 1965 Marshalltown Waterloo Evansdale | <i>House Document No 166</i> , 89th Congress, 1st Session, Letter from the Secretary of the Army Transmitting a Letter from the Chief of Engineers, dated January 26, 1965; submitting a report, together with accompanying papers and illustrations on an Interim Report on the Iowa and Cedar Rivers, IA and Minnesota requested by Resolution of the Committee on Flood Control, House of Representatives, adopted Jul 16, 1945, the Committee on Commerce, US Senate, adopted Aug 6, 1845 and the Committee on Public Works, House of Representatives, adopted Jul 29, 1955. Damages resulting from the 1961 flood along the Cedar River in Cedar Rapids are discussed, along with the proposed flood damage reduction alternatives for the City. After a review of the options and their adverse impact on the scenic attraction of the river, the City decided not to participate in the implementation of the levee and floodwall system. |
| 1967 Cedar River | <i>Flood Plain Information, Cedar River, Linn County, IA</i> , prepared for the State of Iowa, IA Natural Resources Council, by the Corps, Rock Island District, Oct 1967. This study provided additional river discharges and elevations and substantiated the Corps’ conclusions that an out-of-bank event is a rare event in the Time Check area. |
| 1980 Cedar River | <i>Iowa-Cedar River Basin, Stage 2 Document</i> , Corps, Rock Island District, March 1980. This is a collection of working papers that addresses problems and potential solutions under the “Iowa-Cedar Study Authorities.” The document concludes that further study is warranted for reservoirs at Floyd and Finchford and that local flood protection work should be evaluated for the cities of La Porte City, Cedar Falls, and Waverly, IA. Regarding the Cedar Rapids area, the conclusion reached was that although there are flood protection options with benefit-cost ratios of between 0.9 and 1.1, the City was unwilling to implement them as they would detract from aesthetics of the riverfront. However, the City did support channel improvements, but there was no economic justification to support a Federal interest. Continuing the City’s existing floodplain management program was the only remaining acceptable alternative. |
| 1982 Cedar River | <i>Iowa-Cedar River Basin Feasibility Report, Main Report</i> , June 1982, Corps, Rock Island District. As it pertains to Cedar Rapids, this report again documents the City’s reluctance to construct a levee and floodwall protection system. |
| 1982 Cedar River | <i>Flood Insurance Study, County of Linn, IA, Unincorporated Areas</i> , Jun 15, 1982, Community No. 190829, FEMA. This study provides planners and decision makers with the basis to make knowledgeable decisions regarding land use and development in the floodplain. The hydraulic and hydrologic information contained in this report has been reviewed by Rock Island District staff and is considered suitable for use in this assessment. |

Periodic Basin Management Report - 2014

Eastern Iowa Basins
Iowa and Minnesota

Table III-1. History of Flood Risk Management Studies and Projects

| Date | Summary |
|--|--|
| 1991 Cedar River | <p><i>Flood Insurance Study, City of Cedar Rapids, Linn County, IA</i>, Revised March 18, 1991, Community No. 190187, FEMA. This study provides planners and decision makers with the basis to make knowledgeable decisions regarding land use and development in the floodplain. The hydraulic and hydrologic information contained in this report was reviewed by District staff and is considered to be suitable for use in this assessment.</p> |
| 1998 Cedar River Indian Creek Dry Run Creek | <p><i>Stormwater Master Plan, Cedar Rapids Metropolitan Area/Indian and Dry Run Watersheds Utility Study</i>, Linn County Regional Planning Commission, Prepared by Camp Dresser & McKee (CDM) Inc., The Sears Tower, Suite 450, 233 South Wacker Drive, Chicago, IL, April 1998. This Stormwater Master Plan (SWMP) was prepared to provide the Cedar Rapids metropolitan area/Indian Creek and Dry Creek watersheds with guidance on how to accommodate future development and the resulting increase in stormwater runoff that would result without adversely impacting downstream areas. The SWMP's study area included Cedar Rapids, Hiawatha, Robins, Marion, and portions of unincorporated Linn County.</p> <p>For the Time Check neighborhood, the SWMP recommends improvements to the storm sewer system including increased conveyance capacity, backflow prevention structures, and a stormwater pump station</p> <p>CDM estimated the cost to construct these improvements at \$1.25 million in 1998 dollars. Site-specific structural recommendations pertaining to other areas addressed in this assessment are not included in the SWMP.</p> |
| 2002 Cedar River Indian Creek Dry Run Creek | <p><i>Flood Management in Dry Run Creek and Indian Creek Watersheds. Issues and Concerns</i>, Submitted to the Sun Valley Neighborhood Association and Residents along Indian Creek, Cedar Rapids, IA; Jacob Odgaard, IIHR Hydrosience and Engineering, University of Iowa (U of I), Iowa City, IA 52242, Dec 17, 2002. The purpose of this report is to address specific issues and concerns of the residents of the Sun Valley neighborhood of Cedar Rapids. This report was commissioned by the residents of the Sun Valley neighborhood to determine the causes of and potential remedies for the flood of 2002.</p> |
| 2010 Cedar River Cedar Rapids, IA | <p><i>Cedar River, Cedar Rapids, Iowa Flood Risk Management Feasibility Study Report with Integrated Environmental Assessment (Study)</i>. The purpose of this Study was to formulate and evaluate cost effective, environmentally-sensitive, and technically feasible FRM alternatives for the City. The project study area is located along both banks of the Cedar River through the City of Cedar Rapids, within Linn County, IA. The Cedar River Watershed is in northeastern Iowa, approximately 70 miles west of Dubuque, IA; 30 miles north of Iowa City, IA; and 130 miles northeast of Des Moines. From southern Minnesota through north central Iowa, the Cedar River drainage area at the City is 6,510 square miles. Congressional District IA-02 is represented by Honorable Dave Loebsack. Iowa's Senators are Charles Grassley and Tom Harkin.</p> |

H. STUDIES BY OTHER STAKEHOLDERS

Many stakeholders have conducted land and water resources assessments and planning efforts in the Eastern Iowa Basins, especially since 2008 when the basin experienced record flood events in many urban areas. These flood events prompted the Iowa Legislature to establish the Water Resources Coordinating Council, a collection of state agency and academic professionals, to provide recommendations for actions that may be taken to minimize future flood impacts. As part of that process and in the aftermath of that effort numerous Federal, state and non-governmental stakeholders including the Iowa Department of Natural Resources (Iowa DNR); Iowa Department of Homeland Security and Emergency Management; Iowa Department of Agriculture and Land Stewardship (IDALS); the U of I; Iowa State University; USDA-Natural Resources Conservation Service (USDA-NRCS); US Geological Survey (USGS); National Weather Service; The Nature Conservancy (TNC); and other agencies, counties, and watershed districts responsible for water resource management have published numerous reports and plans related to water quantity and water quality.

I. SOME RECENT STUDY EFFORTS

- **USDA-NRCS Rapid Watershed Assessment Studies for the Whole Basin (9 HUC-8 Reports).** These studies used existing data and information to describe the geophysical, chemical, environmental and social watershed characteristics. These studies provide a wealth of reconnaissance level information.
- **TNC Needs Assessment.** This study consisted of holding public forums to gain understanding of the overarching needs in the basin from education and outreach to types of implementation actions. This effort provided a good basis for understanding the perceived need based on the input received from stakeholder groups and basic Geographic Information Systems analysis.
- **Environmental Defense Fund - Thinking Like a Watershed.** This study effort encompassed the entire UMR basin using an empirically based water quality model and a scenario based approach to explore options for improving water quality related to agricultural production. This study identified the Eastern Iowa Basins as one of the basins most resilient to continuous corn cropping due to geology and general soil characteristics. This study identified that using a suite of alternative conservation actions throughout a watershed provides more water quality improvement than using similar land area for a targeted singular conservation practice.
- **Earth Economics Ecosystem Services Valuation.** This study effort conducted an economic valuation of non-market goods and services that the ecosystem provides. This assessment was conducted in the Middle Cedar HUC-8 basin.
- **Securing a Future for Fish and Wildlife: A Conservation Legacy for Iowans. The Iowa Wildlife Action Plan (2005, 2012).** This study effort was in response to a Congressional mandate that state fish and wildlife agencies develop a Comprehensive Wildlife Conservation Plan (Plan) by October 1, 2005. The Plan was required to include eight elements associated with data and information about the distribution and abundance of wildlife in Iowa with special emphasis on Species of Greatest Conservation Need (SGCN).

The study concluded that the greatest stresses impacting Iowa's wildlife today all stem from human decisions about land use. The removal of most permanent vegetation from the landscape and the degradation of remaining habitats through improper or excessive use have had numerous interrelated consequences, including:

*Eastern Iowa Basins
Iowa and Minnesota*

- a lack of adequate habitat for terrestrial wildlife;
 - reduced habitat quality that limits their use by SGCN;
 - isolation of populations of less-mobile species;
 - altered hydrology that removes water from the land too quickly;
 - streambed degradation;
 - stream and shoreline alteration;
 - accelerated erosion of unprotected soils;
 - excessive siltation of flowing and impounded waters;
 - excessive nutrient input leading to accelerated eutrophication;
 - loss of submergent and emergent vegetation;
 - reduced habitat quality and quantity for aquatic and semi-aquatic organisms and for human use as well; and
 - ecosystems that are being invaded by aggressive exotic species that are displacing native wildlife.
- **Planning for Water Quality: Iowa's Nonpoint Source Management Plan (2012).** The Iowa DNR requires states to develop an approved Nonpoint Source Management Plan (Plan) that encompasses nine key elements to be eligible for Federal Clean Water Act Section 319 funding. The Plan serves as a representation of Iowa's vision, goals, objectives and potential action steps to reduce nonpoint source pollution and improve water quality over the next 5 to 10 years.

The plan development was a formal process that included several steps related to stakeholder identification and visioning activities. The outcome from the process was development of goals and objectives organized by the separate parts of the Vision, namely, Watershed Collaboration, Outreach, Performance Measures, and Funding.

J. SOME STUDY EFFORTS CURRENTLY UNDERWAY

- **People, Water Climate. Sustainability and Resilience in Agricultural Watersheds.** This effort is a National Science Foundation Grant project at the U of I. The project is related to exploring how social decision making, policies and water resources impacts are interrelated through a cause effect loop. This effort uses a social decision making model and a hydrologic model.
- **Iowa Flood Studies.** This study is a partnership effort between the National Aeronautics and Space Administration and the Iowa Flood Center at the U of I. This project is collecting detailed measurements of precipitation at the Earth's surface using ground instruments and advanced weather radars and, simultaneously, collecting data from satellites passing overhead in an effort to improve capabilities and provide greater understanding of the extent and limitations of using satellite precipitation data for flood forecasting.

SECTION IV. INTRODUCTION TO BASINS

A. IOWA, CEDAR, SKUNK, AND WAPSIPINICON RIVER BASINS

The Eastern Iowa Basins Unit encompasses the Iowa, Cedar, Skunk and Wapsipinicon River Basins and encompasses about 19,500 square miles in eastern Iowa and southern Minnesota (Appendix B, *Basin Map*). The four major rivers in the Study Unit generally flow in a southeasterly direction and empty into the Mississippi River. The basins of these four major rivers are relatively long and narrow. The Wapsipinicon River originates in southeastern Minnesota and extends about 225 miles to its confluence with the Mississippi River. The Wapsipinicon River Basin has a drainage area of 2,540 square miles. The Cedar River originates in southern Minnesota and joins the Iowa River about 30 miles upstream from the mouth of the Iowa River. The Iowa River originates in north-central Iowa. The Iowa and the Cedar River basins cover 12,640 square miles, more than 90 percent of which is in Iowa. The Skunk River originates in central Iowa and drains about 4,350 square miles. (*USGS Circular 1210*)

Coralville reservoir is located on the Iowa River just upstream of Iowa City, IA. Counties located in the Iowa, Cedar, Skunk and Wapsipinicon River Basins by state include:

Minnesota Counties

| | |
|----------|-----------|
| Dodge | Faribault |
| Freeborn | Mower |
| Steele | |

Iowa Counties

| | | | |
|-----------|------------|------------|-------------|
| Benton | Black Hawk | Boone | Bremer |
| Buchanan | Butler | Cedar | Cerro Gordo |
| Chickasaw | Clinton | Delaware | Des Moines |
| Fayette | Floyd | Franklin | Grundy |
| Hamilton | Hancock | Hardin | Henry |
| Howard | Iowa | Jasper | Jefferson |
| Johnson | Jones | Keokuk | Lee |
| Linn | Louisa | Mahaska | Marion |
| Marshall | Mitchell | Muscatine | Polk |
| Poweshiek | Scott | Story | Tama |
| Van Buren | Wapello | Washington | Webster |
| Winnebago | Worth | Wright | |

Eastern Iowa Basins
Iowa and Minnesota



Photograph IV-1. Coralville Reservoir

B. CORALVILLE RESERVOIR

Statistics

Construction Began: 1949
Construction Completed: 1958
Cost to Federal Government: est. \$15,744,000

Location: Johnson County, IA, 6 miles north of Iowa City on the Iowa River

Lake

Source: Iowa River
Miles Above Mouth: 83
Lake Watershed: 3,084 square miles

Length

Flood Storage Pool (approx.): 41.5 miles
Normal Pool: 23.0 miles

Water Surface Elevation

Flood Storage Pool: 712 feet above sea level
Normal Pool: 683 feet above sea level

Area (acres)

Flood Storage Pool: Area: 24,800 acres
Normal Pool: Area: 5,430 acres

Eastern Iowa Basins
Iowa and Minnesota

Storage (acre feet¹)

Flood Control Pool: 421,000 acre feet¹ (137.18 billion gallons)
Normal Pool: 28,100 acre feet¹ (9.16 billion gallons)

Dam

Type: Earth-filled embankment
Length: 1,400 feet
Height: 100 feet
Top Width: 22 feet
Dam Elevation (top of dam): 743 feet above sea level

Outlet Works

Location: Through east of end of dam
Type: Concrete conduit
Conduit Length: 350 feet
Conduit Diameter: 23 feet
Number of Control Gates: 3
Control Gate Size: 8.33 feet x 20 feet

Spillway

Location: West end of dam
Type: Concrete overflow section
Width: 500 feet
Crest Elevation: 712 feet above sea level

Recreational Activities

| | |
|-----------------|------------------|
| Boating | Fishing |
| Swimming | Camping |
| Hunting | Picnic Shelters |
| Special Events | Trails |
| Visitors Center | Water Recreation |

Coralville Lake Project
2850 Prairie Du Chien Rd NE Iowa City, IA 52240-7820
(319) 338-3543 ext. 6300
www.coralvillelake.org

C. EXISTING CONDITIONS IN THE WATERSHED

1. Geology and Topography. Glaciers created a land surface with three distinct regions in the Eastern Iowa Basins Unit—the Des Moines Lobe, the Iowan Surface, and the Southern Iowa Drift Plain. The Des Moines Lobe is characterized by low relief with some distinct ridges near the eastern boundary and occasional depressions that form lakes, ponds, and swamps. Glacial till is the dominant surficial material, and alluvium is present along the streams. Poorly drained soils have developed on the tills. The Iowan Surface has gently rolling topography with long slopes, low relief, and a mature drainage pattern. The surficial material is primarily glacial drift with thin layers of windblown loess on

¹ An acre foot is 1 acre of water 1 foot deep

Eastern Iowa Basins
Iowa and Minnesota

the ridges and alluvium near the streams. A subregion of the Iowan Surface (Iowan Karst) was defined for this study in an area where bedrock is close to the land surface. In the Southern Iowa Drift Plain, streams have eroded deeply into the glacial drift and loess mantle to produce a steeply rolling terrain with broad, flat drainage divides. Moderately well-drained soils have developed on the loess. (*USGS Circular 1210*)

2. Climate. Water originates as rainfall in late spring through late fall and as snow during winter and early spring. Average annual precipitation in the basins ranges from about 30 inches in the northwestern part of the Study Unit to about 36 inches in the southeast. The greatest rainfall typically occurs during the growing season in spring and summer. The mean April- to-October precipitation is about 25 inches. The most intense 24-hour rainfall (5-year recurrence interval) can be more than 4 inches. Snowfall has been recorded from September to May. The greatest 24-hour snowfall seldom exceeds 10 inches (less than 25 percent of the years). Yearly rainfall during the study period ranged from below average in 1996 to about average in 1997 and above average in 1998. (*US Geological Survey Circular 1210*)

3. Land Use. Because water flows over the land surface or infiltrates the soil, human activities may have a substantial effect on the quality of ground and surface water. The production of row crops, such as corn, and cover crops, such as alfalfa and small grains, constitutes the major land use in the Study Unit. Land near the streams and rivers has a combination of crops and forests. About 40 percent of the more than 1 million people in the Eastern Iowa Basins Unit are concentrated in cities with populations greater than 20,000. (*USGS Circular 1210*)

4. Water Use. Water used for household, municipal, commercial, industrial, and agriculture purposes originates primarily from ground water. Surface water, although an important supply for several larger cities including Cedar Rapids and Iowa City, is used primarily for cooling water in the generation of electric power.

Water that infiltrates through the soil into underlying sand and gravel deposits and ultimately into the underlying bedrock formations is used as a water supply for about 94 percent of the population in the Eastern Iowa Basins Unit. Rivers and streams are the source of public water supplies for about 6 percent of the population. (*USGS Circular 1210*)

5. Surface Water. Excess precipitation that does not infiltrate into the soil or evaporate runs off to the streams (figure IV-1). Generally, poorly permeable till soils typical of the Des Moines Lobe and steeper slopes typical of the Southern Iowa Drift Plain generate greater overland flow than the moderately well drained loess soils and gentle slopes typical of the Iowa Surface. Overland flow to streams is slowed or reduced by grass, perennials, shrubs, and trees (riparian buffers) where present near stream banks. Runoff to streams averages about 25 percent of the annual precipitation and ranges from less than 7 inches per year in the northern part of the Study Unit to about 9 inches per year in the southeastern part. Overland flow and ground-water discharge are the major sources of stream flow.

Eastern Iowa Basins
Iowa and Minnesota

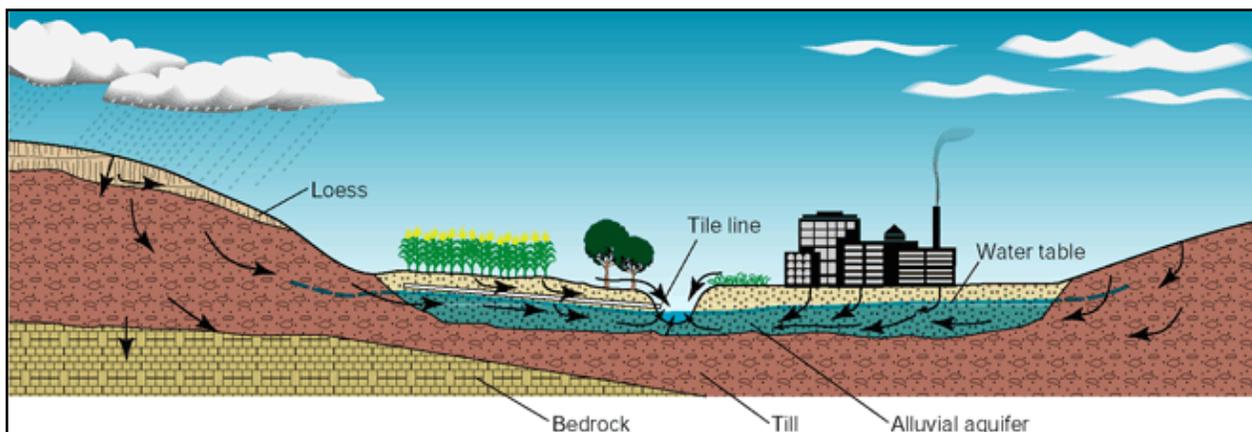


Figure IV-1. Waterflow Diagram

However, tile lines may be an important source to streams during base flow in areas where they have been installed to remove standing water from surface depressions and to lower the water table. (*USGS Circular 1210*)

Long-term yearly discharge from the Eastern Iowa Basins Unit averages about 9.2 million acre-feet. The overall increase in rainfall from 1996 to 1998 was reflected in the substantial increase in yearly stream discharge. Yearly discharge from the Eastern Iowa Basins increased from about 8.6 million acre-feet in 1996 to almost 13.8 million acre-feet in 1998. Yearly discharge was not uniform in the major basins. Discharge from the Wapsipinicon and Iowa River Basins increased in 1997 and 1998, and the discharge from the Skunk River Basin decreased from 1996 to 1998. (*USGS Circular 1210*)

In the Eastern Iowa Basins, water originating from precipitation flows overland or through loess, till, and alluvial deposits to nearby streams. Areas with high water tables and poor natural drainage have commonly been artificially drained with tile lines. (Graphic created by Suzanne Roberts, USGS.)

6. Ground Water. Water from rainfall infiltrates through the soil and, depending on whether permeable sand, gravel, and fractured bedrock are present, may continue to move to the deeper aquifers. If low-permeability clay or shale lies below the unconsolidated surficial materials, water may move laterally to a nearby stream.

Alluvial material that has been deposited by rivers and streams commonly consists of sand and gravel layers that store and transmit water readily. The alluvial aquifers (figure IV-2) are the most frequently used source of ground water in the Eastern Iowa Basins because they are near land surface and can supply large amounts of water. The same properties (shallow depth and permeable material) that make alluvial aquifers excellent sources of water also make the alluvial aquifers susceptible to contamination from surface activities. (*USGS Circular 1210*)

Eastern Iowa Basins
Iowa and Minnesota

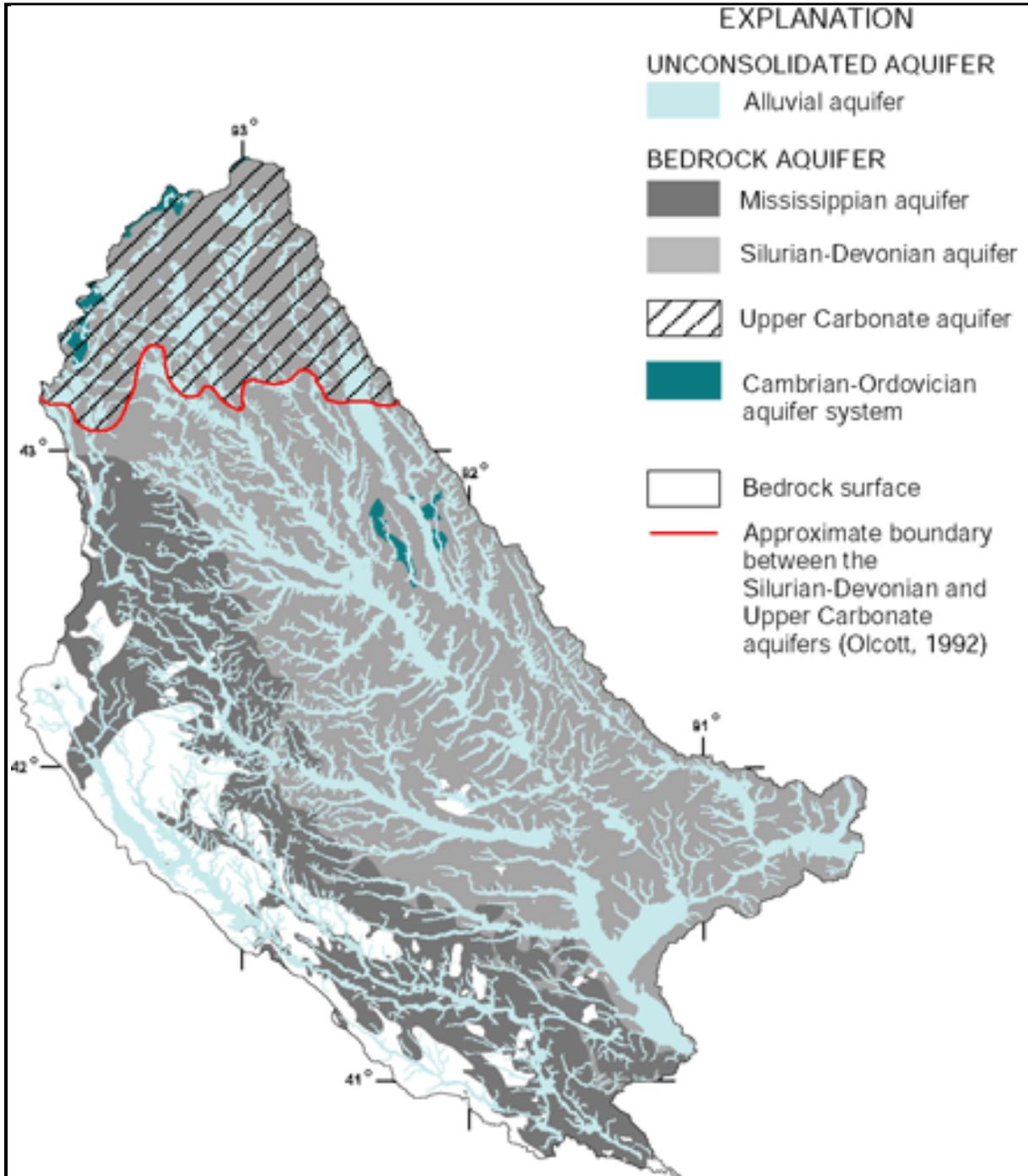


Figure IV-2. Eastern Iowa Basins Aquifer Map

Several major bedrock and unconsolidated aquifers are used as sources of water for domestic, municipal, and industrial supplies. Only the most heavily used aquifers, the Silurian-Devonian and Upper Carbonate aquifers and the alluvial aquifers, were sampled. (USGS Circular 1210)

Eastern Iowa Basins
Iowa and Minnesota

Two additional surficial deposits, not assessed during this study, provide water for domestic and municipal supplies. Sand and gravel deposits in low-permeability glacial till generally yield small quantities of water that are used mostly for rural domestic and stock supplies. Also, deep sand and gravel deposited in bedrock valleys before the last glacial advance is an important source of water in parts of the Eastern Iowa Basins. (*USGS Circular 1210*)

Rock formations (bedrock) generally underlie the clay, silt, sand, and gravel surficial materials and can provide water for use. Bedrock aquifers are generally deep and are protected from surficial contamination. However, in areas such as the Iowan Karst, bedrock is exposed or is covered by very thin unconsolidated deposits and is susceptible to contamination from urban and agricultural land uses. (*USGS Circular 1210*)

The most extensively used bedrock aquifers are the Silurian-Devonian and Upper Carbonate aquifers. The Silurian-Devonian and Upper Carbonate aquifers consist mainly of limestone and dolomite with locally interbedded shale and evaporite beds. Bedrock aquifers that are used as a source of water in the Study Unit but were not evaluated during this study are the Mississippian aquifer and the Cambrian-Ordovician aquifer system. (*USGS Circular 1210*)

7. Stream and River Water Quality. Nitrogen (N) and phosphorus (P) concentrations in streams in the Eastern Iowa Basins Unit rank as some of the highest in the Corn Belt, as well as the Nation, and were higher than the drinking water standard in many samples. These conditions reflect the intensive use of the land for growing crops and dense populations of livestock in some basins. (*Eastern Iowa Basins Report - USGS*)

- Nitrate-N concentrations in 22 percent of the stream samples exceeded the USEPA drinking water standard of 10 mg/liter (or parts per million). The standard was most frequently exceeded during June. Although many of the streams sampled are not currently used for drinking water supplies, the Cedar and Iowa rivers are the direct or indirect source for Cedar Rapids and Iowa City, two of the largest cities in the study area.
- The highest nitrate-N concentrations occurred in medium-sized streams draining basins with the most intensive row-crop agriculture and in a stream draining a basin with both intensive row-crop agriculture and dense concentrations of large-scale animal feeding operations. Nitrate-N concentrations in these streams exceeded 10 mg/liter in almost 50 percent of the samples. Conversely, nitrate-N concentrations were lowest in basins that had greater percentages of pasture, grassland, and forest.
- Total P concentrations frequently exceeded the 0.1 mg/liter EPA recommended goal to minimize algal growth in rivers. Total P concentrations were greatest in streams and rivers that drain basins with more highly erodible soils and in large river basins that contain the largest cities and towns in the study unit.
- The large amounts of N and P that are transported to the Mississippi River from the Study Unit represent an economic loss to farmers and a potential environmental threat to downstream waters. The estimated annual loss of 17 to 41 lb/acre N and 1.2 to 1.5 lb/acre P represents a potential loss in crop yield or the cost of additional fertilizer needed to compensate for that flushed from the fields. Nutrients transported to the Mississippi River probably reach the Gulf of Mexico, where they contribute to eutrophication and hypoxia.

*Eastern Iowa Basins
Iowa and Minnesota*

- Riparian buffer zones influence the quality of water in streams and rivers. Biological communities respond to tree density in riparian buffer zones. Invertebrates (benthic macroinvertebrates) associated with high water-quality streams increased with increased numbers of trees. In contrast, streams that were not shaded by trees contained large algal growths, which are correlated with eutrophication. (*Eastern Iowa Basins Report - USGS*)

8. Ground Water Highlights. Compared with surface water, groundwater in the eastern Iowa basins had substantially lower nutrient concentrations. (*Eastern Iowa Basins Report - USGS*)

- Nitrate-N concentrations generally decreased with depth in the alluvial aquifers. Biological denitrification may result in decreased nitrate-N concentration with depth, but it is also possible that the deeper water infiltrated during past years when less fertilizer was used for crop production.
- Nutrients move from groundwater to streams by natural drainage and tile lines. Nitrate- N concentrations in 24 of 25 medium-sized streams exceeded 10 mg/liter during the sampling period in May 1998, when streamflow originated primarily from groundwater discharge. Nitrate-N concentrations consistently exceeded 10 mg/l in water from a selected tile line draining to the Iowa River. (*Eastern Iowa Basins Report - USGS*)

9. Pre-Settlement Conditions. The Eastern Iowa Basins Unit was a combination forest, prairie and wetland landscape around 1620 (figure IV-3) as early explorers arrived and made contact with Native Americans who occupied the Eastern Iowa Basins. The Native Americans were subsistence hunters, fishermen, and farmers. The mixed forest and tallgrass prairie ecosystem supported abundant bison, elk, and deer that in turn supported the spiritual and nutritional needs of the Native Americans.

Figure IV-3 displays that by the 1850s much of the forest had been removed from the upland areas and most of the basins consisted of prairie with some scattered wetlands and shallow lakes in the northern portion of the basin. Many of these wetland and lake basins were isolated, and were not connected to the rivers by surface water flow. Wetland areas stored rain and snowmelt until the water evaporated, soaked into the ground, or overflowed into the stream network. The prairie vegetation held the soil in place. Prairie soils were highly permeable and absorptive of water. Trees grew in the river valleys and provided woodland habitat, and the prairie grasslands and wetlands supported large populations of diverse wildlife species including waterfowl, shorebirds, fur-bearing mammals, bison, elk, and deer. Accumulations of woody debris in the river channels provided habitat for macroinvertebrates and fish. The natural hydrologic regime was buffered by the prairie and forest vegetation, permeable soils, and extensive wetlands and lakes. Groundwater base flow of the rivers provided sustained low flow and cool water during summer. Water quality was good, with sufficient water clarity to allow aquatic plant growth, and enough dissolved oxygen to support a diverse river biota.

Eastern Iowa Basins
Iowa and Minnesota

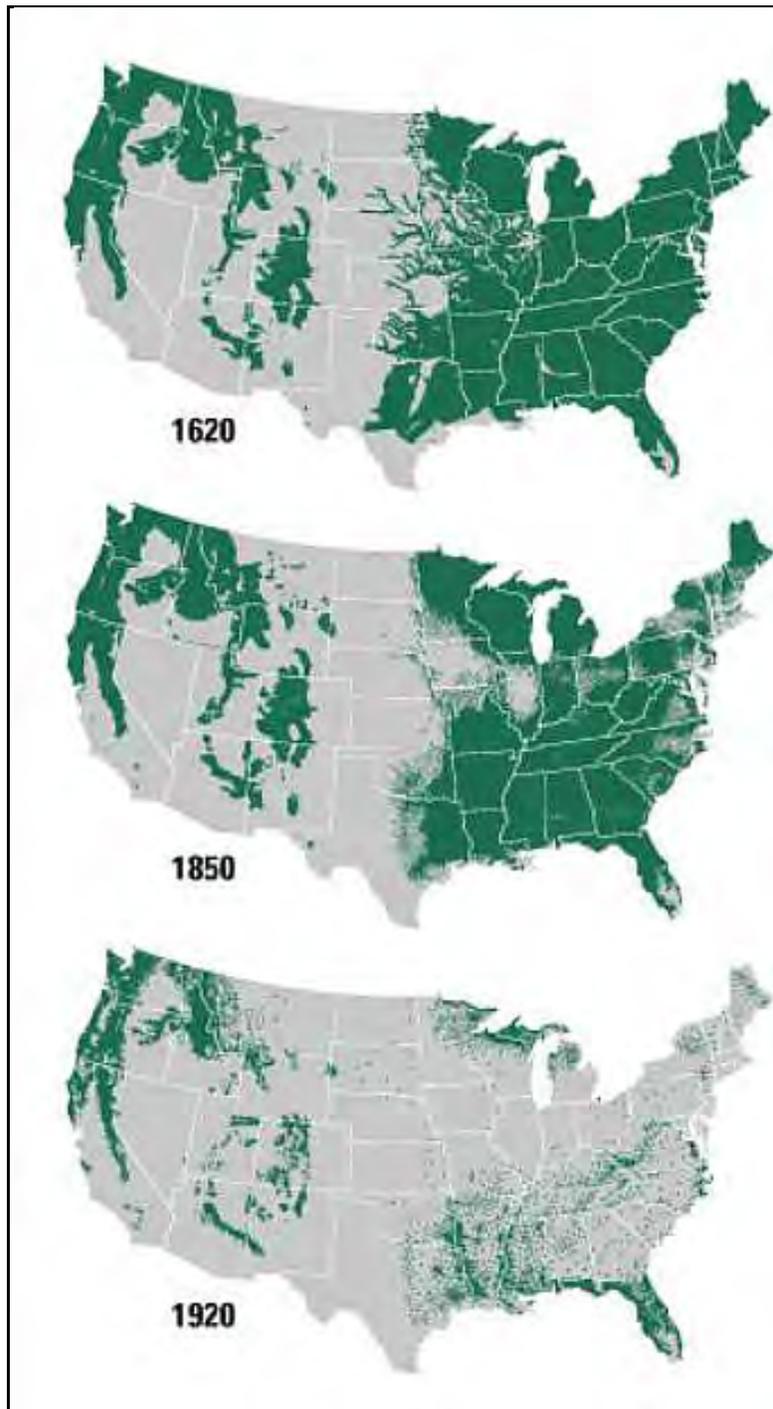


Figure IV-3. Approximate Location of Virgin Forests in 1620, 1850, and 1920
(Source. USDA Forest Service Northern Research Station. "Biological Trends of Virgin Forests." Iverson)

THIS PAGE LEFT INTENTIONALLY BLANK.

SECTION V. RELEVANT INFORMATION ON RECENT (PAST DECADE) AND CURRENT PROJECTS BY BUSINESS LINE

A. FLOOD RISK MANAGEMENT

1. FEMA Definition. According to FEMA:

“The United States has thousands of miles of levee systems—usually earthen embankments designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water to provide some level of protection from flooding. Some levee systems date back as far as 150 years; some levee systems were completed recently or are underway. Some levee systems were built for agricultural purposes, and they provide flood protection and flood-loss reduction primarily for farm fields and other land used for agricultural purposes. Other systems—urban levee systems—were built to provide flood protection and flood-loss reduction for population centers and the industrial, commercial, and residential facilities within them.

Levee systems are designed to provide a specific level of flood protection. Agricultural levee systems provide a level of protection that is appropriate based on the value of the assets being protected. Urban levee systems, because they are designed to protect urban areas, have typically been built to higher standards.

No levee system provides full protection from all flooding events to the people and structures located behind it. Thus, some level of flood risk exists in these levee-impacted areas.

Floods are one of the most common hazards in the United States. Flood effects can be local, affecting a neighborhood or community, or very large, affecting entire river basins and multiple states.

However, not all floods are alike. Some floods develop slowly, sometimes over a period of days. Nevertheless, flash floods can develop quickly, sometimes in just a few minutes and without any visible signs of rain. Flash floods often have a dangerous wall of roaring water that carries rocks, mud, and other debris and can sweep away most things in its path. Overland flooding occurs outside a defined river or stream, such as when a levee is breached, but still can be destructive. Flooding can also occur when a dam breaks, producing effects similar to flash floods.

Flood hazards can be an issue no matter where you live, but especially if you live in a low-lying area, near water or downstream from a dam. Even very small streams, gullies, creeks, culverts, dry streambeds, or low-lying ground that appear harmless in dry weather can flood. Every state is at risk from this hazard.”

2. National FRM Program. The Corps established the National Flood Risk Management Program in May 2006 for the purpose of integrating and synchronizing the Corps’ FRM programs and activities, both internally and with counterpart activities of the Iowa Department of Homeland Security

and Emergency Management, FEMA, other Federal agencies, state organizations, and regional and local agencies. Some specific goals of the National FRM Program are:

- providing current and accurate floodplain information to the public and decision makers;
- identifying and assessing flood hazards posed by aging FRM infrastructure;
- improving public awareness and comprehension of flood hazards and risk;
- integrating flood damage and flood hazard reduction programs across local, state, and Federal agencies; and
- improving capabilities to collaboratively deliver and sustain FRM and flood hazard mitigation services to the Nation.

3. Federal FRM Authorities. The Corps has been authorized by Congress to perform FRM. These services can be performed under two different types of authorities. (1) specifically authorized FRM projects, and (2) the Continuing Authorities Program (CAP). Both authorities require a study process and a cost-share sponsor before implementing a project.

a. Specifically Authorized FRM Projects. With specific congressional authorization, the Corps can evaluate flood problems, potential solutions, and recommend to Congress whether or not a project should be authorized. This approach is used for larger projects. Typical project features include dams, channel modifications, levees, and other FRM structures.

b. Continuing Authorities Program. This program allows the Corps to plan, design, and construct smaller projects without direct authorization from Congress. The potential sponsor must request the Corps to investigate FRM issues that might fit the program. Once the Corps determines the project fits the program, the Corps (Rock Island District) will request funds from its Division headquarters (Mississippi Valley Division) to initiate a reconnaissance effort to determine potential Federal interest (benefits exceed the costs) in proceeding to a feasibility study. Following is a list of Continuing Authorities Programs:

- **Sections 1 and 3, 1936 FCA.** The Federal government should participate in improvements(s) for FRM purposes if the benefits to whomsoever they may accrue are in excess of the estimated costs.
- **Section 205, 1948 FCA.** Without specific authorization, the Corps may study, adopt and construct small FRM projects that are under \$7 million dollars for the Federal cost share.
- **Section 208, 1954 FCA.** Without specific authorization, the Corps may study, adopt and construct in-stream clearing and snagging projects in the interest of FRM with a \$500,000 Federal cost limit.
- **Section 206, 1960 FCA.** General authority to provide flood plain information and planning assistance to state, county, and city governments, as well as to other Federal agencies.

Flood and floodplain information is also provided to private citizens, corporations, and groups. Flood proofing and general floodplain management guidelines are developed and published. Hurricane Evacuation Studies and Flood Warning Preparedness Studies are conducted jointly with other Federal agencies for states and local governments.

c. Flood Risk Management Measures. The purpose of FRM is to help prevent or reduce flood damage by using either structural or non-structural means or a combination of the two.

- **Structural Measures.** Structural measures are physical modifications designed to reduce the frequency of damaging levels of flood inundation. Structural FRM measures can include dams and reservoirs, channel modifications, levees or floodwalls.
- **Non-Structural Measures.** Non-structural measures reduce flood damages without significantly altering the nature or extent of the flooding by changing the use of floodplains or by accommodating existing uses to the flood hazard. Non-structural measures include modifying homes, businesses, and other facilities to reduce flood damages by elevating the structure or removing them from the floodplain. Remaining land can be used for ecosystem restoration, outdoor recreation or natural open space. Flood warning systems are also considered non-structural measures. The following measures are inclusive of all measures that would reduce flooding. At the end of each measure are listed organizations that could or have authorization to implement these measures.

The following is a comprehensive list of FRM Measures:

Evaluate and Predict Changes in Climate

1. Input to county and city storm-water design criteria (*county, city*)
2. Input to flow models (*Corps, county, city, academia, other Federal agencies*)

Floodplain Zoning

1. Develop floodplain uses, (*state, county, city*)
2. Buy-out floodplain housing (*state, county, city, FEMA, Corps*)
3. Flood-proof infrastructure within floodplain (*state, county, city, FEMA, Corps*)

Increase or Sustain Current Infiltration

1. Track changes in land use (*state, county, city, FSA*)
2. Re-meander of rivers and streams (*county, city, NRCS, Corps*)
3. Mitigate for changes in lands use with retention (*county, city*)
4. Change types of agricultural crops from shallow to deep roots (*NRCS, farmers*)
5. Soil conservation easements (*NRCS*)
6. Develop urban infiltration systems that do not affect foundations (*academia, other Federal agencies, USGS, Corps*)
7. Change street design to include areas for infiltration (*city*)
8. Ecosystem Restoration Projects (*county, city, NRCS, Corps*)

Increase or Sustain Present Retention in Small and Large Reservoirs

1. Storm-water retention ponds (*county, city*)
2. Soil conservation in the watershed; reduce erosion, (*NRCS*)
 - a. Farming practices
 - b. Types of crops
3. Develop system control methods for retention basins (*county, city, academia, other Federal agencies, Corps*)
4. Dam height at Coralville Lake (*Corps*)

Increase or Improve Levees, Floodwalls and Closures

1. Re-evaluate existing systems (*state, county, city, Corps*)

Increase Interior Storm water Drainage

1. Increase storm water pump stations within the city (*City, Corps*)

Develop Flood-proofing Standards

1. Develop suitable building code standards (*state, county, city, Corps*)

Reduce River Constrictions

1. Change bridge designs when bridges are replaced (*DOT, IDOT, railroads*)

Currently there are potential projects within the basins. The Corps has been contacted by Charles City, IA and Mason City, IA regarding potential FRM projects.

For more detailed information, see *Flood Risk Management Fact Sheets*.

B. REGULATORY FUNCTION - CORPS

1. The U.S. Army Corps of Engineers has been involved in regulating certain activities in the Nation's waters since 1890, with the 1899 Rivers and Harbors Act providing legal authority. Until 1968, the primary thrust of the Corps' Regulatory Program was the protection of navigation. Because of new laws and judicial decisions, the program has evolved into one involving the consideration of the full public interest by balancing the favorable impacts against the detrimental impacts of proposed activities. This is known as the "*public interest review*." The program is one that reflects the national concerns for both the protection and use of important resources (*33 CFR 320.1*).

2. The Standard Operating Procedures further define the Corps' goals and policies for the Regulatory Program. (*Corps SOP 1999*):

3. The Corps must strive to consistently and fairly implement its Regulatory Program across the Nation.

4. The overall goal of the Regulatory Program is to provide for a timely permit decision that protects the aquatic environment and is fair, reasonable, and flexible for the applicant. The Corps should evaluate projects using the least extensive and time consuming review process, while still providing protection for the aquatic environment.

The Corps is the decision maker. The Corps is in charge of the Regulatory Program and is responsible and accountable for all aspects of the decision as well as the quality and efficiency of its administration. This is particularly true for projects that generate considerable controversy and/or comments from other Federal, state, local environmental agencies and the public. The Corps' Regulatory Program does not rely on reaching consensus, but relies on gathering sufficient information for the Corps to make its decisions. The Corps determines the project purpose; the extent of the alternatives analysis; the determination of which alternatives are practicable and which are less environmentally damaging; the amount and type of mitigation; and all other aspects of the decision-making process. Once the appropriate information is gathered, the Corps must move in a timely manner to make a decision. The Corps decides what is relevant in evaluating projects. This responsibility must not be transferred to another agency or the public. The Corps must stay involved in

the project and be decisive when evaluating information from all sources. The Regulatory office is continuing to work with the State of Iowa to clarify jurisdictional questions. The Regulatory office is committed to developing a standard operating procedure for execution of the Regulatory permitting program within the Eastern Iowa Basins.

For more detailed information, see *Regulatory Fact Sheet*.

C. ECOSYSTEM RESTORATION

Ecosystem restoration activities examine the condition of existing ecosystems and determine the feasibility of restoring degraded ecosystem structure, function, and dynamic processes to a less degraded, natural condition. The Corps' Ecosystem Restoration Program seeks to provide a comprehensive approach for addressing the problems associated with disturbed and degraded ecological resources.

Corps activities in ecosystem restoration concentrate on engineering solutions to water and related land resource problems. The principal focus is on those ecological resources and processes that are directly associated with the hydrological regime of the ecosystem and watershed. Although there are no current requests for ecosystem restoration projects within the basins, there is potential to align with the State of Iowa's Nutrient Management Strategy which has recently been published. The Nutrient Management Strategy focuses on water quality, but the Corps ecosystem restoration activities would not only restore ecological resources, it could have a secondary benefit of providing water quality benefits.

1. Ecosystem Problems. Agricultural, navigation-related, and urban development have significantly modified the hydrology, water quality and overall ecosystem integrity of the UMR System. Changes to the natural variability of water flow, water timing, and water distribution throughout the system by navigational dredging, locks and dams, and urban and agricultural land use demands have resulted in many problems.

2. Major Problems in the Ecosystem Include:

- water quality degradation from nutrient-laden runoff, sediment loss, sewage discharges, acid drainage, thermal pollution, bacteriological pollution, and oil pollution;
- loss of wildlife and wildlife diversity, with two species of freshwater mussel listed as endangered and another five species listed as rare;
- loss of habitat and habitat diversity, with over 66 percent of the basin's land area converted to agricultural land, a loss of up to 95 percent of wetlands in Iowa and Illinois, and urban areas expanding at a rate of 80,000 acres per year;
- sedimentation of river banks and increased erosion resulting in habitat degradation, the destruction of fish spawning areas, decreased light penetration to aquatic plants, and habitat loss;
- alteration of natural water flows and seasonal fluctuations due to lock and dam operations;
- deposition of sediments resulting in more uniform riverbeds and a reduction in the amount and types of habitat needed for plants and other sessile organisms;

*Eastern Iowa Basins
Iowa and Minnesota*

- excessive suspended sediments, especially fine sediments, which block sunlight and impede photosynthesis for plants, reduce visibility for fish, and bury mussels and other filter-feeding organisms;
- invasive species infestations (Asian carp, Round goby, Zebra mussels, etc.), particularly from the inter-basin connection with the Great Lakes basin;
- expansion of the Gulf of Mexico hypoxia zone; and
- conflicting national environmental and economic development policies, and water and land resource uses.

3. Ecosystem Restoration Federal Authorities. The Corps has been authorized by Congress to perform ecosystem restoration in conjunction with water resource and related land resource issues. These services can be performed by seeking specific project authority or through the Continuing Authorities Program aimed at smaller projects. Each of the programs requires a study (decision) process and a cost-share sponsor prior to a study or before implementation of a project.

- **Section 1135 WRDA 1986.** Provides authority to modify structures and operations of Corps projects to improve the quality of the environment when it is determined that such modifications are feasible and consistent with the authorized project purposes. Projects built by the Corps or jointly that have contributed to the degradation of the quality of the environment if such measures do not conflict with authorized project purposes.
- **Section 204 WRDA 1992.** Provides authority for the Secretary of the Army (Civil Works) to implement projects for the protection, restoration, and creation of aquatic and ecologically related habitats, including wetlands, in connection with dredging for authorized navigation projects.
- **Section 206 WRDA 1996.** Provides authority for environmental protection and restoration of aquatic ecosystems.
- **Section 906 WRDA 1986.** Establishes a comprehensive mitigation policy for water resources projects that generally reinforces and supplements the mitigation policy developed in response to the requirements of the Fish and Wildlife Coordination Act, which requires projects to include justifiable means and measures of mitigation.
- **Section 102 Clean Water Act.** In the planning of Corps projects, consideration shall be given to including storage for stream-flow regulation for water quality, navigation, recreation, aesthetics, and fish and wildlife.
- **Section 202, WRDA 2000.** Provides the Secretary of the Army (Civil Works) discretionary authority to assess the water resources needs of river basins and watersheds of the United States, including needs relating to ecosystem protection and restoration; FRM; navigation and ports; watershed protection; water supply; and drought preparedness.

4. Ecosystem Restoration Measures

The following are examples of ecosystem restoration measures:

- **River Course**
 - Re-meandering
 - Bank line reshaping using natural materials
 - Riffle pool creation
 - Barbs to change direction
- **River Connectivity**
 - Fish passage with rock ramp
 - Dam removal
- **Riverine/Floodplain Connectivity with River**
 - Remove levees and flood walls
 - Setting back levees
- **Wetlands**
 - Recreating wetlands
 - Creating wetlands to filter agriculture nutrients
 - Wetland banking

For more detailed information, see *Environmental Restoration Fact Sheets*.

D. EMERGENCY RESPONSE AND FLOOD RECOVERY

The Rock Island District is prepared to provide all-hazard response and recovery assistance under the authority of Public Law (PL) 84-99 and PL 93-288. All-hazard events include flooding, earthquakes, tornados, etc. On a national basis, the District will respond to incidents of national significance such as hurricanes and weapons of mass destruction.

The District's Crisis Management Team consisting of senior staff elements is trained and ready to respond to disasters. Prior to flood season, trained Flood Area Engineer teams conduct annual inspections of the District flood protective systems in coordination with local sponsors. Flood fight supplies are stockpiled and flood fight equipment is serviced. During a flood event, multiple Lead and assistant Flood Area Engineers are staged in the field and ready to provide technical assistance during a flood event. This technical assistance can vary between advice on techniques, suggested remedies to flood related structures issues, or a myriad of flood related issues. The District's Emergency Management Division has available for loan a variety of pumps, sandbags, and other flood fighting products to help reduce losses to public infrastructure. An entity can request these products or technical assistance by passing a request through the County Emergency Management Agency Coordinator or by calling the District at 309-794-5101.

For more detailed information, see *Emergency Management Fact Sheets*.

E. RECREATION

The Corps has been authorized by Congress to develop recreation-related facilities in conjunction with water resource projects. Construction of recreation-related facilities requires a cost-share sponsor prior to implementation of a project.

1. Recreational Authorities

- **Section 2804 of PL 102-575 (Reclamation Projects Authorization and Adjustment Act of 1992).** Projects must be under control of the Army and requires non-Federal cost sharing. If there is no willing cost share sponsor, the Corps may provide only minimum facilities such as guardrails, gates, barricades, turnarounds, comfort stations and vault toilets for health and safety. The Corps may also provide type “C” visitor centers, handicap access, and operational boat ramps.

- **Section 313, WRDA 1990.** Requires non-Federal cost sharing. Recreation benefits shall not influence project formulation. Non-reservoir structural and nonstructural projects must attain a benefit/cost ratio greater than unity without recreation. Facilities must be on lands, easements and rights-of-way.

Separable lands may be acquired by the non-Federal sponsor for recreation at FRM projects for access, parking and facilities required for health and safety.

Recreation development costs at structural FRM projects may not increase the Federal project cost by more than 10 percent without approval of the Assistant Secretary of the Army (Civil Works) [ASA(CA)]. Recreation facilities are not provided at shore protection projects. The Corps must consider recreation benefits in planning, operations, and maintaining projects. The Corps can expend up to \$2 million annually to mitigate for the adverse impacts on recreation from the operation, maintenance, repair, rehabilitation or replacement at a project.

Recreation may be included within ecosystem restoration projects if appropriate in scope and scale, compatible with project purpose, economically justified (stand alone), sponsored and cost shared at 50 percent by a non-Federal entity, and do not increase the Federal project cost by more than 10 percent, except with approval of ASA(CW).

Ecosystem project lands are not creditable towards cost-sharing credit; non-Federal lands used for recreation purposed may receive cost-sharing credit. Non-Federal sponsors pay 50 percent of the separable costs and all Operations, Maintenance Repair, Replacement and Rehabilitation (OMRR&R).

For harbor and channel projects, non-Federal sponsors pay 50 percent of the joint and separable costs allocated to recreational navigation and all OMRR&R costs assigned to recreational navigation. The ASA(CW) requires the non-Federal sponsor share be provided during construction.

Although no stand-alone recreational authorities or projects exist in these basins, there is always opportunity to include recreation with ongoing projects.

2. Recreational Features

- **Water, Lakes, Rivers and Streams**
 - Community gathering venues “commons”
 - Trails, river access, walking and bike
 - Beaches
 - Boat launches
 - Docks

- **Land, Reserves, and Parks**
 - Trails, walking and bike
 - Parking, trail head or facilities
 - Restrooms
 - Camping
 - Visitor Centers
 - Playgrounds
 - Playing fields
 - Education centers

F. PLANNING ASSISTANCE TO STATES AND TRIBES

The Planning Assistance to States and Tribes Program provides states, counties, local communities and Indian tribes with planning-level assistance in addressing water resources issues and planning needs. The studies generally involve the collection of data, data analysis, and development of water resources management plans and other tools. The program provides the sponsor with planning-level detail and information needed to support water resources management decision making by the sponsor. This program is not authorized to produce detailed plans and specifications or implement construction of projects.

There are currently no proposed PAS projects within the Eastern Iowa Basins; however, the State of Iowa has been headed to a more “watershed” approach and there have been a number of WMAs established within the Basins. The State has submitted a letter requesting assistance under this program; no specific WMA has been identified at this time.

For more detailed information, see *Planning Assistance to States and Tribes Fact Sheet*.

PERIODIC BASIN MANAGEMENT REPORT - 2014

**EASTERN IOWA BASINS
IOWA AND MINNESOTA**

**FLOOD RISK MANAGEMENT
FACT SHEETS**



Amana Remedial Works Levee, Iowa River, IA

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Location

Iowa River, IA

State(s)

IA

Congressional District(s)

IA-2

Status

This work was all completed in 2010. The levee and structures are being monitored as required. An OCA assessment was performed in 2012. There is some minor work or repairs needed to the structures, overall however they were in good condition. The minor repairs have been completed in 2013 and now have implemented a quarterly inspection regiment. The levee condition was not rated as it will be assessed as part of the dam safety program.

Description

Amana Remedial Works Levee is located along the Amana Mill Race and Price Creek in the town of Amana, Iowa. This system was built as a part of the overall Coralville Lake Dam flood control project to protect historic and commercial buildings in Amana. The project has two separate segments of floodwall. One is 124- long, 17-feet high and abuts the foundation of the historic woolen mill building. The second is 180-feet long, 6-feet high and is classified as a T-Wall. The system provided protection up to an elevation of 717.0 feet, NGVD 1929. This corresponded to the same elevation flowage easements were obtained for the construction of Coralville Dam. This elevation is five feet above the full flood pool of 712.00 feet. After the 1993 flood event, the concrete wall at the Woolen Mill was raised to an elevation of 719.0 feet.

The system was given an unacceptable rating during an annual inspection in November 2006. The unacceptable rating was a result of discovering severely deteriorated concrete through the entire thickness of the T-Wall floodwall. This occurred at one location while attempting to patch what was thought to be deterioration just at the surface. Both segments of floodwall are showing similar signs of deteriorated concrete in many locations, especially within three feet of each monolith joint.

Summarized Project Costs

Amana Remedial Works Levee, Phase 1 - \$174,000

Additional Project Information

Damage was sustained to the Amana Remedial Works Levee system during the summer flooding in 2008. Funds were requested and received under the Continuing Resolution Authority Supplemental Appropriations Act of 2008 amounting to \$1,300,000 to repair the damage to the Amana Remedial Works Levee System. A contract was awarded in November 2009 to repair flood damage to the levee along Price Creek, and was completed in Spring 2010. At that time it was determined that the levee should be raised to coincide with the wall elevation of 719. Engineering and design on repairs to the two separate segments of floodwall began in February 2010, and a construction contract was



Amana Remedial Works Levee, Iowa River, IA

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

awarded. Completion of the repairs occurred in the fall of 2010 and the levee was raised to an elevation to 719 feet, NGVD 1929.

Authority Details

Flood Control Act, 28 June 1938

Point of Contact: Coralville Lake Operations Manager

Phone: (319) 338-3543

Email: coralville.lake@usace.army.mil

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Cedar River, 290th Street Bridge, Cedar County, Iowa - CAP Section 14

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Cedar County, IA

State(s)

IA

Congressional District(s)

IA-2

Status

Feasibility Cost Share Agreement was executed in November 2010; Feasibility Study has been completed and Feasibility Report was approved in May 2014.

Description

The Cedar River is causing severe erosion of bridge abutments and roadway (F44, 290th Street) near the Village of Rochester, IA. If left untreated the bridge abutments and roadway may be lost resulting in loss of a critical transportation route. An opportunity exists to stabilize the bank line and protect the abutments and roadway from further erosion. The roadway serves as a primary route for local travel and commerce, as an alternate route to Interstate 80 in emergency situations, and as a vital crossing for the agricultural industry.

Summarized Project Costs

| | Feasibility | DI |
|------------------------------|-------------|--------------|
| Estimated Federal Cost | \$265,000 | \$ 1,188,200 |
| Estimated Non-Federal Cost | \$165,000 | \$ 639,800 |
| Total Estimated Project Cost | \$430,000 | \$ 1,828,000 |
| Allocation through FY 2013 | \$265,000 | \$ 70,000 |
| Federal FY14 Appropriation | \$ 0 | \$ 935,000 |
| Federal Budget for FY 2015 | \$ 0 | \$ 0 |
| Balance to Complete | \$ 0 | \$ 253,200 |

Major Work Item (This Fiscal Year)

Approval of Feasibility Report and Environmental Assessment. Initiate Design & Implementation Phase. Execute Project Partnership Agreement. Award Construction Contract.

Major Work Item (Next Fiscal Year)

Complete construction and begin project closeout activities.

Point of Contact: Program Manager



Cedar River, 290th Street Bridge, Cedar County, Iowa - CAP Section 14

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Phone: (309)794-5561

Email: cemvr-pm-web@usace.army.mil

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Cedar River, Cedar Rapids, Iowa -- Flood Risk Management

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Location

Cedar River-Cedar Rapids

State(s)

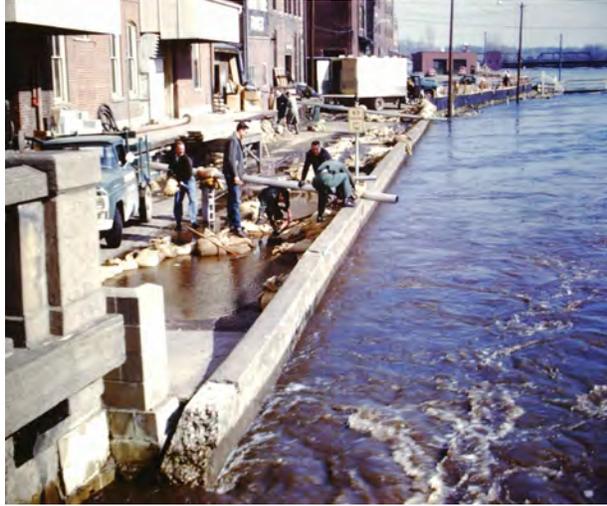
IA

Congressional District(s)

IA-1

Status

The Report of the Chief of Engineers (Chief's Report) was approved and transmitted to OMB and Congress on January 27, 2011. The project authorization was included in the House and Senate versions of draft WRRDA bill. A Design Agreement was executed on December 21, 2011, and Preconstruction Engineering and Design (PED) activities are ongoing for the project as recommended in the Chief's Report. The City of Cedar Rapids and the Corps executed a Design Agreement Amendment to provide accelerated non-Federal funding to further the PED phase. The City has sent the Corps their entire proportionate share of estimated PED costs (\$3M cash). Plans and Specifications were at the 35% Design level as of August 2012.



Description

More than 1,300 city blocks of Cedar Rapids, Iowa, were flooded in June 2008. Alternative 4-C provides protection along the east bank of the Cedar River; it is the Recommended - National Economic Development (NED) Plan. It includes earthen levees, floodwalls, and closure structures for a total length of 3.15 miles. This alternative has a benefit cost ratio (BCR) of 1.22; annual benefits \$6,300,000; net annual benefits \$1,155,000. The estimated total first cost is \$100,625,000 (2013 price level). The City's share (35%) would be \$35,218,750, including credit for Real Estate Interests provided by the City. The federal (65%) share would be \$65,406,250. The Recommended NED Plan has a 91.24 percent probability that the top of the levee/floodwall will not be exceeded, given the occurrence of a 500-year flood, the 0.2 percent chance event.

Cedar Rapids endorses the implementation of Alternative 4-C, as part of a comprehensive FRM plan for both river banks.

Summarized Project Costs

| | PED | CONSTRUCTION |
|-----------------------------|--------------|---------------|
| Estimated Federal Share | \$9,281,250 | \$65,406,250 |
| Estimated Non-Federal Share | \$3,093,750 | \$35,218,750 |
| Total Estimated Cost | \$12,375,000 | \$100,625,000 |



Cedar River, Cedar Rapids, Iowa -- Flood Risk Management

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

| | | |
|-----------------------------------|-------------|--------------|
| Allocations through FY 2013 | \$3,319,999 | \$0 |
| Allocation for FY 2014 | \$0 | \$0 |
| Budget for FY 2015 | \$0 | \$0 |
| Capability for FY 2015 | \$5,961,250 | \$6,000,000 |
| Balance to Complete after FY 2014 | \$5,961,250 | \$65,406,250 |

Additional Project Information

On April 5, 2006, Congress authorized a feasibility study, and the Feasibility Cost Share Agreement was signed on May 30, 2008. In June 2008, the City was devastated by a flood of record proportions. The floodwaters covered 10 square miles and caused an estimated \$2.4 billion in damages. The damaged property inventory conducted for this Study counted 7,846 properties damaged by the flood. This included 6,865 residential properties, 754 commercial/industrial properties and 227 public properties. The damaged public properties included the City's Water Pollution Control Facility, police station, the potable water wells, the wastewater collection system, City Hall, the Linn County Correctional Center, and the Linn County Courthouse, along with many other critical infrastructure elements.

Major Work Item (This Fiscal Year)

FY 2014: Continue PED and develop plans and specs for Reach 1 & 2 to 65% design level. Complete design for the Section of Floodwall in Reach 1.

Major Work Item (Next Fiscal Year)

FY 2015: Complete PED (pending funding); execute Project Partnership Agreement (pending project authorization and Construction appropriation)

Authority Details

House Resolution Docket 2749 adopted April 5, 2006, and Committee on Environment and Public Works US Senate dated May 23, 2006.

Point of Contact: Program Manager
Phone: (309)794-5561
Email: cemvr-pm-web@usace.army.mil



Cedar River, Cedar Rapids, Iowa -- Flood Risk Management--Construction

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Cedar River, Cedar Rapids

State(s)

IA

Congressional District(s)

IA-1

Status

Project was specifically authorized in WRRDA 2014 Conference Report. Coordination is on-going for non-Federal Sponsor designed and constructed project features.

Description

More than 1,300 city blocks of Cedar Rapids, Iowa, were flooded in June 2008. Alternative 4-C provides protection along the east bank of the Cedar River; it is the Recommended - National Economic Development (NED) Plan. It includes earthen levees, floodwalls, and closure structures for a total length of 3.15 miles. This alternative has a benefit cost ratio (BCR) of 1.22; annual benefits \$6,300,000; net annual benefits \$1,155,000. The estimated total first cost is \$100,625,000 (2013 price level). The City's share (35%) would be \$35,218,750, including credit for Real Estate Interests provided by the City. The federal (65%) share would be \$65,406,250. The Recommended NED Plan has a 91.24 percent probability that the top of the levee/floodwall will not be exceeded, given the occurrence of a 500-year flood, the 0.2 percent chance event.

Cedar Rapids endorses the implementation of Alternative 4-C, as part of a comprehensive FRM plan for both river banks.

Summarized Project Costs

| | Construction |
|----------------------------|----------------|
| Estimated Federal Cost | \$ 65,406,250 |
| Estimated Non-Federal Cost | \$ 35,218,750 |
| Total Estimated Cost | \$ 100,625,000 |

Financial Status

| | Construction |
|--------------------------|---------------|
| Allocations thru FY 2013 | \$ 0 |
| Allocations for FY 2014 | \$ 0 |
| Budget for FY 2015 | \$ 0 |
| Balance to Complete | \$ 65,406,250 |

Major Work Item (This Fiscal Year)

Coordination for non-Federal Sponsor designed and constructed project features.

Major Work Item (Next Fiscal Year)



Cedar River, Cedar Rapids, Iowa -- Flood Risk Management--Construction

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Coordination for non-Federal Sponsor designed and constructed project features.

Point of Contact: Program Manager
Phone: (309)794-5561
Email: cemvr-pm-web@usace.army.mil

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Cedar River, Waverly, IA - CAP Section 205

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Waverly, IA

State(s)

IA

Congressional District(s)

IA-1

Status

Awaiting new start approval.

Description

The Cedar River has flooded periodically over the last several decades, including the devastating 2008 flood, causing damage to public facilities. An opportunity exists to protect Southeast Waverly's public infrastructure from future flood damages.

Summarized Project Costs

| | FEASIBILITY |
|-----------------------|-------------|
| Federal Cost | \$100,000 |
| Non-Federal Cost | \$0 |
| Total Cost | \$100,000 |
| Allocations thru FY13 | \$0 |
| FY 2014 Allocations | \$0 |
| Budget for FY 2015 | \$0 |
| Balance to Complete | \$100,000 |

(Note: Costs for Initiation of Feasibility Study only are presented. Total Project cost TBD)

Major Work Item (This Fiscal Year)

Start Feasibility Study (pending new start approval)

Major Work Item (Next Fiscal Year)

Continue Feasibility Study (pending new start approval)

Point of Contact: Program Manager
Phone: (309)794-5561
Email: cemvr-pm-web@usace.army.mil

THIS PAGE INTENTIONALLY LEFT BLANK



Coralville Lake and Dam - FLOOD Supplemental O&M

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Coralville, Iowa

State(s)

IA

Congressional District(s)

IA-2

Status

All work was completed in 2011. Nothing else is planned. All supplemental funding has been expended.

Description

Coralville Lake is a multiple purpose project providing primary benefits in flood control and low-flow augmentation and secondary benefits in recreation, fish and wildlife management, forest management, and water quality improvement. Conservation pool is 5,400 acres; and the flood control pool is 24,800 acres with 475,000 acre-feet of storage. The dam is located on the Iowa River just upstream of Iowa City, Iowa. Coralville Lake and Dam experienced major flooding during Spring and Summer 2008. The flooding caused damage to facilities, buildings, and grounds throughout the project.

Additional Project Information

Coralville Lake and Dam operated with reduced capabilities and closures of some areas due to flood damage in 2008. Funding for repairs of flood damaged infrastructure were received and design/contract award occurred in late FY2009 and extended through FY2010. Construction on repair of flood damaged facilities have all been awarded and scheduled for completion in FY2011. FY 2011 -Repair Amana Levee, Completed Fall 2010.
-Repair Road/Parking Lot Flood Damage - Completed Fall 2011 -Spillway and stilling basin repair - Completed Fall 2011
-Flood Storage Building Completed Fall 2011

Authority Details

Flood Control Act of 1938

Point of Contact: Coralville Lake Manager

Phone: (319)338-3543

Email: coralville.lake@usace.army.mil

THIS PAGE INTENTIONALLY LEFT BLANK



Coralville Lake, Iowa - Operations & Maintenance

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Coralville Lake, Iowa

State(s)

IA

Congressional District(s)

IA-1, IA-2, IA-3, IA-4

Status

Project in operation.

Description

Coralville Lake is a multiple purpose project providing primary benefits in flood control and low-flow augmentation and secondary benefits in recreation, fish and wildlife management, forest management, and water quality improvement. Conservation pool is 5,400 acres; and the flood control pool is 24,800 acres with 475,000 acre-feet of storage. The dam is located on the Iowa River just upstream of Iowa City. Cumulative nominal damages prevented since projects inception (1958) ~ \$289,316,000. The project includes 24,591 acres of fee title lands and there are 11 recreation area sites. FY13 recreation fee receipts and lease revenues were \$570,000. Regional economic impact of 2013 project visitation is \$24,400,000 from an estimated 1,161,000 visits.

Summarized Project Costs

| | |
|-------------------------------|---------------|
| Allocations thru FY 2013 | \$105,067,000 |
| FY 2014 President's Budget | \$4,368,000 |
| House Allocation for FY 2014 | \$4,215,000 |
| Senate Allocation for FY 2014 | \$4,368,000 |
| FY 2014 Allocation | \$4,324,000 |
| Budget Request for FY 2015 | \$4,084,000 |

Additional Project Information

These numbers represent an illustrative distribution of operation and maintenance activities subject to revision during the course of the year, and therefore individual project estimates should not be considered as budget amounts.

Major Work Item (This Fiscal Year)

Routine Operation and Maintenance.
Periodic Inspection scheduled for 2014.
Replace Roof of Administration Building/Visitor Center and Ranger Garage.
Repave Road and Parking Areas.

Major Work Item (Next Fiscal Year)

Routine Operation and Maintenance.

Updated on 2014-Mar-13

Page 1 of 2

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Coralville Lake, Iowa - Operations & Maintenance

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Authority Details

Flood Control Act of 1938

Point of Contact: Coralville Lake Manager

Phone: (319) 338-3543

Email: coralville.lake@usace.army.mil

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Iowa River, Iowa City, IA - Section 205

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Iowa City, IA

State(s)

IA

Congressional District(s)

IA-2

Status

Awaiting new start approval.

Description

The Iowa River has flooded periodically over the last several decades, including the devastating 2008 flood, causing damages to public facilities. The opportunity exists to protect roads, utilities, bridges, sewage treatment facilities, potable water wells, and other public infrastructure from future flood damages.

Summarized Project Costs

| | Feasibility |
|-------------------------------------|-------------|
| Federal Cost | \$100,000 |
| Non-Federal Cost | \$0 |
| Total Cost | \$100,000 |
| Federal Allocations through FY 2013 | \$0 |
| FY 2014 Allocations | \$0 |
| Balance to Complete | \$100,000 |

(Note: Costs for Initiation of Feasibility Study only are presented. Total Project cost TBD)

Major Work Item (This Fiscal Year)

Start Feasibility Study (pending new start approval).

Major Work Item (Next Fiscal Year)

Continue Feasibility Study (pending new start approval).

Point of Contact: Program Manager
Phone: (309)794-5561
Email: cemvr-pm-web@usace.army.mil

THIS PAGE INTENTIONALLY LEFT BLANK



Iowa River, Wapello, IA - CAP Section 14

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Location

County Road X99 and River Road, Wapello, IA

State(s)

IA

Congressional District(s)

IA-2

Status

Awaiting New Start authorization

Description

The eroding Iowa River streambank is threatening the County Road X99 Bridge over the Iowa River, River Road embankment, and a wastewater treatment plant outfall in Wapello, IA. An opportunity exists to protect the bank and prevent damages to this public infrastructure.

Summarized Project Costs

| | FEASIBILITY |
|-------------------------------------|-------------|
| Federal Cost | \$100,000 |
| Non-Federal Cost | \$ 0 |
| Total Cost | \$100,000 |
| Federal Allocations through FY 2013 | \$ 0 |
| Federal Allocation for FY 2014 | \$ 0 |
| Budget for FY 2015 | \$ 0 |
| Balance to Complete | \$100,000 |

(Note: Costs for Feasibility Study only are presented. Total Project cost TBD)

Major Work Item (This Fiscal Year)

None (no funding).

Major Work Item (Next Fiscal Year)

Complete FID and Feasibility Study (pending funding).

Point of Contact: Program Manager
Phone: (309)794-5561
Email: cemvr-pm-web@usace.army.mil

THIS PAGE INTENTIONALLY LEFT BLANK



Upper Mississippi River Comprehensive Plan - Iowa-Cedar Rivers Watershed

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Location

Cedar Falls, Cedar Rapids and Iowa City

State(s)

IA, MN

Congressional District(s)

IA-1, IA-2, IA-3, IA-4, MN-1

Status

The study team is currently working to complete in FY2014 a reconnaissance level flood risk management study for the Iowa-Cedar watershed. The Interagency team has completed a scope for development of a comprehensive watershed plan through interagency collaboration and engagement of local interests; initiated development of collaborative watershed models; developed a process for shared-vision planning; and completed multiple stakeholder engagement workshops in the Indian Creek subwatershed.

Description

The 12,600 square mile Iowa and Cedar Rivers Basin (ICRB), which experienced record flows and elevations during the 2008 flood with catastrophic results, is the first tributary watershed to be studied under the Upper Mississippi River Comprehensive Plan (UMRCP). See UMRCP Fact Sheet for more information. Reducing flood risk requires a variety of actions, both structural and non-structural, that are compatible with achieving a resilient and sustainable watershed. A success watershed plan has upstream/upland interests working with downstream/lowland interests to develop win-win solutions. UMRCP flood risk management efforts are part of a broader effort of integrated water resources management of the ICRB. The objective is to create basin-wide management strategies and plans through public input and collaboration that can be implemented by Federal, state, and local agencies. While efforts under UMRCP are 100% Federally funded, the collaborative process aligns and leverages initiatives of other government (Federal, state, and local) and non-government organizations. Current participants on an ICRB Interagency Team include: US Army Corps of Engineers, USDA Natural Resources Conservation Service; USDA Farm Services Agency; US Fish & Wildlife Service; IA Departments of Natural Resources, Transportation, and Agricultural and Land Stewardship; IA Office of Homeland Security and Emergency Management; Federal Emergency Management Agency; Iowa State University; University of Iowa; US Environmental Protection Agency; US Geological Service; National Oceanic & Atmospheric Administration; and US Army Corps of Engineers. Some NGO's are also participating - American Rivers, Earth Economics; and the Nature Conservancy. Products are locally driven and include definitive goals and objectives; watershed plan; action plan;



Upper Mississippi River Comprehensive Plan - Iowa-Cedar Rivers Watershed

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

process for watershed management through collaboration and partnering; process for public outreach and engagement; and decision support system. Efforts under UMRCP integrate a broader plan and process for sustainable management of water and natural resources of ICRB for multiple purposes, which balances economic, environmental, and social values.

Summarized Project Costs

| | |
|------------------|-----------|
| Federal Cost | \$500,000 |
| Non-Federal Cost | \$0 |
| Total Cost | \$500,000 |

Additional Project Information

Costs posted in funding table represent Corps contribution under the Comprehensive Plan which is truly developed with contributions from multiple governmental and non-governmental entities that align with the IA-Cedar Interagency Coordination Team. www.iacedarbasin.org.

Major Work Item (This Fiscal Year)

In FY2014 with carry-over funding, the study team is completing the reconnaissance report for the Iowa-Cedar watershed. Additionally, the team has completed under pilots project funding: process for shared-vision planning in the Indian Creek subwatershed, and conducted 5 stakeholder engagement sessions that communicated the impacts of landuse and climate change on social, economic and environmental aspects related to flooding.

Major Work Item (Next Fiscal Year)

With funding in FY2015, if a Federal interest is identified in the reconnaissance report and a cost share sponsor is identified, a feasibility study would be conducted on the Iowa-Cedar watershed which would seek to prepare a flood risk management strategy in order to reduce the flood damages and improve infrastructure reliance.

Authority Details

Section 459 of Water Resources Development Act 1999 (Public Law 106-53)

Point of Contact: UMR Comprehensive Plan Program Manager

Phone: (309)794-5593

Email: cemvr-pm-web@usace.army.mil

**PERIODIC BASIN MANAGEMENT REPORT
2014**

**EASTERN IOWA BASINS
IOWA AND MINNESOTA**

**REGULATORY
FACT SHEET**



Joint Permit Applications in Iowa and Illinois

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Iowa and Illinois

State(s)

IA,IL

Congressional District(s)

IA-1, IA-2, IA-3, IA-4, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3

Status

Informational only.

Description

Joint application packets have been developed in cooperation with the Corps of Engineers and State regulatory agencies allowing one stop shopping for permit applicants in each state. The one stop shopping approach concurrently initiates independent processes required by respective State agencies and the Corps, and improves inter-agency communication, coordination and efficiency. For applicants, this approach eliminates the need for multiple application forms, makes it easier and faster to obtain necessary application forms, and reduces overall permit processing time. In Iowa and Illinois, one stop shopping has proven to be a very effective means to simplify the regulatory process/burden on the general public, yet allow for protection and regulation of natural resources through efficient and timely means. The one stop shopping concept was first developed within Iowa (and the first nationwide) in 1978. In 1985, a new joint application packet, "Protecting Iowa Waters", was implemented. The joint application packet is currently utilized by the 2 Corps Regulatory Districts in Iowa (Omaha and Rock Island Districts) and the Iowa Department of Natural Resources, factions of which encompass numerous State regulatory functions. In 1981, joint application procedures were developed and instituted through the cooperative efforts of the Corps and Illinois State regulatory and resource agencies. "Protecting Illinois Waters" was developed and has been actively utilized since that time by 5 Corps Districts (Chicago, Louisville, Memphis, Rock Island, and St. Louis Districts), The Illinois Environmental Protection Agency (IEPA), and the Illinois Department of Natural Resources (IDNR). The concurrent process aids in obtaining Section 401 water quality certification from the IEPA, review, input and a state floodplain construction permit from the IDNR, and the Corps permit.

Point of Contact: Regulatory Branch

Phone: (309)794-5370

Email: cemvr-odpublicnotice@usace.army.mil

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil

**PERIODIC BASIN MANAGEMENT REPORT
2014**

**EASTERN IOWA BASINS
IOWA AND MINNESOTA**

**ECOSYSTEM RESTORATION
FACT SHEETS**



Clear Creek and Iowa River Section 206 Project, Johnson County, Iowa

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

The project area is located in and around Iowa City and Coralville, Johnson County, Iowa. It stretches along the Iowa River Floodplain from north of Interstate 80 to Burlington Street in downtown Iowa City and along the Clear Creek corridor from its mouth

State(s)

IA

Congressional District(s)

IA-2

Status

Terminated

Description

The purpose of this project is to restore and enhance wetland, riparian, and stream habitat along and adjacent to the Iowa River and Clear Creek. It will also restore a section of Clear Creek, which has been channelized. Restoring and enhancing this area will restore the historic infiltration that occurred in the native landscape thus improving water quality, reducing runoff, and restoring groundwater hydrology to adjacent wetland communities. The project sponsors are the City of Iowa City, the City of Coralville, and the University of Iowa.

Summarized Project Costs

| | |
|-----------------------------------|-----------|
| Federal Cost | \$583,144 |
| Non-Federal Cost | \$0 |
| Total Cost | \$583,144 |
| Allocations through FY 2012 | \$578,144 |
| Allocations for FY 2013 | \$5,000 |
| Budget for FY 2014 | 0 |
| Balance to Complete after FY 2014 | \$0 |

Major Work Item (This Fiscal Year)

FY 2013: This project will be closed out from a federal standpoint.

Major Work Item (Next Fiscal Year)

FY 2014: Project will be closed out.

Point of Contact: Program Manager, Project Management Branch

Phone: (309)794-5399

Email: cemvr-pm-web@usace.army.mil

THIS PAGE INTENTIONALLY LEFT BLANK



Freeborn County, Minnesota (Aquatic Ecosystem Restoration)

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Location

Freeborn County, Minnesota

State(s)

MN

Congressional District(s)

MN-1

Status

Continuing with the Feasibility Phase, a Feasibility Cost Share Agreement was executed with the sponsor in December of 2013 completion of report is scheduled for December 2014.

Description

Freeborn County has requested assistance through the Section 206 program. There are 6 watersheds: Shell Rock, Cedar, Blue Earth, Cannon, La Suer, and Winnabego Rivers within the county that are of concern. Initial 206 efforts will focus on the Shell Rock River and Albert Lea Lake since these are most in need of restoration. The following is a general list of goals that were identified in the Preliminary Restoration Plan (PRP) for the Shell Rock watershed:

- Reduce problems with overflow due to constrictions within watershed
- Reduce water fluctuations in Albert Lea and Fountain Lakes
- Increase water percolation and retention within the upper parts of watershed in order to slow release rates into the river.
- Reduce bank erosion of both lake and stream banks
- Reduce sediment loading
- Keep within watershed (NRCS).

Summarized Project Costs

| | <u>FEASIBILITY</u> |
|-----------------------------------|---------------------------|
| Federal Cost | \$470,000 |
| Non-Federal Cost | \$253,000 |
| Total Cost | \$723,000 |
| Allocations through FY 2012 | \$198,300 |
| Allocations for FY 2013 | \$0 |
| Budget for FY 2014 | NA |
| Balance to Complete after FY 2014 | \$271,700 |

Major Work Item (This Fiscal Year)

FY 2014: Executed a Feasibility Cost Share Agreement, continuing with feasibility.

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Freeborn County, Minnesota (Aquatic Ecosystem Restoration)

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Major Work Item (Next Fiscal Year)

FY 2015: Complete feasibility report, execute Project Partnership Agreement, initiate design.

Point of Contact: Program Manager, Project Management Branch

Phone: (309)794-5399

Email: cemvr-pm-web@usace.army.mil

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Iowa River Streambank Erosion Control Evaluation and Demonstration

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Iowa River, Wapello, IA

State(s)

IA

Congressional District(s)

IA-2

Status

Study is complete. Final report has been prepared and distributed. Financial close out is underway..

Description

More than twenty-five years have passed since the completion of the construction of the Iowa River at Wapello, Iowa erosion control demonstration project. This project consisted of using a combination of permeable timber jetties, erosion control mat, and Kellner Jacks, allowing for engineering scrutiny as to which erosion control measures are beneficial for future use. The jetties were designed to direct flow to the center of the channel; the jacks were placed to stabilize the toe of the sloping bank; and the erosion mat was designed to protect the bank against erosion during high flows. The Iowa River at Wapello, Iowa erosion control demonstration project Special Study is revisiting the Wapello site and performing channel surveys at the original (circa 1978 / 1980) twenty cross-sections locations. Historic aerial photos (circa 1978 / 1980) are being compared to more recent aerial photos (2005/2006) and a performance evaluation report will be written.

Major Work Item (This Fiscal Year)

FY13. Completed technical review of modeling and mapping products. Completed and distributed final study report. Initiated financial close-out.

Major Work Item (Next Fiscal Year)

FY 14. Complete financial close-out.

Authority Details

FPMS Section 206 of the 1960 Flood Control Act, Special Study

Point of Contact: Program Manager

Phone: 309-794-5605

Email: cemvr-pm-web@usace.army.mil

THIS PAGE INTENTIONALLY LEFT BLANK



Ventura Marsh at Clear Lake

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Clear Lake, a 3,625-acre natural lake, is located near the town of Clear Lake, Cerro Gordo County, in north central Iowa, and has a drainage area of approximately 8,450 acres. Clear Lake drains into the Winnebago River.

State(s)

IA

Congressional District(s)

IA-4

Status

Construction completed.

Description

Ventura Marsh is an aging wetland system. The stable high water level has caused portions of it to accelerate to and stabilize in the open marsh stage. Rough fish activity in the marsh decreases the marsh water quality and reduces the vegetation coverage. The marshes habitat potential is not being reached. The aquatic bird and furbearer usage of the marsh is limited by the lack of vegetation and poor water quality.

Systemically, the marsh is limiting the habitat value of Clear Lake. Water quality of the lake is diminished because the marsh does not act as a natural filtering system for the water entering lake. The marsh is used by rough fish, specifically carp, for recruitment. As a result, the quality of the Clear Lake fishery is decreased. The success of the Clear Lake restoration efforts depends on solving these problems.

There are opportunities to increase the waterfowl usage of the marsh and provide better conditions for furbearers. Opportunities exist to change the hydrology of the marsh, increase water quality related to habitat to promote vegetation growth and slow the natural transition to an open marsh. The project sponsor is the Iowa Department of Natural Resources.

Summarized Project Costs

| | |
|-----------------------------------|-------------|
| Estimated Federal Cost | \$4,035,626 |
| Estimated Non-Federal Cost | \$2,173,030 |
| Total Estimated Cost | \$6,208,656 |
| Allocations through FY 2012 | \$3,702,626 |
| Allocations for FY 2013 | \$333,000 |
| Budget for FY 2014 | \$0 |
| Balance to Complete after FY 2014 | \$0 |



Ventura Marsh at Clear Lake

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Major Work Item (This Fiscal Year)

FY 2013: Complete design and construction of final stage of project construction.

Major Work Item (Next Fiscal Year)

FY 2014: Monitor and evaluate project performance.

Point of Contact: Program Manager, Project Management Branch

Phone: (309)794-5399

Email: cemvr-pm-web@usace.army.mil

**PERIODIC BASIN MANAGEMENT REPORT
2014**

**EASTERN IOWA BASINS
IOWA AND MINNESOTA**

**EMERGENCY MANAGEMENT
FACT SHEETS**



2008 & 2010 Flood Recovery PL84-99 - Overview

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Location

Entire District

State(s)

IA,IL,MN,MO,WI

Congressional District(s)

IA-2, IA-3, IA-4, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3, MN-1, MN-7, MO-6, WI-1, WI-2, WI-3, WI-5, WI-6

Status

As of March 2014, Flood damages in the form of levee breach repairs are 100% complete, pump station repairs are 100% complete and wave wash repairs are 100% complete. Breach Repairs were complete by 15 March 2009; Pump Station Repairs were complete by 30 April 2010 and Wave Wash repairs were completed in Fall 2011. One pump station engine at Hunt-Lima D&LD was replaced in February 2012 to address a warranty issue. Approximately 100% of the Operation and Maintenance manuals have been completed to incorporate the 2008 repairs. Approximately 99% of the projects are fiscally closed with the remaining two projects requiring additional fiscal management. It is expected that these projects will not close until sometime in FY16.

July 2010 Flood damages to Iowa levee and drainage districts include (1) a levee breach at Green Island -Roger Tarr LDD, Maquoketa River, in Jackson County, (2) levee erosion on Yellow Springs tieback levee in Two Rivers LDD, Des Moines County, (3) levee erosion at Louisa #11 LDD, Iowa River in Louisa County, (4) foreshore erosion at Oelwein, IA, and (5) foreshore erosion at Volga, IA. Projects 3-5 did not suffer damages greater than the \$15,000 threshold for Federal assistance. Project 2 was approved for repairs and is currently in construction with a March 2012 physical completion date. Project 1 failed to reach a positive benefit:cost ratio but is still being worked for non-structural options.

For the Spring 2011 Flood damages, one PIR was completed for the Mississippi-Fox D&LD (with four levee breaches). Repairs were completed by the D&LD with some technical input from the Corps. Three other areas that experienced damages from this flood event did not meet the \$15,000 threshold for Federal assistance.

Summarized Project Costs

| | |
|--|--------------|
| Federal Cost | \$73,972,937 |
| Non-Federal Cost | \$183,433 |
| Total Cost | \$74,156,370 |
| Federal Allocations through FY 2010 | \$74,156,370 |
| Scheduled Federal Allocation for FY 2012 | \$0 |



2008 & 2010 Flood Recovery PL84-99 - Overview

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

| | |
|---------------------|-----|
| Balance to Complete | \$0 |
|---------------------|-----|

Major Work Item (This Fiscal Year)

2013 Flood Repair Projects: Close-out remaining construction contracts, finalize the remaining operation and maintenance manual updates, fiscal closeout. Continue to develop viable nonstructural alternative for Green Island LDD with Sponsor, State of Iowa and Natural Resource and Conservation Service. Complete and close out all remaining aspects of the 2008 and 2010 PL84-99 Flood Repairs.

Authority Details

Public Law 84-99

Point of Contact: PL84-99 Flood Recovery Program Manager, CEMVR-PM-M

Phone: (309) 794-5704

Email: cemvr-pm-web@usace.army.mil

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Emergency Response/Recovery Actions - Overview

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Entire District

State(s)

IA,IL,MN,MO,WI

Congressional District(s)

IA-1, IA-2, IA-3, IA-4, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3, MN-1, MN-7, MO-6, WI-1, WI-2, WI-3, WI-5, WI-6

Description

The Rock Island District is prepared to provide all hazard response and recovery assistance under the authority of Public Law (PL) 84-99 and PL 93-288. All hazard events include flooding, earthquakes, tornados, etc. On a national basis the District will respond to incidents of national significance such as hurricanes and weapons of mass destruction.

The District Crisis Management Team consisting of senior staff elements is trained and ready to respond to disasters. Prior to flood season, trained Flood Area Engineer teams conduct annual inspections of the District flood protective systems in coordination with local sponsors. Flood fight supplies are stockpiled and flood fight equipment is serviced.

The District's Combined Commodities Planning and Response Team is trained and prepared to assist FEMA with the tracking and distribution of ice and water, supporting disaster response and recovery operations in accordance with the Stafford Act (PL93-288) and the National Response Framework. The District Unwatering Task Force will provide Command and Control to the New Orleans Unwatering Team in the event of a disaster impacting the Greater New Orleans Metropolitan Area.

Authority Details

Public Law 84-99 and Public Law 93-288

Point of Contact: Chief, Emergency Management Division

Phone: (309) 794-5230

Email: cemvr-EOC@usace.army.mil

THIS PAGE INTENTIONALLY LEFT BLANK



Expedient Flood Fight Products - Overview

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Entire District

State(s)

IA,IL,MN,MO,WI

Congressional District(s)

IA-1, IA-2, IA-3, IA-4, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3, MN-1, MN-7, MO-6, WI-1, WI-2, WI-3, WI-5, WI-6

Description

The Rock Island District Emergency Management (MVR-EM) is the USACE National Expedient Flood Fight Product (EFFP) Program Manager. EFFP is flood fight materiel designed to be an innovative and expeditious means of providing flood protection when there is not enough time to conduct typical sandbag operations. The use of EFFP can quickly enhance a community's flood protection and reduce the risk of damages and loss of life. The addition of EFFP to the USACE flood fight inventory increases USACE's capability to supplement State and local flood fight operations

As the National Program Manager, MVR-EM is responsible for the Nation-wide inventory control of products, procurement of additional products, and refurbishment of used product for all of USACE. MVR-EM ensures that the five distribution centers (Sacramento District, Seattle District, Omaha District, Rock Island District, and Philadelphia District) have an ample supply of three different types of EFFP (HESCO, Portadam, and Rapidly Deployable Floodwall). As a Distribution Center, MVR-EM's responsibilities include the acquisition of storage facilities, logistical control of local product, and regional deployment of the products within the Mississippi and Ohio River basins to support state and local flood fight operations.

The Rock Island District also serve as the training coordinator of the Expedient Flood Fight Products. Responsibilities include training of multi-regional personnel including USACE Division and District personnel, state and local officials, and federal/non-federal sponsors. Training on how to use each product will include proper product storage, operational considerations, product setup, maintenance during operation, protection improvement, product removal, cleaning, repair, and repackaging for storage.

USACE Engineering Research and Development Center (ERDC) developed a comprehensive laboratory testing program for these types of products, and the results are available online at <http://chl.erd.c.usace.army.mil/ffs>

Point of Contact: Chief, Emergency Management Division

Phone: (309) 794-5230

Email: cemvr-EOC@usace.army.mil

THIS PAGE INTENTIONALLY LEFT BLANK



Repairs to Levee Systems/Flood Control Projects - Policy

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Entire District

State(s)

IA,IL,MN,MO,WI

Congressional District(s)

IA-1, IA-2, IA-3, IA-4, IL-1, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3, IL-4, IL-7, MN-1, MN-7, MO-6, WI-1, WI-2, WI-3, WI-5, WI-6

Description

Corps of Engineers policy regarding repairs to levee systems and flood control projects damaged by floods is as follows:

a. Federally constructed, locally maintained flood control systems active in the Public Law 84-99 program will be rehabilitated to pre disaster condition by the Corps of Engineers at 100 percent federal cost. Prospective repairs require a letter of request from sponsor and funding by Congress.

b. Non-federally constructed, locally maintained systems, active in the Public Law 84-99 program, will be repaired by the Corps of Engineers to pre disaster condition at 80 percent federal/20 percent local cost share. Prospective repairs require a letter of request from sponsor and funding by Congress.

c. Federally constructed or enhanced, locally maintained systems AND non-federally constructed or enhanced, locally maintained systems not active in the Public Law 84-99 program are not eligible for repairs by the Corps of Engineers.

d. Active status in the Rehabilitation and Inspection program is determined by Continuing Eligibility Inspection ratings.

NOTE: Repairs can only be made to pre-disaster conditions. Public Law 84-99 funds are not authorized for improvements or enhancements.

PL 84-99 Program (Public Law 84-99; Flood and Coastal Storm Emergencies):

a. Repair Authorization. Levee systems and/or flood control projects are authorized for repairs, if damaged by a flood event, when the levee system is active in the Corps' PL 84-99 program. To be included in the PL 84-99 program, a levee system or flood control project must be routinely inspected by the Corps of Engineers and found to meet Corps of Engineers construction standards and are maintained in a fashion that does not deter from its structural integrity.

b. Structural Integrity. The following conditions will lessen the integrity of a levee system and/or flood control project and may result in a Corps of Engineers determination that the levee system/flood control project does not meet Corps of Engineers standards:

1) Burrow holes (animal or man-made)



Repairs to Levee Systems/Flood Control Projects - Policy

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

- 2) Mass tree growth (roots degrade structure/tree weight causes undue stress)
- 3) Erosion
- 4) Any other condition determined to be a detriment to the structure

The levee maintaining authority (Sponsor) will be notified of any failure to meet Corps standards. They will be allowed ample time to correct deficiencies. If deficiencies are not corrected, the levee system/flood control project will be removed from the PL 84-99 program and become ineligible for federally assisted repairs if damages incurred due to a flood event.

Authority Details

Public Law 84-99

Point of Contact: Chief, Emergency Management Division

Phone: (309) 794-5230

Email: CEMVR-EOC@usace.army.mil

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil

**PERIODIC BASIN MANAGEMENT REPORT
2014**

**EASTERN IOWA BASINS
IOWA AND MINNESOTA**

**PLANNING ASSISTANCE TO THE STATES AND TRIBES
FACT SHEET**



Sac & Fox Settlement Master Planning, PAS&T Study

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Location

Meskwaki Indian Settlement, Tama, Iowa

State(s)

IA

Congressional District(s)

IA-3

Status

The scope of work has been prepared. The Partnering Agreement has been prepared, reviewed, and approved of by District Office of Counsel. A letter from the Bureau of Indian Affairs (BIA) has been received stating that the Tribe is able to use grant funding to cost share this project. Work-In-Kind crediting estimate for the Tribe has been scoped out and finalized. The Tribe requested additional editing of the most recently provided iteration of the Partnering Agreement. The acceptability of these edits is under review within the Corps.

Description

This study is located at the Meskwaki Settlement in Tama County, Iowa. The Sac & Fox Tribe (Tribe) has requested the U.S. Army Corps of Engineers, Rock Island District, through Planning Assistance to States and Tribes (PAS&T), provide assistance with flood plain analysis, floodplain management, and flood risk reduction planning on the Meskwaki Settlement.

Summarized Project Costs

| | |
|------------------------------------|-----------|
| Federal Cost | \$82,105 |
| Non-Federal Cost | \$82,105 |
| Total Cost | \$164,210 |
| Federal Allocation Through FY 2014 | \$78,000 |

Additional Project Information

The Section 22 program effectively allows non-Federal interests to leverage their resources and efficiently engage Corps expertise in meeting their water resources planning needs.

Major Work Item (This Fiscal Year)

FY2014: Execute Partnering Agreement; receive sponsor cost share funding; initiate study.

Major Work Item (Next Fiscal Year)

FY2015: Physically complete study.

Point of Contact: Project Manager

Updated on 2014-Mar-18

Page 1 of 2

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Sac & Fox Settlement Master Planning, PAS&T Study

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Phone: 309-794-5605

Email: cemvr-pm-web@usace.army.mil

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil

SECTION VI. STAKEHOLDER ROLES IN THE WATERSHED

A. CITY PLANNING AND DEVELOPMENT DEPARTMENT

The following is an example of a city planning and development department mission statement:

“Within a city’s organizational structure, a Planning and Development Department provides professional services related to planning and zoning. In addition, the Department is responsible for the developing and implementing various long-range plans, reviewing and approving development proposals for new construction, and creating and administering many capital improvement projects.

Responsibilities also includes administration of subdivisions and similar platting matters; administration of street and alley vacation; variances and conditional uses; preparation and administration of grant applications; assistance to existing and new businesses for the purpose of economic development; and development and implementation of the City’s comprehensive plan.”
(City of Marion, IA Planning and Development Department)

B. COUNTY PLANNING AND ZONING

The following is an example of a county Planning and Zoning Department mission statement:

“The Zoning office is responsible for the enforcement of the Zoning Ordinance. The Zoning Ordinance is the tool used to implement the County’s Comprehensive Plan. The purpose of the Comprehensive Plan is to provide a program for the orderly and efficient growth and development of the County. The Plan is concerned with the effective use of land, structures, and open space—both public and private—to make the County a desirable place in which to live and work. The Zoning office is where you can obtain applications for building permits, variances, conditional use permits, rezoning, and subdivisions. Filing fees vary for these applications.

As an example, the studies used to prepare the Comprehensive Plan for the unincorporated area of Woodbury County include analysis of population trends and characteristics, economic factors, existing use of land and structures, public utilities and roads, recreational and educational facilities and the financial condition of the County.

The formulation and development of the Plan was guided by land use goals and objectives. The first goal is to provide for the orderly growth and development of the County while encouraging the preservation of existing agricultural resources. The second objective is to provide for varied residential areas to serve the diverse housing needs of the County population. Another purpose is to promote sound economic growth through the proper allocation of land for agricultural, commercial and industrial development. An additional goal is to provide for an adequate transportation system for safe and efficient movement of goods and people. In addition, the intent is to preserve public and private open space including wooded areas, streams and floodplains recognizing these areas as resources to be conserved rather than developed. The final objective is to allocate sufficient land for parks and recreation to meet the needs of the present and future population.”
(Woodbury County, IA Planning and Zoning Department)

C. COUNTY CONSERVATION DEPARTMENTS

The following is an example of a county Conservation Department mission statement:

“To promote and preserve the health and general welfare of the people. To encourage the orderly development and conservation of natural, historical, and cultural resources in Dallas County. To cultivate good citizenship through environmental education by providing natural, historical, cultural, and recreational programs to the public. To plan, acquire, develop, maintain, and make available to the inhabitants of the county, public parks, preserves, parkways, playgrounds, recreation centers, county forests, wildlife, and other conservation areas.” (*Dallas County, IA Conservation Board*)

D. CONSERVATION DISTRICTS OF IOWA

Conservation Districts of Iowa (CDI) is a nonprofit 501(c) 3 organization devoted to providing educational programs on the conservation of soil, water, and other natural resources. In 1937, as the Dust Bowl focused attention on soil erosion, President Roosevelt sent a model law to governors recommending legislation that would allow landowners to form voluntary soil conservation districts. It was recognized then, as now, that local, voluntary efforts are most effective in getting land conservation practices established. The legislation was adopted by Iowa’s legislature in 1939 and the first conservation district was formed in three Marion County townships in April 1940. By 1952, all of the land in Iowa was served by Conservation Districts. Since that time, CDI has been working with the 100 soil and water conservation districts in Iowa to promote sustainable agricultural practices for the protection of soil and water resources. Today, work is also being done in urban settings, promoting conservation practices for homeowners, developers, and communities.

1. How Conservation Districts Work. Conservation Districts in Iowa are managed by five commissioners elected on the general ballot in each county. Each of the five commissioners serve four-year terms and only one commissioner may reside in any single township. With assistance from the USDA Natural Resources Conservation Service (NRCS) and Iowa Department of Agriculture and Land Stewardship-Division of Soil Conservation, commissioners address the natural resource issues that are most critical in their districts.

2. Conservation Districts’ Role. Soil and water conservation districts are legal subdivisions of state government. Commissioners are responsible for carrying out state laws and programs within district boundaries. These include:

- sediment control law;
- conservation cost-sharing;
- conservation revolving loan funds;
- water quality protection projects;
- conservation planning; and
- resource enhancement and protection Districts also play a key role in carrying out Federal programs including, but not limited to:
 - the Conservation Reserve Program
 - the Environmental Quality Incentives Program
 - Conservation Compliance
 - the Wetlands Reserve Program

Districts serve as local sponsors for watershed projects, resource conservation and development areas, and soil surveys as well.

Conservation Districts of Iowa
PO Box 801
1711 Osceola Ave - Suite 205
Chariton, IA 50049
Telephone: (641) 774-4461

E. IOWA DEPARTMENT OF NATURAL RESOURCES

The mission of the Iowa DNR is to conserve and enhance the State's natural resources in cooperation with individuals and organizations to improve the quality of life for Iowans and ensure a legacy for future generations.

With 71,665 miles of streams and rivers and more than 161,000 acres of lakes, ponds and wetlands, it seems as if Iowa is rich in water resources. However, less than 1 percent of the State's land area is covered with water. It is vital that this limited resource, both above and below ground, be protected from pollution and available for Iowans to use for drinking water, recreation and industries.

Protecting the safety of Iowans and the quality of Iowa's waters are the two main goals of the Iowa DNR's Water Quality Bureau. The bureau sets standards for the quality of the District's surface waters; issues permits to limit pollution; provides technical assistance and training to communities, industries and homeowners; and provides funding for projects that enhance water quality.

When an emergency such as flooding occurs, the bureau assists Federal, state, and local authorities to protect public safety and provide disaster aid.

Many of Iowa's programs are based upon Federal laws administered by the USEPA. In these cases, the Federal government has delegated responsibility for implementing those programs to the Iowa DNR.

The Iowa DNR's Aquatic Education Program publishes a resource guide, "Conservation Education Resources in Iowa" that provides a listing of resource agencies available in the region (Appendix A).

Iowa Department of Natural Resources
502 E. 9th Street
Des Moines, IA 50319-0034

Telephone: (515) 281-5918
<http://www.iowadnr.gov/>

F. IOWA DEPARTMENT OF TRANSPORTATION

The mission of the Iowa Department of Transportation is to advocate and deliver services that support and promote a safe and comprehensive transit system in Iowa to enhance Iowa's access to opportunities and quality of life.

Iowa's on-going planning process, known as Iowa in Motion, provides the direction for planning and

*Eastern Iowa Basins
Iowa and Minnesota*

developing the transportation system needed to help move the State productively and prosperously into the future.

The continuing Iowa in Motion process has led to the development of a State Transportation Plan, approved by the Iowa Transportation Commission on July 15, 1997. This plan guides the development of transportation in Iowa. Policies developed as a result of the plan guide investments in the transportation system that respond to the needs of customers in Iowa and the Nation from now through the year 2020.

Iowa Department of Transportation
Office of Systems Planning
800 Lincoln Way
Ames, IA 50010

Telephone: (515) 239-1669
Fax: (515) 239-1639
<http://www.iowadot.gov/index.html>

G. IOWA HOMELAND SECURITY & EMERGENCY MANAGEMENT DEPARTMENT- COUNTY EMERGENCY PLANNING

The mission of the Iowa Homeland Security & Emergency Management Department is to lead, coordinate, and support homeland security and emergency management functions in order to establish sustainable communities and ensure economic opportunities for Iowa and its citizens.

Planning for emergencies ensures that emergency services, local authorities and other organizations better communicate and coordinate efforts, improving disaster response and post-disaster recovery. Federal, state and local requirements are concerned with providing safety and security for the public under threat of a full spectrum of potential disasters.

Section 29C of the Iowa Code provides the authority and lists the responsibilities of the Iowa Homeland Security and Emergency Management Division and the County Emergency Management Commissions to plan for emergencies. In addition, the following Federal laws and regulations shape emergency planning:

- Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA)
- Robert T. Stafford Disaster Relief and Emergency Assistance Act
- Homeland Security Act of 2002
- National Flood Insurance Reform Act
- Criteria published by the Nuclear Regulatory Commission and the FEMA for preparing Radiological Emergency Response Plans

Iowa Homeland Security & Emergency Management
7900 Hickman Road, Suite 500
Windsor Heights, IA 50324

Telephone: (515) 725-3231
Fax: (515) 725-3260
<http://homelandsecurity.iowa.gov/>

H. IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP

The mission of the Iowa Department of Agriculture and Land Stewardship (IDALS) is to provide leadership for all aspects of agriculture in Iowa, ensure consumer protection and promote the responsible use of our natural resources.

Land stewardship is central to the work of the IDALS. The Division of Soil Conservation provides farmers with expertise and funds to help them install practices that preserve the state's highly productive soil, prevent erosion, and protect critical waterways. The IDALS is focused on making sure future Iowans can experience the same high quality of life that past generations have enjoyed in the State of Iowa.

The IDALS is responsible for a wide variety of consumer protection and agriculture promotion programs. This includes regulating meat processing, commercial feed and fertilizer, pesticide application, and dairy production and processing. The Weights and Measures Bureau makes sure both buyers and sellers are treated fairly at the gas pump, grocery store or grain elevator. The State Climatologist, Entomologist, and Veterinarian are also all part of the IDAL. Other areas of responsibility for the Department include Agriculture Statistics, Homeland Security, and the Iowa Horse and Dog Breeding program.

The Department helps promote the more than 170 farmers markets located across the state and administers the Farmers Market Nutrition Program for seniors and residents participating in the Women, Infants and Children program.

The Century and Heritage Farm program, which recognizes farms that have been in the same family for 100 or 150 years, is run by a partnership between the Department and the Iowa Farm Bureau.

In all of these areas, the IDALS mission is to provide leadership for all aspects of agriculture in Iowa, ensure consumer protection and promote the responsible use of the state's natural resources.

Iowa Department of Agriculture and Land Stewardship
Wallace State Office Building
502 E. 9th Street
Des Moines, IA 50319

Telephone: (515) 281-5321
<http://www.iowaagriculture.gov/default.asp>

I. FEDERAL EMERGENCY MANAGEMENT AGENCY

The mission of FEMA is to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards.

FEMA leads and supports the Nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery and mitigation.

*Eastern Iowa Basins
Iowa and Minnesota*

Federal Emergency Management Agency
U.S. Department of Homeland Security
500 C Street SW
Washington, DC 20472

General Operator: (202) 646-2500
Register for Disaster Assistance: (800) 621-3362 / TTY (800) 462-7585
<http://www.fema.gov/>

J. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

The mission of the USEPA is to protect human health and the environment—air, water, and land. The USEPA, state, local and tribal agencies work together to ensure compliance with environmental laws passed by Congress, state legislatures and tribal governments. Many of Iowa's programs are based upon Federal laws administered by the USEPA. In these cases, the Federal government has delegated responsibility for implementing those programs to the Iowa DNR.

The USEPA leads the Nation's environmental science, research, education and assessment efforts. Since 1970, the USEPA has been working for a cleaner, healthier environment for the American people.

Region 7 (IA, KS, MO, NE)
Environmental Protection Agency
901 North 5th Street
Kansas City, KS 66101

Telephone: (913) 551-7003
Toll free: (800) 223-0425
<http://www2.epa.gov/aboutepa/epa-iowa>
<http://www.epa.gov/region07/>

K. NATURAL RESOURCES CONSERVATION SERVICE

The mission of the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) is to improve the health of our nation's natural resources while sustaining and enhancing the productivity of American agriculture. They achieve this by providing voluntary assistance through strong partnerships with private landowners, managers, and communities to protect, restore, and enhance the lands and waters upon which people and the environment depend.

Since 1935, the NRCS (originally called the Soil Conservation Service) has provided leadership in a partnership effort to help America's private land owners and managers conserve their soil, water and other natural resources. NRCS employees provide technical assistance based on sound science and suited to a customer's specific needs. The NRCS provides financial assistance for many conservation activities. Participation in their programs is voluntary.

The Conservation Technical Assistance program provides voluntary conservation technical assistance to land users, communities, units of state and local government, and other Federal agencies in planning and implementing conservation systems.

The NRCS reaches out to all segments of the agricultural community, including underserved and socially disadvantaged farmers and ranchers, to ensure that its programs and services are accessible to everyone. In addition, the NRCS manages natural resource conservation programs that provide environmental, societal, financial, and technical benefits. The science and technology activities provide technical expertise in such areas as animal husbandry and clean water, ecological sciences, engineering, resource economics, and social sciences.

The NRCS provides expertise in soil science and leadership for soil surveys and for the National Resources Inventory, which assesses natural resource conditions and trends in the United States. In addition, the NRCS provides technical assistance to foreign governments, and participates in international scientific and technical exchanges.

The NRCS/Corps Partnership Agreement, signed July 7, 2005, promotes a long-term working relationship to improve the management of water and related natural resources under the missions and authorities of NRCS and the Corps. The agencies have pledged to work together in the following areas:

- Watershed planning
- Wetlands creation, restoration and enhancement
- Natural disaster recovery
- Activities related to Wetlands Conservation and Regulatory Compliance (The “Swampbuster” Provision of the Farm Bill and Section 404 of the Clean Water Act) will also be coordinated.

State Conservationist
210 Walnut Street, Room 693
Des Moines, IA 50309

Telephone: (515) 284-6655
Fax: (515) 284-4394

<http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/>
<http://www.nrcs.usda.gov/wps/portal/nrcs/site/ia/home/>

L. RESOURCE CONSERVATION AND DEVELOPMENT

The purpose of the USDAs Resource Conservation and Development (RC&D) program is to accelerate the conservation, development and use of natural resources, improve the general level of economic activity, and to enhance the environment and standard of living in designated RC&D areas. It improves the capability of State, tribal and local units of government and local nonprofit organizations in rural areas to plan, develop, and carry out programs for resource conservation and development. The program also establishes or improves coordination systems in rural areas.

Current program objectives focus on improvement of quality of life achieved through natural resources conservation and community development which leads to sustainable communities, prudent use (development), and the management and conservation of natural resources. RC&D areas are locally sponsored areas designated by the Secretary of Agriculture for RC&D technical and financial assistance program funds.

http://www.nrcs.usda.gov/wps/portal/nrcs/detail/ia/about/?cid=nrcs142p2_011865

M. FARM SERVICE AGENCY

The primary mission of the USDA's Farm Service Agency (FSA) is to help Iowa's farmers and ranchers secure the highest possible financial assistance from USDA programs and play a vital role to the economic survival of Iowa's rural communities. The FSA administers and manages farm commodity, credit, conservation, and disaster and loan programs as laid out by Congress through a network of Federal, state and county offices.

These programs are designed to improve the economic stability of the agricultural industry and to help farmers adjust production to meet demand. Economically, the desired result of these programs is a steady price range for agricultural commodities for both farmers and consumers.

Iowa State Farm Service Agency
10500 Buena Vista Court
Des Moines, IA 50322-3782

Telephone: (515) 254-1540
Fax: (515) 254-1573
Email: ia-fsa-pubinfo@one.usda.gov

<http://www.fsa.usda.gov/FSA/stateoffapp?mystate=ia&area=home&subject=landing&topic=landing>

N. UNITED STATES DEPARTMENT OF AGRICULTURE

The USDA's mission is to provide leadership on food, agriculture, natural resources, rural development, nutrition, and related issues based on sound public policy, the best available science, and efficient management.

The vision of the USDA is to be a dynamic organization that is able to enhance agricultural trade, improve farm economies and quality of life in rural America, protect the nation's food supply, improve the Nation's nutrition, and protect and enhance the Nation's natural resource base and environment. USDA employees will be guided by the following principles as they address challenges in food, agriculture, resources and related issues: strong ethics; service; teamwork; inclusive decision-making; and fiscal responsibility.

To achieve the USDA's strategic goals and implement its management initiatives, the USDA emphasizes results based on teamwork across agencies. The USDA will improve both the short-term and long-term leadership abilities needed to carry out public policy effectively. All actions will be consistent with equal opportunity and civil rights responsibilities. The USDA will act in a manner both inclusive and open to public scrutiny.

Boone Service Center
1602 Snedden Dr
Boone, IA 50036

Telephone: (515) 432-4320
Fax: (515) 432-6864

*Eastern Iowa Basins
Iowa and Minnesota*

Humboldt Service Center
1301 6th Ave N Humboldt, IA 50548-1150

Telephone: (515) 332-2456

Fax: (515) 332-3961

<http://www.usda.gov/wps/portal/usda/usdahome>

O. UNITED STATES GEOLOGICAL SURVEY

The mission of the U.S. Geological Survey (USGS) is to serve the nation by providing reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.

The USGS provides reliable, impartial, timely information that is needed to understand the nation's water resources and actively promotes the use of this information by decision makers to:

- minimize the loss of life and property as a result of water-related natural hazards, such as floods, droughts, and land movement;
- effectively manage ground-water and surface-water resources for domestic, agricultural, commercial, industrial, recreational, and ecological uses;
- protect and enhance water resources for human health, aquatic health, and environmental quality; and
- contribute to wise physical and economic development of the Nation's resources for the benefit of present and future generations.

Iowa Water Science Center
P.O. Box 1230
Iowa City, IA 52244

Telephone: (319) 337-4191

Fax: (319) 358-3606

Email: dc_ia@usgs.gov

<http://www.usgs.gov/>

P. IOWA NATIONAL GUARD

The mission of the Iowa National Guard is to train, mobilize, deploy, sustain and reconstitute units, providing ready forces in defense of our nation, state, and community.

The Guard provides units and equipment to protect life and property and come to the aid of Iowans in a time of need, to preserve peace and order, and to ensure public safety for the citizens of Iowa.

Office of The Adjutant General of Iowa
Joint Forces Headquarters
7105 NW 70th Avenue
Johnston, IA 50131-1824

*Eastern Iowa Basins
Iowa and Minnesota*

Telephone: 515-252-4211/4582
Fax: 515-252-4656
Email: paoia@ng.army.mil
<http://www.iowanationalguard.com>

Q. WATER RESOURCES COORDINATING COUNCIL

The purpose of the Water Resources Coordinating Council (WRCC) is to preserve and protect Iowa's water resources, and to coordinate the management of those resources in a sustainable and fiscally responsible manner. In the pursuit of this purpose, the council uses an integrated approach to water resource management, recognizing that insufficiencies exist in current approaches and practices, as well as in funding sources and the use of funds.

The integrated approach used by the council attempts to overcome old categories, labels, and obstacles with the primary goal of managing the state's water resources comprehensively rather than compartmentally. The WRCC has established nine priority watersheds in the State of Iowa, two of which lie within the Eastern Iowa Basins. A map of the designated watersheds can be found at <http://www.iowaagriculture.gov/WRCC.asp>. The current roster for the WRCC can be found at <http://www.iowaagriculture.gov/WRCC/pdf/WRCCRoster2013.pdf>.

Water Resources Coordinating Council
Wallace State Office Building
502 E. 9th Street
Des Moines, IA 50319

Telephone: (515) 281-5321
<http://www.agriculture.state.ia.us/WRCC.asp>

R. WATERSHED PLANNING ADVISORY COUNCIL

The Watershed Planning Advisory Council (WPAC) was established by the 2010 Iowa Legislature (House File 2459) to assemble a diverse group of stakeholders who would review research and make periodic recommendations to state and Federal agencies regarding methods to best protect water resources in Iowa, assure an adequate supply of water, mitigate and prevent floods, and coordinate the management of the state's water resources in a sustainable, fiscally responsible, and environmentally conscientious manner.

The WPAC consists of mostly non-governmental organizations and associations that were involved in the 2008 Watershed Quality Planning Task Force (WQPTF). (<http://www.iowaagriculture.gov/WPAC/pdf/finallegislativereport2007.pdf>.) That task force made recommendations to the Iowa Legislature in 2009 on how to improve watershed planning effectiveness, and led to creation of the WRCC.

The WPAC seeks to continue its original work of the WQPTF by consulting with other governmental or non-governmental organizations in the development of its future recommendations for watershed planning and implementation effectiveness, and advise the WRCC member agencies and the legislature as necessary on these matters. The current roster of the WPAC can be found at <http://www.iowaagriculture.gov/WPAC/pdf/WPACRosterupdatedJanuary2014.pdf>

Periodic Basin Management Report - 2014

*Eastern Iowa Basins
Iowa and Minnesota*

Watershed Planning Advisory Council
Wallace State Office Building
502 E. 9th Street
Des Moines, IA 50319

Telephone: (515) 281-5321
<http://www.iowaagriculture.gov/WPAC.asp>

**PERIODIC BASIN MANAGEMENT REPORT
2014
EASTERN IOWA BASINS
IOWA AND MINNESOTA**

APPENDIX A

**IOWA DEPARTMENT OF NATURAL RESOURCES
RESOURCE GUIDE**

Conservation Education Resources in Iowa

Aquatic Education Program
Iowa Department of Natural Resources
2014



Table of Contents

| | |
|----------------------------------|---|
| Federal Agencies | 1 |
| State Agencies..... | 3 |
| Public Universities | 4 |
| County Conservation Boards | 5 |
| Conservation Organizations | 5 |

Accessibility

This information is available in alternative formats by contacting the DNR at 515/281-5145 (TTY users - contact Relay Iowa, 800/735-2942) or by writing the DNR at 502 East 9th Street, Des Moines, IA 50319-0034.

Equal Opportunity

Federal regulations prohibit discrimination on the basis of race, color, national origin, sex or handicap. State law prohibits discrimination on the basis of race, color, creed, sexual orientation, gender identity, religion, national origin, or disability. If you believe you have been discriminated against in any program, activity or facility as described above, or if you desire further information, please write to the Iowa DNR, Wallace State Office Building, 502 E. Ninth St., Des Moines, IA 50319.

Funding for development and printing of this publication provided by Sport Fish Restoration monies.

Federal Agencies

National Park Service – NPS

www.nps.gov

The National Park Service preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world. The web site includes educator resources.

NPS SITES IN IOWA

Effigy Mounds National Monument

Harpers Ferry, IA

www.nps.gov/efmo

Hebert Hoover National Historical Site

West Branch, IA

www.nps.gov/heho

Natural Resource Conservation Service – NRCS

www.ia.nrcs.usda.gov

The National Resource Conservation Service works through 100 field offices to provide technical assistance to landowners, farmers, communities, groups, and other agencies to help them protect the state's natural resources including soil, water, and wildlife habitat. Most offices have publications on soil and water conservation, habitat establishment, and more that can be requested in bulk for students. NRCS provides advice to farmers on soil conservation measures and cost-share incentives; soils information for public use; and watershed programs for urban and rural communities. NRCS oversees several programs that provide cost share and other incentives for conservation practices to protect or enhance natural resources on private land. Information is available on their web site. Resource Conservation and Development (RC & D) areas help communities improve their economic base through training, seed money, and guidance. NRCS works through local Soil and Water Conservation Districts (SWCD) overseen by locally elected boards.

Iowa League of Resource Conservation and Development Councils – RC&D

<http://iowaleaguercd.org/councils>

RC&D Councils are multi-county units. Direction and leadership comes from local citizens within the area. Specifically, an RC&D is a local project in which residents work together with other organizations in woodland management, alternative crop development, and other areas of local interest. There are 12 RC&D Councils in Iowa.

U.S. Army Corps of Engineers – COE

ROCK ISLAND DISTRICT

Rock Island, IL

www.mvr.usace.army.mil

OMAHA DISTRICT

Omaha, NE

www.nwo.usace.army.mil

KANSAS CITY DISTRICT

Kansas City, MO

www.nwk.usace.army.mil

The Corps of Engineers is responsible for maintaining navigation on the Mississippi and Missouri Rivers and managing four flood control reservoirs – Coralville, Rathbun, Red Rock, and Saylorville Lakes. They maintain recreation areas for public use and provide public educational programs about protecting natural resources (e.g., eagle watches, camper programs, junior ranger programs). The Rock Island District encompasses approximately the eastern two-thirds of Iowa and publishes a quarterly

newsletter, the *Mississippi River Review*. The remainder of the state is under the jurisdiction of the Omaha and Kansas City Districts.

COE SITES IN IOWA

Note: Information about reservoirs and locks and dams is located on the websites for each of the Districts.

| | | | |
|------------------------------------|--|---------------------------------------|------------------------------------|
| Coralville Iowa City, IA | Lake Rathbun Centerville, IA | Lake Red Rock Knoxville, IA | Saylorville Johnston, IA |
|------------------------------------|--|---------------------------------------|------------------------------------|

Mississippi River

- L&D #11, Dubuque, IA
- L&D #14, Pleasant Valley, IA
- L&D #15, Mississippi River Visitor Center, Rock Island, IL
- COE, Mississippi River Park Rangers, Thomson, IL
- L&D #16, Muscatine, IA

Missouri River

Omaha, NE Office

**U.S. Environmental Protection Agency – US EPA
Region 7 (IA, KS, MO, NE)**

www.epa.gov/region07/

EPA’s mission is to protect human health and safeguard the natural environment — air, water, and land. EPA works with other federal agencies, state and local governments, and Indian tribes to develop and enforce environmental regulations. EPA researches and sets national standards for environmental programs and delegates to states and tribes responsibility to issue permits, and monitor and enforce compliance. The Agency also administers voluntary pollution prevention programs and energy conservation efforts. Several educational resources are available on their web site.

USDA Forest Service – USFS

www.fs.fed.us/r9/

The Forest Service manages public lands in national forests and grasslands. It is the largest forestry research organization in the world and provides technical and financial assistance to state and private forestry agencies. Region Nine’s web page provides an eastern region fall color report, roadless area maps, wildlife, fish, and rare plant updates, and lists of recreational opportunities and events in National Forests. Naturewatch lists nature viewing opportunities, encourages safe and sound viewing ethics, and helps local communities’ economics. (<http://www.fs.fed.us/outdoors/naturewatch/>)

U.S. Fish and Wildlife Service – USFWS

www.fws.gov/midwest/

USFWS is responsible for conserving, protecting, and enhancing the nation’s fish and wildlife and their habitats for the continuing benefits of people. Major responsibilities include: migratory birds, endangered species, certain marine mammals, and freshwater and anadromous fish. The USFWS manages six national wildlife refuges totaling 109,843 acres in Iowa. Over 1 million people visit refuges each year to hunt, fish, participate in interpretive programs, and view wildlife.

REFUGES IN IOWA

Desoto National Wildlife Refuge

Missouri Valley, IA

<http://www.fws.gov/refuge/desoto/>

Driftless Area National Wildlife Refuge / Upper Mississippi River National Fish and Wildlife Refuge

Macgregor, IA

http://www.fws.gov/refuge/driftless_area/

http://www.fws.gov/refuge/upper_mississippi_river/

Iowa Wetland Management District / Union Slough

Titonka, IA

http://www.fws.gov/refuge/iowa_wmd/

http://www.fws.gov/refuge/union_slough/

Neal Smith national Wildlife Refuge

Prairie City, IA

http://www.fws.gov/refuge/neal_smith/

Port Louisa National Wildlife Refuge

Wapello, IA

http://www.fws.gov/refuge/port_louisa/

U.S. Geological Survey – USGS

www.usgs.gov

The USGS stands as the sole science agency for the Department of the Interior. The USGS focuses on four major areas: natural hazards, resources, the environment, and information and data management. USGS provides a host of informational and educational resources available through their web site.

IOWA WATER CENTER

Iowa City, IA

<http://ia.water.usgs.gov/>

COOPERATIVE FISH & WILDLIFE RESEARCH UNIT

Ames, IA

www.cfwru.iastate.edu

State Agencies

Iowa Department of Education – DE

www.educateiowa.gov

The Department of Education has information about conservation education opportunities on their website.

Area Education Agencies – AEA

<http://www.iowaaea.org/>

The state's education system also includes nine Area Education Agencies (AEA's) that loan materials and provide training opportunities to educators. The contact for conservation education in most AEA's is the science consultant.

Iowa Department of Natural Resources – DNR

<http://www.iowadnr.gov/Education.aspx>

The Iowa Department of Natural Resources is responsible for ensuring the proper management and protection of Iowa's natural resources while actively encouraging public use and enjoyment of these resources in a manner consistent with sound management principles. DNR provides public assistance and educational materials and programs, and is involved in environmental regulation and enforcement. DNR produces many publications including a bi-monthly magazine, the *Iowa Outdoors*.

Public Universities

Iowa State University

IOWA STATE UNIVERSITY EXTENSION

www.extension.iastate.edu

ISU Extension provides outreach in agriculture and natural resources, business and industry, communities, families, youth, and extended and continuing education. Contact your county office, or visit their web site for a complete listing of available publications. ISU Extension and Iowa Association of Naturalists have published several series of informational booklets for educators.

LEOPOLD CENTER FOR SUSTAINABLE AGRICULTURE

www.leopold.iastate.edu

The Center offers conferences, workshops, tours, and youth camps. Some examples include: Iowa Master Conservationist Program, networking opportunities for Iowans involved in food systems and value added projects, Center-sponsored investigators, and presentations at educational in-service training sessions, conferences, field days, and other events.

University of Iowa

HYGIENIC LABORATORY

www.shl.uiowa.edu/

The Environmental Health Program performs diverse sample testing of everything from air to wastewater, including clinical specimens, fish, foods, soil and sediment, and water.

DIVISION OF RECREATIONAL SERVICES

www.recserv.uiowa.edu

The University's Division of Recreational Services offers environmental education programs, maintains a raptor rehabilitation and education center, and has facilities for outdoor activities at the University of Iowa Macbride Nature Area.

University of Northern Iowa

CENTER FOR ENERGY AND ENVIRONMENTAL EDUCATION – CEEE

www.uni.edu/ceee/

The Center for Energy and Environmental Education promotes actions at the local level that have global implications. CEEE's work focuses on energy use, land use, materials use, and consumption and population growth.

IOWA ACADEMY OF SCIENCE – IAS; IOWA SCIENCE TEACHERS SECTION – ISTS

www.iacad.org/

ISTS is the largest membership component of the Iowa Academy of Science. It advocates for excellence in Science Education by promoting professionalism, influencing policy, and enhancing learning. ISTS holds an annual fall conference to disseminate new teaching techniques and resources. IAS sponsors *Project WET* – water related activities for all grade levels. Its web page has downloadable activities and science links.

County Conservation Boards – CCB

www.mycountyparks.com

County conservation boards own and manage public areas (museums, parks, preserves, parkways, playgrounds, recreation centers, forests, wildlife, and other conservation areas) in their counties. Many of these areas are good field trip destinations. CCB naturalists often assist with school programs and/or help locate other volunteers. Every Iowa county has a CCB.

Conservation Organizations

Bass Angler Sportsman Society – B.A.S.S.

www.iabass.com

B.A.S.S. has more than 2,800 clubs nationwide dedicated to the future of bass fishing. They promote catch-and-release, encourage community involvement, lobby, introduce youth to fishing, and conduct tournament creel census reports.

Bass Federation – Student Angler Federation

<http://www.highschoolfishing.org/>

SAF promotes the formation of fishing clubs and outdoor activities within schools. A byproduct of SAF efforts is the creation of competitive fishing in club tournaments and events between neighboring schools.

Conservation Districts of Iowa – CDI

www.cdiowa.org

Soil and water conservation districts are legal subdivisions of state government managed by a board of five elected commissioners. Commissioners carry out state and federal laws and programs. They also serve as local sponsors for watershed projects, resource and development areas, and soil surveys. The National Association of Conservation Districts publishes materials for educators on soil and water conservation.

Ducks Unlimited, Inc. – DU

www.ducks.org

Ducks Unlimited's mission is to fulfill the annual life cycle needs of North American waterfowl by protecting, enhancing, restoring, and managing important wetlands and associated uplands. Since 1937, DU has raised money for conservation of prime wildlife habitat in all fifty states, each of the Canadian provinces, and key areas of Mexico. Downloadable materials are on their web site.

Hawkeye Fly Fishing Association – HFFA

www.hawkeyeflyfishing.com

HFFA is a non-profit organization of Iowa anglers and conservationists dedicated to promoting fly-fishing and associated activities. HFFA is an affiliate of the Federation of Fly Fishers (FFF), an organization devoted to promoting all types of fly-fishing and protecting fly-fishing waters and their inhabitants. HFFA has worked on trout stream improvements in northeast Iowa, publishes a newsletter, and sponsors events around the state each year including introductory fly-fishing and fly tying clinics.

Iowa Association of Naturalists – IAN

www.iowanaturalists.org/

The Iowa Association of Naturalists promotes the development of skills and education within the art of interpreting natural and cultural resources in Iowa. IAN publishes a newsletter, *The Web*, educator information, and a *Guide to Environmental Education and Interpretive Services in Iowa*, and sponsors a junior naturalist program and continuing education workshops.

Iowa Conservation Education Coalition – ICEC

www.iowaee.org/

ICEC strives to ensure a healthy environment in Iowa by improving environmental literacy. ICEC promotes innovative educational methods and strategies; develops diverse partnerships; facilitates networking; provides access to information, research and trends; and embraces a balanced perspective on environmental issues.

Iowa Environmental Council – IEC

www.iaenvironment.org/

The Iowa Environmental Council is an alliance of diverse organizations and individuals working together to protect Iowa's natural environment.

Iowa Natural Heritage Foundation – INHF

www.inhf.org

INHF builds partnerships and educates Iowans to protect, preserve, and enhance Iowa's natural resources for future generations. Several educational publications are available online.

Iowa Ornithologist Union – IOU

www.iowabirds.org

The Iowa Ornithologist Union is a nonprofit group organized to promote enjoyment and study of birds.

Iowa Prairie Network – IPN

www.iowaprairienetwork.org

The Iowa Prairie Network sponsors guided hikes, work projects, and education programs designed to learn about, teach, enjoy, and protect Iowa's prairie heritage. It provides technical advice on prairie management and prairie preservation methods and technical publications.

Izaak Walton League of America, Iowa Division – IWLA

<http://iowaikes.org/>

A nonprofit conservation organization formed nationally in 1922, the Ikes are dedicated to protecting the air, land, and water resources. Priority issues include water quality, manure management, and energy issues. Check for a local chapter in your area.

Loess Hills Alliance

www.loesshillsalliance.com/

The Loess Hills Alliance provides grassroots, broad-based representation for land use management and stewardship in the Loess Hills region. The Alliance communicates, cooperates, and coordinates conservation efforts in the Loess Hills.

National Arbor Day Foundation

www.arborday.org

The National Arbor Day Foundation is the world's largest tree-planting organization. It provides more than 8 million trees for planting throughout America each year. Their web site has many ideas for celebrating Arbor Day and youth education materials are available.

National Audubon Society (Iowa Audubon)

www.audubon.org

The National Audubon Society's goal is to restore ecosystems so other birds and wildlife can flourish and enrich the diversity of life on Earth.

National Wild Turkey Federation – NWTF

www.nwtf.com

NWTF is a grassroots, non-profit organization with 390,000 members in 50 states, Canada, and 11 foreign countries. It supports scientific wildlife management on public, private, and corporate lands as well as wild turkey hunting as a traditional North American sport. NWTF helps sponsor many educational events around the state.

National Wildlife Federation – NWF

www.nwf.org

The National Wildlife Federation is a grassroots, non-profit organization founded in 1936 by editorial cartoonist J.N. "Ding" Darling. NWF's main goal is to encourage people of all ages to conserve and protect the environment. Hands-on nature programs, educator resources, activities, and lesson plans are available.

Nature Conservancy, Iowa Chapter

www.tnc.org/iowa

The Nature Conservancy is an international, nonprofit environmental organization committed to the protection of biodiversity. Its mission is to preserve plants, animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

Pheasants Forever – PF

www.pheasantsforever.org

Pheasants Forever is a nonprofit conservation organization dedicated to protection and enhancement of pheasant and other upland wildlife populations through habitat improvement, public awareness and education, and land management that benefits farmers and wildlife. Most Iowa counties have chapters and local contacts.

Practical Farmers of Iowa – PFI

www.practicalfarmers.org

Practical Farmers of America promotes the interests of Iowa farmers by encouraging, sponsoring, and conducting research and educational activities designed to improve land productivity and enrich the health, environment, and economic well-being of farm families.

Saving Our Avian Resources – S.O.A.R

www.soarraptors.org/index.html

SOAR is a non-profit organization that supports wildlife rehabilitation and education in western Iowa.

Trees Forever

www.treesforever.org

Trees Forever's mission is to facilitate planting and care of trees and conservation and restoration of forests through action-oriented programs, education, and public awareness.

Trout Unlimited – TU

www.tu.org

TU is a national organization with more than 150,000 members in about 400 chapters supported by about 30 offices across the country. TU is at the forefront of fisheries restoration work at the local, state and national levels.

Whitetails Unlimited – WTU

www.whitetailsunlimited.com

Whitetails Unlimited is a national conservation organization dedicated to the betterment of the whitetail deer and its environment. WTU supports educational programs, habitat conservation, and preservation of the hunting tradition.

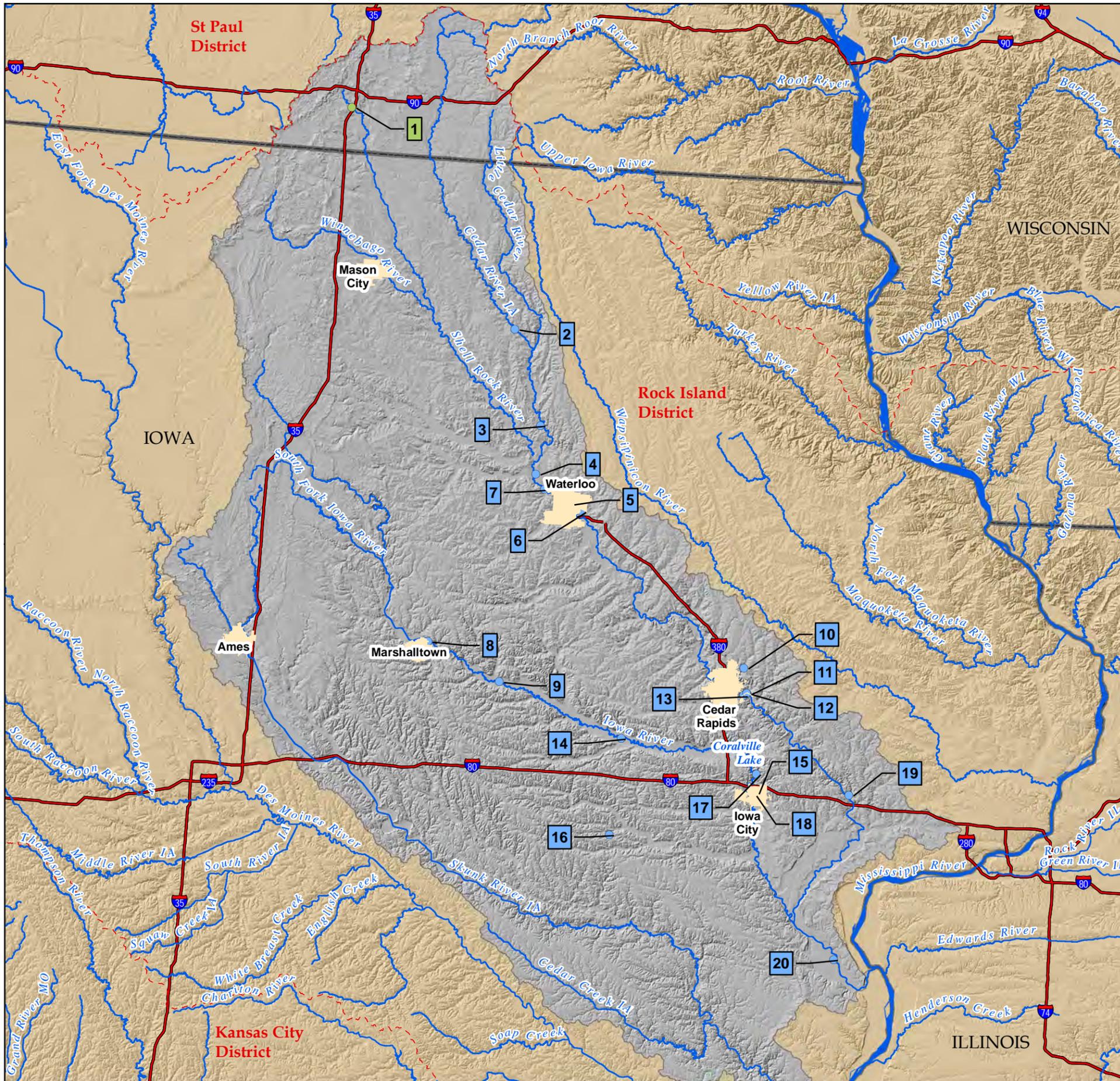
**PERIODIC BASIN MANAGEMENT REPORT
2014**

**EASTERN IOWA BASINS
IOWA AND MINNESOTA**

APPENDIX B

BASIN MAP

Eastern Iowa River Basin Projects - USACE 2014



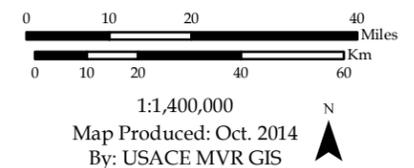
| Ecosystem Restoration | | |
|-----------------------|---|---------|
| Map ID | Project | Program |
| 1 | Freeborn County, MN Aquatic Ecosystem Restoration | SEC 206 |

| Flood Risk Management | | |
|-----------------------|---|---------|
| Map ID | Project | Program |
| 2 | Upper Cedar River WMA | SEC 22 |
| 3 | Cedar River Waverly, IA | SEC 205 |
| 4 | Stakeholder Engagement Upper Cedar River Basin | FRM |
| 5 | Waterloo Flood Control | FRM |
| 6 | Evansdale Flood Control | FRM |
| 7 | Cedar Falls Levee Break Scenario | FPMS |
| 8 | Marshalltown Flood Control | FRM |
| 9 | Tama Flood Control | FRM |
| 10 | Indian & Dry Run Creeks, Linn County, IA | SEC 205 |
| 11 | Indian Creek WMA | SEC 22 |
| 12 | Hydrologic Warning System Indian Creek Watershed | FPMS |
| 13 | Impacts on Structure Losses Cedar River Basin, IA | FPMS |
| 14 | Marengo Flood Control | FRM |
| 15 | Iowa River, Iowa City | SEC 205 |
| 16 | English River WMA | SEC 22 |
| 17 | Coralville Dam | FRM |
| 18 | Dubuque St Bridge, Iowa City, IA | SEC 14 |
| 19 | Cedar River 290th St Bridge, Rochester, IA | SEC 14 |
| 20 | Iowa River Wapello, IA | SEC 205 |



**US Army Corps
of Engineers**
Rock Island District

-  Iowa-Cedar River Basin
-  MVR District Boundary
-  Eastern Iowa River Basin Projects



PERIODIC BASIN MANAGEMENT REPORT
2014
EASTERN IOWA BASINS
IOWA AND MINNESOTA

APPENDIX C
PROGRAM OVERVIEW FACT SHEETS



Civil Works Budget & Appropriations Process

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

NONE PROVIDED

State(s)

IA,IL,MN,MO,WI

Congressional District(s)

IA-1, IA-2, IA-3, IA-4, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3, MN-1, MN-7, MO-6, WI-1, WI-2, WI-3, WI-5, WI-6

Description

U.S. Army Corps of Engineers Civil Works Program

Army involvement in works "of a civil nature" goes back almost to the origins of the United States. Over the years, as the nation's needs have changed, so have the Army's Civil Works missions. Those missions today fall in four broad areas: water infrastructure, environmental management and restoration, response to natural and manmade disasters, and engineering and technical services to the Army, DoD and other Federal agencies.

At Corps of Engineers Headquarters in Washington, DC, the Directorate of Civil Works oversees the program. Civil Works projects are located throughout the United States.

Funds for the Civil Works program come from the annual Energy and Water Development Appropriations, not the Defense appropriations. Add to that the cost-sharing funds supplied directly by non-federal sponsors for specific projects, and the total civil program is about \$5 billion a year.

The process for developing Civil Works projects begins when citizens see a need for flood protection, navigation, or other water-related infrastructure and ask Congress for help. Congress will direct the Corps to do a study to see if a project is warranted. Corps studies are usually done in 2 phases: an initial reconnaissance to determine if a feasible solution is likely, then a feasibility study to examine alternatives and select the project that best meets national and local needs. Most feasibility studies are cost-shared with a local sponsor. If the conclusion is positive, before any construction, Congress must authorize the project and then appropriate funds. Most projects are built with a combination of federal funds and contributions by non-federal sponsors. Depending on project purpose, the Corps then either operates and maintains the completed project, or turns it over to local authorities.

Annual Budget Development & Appropriations Process

While many people are familiar with the key events in the annual Civil Works budget and appropriations cycle - the release of the President's budget and the enactment of Congress' appropriations legislation into law - few are as familiar with the year-round budget process



Civil Works Budget & Appropriations Process

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

engaged in by the Corps and other federal agencies.

U.S. Army Corps of Engineers Civil Works funding is a two-year development process that can be generally summarized as a develop-defend-execute program cycle. The Corps budgets and executes its mission on a Fiscal Year basis. The fiscal year begins October 1 and ends September 30 the following year. Using January 2010 (FY10) as a starting point, the schedule for development of the FY12 budget is as follows:

| | |
|------------------------|--|
| JAN 2010 | Office of Management and Budget (OMB) provides budget guidance for FY12. |
| MAR/APR 2010 | U.S. Army Corps of Engineers headquarters provides FY12 budget limits and program guidance within the Corps based on the OMB and additional ASA(Civil Works) guidance. |
| MAY/JUL 2010 | U.S. Army Corps of Engineers field offices develop FY12 program requirements based on the U.S. Army Corps of Engineers guidance. |
| JUL 2010 | U.S. Army Corps of Engineers headquarters reviews the field-developed FY12 requirements. |
| JUL/AUG 2010 | The U.S. Army Corps of Engineers-developed FY12 budget is worked with the Secretary of the Army. |
| SEP 2010 | The Army's FY12 budget program is submitted for OMB review. |
| SEP-NOV 2010 | OMB reviews with and then tells Army and the U.S. Army Corps of Engineers what its budget will be for Civil Works program planning in FY12. This is referred to as the OMB passback. |
| DEC-FEB 2010/11 | The President's budget for FY12 is finalized and submitted to Congress. It provides the U.S. Army Corps of Engineers with the specific budget details needed to plan FY12 Civil Works program execution. |
| FEB-MAY 2011 | Congress conducts appropriations (and, if necessary, authorization) hearings to discuss and ask detailed questions about the President's FY12 budget submission. The Assistant Secretary of the Army (Civil Works) and U.S. Army Corps of Engineers leadership testify before subcommittees to address Congressional concerns about the President's budget for the FY12 Civil Works program. |
| JUN-SEP 2011 | Appropriations bills for FY12 are developed and approved by Congress. |
| SEP/OCT 2011 | President signs the FY12 appropriations legislation into law. The legislation provides the U.S. Army Corps of Engineers with specific Civil Works program execution guidance by funding category and specifically authorized projects and studies. |

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Civil Works Budget & Appropriations Process

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

**OCT/DEC
2011**

U.S. Army Corps of Engineers headquarters allocates FY12 funds within the Corps for fiscal year execution.

In the absence of congressional passage of an agency-specific appropriation, Civil Works annual funding is generally included in an all-encompassing "omnibus" bill .

Key legislation that serves as the "baseline" for the Corps' Civil Works program is Congressional passage of the Water Resources Development Act, expected every two years. The WRDA is a comprehensive legislative package that provides for the conservation and development of water and related resources. It authorizes the Secretary of the Army, through the Chief of Engineers, to conduct studies and to construct projects and research the various activities that lead to improvements of rivers and harbors of the United States. The WRDA is strictly an authorizing document; it does not include funding. The funding of WRDA-authorized studies and projects is accomplished separately as part of the annual appropriations process.

Congressional committees and subcommittees that oversee the Corps and normally meet on an annual basis to address Senate and House member concerns about the President's budget and the need for additional Authorizations for the Civil Works program include the Senate Environment and Public Works Committee, the Senate Energy and Water Development Appropriations Subcommittee, the House Transportation and Infrastructure Committee, and the House Energy and Water Development Appropriations Subcommittee.

Point of Contact: Chief, Corporate Communications
Phone: (309) 794-5274
Email: cemvr-cc@usace.army.mil

THIS PAGE INTENTIONALLY LEFT BLANK



Dam Safety Program

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Rock Island District, Nationwide

State(s)

IA,IL,MO

Congressional District(s)

IA-2, IA-3, IA-4, IL-11, IL-13, IL-16, IL-17, IL-18, IL-2, IL-3, MO-6

Status

"Federal Guidelines for Dam Safety" was published in June 1979. The purpose of these guidelines is to enhance national dam safety and to encourage high safety standards in the management procedures and technical activities of Federal agencies. The guidelines require the head of each Federal agency having responsibility for design, construction, operation and regulation of dams to establish a dam safety office (officer), which reports directly to the head of the agency. The Interagency Committee on Dam Safety (ICODS) was established in 1980 to promote and monitor Federal and State dam safety programs. The Corps of Engineers is the Department of Defense representative on ICODS. The Rock Island District Dam Safety Program is administered and monitored by the District Dam Safety Committee, comprised of Division and Branch Chiefs including the Dam Safety Officer and Dam Safety Program Manager. The Rock Island District Dam Safety Program presides over 28 Corps and 8 Non-Corps structures. Dam failure hazard categories of the 28 federal locations are; 11 high, 16 significant, and 1 low. Of the 8 non-Federal locations, 5 are high and 3 are low hazard. The program is implemented by quarterly committee meetings to discuss and resolve issues. Meeting minutes are composed by the Dam Safety Program Manager, approved by the Dam Safety Officer, reviewed by the District Commander, and submitted to Division. The Rock Island District has no authority to modify, improve, or enforce repairs on dams outside of the Federal Dam Safety Program.

Description

Dam safety is the art and science of ensuring the integrity and viability of dams such that they do not present unacceptable risks to the public, property, and the environment. It requires the collective application of engineering principles and experience, and a philosophy of risk management that recognizes that a dam is a structure whose safe functioning is not explicitly determined by its original design and construction. It also includes all actions taken to routinely monitor, evaluate, identify or predict dam safety issues and consequences related to failure, and to document, publicize, and reduce, eliminate, or remediate any unacceptable risks. The purposes of a dam safety program are to protect life, property, and the environment by ensuring that all dams are designed, constructed, operated, and maintained as safely and effectively. This is accomplished by routine inspection of projects, periodic assessment of risks of each project, emergency planning which includes exercises that involve stakeholders, agencies, local and state government, and emergency responders, interim risk reduction measures, detailed technical evaluation of potential issues, and monitoring of instrumentation.

Summarized Project Costs

Updated on 2013-Aug-08

Page 1 of 2

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Dam Safety Program

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

FY10, FY11: \$450,000 (est), FY12: \$880,000. Funding originates from existing O&M projects. Separate budget packages were submitted for the FY13 budget.

Major Work Item (This Fiscal Year)

Interim Risk Reduction Measures Reports – Lagrange, T.J. O'Brien, Lock & Dam 11, Saylorville/Big Creek Barrier and Diversion Dams, Amana Remedial Works, Mississippi River Dams 12, 13, 14, 16, 17, 18, 20, 21, 22, Illinois Waterway Peoria Dam. Emergency Action Plan Updates/Dam safety exercise – Lock and Dam 19, Coralville Reservoir Periodic Assessments – T.J. O'Brien Lock and Dam, Lock and Dam 18, Red Rock Dam Periodic Inspections – Brandon Road Lock and Dam, Lock and Dam 17 Dam Safety Instrumentation Operation and Maintenance

Major Work Item (Next Fiscal Year)

Emergency Action Plan Updates/Dam safety exercises Periodic Inspections/Periodic Assessments – Marseilles Lock and Dam, Lock and Dams 19, 21, 22, Saylorville/Big Creek Reservoirs Dam Safety Instrumentation Operation and Maintenance

Authority Details

Interagency Committee on Dam Safety (ICODS), WRDA 1996, Federal Guidelines for Dam Safety published June 1979, Executive Order 12148

Point of Contact: Dam Safety Program Manager

Phone: (309)794-5290

Email: cemvr-ec@usace.army.mil



Floodplain Management Services (FPMS)

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Throughout the Rock Island District

State(s)

IA,IL,MN,MO,WI

Congressional District(s)

IA-1, IA-2, IA-3, IA-4, IL-1, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3, IL-4, IL-7, MN-1, MN-7, MO-6, WI-1, WI-2, WI-3, WI-5, WI-6

Status

The Rock Island District's Floodplain Management Services (FPMS) program has been very successful in assisting other agencies (Federal and State), counties, local communities and individuals with addressing their floodplain management and flood risk reduction needs. A growing demand exists for the District's floodplain management services and related technical assistance capabilities due to: land use/land cover changes; climate change; floodplain development pressures; enhanced public understanding of and interest in floodplain functions and floodplain management; an expanding commitment to reduce flood damages through better floodplain protection and flood risk management options; and FEMA's ongoing flood insurance rate map modernization program as well as its many other flood risk reduction and management initiatives, programs and projects.

Description

The Floodplain Management Services (FPMS) Program provides a full range of technical services and planning guidance in support of effective floodplain management and flood risk reduction. The program develops or interprets site-specific data on obstructions to flood flows; flood formation and timing; flood depths or stages; floodwater velocities; and the extent, duration, and frequency of flooding. For more complex floodplain issues, the program provides assistance in the form of Special Studies for all aspects of floodplain management and flood risk reduction planning. Some of the most common types of Special Studies include: floodplain delineation/flood hazard evaluation studies; dam break analysis and dam removal studies; flood warning/preparedness studies; regulatory floodway studies; comprehensive floodplain management studies; urbanization impact studies; sedimentation effects studies; and stormwater management studies. Although most Program services are provided without charge, based on available funding, certain services are provided only on a reimbursable basis.

Summarized Project Costs

The FPMS program funds are provided through four separate accounts: Management Services Unit; Technical Services, General; Quick Responses; and Special Studies. Section 202 authorizes the voluntary contribution of funds for the purpose of expanding the scope of an ongoing FPMS activity or Special Study. .

Major Work Item (This Fiscal Year)

FY 2013: Provide technical data and information and other assistance in support of effective floodplain management and flood risk reduction to Federal agencies, States, Native American tribes, local



Floodplain Management Services (FPMS)

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

governments, and private individuals. Certain activities are accomplished on a cost-reimbursable basis. Initiate 4 new Special Studies: Evaluation of Urban Flooding Scenarios (Cedar Falls, IA); Maquoketa and North Fork Maquoketa River Hydrologic and Hydraulic Modeling; Community Based Hydrologic Warning System for Indian Creek, Linn County, IA and: Non-structural Land Use Change Impacts on Structure Losses in Cedar River (IA) Communities; advance 2 ongoing Special Studies: Iowa Reservoirs Dam Safety Study and IA Comprehensive Levees Database; complete 3 Special Studies: Iowa River at Wapello, IA; MonMaq Dam Removal and Floodplain Planning, Monticello, IA and: Evaluation of Urban Flooding Scenarios (Muscatine, IA).

Major Work Item (Next Fiscal Year)

FY 2014: Continue to provide technical data and information and other assistance in support of effective floodplain management to various Federal agencies, States, Native American tribes, local governments, and private individuals. Certain activities accomplished will be on a cost-reimbursable basis. Complete one Special Study: Iowa Reservoirs and Dam Safety; Advance five ongoing Special Studies: Evaluation of Flooding Scenarios and Emergency Planning Assistance for Urban Levees (Cedar Falls, IA); IA Comprehensive Levees Database; Maquoketa and North Fork Maquoketa River Hydrologic and Hydraulic Modeling; Community Based Hydrologic Warning System for Indian Creek, Linn County, IA and: Non-structural Land Use Change Impacts on Structure Losses in Cedar River (IA) Communities; There are currently no FY14 new start Special Studies identified.

Point of Contact: Project Management Branch, Planning, Programs, and Project Management
Division

Phone: (309) 794-5605

Email: cemvr-pm-web@usace.army.mil



Iowa Reservoir Regulation Plan Studies

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Saylorville Lake, Lake Red Rock, and Coralville Lake (in Rock Island District); Rathbun Lake (in Kansas City District); and their associated watersheds

State(s)

IA

Congressional District(s)

IA-1, IA-2, IA-3, IA-4

Status

In July 2010, a reservoir study incorporating Saylorville, Red Rock, and Coralville reservoirs was proposed to analyze alternatives to current Regulation Plans for water control and possible physical modifications to the projects. Over the last several years, the U.S. Army Corps of Engineers, Rock Island District (the District) has experienced significant flooding along the Des Moines and Iowa/Cedar rivers which resulted in levee overtopping, erosion, pump station damage and millions of dollars in personal property damage. The results of the Des Moines River Regulated Flow Frequency Study are also driving a need to expand the Reservoir Study scope to include the SE Des Moines and Des Moines levee systems and alternatives for Flood Risk Management in Des Moines, IA.

Description

The District is currently focused on developing alternatives to the current Regulation Plans to manage flood risks along the Des Moines and Iowa/Cedar rivers. The Reservoir Study will combine Saylorville and Red Rock due to their joint operation, and will study Coralville separately. The alternatives to be examined include but are not limited to: increasing or extending maximum spring (pre-planting) releases, relaxing of Mississippi River or other constraints, seasonal variations in pool levels to maximize flood storage, and increasing the dams' storage corridors. It is the District's priority to develop feasible alternatives to mitigate the risk of flooding along the Des Moines and Iowa/Cedar River basins. The Reservoir Study will produce revised Regulation Plans, Environmental Impact Statements, Real Estate Plans, and recommendations for physical modifications as appropriate. The 2010 Des Moines River Regulated Flow Frequency Study indicated that flooding on the Des Moines River is higher and more frequent than previously estimated. There is a need to comprehensively study Flood Risk Management alternatives for the flood control reservoir system, the SE Des Moines levee, other existing Federal and non-Federal flood risk management projects, and the Des Moines and Raccoon Rivers in Des Moines, IA.

Summarized Project Costs

| | |
|--|-------------|
| Federal Cost * | \$4,400,000 |
| Non-Federal Cost | \$0 |
| Total Cost * | \$4,400,000 |
| Federal Allocations through FY 2013 | \$0 |
| Scheduled Federal Allocation for FY 2014 | \$0 |

Updated on 2014-Feb-04

Page 1 of 2

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Iowa Reservoir Regulation Plan Studies

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

| | |
|---------------------|-------------|
| Balance to Complete | \$4,400,000 |
|---------------------|-------------|

*Only includes flood control reservoirs within Rock Island District Note: If the scope of the study includes SE Des Moines, the Reservoirs and Flood Risk Management analysis for the City of Des Moines, IA, the total cost of the study could approach \$20,000,000. Saylorville (\$1.49M) and Red Rock (\$1.49M) would need to be studied together since they are on the same river and have balancing and control points in common (subtotal of \$2.98M). Coralville could be studied separately if necessary (\$1.72M). First year effort could start with \$260k for Coralville, \$250k for Saylorville and \$250k for Red Rock (total first year effort would be \$760k).

Major Work Item (This Fiscal Year)

2013 -- None (no funding available).

Major Work Item (Next Fiscal Year)

2014 - No Funding. Further define and develop the scope of the project and prepare for submission to the president's budget for FY16; Start Study (pending funding).

Point of Contact: Flood Risk Management Program Manager

Phone: (309)794-5203

Email: cemvr-pm-web@usace.army.mil



Levee Safety Program

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Nationwide

State(s)

IA,IL,MN,MO,WI

Congressional District(s)

IA-1, IA-2, IA-3, IA-4, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3, MN-1, MN-7, MO-6, WI-1, WI-2, WI-3, WI-5, WI-6

Status

The Levee Safety Program has been implemented as a nationwide Corps Initiative. The Rock Island District has stood-up the district level component of the Levee Safety Program with the creation of the senior level multidiscipline Levee Safety Committee led by the Levee Safety Officer and the Levee Safety Program Manager. As required in the National Levee Safety Act, the Corps is undertaking the inventory of levees under the National Levee Database (see separate fact sheet). The Corps continues its annual and periodic inspections and notification of levee project owners/sponsors and the appropriate local, state and federal agencies of a project with Satisfactory, Minimally Acceptable and Unacceptable inspection ratings.

To provide quality assurance of the uniform applicability of the national standards the Corps has decided to contract with external engineering firms and to obtain assistance from other USACE Districts to perform the Periodic Inspections to ensure that an independent set of eyes looks over the elements of safety for the PL-84-99 levees. The Rock Island District is utilizing a combination of ICW and special supplemental funding to perform the levee Periodic Inspections.

As of September 2013, five task orders (\$4,967,000) have been awarded to perform inspections of 52 Levee Systems. An additional \$4,852,000 has been allocated for USACE performance of these Periodic Inspections. The remaining levee systems will be undertaken as funding is available. The order of performance was two fold. Initial ICW funding used proximity of the levee to the Rock Island District such that supervision of the contractor was facilitated. ARRA and Centrally USACE funded task orders have been prioritized based on population at risk behind the levee with a secondary supervision logistical consideration. Funds were used to implement Periodic Inspections of levees selected based on risk by HQ.

Through the Routine and Periodic inspections the District is currently working with levee sponsors to ensure maintenance requirements are being met by the Sponsor and that the levees will continue to be operated by the Sponsor in a manner that is protective of life and property. The Corps inspection program however, is finding many departures from best maintenance practices and USACE required operational procedures. The Corps is statutorily prohibited from funding corrective measures for these deficiencies. Additionally, coordination with the State Emergency Management entities and the Federal Emergency Management Agency (FEMA) is occurring to work on methodology to assist Sponsors in their O&M responsibilities. The National Flood Insurance Program is a separate program; from the Levee Safety Program. However, Levee data and inspection reports will be available for

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Levee Safety Program

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

sponsor levee certification efforts, complying with FEMA's National Flood Insurance Program requirements.

Description

The U.S. Army Corps of Engineers flood damage reduction mission began with the 1917 Flood Control Act. The act gave the Corps a significant role in flood activities nationwide, to include the protection of life and property behind federal program levee systems. Hurricane Katrina's and Rita's devastation in 2005 brought levee safety to the forefront of public awareness. The findings of subsequent investigations into the flood damage reduction system's performance in New Orleans clearly pointed to the need for a comprehensive and risk-informed approach to national levee safety, including periodic reassessments.

Subsequent to that event, Congress enacted the National Levee Safety Program with passage of the 2007 Water Resources Development Act, Title IX. The Corps' Levee Safety Program emphasizes the role of levees in flood damage reduction to avoid loss of life and property damage. The program will help achieve three goals:

- 1) Reduce risk and increase public safety through an informed public, empowered to take responsibility for its safety;
- 2) Develop clear national levee safety policies and standards; and
- 3) Maintain sustainable flood damage reduction system that meets public safety needs.

Congress appropriated limited funds for the Corps to initiate a national levee inventory and assessment program to determine the status and condition of the federal program levee systems in the nation. The inventory will cover only high priority levees, which is approximately .0003% of the entire inventory of Levees in the Rock Island District. The District is currently creating an inventory of levees that may have a limited federal construction role and will seek HQUSACE interpretation of the legislative mandate to inventory "federally constructed" levees. Including all currently questionable identified levees may add approximately 100 additional levees into the Levee Safety Program which are yet to inventoried in the National Levee Database and assessed through the Periodic inspections and Levee Risk Screening.

The American Recovery and Reinvestment Act (ARRA) of 2009 provided \$90 million for the Corps of Engineers to conduct Periodic Inspections of levees covered by the Levee Safety Program. Supplemental appropriations this year (beginning in FY12) are allowing additional Periodic Inspections and levee Risk Screenings.

The data gathered from these inventories will help identify risks associated with levee systems across the nation.

USACE Levee Safety Program - The program is divided into three areas: 1) Levee Inventory 2) Technical Risk Assessments 3) Revised Inspection of Completed Works Procedures.

Levee Inventory - The Corps completed an initial survey of federal program levee systems in July of 2006 and developed a national database (National Levee Database) to capture



Levee Safety Program

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

information about each levee, including the location and last recorded inspection rating.

The initial nationwide Corps NLD survey included approximately 2,000 levees (approximately 50 levees in the District), encompassing approximately 13,000 miles, in the Corps Inspection of Completed Works (ICW) and Rehabilitation and Inspection (RIP) programs. Many of these projects were authorized by Congress for federal construction and later turned over to state and local sponsors to operate and maintain. The levees included in this initial survey are those USACE program levees which currently maintain "active" status. The Rock Island District Federal interest levees include approximately 700 miles of levees out of approximately 21,000 miles of Levees in the Rock Island District (0.0003%). Additional levee may be determined to fall under the category of federally constructed raising the district total for the 2007 legislative criteria.

Technical Risk Assessment - In the USACE LSP Risk is defined as the probability of a loading event occurring times the probability of non performance of the systemtime the consequences (lives and property behind the levee). The USACE procedures are to undertake levee risk screenings that will identify where higher risks may justify the more complex risk assessments. Currently the District has approximately 92 risk screenings in various stages of completion. In the coming years the Corps intends to assess all of the levees in the inventory. The assessment is expected to takean additional five years to complete and was begun in 2008. The program continues to be implemented as funds are appropriated. The Corps is currently refining an analytical methodology to evaluate the risk associated with levees in the national database. The levee risk screening it is being tested for accuracy and effectiveness with results being released to to the levee local sponsors.

Revised Inspection of Completed Works Procedures - The Corps is in the process of consolidating guidance and will incorporate risk assessments into the current Inspection of Completed Works program. The information from the technical risk assessments will clearly identify reporting requirements to local communities, states, and other federal agencies. This phase is ongoing.

Summarized Project Costs

| | |
|--|--------------|
| Federal costs for PI and Risk determination of current levee inventory | \$17,664,100 |
| Non-Federal Cost | \$0 |
| Total Cost | \$17,664,100 |
| | |
| Federal Allocations through FY 2013 | \$9,967,000 |
| Scheduled Federal Allocation for FY 2014 | \$4,350,000 |
| Balance to Complete without additional levees | \$4,350,000 |



Levee Safety Program

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Financial information presented is for a one time periodic inspection- The cost for a continuing program is expected to occur every five years.

Additional Project Information

For additional information, please visit the Corps web-site:

<http://www.mvr.usace.army.mil/Missions/FloodRiskManagement/LeveeSafetyProgram.aspx>

Major Work Item (This Fiscal Year)

Routine Inspections, Periodic Inspections and Risk Screening of Levees active in the Corps Programs.

Major Work Item (Next Fiscal Year)

Routine Inspections, Periodic Inspections, Risk screening

Authority Details

National Levee Safety Act of 2007 contained in 2007 WRDA Title IX

Point of Contact: Program Manager

Phone: (309)794-5165

Email: cemvr-ec-web@usace.army.mil



National Levee Database

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Rock Island District

State(s)

IA,IL,MO

Congressional District(s)

IA-1, IA-2, IA-3, IA-4, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3, MN-1, MN-7, MO-6, WI-1, WI-2, WI-3, WI-5, WI-6

Status

Field surveying and database development for ~437.1 linear miles of qualifying levee systems along the Upper Mississippi River has been completed.

Description

The need to develop a comprehensive national levees database was recognized as FEMA's nation-wide digital flood insurance rate map (DFRIM) modernization program advanced. The criticality of this need was brought to the forefront by Hurricane Katrina. Subsequent Congressional action, specifically FY06 supplemental FCCE funding, provided the Corps with the resources necessary to design and build a National Levee Database (NLD). An initial levees survey instrument was fielded to quantify the magnitude of this effort. A USACE Project Development Team (PDT) was then tasked with development of the data model. PBS&J, the national surveying and database development firm, has been contracted to provide support to all aspects of the NLD project. 5 pilot Districts were designated to field test the data model, including development of standard operating procedures for data collection and populating the database. The initial development of the NLD included only those levees active in the Corps' P.L. 84-99 program. There are approximately 829.9 linear miles of levees within in the Rock Island District that qualify for NLD development.

Summarized Project Costs

| | |
|--|-------------|
| Federal Cost | \$1,585,600 |
| Non-Federal Cost | \$0 |
| Total Cost | \$1,585,600 |
| Federal Allocations through FY 2014 | \$1,585,600 |
| Scheduled Federal Allocation for FY 2015 | \$0 |
| Balance to Complete | \$0 |

Major Work Item (This Fiscal Year)

FY2014: No funding was available for NLD update and database maintenance in FY 13 or FY14. Through the auspices of the Levee Safety Program critical elements of the NLD is updated with Program developed work products including: Annual and Periodic inspection Reports, Executive Summaries for Levee Systems and corrections to "protected areas" behind the levees. QA/QC refinements of the database include correction of extent of sponsor ownership of levees segments as

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



well as inclusion of design documentation through the Levee Screening Tool submissions.

Major Work Item (Next Fiscal Year)

FY2015: The critical elements of the NLD to Levee Safety Program will require update of the NLD with Program developed work products. The USACE is charged in WRDA 2007 with creating an inventory of federally constructed levees. The 2013 discovery of archived documents from the 1940's indicate federal involvement in construction of potentially several hundred miles of levees under the Works Progress Administration. These levees are not currently enrolled in the PL84-99 program. To fulfill the mandate contained in WRDA, USACE is researching the potential and policy implications for the NLD survey, and subsequent inspection and levee risk screening tasks of the Levee Safety Program and under what authority will the surveys be undertaken. Costs if required to conduct the NLD survey of these levees are likely to approach the FY 2012 allocation.

Authority Details

Flood Control & Coastal Emergencies (FCCE) , P.L. 84-99

Point of Contact: Project Manager
Phone: 309-794-5165
Email: cemvr-pm-web@usace.army.mil



Planning Assistance to States and Tribes

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Throughout the Rock Island District

State(s)

IA,IL,MN,MO,WI

Congressional District(s)

IA-1, IA-2, IA-3, IA-4, IL-1, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3, IL-4, IL-7, MN-1, MN-7, MO-6, WI-1, WI-2, WI-3, WI-5, WI-6

Status

The Rock Island District's Planning Assistance to States and Tribes (PAS&T) program has been very successful in assisting other agencies, States, counties, local communities and the Sac & Fox tribe with water resources planning. A growing demand exists for engaging the District's technical expertise and planning capabilities to assist with: water supply, water quality, water conservation, storm water management, watershed analysis, wetlands evaluation/studies, dam safety and removal, floodplain management, flood risk reduction, and harbor and port studies.

Description

The Planning Assistance to States and Tribes (PAS&T) Program provides States, counties, local communities and Indian tribes with planning level assistance in addressing a water resources issues and planning needs. The studies generally involve the collection of data, data analysis, and development of water resources management plans and other tools. The program provides the sponsor with planning level detail and information needed to support water resources management decision making by the sponsor. This program is not authorized to produce detailed plans and specifications or implement construction projects.

Major Work Item (This Fiscal Year)

FY 2013: Physically complete and financially close out 2 studies: Moline-Rock Island, IL, Water Systems and Lake Koshkonong, WI Comprehensive Plan; Initiate 4 studies: Sac & Fox Tribe, IA and Moline, IL; Rock and Mississippi Riverfronts Master Planning; Iowa Watersheds Planning and; Bi-State (IA-IL) Freight Commodity Efficiency Study; continue to advance 2 studies: Horicon Marsh, WI Master Planning and Jefferson County, IA, Floodplain Work Map. Develop SOWs and partnering agreements for several new studies. Complete financial close out of completed studies.

Major Work Item (Next Fiscal Year)

FY 2014: Pending funding complete 2 studies: Sac & Fox Tribe, IA; and Jefferson County, IA Floodplain Work Map; continue work on 4 studies: Horicon Marsh, WI Master Planning and Moline, IL Mississippi and Rock Riverfronts Mater Planning; Iowa Watersheds Planning and; Bi-State (IA-IL) Freight Commodity Efficiency Study; initiate 2 new studies: Peoria Lakes Comprehensive Plan and Yeloo Creek and Pecatonica Rivers, IL Flood Risk Management

Point of Contact: Project Management Branch, Planning, Programs, and Project Management
Division

Phone: (309)794-5634



Planning Assistance to States and Tribes

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Email: cemvr-pm-web@usace.army.mil

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil



Section 204 Overview

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

United States

State(s)

IA,IL,MN,MO,WI

Congressional District(s)

IA-1, IA-2, IA-3, IA-4, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3, MN-1, MN-7, MO-6, WI-1, WI-2, WI-3, WI-5, WI-6

Description

AUTHORITY AND SCOPE Section 204 of the 1992 Water Resources Development Act, as amended, provides authority for the Corps of Engineers to restore, protect, and create aquatic and wetland habitats in connection with construction or maintenance dredging of an authorized navigation project. **CASH CONTRIBUTION** The initial study and all planning costs are 100% federally funded. Design and construction costs above the "Base Plan" are cost shared 65% Federal and 35% non-Federal. The "Base Plan" represents the dredging placement work that would have occurred without the proposed 204 project. The sponsor cost share can be a contribution of cash, lands, easements, rights-of-way, relocations, and disposal areas (LERRDs). No work-in-kind is allowed. **LOCAL COOPERATION** Formal assurance of local cooperation must be furnished by a local sponsoring agency. The sponsoring agency must normally agree to the following: a. Provide without cost to the United States all LERRDs necessary for the construction and subsequent maintenance of the project; b. Maintain and operate the project after completion without cost to the United States; and, c. Assume responsibility for all costs in excess of the Federal cost of \$5 million. **HOW TO REQUEST ASSISTANCE** Investigations of an environmental improvement project under Section 204 can be initiated upon receipt of a request from a prospective sponsoring agency. Section 204 project requests should be directed to Mr. Hank DeHaan.

POINT OF CONTACT

U.S. Army Engineer, Rock Island District
Clock Tower Building
P.O. Box 2004
Rock Island, Illinois 61204-2004
(309) 794-5853
cemvr-pm-web@usace.army.mil

Point of Contact: Program Manager, Project Management Branch
Phone: NONE PROVIDED
Email: cemvr-pm-web@usace.army.mil

THIS PAGE INTENTIONALLY LEFT BLANK



Section 206 Overview

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Location

United States

State(s)

IA,IL,MN,MO,WI

Congressional District(s)

IA-1, IA-2, IA-3, IA-4, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3, MN-1, MN-7, MO-6, WI-1, WI-2, WI-3, WI-5, WI-6

Status

Informational only.

Description

AUTHORITY AND SCOPE Section 206 of the 1996 Water Resources Development Act, as amended, provides authority for the Secretary to carry out an aquatic ecosystem restoration and protection project. Such projects will usually include manipulation of the hydrology in and along bodies of water, including wetlands and riparian areas. A project is adopted for construction only after a detailed investigation determines that the project will improve the quality of the environment and is in the best interest of the public, and clearly shows the engineering feasibility and economic justification of the improvement. Each project is limited to a Federal cost share of not more than \$5 million. The Federal limitation includes all project-related costs for feasibility studies, planning, engineering, construction, and supervision and administration. **CASH CONTRIBUTION** The initial study is 100% federally funded up to \$100,000. All planning costs after the first \$100,000 are cost shared 50/50. Design and construction costs are cost shared 65% Federal and 35% non-Federal. The sponsor cost share can be a contribution of cash, lands, easements, rights-of-way, relocations, disposal areas (LERRDs), or work-in-kind. Work-in-kind may be provided subsequent to the execution of the Project Partnership Agreement (PPA), and the value may not exceed 80% of the non-Federal share. **LOCAL COOPERATION** Formal assurance of local cooperation in the form of a Project Cooperation Agreement (PCA) must be executed with the local sponsoring agency. The sponsoring agency just normally agree to the following: a. Provide without cost to the United States all LERRDs necessary for the construction and subsequent maintenance of the project. b. Provide without cost to the United States all necessary alterations of buildings, utilities, highways, bridges, sewers, and related and special facilities.

c. Hold and save the United States free from damages due to the construction and subsequent maintenance of the project, except damages due to the fault or negligence of the United States or its contractors. d. Maintain and operate the project after completion without cost to the United States. e. Prevent future encroachment, which might interfere with proper functioning of the project. f. Assume responsibility for all costs in excess of the Federal cost limitation of \$5 million. g. Provide guidance and leadership in preventing unwise future development of the flood plain by use of appropriate flood plain management techniques to reduce flood losses. h. If the value of the sponsor's contribution above does not equal or exceed 35 percent of the project cost, provide cash contribution to make the



Section 206 Overview

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

sponsor's total contribution equal to 35 percent. **HOW TO REQUEST ASSISTANCE**
Investigations of an environmental improvement project under Section 206 can be initiated upon receipt of a request from a prospective sponsoring agency. Section 206 project requests should be directed to Mr. Hank DeHaan.

POINT OF CONTACT

U.S. Army Engineer, Rock Island District
Clock Tower Building
P.O. Box 2004
Rock Island, Illinois 61204-2004
(309) 794-5853
cemvr-pm-web@usace.army.mil

Point of Contact: Program Manager, Project Management Branch
Phone: NONE PROVIDED
Email: cemvr-pm-web@usace.army.mil



Section 1135 Projects (Project Modifications for Improvements to the Environment) - Overview

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Location

United States

State(s)

IA,IL,MN,MO,WI

Congressional District(s)

IA-1, IA-2, IA-3, IA-4, IL-11, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, IL-2, IL-3, MN-1, MN-7, MO-6, WI-1, WI-2, WI-3, WI-5, WI-6

Description

AUTHORITY AND SCOPE Section 1135 of the 1986 Water Resources Development Act, as amended, provides authority for the Corps of Engineers to determine the need for project modifications in the structures and operations of existing Corps of Engineers projects for the purpose of improving the environment in the public interest. Measures at other locations that have been affected by the construction or operation of the project can be undertaken, if such measures do not conflict with the authorized project purposes. **CASH CONTRIBUTION** The initial study is 100% federally funded up to \$100,000. All planning costs after the first \$100,000 are cost shared 50/50. Design and construction costs are cost shared 75% Federal and 25% non-Federal. The sponsor cost share can be a contribution of cash, lands, easements, rights-of-way, relocations, disposal areas (LERRDs), or work-in-kind. Work-in-kind may be provided subsequent to the execution of the Project Partnership Agreement (PPA), and the value may not exceed 80% of the non-Federal share. **LOCAL COOPERATION** Formal assurance of local cooperation, a Project Cooperation Agreement (PCA), must be furnished by a local sponsoring agency. The sponsoring agency must normally agree to the following:

- a. Provide without cost to the United States all LERRDs necessary for the construction and subsequent maintenance of the project;
- b. Maintain and operate the project after completion without cost to the United States; Assume responsibility for all costs in excess of the Federal cost limitation of \$5 million;
- d. "Work-in-kind" contributions from the sponsor may be negotiated; and,
- e. If the value of the sponsor's contribution above does not equal or exceed 25 percent of the project cost, provide cash contribution to make the sponsor's total contribution equal to 25 percent.

HOW TO REQUEST ASSISTANCE

An environmental improvement project under Section 1135 can be initiated upon receipt of a request from a prospective local sponsor. Section 1135 project requests should be directed to Mr. Hank DeHaan

POINT OF CONTACT

U.S. Army Engineer, Rock Island District
Clock Tower Building
P.O. Box 2004



Section 1135 Projects (Project Modifications for Improvements to the Environment) - Overview

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Rock Island, Illinois 61204-2004
(309) 794-5853
cemvr-pm-web@usace.army.mil

Authority Details

Section 1135 of the 1986 Water Resources Development Act

Point of Contact: Program Manager, Project Management Branch

Phone: NONE PROVIDED

Email: cemvr-pm-web@usace.army.mil

U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND DISTRICT

CLOCK TOWER BLDG. - P.O. BOX 2004 - ROCK ISLAND, IL 61204-2004

www.mvr.usace.army.mil