Southwestern Illinois Stream and Wetland In-Lieu-Fee Mitigation Program

Prospectus

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HEARTLANDS CONSERVANCY

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1. Introduction

This prospectus provides a summary of the Southwestern Illinois Stream and Wetland In-Lieu Fee (ILF) Mitigation Program as developed by HeartLands Conservancy, in conjunction with multiple program partners. The purpose of establishing this program is to provide an additional mechanism to facilitate compensatory mitigation for unavoidable and minimized impacts to aquatic resources, while maximizing benefits to the aquatic environment and the general public.

The following prospectus outlines the circumstances and manner in which the Southwestern Illinois ILF Mitigation Program will serve to satisfy compensatory mitigation requirements of federal, state, and local regulatory programs within two principal watersheds of southwestern Illinois: Cahokia-Joachim (07140101) and Lower Kaskaskia (07140204).

The Southwestern Illinois Stream and Wetland In-Lieu Fee Mitigation Program proposed within this prospectus is referred to herein as "PROGRAM" for convenience.

2. Need

URBANIZATION: The proposed PROGRAM area sits within the St. Louis Metropolitan Statistical Area. While demographics within this statistical area have been largely unchanged as a whole over the past several decades, affordable real estate has encouraged migration from urban centers to the many flourishing suburbs within the Metro East region, including Edwardsville, Glen Carbon, Troy, Highland, O'Fallon, Shiloh, Swansea, Columbia and Waterloo. Significant greenfield development has occurred, negatively impacting aquatic resources within the watersheds.

AGRICULTURE: A significant portion of the PROGRAM area's land use remains in agriculture. Like other Midwestern agricultural-based watersheds, the loss of wetlands and degradation/elimination of stream buffers has led to increased sediment and nutrient loading within the watersheds. Particular non-point source impairment concerns include nitrogen, phosphorous, sedimentation, manganese, dissolved oxygen and fecal coliform. Significant water quality analysis has been undertaken within these watersheds, and stakeholders are now working to implement best management practices to address these identified impairments.

CHANNELIZATION: Channelization of streams within southwestern Illinois is significant, including major rivers and tributaries such as the Kaskaskia River (Fayetteville to Mississippi River), Silver Creek (Madison County line to Scott Air Force Base), Richland Creek and Cahokia Creek. Channelization has led to the elimination of natural habitat, while increasing overall stream flows, leading to flooding concerns.

LEVEE RE-CERTIFICATION: In July 2009 the Southwestern Illinois Flood Prevention District Council was formed in direct response to the Federal Emergency Management Agency's announcement of its intention to de-accredit the 74-mile levee system protecting the St. Louis Metro East region. The Council has been successful in imposing a ¼ percent sales tax to pay for any necessary improvements to the levee system and has begun construction on certain segments of the overall project.

Once re-certification is achieved there will be a significant push to advance commercial and residential development within the American Bottom (Cahokia-Joachim [07140101]) watershed. The northern portion of the American Bottom watershed once contained around 33% wetlands, sloughs, streams and lakes. Early Euro-American settlement in the region began the process of draining, filling and levying many of these water features, resulting in periodic interior flooding concerns today.

Increased development (impervious surface) within the American Bottom, in conjunction with increased runoff from expanding communities along the bluffs, and the increased intensity/severity of storm events as a result of climate change, require that an intensive effort should be put in place to protect and restore historic wetland and stream corridors for their stormwater management capabilities.

While there are several mitigation banks located within Illinois, including two active mitigation banks within the proposed PROGRAM area, (Madison County Mitigation Bank, Fountain Creek Wetland & Stream Mitigation Bank) portions of the proposed PROGRAM area are not covered. Furthermore, there are no in-lieu fee mitigation programs currently authorized within the State of Illinois. A permittee-responsible approach is the only option available where neither banks nor in-lieu fee programs exist.

3. Objectives

A. INTERNAL

a. Develop a self-sustaining program to identify, plan and complete wetland and stream mitigation projects with a purpose of providing for a no-net-loss of existing wetlands acreage, stream footage, or associated functions within the watersheds of southwestern Illinois.

b. Provide an effective and transparent accounting structure for collecting in-lieu fees, disbursing project funds and reporting compliance.

c. Build a partnership of agencies, units of local government and watershed-based groups who share a common interest/benefit from wetland and stream functions within southwestern Illinois.

d. Work in an efficient and transparent manner with the Inter-agency Review Team (IRT) to develop individual mitigation projects and enact amendments to the PROGRAM Instrument as necessary.

B. EXTERNAL

a. Develop an ecologically-based site selection process to identify the most appropriate mitigation options that will result in greater ecological benefit than would be likely to be achieved through permittee-responsible mitigation.

- Incorporate best available science, data and local/expert knowledge-base in the site identification process.

b. Provide high-quality mitigation services for unavoidable impacts to aquatic resources at development sites.

- Provide an alternative to permittee-responsible mitigation where currently no alternative exists.

- Provide a more efficient means for developers in meeting regulatory requirements by streamlining the compensatory mitigation process.

c. Utilize scale efficiencies by combining the unavoidable impacts from individual smaller projects within a service area into mitigation at larger sites.

- Utilize efficiencies and economies of scale to provide for a significant net gain of stream and/or wetland functions and values where possible.

4. Program Establishment and Operation

A. Overview

It is the intention of HeartLands Conservancy to establish itself as a qualified in-lieu fee mitigation program sponsor in support of federal, state and local authorizations. The PROGRAM framework, developed within the PROGRAM Instrument establishes the general structure under which HeartLands Conservancy-sponsored mitigation sites will be identified, funded, operated, maintained and managed. The selection of individual mitigation projects, as well as specific project partners, will occur on an on-going basis as ILF mitigation needs are realized. Individual projects will be provided to the IRT for consideration, comment, modification and approval.

The PROGRAM will serve as one of the preferred mitigation options available to county, state and federal permitting agencies when requiring permit applicants to provide mitigation for unavoidable impacts to wetland or stream resources. Under the PROGRAM, public and private applicants for environmental permits within the defined service area will be encouraged to pay into the ILF fund consistent with the approved ILF Instrument for southwestern Illinois, instead of doing permittee responsible mitigation or establishing their own on-site, or off-site, mitigation actions. The amount of payment will be based on the extent of the unavoidable impacts to aquatic functions and values and the area of impact and monetized based on the full-cost accounting as documented within the PROGRAM Instrument.

Payments into the ILF fund will be used to implement mitigation projects at prioritized locations within the service area. Mitigation projects will be selected based on an analysis of their ability to compensate for impacts and provide ecological benefits, and, in all cases, will be approved by the IRT in advance of construction. Mitigation projects will be located within the eight-digit hydrologic unit code (HUC) watershed where the impact occurs, unless:

> If, within any eight-digit HUC, the cumulative amount of impacts to be mitigated through the PROGRAM in any given year are less than three acres of wetlands or 2,000 linear feet of stream, OR no acceptable mitigation project opportunities are found, HeartLands Conservancy may submit a proposal to satisfy the mitigation obligation liability through:
>
> - the implementation of a project within an adjacent eight-digit HUC; or
> - a request to defer the mitigation liability to the next year; or
> - a request to satisfy the mitigation via another mitigation option, as approved by the US Army Corps of Engineers District Engineer.

In an effort to implement larger-scale mitigation efforts, where the greatest ecological benefits may be realized, some projects may be implemented in advance of the sale of credits/payments. This action reduces the temporal loss of functions associated with ILF programs that typically have a time lag between the site development impact and the completion of compensatory mitigation.

B. Program Scope

This prospectus addresses in-lieu fee mitigation for wetlands and streams. However, agencies with regulatory authority may determine, on a case-by-case basis, that ILF mitigation provides the most ecologically preferable option to compensate for unavoidable impacts to other resources.

In this prospectus, HeartLands Conservancy proposes two initial service areas, which are based on eight-digit HUC watersheds:

- Cahokia-Joachim (07140101)

- Lower Kaskaskia (07140204)

HeartLands Conservancy plans to have its ILF PROGRAM approved and operating in the above watersheds. After demonstrating successful implementation of sites within these watersheds, HeartLands Conservancy may consider adding additional watersheds into the PROGRAM, depending on interest, support from federal and state agencies, resources and need.

As required under federal regulation, HeartLands Conservancy could add additional watersheds through an amendment to the ILF program instrument. The amendment would include a compensation planning framework specific to each adjoining watershed. Any proposed amendments to the ILF program would be made available for an official public notice and comment period.

C. Regulatory Authorities

HeartLands Conservancy seeks approval of the ILF program through the federal rules for Compensatory Mitigation, published in 2008 (33 CFR Part 332). If approved, the ILF program would become an additional option for permit applicants to provide compensatory mitigation. Specifically, the program allows applicants to pay a fee to the program sponsor in-lieu of completing their own compensatory mitigation projects. However, compensatory mitigation becomes an option only after higher priorities in the mitigation sequence, specifically avoidance and minimization, have been exhausted.

The establishment, use, operation, and maintenance of this ILF program will be carried out in accordance with applicable federal, state and local authorities.

D. Mitigation Sequencing

This PROGRAM provides project applicants with an option for compensatory mitigation after selecting the least damaging alternative via the regulatory mitigation sequence. Specifically the PROGRAM provides the applicants the option to pay a fee to HeartLands Conservancy in-lieu of completing mitigation on their own, transferring the required compensatory mitigation obligation to HeartLands Conservancy in its role as the ILF sponsor.

Local, state and federal governments require mitigation sequencing for proposals that will adversely affect wetlands and other aquatic resources. Mitigation sequencing refers to a series of steps to reduce or eliminate the need to impact wetland or stream resources. Applicants must follow these steps and revise their project proposals to the maximum extent practicable in order to eliminate or decrease the negative effects of a proposed project. The following steps in the mitigation sequence are required according to the implementation rules of the Illinois Interagency Wetlands Policy Act of 1989:

Section 1090.60 Analysis of Alternatives

I. The Department shall not approve a wetland impact determination unless the Department finds that the agency or applicant has demonstrated that the activity:

   i. Is water dependent and has no other practicable alternatives; or is not water dependent and that the alternative designs and alternative sites are not available;

   ii. Minimizes alteration or impairment of the wetland and its associated buffer area; and

   iii. Is in compliance with the Illinois Endangered Species Act and the Illinois Natural Areas Preservation Act.

II. In considering whether a practicable alternative to the proposed activity exists, the Department shall consider whether:

   i. A modification in the size, scope, configuration, or density of the project for which the wetland impact determination is sought and all alternative designs that would result in a less adverse impact on the wetland have been considered consistent with applicable established minimum standards for safe design and operation of the project;

   ii. The basic purpose of the project would still be accomplished if the project is modified, and whether the basic purpose has been so narrowly defined as to disqualify all but a single site; and

   iii. The agency of applicant has made reasonable attempts to remove or accommodate constraints, such as inadequate zoning, infrastructure, or parcel size.

III. For all project actions, it is presumed that a practicable alternative that does not adversely impact a wetland exists. It is the responsibility of the agency or applicant to demonstrate that practicable alternatives do not exist for projects that will cause an adverse wetland impact.

Projects that require Clean Water Act authorization by the US Army Corps of Engineers must also comply with the Section 404(b)(1) guidelines. These guidelines presume, unless clearly rebutted by the applicant, that less environmentally damaging alternatives to filling aquatic sites, such as wetlands, are available for non-water-dependent activities. Whether a project is water-dependent or not, the guidelines presume that all practicable alternatives that do not involve a discharge into a special aquatic site, including wetlands, have less adverse impact on the aquatic ecosystem.

The Section 404(b)(1) guidelines prohibit the US Army Corps of Engineers from authorizing a project under an individual permit unless the project would use the "least environmentally damaging practicable alternative" (as determined by the US Army Corps

of Engineers and the Environmental Protection Agency). If a less environmentally damaging alternative is available and practicable, then a permit would be denied.

In order to qualify for this in-lieu fee program, a project applicant would have to demonstrate, and regulatory agencies concur, that all practicable avoidance and minimization measures have been taken. In addition, the applicant would need to demonstrate that in-lieu fee compensation offers the most ecologically preferable option for offsetting losses.

The ILF PROGRAM becomes an option in the sequence only when the applicant can demonstrate that on-site mitigation alternatives are impracticable or are of low-ecological value and that greater ecological benefits in the basin or watershed can be achieved through off-site, in-lieu fee mitigation. Applicants could also "de-couple" wetland functions so that the final mitigation plan for a given impact could consist of on-site and off-site (via ILF) mitigation. Approval for a divided mitigation plan would be favored where specific wetland functions cannot be successfully transferred away from the impacted wetland site.

County and/or local ordinances may place additional restrictions on mitigation sequencing and applicants will be required to demonstrate that they have met the terms of said ordinances and that the county/community agrees, in writing, that participation in the PROGRAM is the most appropriate course of action.

E. Site Selection

HeartLands Conservancy has a long history of working with community groups, non-governmental organizations and agencies in undertaking various assessments of habitat quality and identifying opportunities for restoration within the proposed PROGRAM area. Continuing this tradition, HeartLands Conservancy will develop partnerships, by watershed, for the purpose of identifying individual projects which are financially and functionally feasible, and that will provide the greatest ecological benefits.

Numerous studies have been completed which will be utilized in assessing opportunities for providing the greatest ecosystem benefits for both stream and wetland mitigation.

- Land Registry for Forest Health of the Kaskaskia River Watershed (HeartLands Conservancy, 2003)
- Inventorying Forest Communities of the Kaskaskia River Resource Rich Area using GIS/GPS Technology (HeartLands Conservancy, 2005)
- Illinois Wildlife Action Plan (Illinois Department of Natural Resources, 2005 [update due 2015])
- Middle Mississippi River Partnership Coordination Plan (HeartLands Conservancy, 2005)
- An Evaluation of Ecosystem Restoration Options for the Middle Mississippi River Regional Corridor (Mickey E. Heitmeyer, 2008)

- Illinois Sustainable Natural Areas Vision (Environmental Planning Solutions, 2011)
- East St. Louis & Vicinity Illinois Ecosystem Restoration Project; 2013 Addendum to 2003 General Re-evaluation Report. (US Army Corps of Engineers, 2013)
- Ecological Approach to Infrastructure Development: Wetlands Mapping and Analysis for the Missouri and Mississippi River Floodplains. (Missouri Resource Assessment Partnership, 2013) (Analysis is currently being expanded to the Silver Creek corridor, from Scott Air Force Base north to the northern extent of Madison County.)

In addition, numerous water quality and hydrology reports exist for the Kaskaskia River watershed. Most recent planning efforts have emphasized identifying specific areas of streambank degradation, and best management practices for improving habitat (Upper Silver Creek Watershed Plan (Madison/Macoupin Counties)).

In instances where internal expertise is not available for the development of restoration plans, site construction and monitoring, qualified contractors will be retained in accordance with the organization's policy related to bidding/hiring of contractors.

F. Technical Feasibility

HeartLands Conservancy will retain full responsibility for ensuring the success of the PROGRAM. As such, HeartLands Conservancy will perform all roles required of a program sponsor as identified in 33 CFR Part 332.8, including the following:

- Prioritize, identify, select, and acquire sites for the ILF projects as described in this prospectus;
- Review credit and debit applications for applicants to confirm number and type of credits will adequately compensate for the impact;
- Design, permit and oversee construction of mitigation-receiving sites (either through internal resources or via qualified contractors);
- Monitor, maintain and manage ILF projects as described in this prospectus (either through internal resources or via qualified contractors);
- Ensure the success of compensatory mitigation for which fees have been collected;
- Maintain accounting ledgers, tracking of all fees collected and expenditures;
- Attain IRT approval for mitigation plans and expenditures from the ILF account;
- Maintain sufficient funds for the long-term management of mitigation projects; and
- Report annually on the progress and status of the program, including financial accounting reports, credit transaction reports, mitigation receiving site monitoring and progress towards success, status of long-term management endowment account, amount of mitigation provided for authorized impacts/fees collected, and

any changes in land ownership or transfers for long-term management responsibilities.

G. Sponsor Qualifications

HeartLands Conservancy is a tax-exempt 501(c)(3) corporation located in Mascoutah, Il.. Incorporated in 1989, the organization operated under the name Southwestern Illinois Resource Conservation & Development until 2012.

The mission of the organization is to provide leadership and solutions to sustain and enrich the environmental resources of southwestern Illinois. HeartLands Conservancy focuses its efforts on three program areas: land conservation, building greener communities and engaging individuals with nature.

Since 2001 the organization has assisted in protecting over 6,500 acres within southwestern Illinois. Mechanisms utilized include fee-simple acquisition, agricultural / conservation easements, as well as providing technical and financial support to communities and agencies in meeting their land conservation goals. The organization is a member of the Land Trust Alliance, and has adopted that organization's Standards & Practices, 2004 update, to ensure sound transactions and management of conservation properties. HeartLands Conservancy currently owns four properties (fee-simple) and holds conservation easements on 19 properties with four additional easements expected to be completed by the end of 2014.

HeartLands Conservancy is well-versed in working with watershed groups towards the betterment of the watershed's ecological assets.

- HeartLands Conservancy has worked with the Kaskaskia Watershed Association for the past twenty years. Key products/accomplishments within that time-frame include:
    - Kaskaskia River Corridor Stewardship Plan, 1995;
    - Kaskaskia River Watershed; An Ecosystem Approach to Issues & Opportunities, 2002; and
    - Kaskaskia River Watershed Water Quality Analysis (Databank); 2005.

- HeartLands Conservancy has similar experience along the Mississippi River, including:
    - American Bottom Ecosystem Partnership Issues and Opportunities Report; 2002;
    - Middle Mississippi River Partnership Coordination Plan (2005);
    - Middle Mississippi River Regional Corridor Reach Reports (2007);
    - Arlington Wetland acquisition, restoration and long-term management (2007); and
    - Cahokia Creek at Roxana Landfill Stabilization Project (2013).

5. Project Establishment and Operation

A. Credit Need and Availability

The primary emphasis of the PROGRAM is on aquatic resource restoration and protection. The use of this PROGRAM for compensatory mitigation shall occur only after the relevant permitted agencies: US Army Corps of Engineers, St. Louis District (USACE), the Illinois Environmental Protection Agency (IEPA) and/or Illinois Department of Natural Resources (IDNR) regulations and policies regarding avoidance and minimization of impacts, as described in Section 4 of this document, or otherwise herein. HeartLands Conservancy shall play no role in the decision(s) of a federal, state or local agency to approve or deny a permit on whether mitigation is a necessary condition of any such permit.

The USACE, EPA and IDNR will determine the number of credits required to compensate for permitted impacts utilizing accepted procedures used in Illinois for evaluating compensatory mitigation credits. HeartLands Conservancy will determine the fee amount needed to provide mitigation credit.

HeartLands Conservancy, pursuant to the terms of this agreement, will serve as a recipient of mitigation funds that are required of permittee and other parties as identified by the USACE, EPA and IDNR. When payment is received by HeartLands Conservancy, the payment will be recorded, as described herein, as will the associated credits on the Credit Ledger for that Service Area (8-digit HUC).

The PROGRAM will have two types of credits available for purchase by a permittee, Advance Credits and Released Credits. Advance credits are in-lieu fee credits sold in advance of mitigation sites generating released credits. Released Credits are for mitigation projects already implemented, and upon meeting successful monitoring and approval by the District Engineer. These credits are equivalent to mitigation bank credits and may be sold to satisfy mitigation requirements.

The process for requesting credits is as follows:

- Applicant contacts HeartLands Conservancy for credit availability and requests the number and type of credits required.
- Applicant completes and submits a Credit Availability Voucher, which provides information on the impacts that will require mitigation, information on providing the Credit availability, the type of credit (Advance or Released), and the preset cost per unit of Credit in a particular service area/and/or 8-digit HUC. The Credit Availability Voucher shall contain identifying information regarding the impact site and other information deemed necessary by the USACE, IEPA and IDNR.
- If credits are available in the appropriate service area, HeartLands Conservancy will issue a Letter of Credit Availability with a specific deadline for payment.

- Applicant submits Letter of Credit Availability with their permit documents to the regulatory agency.
- When the applicant is ready to purchase the mitigation credits (before the deadline has passed), the applicant / permit manager must complete a Payment Voucher. The Payment Voucher will reflect any changes since the initial request and the final mitigation requirements of the permit.
- Applicant returns the Payment Voucher and payment to HeartLands Conservancy.
- HeartLands Conservancy assumes liability for impacts and mitigation requirements.

Credits may be provided in the form of advance or released credits. The approach for setting credit prices will be elaborated in the Program Instrument, and will consider rates being used in other ILF programs, as well as prices charged by local / regional mitigation banks.

B. Project Identification and Selection

To offset impacts to aquatic resources that resulted in payments into the Accounts, HeartLands Conservancy shall develop specific projects in accordance with this Agreement. Mitigation Project proposals will be based on the Compensation Planning Framework (See Section 10) and must include/address the ten elements of mitigation plans, (33 CFR §332.4(c)(2)-(14)). Each plan and associated funding requires approval by the IRT Chair (District Engineer), in consultation with the IRT members (33 CFR §332.8(j); 33 CFR §332.8(i)).

As outlined in the 2008 rule, the IRT shall meet on a regular basis with HeartLands Conservancy to review proposed Mitigation Projects and to discuss relevant issues with PROGRAM procedures. The IRT Chair, after seeking comments from the IRT members, shall allow for public comment on proposed projects and may suggest revisions. The District Engineer will ultimately approve or deny specific Mitigation Project proposals for restoration, creation, enhancement, buffering, preservation of aquatic resources and their adjacent uplands, or the purchase of credits from an approved mitigation bank. Such approval or denial will be based on factors including site suitability, long-term sustainability, impacts to aquatic resources mitigated via the PROGRAM, the ratio of restoration to impacts of PROGRAM projects in particular watersheds, maximum return on expended funds, benefits to rare and endangered natural resources, and an acceptable Mitigation Plan.

C. Site Development Plans

Following general approval by the District Engineer of a proposed Mitigation Site, HeartLands Conservancy shall submit for approval a Site Development Plan. Site Development Plans should include, if applicable, a description of the proposed project and site specific plan including location, baseline conditions, Credit composition, assessment methodology, schedule of Credit availability, a site-specific Service Area, a schedule for

conducting the project, monitoring, maintenance and reporting provisions, provisions for protection and management in perpetuity with appropriate real estate arrangements and performance standards for determining ecological success of Mitigation Projects. The Site Development Plan should also include an Adaptive Management (AM) component to identify factors which may cause the site to not perform as proposed, and a management strategy or contingency plan for corrective action, including the party or parties responsible for implementing adaptive management measures.

Site Development Plans shall also include specific provisions addressing Mitigation Project default and other provisions as recommended by the IRT including but not limited to, Force Majeure, Eminent Domain and transfer of Mitigation Site ownership (taking into account restrictions imposed by Section 170(h) of the Internal Revenue Code and the regulations transmitted thereunder, as appropriate).

Site Development Plans may request funding approval for costs associated with accomplishment of Mitigation Projects including, but not limited to, labor, land acquisition, appraisals, surveys. project design, project management, restoration, creation, monitoring, stewardship, legal, closing, equipment and materials necessary to accomplish mitigation, and monitoring.

In the event HeartLands Conservancy determines that a modification must be made to a Site Development Plan to ensure successful establishment of a Mitigation Project, HeartLands Conservancy shall submit a written request for such modification(s), including a timeframe for any actions associated with the request, to the District Engineer for approval.

D. Protection of Mitigation Sites

When monies from the PROGRAM are used for Mitigation Projects, the land associated with that Mitigation Site must be protected by a recorded document that preserves the land in perpetuity, with the protection "running with the land." Land protection documents must be approved by the USACE and must be recorded in the appropriate real property records depository for the locality where such project is located.

In appropriate circumstances, and upon approval by the District Engineer, portions of land not used for mitigation may be exempted from, and conveyed separately free and clear of, such easement or restriction(s). No Credits will be sold, debited or released until the USACE has acknowledged that they have received proof that appropriate land protection documents are recorded. HeartLands Conservancy may engage in Mitigation Projects on land in which HeartLands Conservancy, public agencies, or other non-profits own fee simple rights provided that appropriate protection mechanisms are approved by the District Engineer, in accordance with Section 332.7(a) of the Final Rule.

E. Closure of Mitigation Project Sites

Upon satisfaction of the Success Criteria and performance standards, as determined by the District Engineer, but not sooner than the end of the 5-year monitoring period, the District Engineer shall issue written confirmation to HeartLands Conservancy, and thereafter any remaining contingency funds in excess of that needed for use in long-term management of the Mitigation Project Site shall be used on other mitigation project activities within the same service area. Approved Preservation projects may request closure once Success Criteria have been met.

Prior to closure of a Mitigation Project Site that has been approved subsequent to the Effective Date of this PROGRAM, the District Engineer may perform a final compliance inspection to evaluate whether all success criteria have been achieved. The District Engineer shall provide written confirmation promptly upon their determination, in consultation with HeartLands Conservancy, that:

- All applicable Success Criteria have been achieved;
- All Released Credits for that Mitigation Project Site have been debited;
- HeartLands Conservancy has reviewed and revised, if necessary, the Long-Term Management and Maintenance Plan, and the revised Long-Term Management and Maintenance Plan has been approved by the District Engineer;
- HeartLands Conservancy has prepared and submitted to the District Engineer a GIS shapefile or similar exhibit depicting the location and extent of the Mitigation Project;
- HeartLands Conservancy has ensured that a capable Long-Term Steward is in place; and
- The Mitigation Project has complied with the terms of this Agreement and the mitigation plan.

Afterword the Mitigation Project Site will close, and the period of Long-Term Stewardship and Preservation will commence.

F. Long-term Ownership and Management

A Long-Term Management and Maintenance Plan for each Mitigation Project shall contain specific objectives that address the long-term management requirements of the site. HeartLands Conservancy, a partner, or subsequent Long-Term Steward, shall provide the appropriate District Engineer with 60 days advance notice before any actions are taken to modify the Long-Term Management and Maintenance Plan. The Long-Term Management and Maintenance Plan may only be amended or modified with the written approval of all signatory parties. The Long-Term Steward shall document that it is achieving each objective or standard by submitting status reports to the IRT on a schedule approved by the IRT Chair.

As part of the Long-Term Management and Maintenance Plan, the Long-Term Steward will allow the IRT access to the site. A primary goal of the Mitigation Project is to create or restore a self-sustaining natural aquatic system that achieves the intended level of aquatic

ecosystem functionality with minimal human intervention, including long-term site maintenance.

The Long-Term Management and Maintenance Plan shall include, at a minimum, provisions for:

- Periodic patrols of the site for signs of trespass and vandalism. Maintenance will include reasonable actions to deter trespass and repair vandalized features.

- Monitoring the condition of structural elements and facilities of the site such as signage, fencing, roads, in-stream structures and trails. The Long-Term Plan will include provisions to maintain and repair these improvements as necessary to achieve the objectives of the Mitigation Project and comply with the provisions of the real estate instrument providing protection to the site. Improvements such as access roads, berms or water control structures that are no longer needed to facilitate or protect the ecological function of the site may be removed or abandoned if consistent with the terms and conditions of the recorded Protection Document.

The Long-Term Steward may modify the Long-Term Management and Maintenance Plan, subject to review and written approval by the District Engineer and HeartLands Conservancy.

Once long-term management responsibilities have been established with the Long-Term Steward, as evidenced by the signature of HeartLands Conservancy and the Long-Term Steward on the Long-Term Management and Maintenance Plan, said party is thereby responsible for meeting any and all long-term management responsibilities outlined in the project-specific Long-Term Management and Maintenance Plan, this PROGRAM and any other applicable project requirements approved by the District Engineer.

HeartLands Conservancy is responsible for developing a Long-Term Management and Maintenance Plan for each Mitigation Project. Each Long-Term Management and Maintenance Plan will specify all anticipated management activities and the necessary capacity to accomplish those activities. HeartLands Conservancy shall report annually on beginning and ending balances, including deposits and withdrawals from accounts established to provide funds for long-term management of Mitigation Projects.

G. Contingencies

If the District Engineer determines that the in-lieu fee program is not meeting performance standards or complying with the terms of the instrument, appropriate action will be taken. Such actions may include, but are not limited to, suspending credit sales, adaptive management, decreasing available credits, utilizing financial assurances, and terminating the Program Instrument.

6. Credit and Debit Procedure

The standard unit of measure used for in-lieu fee programs to quantify an impact is a "debit." Ecological lift at a mitigation site is measured in "credits."

A. Method for Determining Debits and Credits

The US Army Corps of Engineer's Illinois Stream Mitigation Method (draft) will be utilized in determining credits applied to the ILF Program and debits taken from the ILF Program.

HeartLands Conservancy will determine the fee amount needed to provide mitigation credit.

B. Advance credits

Advance credits pertain to any credits that are available for sale prior to being fulfilled as specified in an approved mitigation project plan. As described in the federal rule on compensatory mitigation (33 CFR 332.8 (n)(1)), the ILF program sponsor may request advance credits within each service area based on the projected volume of development activity occurring in that service area. Federal rule directs the following considerations be reviewed prior to approval:

- The Compensation Planning Framework;
- Sponsor's past performance implementing aquatic resource restoration, establishment, enhancement and/or preservation activities in the proposed service area or other areas; and
- The project financing necessary to initiate planning and implementation of ILF projects

Advance mitigation credits function conceptually like a pre-approved credit card but with a limit of mitigation credits accounted under aquatic functional categories. The advance mitigation credits have a set spending limit that the IRT issues to the in-lieu fee program sponsor based on the track record of implementing successful restoration/mitigation projects, among other considerations such as permit trends in the proposed service areas. When an unavoidable impact project occurs, the sponsor can "borrow" a mitigation credit from the pre-approved advance mitigation account, and in turn sell that mitigation credit to the applicant who uses it to satisfy the compensatory mitigation requirements. The sponsor must then pay off the balance on the "credit card" by fulfilling (i.e. "producing") mitigation credits equal to (or greater than) the number of credits borrowed from the credit card. The remaining allowable "spending limit" on the credit card decreases as mitigation credits are sold to applicants, but increases accordingly when the sponsor "produces" mitigation credits at mitigation projects (i.e. pays off the balance on the card,

also referred to as credit fulfillment). Section 33 CFR 332.8(n)(3) of the federal rule describes this concept.

Based on historical credit requirements within each of the identified watersheds, HeartLands Conservancy requests consideration of the following advance credit request within each service area:

Historical (10 years) Credits Issued (Source: US Army Corps of Engineers):

Watershed	Wetland	Stream
Cahokia-Joachim (07140101)	236.55 acres	34,534.67 lin. ft.
Lower Kaskaskia (07140204)	76.16 acres	5,299.01 lin. ft.

Advance Credit Request:

Watershed	Wetland	Stream
Cahokia-Joachim (07140101)	30 acres	2,500' lin. ft.
Lower Kaskaskia (07140204)	20 acres	1,500' lin. ft.

C. Released Credits

HeartLands Conservancy's ILF program aims to reduce the temporal loss and exposure to risk by pre-capitalizing credits, wherever possible, with mitigation-receiving sites that are ready for implementation. Released Credits are for mitigation projects already implemented, and having meet successful monitoring and approval by the District Engineer. These credits are equivalent to mitigation bank credits and may be sold to satisfy mitigation requirements.

Released credits are like a pre-paid credit card. The value of the pre-paid credit card is equal to the amount of mitigation credits that the sponsor has produced (and the IRT has released) prior to an applicant's need to compensate for unavoidable permitted impacts. These pre-capitalized credits are then available for sale from functioning resource sites, avoiding the need to borrow against valuable wetland resources, functions, and values. When an applicant needs mitigation credits to compensate for an unavoidable, permitted impact, the applicant buys the required number of credits from the sponsor. This "purchase" draws down the pre-paid value of the credit card by the exact amount sold to the applicant. If credit sales draw down the balance of pre-capitalized credits to zero, then the sponsor could use advance credits allocated by the IRT.

7. Program Account

HeartLands Conservancy shall establish a mechanism to ensure that funds from in-lieu fee permittees are deposited into a dedicated ILF Program account. This account will be

separate from any accounts that receive funds from entities other than permit applicants using the ILF PROGRAM as compensatory mitigation. HeartLands Conservancy shall ensure that the program account meets applicable federal and state standards for financial accountability and subject to annual audit by the organization's selected independent auditor, as well as the IRT.

Fund balances shall be invested in an interest bearing account at an institution that is a member of the Federal Deposit Insurance Corporation. All interests and earnings accruing to the account shall remain in that account for use by the ILF Program for the purposes of providing compensatory mitigation.

A. Mitigation Fees

According to the federal rule, mitigation fees must represent full-cost accounting.

> *"For in- lieu fee programs, the cost per unit of credit must include the expected costs associated with the restoration, establishment, enhancement and/or preservation of aquatic resources in that service area. These costs must be based on full cost accounting, and include, as appropriate, expenses such as land acquisition, project planning and design, construction, plant materials, labor, legal fees, monitoring, and remediation or adaptive management activities, as well as administration of the in-lieu fee program." 33 CFR 332.8(o)(5)(ii).*

HeartLands Conservancy will ensure that the mitigation fees, also called Credit Fees, will reflect the average costs for implementing all aspects of a mitigation project, including land acquisition. Credit prices will be elaborated on within Section 7.C., and will consider rates being used in other ILF programs, as well as prices charged by local and regional mitigation banks.

Mitigation fees are intended for use in activities related to producing mitigation credit. Section 332.8(o)(5)(ii) of the federal rule states that credit costs may also be used for "administration of the in-lieu fee program." This statement implies that credit fees can be used for administrative activities, so long as they are directly related to production of mitigation credit.

Mitigation fees cannot be used for activities such as trail maintenance, litter patrol, and other types of routine public land stewardship or maintenance activities unrelated to management of a mitigation site.

B. Calculation of Mitigation Fees

HeartLands Conservancy will establish the mitigation fees, or credit price, by accounting for all aspects of mitigation project implementation, including site selection, land acquisition, personnel, design and permitting, construction (plus costs associated with contracting), performance period maintenance and monitoring, administration and long-

term stewardship. The credit price will also account for inclusion of contingency funds for each project.

With each individual Site Development Plan, HeartLands Conservancy will utilize a three-step process to determine an estimated cost per credit for each project. The following actions will be utilized in creating the estimated cost per credit:

i. An evaluation of the number of credits of lift generated by each project, including both habitat credits and hydrology credits gained as a result of activities performed at each project.

ii. Determining full costs for each project, including all expenditures to date and all expected future expenditures necessary to complete the project (achieve desired performance standards). HeartLands Conservancy will review and analyze project budgets thoroughly to ensure that budgeted costs will be sufficient to cover all requirements for implementing a mitigation project according to the federal rule.

iii. Calculating the cost per credit by dividing the total (adjusted) project costs by the total number of credits (i.e. the sum of all functional credit types) of lift associated with the project.

HeartLands Conservancy may have significant difficulty in determining which proportion of project costs is associated with generating specific functional subtypes of credits (i.e. habitat, hydrology). Therefore, a recommendation as to the rate per type of credit will be provided within the Site Development Plan.

Mitigation fees per credit will be reviewed annually and increased or decreased to reflect actual costs associated with implementing mitigation projects through the PROGRAM.

C. Allocation and Use of Mitigation Fees

Upon receipt of mitigation fees, the sponsor will allocate funds to an account specific for the service area in which the impact occurred. Within the service area account, the sponsor will allocate pre-determined percentages of the fee into the following sub-accounts:

- Contingency Fund used to ensure financial resources for construction cost overruns, site repair, implementation of adaptive management plans, and site replacement during the performance period. Any unused contingency funds will be transferred into the long-term management fund at the end of the performance period.

- Long Term Maintenance and Management Fund solely for use in long term management, such as long-term monitoring, site protection enforcement, site management and maintenance (if needed), long-term reporting, and all other aspects involved in implementing the long-term management plans included in IRT-approved Mitigation Plans. Long term management funds are not available for use

on a project until the project enters the long term management phase (i.e. after the performance period is complete and all credit associated with a project is released).

- Program Administration Fund will pay for program administration duties, including but not limited to:
    - PROGRAM Ledger Management (See Section 8.)
    - PROGRAM Fee and Credit accounting
    - PROGRAM Legal Services
    - PROGRAM Auditing Services
    - IRT PROGRAM Reporting
    - IRT PROGRAM Updates/Meetings
    - PROGRAM Development (e.g. working to improve how the program works to ensure highest quality mitigation)
    - Other PROGRAM Administration duties as necessary

The remaining money from the mitigation fee (after percentages have been allocated to the above funds) will fund Project Implementation, including the following aspects of future mitigation-receiving site development:

- Land acquisition;
    - Appraisals,
    - Boundary / elevation surveys,
    - Environmental Assessment(s),
    - Title Report,
    - Legal, and
    - Closing costs.
- Mitigation-receiving site inventory, analysis, planning, design and project permitting;
- Construction and implementation; and
- Performance period maintenance and monitoring.

Prior to using any mitigation fees for land acquisition or project implementation, the sponsor will consult the IRT and adhere to the requirements specified in the federal rule, 33CFR 32.8(i)(2):

> *The sponsor must submit proposed in-lieu fee projects to the District Engineer for funding approval. Disbursements from the program account may only be made upon receipt of the written authorization from the District Engineer, after the District has*

consulted with the IRT. The terms of the program account must specify that the District Engineer has the authority to direct those funds to alternative compensatory mitigation projects in cases where the sponsor does not provide compensatory mitigation in accordance with the time frame specified in paragraph (n)(4) of this section.

If advance credits are used, the PROGRAM will have three complete growing seasons after the first ILF Credit is sold in a Service Area to complete ILF receiving site land acquisition and initial biological and physical improvements, unless modified by the District Engineer.

8. Ledger

The sponsor will maintain two ledgers: one to track mitigation fees and expenditures, and a second to track debits and credits. Both ledgers will be organized by Service Area, and the two ledgers will be related to each other. The ledgers will be used to track the source of funding for mitigation projects as well as where and how impact mitigation fees are spent.

A. Mitigation Fee Ledger

HeartLands Conservancy will compile an annual ledger report for the District Engineer that will include the following information:

- Beginning and ending balances of available credits for each resource type and service area;
- Beginning and ending balances of permitted impacts for each resource type and service area;
- All additions and subtractions of credits; and
- Any other changes in credit availability (e.g., additional credits released, credit sales suspended).

The fee ledger will track all income (Mitigation Fees) and expenditures within the program. The fee ledger will comprise separate "sub-ledgers" for each service areas. Each service area fee ledger will clearly show the following:

- Mitigation fees collected for each impact project:
    - Credit Fee amount;
    - Impact project Permit Number; and
    - Jurisdictional notation – indicates whether fees collected for unavoidable, permitted impacts involved federally jurisdictional wetlands, non-federal jurisdictional wetlands (i.e., isolated wetlands), locally-regulated critical area resources (i.e., buffer only impacts), or some combination.

- Deposits and Expenditures for the Contingency Fund:
    - Origin of deposits (Impact Permit Number(s)); and
    - Contingency Expenditures (Mitigation Project Name).

- Deposits and Expenditures for the Long-term Management Fund:
    - Origin of deposits (Impact Permit Number(s)); and
    - Long-term Management Expenditures (Mitigation Project Name).

- Deposits and Expenditures for the Program Administration Account:
    - Origin of deposits (Impact Permit Number(s)); and
    - Program Administration Expenditures.

- Deposits and Expenditures for each Project Implementation Fund:
    - List of expenditures by Task categories covering all aspects of implementing mitigation-receiving projects, e.g., land acquisition, design, permitting, construction, maintenance and monitoring, etc.

B. Credit Ledger

The credit ledgers will track credits that are sold, as well as fulfillment credits that will be released once mitigation projects achieve performance standards. The sponsor, wherever possible, will seek to maintain a surplus of credits available to sell (pre-capitalized credits and advance credits).

C. Balancing Credits by Functional Type

Until the ILF program begins to sell credits to offset debits associated with unavoidable, permitted impacts, it is hard to predict how credit in each function category will balance with debits in each function category. For example, identifying mitigation-receiving sites and designing projects to earn habitat credits may prove easy, while implementing mitigation projects that will earn hydrology credits may be more difficult. Depending on the service area, the identified priorities in a watershed may indicate that an imbalance among function categories is desirable. In other cases, balancing debits and credits across function types may be the goal.

As the program accrues mitigation fees and implements mitigation through time, the type and amounts of debits and credits, and the balance among them, will be tracked and reported to the IRT. HeartLands Conservancy will consult with the IRT to discuss whether the function categories of credits should balance the function categories of debits or if "trading" among function categories would be preferable. Tracking each of the three

function categories of debits and credits separately will allow these decisions to be made in a consistent and explicit and transparent way.

9. Figures

Figure 1. Statewide Watersheds

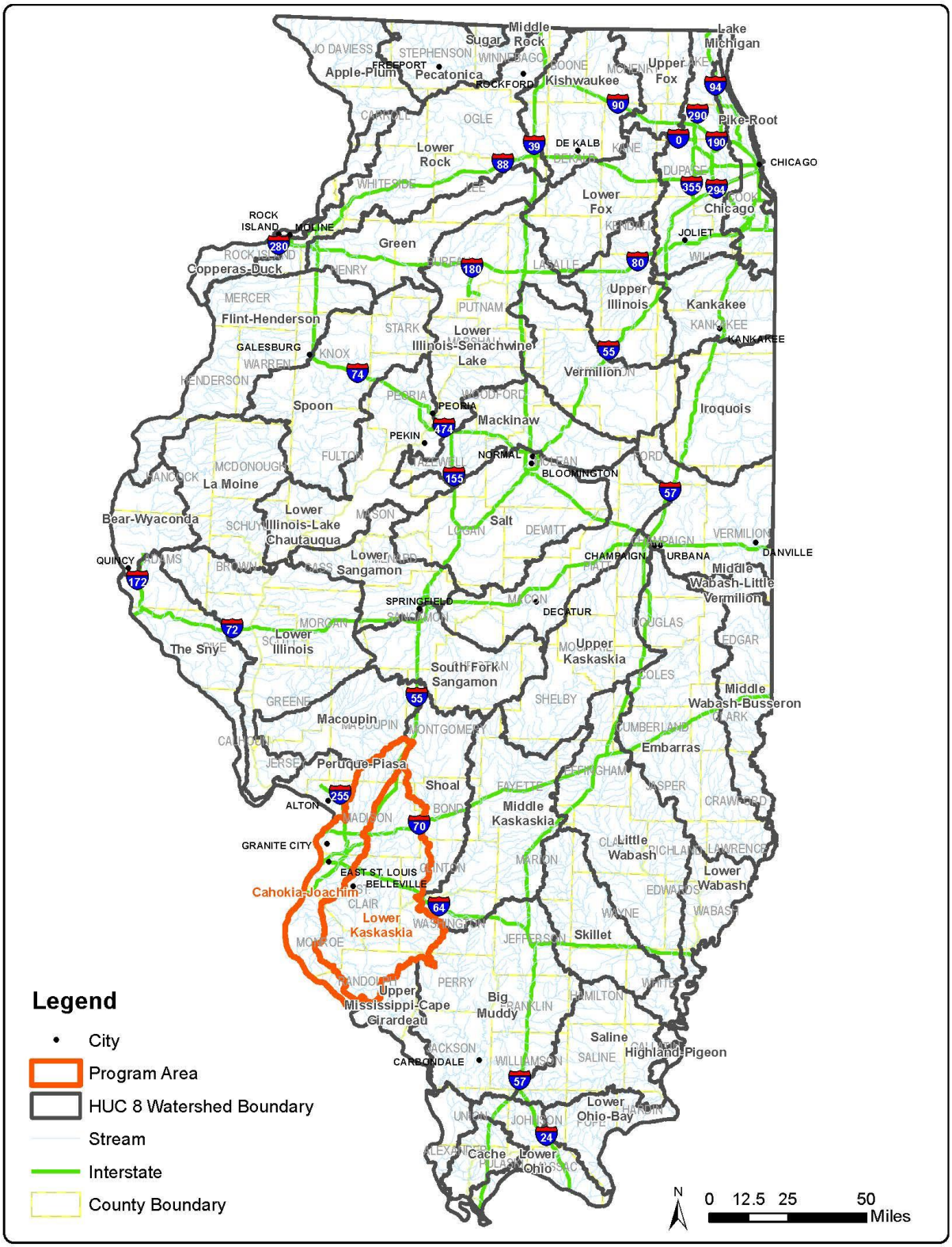


Figure 2. PROGRAM Area

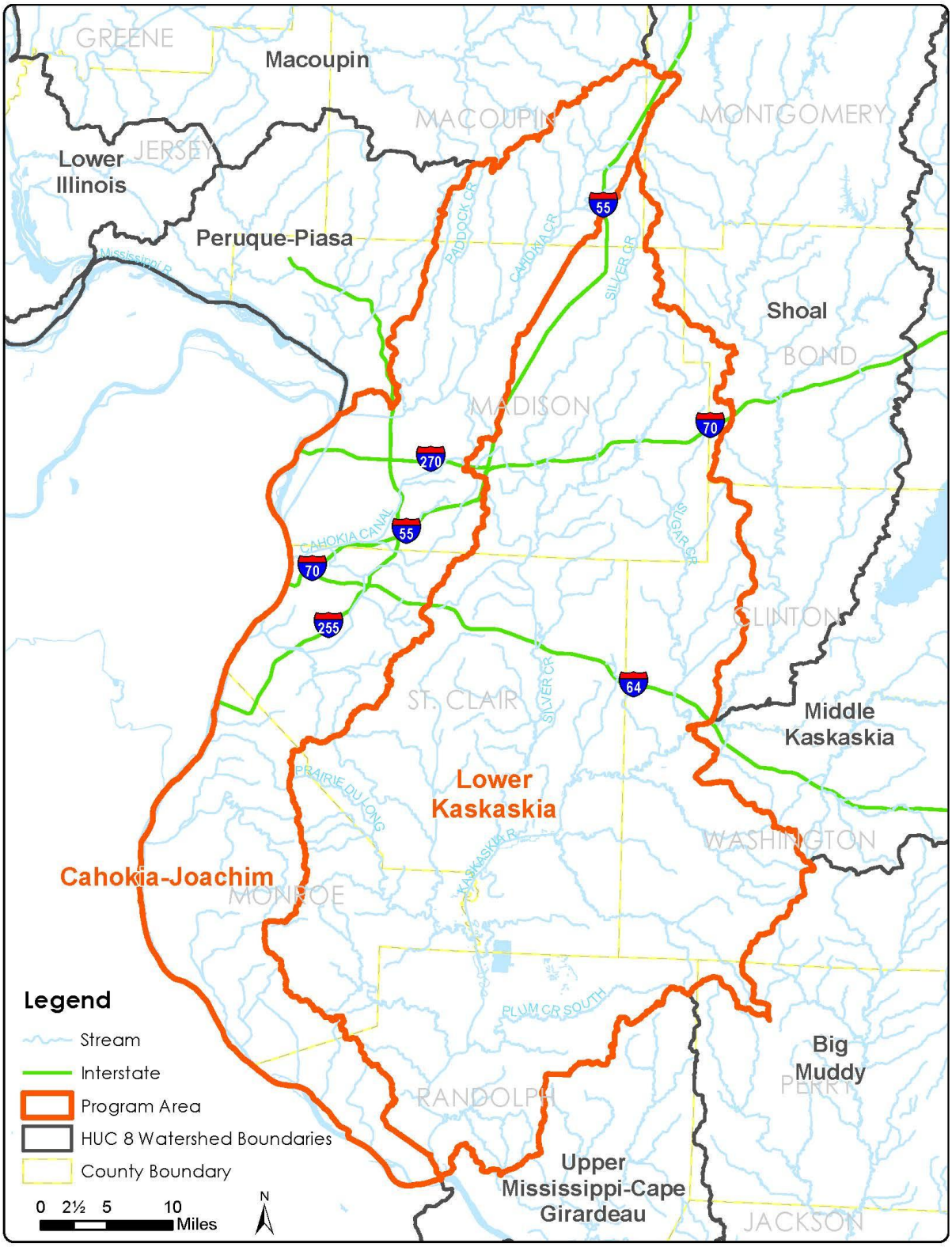


Figure 3. Cahokia-Joachim (07140101)

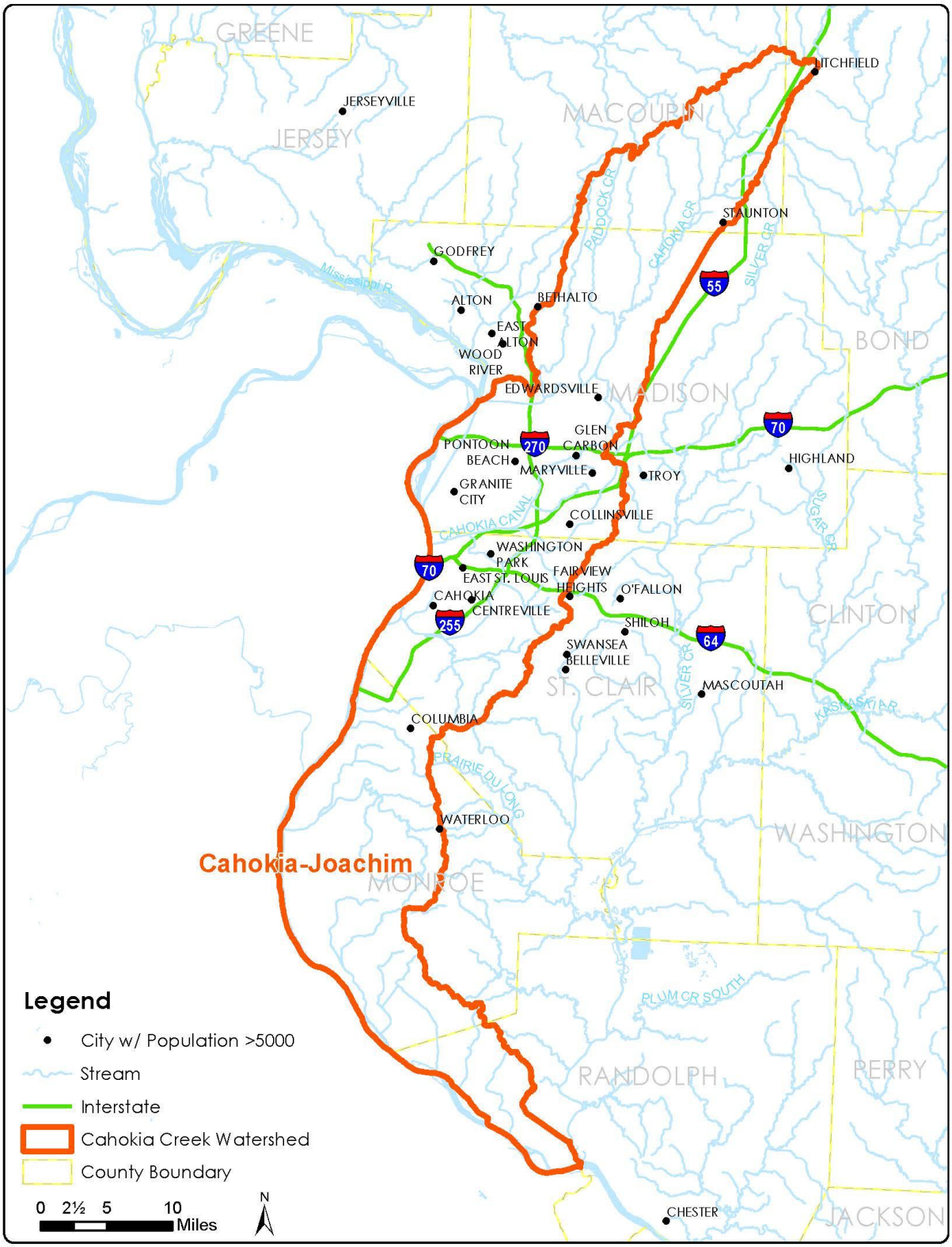
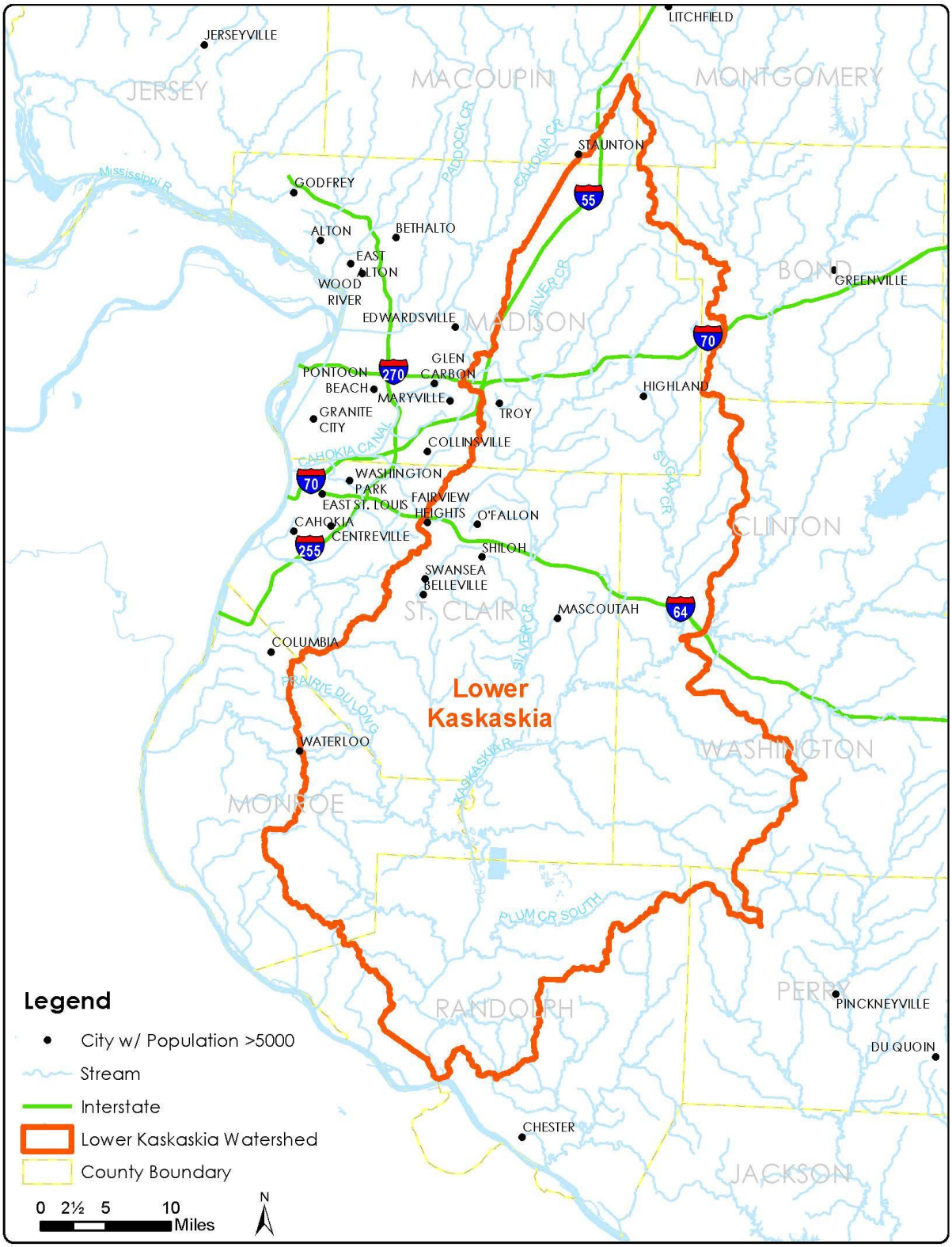


Figure 4. Lower Kaskaskia (07140204)



10. Compensation Planning Framework

A. Background

In 2008, the US EPA created a rule to regulate in-lieu fee mitigation programs which requires that a "compensation planning framework" be used for selecting and permitting mitigation projects funded through an in-lieu fee mitigation program. The rule states the following:

"The approved instrument for an in-lieu fee program must include a compensation planning framework that will be used to select, secure, and implement aquatic resource restoration, establishment, enhancement, and/or preservation activities. The compensation planning framework must support a watershed approach to compensatory mitigation."

The required compensation framework must include the following ten elements:

1. The geographic service area(s), including a watershed-based rationale for the delineation of each service area;
2. A description of the threats to aquatic resources in the service area(s), including how the in-lieu fee program will help offset impacts resulting from those threats;
3. An analysis of historic aquatic resource loss in the service area(s);
4. An analysis of current aquatic resource conditions in the service area(s), supported by an appropriate level of field documentation;
5. A statement of aquatic resource goals and objectives for each service area, including a description of the general amounts, types and locations of aquatic resources the program will seek to provide;
6. A prioritization strategy for selecting and implementing compensatory mitigation activities;
7. An explanation of how any preservation objectives identified in element 5 and addressed in the prioritization strategy in element 6 satisfy the criteria for use of preservation;
8. A description of any public and private stakeholder involvement in plan development and implementation, including coordination with federal, state, tribal and local aquatic resource management and regulatory authorities;
9. A description of the long-term protection and management strategies for activities conducted by the in-lieu fee program sponsor; and
10. A strategy for periodic evaluation and reporting on the progress of the program in achieving the goals and objectives above, including a process for revising the planning framework as necessary.

B. Element 1- Geographic Service Area

The Southwestern Illinois Stream and Wetland (ILF) Mitigation Program will focus on two contiguous eight-digit HUC watersheds, each located within southwestern Illinois; Cahokia-Joachim (07140101) and Lower Kaskaskia (07140204). Each of these eight-digit HUC watersheds will operate as an independent Service Area, maintaining individual mitigation sites and accounting records.

Cahokia-Joachim: this watershed, which contains 740 square miles, (473,600 acres), with an estimated population in 2000 of 258,941, lies immediately adjacent, and flows directly, to the Mississippi River. The northern portion of the watershed is highly modified, through levees, stream channelization and urbanization. The southern portions of the watershed are largely agricultural, although levee systems and channelization remain prevalent as well.

Ecologically, the scale of this watershed will allow for the implementation of quality aquatic restoration projects which will provide long-term benefits to fish and wildlife, water quality, air quality, stormwater management and recreational opportunities. The scale of the watershed allows the flexibility necessary to design multiple mitigation projects, addressing multiple habitat types. The scale further allows flexibility in identifying sites that will provide the greatest ecological benefits.

Economically, the scale of this watershed will allow for the implementation of quality aquatic restoration projects based on the likely future distribution of impacts due to continued urbanization within the watershed. The scale also ensures the greatest opportunity for indentifying and pursuing partnership opportunities in implementing individual projects.

Lower Kaskaskia: this watershed, which contains 674 square miles, (431,360 acres), and an estimated population in 2000 of 321,200 lies immediately adjacent to the Cahokia-Joachim watershed. The Lower Kaskaskia is the southern most of four eight-digit HUC watersheds within the Kaskaskia River basin. The larger basin begins north of Champaign and flows southwest to its confluence with the Mississippi River south of Chester, IL.

Like the Cahokia-Joachim watershed, the Lower Kaskaskia is heavily populated in its northern section (Madison and St. Clair Counties). Southern sections are more heavily devoted to agriculture.

Ecologically, the scale of this watershed will allow for the implementation of quality aquatic restoration projects which will provide long-term benefits to fish and wildlife, water quality, air quality, stormwater management and recreational opportunities. The scale of the watershed allows the flexibility necessary to design multiple mitigation projects, addressing multiple habitat types. The scale further allows flexibility in identifying sites which provide the greatest ecological benefits.

Economically, the scale of this watershed will allow for the implementation of quality aquatic restoration projects based on the likely future distribution of impacts due to continued urbanization within the watershed. The scale also ensures the greatest opportunity for indentifying and pursuing partnership opportunities in implementing individual projects.

C. Element 2 - Threats to Aquatic Resources

Both watersheds lie within southwestern Illinois, the second most populous region within the State of Illinois. Set immediately adjacent to St. Louis, MO., these watersheds lie largely within the St. Louis Metropolitan Statistical Area, and as such are significantly impacted. As threats to the aquatic resources are generally similar within both watersheds, characteristics will be discussed in unison below.

Urbanization: past, present and future human activities have, and will continue to have a significant impact on aquatic resources within these watersheds. Elimination, modification and separation of waterways and wetlands increase the complexity in managing stormwater, reduce the ability to purify water and threaten real property/infrastructure. In the long-term urbanization also reduces quality aquatic restoration opportunities.

Heat-Island Effect: counties immediately adjacent to St. Louis, MO, including Madison and St. Clair, can be impacted by increased temperatures and altered airflows as a resulting from built infrastructure to the west. Warmer air tends to rise within the urban core, and then becomes unstable, thereby increasing atmospheric instability and storm intensity.

Channelization: significant waterways within these watersheds have been channelized, including the Kaskaskia River (Fayetteville to Mississippi River), Silver Creek (Madison County line to Scott Air Force Base), Richland Creek and Cahokia Creek. Channelization has led to the elimination of natural habitat, while increasing overall stream flows, leading to flooding concerns.

Water Quality:
Non-point Sources: A significant portion of the land use within these watershed is agricultural. Like other Midwestern agricultural-based watersheds, the loss of wetlands and degradation/elimination of stream buffers has led to increased sediment and nutrient. Particular non-point source impairment concerns include nitrogen, phosphorous, sedimentation, manganese, dissolved oxygen and fecal coliform. Significant water quality analysis has been undertaken within these watersheds, and stakeholders are now working to implement best management practices to address these listed impairments.

Point Sources: There are approximately 150 National Pollutant Discharge Elimination System (NPDES) permits within the two watershed area which exacerbates issues with nitrogen, phosphorous and bacteria.

Climate Change: USGS models have indicated that there is a likelihood of increased annual precipitation within the Upper Mississippi River Valley of up to 20% by 2050. Because of

the projected increase in storm intensity, stream flow may increase by as much as 50%. Areas within both watersheds are already experiencing significant damage and property loss as a result of flooding. These increases, if and when realized, would be devastating.

Invasive Species: Whether introduced deliberately or inadvertently, invasive species, which have no natural predators or control systems, are outcompeting native species throughout southwestern Illinois. Disturbed / modified aquatic resources can accelerate the establishment of these species which, if not managed, can quickly displace native species, creating a monoculture and further degradation of a wetland's ecological value.

While the Southwestern Illinois Stream and Wetland ILF Mitigation Program cannot correct each of these threats, the creation, and long-term protection of quality aquatic resource projects within this region will ensure that we are headed in the right direction. Making an investment in protecting high-quality ecological projects ensures that representative habitats will be available in the future.

D. Element 3 - Analysis of Historic Aquatic Resource Loss

Water quality information for both watersheds is collected from data assembled within the Illinois Integrated Water Quality Report and Section 303(D) List, 2014; as prepared by the Illinois Environmental Protection Agency. The impaired streams and lakes displayed on these maps were included on the 303(d) list as of August 4, 2014. These are waters that are too polluted or otherwise too degraded to meet the state water quality standards.

EPA 303d Impaired Waterways in the Cahokia Creek Watershed

Name	Waterbody ID	Cause of Impairment	Probable Source	Miles
CAHOKIA CANAL	ILJN02 _JN 02	MANGANESE	METALS (OTHER THAN MERCURY)	11.94
CAHOKIA CREEK	ILJQ05 _JQ 05	FECAL COLIFORM	PATHOGENS	9.95
CAHOKIA DIV. CHANNEL	ILJQ05 _JQ 07	HABITAT ALTERATIONS	HABITAT ALTERATIONS	5.18
CANTEEN CREEK	ILJNA01_JNA 01	NITROGEN, TOTAL	NUTRIENTS	4.34
CANTEEN CREEK	ILJNA01_JNA 02	HABITAT ALTERATIONS	HABITAT ALTERATIONS	9.17
CHAIN O ROCKS CANAL	ILJ81 _JO	PRIORITY ORGANICS COMPOUNDS	TOXIC ORGANICS	8.92
FOUNTAIN CREEK	ILJH02 _JH 04	HABITAT ALTERATIONS	HABITAT ALTERATIONS	10.57
FRANK HOLTEN 2	ILJMAC02 _RJL	PHOSPHORUS, TOTAL	NUTRIENTS	0.48
FRANK HOLTEN 3	ILJMAC02 _RJM	PHOSPHORUS, TOTAL	NUTRIENTS	0.48
HARDING DITCH	ILJMAC02 _JMAC02	FECAL COLIFORM	PATHOGENS	10.64
HOLIDAY SHORES	IL_RJN	PHOSPHORUS, TOTAL	NUTRIENTS	2.22
INDIAN CREEK	ILJQA01 _JQA 01	HABITAT ALTERATIONS	HABITAT ALTERATIONS	21.21
MAEYSTOWN CREEK	ILJD01 _JD 02	HABITAT ALTERATIONS	HABITAT ALTERATIONS	13.16
MALINE CR.	MO_3839	PH	PH/ACIDITY/CAUSTIC CONDITIONS	2.02
MISSISSIPPI RIVER	IL_J 36	POLYCHLORINATED BIPHENYLS (PCBS)	POLYCHLORINATED BIPHENYLS (PCBS)	80.27
MT. OLIVE NEW	ILJQ03 _RJF	PHOSPHORUS, TOTAL	NUTRIENTS	0.63
MT. OLIVE OLD	ILJQ03 _RJG	TOTAL SUSPENDED SOLIDS (TSS)	TURBIDITY	0.54
PRAIRIE DU PONT CREEK	ILJMA01 _JMAA01	PHOSPHORUS, TOTAL	NUTRIENTS	14.42
STOOKEY CREEK	ILJMA01 _JMAABA-C1	HABITAT ALTERATIONS	HABITAT ALTERATIONS	1.12
TOWER (MADISON)	ILJQ05 _RJO	CAUSE UNKNOWN	CAUSE UNKNOWN	0.77
WATERLOO CREEK	ILJH02 _JHE-C1	SEDIMENTATION/SILTATION	SEDIMENT	1.00
				209.04 Total Miles

EPA 303d Impaired Waterways in the Lower Kaskaskia Watershed

Name	Waterbody ID	Cause of Impairment	Probable Source	Miles
BULL BRANCH	ILOHAA07 _OHAA07	BARIUM	RADIATION	3.76
COULTERVILLE	ILOEB01 _ROV	SEDIMENTATION/SILTATION	SEDIMENT	0.39
DOUGLAS CREEK	ILOC94 _OCE	PHOSPHORUS, TOTAL	NUTRIENTS	11.54
GRASSY BRANCH	ILOH01_OHC	PHOSPHORUS, TOTAL	NUTRIENTS	7.67
HIGHLAND SILVER	ILODL02_ROZA	MANGANESE	METALS (OTHER THAN MERCURY)	5.53
HORSE CREEK	ILOB01 _OB 03	DISSOLVED OXYGEN	ORGANIC ENRICHMENT/OXYGEN DEPLETION	11.73
KASKASKIA RIVER	ILO30 _O 97	CAUSE UNKNOWN	CAUSE UNKNOWN	5.84
KINNEY BRANCH	ILOC94 _OCF	PHOSPHORUS, TOTAL	NUTRIENTS	5.01
LAKE BRANCH	ILOHA01_OHA 02	PHOSPHORUS, TOTAL	NUTRIENTS	4.00
LAKE BRANCH	ILOHA01_OHA 03	DISSOLVED OXYGEN	ORGANIC ENRICHMENT/OXYGEN DEPLETION	2.02
LAKE BRANCH	ILOHA01_OHA 04	DISSOLVED OXYGEN	ORGANIC ENRICHMENT/OXYGEN DEPLETION	1.94
LAKE BRANCH	ILOHA01_OHA 05	SEDIMENTATION/SILTATION	SEDIMENT	1.25
LAKE BRANCH	ILOHA01_OHA 06	PHOSPHORUS, TOTAL	NUTRIENTS	3.37
LITTLE SILVER CREEK	ILODG01 _ODG 01	NITROGEN, TOTAL	NUTRIENTS	12.62
LOOP CREEK	IL_ODE-LN-C1	PHOSPHORUS, TOTAL	NUTRIENTS	1.08
LOOP CREEK	IL_ODE-LN-C3	PHOSPHORUS, TOTAL	NUTRIENTS	7.56
LOOP CREEK	ILODE01 _ODE	PHOSPHORUS, TOTAL	NUTRIENTS	2.34
MUD CREEK	ILOE03 _OE 02	MANGANESE	METALS (OTHER THAN MERCURY)	21.28
OGLES CR.	IL_ODI-CE-C1	HABITAT ALTERATIONS	HABITAT ALTERATIONS	0.62
PLUM CREEK	ILOZC01 _OZC 01	FECAL COLIFORM	PATHOGENS	10.36
PRAIRIE DU LONG CREEK	ILOCB99_OCB 99	TOTAL SUSPENDED SOLIDS (TSS)	TURBIDITY	23.64
RICHLAND CR.-SOUTH	ILOC04_OC 03	HABITAT ALTERATIONS	HABITAT ALTERATIONS	3.73
RICHLAND CR.-SOUTH	ILOC04_OC 04	TOTAL SUSPENDED SOLIDS (TSS)	TURBIDITY	4.02
RICHLAND CR.-SOUTH	ILOC04_OC 90	PHOSPHORUS, TOTAL	NUTRIENTS	3.06
RICHLAND CR.-SOUTH	ILOC04_OC 92	PHOSPHORUS, TOTAL	NUTRIENTS	3.53
RICHLAND CR.-SOUTH	ILOC94 _OC 94	NITROGEN, TOTAL	NUTRIENTS	1.70
RICHLAND CR.-SOUTH	ILOC94 _OC 95	NITROGEN, TOTAL	NUTRIENTS	2.91
SEWER CREEK	IL_OHE-HL-A1	CAUSE UNKNOWN	CAUSE UNKNOWN	2.89
SEWER CREEK	IL_OHE-HL-C1	PHOSPHORUS, TOTAL	NUTRIENTS	1.16
SILVER CREEK	ILOD08 _OD 06	PHOSPHORUS, TOTAL	NUTRIENTS	3.32
SLM SIDECHANNEL RESERVOIR	IL_SOL	MANGANESE	METALS (OTHER THAN MERCURY)	0.14
SUGAR CREEK	IL_OH-HL-D1	DISSOLVED OXYGEN	ORGANIC ENRICHMENT/OXYGEN DEPLETION	10.47
SUGAR CREEK	ILOH01_OH 01	FECAL COLIFORM	PATHOGENS	9.15
SUGAR CREEK	ILOH01_OH 05	HABITAT ALTERATIONS	HABITAT ALTERATIONS	4.94
TRENTON CREEK	IL_OHF-TR-A1	DISSOLVED OXYGEN	ORGANIC ENRICHMENT/OXYGEN DEPLETION	1.22
TRENTON CREEK	IL_OHF-TR-C1	DISSOLVED OXYGEN	ORGANIC ENRICHMENT/OXYGEN DEPLETION	0.91
TRENTON CREEK	IL_OHF-TR-C3	SEDIMENTATION/SILTATION	SEDIMENT	1.64
TROY CREEK	IL_ODMA-TRC3	NITROGEN, TOTAL	NUTRIENTS	0.34
				198.68 Total Miles

Watershed	Name	Waterbody ID	Cause of Impairment	Probable Source
LOWER KASKASKIA RIVER	COULTERVILLE	ILOEB01 _ROV	SEDIMENTATION/SILTATION	SEDIMENT
	HIGHLAND SILVER	ILODL02_ROZA	MANGANESE	METALS (OTHER THAN MERCURY)
	SLM SIDECHANNEL RESERVOIR	IL_SOL	MANGANESE	METALS (OTHER THAN MERCURY)
	SPARTA NW	ILOZC01 _SOC	DISSOLVED OXYGEN	ORGANIC ENRICHMENT/OXYGEN DEPLETION
CAHOKIA CREEK - UPPER MISSISSIPPI	FRANK HOLTEN 1	ILJMAC02 _RJK	ALGAL GROWTH	ALGAL GROWTH
	FRANK HOLTEN 2	ILJMAC02 _RJL	PHOSPHORUS, TOTAL	NUTRIENTS
	FRANK HOLTEN 3	ILJMAC02 _RJM	PHOSPHORUS, TOTAL	NUTRIENTS
	HOLIDAY SHORES	IL_RJN	PHOSPHORUS, TOTAL	NUTRIENTS
	HORSESHOE (MADISON)	ILJ81 _RJC	PH	PH/ACIDITY/CAUSTIC CONDITIONS
	LONG	IL_RJI	TOTAL SUSPENDED SOLIDS (TSS)	TURBIDITY
	MT. OLIVE NEW	ILJQ03 _RJF	PHOSPHORUS, TOTAL	NUTRIENTS
	MT. OLIVE OLD	ILJQ03 _RJG	TOTAL SUSPENDED SOLIDS (TSS)	TURBIDITY
	STAUNTON	ILJQ03 _RJA	ALGAL GROWTH	ALGAL GROWTH
	TOWER (MADISON)	ILJQ05 _RJO	CAUSE UNKNOWN	CAUSE UNKNOWN

See also Figures 5 and 6.

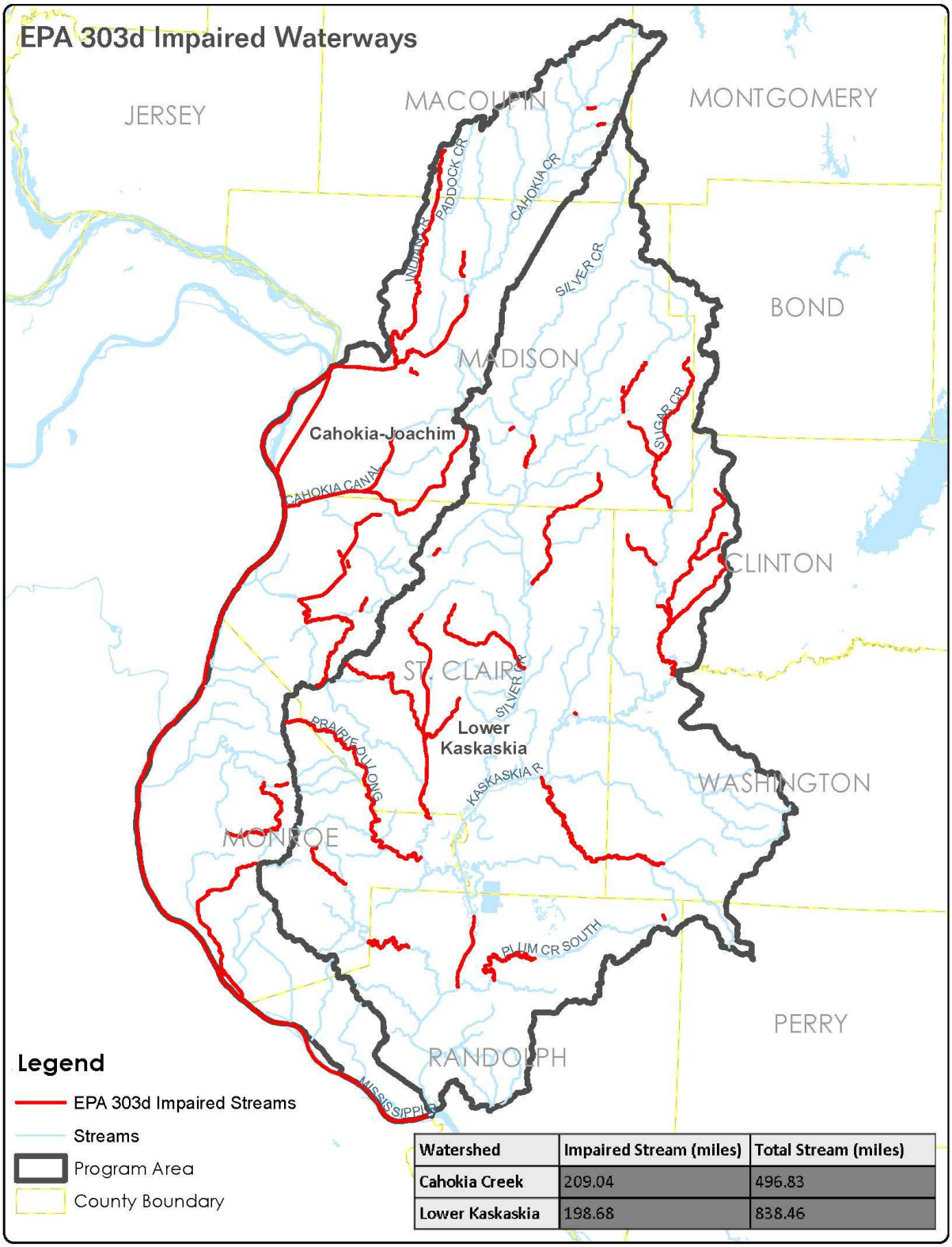
Wetland Loss was determined by comparing historic land cover to current land cover. The historic wetland data comes from the Land Cover of the Early 1800's vector data published by the Illinois Department of Natural Resources and the Illinois Natural History Survey in 2003. Original survey notes and maps were scanned to created GIS data. Land cover classified as wet prairie, swamp, marsh, slough, water, or other wetland was used in this analysis. The current land cover is derived from the National Land Cover Database (2011 Edition, with 2014 update) published by the U.S. Geological Survey. The data displayed on

the map includes lands classified as Woody Wetlands, Emergent Herbaceous Wetlands, or Water. Lands classified as wetlands in 1800 but not in 2011 are displayed on the map as loss. See Figure 7.

Channelized Streams data was created using the National Hydrology Dataset, maintained by the U. S. Geological Survey, in combination with local knowledge of area streams and 2012 aerial photography published by East West Gateway Council of Governments with satellite imagery from ESRI basemaps. See Figure 8

Land Use is derived from the National Land Cover Database (2011 Edition) published by the U.S. Geological Survey. The data displayed includes a March 2014 update. See Figure 9

Figure 5. Impaired Waterways



Watershed	Impaired Stream (miles)	Total Stream (miles)
Cahokia Creek	209.04	496.83
Lower Kaskaskia	198.68	838.46

Figure 6. Impaired Lakes

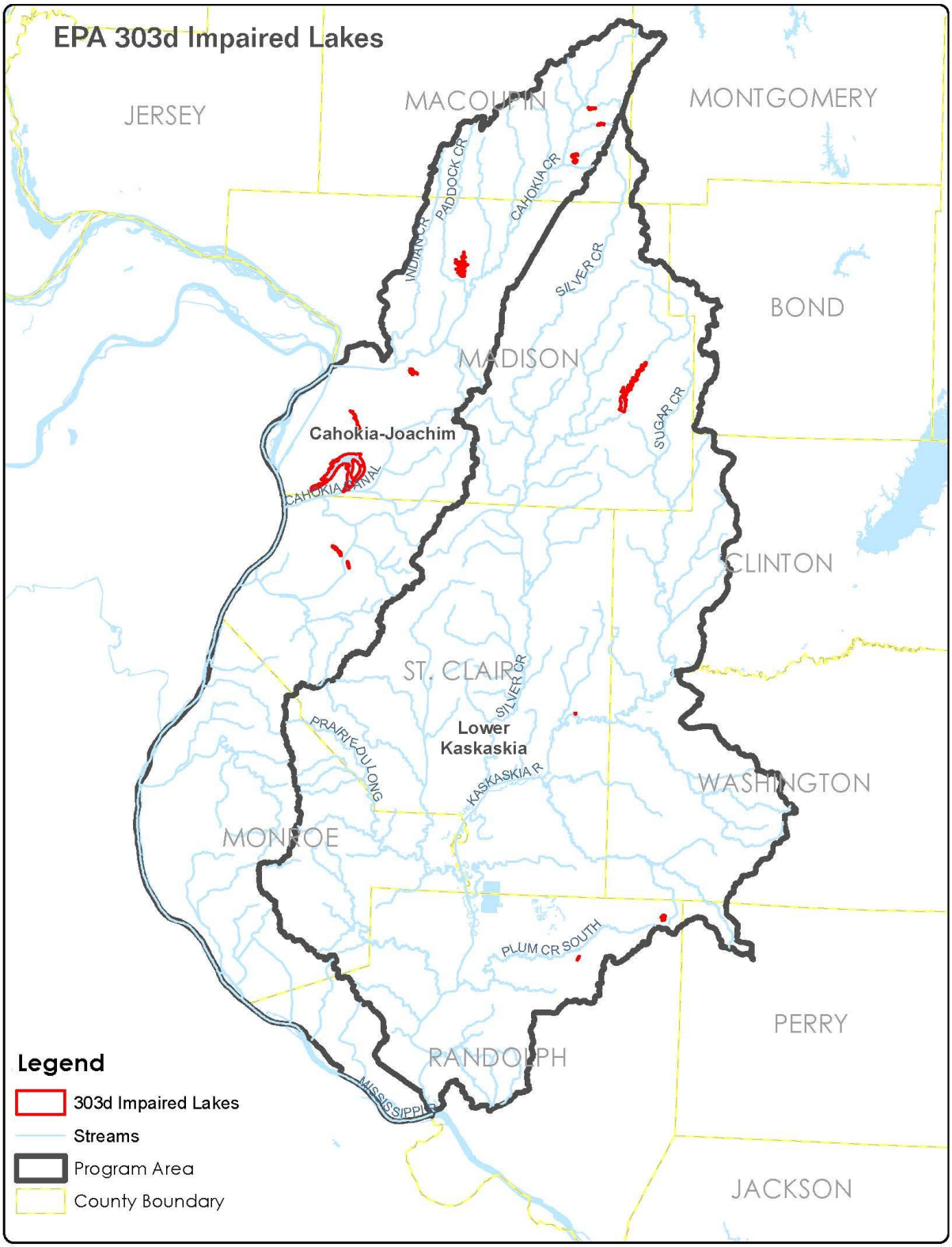


Figure 7. Historic Wetland Loss

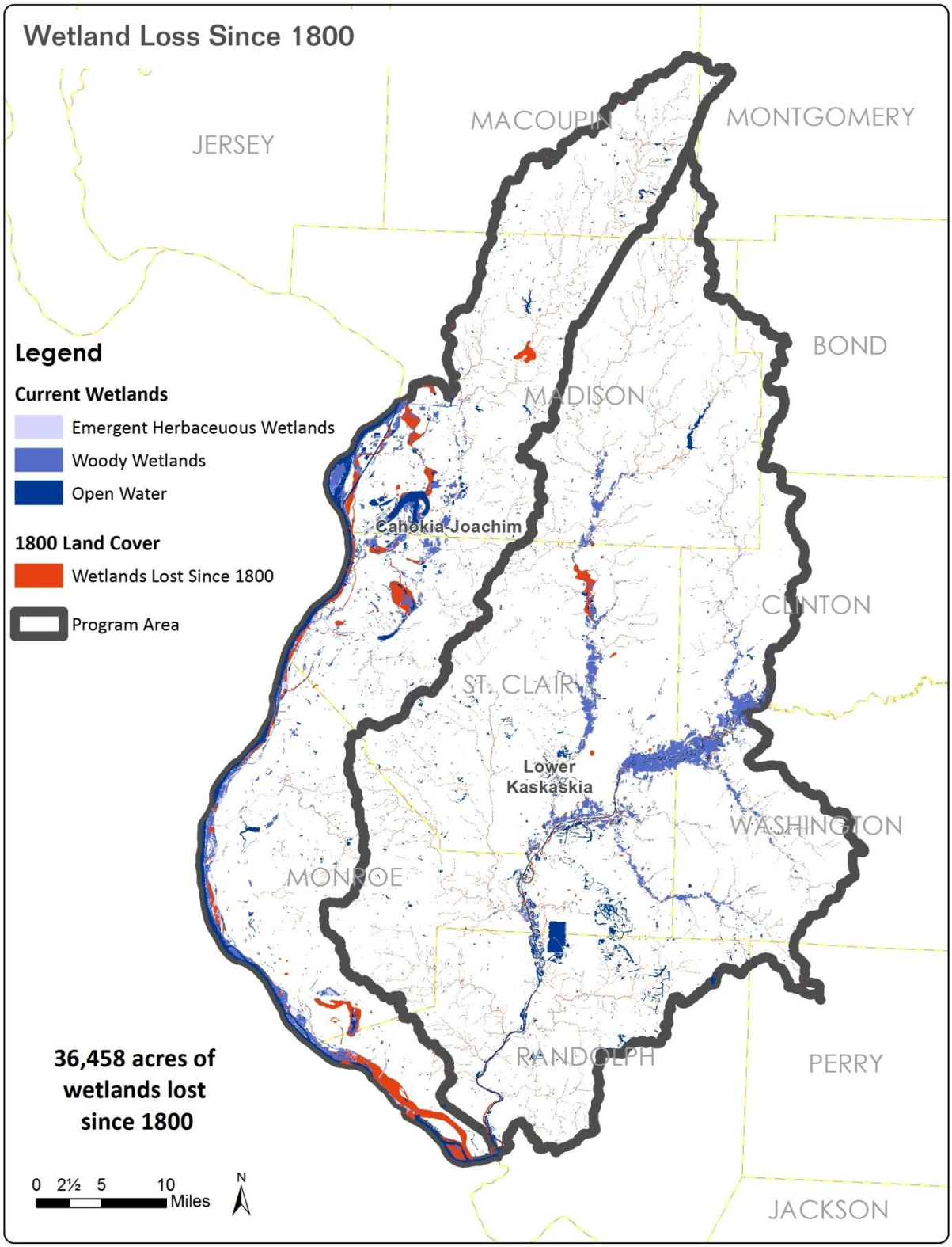


Figure 8. Stream Channelization

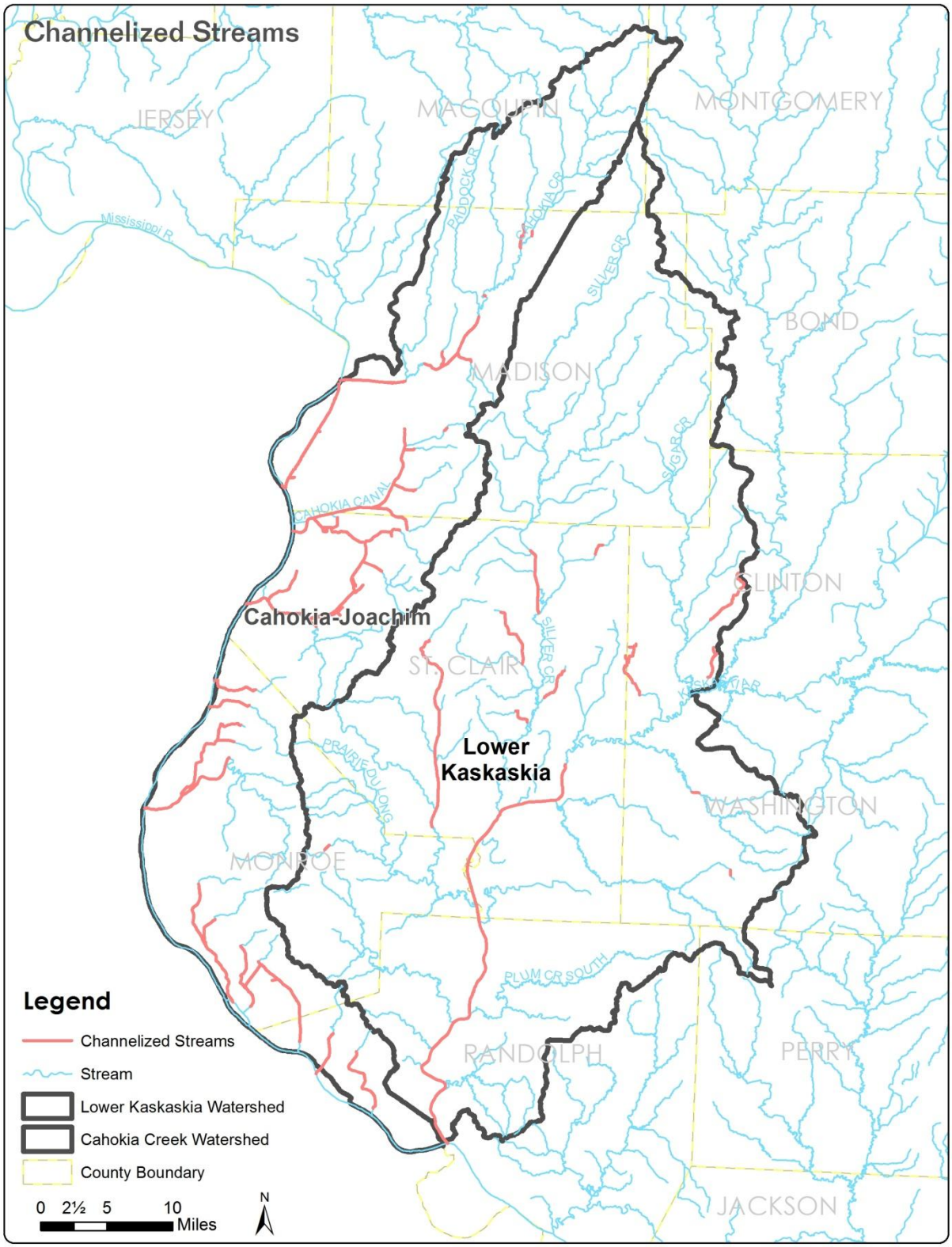
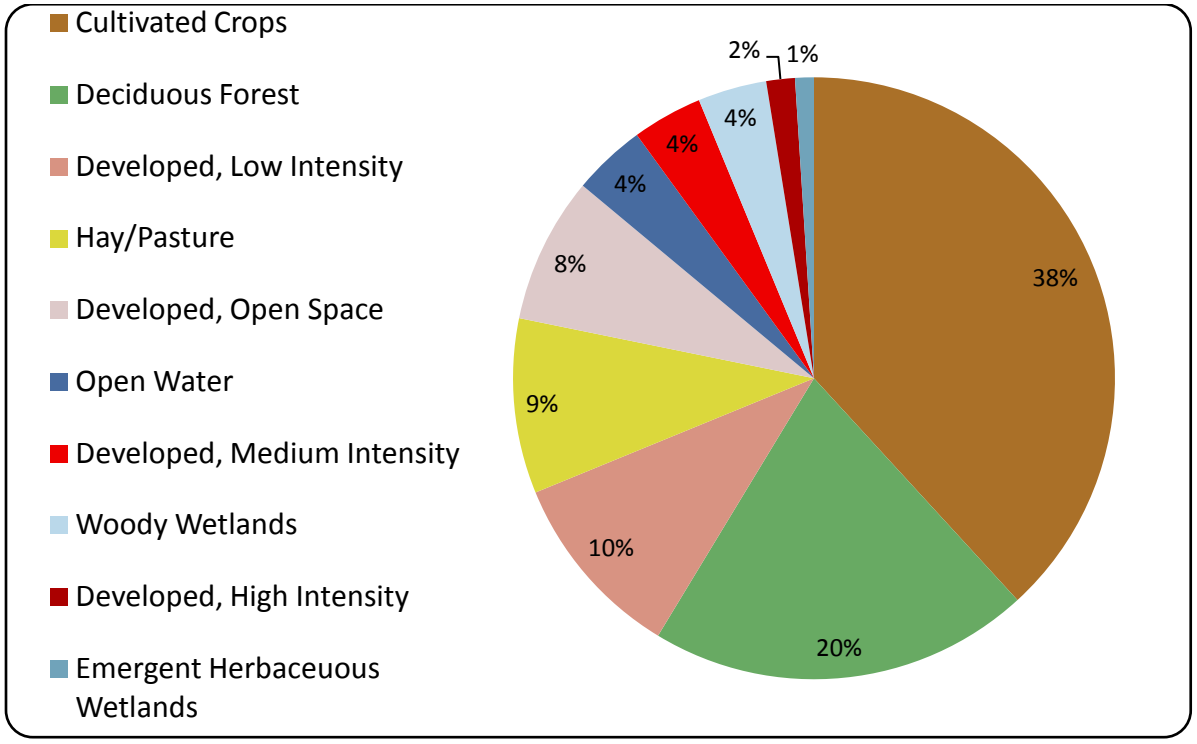
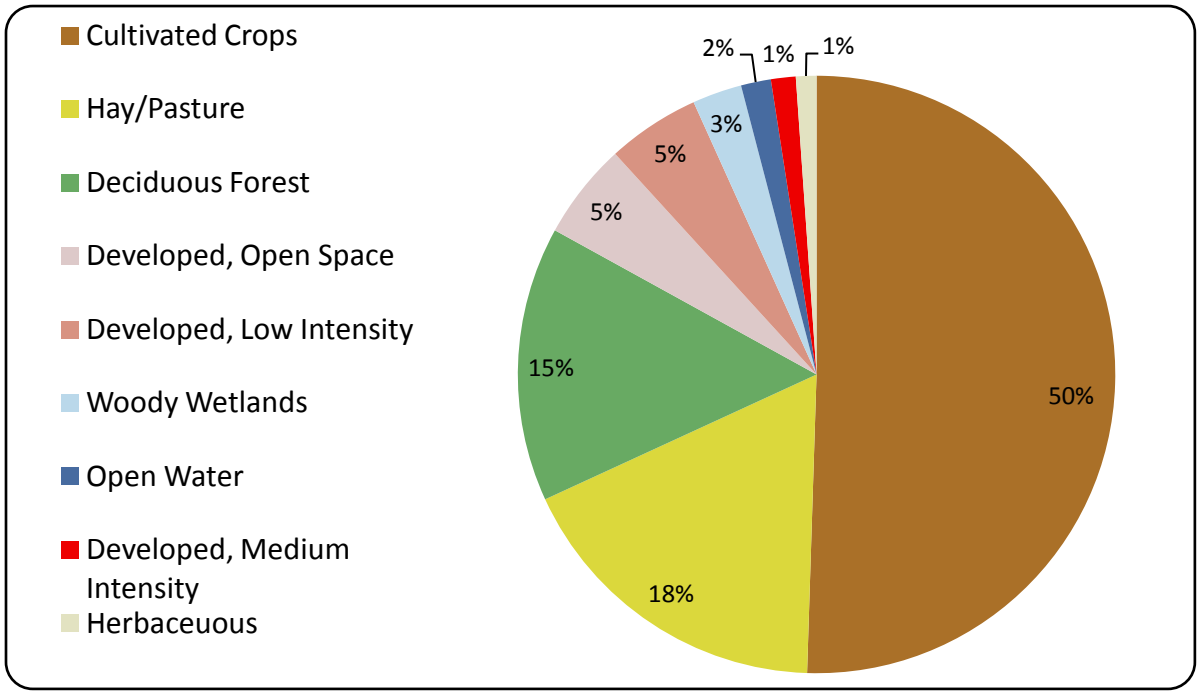


Figure 9. Land Use - Current

Cahokia-Joachim Watershed - Land Use



Lower Kaskaskia Watershed - Land Use



E. Element 4 - Aquatic Resource Conditions

Cahokia-Joachim: this watershed has encountered significant hydrologic modification since Euro-American settlement in the region some 250 years ago. As a result, the watershed is currently completely separated from its connection to the Mississippi River. In addition, the ridge and swale topography, which historically allowed for an impressive diversity of plant and animal species has largely been leveled in an effort to develop and/or manage for agricultural purposes.

Early industrialization along the Route 3 corridor, now largely abandoned, has left a patchwork of brownfields and contaminated waters, both surface and ground, within Madison & St. Clair Counties. Restrictions on fish consumption are common along the Mississippi River and within lakes along this corridor. Three Total Maximum Daily Load Reports (TMDL) have been completed for this watershed: Mt. Olive/Staunton Lakes, Holiday Shores Lake and Cahokia Canal. Contamination of the sediment within Horseshoe Lake is also a major concern.

Urbanization within this watershed has slowed significantly over the past several years due to the threat of de-certification of the three federal levees. However, passage of a sales tax and formation of the Southwestern Illinois Flood Prevention District Council, is advancing the levees towards achieving 100 year certification. The Council plans to continue to work to seek 500-year certification in the future. Once certification is assured, due to its proximity to St. Louis, MO., and relatively affordable land, this watershed is poised for significant growth in both residential and commercial development.

Consider the Cahokia-Joachim as a large bathtub; receiving water/runoff from the bluffs to the east and not allowing direct flow to the Mississippi River. Groundwater levels are highly reflective of the level of the Mississippi River, so in essence, this watershed collects water. Growth within the watershed will increase the amount of impervious surface, thereby increasing runoff. Furthermore, potential impacts of climate change (increased annual precipitation and streamflow), increase the potential for significant internal flooding within this fragile ecosystem.

Lower Kaskaskia: Like the Cahokia-Joachim watershed, the Lower Kaskaskia has experienced significant modification since euro-American settlement. In particular, the northwestern portion of the watershed, along the bluffline in Madison and St. Clair Counties has become highly urbanized within the prospering communities of Edwardsville, Glen Carbon, Troy, Collinsville, Swansea, O'Fallon, Fairview Heights, Shiloh and Belleville. This corridor has a unique development character - a blend of suburban and semi-rural residential development communities, open space, and farmland. It is a transitional area from the more industrial urban region to the west and the farms and villages to the east.

The eastern and southern portions of this watershed remain largely rural, with agriculture being the predominant land cover. Scattered communities provide support to the agricultural community.

Aquatic habitat within this watershed includes Silver Creek, the second largest tributary to the Kaskaskia River, Richland Creek, which at its headwaters is largely urbanized and channelized, and Highland Silver Lake. Portions of Silver Creek retain the high-quality bottomland hardwood forest which is prevalent along the Kaskaskia River from Fayetteville to Carlyle Lake. However many acres of this forest has been cleared since the creation of Carlyle Lake and the Navigation Project.

F. Element 5 - Goals and Objectives

Overarching goals for this PROGRAM will be consistent with the findings and determinations brought forth within the Illinois Interagency Wetland Policy Act of 1989; 830/1-2 Legislative Declaration:

The General Assembly finds and determines that:

a) In 1818, Illinois contained an estimated 8.2 million acres of wetlands. Based upon preliminary results of the Illinois portion of the National Wetlands Inventory, less than nine percent of the original acres remain.

b) With the significant loss in acreage, a corresponding loss in the functional values and benefits that wetlands provide has occurred.

c) Continued loss of Illinois' wetlands may deprive the people of this State of some or all of the benefits which they provide, including:

(1) reducing flood damages by absorbing, storing and conveying peak flows from storms;

(2) improving water quality by serving as sedimentation and filtering basins and as natural biological treatment areas;

(3) providing breeding, nesting, forage and protective habitat for approximately 40 percent of the State's threatened and endangered plants and animals, in addition to other forms of fish, wildlife, waterfowl and shorebirds;

(4) protecting underground water resources and helping to recharge rivers, streams and local or regional underground water supplies;

(5) serving as recreational areas for hunting, fishing, boating, hiking, bird watching, photography and other uses;

(6) providing open space and aesthetic values, particularly in rapidly developing areas;

(7) providing unique educational and research opportunities because of their high diversity of plants and animals, their support for a high incidence of threatened and endangered species, and their function as a natural buffer for rivers, lakes and streams;

(8) supplying nutrients in freshwater food cycles and serving as nursery areas and sanctuaries for young fish; and

(9) helping to protect shorelines from the forces of water erosion.

Individual mitigation sites will be selected based on the following goals:

Goal 1 - Replace the desired type of aquatic resource to that of what is being lost.

- Mitigation sites are of the highest realistically achievable ecological value based on current, and, where possible, historic site conditions.
- Sites can be managed in a sustainable manner

Goal 2 - Provide multiple functions:

- Storm and Floodwater Storage
- Water Quality Protection
- Groundwater Processes
- Wildlife Habitat
- Recreation, Culture, Education, and Science
- Air Quality Protection

There is a wealth of existing reports, studies and datasets which will be taken into consideration when selecting sites appropriate for mitigation, including, but not limited to:

- Illinois Wildlife Action Plan (Illinois Department of Natural Resources, 2005 [update due 2015]);
- Middle Mississippi River Partnership Coordination Plan (HeartLands Conservancy, 2005);
- Cahokia Creek / Holiday Shores Lake Watershed TMDL Report (Illinois Environmental Protection Agency, 2007);
- Middle Mississippi River Regional Corridor Reach Reports (US Army Corps of Engineers, 2007);
- Mt. Olive New Lake, Mt. Olive Old Lake and Staunton Lake Watersheds TMDL Report (Illinois Environmental Protection Agency, 2007);
- An Evaluation of Ecosystem Restoration Options for the Middle Mississippi River Regional Corridor (Mickey E. Heitmeyer, 2008);
- Illinois Sustainable Natural Areas Vision (Environmental Planning Solutions, 2011);
- Lower Kaskaskia Watershed TMDL Report (Illinois Environmental Protection Agency, 2012);

- A Roadmap for Green Infrastructure, Existing Conditions Report (HeartLands Conservancy, 2013);
- East St. Louis & Vicinity Illinois Ecosystem Restoration Project; 2013 Addendum to 2003 General Re-evaluation Report. (US Army Corps of Engineers, 2013);
- Ecological Approach to Infrastructure Development: Wetlands Mapping and Analysis for the Missouri and Mississippi River Floodplains. (Missouri Resource Assessment Partnership, 2013) (Analysis is currently being expanded to the Silver Creek corridor, from Scott Air Force Base north to the northern extent of Madison County; and
- Upper Silver Creek Watershed Plan, (HeartLands Conservancy, 2015).

Goals and objectives for specific projects will be included within individual site mitigation plans.

G. Element 6 - Prioritization Strategy

Where possible, through the use of existing or future specific watershed plans, TMDL Reports, or other planning documents and/or data, a two-step prioritization process will occur. The initial step will focus on prioritizing sub-watersheds, (HUC 12 or 14), based on water quality data, hydrology, flooding, historic modification (channelization) and other factors.

Once priority watersheds are identified, tools such as Spreadsheet Tool for Estimating Pollutant Load (STEPL, Soil & Water Assessment Tool (SWAT), Spatial Watershed Assessment and Management Model (SWAMM), or Storm Water Management Model (SWMM), will be used to prioritize sites suitable for mitigation. Goals and objectives identified in Element 5 will be used to determine priority sites, in addition to site availability, likelihood of success, meeting multiple objectives, compatibility with the surrounding landscape, fund leveraging and project costs, and long-term ownership and management.

H. Element 7 - Preservation Objectives

The 2008 rule (73 FR 19670, Apr. 10, 2008) requires that goal setting for and prioritization of aquatic resources as required by Elements 5 and 6 above also satisfy the criteria for use of preservation. In the rule, preservation may be used to provide compensatory mitigation for activities when the following criteria [§332.3(h)] are met:

(i) The resources to be preserved provide important physical, chemical, or biological functions for the watershed;

(ii) The resources to be preserved contribute significantly to the ecological sustainability of the watershed. In determining the contribution of those resources to the ecological sustainability of the watershed, the District Engineer must use appropriate quantitative assessment tools, where available;

(iii) Preservation is determined by the District Engineer to be appropriate and practicable;

(iv) The resources are under threat of destruction or adverse modifications; and

(v) The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to state resource agency or land trust).

Where preservation is used to provide compensatory mitigation, to the extent appropriate and practicable, the preservation shall be done in conjunction with aquatic resource restoration, establishment, and/or enhancement activities. This requirement may be waived by the District Engineer where preservation has been identified as a high priority using a watershed approach described in paragraph (c) of this section (§332.3), but compensation ratios shall be higher.

I. Element 8 - Stakeholder Involvement

HeartLands Conservancy has a long history of working with stakeholders in developing and implementing watershed-based plans and projects. We envision similar levels of engagement within this program.

We are familiar, and have excellent working relationships, with all of the relevant state and federal agencies that will be involved with this program including the US Army Corps of Engineers, the Illinois Department of Natural Resources, the Illinois Environmental Protection Agency, and the US Fish & Wildlife Service.

Our relationships with Madison, Monroe, Randolph, and St. Clair counties will be paramount in bringing individual projects to fruition. In particular, Madison and St. Clair counties, with two of the highest population densities within the State of Illinois, will benefit significantly from this program. Interior flooding is a significant issue with communities in each of these counties and protection of land capable of storing stormwater is especially beneficial. Additional benefits of air purification, water quality, and recreational opportunities further indicate the importance of engaging our counties and municipalities in this program.

This program has already been discussed with several watershed-based stakeholders, including members of the Kaskaskia Watershed Association and the Middle Mississippi River Partnership. The Kaskaskia Watershed Association, in particular, has already requested that we consider expansion of the program into additional portions of the Kaskaskia River in the near future.

J. Element 9 - Long-term Protection & Management

As a qualifying land trust, HeartLands Conservancy is positioned to own and manage properties in the long-term. The organization has adopted the Land Trust Alliance Standards & Practices, 2004 Update, and currently owns, or co-owns, several hundred

acres of conservation property. In addition, the organization oversees approximately 2,000 acres held in conservation easements.

HeartLands Conservancy maintains restricted stewardship funds for both fee-owned properties, as well as conservation easements. In addition, HeartLands Conservancy holds restricted escrow accounts supporting USACE approved mitigation projects and restricted long-term management funds for the Flat Creek Mitigation Project. In summary, HeartLands Conservancy has the financial and technical capacity necessary to ensure the long-term stewardship of sites restored through this program.

In select cases, other parties, including Madison and St. Clair counties, the State of Illinois (Department of Natural Resources), the Metro East Park & Recreation District, the US Fish & Wildlife Service, or a municipality may be the more appropriate long-term owner and steward of restored sites. In that event, appropriate documents/agreements will be developed to ensure that the site's conservation values are fully protected in perpetuity.

K. Element 10 - Evaluation & Reporting

Individual project goals and objectives, as outline within a project's Site Development Plan and/or Long Term Ownership and Management Plan, will be reported on annual within project's Annual Monitoring Report.

Programmatic goals and objectives will be evaluated annually and relevant findings, conclusions and recommendations will be made annually to the IRT in conjunction with ledger reporting requirements. Modifications, mutually agreed upon by all parties, may be incorporated into a revised PROGRAM Instrument.