PUBLIC NOTICE

Permit No. SWL-2013-00357
Issue Date: November 5, 2014
Expiration Date: December 5, 2014

US Army Corps of Engineers
Kansas City District/St. Louis District/
Little Rock District/Rock Island District

30-Day Notice

This Notice Announces an Amendment to the
Missouri Conservation Heritage Foundation
Stream Stewardship Trust Fund In-Lieu Fee Mitigation Program

AUTHORITY: Pursuant to the Final Rule for the Compensatory Mitigation for Losses of Aquatic Resources, referred to as the Mitigation Rule (33 CFR Parts 325 and 332, and 40 CFR Part 230), dated April 10, 2008; this notice announces an amendment to the Missouri Conservation Heritage Foundation - Stream Stewardship Trust Fund's In-lieu Fee (ILF) program instrument.

IN-LIEU FEE SPONSOR: Missouri Conservation Heritage Foundation
P.O. Box 366
Jefferson City, Missouri 65102-0366

PROGRAM AMENDMENT LOCATION: This public notice applies to the U.S. Army Corps of Engineers Districts in the State of Missouri who have approved the operation of the ILF program in their respective District, which includes the Kansas City, St. Louis, Little Rock, and Rock Island Districts. The ILF Sponsor proposes to amend their ILF program instrument by adding the Grand/Chariton Rivers Ecological Drainage Unit (EDU) into their operational area (see attached map). This geographic and ecologic based watershed unit would serve as an additional program service area where the Sponsor could assume stream mitigation obligations on behalf of Department of the Army permit recipients and fulfill the mitigation obligation through stream and/or riparian restoration, establishment, enhancement, or preservation.

DESCRIPTION OF AMENDMENT TO ILF PROGRM INSTRUMENT: On June 6, 2013, the Corps Districts in consultation with the Interagency Review Team (IRT) composed of representatives from the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the Missouri Department of Natural Resources, and the Missouri Department of Conservation approved the Sponsor's ILF program instrument. The Sponsor identified that they would initially operate in nine EDU's across the State of Missouri, with the potential to request

future instrument modifications to expand the program into other EDU's in the state. On June 20, 2014, the Sponsor was authorized to expand their operation of the ILF program into the Upper St. Francis/Castor River EDU. The Sponsor now proposes to amend the instrument a second time by including the Grand/Chariton EDU. The Sponsor states that they will adhere to the terms of the approved ILF program instrument which governs the operation and use of the program. Based on the proposed inclusion of the EDU, the Mitigation Rule requires that ILF program instruments include a compensation planning framework that will be used to select, secure, and implement aquatic resource restoration, establishment, enhancement, and/or preservation activities in the service area. The Sponsor has developed a compensation planning framework that contains the required elements as identified in the Mitigation Rule. The Sponsor is also requesting the approval of 10,000 advance credits for this service area. Advance credits are those credits available for sale prior to being fulfilled by an approved mitigation project. Advance credits will be fulfilled in accordance with the schedule established within the program instrument. The compensation planning framework for this watershed can be viewed at the following web link:

http://www.nwk.usace.army.mil/Media/PublicNotices.aspx

This public notice is posted on the following Corps District's Regulatory web pages:

http://www.nwk.usace.army.mil/Media/PublicNotices.aspx

http://www.mvr.usace.army.mil/Missions/Regulatory/PublicNotices.aspx

http://www.mvs.usace.army.mil/Missions/Regulatory/PublicNotices/OpenNotices.aspx

http://www.swl.usace.army.mil/Missions/Regulatory/PublicNotices.aspx

ADDITIONAL INFORMATION: Additional information may be obtained by contacting Mr. James Ptacek, Project Manager, at the Missouri State Regulatory Office, 221 Bolivar Street, Suite #103, Jefferson City, Missouri 65101 (816)389-3834 or by emailing to james.a.ptacek@usace.army.mil. All comments to this public notice should be directed to the above address.

CULTURAL RESOURCES: The ILF mitigation program will comply with the National Historic Preservation Act of 1966 and 36 CFR 800. As specific project sites are identified and brought forward under this program, the Corps in consultation with the IRT will evaluate information provided through this public notice by the State Historic Preservation Officer, Federally-recognized Tribes, the public, and may require a survey of specific project areas if deemed necessary.

ENDANGERED SPECIES: The ILF mitigation program will comply with the Endangered Species Act. Acceptance of this ILF program and specific mitigation projects that are proposed will be coordinated with the U.S. Fish and Wildlife Service (USFWS). The USFWS has a representative on the IRT.

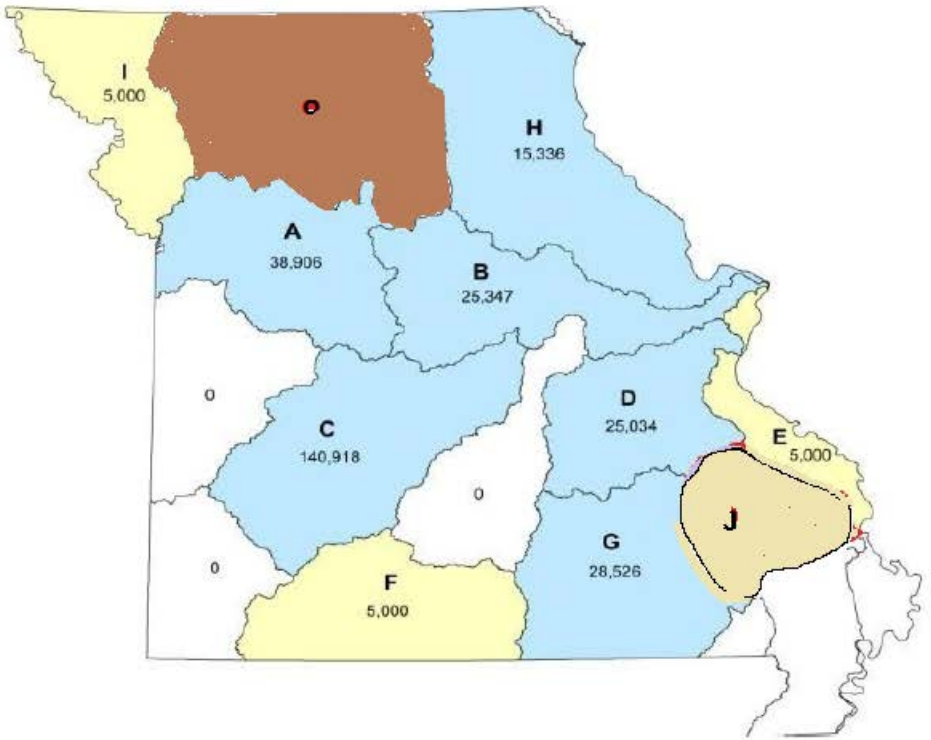
FLOODPLAINS: Acceptance of this ILF program and specific mitigation projects that are proposed will be reviewed in accordance with Executive Order 11988, Floodplain Management, which discourages direct or indirect support of floodplain development whenever there is a practicable alternative.

PUBLIC INTEREST REVIEW: The purpose of this public notice is to advise all interested parties of the proposed ILF amendment and to solicit comments. The decision to allow or deny the Sponsor to move forward with the addition of a service area and/or a mitigation project will be based on an evaluation of all comments received, and all relevant factors to the proposal including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and, in general, the needs and welfare of the people. The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the amendment to the ILF program instrument.

COMMENTS: This notice is provided to outline details of the above-described activity so this District may consider all pertinent comments. Any interested party is invited to submit to this office written facts or objections relative to the activity on or before the public notice expiration date. Comments both favorable and unfavorable will be accepted and made a part of the record and will receive full consideration in determining whether it would be in the public interest to issue the Department of the Army permit. Copies of all comments, including names and addresses of commenters, may be provided to the applicant. Comments should be mailed to the address shown on page 2 of this public notice.

PUBLIC HEARING: Any person may request, in writing, prior to the expiration date of this public notice, that a public hearing be held to consider this application. Such requests shall state, with particularity, the reasons for holding a public hearing.

Stream Stewardship Trust Fund
Approved and Proposed Service Areas

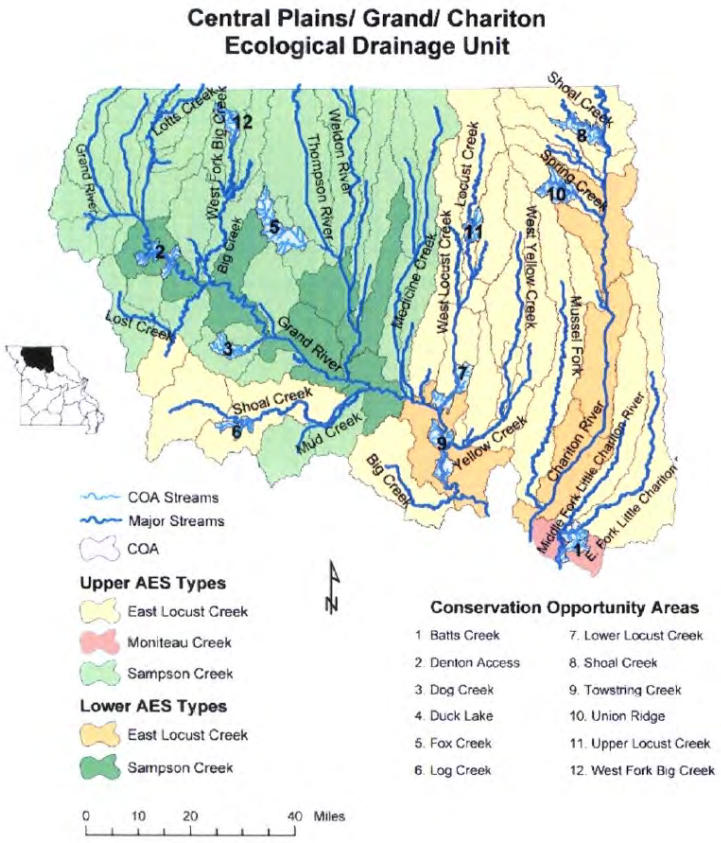


Approved Service Area with advanced SSTF Credits
Approved Service Area with released SSTF Credits
Proposed Service Area with Advanced SSTF Credits
Service Area Not Proposed by Sponsor at this Time

Label	EDU	Released Credits	Advanced Credits
A	Central Plains/Blackwater/Lamine	38,906	
B	Ozark/Moreau/Loutre	25,347	
C	Ozark/Osage	140,918	
D	Ozark/Meramec	25,034	
E	Ozark/Apple/Joachim		5,000
F	Ozark/White		5,000
G	Ozark/Black/Current	28,526	
H	Central Plains/Cuivre/Salt	15,336	
I	Central Plains/Nishnabotna/Platte		5,000
J	Ozark/Upper St. Franchis/Castor		10,000
O	Grand/Chariton Rivers		10,000

NWK-2009-01520

Missouri Conservation Heritage Foundation
Stream Stewardship Trust Fund, In-Lieu Fee Mitigation Program
Service Area Modification



Grand/Chariton Rivers Geographic Service Area

Ecological Drainage Unit name: Grand/Chariton Rivers (HUCs: 10280101, 10280102, 10280103, 1028020l, 10280202, and 10280203)

Support Data: The information in this section of the Compensation Planning Framework is a summary of a much more complete treatment of the problems and opportunities for managing the flowing water resources in the Grand/Chariton Rivers EDU. The Grand River and Chariton River Watershed inventory and Assessment (WIA) documents were written as part of a broader watershed planning and management effort by the Missouri Department of Conservation. These documents are an integral part of the Compensation Planning Framework and must be considered incorporated by reference. For more detail, including tabular and graphic supportive data, the reader is directed to the following WIAs:

Grand River: http://mdc.mo.gov/your-property/greener-communities/missouri-watershed-inventory-and-assessment/grand-river

Chariton River: http://mdc.mo.gov/your-property/greener-communities/missouri-watershed-inventory-and-assessment/chariton-river

Geographic service area: The Grand/Chariton EDU lies in north-central Missouri and south-central Iowa and falls completely within the Central Dissected Till Plains. In Missouri, the Grand/Chariton basin is located in Adair, Andrew, Caldwell, Carroll, Chariton, Clinton, Daviess, DeKalb, Gentry, Grundy, Harrison, Howard, Linn, Livingston, Macon, Mercer, Nodaway, Putnam, Randolph, Ray, Schuyler, Sullivan, and Worth counties. Included in the Grand River basin are Big Creek, East Fork Grand River, Grand River, Locust Creek, Medicine Creek, Middle Fork Grand River, Shoal Creek, Thompson River, Yellow Creek, Weldon River, and West Fork Grand River. Included in the Chariton River basin are Blackbird Creek, Chariton River, East Fork Little Chariton River, Middle Fork Little Chariton River, Mussel Fork, Long Branch, Spring Creek, and Shoal Creek. Historically, the Little Chariton River and its tributaries were tributaries to the Chariton River. However, due to channelization and realignment of the mainstem Chariton River in the 1950s, the Little Chariton River was cut off from the Chariton River and now flows directly into the Missouri River. Overall there are 16,755 miles of primary stream channel within this EDU, of which 4,560 miles are classified as perennial. Because of their basic physical, chemical and biological similarity, the similarity of the watershed land use and topography in each basin, including all of these streams in one EDU for mitigation planning will allow similar approaches to watershed, riparian, and stream channel problems and opportunities.

Threats to the aquatic resources in the Grand/Chariton Rivers EDU: Due to extensive stream alteration through channelization and the heavy agricultural use of the landscape, there are a number of problems facing streams in the EDU:

Aquatic Resource Problems

- Livestock overgrazing and unregulated access to streams causing stream bank erosion and sedimentation
- Destruction and removal of riparian corridors and vegetation from agricultural use
- Sedimentation from disturbed watershed areas related to row crop agriculture
- Streambed incision and channel widening due to channelization
- Increased needs for water by rural communities

Water quality problems

- Nonpoint pollution problems related to the discharge of untreated sewage, fertilizer, animal manure off of agricultural , and residential lands (including land-applied sewage) causing high levels of nitrates, nitrites, phosphates, and fecal bacteria and fecal viruses, especially during high flow events, can cause both water quality and human health issues.
- Statewide levels of mercury contamination in aquatic organisms are present at various locations in the basin, but there are no health advisories specific to the Grand/Chariton Rivers EDU.

Historic aquatic resource loss in the Grand/Chariton Rivers EDU:

Grand River

The pre-settlement Grand River Basin was characterized by long, narrow tallgrass prairies generally oriented north-south and divided by timbered ridge tops and stream valleys. Prairies in the southwest portion of the basin opened up to wide expanses averaging one or two miles across. Bottomland prairies occurred on the floodplains of streams, sometimes becoming so extensive that forest was limited to the riparian areas and valley slopes.

Extensive European settlement of the basin did not begin until after 1830. Much of the agricultural activity was related to clearing trees for firewood and row crop production. Prairie areas, especially those near streams were not farmed because primitive implements could not plow the tough soil. Grazing and timber clearing probably had the most impact on streams during this time.

In 1835, the Missouri State Legislature declared Grand River to be navigable to the Iowa state line, but steamboat navigation was never possible much above Chillicothe. The steamer trips up the Grand River often experienced long delays due to low water conditions and navigation hazards. In the 1848-49 session, the General Assembly appropriated $200,000 to improve the Grand River for navigation, and much of that activity was probably snag removal. By 1886, the use of channelization, jetties, and rip-rap was being considered to facilitate navigation and improve the floodplain for farming.

In the late 1800's and early 1900's limited channelization was done using pilot channels, and around 1915, channelization became a common practice. Drainage districts were formed to cooperate on stream channelization projects with much of the early channelization efforts focused in the upper reaches of the Grand River. The rapid accumulation of sediment in the lower Grand River decreased the channel capacity. Subsequently, channelization projects were then undertaken in the lower portion of the basin to solve the resulting floods.

The 1960's and 1970's are considered the private levee construction periods. With rising land prices and the increased availability of heavy equipment, levee construction became an attractive alternative along streams even without federal cost share assistance. Today, channelization and levee construction are viewed by many landowners as legitimate stream management practices throughout the basin. Since 1915, approximately 50 drainage districts and 10 privately-financed organizations have spent more than $10,000,000 on channel straightening, drainage facilities, and levees to protect 385,000 acres of land. However, the construction of the various projects was not coordinated and they provide differing levels of protection.

Land use in the Missouri portion of the Grand River Basin is estimated to be 92% agricultural and 5% forest for the Lower Grand, Middle Grand, and Upper Grand sub-basins respectively.

Chariton River

The entire Chariton River basin has been altered and degraded by stream channelization. Among the three subbasins, the degree of channelization in third-order and greater streams is least in the Little Chariton River and greatest in the Chariton River mainstem. The fraction of total stream mileage channelized, as interpreted from 1:24,000 topographic maps, is 28%, 35% and 47% in the Little Chariton River, Mussel Fork, and Chariton River subbasins, respectively.

The Chariton River itself is channelized in Missouri from Highway 136 in Putnam County downstream to its confluence with the Missouri River in Chariton County. All channelization did not occur at the same time. The lower Chariton was straightened in the early 1900s under the auspices of drainage districts in both Macon and Chariton counties. Channelization in Macon County from the Burlington Railroad line to just south of the Chariton County line was finished in 1907. Most work in Chariton County occurred at the same time, because residents of Chariton County did not wish to be flooded downstream of Macon County's newly created river channel. The river was straightened north of the Burlington Rail road line to near the Adair County line beginning in 1922, and that channelization was completed in 1923. In Adair County, channelization efforts were made as early as 1912 when landowners taxed themselves to operate a dredge boat to create a ditch to replace the natural channel. These efforts were not successful until sometime between 1930 and 1935.

The Corps of Engineers was responsible for channelizing or rechannelizing approximately 35 miles of the river from 1948 through 1952. At that time, the lowermost 13.6-mile segment of the Chariton was re-aligned, causing the Little Chariton River to cease being a tributary to the Chariton and flow directly into the Missouri River. A federal levee project undertaken by COE from 1965 to 1972 keeps these two drainages completely separate. COE also assisted in the channelization of a 4-mile segment beginning just north of the Adair/Schuyler county line, and a 17.5-mile segment from the Chicago/Quincy/Burlington railroad bridge at Novinger to South Gifford just south of the Macon County line.

Widespread channelization has led to deeply incised, wide, shallow and characteristically unstable channels that typify shortened streams with unstable gradients. This is particularly true of most tributaries to the Chariton River. Whether straightened or not, most tributary streams have been impacted by head cuts originating from the Chariton River. Though the gradient in most streams is no longer changing rapidly, the equilibrium characteristic of an unaltered stream does not exist.

Perhaps just as pervasive as the channel alterations and associated instability are the homogeneous, fine channel substrates that form an excessive bedload. It is not uncommon to sink up to one's knees in soft sandy or silty substrates in non-riffle reaches of streams of any order. Insufficiently forested riparian corridors further add to habitat problems. Even on rare reaches of stream not impacted by channelization, stream banks fail where trees are absent from the corridor. The resultant 10- to 30-foot vertical stream banks are a common sight. Instability of the outer bends precludes the development of good pool habitat for aquatic organisms.

Over 80% of the land in the Missouri portion of the Chariton River basin is used for commodity production. At the turn of the Millennium, 43% of the basin was in hay or pasture, 38% was in cropland, 15% was forested (including grazed woodlands), and 4% was used for other purposes (municipalities, roads, impounded water etc.).

Current aquatic resource conditions in the Grand/Chariton Rivers EDU: Today this EDU is dominated by fescue and brome pasture. Cropland occupies most of the larger river valleys and broader uplands. Some of the principle management concerns include

erosion/sedimentation, channelization, runoff from abandoned coal mines, excessive nutrient loads, Confined Animal Feeding Operations, elevated temperatures, and decreases in dissolved oxygen. Channelization and levee construction are considered legitimate stream management practices by many landowners in the EDU. Channelization includes straightening natural stream meanders, clearing the banks, and widening and deepening the channel, resulting in a loss of stream habitat, increased bank erosion, and lower ground water levels. Levee construction separates the stream from its floodplain. Flood water can no longer spread out and is concentrated within the channel causing further streambank erosion.

Several streams within the EDU have been channelized for over one-half their length and a substantial portion of the streams in the EDU are confined by levees.

The USDA-NRCS has determined that much of the downcutting in the EDU due to channelization has been completed and filling of the main channel is now occurring. Any flood control benefits due to channelization in the 1920's is rapidly diminishing due to in-channel sedimentation.

Lateral erosion rates of streams within the EDU have probably always been high. Channel alterations have increased the amount of bedload being carried by streams and have intensified these changes so that erosion rates of more than 50 feet in a single event are not uncommon. A good example of the dynamic nature of these streams is the recent chute cutoff of the Grand River channel at Elam Bend CA (Gentry County, MO). The Grand River shifted more than five hundred feet during a high water event in 1991. This also occurred upstream of the area at two other locations. It is unclear whether this phenomenon is isolated or an EDU-wide phenomenon.

Unique aquatic features in the Grand/Chariton River EDU include the Grand River from the mouth to river mile 35, Marrowbone Creek in Daviess County, Sugar Creek in Harrison County, Thompson River from river miles 58-88.5, Chloe Lowry Marsh in Mercer County, Shoal Creek and its tributary Crabapple Creek in Caldwell County, Grindstone Creek in Daviess and DeKalb counties, East and West Forks of Big Creek in Harrison County, two unchannelized reaches of Locust Creek in Linn and Sullivan counties, Spring Creek tributaries in Sullivan and Adair counties, Shoal Creek in Putnam County, the unchannelized reach of the Chariton River forming the border between Putnam and Schuyler counties, and the confluence of the East Fork and Middle Fork of the Little Chariton River in Chariton County.

A total of 68 fish, 23 mussels, and 5 crayfish either inhabit or at one time inhabited the Grand/Chariton EDU. According to the Missouri Natural Heritage Program there are 2 globally listed (rare, threatened, or endangered) species and 13 state listed species, including the federally listed Topeka shiner. The fish assemblage is characterized by wide-ranging, tolerant, species and could generally be classified according to the dominant families as a Minnow/Sucker/Catfish assemblage. The most common species include the channel catfish, black bullhead, yellow bullhead, common carp, river carpsucker, creek chub, red shiner, sand shiner and green sunfish. The flat floater is a characteristic mussel species, while the grassland and papershell are characteristic crayfish.

Much greater detail on current aquatic resource conditions in the Grand/Chariton Rivers EDU is available in the two WIA documents cited under the Support Data section above, and readers are encouraged to download and read them.

Aquatic resource goals for the Grand/Chariton Rivers EDU: Our major goals for the Grand/Chariton Rivers EDU are improved water quality, better riparian and aquatic habitat conditions, the maintenance of diverse and abundant populations of native aquatic organisms and sport fish, and increased public appreciation for the stream resources. Periodic aquatic invertebrate and fish samples will be collected and appropriate habitat surveys will be conducted in priority areas to determine and delineate project sites. Onsite habitat improvement projects on federal, state, and local government lands and those of private landowners will focus on improving stream channel and riparian area stability in priority areas (see prioritization strategy below) in the EDU:

- Watershed uplands should have minimal sources of eroded soil and other non-point water quality problems; mitigation planning may identify significant sources of these pollutants and strive to restore and stabilize them, especially near confined animal feeding operations, land-applied sewage effluent areas, and nonpoint pollution sources.
- Well vegetated riparian areas will be restored, expanded and maintained using bottomland forest species (when adapted to the site, especially in areas with high diversity of aquatic life, presence of species of conservation concern, and areas managed for specific species or communities. Urbanizing areas and those with excessive livestock use will be targeted.
- In-channel hydraulics will be restored (e.g., by managing streambed degradation with riffle structures, installing biotechnical and other stream bank stabilization structures in areas of priority need, etc.) to balance the hydrological and in channel physical conditions of streams.
- Meet state standards for water quality.

Enforcement of existing water quality and other stream related regulations and necessary revisions and additions to these regulations will help reduce violations and lead to further water quality improvements. Working with related agencies to promote public awareness and incentive programs and cooperating with citizen groups and landowners will result in improved watershed conditions and better stream quality.

Prioritization strategy for selecting and implementing mitigation projects in the Grand/Chariton Rivers EDU: Mitigation projects in the Grand/Chariton Rivers EDU will be located in areas that provide physical, chemical and/or biological improvements to stream ecological values of the basin, and are technically feasible and appropriate to install at the project site. Of highest priority are areas of biodiversity that have been deemed Conservation Opportunity Areas (COAs) using the assessment by the interagency Missouri Resource Assessment Partnership (MoRAP). COAs, when taken collectively, represent the priority areas required to maintain Missouri's current biodiversity levels. By using the MoRAP conservation assessment process, within the Grand/Chariton Rivers EDU, 12 COAs representing 1**0**4 target species were identified: Batts Creek, Denton Access, Dog Creek, Duck Lake, Fox Creek, Log Creek, Lower Locust Creek, Shoal Creek, Towstring Creek, Union Ridge, Upper Locust Creek,

and West Fork Big Creek. In total, these COAs constitute 440 miles of stream, representing 3.4% of the total stream miles witthin the Grand/Chariton Rivers EDU. Furthermore, the focus areas themselves represent an overall area of just 287 square miles, which is only 3.5% of the EDU. In addition to COAs, other priority sites may be identified for a mitigation project:

- Priority Watersheds and Comprehensive Conservation Strategy geographies as determined by the MDC.
- Two miles upstream and downstream of all MDC, state park and other local, state or federally-owned public areas managed for natural resource or public recreation purposes.
- 303 (d) listed waters
- Stream reaches identified as State Outstanding Resource Waters by the Missouri Department of Natural Resources
- Stream reaches managed as special management areas by the Missouri Department of Conservation
- Stream reaches containing state or federal species of conservation concern
- Greenway corridors proposed or managed by federal, state, or local entities for public recreation or habitat improvement/protection purposes
- Areas of high aquatic mussel, invertebrate or fish community diversity, especially in urbanizing areas

Preservation objectives for the Grand/Chariton Rivers EDU: Preservation projects are an important part of watershed management, in that critical stream reaches, unique habitats, and protection of important water quality areas of the Grand/Chariton Rivers EDU basin will contribute to sustaining ecological functioning over the long term. The priority of projects will be preservation of existing high quality habitats in the Grand/Chariton Rivers EDU when:

- The resources to be preserved provide important physical, chemical and/or biological functions for the watershed;
- The resources contribute significantly to the ecological sustainability of the watershed;
- Preservation is appropriate, practicable, and has the support of the IRT and the Corps
- The aquatic resources in question are under threat of destruction or degradation; and/or
- The preserved site will be permanently protected through fee-title transfer to MDC or a permanent easement held by MDC or a valid not-for-profit natural resources land trust;

The credit value of preservation projects is less than that of restoration or establishment projects; however, the lower weighting of preservation projects is a feature of the Missouri Stream Mitigation Method of credit calculation and no additional "discounting" of preservation project credits will be undertaken. It is possible that some preservation projects will contain wetland values; however, the Stream Stewardship Trust Fund is a stream mitigation program and will not be involved in mitigating wetlands. Therefore, the presence of a high quality wetland in a riparian or floodplain area may factor into a decision on whether a particular preservation tract is acquired, but wetland values will be included along with other land uses and will not carry any additional weight when project credits are calculated.

Public and private stakeholder involvement in compensatory mitigation in the Grand/Chariton Rivers EDU: As part of the siting of ILF project sites within the Grand/Chariton Rivers EDU, MCHF will seek out local input from federal and state agencies, municipalities, landowners, natural resource management groups and advisory groups within the watershed as appropriate. The ILF program will work with any willing public agencies to prioritize watersheds for ILF projects. ILF project sites will not be placed on public lands.

Long term protection/management strategies for compensatory mitigation in the Grand/Chariton Rivers EDU: The Stream Stewardship Trust Fund has several legal mechanisms whereby its ILF Program compensatory mitigation projects would receive long-term protection and management:

- A project area is purchased from a willing seller and becomes a part of the land holdings of the Missouri Department of Conservation (MDC) with MDC being the deed owner. MDC agrees to manage the area consistent with best management practices for streams and streamside areas.
- A project with a landowner or other entity is protected by perpetual easement, where the landowner donates, sells or otherwise transfers an easement in perpetuity to the Missouri Department of Conservation, natural resource-oriented federal, state or local government agency, or a natural resource-oriented land trust like the Nature Conservancy, Ozark Regional Land Trust, Greenbelt Land Trust or similar not-for-profit entity.

In addition, in rare instances with COE approval and the consent of the IRT where a high priority project cannot be secured through fee title acquisition or a perpetual easement, the following mechanisms for long term protection and management may be considered:

- A project with a landowner who does not want to be involved in a perpetual easement can choose a long term(30-year) easement by donating, selling or otherwise transferring an easement for a 30 year period to the Missouri Department of Conservation, natural resource-oriented federal, state, or local government agency, or a natural resource-oriented land trust like the Nature Conservancy, Ozark Regional Land Trust, Greenbelt Land Trust or similar not-for-profit entity
- A project with a landowner or other entity that does not want to be involved with an easement can choose a special maintenance agreement, a formal contractual arrangement between the MCHF and a landowner or other entity where the landowner or other entity promises to meet specified maintenance conditions for a 30-year period. These projects are transferred to a new owner in the event of sale. If the landowner does not do so, or the new landowner refuses to sign a new agreement, the maintenance responsibilities (and the penalties for violating them) are retained by the original landowner.

Under the SSTF Program, the management agreement or terms of a conservation easement would describe the conservation values and permitted/prohibited uses for each property. On all properties, MDC would perform annual stewardship monitoring with onsite field observations, reporting, and enforcement actions, as appropriate.

Strategy for periodic evaluation and reporting in the Grand/Chariton Rivers EDU: Evaluation, monitoring, and reporting is required of all compensatory mitigation projects to

determine if the project is meeting its performance standards and if additional measures are necessary to ensure that the compensatory mitigation project is accomplishing its objectives. Project specific mitigation plans (see Appendix C) will detail the parameters to be monitored, the length of the monitoring period, the dates that the reports must be submitted, the party responsible for conducting the monitoring, the frequency for submitting monitoring reports to the Corps, and the party responsible for submitting those monitoring reports to the Corps and the IRT. Unless otherwise specified in the approved project-specific mitigation plan, data collection for performance objectives will occur once during the year and will be reported in an annual report until a project has been shown to meet performance standards (no less than five years). The level of detail and substance of the reports will be commensurate with the scale and scope of the compensatory mitigation project. Compliance monitoring will also be conducted annually until performance standards are met and will be reported in the annual report. After a project has met performance standards, the frequency of all monitoring will decrease to a term not to be less than once every five years. Changes in reporting may be required by the Corps and the IRT as necessary to accommodate adaptive changes in the project, natural disasters, environmental changes, etc.

Evaluation and reporting will concentrate on those metrics involved in performance standards and will not include species or community biotic sampling until late in the project cycle, if at all. Temporal improvement of biota and their communities often lags restoration projects by years, and sometimes decades, and biological sampling often is inconclusive as to whether a project has improved biotic communities. At the conclusion of a project (defined as that point where the performance standards are met, and aquatic resources appear healthy and self-sustaining in a relatively mature condition), aquatic invertebrate and/or fish diversity indices may be calculated and compared to the before-project condition and to reference indices obtained from stable streams of similar type, order, and size elsewhere within the watershed, if the biologist in charge of the project determines it is necessary.

The Corps is required to provide monitoring reports to interested federal, tribal, state, and local resource agencies, and the public, upon request.