

Annual Report – Calendar Year 2015
Kentucky Wetland and Stream Fee-In-Lieu-Of Mitigation Program

In Accordance with
“Modification Number One of the Agreement Concerning In-Lieu Mitigation Fees
between the U.S. Army Corp of Engineers and
the Kentucky Department of Fish and Wildlife Resources”
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Introduction

This report provides information on the Kentucky Wetland and Stream Mitigation “Fee In-Lieu of” (FILO) Program administered out of the Kentucky Department of Fish and Wildlife Resources (KDFWR) for the calendar year 2015 (CY15). This is the fourth annual report under the modified agreement (Instrument) between the U.S. Army USACE of Engineers (USACE) and KDFWR (USACE, 2011). The report includes summary information, program, credit, financial and project status, staffing, and activities performed during 2015 to fulfill the reporting requirements of the Instrument. The report includes program activities in the Louisville, Nashville, and Memphis USACE district offices. Throughout this report, the point (January 2012) at which the FILO program began operating under the Instrument is referred to as the “Transition.”

In July 2000, the Kentucky Legislature passed KRS 150.255, which established The Kentucky Wetland and Stream Mitigation Fund. The KDFWR Wetland and Stream Mitigation Program manages this fund to provide a consistent and successful approach to fulfill compensatory mitigation requirements associated with Clean Water Act Section 404 and Section 401, which are administered respectively by the USACE and the Kentucky Division of Water (KDOW). A Section 404 permit from the USACE and a Section 401 Water Quality Certification from KDOW are required for activities resulting in the permanent loss of streams or wetlands that require mitigation. The intent of the mitigation is to compensate for the permanent loss of aquatic functions within a defined watershed or regional area.

One option for 404 permit applicants to satisfy compensatory mitigation requirements is to pay a fee to an entity that is approved by the USACE to conduct the mitigation in-lieu of performing the mitigation themselves. This method of mitigation is termed “in-lieu fee mitigation.” KDFWR sponsors an in-lieu fee mitigation program that is supported by sales of mitigation credits to Section 404 permit applicants to satisfy regulatory requirements. The monies generated are used to implement stream and wetland projects that improve degraded streams and wetlands throughout the Commonwealth. Mitigation projects are implemented on private lands or on lands owned or acquired by KDFWR; therefore, the success of the program is in part dependent on cooperation with private landowners and purchase of property from landowners that wish to sell lands. The program also has the alternative of preserving high quality aquatic resources through acquisition of properties with such resources and permanently protecting those areas through legal instruments and management.

The USACE has agreements (Instruments) with two in-lieu fee programs (or sponsors) in Kentucky: Northern Kentucky University (NKU), servicing the northern Kentucky region, and KDFWR for the remainder of the Commonwealth (**Figure 1**). The Instruments between the sponsors and the USACE ensure that mitigation is completed, is sufficient to compensate for losses, provides permanent protection and long-term management, and adheres to applicable federal and state regulations and guidelines. By accepting in-lieu fee payments, the sponsor is assuming responsibility to provide compensatory mitigation pursuant to the terms of the Instrument established with the USACE.

The Instrument defines the roles of an Interagency Review Team (IRT) of resource and regulatory agencies composed of the USACE, KDOW, U.S. Fish and Wildlife Service (USFWS), pursuant to federal rules. The U.S. Environmental Protection Agency (USEPA) is not a signatory agency to the Instrument but can provide comments on individual mitigation projects. The function of the IRT is to review and comment on potential projects, monitoring reports, remedial management measures, credit releases, and instrument modification. The USACE consults with the IRT to provide oversight of mitigation programs. Although there are four USACE districts in Kentucky (Memphis, Nashville, Huntington, and Louisville), the Louisville District is the Lead District for communicating with the sponsor and coordinating with the IRT on issues related to the Instrument, and it has assumed jurisdiction for Section 404 regulatory projects in the Huntington District's region of Kentucky. The individual districts are responsible for specific issues with projects under their jurisdiction.

The Instrument requires that all KDFWR in-lieu fee projects be permanently protected through conservation easements, the purchase of lands with deed restrictions, or long-term management plans on public properties such as U.S. Forest Service National Forest lands. For private lands, this involves identifying landowners willing to cooperate with the sponsor to donate or sell a Conservation Easement or sell the property fee-simple. Conservation easement boundaries for perennial and intermittent streams are typically 50-150 feet from each bank, although older projects were often of less width, and ephemeral channels typically have 25 feet. Recent projects also have tended to be of greater length, usually several thousand feet, to provide greater ecological and economic benefits.

Updated Agreement

The Instrument went into effect on January 13, 2012 by Public Notice from the USACE. Its purpose was to comply with the 2008 Final Mitigation Rule (USACE, 2008). The Instrument delineates service areas into ten units: Upper Kentucky River, Lower Kentucky River, Upper Cumberland River, Lower Cumberland River, Upper Licking River, Lower Licking River, Big Sandy River, Green River, Salt River, and Purchase Service Areas. Eastern Kentucky Stream Assessment Protocol (EKSAP) and Ecological Integrity Units (EIUs) are used in the three upper river service areas of the Eastern Kentucky Coalfield physiographic region. Kentucky Assessment Protocol (KAP) and Adjusted Mitigation Units (AMUs) are used in the remaining service areas of the Commonwealth.

FILO Staff and Basin Assignments

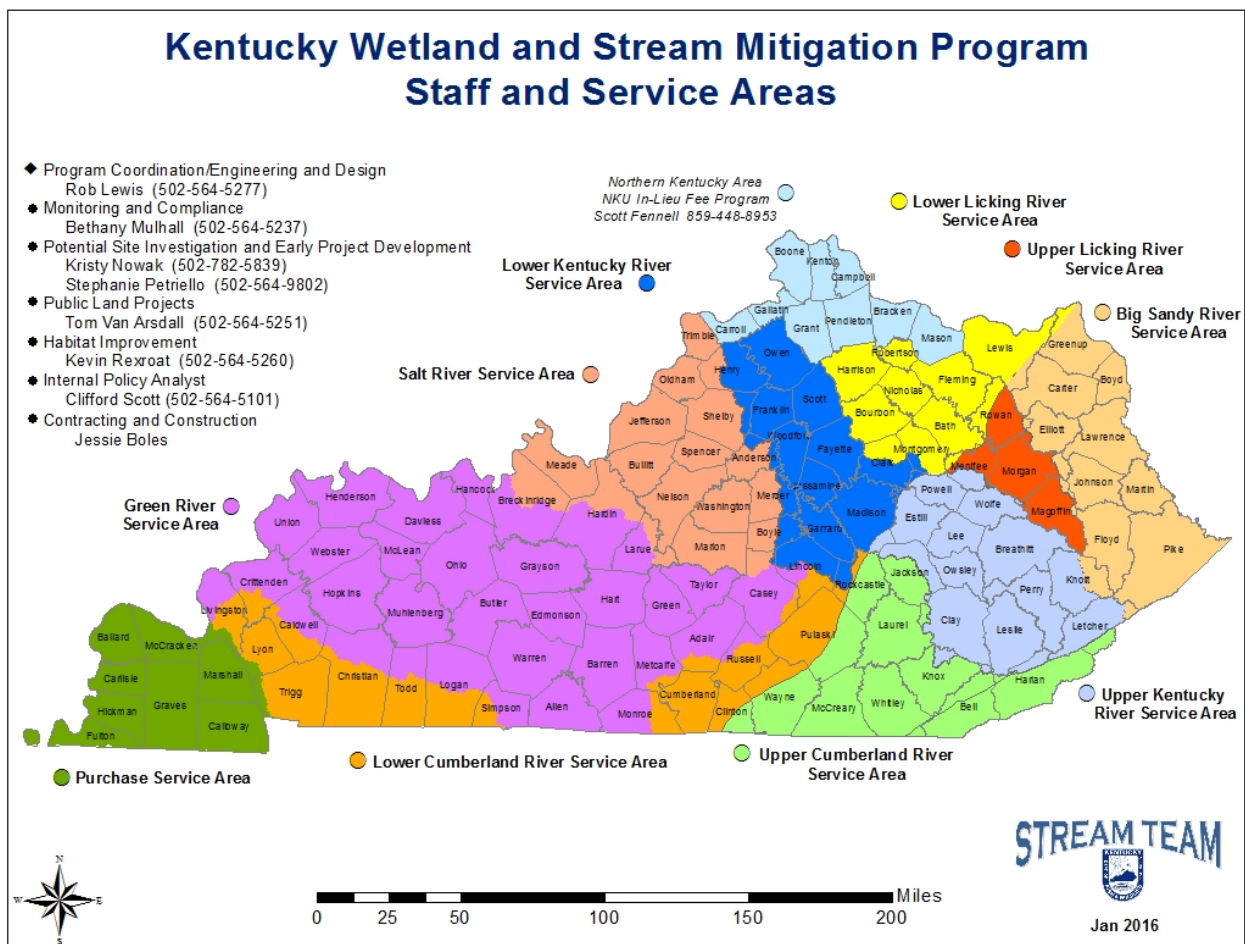
2015 saw the departure early in the year of Andy Mowrey, a project manager/staff biologist who had been with the program since late 2007. That position was unfilled at the end of 2015. In June 2015, Jessie Boles was hired after graduating from the University of Louisville's School of Engineering. Jessie had worked with FILO since 2013 as a student co-op or seasonal employee and was thus able to continue his valuable assistance in a full-time capacity in several areas. This left the staff number at eight individuals at the end of 2015: Rob Lewis P.E. (Environmental Engineering Consultant); Jessie Boles (Engineer in Training); Clifford Scott (Internal Policy Analyst); Kevin Rexroat (Management Foreman); and Bethany Mulhall, Tom Van Arsdall, Kristy Nowak, and Stephanie Petriello (Environmental Biologist Consultants) (**Figure 1**). The

program also partially supports positions in Real Properties and Division of Engineering Contracts in the Finance Cabinet. It is anticipated that a Fish and Wildlife Technician will be hired early in 2016 to assist Mr. Rexroat in habitat activities, including minor stream repairs, invasive management, and vegetative plantings.

Most FILO workload is allocated functionally instead of by service area:

- Rob Lewis - program coordination; engineering and design
- Clifford Scott – financial and credit accounting
- Kevin Rexroat – repair of failing structures; invasive species removal; habitat improvement; vegetative planting
- Bethany Mulhall – monitoring and inspection
- Andy Mowrey (Jessie Boles) – contracting, permitting and construction oversight
- Kristy Nowak and Stephanie Petriello - project search and initial project development
- Tom Van Arsdall - public lands projects

Figure 1.



Landowner Contacts and Potential Projects

At the end of 2015, projected credits for approved projects exceeded stream credits sold in the Lower Licking, Lower Kentucky, and Salt River river service areas. One or two stream projects would fulfill the credit obligation in the Upper Cumberland, Upper Kentucky, Upper Licking, and Green river service areas; potential stream projects have recently been identified and could be presented to the IRT in these service areas.

With the continuing need to locate several stream projects in the Big Sandy River Service Area and the desire to re-open credits sales there (see below), Third Rock Consultants was contracted to perform a systematic search of realtor listings, PVA data, and landowners. Also, Stantec Consulting Services was hired to do a similar search in the Upper Licking, Upper Kentucky, and Upper Cumberland River service areas. Anticipated credit sales stemming from the expansion of the Mountain Parkway in the Big Sandy, Upper Licking, and Upper Kentucky River service areas is a significant factor for these contracted project searches.

Wetland projects are needed in all service areas, with the Green (23.4 AMUs), Lower Cumberland (17.5 AMUs), Upper Cumberland (17.8 AMUs), and Upper Licking (14.2 AMUs) river service areas having the most unallocated wetland AMU credits. Wetland credit sales have historically been made in small increments that do not generate sufficient funds to undertake a larger, consolidated wetland mitigation project that is more ecologically beneficial than smaller efforts. However, the balance in these service areas has accrued to a level that is perhaps sufficient to undertake a larger and ecologically beneficial wetland mitigation project. Accordingly, an effort was made late in 2015 to locate wetland project(s) in the Green River Service Area that should yield results early next year. Efforts in the Purchase and Lower Cumberland River service areas in 2015 were unsuccessful. Although there has been no official communication from the Memphis District Corps after more than six months since the second IRT site visit, it appears that a second potential wetland project on Doug Travis WMA, in the Purchase Service Area has been rejected, this time on a ditched, mostly monoculture stand of sycamore (for chipwood) previously owned by Westvaco.

A potential FILO project is to remove the dam of Green River Lock and Dam No. 6 in Edmonton County just west and downstream of Mammoth Cave National Park. In 2015, Stantec was contracted by KDFWR to complete a feasibility study. This study focused on various aspects of the project setting including hydrology, geology, biological resources, cultural resources, land ownership and surrounding land uses. A bathymetric survey, hydraulic model, and sediment volume estimate were completed. Sediment samples were collected and a set of sediment chemistry parameters were analyzed for toxicity. Mitigation credit generation by the potential project was estimated using existing credit determination protocols for only the portion of Green River that would return to free flow status. There have been several meetings involving interested stakeholders, including: Mammoth Cave National Park, USFWS, USACE, The Nature Conservancy, KDFWR, Kentucky Division of Water, Edmonson County and other federal, state and local government representatives. A large meeting was held at Mammoth Cave National Park in April 2015 with these stakeholders as well as local elected officials, state legislators, representatives of Kentucky's U.S. Congressional/Senate delegation, and other

Table 1. Initial Site Visits in CY15

<u>Service Area</u>	<u>Stream/wetland</u>	<u>County</u>	<u>Landowner/contact</u>
Big Sandy	Big Sinking Cr	Elliott	Tim Harris
Big Sandy	South Shore wetland	Greenup	Jerry Bentley; Charles Fraley
Big Sandy	Little Cat Fk	Lawrence	Keith Moore
Big Sandy	Lovelace Fk	Elliott	Manning Realty
Big Sandy	Pond Cr	Pike	Frank Scott
Big Sandy	Lick Cr	Lawrence	Rick Miller
Green	Tribs to Roundstone Cr	Hart	Roundstone Seed
Green	Caney Br; tribs to Ohio R and Tradewater R; wetland	Crittenden	KDFWR - Big Rivers WMA
Green	Wetland on trib Sandy Cr	Livingston	Amy Peacock
Green	Sugarcamp Cr	Livingston	Joiner
Green	Trib to Peck Br	Livingston	Joiner
Green	Walters Cr	Grayson	Chad
Green	Tribs to Leatherwood Cr	Metcalf	Vita and Davis
Green	Wetland adj to Ohio R	Livingston	Mahan
Upper Kentucky	Cow Cr	Estill	Paula Thomas
Upper Kentucky	Hall Sink Br	Menifee	Rusty Friend
Upper Kentucky	E Fk Cane Cr	Powell	
Upper Kentucky	Lower and Middle Fk Cane Cr	Powell	Sumner, Ventura, Banks, Chapman , realtor Willis
Upper Kentucky	Red R	Wolf	Caudill
Upper Kentucky	Snake Br and Lick Br	Breathitt	Paul Mullins
Upper Kentucky	Tribs to Lower Buffalo Cr	Owsley	Renfro Realty
Upper Kentucky	Tribs to Howards Cr	Breathitt	-
Upper Kentucky	Tribs to Holly Fk	Owsley	Willis
Lower Kentucky	Lower Howards Cr	Clark	KY State Nature Preserves
Upper Licking	Broke Leg Cr, Knocking Cave Cr	Morgan	Arlie Gibson
Upper Licking	Triplett Cr	Rowan	City of Morehead
Upper Licking	Martin Br and tribs	Rowan	Rowan County, USFS
Upper Licking	Christie Cr, Triplett Cr, tribs	Rowan	Dwayne Allen
Upper Licking	Elm Log Br	Morgan	Greg Lewis
Upper Licking	Bull Cr and Brushy Fk	Magoffin	Marlin Bolin
Upper Licking	Tribs to Sellars Fork	Morgan	Creekbankers, Inc.
Upper Licking	Straight Creek	Morgan	Damon Pleasant
Upper Licking	Trib to Raccoon Cr	Magoffin	Bank owned
Lower Licking	Trib to Strodes Cr	Clark	Clark Co Foundation
Lower Licking	Salt Lick Cr	Bath	Terry Back
Salt	Tribs to Pond Cr	Oldham	Bob Battoe
Lower Cumberland	Sugar Cr, Lick Cr	Livingston	Keith Bone
Purchase	Wetland	Carlisle	KDFWR – Doug Travis WMA

interest groups. The FILO program intends to develop a conceptual plan to be submitted to the IRT in early 2016 that will include the feasibility study and other supporting documents.

Table 1 shows the potential project site visits that were made by FILO staff during the year; it does not reflect the many landowner and realtor contacts that did not result in site visits. It also does not show the efforts of Third Rock and Stantec to locate potential projects in the Big Sandy, Upper Licking, Upper Kentucky, and Upper Cumberland River service areas.

Credit Costs and Status

The Instrument established 240,000 advance stream credits in each service area to accommodate potential geographic changes in mitigation demand, primarily associated with highway projects. Also, 100 wetland AMU credits were established in each service area other than the Green and Purchase service areas, where 200 wetland AMU credits were provided.

During 2012, the cost per EIU in the Big Sandy Service Area was increased to \$650 and the cost per stream AMU was increased to \$240. Stream credit costs were unchanged in 2013 and 2014, but increased to \$755/EIU and \$300/AMU in January 2015 (**Table 2**). Wetland AMUs increased from \$30,000 to \$45,840 in July 2014 and were unchanged in CY15.

In November 2014, credit sales were suspended in the Big Sandy Service Area because of: 1) the difficulty in finding acceptable mitigation projects, i.e. sites without mineral rights, property, or water quality issues; 2) FILO was not going to meet the 3-year deadline for getting projects into construction from the time fees were received; and 3) several approved projects did not materialize because of issues with property purchases. In addition, several large tracts of land involving thousands of acres with mitigation potential could not be developed further because of oil and gas interests. Credit sales had not been resumed by the end of 2015.

Another 16,059 Stream EIUs, 27,027 stream AMUs and 36.23 wetland AMUs were sold by FILO in 2015 (**Table 3**). Although credit sales were suspended in the Big Sandy River Service Area late in 2014, several older projects returned unspent funds to the service area that were converted into 2423 EIUs; also, one older credit sale had a second payment of 177 AMUs previously approved that was made in 2015. Credit balances for streams and wetlands are shown for each service area in **Table 3**; individual credit sales are presented in **Appendix A**.

Table 2. Credit Costs (\$)

<u>Service Area</u>	<u>Stream</u>			<u>Wetland</u>	
	<u>Cost/Credit</u>			<u>Cost/AMU</u>	
	Transition 2012	March 2012	Effective 01/15/15	Effective 07/15/14	CY15
Big Sandy (EIU)	610	650	755 ^a	45,840	45,840
Upper Licking (EIU)	610	610	755	45,840	45,840
Upper Kentucky (EIU)	610	610	755	45,840	45,840
Upper Cumberland (EIU)	610	610	755	45,840	45,840
Lower Licking (AMU)	215	240	300	45,840	45,840
Lower Kentucky (AMU)	215	240	300	45,840	45,840
Lower Cumberland (AMU)	215	240	300	45,840	45,840
Green (AMU)	215	240	300	45,840	45,840
Salt (AMU)	215	240	300	45,840	45,840
Jackson Purchase (AMU)	215	240	300	45,840	45,840

^aBig Sandy credit sales suspended November 17, 2014

Table 3. Advance Credit Balances

<u>Stream EIU Regions</u>	<u>Big Sandy</u>	<u>Upper Kentucky</u>	<u>Upper Licking</u>	<u>Upper Cumberland</u>			<u>Stream EIU Totals</u>
Advance Credit Allocation	240,000.0	240,000.0	240,000.0	240,000.0			
Transitioned Credits	23,103.0	-	258.0	3,954.0			27,315.0
CY12 Credits Sold	2,376.3	2,349.9	838.0	3,182.2			8,746.3
CY13 Credits Sold	5,707.6	999.0	-	49.5			6,756.2
CY14 Credits Sold	3,535.6	2,037.2	-	52.3			5,625.0
CY15 Credits Sold	2,599.5	965.9	7,431.0	5,063.0			16,059.3
Released Credits	-	-	-	4,191.0			4,191.0
Reserve Released Credits	-	-	-	-			
Advance Stream EIU Balance	202,678.1	233,648.0	231,473.0	231,890.1			

<u>Stream AMU Regions</u>	<u>Lower Kentucky</u>	<u>Lower Licking</u>	<u>Lower Cumberland</u>	<u>Green</u>	<u>Salt</u>	<u>Purchase</u>	<u>Stream AMU Totals</u>
Advance Credit Allocation	240,000.0	240,000.0	240,000.0	240,000.0	240,000.0	240,000.0	
Transitioned Credits	-	11,419.0	6,977.0	14,251.0	3,883.0	19.0	36,549.0
CY12 Credits Sold	807.0	11,012.0	8,893.0	10,724.6	1,338.2	-	32,774.8
CY13 Credits Sold	14,654.2	-	1,917.7	1,621.9	4,928.0	-	23,121.8
CY14 Credits Sold	606.0	1,411.0	2,346.0	14,688.2	5,607.1	-	24,658.3
CY15 Credits Sold	3,095.0	10,935.0	2,413.2	1,405.4	7,968.8	1,209.5	27,026.9
Released Credits	-	-	-	-	-	-	
Reserve Released Credits	-	-	-	-	-	-	
Advance Stream AMU Balance	220,837.8	205,223.0	217,453.1	197,308.9	216,275.0	238,771.5	

Table 3 (con't)

<u>WETLAND AMUs</u>	<u>Big Sandy</u>	<u>Upper Kentucky</u>	<u>Lower Kentucky</u>	<u>Upper Licking</u>	<u>Lower Licking</u>		<u>Wetland AMU Totals</u>
Advance Credit Allocation	100.00	100.00	100.00	100.00	100.00		
Transitioned Credits	3.55	-	1.80	-	0.98		6.33
CY12 Credits Sold	2.41	-	1.03	-	-		3.44
CY13 Credits Sold	0.02	1.20	3.17	-	-		4.39
CY14 Credits Sold	0.58	-	0.40	-	-		0.98
CY15 Credits Sold	-	-	2.12	14.22	-		16.34
Released Credits	-	-	-	-	-		
Reserve Released Credits	-	-	-	-	-		
Advance Wetland AMU Balance	93.44	98.80	91.48	85.78	99.02		

<u>WETLAND AMUs (cont)</u>	<u>Upper Cumberland</u>	<u>Lower Cumberland</u>	<u>Green</u>	<u>Salt</u>	<u>Jackson Purchase</u>		<u>Wetland AMU Totals</u>
Advance Credit Allocation	100.00	100.00	200.00	100.00	200.00		
Transitioned Credits	2.25	9.98	10.28	2.54	2.30		27.35
CY12 Credits Sold	0.38	4.18	7.44	-	-		12.01
CY13 Credits Sold	3.36	-	3.81	1.90	0.82		9.89
CY14 Credits Sold	4.57	3.60	5.70	-	-		13.87
CY15 Credits Sold	7.28	0.70	11.19	0.72	-		19.89
Released Credits	-	-	-	-	-		
Reserve Released Credits	-	-	-	-	-		
Advance Wetland AMU Balance	82.16	81.54	161.57	94.84	196.88		

Program Financial Status

About \$46.1M in project funds were collected from the Transition to the beginning of 2015. During the year, nearly \$18M of credits was sold (**Table 4**). This was nearly \$3.5M more than the next highest year (FY09) in the program's history. The most credits were sold in the Upper Licking River Service Area and the Upper Cumberland River Service Area (**Table 4**). Another \$2.5M was returned to the respective service areas from closed projects (**Table 5**). As these were pre-Transition projects, they are included here as basin "receipts," although if looking at the entire program history, the funds would have been previously accounted in receipts. The vast majority of receipts in 2015 came from transportation projects (**Table 6**).

Table 4. CY15 Service Area Receipts and Project Funds (\$) ^a

Service Area	CY15 Total Receipts	CY15 Receipts to Reserve	CY15 Receipts to Admin	CY15 Receipts to Projects	CY15 Beginning Project Funds Collected Stream & Wetland	CY15 Ending Project Funds Collected Stream & Wetland	CY15 Service Area % of Receipts
Big Sandy	1,962,571	196,257	294,386	1,471,928	16,764,153	18,236,081	10
Upper Kentucky	729,226	72,923	109,384	546,919	2,657,632	3,204,551	4
Lower Kentucky	1,025,681	102,568	153,852	769,261	3,240,860	4,010,121	5
Upper Cumberland	4,113,009	411,301	607,862	3,093,846	3,662,722	6,756,567	20
Lower Cumberland	756,048	75,605	113,407	567,036	3,884,429	4,451,465	4
Upper Licking	5,469,970	546,997	653,843	4,269,129	526,651	4,795,780	27
Lower Licking	2,624,400	262,440	262,440	2,099,520	4,248,470	6,347,990	13
Salt	2,423,760	242,376	363,564	1,817,820	3,008,525	4,826,345	12
Green	934,570	93,457	140,185	700,927	8,065,469	8,766,396	5
Jackson Purchase	362,847	36,285	54,427	272,135	78,431	350,567	2
TOTALS	20,402,081	2,040,208	2,753,351	15,608,522	46,137,340	61,745,862	100

^aIncludes returned funds from closed FILO projects (see Table 5)

Collected stream and wetland project funds since the transition totaled \$61.7M at the end of 2015. Even though the Big Sandy River Service Area had been closed for stream and wetland credit sales in 2015, the total of project funds collected (\$18.2) remains the largest of the service areas. The Green River Service Area had the second most project funds collected by the end of 2015 with a total of \$8.8M. However, as can be seen later in **Table 7**, most (about \$39.9M) of the project funds have been allocated to approved projects.

Table 5. CY15 FILO Project Closed/Returned Funds (\$)

Upper Kentucky		
SE Community College	2005-01004	4,123
Lower Kentucky		
Elm Fork	LRL-2012-263	300,000
Big Sandy		
East Fork Sandy River	2004-01120	63,462
Left Fork Trace Creek	2006-00160	34,478
Brushy Creek II	LRL-2008-902	1,365
Middle Creek BS River	LRL-2006-1256	240,670
Schultz Creek	2009-00806	666,228
Brushy Creek Emergency Project	LRL-2009-1074	113
Upper Laurel Fork-Blaine	2005-00901	148,520
East Fork Little Sandy #5	LRL-2011-456	674,401
Purchase		
Obion Creek	2003-00263	6,147
Total		2,539,108

Table 6. FILO Receipts by Source - CY15

<u>Source</u>	<u>Receipts (\$)</u>	<u>% of total</u>
KY Transportation Cabinet	15,259,390	83.6
Municipal	867,770	4.8
Development	1,454,976	8.0
Mining	680,435	3.7
Total	18,262,572	100
Other ^a	2,139,509	

^aclosed and returned funds from FILO projects

Project Fund Status

Table 7 shows: 1) project funds received in each of the ten service areas from Transition to the end of 2015 for stream and wetland; 2) funds allocated to “approved” projects during the year; and 3) funds remaining (unallocated) at the end of the year. Approximately \$39.4M is allocated to stream projects and an additional \$0.5M allocated to wetland projects. The stream allocation is about the same as last year, but up from about \$29M at the end of 2013 and \$12M at the end of 2012. Over \$21M of stream project money is un-allocated in the Big Sandy, Upper Kentucky, Upper Cumberland, Upper Licking, Green, and Purchase river service areas combined. A little over \$2M is over-allocated in three other service areas (Lower Kentucky, Salt, Lower Licking). The latter will mostly be made up by additional fee receipts prior to construction, and, if necessary by requesting authority to cover using reserve funds.

About \$3.1M in project funds have been collected for wetland mitigation since the transition. Of the \$3.1M slightly less than \$0.5M has been allocated in the Green and Lower Kentucky river service areas. The Upper Licking, Lower Cumberland, Upper Cumberland, and Green river service areas have the most unallocated wetland credits/funds.

Reserve Fund

Pursuant to the Instrument, the Reserve Fund was established to fund additional mitigation projects, permanent protection activities, minor actions, long term management, and to serve as contingency. Interest accounts for one component of the Reserve. At the time of transition 85% of interest accrued had been placed in reserve. Effective at the beginning of 2012 the administrative rate was decreased to 10% and the reserve funds retained from interest increased to 90%. Effective January 15, 2015 the administrative component was increased back to 15%, decreasing reserve to 85% of interest. The other component of Reserve is comprised of 10% of all credit sales. The total contribution to Reserve during 2015 from all sources was \$2,372,372 (**Table 8**).

Table 7. Allocated & Unallocated Stream and Wetland Project Funds, by Service Area (\$)

<u>Basin</u>	<u>Stream</u>			<u>Wetland</u>			<u>Unallocated Service Area Balance</u>
	<u>Project</u>	<u>Allocated</u>	<u>Unallocated</u>	<u>Project</u>	<u>Allocated</u>	<u>Unallocated</u>	
Big Sandy	18,083,940	8,368,905	9,715,035	152,141	0	152,141	9,867,176
Upper Kentucky	3,175,751	944,768	2,230,983	28,800	0	28,800	2,259,783
Lower Kentucky ^b	3,781,293	4,135,652	(354,359)	228,827	133,620	95,207	(259,151)
Upper Cumberland	6,260,659	3,657,600	2,603,059	502,133	0	502,133	3,105,192
Lower Cumberland	4,016,195	3,986,295	29,900	435,270	0	435,270	465,170
Upper Licking	4,306,896	0	4,306,896	488,884	0	488,884	4,795,780
Lower Licking ^b	6,325,931	7,083,682	(757,751)	22,059	0	22,059	(735,692)
Green	7,653,159	5,632,015	2,021,144	1,113,237	337,050	776,187	2,797,331
Salt ^b	4,698,778	5,631,538	(932,760)	127,567	0	127,567	(805,193)
Jackson Purchase	275,138	0	275,138	75,429	0	75,429	350,567
Total	58,577,741	39,440,454	21,182,155.37^a (2,044,868.88)_b	3,174,346	470,670	2,703,676	

^aTotal of Unallocated funds, kept separate because must be used in same service area

^bOver-allocation of stream funds in 3 service areas (covered by reserve funds)

Beginning Reserve cash balance in 2015 was \$12.7M. At the beginning of 2015, \$7.4M of the \$12.7M covered the over-allocation of stream project funds in the Lower Kentucky (\$1,050,734), Upper Cumberland (\$246,779), Lower Cumberland (\$513,070), Lower Licking (\$2,857,271) and the Salt River (\$2,725,740) service areas. Also included in the beginning balance was the non-wasting Reserve of \$3M and \$2.3M of Active Reserve funds. By the end of 2015 over-allocated stream project funds had been reduced to a little over \$2M by receiving fees in respective service areas. The ending 2015 reserve cash balance of \$14.4M covers the over-allocation of stream project funds in only three service areas; Lower Kentucky (\$354,359), Lower Licking (\$757,751) and the Salt River (\$932,760). The ending cash balance of \$14.4M also includes the non-wasting reserve of \$3M and \$9.4M of Active Reserve.

The over-allocation of stream project funds potentially generates mitigation credits with completed projects ‘on the ground’ in advance of impacts. Again, additional receipts in the respective service areas, if received, will be used instead of Reserve. Additional receipts will reduce, if not remove, the need to ‘cover’ these over-allocated service areas with Reserve funding.

Each year, the program seeds a long term management and maintenance account with funds from the Reserve to pay for management and minor remedial actions (see Table 8). This allows the program to be responsive to the USACE and IRT in making necessary remedial or maintenance

actions. Reserve funds were approved in 2015 to complete the Hatchery Creek and East Fork Indian Creek projects (**Table 8**) and for repairs needed on East Fork Little Sandy projects #2 and #3. Reserve was also approved for an increase to the Long Term Maintenance account.

Table 8. CY15 Reserve Fund Activity and Balance (\$)

CY15 - Beginning Cash Balance	\$ 12,716,959
CY15 - % of Stream Receipts	\$ 1,874,125
CY15 - % of Wetland Receipts	\$ 166,083
CY15 - % of Interest	\$ 332,164
CY15 - Additional funding for East Fork Indian Creek (LRL-2012-273)	\$ (150,000)
CY15 - Additional funding for EFLS #2 (LRL-2009-332)	\$ (40,000)
CY15 - Additional funding for Hatchery Creek (LRN-2010-00444)	\$ (300,000)
CY15 - Additional funding for EFLS #3 (LRL-2008-1082)	\$ (60,000)
CY15 - Increase Long Term Maintenance 2015	\$ (130,000)
CY15 - Ending Cash Balance	\$ 14,409,331
CY15 - funds currently needed to cover Stream projects in the Lower Ky SA	\$ (354,359)
CY15 - funds currently needed to cover Stream projects in the Salt River SA	\$ (932,760)
CY15 - funds currently needed to cover Stream projects in the Lower Licking SA	\$ (757,751)
CY15 -Total Reserve Ending Balance (after Service Area obligations)	\$ 12,364,462
CY15 - Non-wasting Reserve	\$ 3,000,000
CY15 - Active Reserve Ending Balance	\$ 9,364,462

Administrative Fund

The Administrative Fund is used for expenses associated with activities to operate the program and to identify new projects: including feasibility studies, outreach and property work, staff salaries, equipment, and other indirect expenses such as travel and training. The Administrative Fund balance entering 2015 was \$5,585,082, little changed from the beginning of 2014. Effective January 15, 2015, the administrative percentage rose from 10 to 15%. During 2015, \$2,811,968 was added to the administrative fund (**Table 9**). After normal annual operating expenses, contracted project development in some service areas, a Green River Dam 6 removal feasibility study, and initial efforts to purchase a FILO facility, the Administrative Fund balance at the end of 2015 was \$7,062,050 (**Table 9**).

Mitigation Fund Interest Reconciliation

In 2014 an error was discovered by KDFWR regarding interest distribution from seven in-lieu fee mitigation project accounts (see KDFWR, 2015). This was not associated with the interest accruing to the overall in-lieu fee program fund balance and was restricted to funds in seven specific mitigation project accounts. KDFWR and the Kentucky Office of State Budget Director have identified the number of projects affected. The interest funds that were diverted totaled

\$273,849, which was returned in October 2014. The compounded interest that would have accrued was calculated to be \$11,868 and was returned in October 2015. The issue has been described and the status of the corrective measures has been previously reported to the Corps of Engineers-Louisville.

Table 9. CY15 Administrative fund Activity and Balance (\$)

CY15 - Beginning Cash Balance	\$ 5,585,082
CY15 - % of Stream Receipts	\$ 2,504,227
CY15 - % of Wetland Receipts	\$ 249,124
CY15 - % of Interest	\$ 58,617
CY15 - Transfer to F&W fund (134R) to cover operating budget	\$ (1,000,000)
CY15 - Fund Lock & Dam 6 for feasibility study	\$ (125,000)
CY15 - Fund Louisville Rd acct for possible acquisition (FILO facility)	\$ (10,000)
CY15 - Additional funding for Big Sandy Service Area account	\$ (100,000)
CY15 - Additional funding for UKY, UL, UC Service Area account	\$ (100,000)
CY15 - Ending Cash Balance	\$ 7,062,050

Mitigation of Impacts

Prior to the 2008 Mitigation Rule fully taking effect with the Instrument early in 2012, it was not possible to relate credits earned by mitigation impacts caused by 404-permitted activities because in-lieu-fee payments to FILO had little documentation of impacts, especially during the first few years of the in-lieu fee program. It was assumed that impacts and mitigation occurred on similar stream flow types, resulting in similar linear feet and credits affected. Thus, programmatic success was based on cost per linear foot as in the previous MOA. The available data could track the amount of in-lieu fees received and the timing of the allocation of those funds to mitigation projects. With implementation of the Instrument and conversion of unallocated funds to credits, it is possible to compare impacts (credits sold by FILO) to mitigation (credits realized by FILO projects) for projects begun (approved by IRT) in January 2012 and later. Most of the projects reported here were permitted prior to the Transition.

Actions Taken by Interagency Review Team

Five conceptual plans were submitted and one project (Raceland) was initially supported by the USACE and the IRT, per LOP protocol, in 2015 (**Table 10**). However, following more detailed analysis that determined the need to use considerable reserve funds to purchase the tract and perform wetland restoration, the USACE withdrew their initial support of the Raceland project because of concerns that there would not be sufficient future demand for the projected amount of wetland mitigation credits at the site. Three of the early coordination IRT site visits were late in the year and comments should be received early in 2016. Comments from USACE Memphis District had not been received by the end of year on Milner wetland that was visited by the IRT

in June, although it appears to have been denied. Several projects have been approved but are not yet in design phase because of recent or imminent purchase (Smith tract, Mart Whitt Fork, York tract) or are still awaiting resolution of issues prior to contracting the design (Upper Cane Cr, Boyd's Cr, Steele Br). See text of individual projects in Project Statistics and Status section below.

Table 10. Conceptual Plans Submitted and Actions of Interagency Review Team - CY15

Stream	Service Area	USACE District	County	Type	Action Taken
Floyds Fork tribs and wetland	Salt	Louisville	Jefferson	Wetland establishment; stream rehabilitation and re-establishment	Conceptual Plan submitted Oct 2015; IRT site visit Dec 4 2015; awaiting IRT comments
Milner Tract wetland	Purchase	Memphis	Carlisle	Wetland enhancement and rehabilitation	Conceptual Plan submitted Apr 2015; IRT site visits Jun and Jul 2015; no response from Memphis Corps
Raceland (South Shore) wetland	Big Sandy	Louisville	Greenup	Wetland establishment; re-establishment; rehabilitation; Ohio R buffer enhancement	Conceptual Plan submitted Mar 2015; IRT site visit Apr 2015; initial IRT support of project Jul 2015, but later withdrawn because of need to use reserve to supplement purchase and restoration
Straight Cr	Upper Licking	Louisville	Morgan	Preservation; re-establishment; rehabilitation; enhancement	Conceptual Plan submitted Nov 2015; IRT site visit Dec 2015; awaiting IRT comments
Lower Buffalo Cr Tributaries	Upper Kentucky	Louisville	Lee	Preservation; re-establishment; rehabilitation, enhancement	Conceptual Plan submitted Sept 2015; IRT site visit Nov 2015; awaiting IRT comments

Project Statistics and Status

After further review of past documents, 87 projects have been approved by the IRT over the program's 14-year history (2002-2015). No new projects were approved in 2015, although three approvals are pending after IRT site visits in late 2015. Sixty-two projects have been completed or are in some stage of development: 33 completed (including preservation), 5 in construction, 18 in design (Ross Cr I and II are considered a single project), and 6 that are approved but not yet in design (**Appendix B; Figure 2**). Of the 62 projects, 41 were originally or are now on land owned by the public or a conservation organization (**Appendix B**).

Since program inception, 24 projects have been approved but not constructed, typically because of property or landowner issues. That is 29% of all projects approved have been canceled after initial site inspection, property and title investigation, project and conceptual plan development, IRT site visit and comment, and occasionally survey and even design. Several canceled projects had considerable funds expended (**Appendix B**). The East Fork Little Sandy River #5 and Schultz Creek projects were terminated in 2015 for property and title issues. The Brushy Creek project is a special case, as it was built but failed. Its repair status is summarized below in discussions of individual projects, but the project is not included in the total active project count.

A total of seven projects have been permitted since early 2012 under the USACE Letter of Permission (LOP) process that resulted in In-Lieu Fee Instrument modifications for each district (**Appendix C**). The Eagle Creek tributaries project on the Higginson-Henry WMA was the only project permitted in 2015.

KDFWR closed on land purchases for four projects in 2015: Mart Whitt Fork, Smith property, Red Oak Creek, and Big Farm. In all, the FILO program has contributed to the purchase and protection of 15 tracts of land over the program's history (**Table 11**). Three projects (Laurel Creek Gorge, Buck Creek, Sinking Valley) are preservation only; other projects, especially Rogers Gap, had a significant preservation component. In all, 54 miles of preservation quality streams are now within WMA's and are permanently protected by deed restrictions.

Table 12 provides summary statistics for total cost, length, and credits, and cost per linear foot and cost per credit; **Appendix B** provides these data for individual projects. The average estimated project cost in the AMU region is now \$1.97M, is over 18,000 feet in length, gains 19,100 credits, and has a cost per credit of \$104 and a cost per foot of \$107. Also, 54.96 acres of wetland are included in projects (Eagle Cr Tributary, Forest Land Group, Cove Spring, Farmers Cr) in the AMU region at a total cost of \$979,470 or \$17,821 per wetland AMU.

In the EIU region, the average project is estimated at \$1.23M, is more than 12,000 feet in length, gains 2,828 credits, and has a cost per credit of \$435 and a cost per foot of \$102. It should be noted that the two large preservation projects in the EIU region significantly lower the cost per foot, and to a lesser extent the cost per credit, and therefore the average costs do not reflect the actual cost of a restoration project.

Project	Service Area	County	Acres	Length (ft) of stream		WMA
				Preserved	Restored	
Laurel Cr Gorge ^a	Big Sandy	Elliott	697	83,059		Ed Mabry
Laurel Cr Gorge #2 ^a	Big Sandy	Elliott	361	5,837	5,514	Ed Mabry
Smith Tract ^a	Big Sandy	Elliott	46		4,518	Ed Mabry
Mart Whitt Fk ^a	Big Sandy	Elliott	335	13,137	5,235	Ed Mabry
Old Trace Cr ^a	Big Sandy	Lewis	323	3,841	16,097	TBA
Myers Station ^b	Lower Licking	Nicholas	462	2,735	10,860	Clay
Big Farm ^a	Lower Licking	Bath	467	5,721	21,521	Clay
Ross Cr I and II ^a	Upper Kentucky	Lee/Estill	640	9,413	21,360	TBA
Rogers Gap ^c	Lower Kentucky	Scott, Franklin	2,497	31,770	139,087	Veterans
Minors Cr ^a	Lower Kentucky	Owen	307		21,318	Kleber
Pond Cr ^a	Lower Kentucky	Owen	8		5,990	Kentucky River
Red Oak ^d	Lower Kentucky	Owen	601	4,250	30,200	Rich
Buck Cr ^a	Upper Cumberland	Pulaski	859	56,502		Buck Cr
Sinking Valley ^a	Upper Cumberland	Pulaski	805	43,131		Ping-Sinking Valley
Forestland ^e	Green	Union,	6,732	26,320 ^e		Big Rivers
		Crittendon				

^a Purchased entirely with FILO funds

^b FILO purchased 167 acres; KDFWR purchased 295 acres

^c FILO purchased 1298 acres; KDFWR purchased 1199 acres

^d FILO project used as match for obtaining Federal funding for purchase by KDFWR

^e FILO funds used as purchase toward riparian buffer of both banks of Tradewater R with length of 26,320 ft

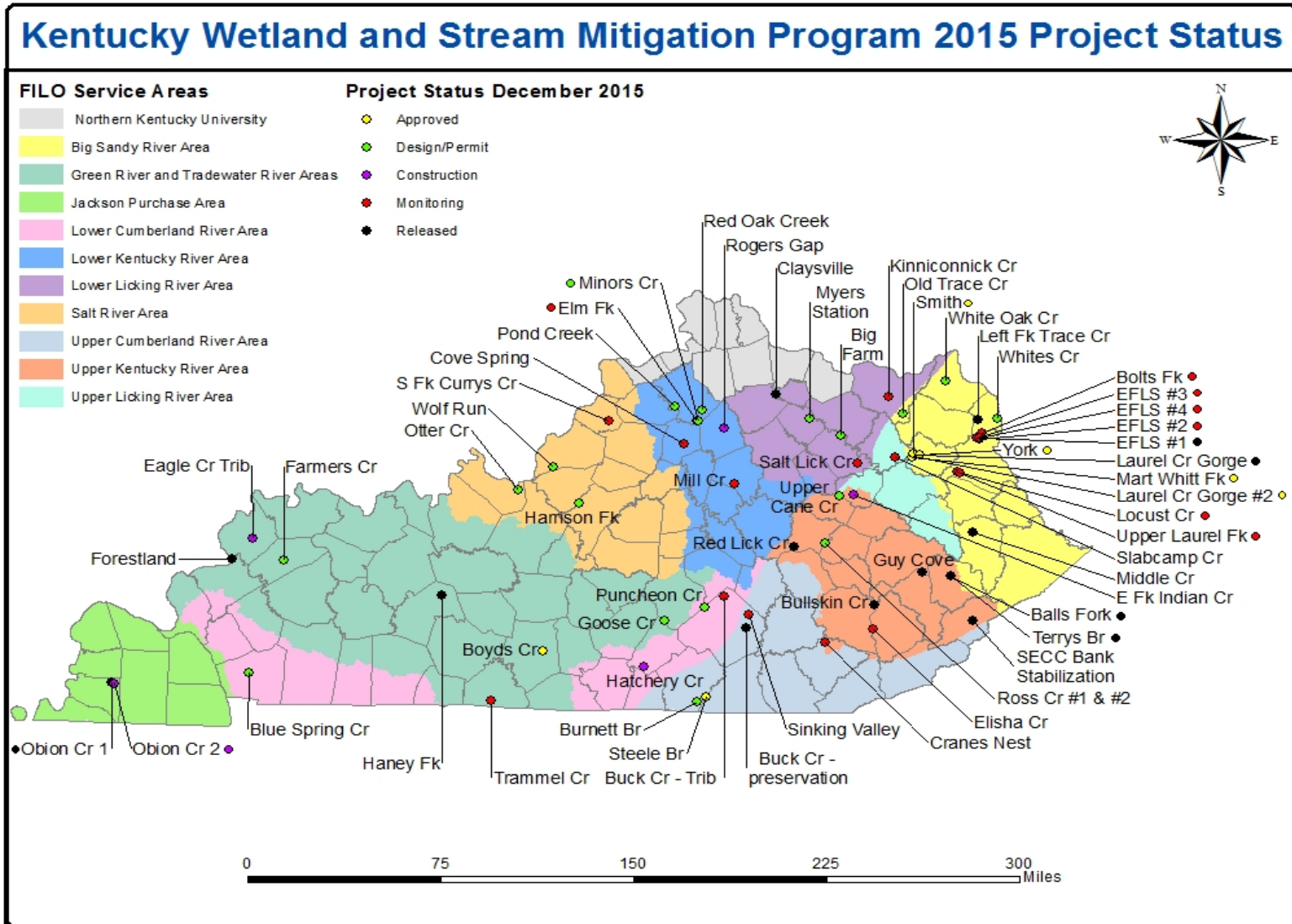
Table 12. Summary Data for Projects in AMU and EIU Regions of Kentucky^a

	AMU Region	EIU Region
Number of Active and Completed Projects	29	33
Total Estimated Project Cost	\$56,063,479	\$41,796,779
Total Estimated Stream Cost	\$55,084,009	\$41,796,779
Total Estimated Wetland Cost	\$979,470	-
Average Estimated Stream Project Cost	\$1,967,286	\$1,229,317
Total Length (ft)	513,712	409,343
Average Length (ft)	18,347	12,040
Cost/ft	\$107	\$102
Total Stream Credits	531,929	96,152
Average Stream Credits	18,997	2,828
Cost/stream credit ^b	\$104	\$435
Total wetland credits (wetland AMUs)	54.96	-
Cost/wetland credit	\$17,821	-

^aTotal costs include expenses incurred for terminated projects, but total length, total credits and average figures don't include the projects since there were terminated prior to construction.

^bCost is for design, construction, and monitoring; administrative, contingency, remedial costs not included

Figure 2.



Brief descriptions of activities during this reporting period are provided below. Monitoring information and compliance status are presented in **Appendix D**.

Big Sandy River Service Area

There are 18 active, completed, and pending projects in this service area (not including Brushy Creek repair), which is within the USACE Louisville District and EKSAP region using the EIU credit system (**Figure 3**). Two approved projects (EFLS#5 and Schultz Cr) were terminated in 2015.

Bolts Fork, Boyd County. Construction and planting completed Fall/Winter 2013. The first year of monitoring was 2014. The project was in the second year of monitoring in 2015.

Brushy Creek, Greenup County. No contractual activity in 2015. Project had been abandoned following flood damage after construction and at IRT direction. Subsequent repairs were only marginally successful. A litigation effort found the project was not designed correctly. Funding awarded as a result of litigation will be used in addition to funding previously approved by the IRT to carry out repairs that will address landowner concerns. A scope of work was agreed upon with the landowner in 2015. In 2016, KDFWR will contract design of crossings and bank stabilization within the original project area; construction should also take place later in 2016. Upon the completion, the easement will be dissolved.

East Fork Little Sandy #1, Lawrence County. Project was released from monitoring in May 2013. Project will be periodically monitored for easement encroachments and appropriate measures taken if needed.

East Fork Little Sandy #2, Lawrence County. The year 5 monitoring was completed and report was submitted. Request for release was made, pending regulatory compliance visit in 2016.

East Fork Little Sandy #3, Lawrence County. The year 5 monitoring was completed and report was submitted. Request for release was made, pending regulatory compliance visit in 2016.

East Fork Little Sandy #4, Lawrence County. The year 5 monitoring was completed and report was submitted. Request for release was made, pending regulatory compliance visit in 2016.

East Fork Little Sandy #5, Lawrence County. Unable to resolve property issues and project was terminated in 2015.

Kinniconick Creek/Indian Creek, Lewis County. Repairs commenced in November 2013 and were completed in 2014. Discussions have been made regarding releasing sections of Lower Indian and Kinniconick Creek from monitoring, and monitoring continued on Upper Indian (upstream of low water crossing) where majority of repair work occurred. The Year 7 monitoring report was submitted and request for release was made, pending with a regulatory compliance visit in 2016. Note: is now in Lower Licking geographically, but was originally included in Big Sandy)

Laurel Gorge Preservation, Elliott County. The site was dedicated in FY10 as the Ed Mabry-Laurel Gorge WMA. Plans for a proposed highway project near the property will avoid encroachment upon the property as a result of the protective deed restrictions. No encroachments or incompatible uses were observed in 2015.

Laurel Creek Gorge #2 (Greene-Johnson tracts), Elliott County. The project consists of two tracts with 360 acres. Closing of purchase occurred in 2014. The property is now part of the Ed Mabry-Laurel Gorge WMA. Will be part of design-build with other properties (Smith and Mart Whitt) purchased around the WMA.

Left Fork Trace Creek, Boyd County. Repairs and maintenance were completed in November 2013. Project release letter was received from the USACE in February 2014. Now in the long-term management phase, the project will be periodically monitored for easement encroachments and appropriate measures taken if needed.

Locust Creek, Lawrence County. Year 5 monitoring was completed and report submitted in 2014. Project release is pending, with a regulatory compliance visit taking place in early 2016.

Mart Whitt Fork, Elliott County. The project was approved in 2013 and includes purchase in April 2015 of 335 acres and preservation of over 13,000 feet of stream length. The tract is now part of Ed Mabry - Laurel Gorge WMA. Will be part of design-build with other properties (Smith and Greene-Johnson) purchased around the WMA.

Middle Creek, Floyd County. Year 5 monitoring report submitted in 2012. Report of intended maintenance activities submitted in 2013. Monitoring period extended. Repair and maintenance tasks occurred in 2014 including easement boundary marking, invasive plant control and supplemental native planting. Project was released in 2015.

Old Trace Creek, Lewis County. Approved in 2013. The tract was purchased by KDFWR using FILO funds in March 2014. Design-build contract began in 2015. The project has over 20,000 feet of stream length, including 3,483 feet of preservation.

Schultz Creek, Greenup County. Project was terminated in 2015 primarily because of property and title issues, and also because of the high risk and high cost.

Smith Property, Elliott County. The 46-acre tract was purchased in Nov 2015 and is an addition to the Ed Mabry-Laurel Gorge WMA. Will be part of design-build with other properties (Greene-Johnson and Mart Whitt) purchased around the WMA.

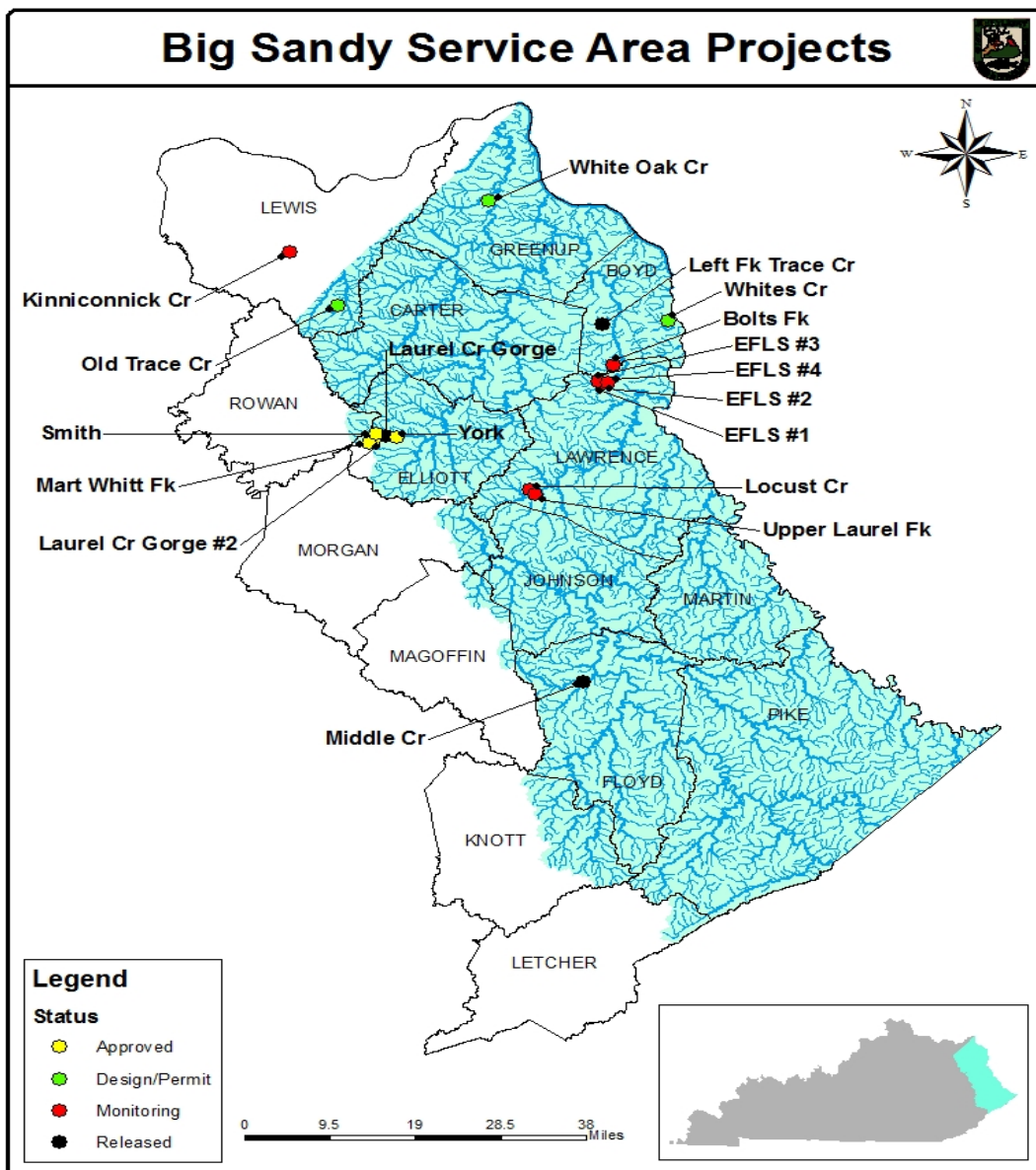
Upper Laurel Creek, Lawrence County. Maintenance tasks in 2014 included invasive plant control, supplemental native planting, and repair of floodplain scour. Site visits in early 2015 revealed recent beaver activity and construction of beaver dams. The site will be further observed to determine if beaver activity is negatively affecting the project. A follow-up site visit is needed with regulatory agencies to approve project release.

White Oak Creek, Greenup County. . Easement and boundary issues need to be resolved. In 2015 FILO contracted a feasibility study of construction cost and reconciling conservation easements, road right of way and utility easements near the project area.

Whites Creek, Boyd County. Property appraisals were conducted in 2013. In 2015 a landowner contract was signed, a contract for an easement survey was initiated, and the 30% Design was completed, including a geotechnical exploration survey on a recent minor slide near the project area. 401 permit submittal expected for late winter 2016.

York Property, Elliott County. Project approved in 2014 that will add to the Ed Mabry-Laurel Gorge WMA. Property was surveyed in 2015; purchase of the 50-acre tract is expected in 2016.

Figure 3.



Upper Cumberland River Service Area

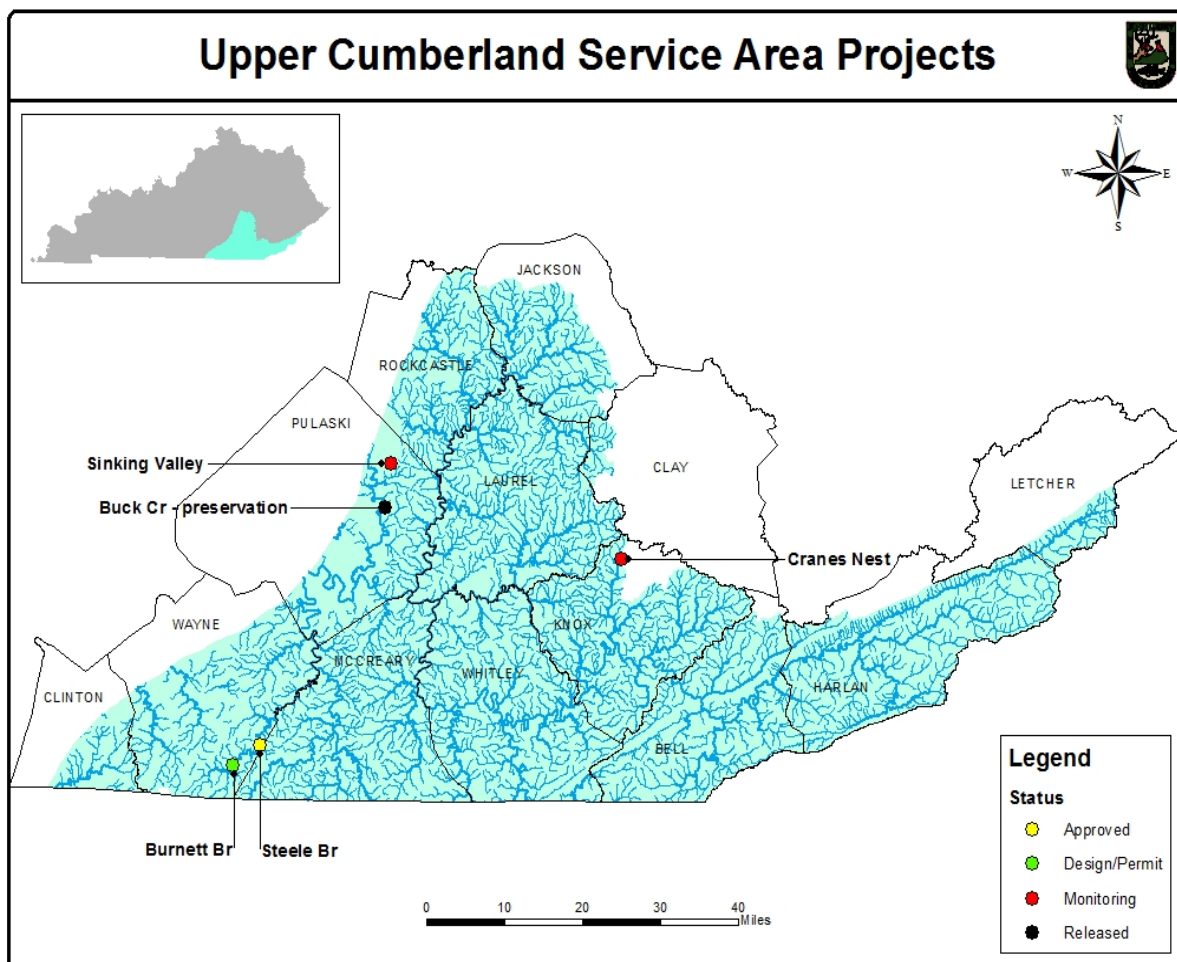
There are five projects in the upper Cumberland River basin of this service area, which is in the USACE Nashville District and EKSAP region with the EIU credit system (**Figure 4**).

Buck Creek, Pulaski County. Property was purchased in 2010, and the WMA was opened to the public in 2013. Tract consists entirely of preservation streams.

Burnett Branch, Wayne and McCreary counties. KDFWR partnered with KDOW Wild Rivers program to acquire property for preservation and restoration. FILO funds were utilized only in stream riparian corridors; deed restrictions were applied at purchase. In 2015 mineral rights were acquired on an initially excepted portion of the property; now the entire property can be pursued. 70% design is complete on about 2/3 of the property. Awaiting Nashville USACE response to some streams assessments.

Cranes Nest Branch, Knox County. Year 3 monitoring report submitted in 2015.

Figure 4.



Sinking Valley, Pulaski County. Mitigation Plan for all preservation accepted December 2013. Title required update for consideration of mineral severance/ownership. Mineral issue was resolved early 2014 and the purchase closed March 2014. Year 2 monitoring report was submitted in 2015.

Steele Branch, Wayne and McCreary counties. Approved in Oct 2014, the project is another collaboration with KY Wild Rivers program, less than 5 miles north of Burnett Br. No activity in 2015.

Lower Cumberland River Service Area

There are 4 projects in this service area, which is in the Nashville District and is in the KAP region using the AMU credit system. This service area has two distinct geographic areas in Kentucky, one in Western Kentucky and one in south-central Kentucky (**Figure 5**).

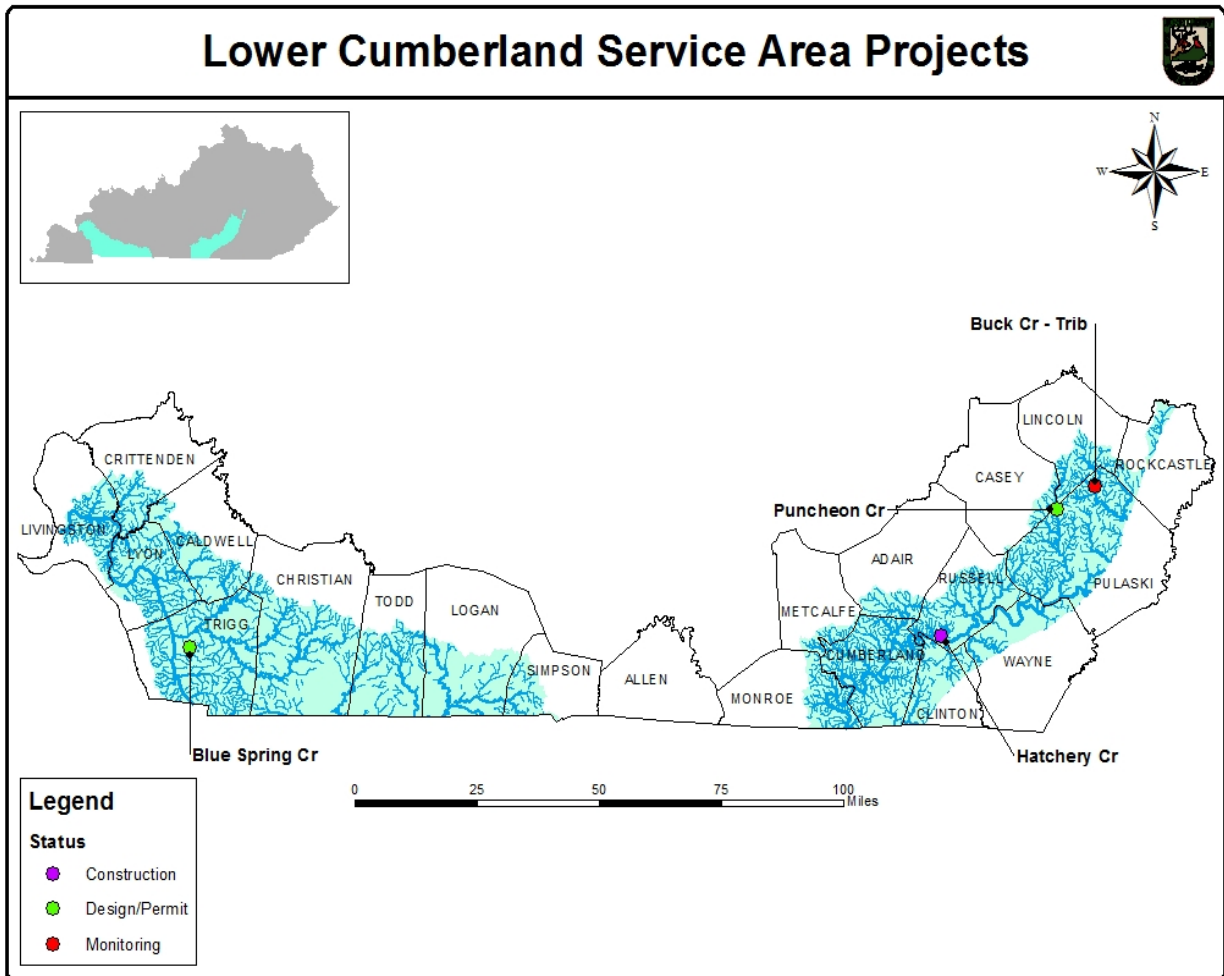
Blue Spring Creek, Trigg County. The project is entirely within Lake Barkley State Resort Park, with a substantial part on the park's golf course. Approval was obtained from KY Dept. Parks officials prior to presenting to the IRT. The project was tentatively approved in 2013 on satisfactorily addressing several comments. Details on preliminary design thoroughly discussed with golf course managers to ensure that the channel and easement compatible with golf course layout. Draft Mitigation Plan and 401 WQC application submitted in early 2015. Design ongoing to address issues raised by Nashville USACE.

Buck Creek Tributary, Pulaski County. The fifth year of monitoring was completed and the report was submitted in 2014. The project was released in 2015.

Hatchery Creek, Russell County. A new contract for a design/build format was initiated in 2013. Construction began in August 2014 and was completed in late 2015 except for vegetative planting.

Puncheon Creek, Pulaski County. The design and permits were completed. Several easement revisions were required, but property issues arose after original landowner passed away. The project is expected to be terminated in 2016.

Figure 5.

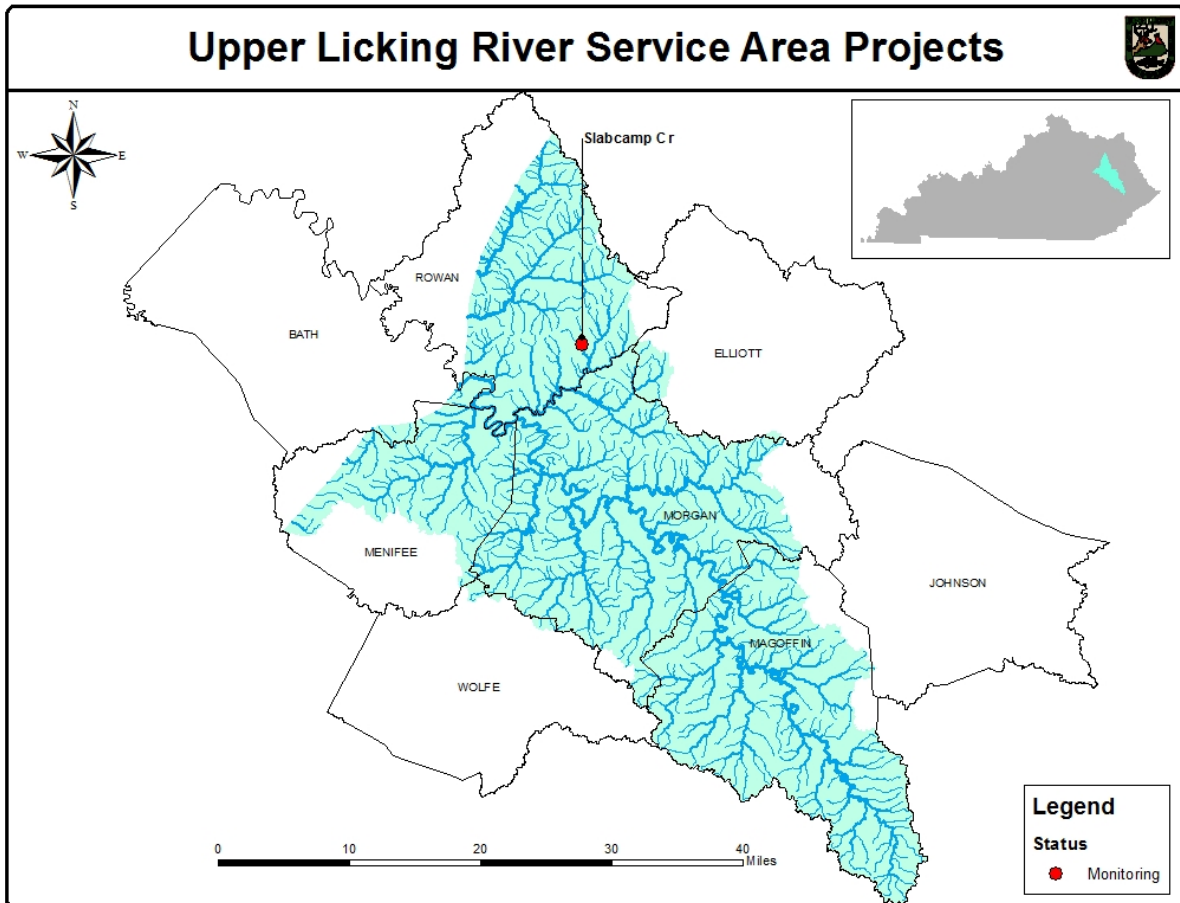


Upper Licking River Service Area

There is one project in this service area, which is in the USACE Louisville District in Magoffin, Morgan, and parts of Rowan and Menifee counties in the coal region with the EIU credit system (Figure 6).

Slabcamp/Stonecoal Branch, Rowan County. Year 3 monitoring report was submitted in 2015.

Figure 6.



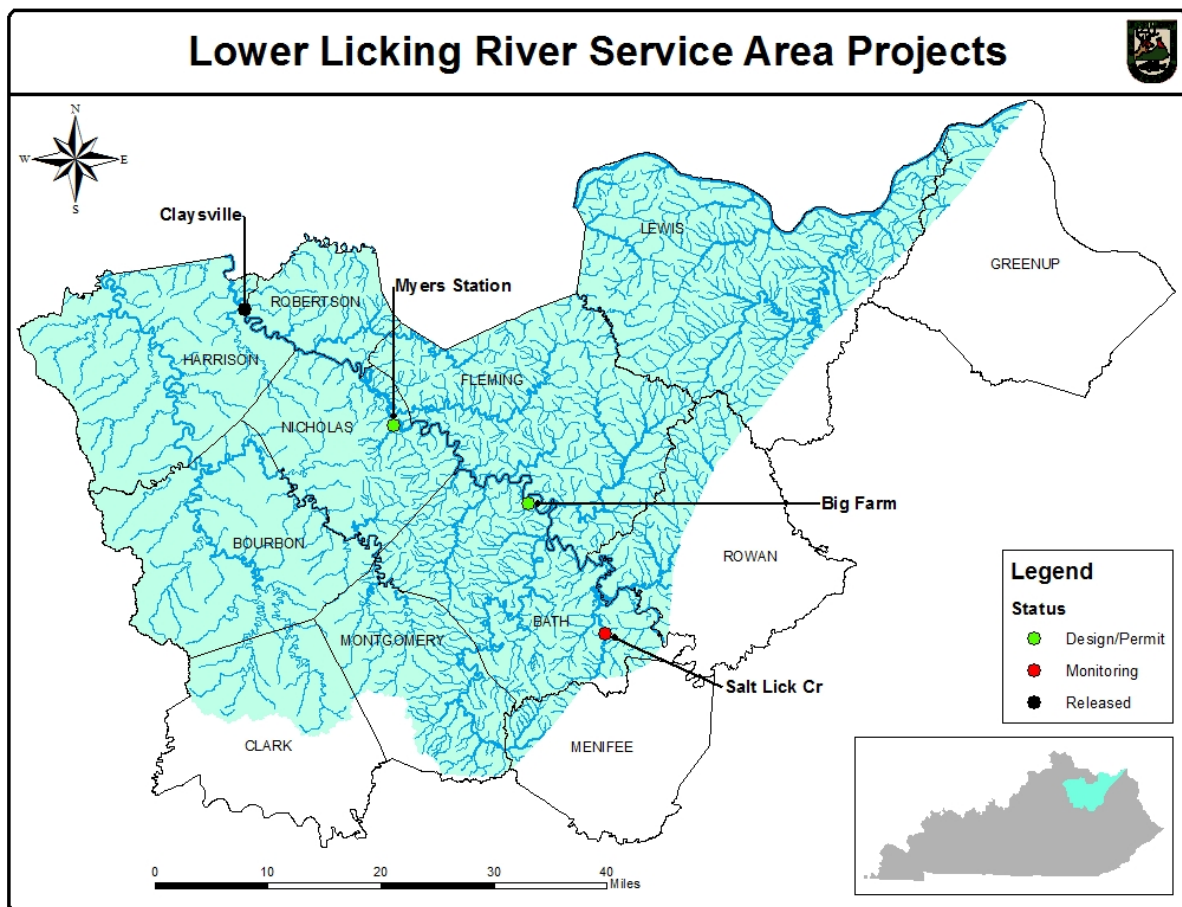
Lower Licking River Service Area

There are 4 projects in this service area, which is in the USACE Louisville District and the KAP region using the AMU credit system (**Figure 7**).

Big Farm, Bath County. The project was approved in 2014 and involves 6.2 miles of stream length, including over one mile of preservation. The 490-acre tract was purchased by KDFWR with FILO funds in 2015 and is now part of the Clay WMA. The design-build contract will be let in early 2016.

Claysville Recovery Land Site, Harrison County. Year 5 of monitoring completed. Release occurred in 2015.

Figure 7.



Myers Station, Nicholas County. The purchase of 462 acres was made by KDFWR in 2014 and became part of the Clay WMA. The project will protect and enhance the riparian corridor on more than a mile of the left bank of the Licking River. Several intermittent and ephemeral tributaries in Licking River watershed also will be restored. 30% design and draft Mitigation

Plan were submitted with 401 WQC application in December 2014 and the 404 application was submitted in December 2015.

Salt Lick Creek, Bath County. Year 3 monitoring completed. Additional planting and minor floodplain repair occurred in early 2015. Site endured spring/summer 2015 flooding and repairs no apparent damage to repairs was seen.

Upper Kentucky River Service Area

There are 10 active and completed projects in the Upper Kentucky River service area, which is in the USACE Louisville District and the EKSAP region using the EIU credit system (**Figure 8**).

Balls Fork, Knott County. This is the first project undertaken by the KDFWR in-lieu fee program and is in the long-term management phase. Supplemental planting occurred in early 2014. Final site visit and project release occurred in late 2015.

Bullskin Creek, Leslie County. Project is in the long-term management phase. Supplemental planting occurred in 2014. Final report submitted and request for release was made in 2014. Project release is pending regulatory site visit or letter.

East Fork Indian Creek, Menifee County. The project is in the Daniel Boone National Forest. Permanent protection will be provided by the U.S Forest Service (USFS) Management Plan. Construction was completed in late fall of 2015. Final planting will occur in early 2016 and the first year of monitoring will begin in 2016. The project received a Regional Forester's Award from the Southern Region of the U.S. Forest Service in the category of "Restored and Resilient Landscapes."

Elisha Creek, Leslie County. The project is on the USFS Daniel Boone National Forest. Permanent protection is provided by the USFS Management Plan. Project scope was reduced to include only the Left Fork of Elisha Creek. Construction was completed in 2012. Year 3 monitoring report received in 2015.

Laurel Fk (Guy Cove), Breathitt County. The project is on Robinson Forest owned by the University of Kentucky (UK) in the Troublesome Creek watershed. This is a pilot project to rework the valley fill on a reclaimed mine site. The hollow fill was reworked to more closely match the valley slope instead of the traditional fill required by mining regulations. The reworked material was "loose-dumped," according to methods that UK research has shown to be more successful in restoring forest and hydrologic regimes. The final monitoring report was received in 2014 after a delay to include Spring 2014 wetland delineation data. The project was released in 2015.

Red Lick, Estill County. The site is in long-term management phase. Supplemental planting, final report, and project release occurred in 2014.

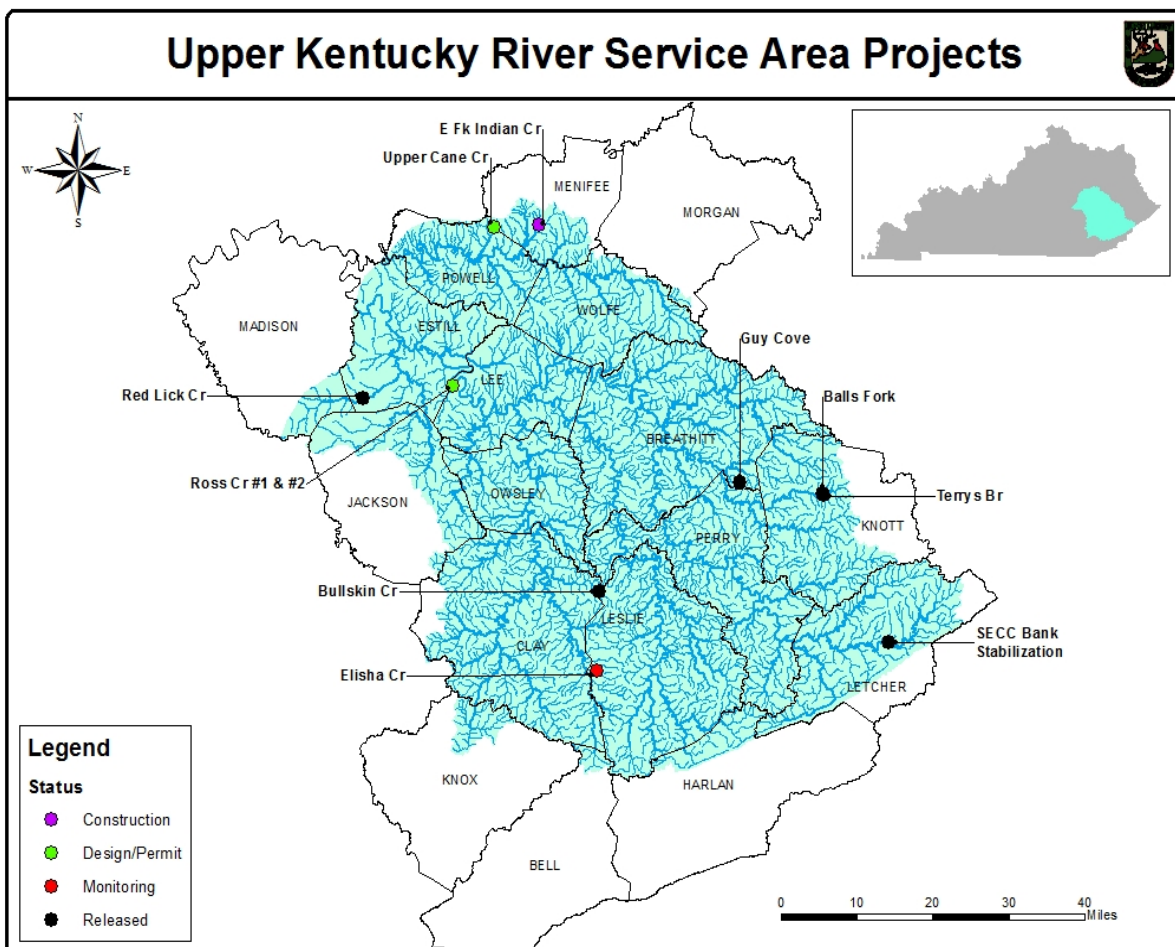
Ross Creek I and II, Lee and Estill County: Project is adjacent to the Daniel Boone National Forest involving purchase of 533 acres. Design began in 2014. Mitigation Plan drafted and permits should be submitted early in 2016.

SECC Bank Stabilization., Letcher County. Release occurred in 2015 and the project is now in long-term management phase. Project is meeting goals of bank stabilization.

Terrys Branch, Knott County. The project is an extension of the Ball's Fork project in the Troublesome Creek watershed and is in the long-term management phase. KDFWR successfully completed two rounds of repairs on log structures and some planting was completed in late 2014. Follow-up repair efforts occurred in 2015 and the project was released later in the year.

Upper Cane Creek, Menifee County. The conservation easement was surveyed and is pending state approval. KDFWR worked with the county judge to reduce the scope of road relocation associated with the project. Some discussions with local government in late 2014 and early 2015 appeared to resolve the count road issue; however, permits and USFWS concurrence were allowed to expire. Because of the age of the design it may be necessary to revisit the design. Nearby project potential may present an opportunity to package this project with others in the Cane Creek watershed to realize a better economy of scale.

Figure 8.



Lower Kentucky River Service Area

There are 7 projects in this service area, which is in the USACE Louisville District and KAP region with AMU credit system in the **(Figure 9)**.

Cove Spring, Franklin County. This project is in Cove Spring Park owned by the City of Frankfort and is accessible to the public. Project construction began in 2012 and final planting occurred in early 2014. The project has been of interest to educational entities and the public. A round of supplements planting, covered under the original project planting warrantee of the contractor occurred in early 2015. The year 2 monitoring report was submitted in 2015.

Elm Fork, Owen County. The project is on Kleber WMA and is accessible to the public. Construction began in June, 2013 and was completed in late 2014. The project has been highly successful based on early indications of stability after high flow events and significant habitat improvement over the former degraded condition. The first year of monitoring occurred in 2015.

Mill Creek, Fayette County. The project is on Mill Creek Elementary School property and provided stream and wetland restoration and ongoing outdoor classroom learning opportunities. Year 5 of monitoring was completed in 2014 and project release was requested. Release is pending finalization of easement documents.

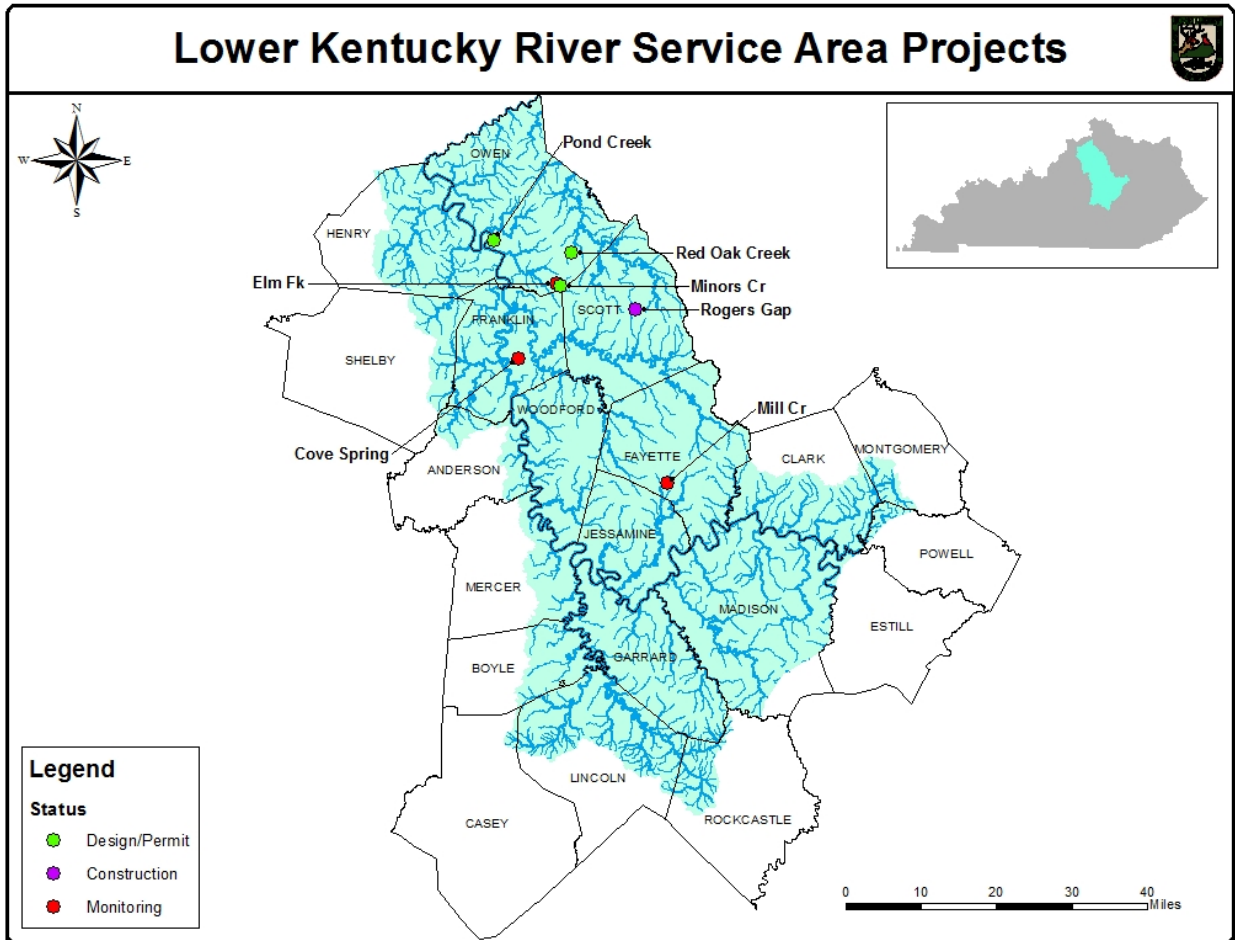
Minors Creek, Owen County. Purchase of the project site (309-acre former cattle farm) by KDFWR closed in June 2014 and it is now part of Kleber WMA. The purchase will significantly improve and permanently protect Minors Creek and its watershed that is directly upstream of the completed project on Elm Fork and Minors Creek. WQC and floodplain applications submitted in Oct 2015.

Pond Creek, Owen County. The project on the Chesney Tract of the Kentucky River WMA was approved in 2014. It will involve re-establishment of the altered channel location, raising the riffle inverts and placing groundwater dams at a few critical locations to enhance and re-establish wetland in the valley on mostly existing hydric soils. Design began in 2015.

Red Oak Creek, Owen County. The project was approved in 2014 and purchased in May 2015 by KDFWR using the FILO project as a match. The 601- acre tract was incorporated into the Dr. James Rich WMA. Design will begin in early 2016.

Roger's Gap, Scott County. This project included the acquisition of 2,500 acres containing approximately 28 miles of stream, representing ephemeral, intermittent, and perennial flow regimes. The property was acquired in December 2011 utilizing funds from the Kentucky Wetland and Stream Mitigation Program and department-contributed federal grant money specifically designated for land acquisition. Restoration or preservation has been proposed for all streams on the property, which will be protected by permanent deed restrictions approved by the USACE. The remainder of the property will be managed as a state-owned wildlife management area and will be open to the public. The design-build commenced in Dec 2013 and is expected to be completed in early 2016.

Figure 9.



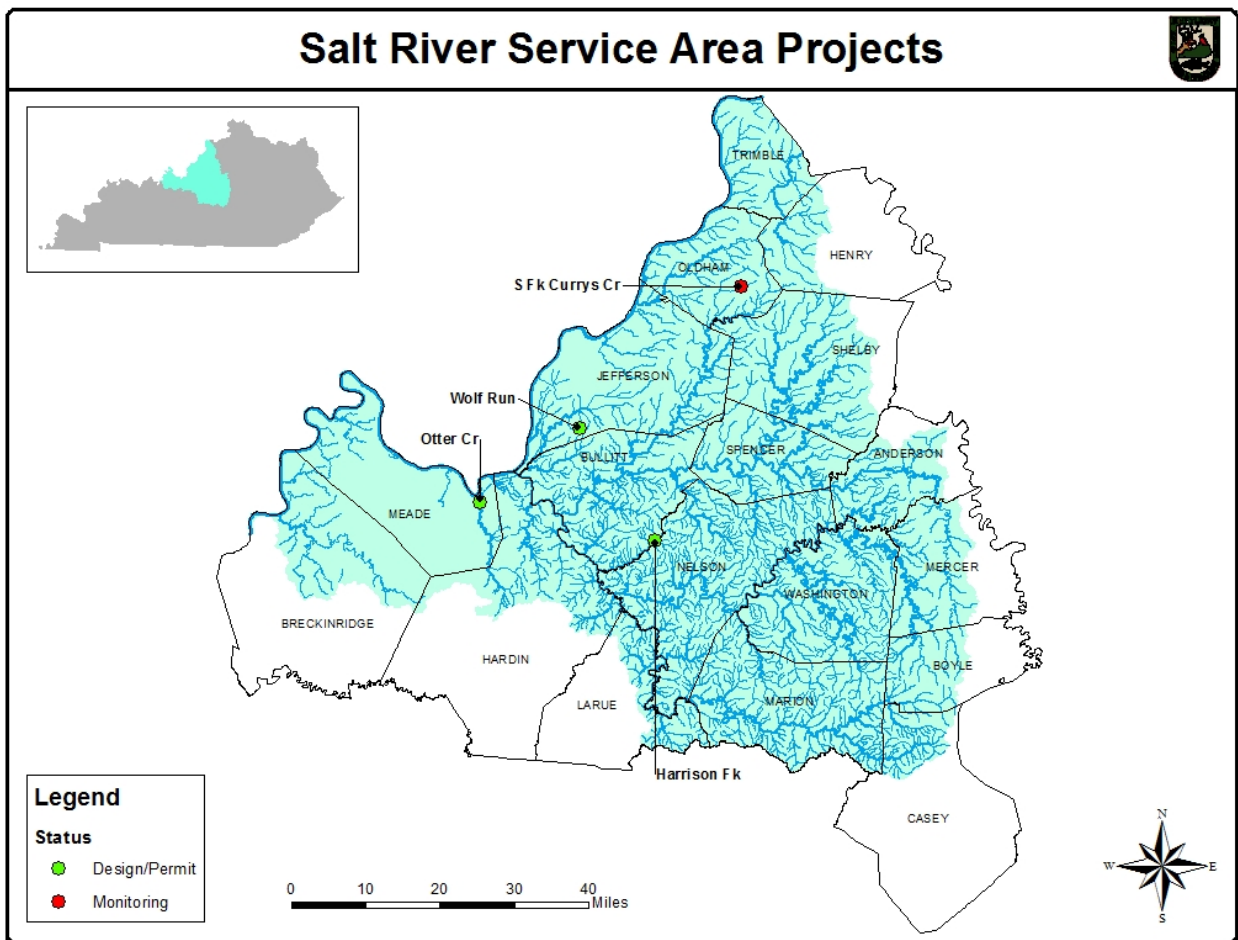
Salt River Service Area

There are 4 projects in this service area, which is entirely within the USACE Louisville District and KAP region using the AMU credit system (**Figure 9**).

Harrison Fork, Nelson County. University of Louisville has project design but little progress was made in 2015. Bernheim Forest and KDFWR/Real Properties are negotiating the conservation easement.

Otter Creek, Meade County. This project has the largest watershed of any FILO project, just over 100 mi². Because of its size, good water quality, and significant physical degradation, the potential exists to create outstanding habitat that will support an excellent fishery and canoe recreation. Design began in 2014, but the conservation easement with the U.S. Army (Ft. Knox) was not yet obtained in 2015.

Figure 10.



South Fork Currys Fork, Oldham County. The project was constructed in 2012. Year 3 monitoring report was received in 2015.

Wolf Run, Jefferson County. This project is almost entirely on the Jefferson Memorial Forest. It will be developed in coordination with the Louisville-Jefferson County Metro Parks. Design began in late 2015.

Green River Service Area

There are 7 projects in this service area, which is within the USACE Louisville District and KAP region using the AMU credit system (**Figure 11**).

Boyds Creek, Barren County. This project, approved in 2014, is on private land in the upper watershed of this tributary of Skaggs Creek. It will restore 3,235 feet of the Boyds Creek and five small tributaries. A conservation easement must be appraised and accepted by the landowners.

Eagle Creek Tributary, Union County. The site and project watershed are entirely within the Higginson-Henry WMA. The oil/gas lease easement restrictions agreement for permanent protection of the site from mineral extraction was signed early in 2012. The revised design (that will maintain the old channels as ephemeral flow type) and Mitigation Plan were submitted early in 2014, the WQC 401 was approved, and the 404 permit was approved early 2015. Construction began July 2015 and was mostly complete by end of year.

Farmers Creek, Webster County. This wetland and stream project was approved in 2014. It involves three private landowners and the Lee K. Nelson WMA. Land contracts for conservation easements were obtained from the private landowners, and the design will begin early in 2016.

Forestland Group Tract, Union County. The first tract (2488 acres in Union County) was purchased in 2012 and the second tract (4241 acres in Crittenden County) was purchased in 2013. FILO contributed funds associated with preservation of the Tradewater River corridor, which were applied with the second phase.

Goose Creek, Casey County. This project is on a 200-acre cattle farm includes nearly a mile of Goose Creek and several tributaries. The restoration will include creating diverse habitat in a straight, homogenous reach of larger stream and re-establishment of habitat in surrounding tributaries and will result in permanent cattle exclusion from all restoration streams on the property. In 2015 the design effort proceeded beyond 30% to 70%, including several revisions to help ensure the landowner can maintain a functional farm without impacting the project. Additionally, wetlands were added to the project for the submittal of the 401 permit in late 2015. The landowner recently expressed interest in selling the entire property instead of having a conservation easement. This option is currently being explored and must be resolved in order to finalize the design.

Haney Fork, Butler County. A compliance visit was conducted with KDOW in 2015. This project has been released from monitoring and is in the long-term management phase.

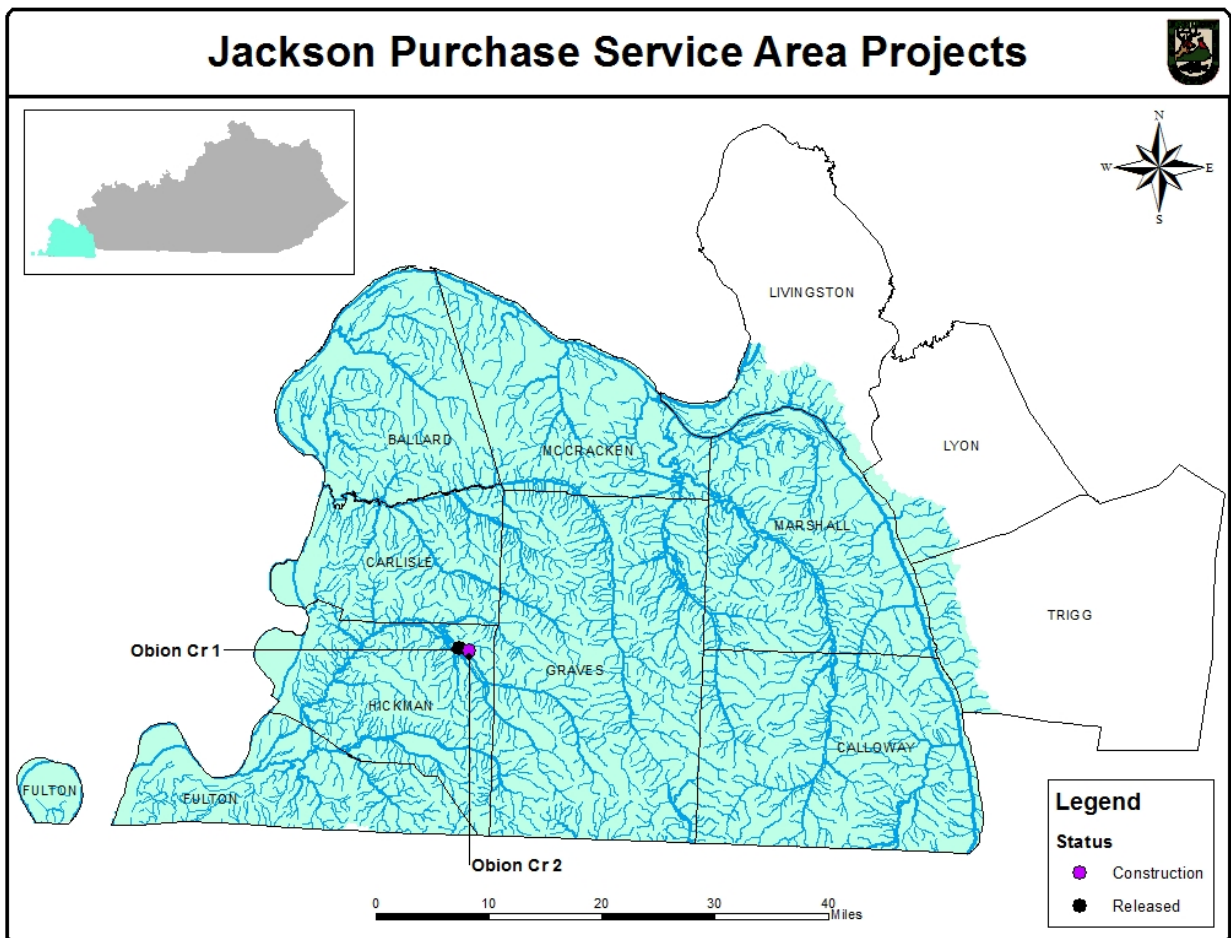
Purchase Service Area (Tennessee, Mississippi River, and Lower Ohio River Basins)

There are 2 projects in the Purchase service area, which is within the USACE Memphis District and KAP region using the AMU credit system (**Figure 12**).

Obion Creek #1, Hickman County. The project is in the long-term management phase.

Obion Creek #2, Hickman County. The project is in its second phase of construction, which includes repairing any sections and the placement of any structures. The construction of the bypass channel upstream of the debris jam began in 2014 but no progress was made in 2015. Construction is anticipated to be complete in 2016.

Figure 12.



References

Kentucky Department of Fish and Wildlife Resources. 2015. Annual Report – Calendar Year 2014, Kentucky Wetland and Stream Mitigation Program.

U.S. Army Corps of Engineers. 2011. Modification – Number One of the Agreement Concerning In-Lieu Mitigation Fees between U.S. Army Corps of Engineers and Kentucky Department of Fish and Wildlife Resources. LRL-2010-325.

U.S. Army Corps of Engineers. 2008. 33 CFR Chapter II Part 332. Compensatory Mitigation for Losses of Aquatic Resources. Federal Register Vol. 73, No. 70, April 10, 2008.

Appendix A

CY15 Credit Sales, Costs, and Balances

Service Area	Date of Payment	Corps 404 Id. No.	Credits Sold	\$/Credit	Advanced Credits	Balance
Big Sandy Stream (EIU)	02/04/15	LRL-2007-1026, LRL-2007-1206, 200400336	176.60	\$755		
	05/05/15	2004-01120	84.06	\$755		
	05/12/15	2006-00160	45.67	\$755		
	05/12/15	LRL-2008-902	1.81	\$755	CY2015 Beginning Balance	205,277.54
	05/13/15	LRL-2006-1256	318.77	\$755	CY2015 Ending Balance	202,678.09
	05/13/15	2009-00806	882.42	\$755		
	06/24/15	LRL-2009-1074	0.15	\$755		
	06/25/15	200500901	196.72	\$755		
	07/14/15	LRL-2011-456	893.25	\$755		
		CY2015 TOTAL CREDITS SOLD	2,599.45			
Upper Kentucky Stream (EIU)	04/22/15	2002-01447	-	\$755		
	04/22/15	2005-00205	-	\$755		
	04/22/15	LRL-2005-1131	-	\$755		
	04/22/15	2005-01004	5.46	\$755		
	07/21/15	LRL-2008-918	27.00	\$755	CY2015 Beginning Balance	234,613.84
	07/27/15	LRL-2008-918	27.00	\$755	CY2015 Ending Balance	233,647.98
	08/03/15	LRL-2008-918	27.00	\$755		
	08/12/15	LRL-2008-918	26.00	\$755		
	11/17/15	LRL-2007-529	853.40	\$755		
		CY2015 TOTAL CREDITS SOLD	965.86			
Upper Licking Stream (EIU)	01/09/15	LRL-2014-497	1,326.00	\$610		
	01/28/15	LRL-2014-311-the	4,138.00	\$610	CY2015 Beginning Balance	238,904.00
	09/14/15	LRL-2014-878	1,805.00	\$755	CY2015 Ending Balance	231,473.00
	10/19/15	LRL-2014-878	162.00	\$755		
		CY2015 TOTAL CREDITS SOLD	7,431.00			
Upper Cumberland Stream (EIU)	01/06/15	LRN-2013-01071	298.00	\$610		
	05/27/15	LRN-2008-01177	10.99	\$755		
	06/09/15	LRN-2008-01177	10.99	\$755		
	06/30/15	LRN-2007-00705	3,882.67	\$755		
	07/07/15	LRN-2008-01177	10.99	\$755		
	08/03/15	LRN-2008-01177	10.99	\$755	CY2015 Beginning Balance	236,953.06
	09/08/15	LRN-2008-01177	10.99	\$755	CY2015 Ending Balance	231,890.07
	10/01/15	LRN-2008-01177	10.99	\$755		
	11/05/15	LRN-2008-01177	10.99	\$755		
	12/01/15	LRN-2008-01177	10.99	\$755		
	12/03/15	LRN-2014-00785	794.40	\$755		
			CY2015 TOTAL CREDITS SOLD	5,062.99		

Service Area	Date of Payment	Corps 404 Id. No.	Credits Sold	\$/Credit	Advanced Credits	Balance
Lower Kentucky Stream (AMU)	03/09/15	LRL-2012-263-pgj	1,000.00	\$300		
	07/28/15	LRL-2013-1125	1,580.00	\$300	CY2015 Beginning Balance	223,932.80
	10/02/15	LRL-2014-144-jea	470.00	\$300	CY2015 Ending Balance	220,837.80
	10/22/15	LRL-2014-954-mdh	45.00	\$300		
		CY2015 TOTAL CREDITS SOLD	3,095.00			
Lower Licking Stream (AMU)	01/14/15	LRL-2013-619-jea	10,935.00	\$240	CY2015 Beginning Balance	216,158.00
		CY2015 TOTAL CREDITS SOLD	10,935.00		CY2015 Ending Balance	205,223.00
Lower Cumb Stream (AMU)	12/23/15	LRN-2015-00195	2,413.20	\$300	CY2015 Beginning Balance	219,866.29
		CY2015 TOTAL CREDITS SOLD	2,413.20	\$300	CY2015 Ending Balance	217,453.09
Salt Stream (AMU)	03/16/15	LRL-2014-403	1,494.00	\$300		
	04/16/15	LRL-2014-294	582.00	\$300		
	06/09/15	LRL-2014-640	4,311.60	\$300	CY2015 Beginning Balance	224,243.76
	07/01/15	LRL-2009-214	1,019.60	\$300	CY2015 Ending Balance	216,274.96
	08/21/15	LRL-2006-162	177.60	\$300		
	12/21/15	LRL-2014-53	384.00	\$300		
	CY2015 TOTAL CREDITS SOLD	7,968.80				
Green River Stream (AMU)	02/02/15	LRL-2009-1241-rjb	306.40	\$300		
	05/11/15	LRL-2014-515-sew	342.00	\$300	CY2015 Beginning Balance	198,714.34
	11/19/15	LRL-2015-185	757.00	\$300	CY2015 Ending Balance	197,308.94
	CY2015 TOTAL CREDITS SOLD	1,405.40				
Jack Purch Stream (AMU)	04/22/15	2003-00263	20.49	\$300	CY2015 Beginning Balance	239,981.00
	12/15/15	LRN-2015-00490	1,189.00	\$300	CY2015 Ending Balance	238,771.51
		CY2015 TOTAL CREDITS SOLD	1,209.49			

Service Area	Date of Payment	Corps 404 Id. No.	Credits Sold	\$/Credit	Advanced Credits	Balance
Lower Kentucky Wetland (AMU)	10/02/15	LRL-2014-144-jea	0.100	\$45,840	CY2015 Beginning Balance	93.598
	10/22/15	LRL-2014-954-mdh	2.020	\$45,840	CY2015 Ending Balance	91.478
	CY2015 TOTAL CREDITS SOLD		2.120			
Upper Licking Wetland (AMU)	05/19/15	LRL-2013-1068 mod	0.780	\$45,840	CY2015 Beginning Balance	100.000
	09/09/15	LRL-2014-617	13.440	\$45,840	CY2015 Ending Balance	85.780
	CY2015 TOTAL CREDITS SOLD		14.220			
Upper Cumb Wetland (AMU)	05/20/15	LRN-2013-00863	0.080	\$45,840	CY2015 Beginning Balance	89.437
	06/30/15	LRN-2007-00705	7.198	\$45,840	CY2015 Ending Balance	82.159
	CY2015 TOTAL CREDITS SOLD		7.278			
Lower Cumb Wetland (AMU)	12/23/15	LRN-2015-00195	0.700	\$45,840	CY2015 Beginning Balance	82.240
	CY2015 TOTAL CREDITS SOLD		0.700		CY2015 Ending Balance	81.540
Salt River Wetland (AMU)	07/01/15	LRL-2009-214	0.723	\$45,840	CY2015 Beginning Balance	95.560
	CY2015 TOTAL CREDITS SOLD		0.723		CY2015 Ending Balance	94.837
Green River Wetland (AMU)	05/11/15	LRL-2014-515-sew	1.900	\$45,840		
	06/25/15	LRL-2014-888-jmb	5.600	\$45,840	CY2015 Beginning Balance	172.762
	07/13/15	LRL-2014-915-gjd	3.500	\$45,840	CY2015 Ending Balance	161.572
	11/19/15	LRL-2015-185	0.190	\$45,840		
CY2015 TOTAL CREDITS SOLD		11.190				
Jack Purch Wetland (AMU)			-		CY2015 Beginning Balance	196.880
	CY2015 TOTAL CREDITS SOLD		-		CY2015 Ending Balance	196.880
Lower Licking Wetland (AMU)			-		CY2015 Beginning Balance	99.020
	CY2015 TOTAL CREDITS SOLD		-		CY2015 Ending Balance	100.000
Big Sandy Wetland (AMU)			-		CY2015 Beginning Balance	93.439
	CY2015 TOTAL CREDITS SOLD		-		CY2015 Ending Balance	93.439
Upper Kentucky Wetland (AMU)			-		CY2015 Beginning Balance	98.800
	CY2015 TOTAL CREDITS SOLD		-		CY2015 Ending Balance	98.800

Appendix B

Project Data

AMU Area

Basin/Stream	Type	County	USACE District	404 Permit #	Project Cost	Length (ft)	Credits	Cost/ft	Cost/credit
Big Sandy River									
Monitoring Phase									
Kinniconnick/Indian Creek	Rehabilitation Enhancement	Lewis	Louisville	LRL-2007-409-pgj	\$2,061,600	6,782	10,308	\$304	\$200
Lower Cumberland River									
Design Phase									
Blue Spring Creek (Lake Barkley State Park)	Rehabilitation Enhancement	Trigg	Nashville	LRN-2013-00776	\$3,986,295	22,110	27,029	\$180	\$147
Puncheon Creek	Rehabilitation Enhancement	Pulaski	Nashville		\$3,000,000	11,760	17,765	\$255	\$169
Construction Phase									
Hatchery Creek (Stream) (U.S. Army Corps Engineers)	Re-establishment	Russell	Nashville	LRN-2010-00444	\$2,175,171	6,000	13,661	\$363	\$159
Hatchery Creek (Wetland) (U.S. Army Corps Engineers)		Russell	Nashville	LRN-2010-00444	\$24,829		2,200		\$11,286
Long-Term Management Phase ^a									
Buck Creek Tributary (The Nature Conservancy)	Rehabilitation Enhancement	Pulaski	Nashville		\$236,750	1,221	1,262	\$194	\$188
Green River									
Preservation Project									
Forestland Gr Tract (Stream) (Big Rivers WMA)	Preservation Enhancement	Union	Louisville		\$620,100	26,320	7,484	\$24	\$83
Forestland Gr Tract (Wetland) (Big Rivers WMA)	Restoration Enhancement	Union	Louisville		\$29,900	5.6 ac	5.6		\$5,339
Feasibility Study									
Lock and Dam 6		Edmonson	Louisville		\$125,000				
Approved Phase									
Boyds Creek	Rehabilitation Re-establishment	Barren	Louisville	LRL-2013-545-pgj	\$461,825	3,235	2,538	\$143	\$182
Design Phase									
Farmer's Creek (Stream) (part on L.K. Nelson WMA)	Rehabilitation Re-establishment Enhancement	Webster	Louisville	LRL-2014-58-pgj	\$2,222,972	13,610	13,147	\$163	\$169

AMU Area (con't)

<u>Basin/Stream</u>	<u>Type</u>	<u>County</u>	<u>USACE District</u>	<u>404 Permit #</u>	<u>Project Cost</u>	<u>Length (ft)</u>	<u>Credits</u>	<u>Cost/ft</u>	<u>Cost/credit</u>
Farmer's Creek (Wetland) (part on L.K. Nelson WMA)	Enhancement	Webster	Louisville	LRL-2014-58-pgj	\$105,750	5.9 ac	4.7		\$22,500
Goose Creek	Preservation Enhancement Rehabilitation Re-establishment	Casey	Louisville	LRL-2012-646-pgj	\$2,704,668	18,600	16,500	\$145	\$164
Construction Phase									
Eagle Cr Tributary (Stream) (Higginson-Henry WMA)	Rehabilitation Enhancement	Union	Louisville	LRL-2012-716 pgj	\$1,042,550	12,200	15,926	\$85	\$65
Eagle Cr Tributary (Wetland) (Higginson-Henry WMA)	Establishment	Union	Louisville	LRL-2012-716 pgj	\$431,300	25.54 ac	22.305		\$19,336
Monitoring Phase									
Trammel Creek	Rehabilitation Enhancement	Allen	Louisville	LRL-2008-936-pgj	\$862,500	3,800	6,314	\$227	\$137
Long-Term Management Phase ^a									
Haney Fork Watershed No. 2 (Southern Conservation Corp.)	Rehabilitation Enhancement	Butler	Louisville	LRL-2004-01363	\$242,381	4,330	3,248	\$56	\$75
Jackson Purchase									
Construction Phase									
Obion Creek II (KY State Nature Preserves Comm)	Rehabilitation Enhancement	Hickman	Memphis	MVM-2010-074	\$781,000	23,000	69,000	\$34	\$11
Long-Term Management Phase ^a									
Obion Creek (Obion Cr WMA)	Rehabilitation Enhancement	Hickman	Memphis	200300263	\$64,853	5,684	17,052	\$11	\$4
Terminated Project									
East Fork Clark's River		Calloway			\$38,528				
Lower Kentucky River									
Design Phase									
Red Oak Creek (Rich WMA)		Owen	Louisville	LRL-2014-500-pgj	\$500,000	40,910	27,383	\$151	\$225
Minors Creek (Kleber WMA)	Preservation Enhancement Rehabilitation Re-establishment	Owen	Louisville	LRL-2013-91-pgj	\$3,507,000	19,500	20,300	\$180	\$173

AMU Area (con't)

<u>Basin/Stream</u>	<u>Type</u>	<u>County</u>	<u>USACE District</u>	<u>404 Permit #</u>	<u>Project Cost</u>	<u>Length (ft)</u>	<u>Credits</u>	<u>Cost/ft</u>	<u>Cost/credit</u>
Pond Creek (Stream) (KY R WMA)	Re-establishment	Owen	Louisville	LRL-2014-191-pgj	\$128,652	4,220	852	\$30	\$151
Pond Creek (Wetland) (KY R WMA)	Enhancement	Owen	Louisville	LRL-2014-191-pgj	\$133,620	11.36 ac	5.68	\$11,762	\$23,525
Construction Phase									
Rogers Gap (Veterans WMA)	Preservation Enhancement Rehabilitation Re-establishment	Scott	Louisville	LRL-2013-134-pgj	\$13,100,000	170,856	142,149	\$77	\$92
Monitoring Phase									
Cove Spring (Stream) (Cove Spring Park)	Rehabilitation Enhancement	Franklin	Louisville	LRL 2009 614 pgj	\$1,237,543	7,001	9,236	\$177	\$134
Cove Spring (Wetland) (Cove Spring Park)	Establishment	Franklin	Louisville	LRL 2009 614 pgj	\$257,457	20.64 ac	14	\$12,474	\$17,784
Elm Fork (Kleber WMA)	Rehabilitation Enhancement	Owen	Louisville	LRL 2012-263-pgj	\$1,468,000	8,562	12,000	\$171	\$122
Long-Term Management Phase ^a									
Mill Creek (Mill Cr Elem School)	Rehabilitation	Fayette	Louisville	LRL-2009-611-pgj	\$187,050	750	682	\$249	\$274
Terminated Project									
Pond Creek (former stream project) (KY River WMA)		Owen	Louisville		\$17,284				
Lower Licking River									
Design Phase									
Big Farm (WMA TBA)	Rehabilitation Re-establishment Enhancement Preservation	Bath	Louisville	LRL-2014-209-pgj	\$4,631,808	32,792	24,124	\$141	\$192
Myers Station (Clay WMA)	Rehabilitation Re-establishment Buffer Enhance Preservation	Nicholas	Louisville	LRL-2012-637-pgj	\$2,451,874	19,725	14,599	\$124	\$168
Monitoring Phase									
Salt Lick	Rehabilitation Enhancement	Bath	Louisville	LRL-2011-891-pgj	\$1,647,800	5,661	7,487	\$291	\$220

EIU Area

<u>Basin/Stream</u>	<u>Type</u>	<u>County</u>	<u>USACE District</u>	<u>404 Permit #</u>	<u>Project Cost</u>	<u>Length (ft)</u>	<u>Credits</u>	<u>Cost/ft</u>	<u>Cost/credit</u>
Big Sandy River									
Approved Phase									
Laurel Creek Gorge #2 (Ed Mabry-Laurel Gorge WMA)	Rehabilitation Enhancement	Elliott	Louisville	LRL-2012-478-pgj	\$1,358,593	9,255	2,139	\$147	\$635
Mart Whitt Fork (Ed Mabry-Laurel Gorge WMA)	Enhancement Preservation	Elliott	Louisville	LRL-2013-598-pgj	\$1,223,950	17,641	2,675	\$69	\$458
Smith Tract - Laurel Cr Gorge Mabry-Laurel Gorge WMA) (Ed	Rehabilitation Re-establishment	Elliott	Louisville	LRL-2013-1013-pgj	\$806,115	4,386	1,762	\$184	\$458
York Tract (Ed Mabry-Laurel Gorge WMA)	Rehabilitation	Elliott	Louisville	LRL-2013-1012-pgj	\$119,408	700	261	\$171	\$458
Design Phase									
Old Trace Creek (WMA TBA)	Rehabilitation Re-establishment Enhancement Preservation	Lewis	Louisville	LRL-2013-336-pgj	\$2,689,643	13,816	5,879	\$195	\$458
Whites Creek	Rehabilitation Re-establishment	Boyd	Louisville	LRL-2012-634-pgj	\$1,482,120	8,355	3,312	\$177	\$448
White Oak Creek	Rehabilitation	Greenup	Louisville	LRL-2010-787-pgj	\$1,069,078	6,134	2,389	\$174	\$448
Brushy Creek Repair 3		Greenup	Louisville		\$550,000				
Monitoring Phase									
Bolts Fork	Rehabilitation Enhancement	Boyd	Louisville	LRL-2010-00698	\$1,212,900	5,640	2,765	\$215	\$439
East Fork Little Sandy #2	Rehabilitation Enhancement	Lawrence	Louisville	LRL-2009-332-pgj	\$2,177,600	12,598	5,402	\$173	\$403
East Fork Little Sandy #3	Rehabilitation Enhancement	Lawrence	Louisville	LRL-2008-1082-pgj	\$1,676,400	9,778	4,376	\$171	\$383
East Fork Little Sandy #4	Rehabilitation Enhancement	Lawrence	Louisville	LRL-2009-123-pgj	\$817,700	3,159	1,195	\$259	\$684
Long-Term Management Phase ^a									
Locust Creek	Rehabilitation Enhancement	Lawrence	Louisville	LRL-2008-1249-pgj	\$698,402	3,550	1,338	\$197	\$522
Middle Creek (Middle Cr Natl Battlefield)	Rehabilitation Enhancement	Floyd	Louisville	LRL-2006-1256-pgj	\$876,665	9,180	2,214	\$95	\$396
Upper Laurel Creek	Enhancement	Lawrence	Louisville	200500901	\$699,480	3,000	1,350	\$233	\$518

EIU Area (con't)

<u>Basin/Stream</u>	<u>Type</u>	<u>County</u>	<u>USACE District</u>	<u>404 Permit #</u>	<u>Project Cost</u>	<u>Length (ft)</u>	<u>Credits</u>	<u>Cost/ft</u>	<u>Cost/credit</u>
East Fork Little Sandy #1	Rehabilitation Enhancement	Lawrence	Louisville	200401120	\$336,238	1,650	742	\$204	\$453
Left Fork of Trace Creek	Rehabilitation Enhancement	Boyd	Louisville	2006-00160	\$266,372	1,300	585	\$205	\$455
Preservation Project									
Laurel Creek Gorge (Ed Mabry-Laurel Gorge WMA)	Preservation	Elliott	Louisville	-	\$1,353,625	83,059	7,725	\$16	\$175
Terminated Project									
Brushy Creek	Rehabilitation Enhancement	Greenup	Louisville	200400931	\$799,187	4,755	2,140	\$168	\$373
Brushy Creek Repair		Greenup	Louisville	LRL-2008-902-jct	\$154,635	1,027	-	\$151	-
Brushy Creek Repair 2		Greenup	Louisville	LRL-2009-1074-pgj	\$118,787	830	-	\$143	-
East Fork Little Sandy #5	Rehabilitation Enhancement	Lawrence	Louisville		\$100,599	2,955	1,360		
Ison Creek		Elliott	Louisville		\$1,100	16,823	4,700		
Laurel Creek Tributary (Ed Mabry-Laurel Gorge WMA)		Elliott	Louisville		\$155,858				
Laurel Tribs-Rowe Flats (Ed Mabry-Laurel Gorge WMA)		Elliott	Louisville	LRL-2013-770-pgj	\$1,750	2,575	1,267	-	-
Schultz Creek	Rehabilitation Enhancement	Greenup	Louisville	2009-806	\$73,672	2,900	1,305		
Upper Cumberland River									
		-		-	-		-	-	-
Approved Phase									
		-		-	-		-	-	-
Steele Branch (KY Div Water-Wild Rivers Program)	Re-establishment	Wayne McCreary	Nashville	-	\$579,744	6,877	1,188	\$84	\$488
Design Phase									
		-		-	-		-	-	-
Burnett Branch (KY Div Water-Wild Rivers Program)	Re-establishment Enhancement Preservation	Wayne McCreary	Nashville	LRN-2013-00116	\$1,927,600	37,688	7,497	\$51	\$257
Monitoring Phase									
Crane's Nest Branch	Rehabilitation Enhancement	Knox	Nashville	2009-01424	\$527,853	2,275	1,078	\$232	\$490

EIU Area (con't)

<u>Basin/Stream</u>	<u>Type</u>	<u>County</u>	<u>USACE District</u>	<u>404 Permit #</u>	<u>Project Cost</u>	<u>Length (ft)</u>	<u>Credits</u>	<u>Cost/ft</u>	<u>Cost/credit</u>
Preservation Project									
Buck Creek (Buck Cr WMA)	Preservation	Pulaski	Nashville		\$1,667,413	56,502	5,255	\$30	\$317
Sinking Valley (Ping-Sinking Valley WMA)	Preservation	Pulaski	Nashville	LRN-2012-00326	\$1,730,000	43,131	4,191	\$40	\$413
Upper Kentucky River									
Design Phase									
Ross Creek (WMA TBA)	Preservation Re-establishment Rehabilitation	Lee	Louisville	LRL-2013-143	\$3,538,760	20,165	7,338	\$175	\$482
Ross Creek II (WMA TBA)	Preservation Re-establishment Rehabilitation	Lee	Louisville	LRL-2013-143	\$944,768	6,672	1,936	\$142	\$488
Upper Cane Creek	Rehabilitation Enhancement	Menifee	Louisville	LRL-2009-433-pgj	\$1,055,475	5,902	1,297	\$179	\$814
Construction Phase									
East Fork Indian Creek (U.S. Forest Service)	Rehabilitation	Menifee	Louisville	LRL-2012-273	\$1,192,910	4,299	2,160	\$277	\$552
Monitoring Phase									
Elisha Creek (U.S. Forest Service)	Rehabilitation Enhancement	Leslie	Louisville	LRL-2011-404-pgj	\$788,700	4,067	1,912	\$194	\$413
Long-Term Management Phase ^a									
Balls Fork	Rehabilitation	Knott	Louisville	2002-01447	\$85,000	803	270	\$106	\$315
Bullskin Creek	Rehabilitation	Leslie	Louisville	200500205-pgj	\$208,700	1,823	729	\$114	\$286
Laurel Fork of Troublesome Cr (Univ. Kentucky)	Rehabilitation	Breathitt	Louisville	LRL-2007-615	\$1,806,300	5,515	2,200	\$328	\$821
Red Lick Creek	Rehabilitation Enhancement	Estill	Louisville	LRL-2005-131-lad	\$101,500	1,860	837	\$55	\$121
SECC Bank Stabilization (Southeast Community College)	Rehabilitation Enhancement	Letcher	Louisville	LRL-2005-1004-the	\$59,377	821	82	\$72	\$724
Terrys Branch (partly Univ. Kentucky)	Rehabilitation Enhancement	Knott	Louisville	200500205	\$738,500	2,992	1,227	\$247	\$602

EIU Area (con't)

<u>Basin/Stream</u>	<u>Type</u>	<u>County</u>	<u>USACE District</u>	<u>404 Permit #</u>	<u>Project Cost</u>	<u>Length (ft)</u>	<u>Credits</u>	<u>Cost/ft</u>	<u>Cost/credit</u>
Terminated Project									
Frozen Creek		Breathitt	Louisville		\$150,220				
Hinton Branch		Estill	Louisville		\$22,395				
North Fork Kentucky River (Perry County)	Enhancement	Perry	Louisville	NA	\$25,022	3,538	0	\$7	
Red Lick #2		Estill	Louisville		\$750				
Upper Licking River									
Monitoirng Phase									
Slabcamp Creek-Stonecoal Branch (U.S. Forest Service)	Re-establishment	Rowan	Louisville	LRL-2009-762-pgj	\$1,905,000	14,180	9,378	\$134	\$203
Total Stream Projects ^b	33				\$39,875,860	408,773	94,684		
Average ^b					\$1,208,359	12,387	2,869	\$98	\$421
^a Out of long-term monitoring but may still have issues to resolve									
^b Total projects, length, and credits and average figures do not include projects terminated prior to construction; total expenses do include capital costs incurred by terminated projects									

APPENDIX C

LIST OF APPROVED COMPENSATORY MITIGATION PROJECTS

APPENDIX D: LIST OF APPROVED COMPENSATORY MITIGATION PROJECTS

Table of Corps Approved Mitigation Projects: KDFWR Mitigation Program - Louisville LRL-2010-325

PROJECT	COUNTY	SERVICE AREA	404 PERMIT ID.NO.	404 PERMIT APPROVAL DATE	401 WQC ID. NO.	401 WQC APPROVAL DATE
Elm Fork	Owen	Lower Kentucky	LRL-2012-263-pgj	02/12/12	AI: 114622	05/07/14
East Fork Indian Creek	Menifee	Upper Kentucky	LRL-2012-273-pgj	07/09/13	2013-009-1	03/07/13
Roger's Gap	Scott	Lower Kentucky	LRL-2012-134-pgj	11/26/13	2013-026-1	06/13/13
Eagle Creek Tributaries	Union	Green	LRL-2012-716-pgj	01/23/15	2014-18-1M	06/14/14

Table of Corps Approved Mitigation Projects: KDFWR Mitigation Program - Nashville LRN-2011-00709

PROJECT	COUNTY	SERVICE AREA	404 PERMIT ID.NO.	404 PERMIT APPROVAL DATE	401 WQC ID. NO.	401 WQC APPROVAL DATE
Sinking Valley	Pulaski	Upper Cumberland	LRN-2012-00326	12/11/2013	n/a	n/a
Hatchery Creek	Russell	Lower Cumberland	LRN-2010-00444*	7/25/2014	23-041-7M(3)	8/26/2013

*Instrument mod actually references modification to LRL-2010-325; instrument mod #3 - should be on Nashville's LRN-2011-00709

Table of Corps Approved Mitigation Projects: KDFWR Mitigation Program - Memphis MVM-2013-95

PROJECT	COUNTY	SERVICE AREA	404 PERMIT ID.NO.	404 PERMIT APPROVAL DATE	401 WQC ID. NO.	401 WQC APPROVAL DATE
Obion II	Hickman	Jackson Purchase	MVM-2010-074	4/29/2014	2010-027-1	3/23/2010

Appendix D

Compliance Information

Project	404 Permit Number/Date Authorized	401PM/ KDFWR PM	Date Concept Plan/Pre-Application Site Visit	Approval Date of Design Funds/Const Funds	Project Completion Date (FY)	First/Final Monitoring Year (FY)	Most Recent Monitoring Report Rec'd	Mitigation Status	Comments/Issues
BIG SANDY RIVER									
Bolts Fork	LRL-2010-00698 5/13/11	Bicknell/ Mulhall	Jun 2008	8/20/08 12/8/10	Jan 2014	2014/2018	-	Open	In Monitoring (Year 1:2014)
Brushy Creek	LRH-2004-00931 7/22/04	Bicknell/ Lewis	Apr 2004	5/4/04 2/2/05	2006	2007	--	Open	Project failure; Approved for bank stabilization. monitoring suspended; repair ongoing
Brushy Creek Stabilization 2	LRL-2009-1074 10/29/09	Bicknell/ Lewis	NA	5/13/09 5/13/09	Jan 2010	-	-	-	No monitoring required
East Fork Little Sandy #1	LRH-2004-01120 4/11/04	Bicknell/ Mulhall	Feb 2003	2/11/03 11/12/05	Jan 2007	2007/2011	-	Released	No monitoring reports required. Project released from monitoring in letter dated 5-28-13. Project will be periodically monitored for easement encroachments and appropriate measures taken if needed.
East Fork Little Sandy #2	LRL-2009-332-pgj 10/29/09	Bicknell/ Mulhall	Jan 2007	2/21/07 9/16/09	Feb 2011	2011/2015	Year 3 (2013)	Open	In Monitoring (Year 4:2014)
East Fork Little Sandy #3	LRL-2008-1082-pg 5/7/09	Bicknell/ Mulhall	Apr 2007	6/25/07 2/18/09	2011	2011/2015	Year 3 (2013)	Open	In Monitoring (Year 4:2014)
East Fork Little Sandy #4	LRL-2009-123-pgj 6/12/09	Bicknell/ Mulhall	Sept 2007	10/17/07 3/11/09	2010	2011/2015	Year 3 (2013)	Open	In Monitoring (Year 4:2014)
East Fork Little Sandy #5	LRL-2011-00456	Bicknell/ Lewis	Dec 2008	2/18/09 12/8/10	-	-	-	-	Property and permanent protection issues not resolved
Kinniconick Creek	LRL-2007-409-pgj 3/27/08	Bicknell/ Mulhall	Jul 2004	7/14/04 3/1/08	2009	2009/2013	Year 5 (2013)	Open	Repairs commenced Nov 2013 and expect to be completed in early 2014. Have discussed releasing sections of Lower Indian and Kinniconick Creek from monitoring, and continue to monitor Upper Indian (upstream of low water crossing) where majority of repair work occurred.
Laurel Creek Gorge	NA	Tewksbury/	Jul 2007	8/15/07 NA	2010	NA	NA	NA	Preservation only, no monitoring required
Left Fork of Trace Creek	2006-00160 7/10/06	Bicknell/ Mulhall	Sept 2004	1/12/05 4/19/06	2007	2007/2011	Year 5 (2011)	Released	Repairs and maintenance completed in Nov 2013. Project released in letter (2-6-2014). Project will be periodically monitored for easement encroachments and appropriate measures taken if needed.
Locust Creek	LRL-2008-1249-pgj	Bicknell/ Mulhall	Jun 2005	6/24/05 9/30/09	Dec 2010	2010/2014	Year 4 (2013)	Open	In Monitoring (Year 5:2014)
Middle Creek	LRL-2006-1256-pgj 10/31/07	Bicknell/ Mulhall	Apr 2004	7/14/04 6/25/07	2008	2008/2012	Year 5 (2012)	Open	Monitoring period extended. Repair and maintenance tasks to occur during 2013-2014 including easement boundary marking, invasive plant control and supplemental native planting.
Schultz Creek	LRL-2009-806 5/24/10	Tewksbury/ Lewis	Sept 2007	10/17/07 3/17/10	-	-	-	-	Property ownership issues
Upper Laurel Creek	200500901 3/2/06	Bicknell/ Mulhall	Jun 2003	7/13/03 10/5/05	2008	2009/2013	Year 5 (2013)	Open	Monitoring period extended. Maintenance tasks to occur in 2014 include invasive plant control and supplemental native planting
CUMBERLAND RIVER									

Buck Creek	NA	Watt/ Mowrey	Apr 2009	5/13/2009	2010	NA	NA	NA	Preservation only, no monitoring required
Buck Creek Tributary	NRL-2007-0115-1 12/29/07	Watt/ Mulhall	July 2006	6/1/07 6/25/07	Jan 2010	2011/2015	Year 4 (2013)	Open	In Monitoring (Year 5:2014)
Crane's Nest Branch	2009-01424 3/1/2010	Watt/ Mulhall	Feb 2008	4/16/08 11/16/09	2012	2013/2017	Year 1 (2013)	Open	In Monitoring (Year2:2014)
Hatchery Creek	-	Watt/ Mowrey	July 2009	8/17/2010	-	2014/2018	-	-	In Design
Puncheon Creek	-	Watt/ Mowrey	May 2008	8/20/2008 --	-	-	-	-	In Design
LICKING RIVER									
Claysville Recovery Land	LRL-2008-644-pgj 6/3/09	Watt/ Mulhall	Apr 2006	10/5/05 3/16/08	2010	2010/2014	-	Open	Project in monitoring
Salt Lick Creek	LRL-2011-00891 --	Watt/ Mulhall	Jun 2008	8/20/08 8/20/08	2013	2013/2017	Year 1 (2013)	Open	Project in monitoring (Year2-2014). Replanting to occur in early 2014. Covered under original planting warranty.
Slabcamp C r -Stonecoal Br	LRL-2009-762-pgj 10/30/09;8/12/10	Watt/ Mulhall	Aug 2005	10/5/05 5/13/09	2013	2013/2017	Year 1 (2013)	Open	In Monitoring (Year2:2014)
KENTUCKY RIVER									
Balls Fork	LRL-2002-01447 9/26/06	Fry/ Mulhall	-	2/1/02	Dec 2005	2007/2012	Year 7 (2012)	Open	Supplemental planting to occur in 2014
Beluga (Rogers Gap)	LRL-2013-134-pgj	Fry/ Mulhall	Mar 2011	April 2011	-	-	-	-	In Design/Construction (Design-Build Project)
Bullskin Creek	LRL-2005-0205-pgj 2/22/04	Fry/ Mulhall	Feb 2003	2/11/03 2/6/04	Sept 2005	-	-	Open	Supplemental planting to occur in 2014
Cove Spring	LRL- 2009-614-pgj 1/7/11	Fry/ Mulhall	June 2007	10/17/07 5/13/09	Feb 2014	2014/2018	-	Open	In monitoring (Year1:2014). Final planting completed 2-20-2014.
East Fork Indian Creek	LRL-2012-273-pgj	Fry/ Lewis	Dec 2007	4/16/08	-	-	-	Open	In Design
Elisha Creek	LRL-2011-00404	Fry/ Mulhall		6/1/06 2/18/09	2013	2013/2017	Year 1 (2013)	Open	In Monitoring (Year2:2014)
Elm Fork	LRL-2012-263	Fry/ VanArsdall	Mar 2009	3/17/10 --	2014	2014/2018	-	-	In Construction
Guy Cove	LRL-2007-00615 9/17/07	Fry/ Mulhall	--	1/12/06 8/15/07	Mar 2009	2009 2013	Year 5 (2013)	Open	2013 (Year 5) monitoring report delayed to include wetland delineation data to be collected in Spring 2014. Project has Sericea Lespedeza present that needs to be addressed
Mill Creek	LRL-2009-611-pgj 7/20/09	Fry/ Mulhall	Feb 2008	4/16/08 5/13/09	Oct 2009	2010/2014	Year 4 (2013)	Open	In Monitoring (Year 5:2014)
N Fk KY River tree planting	NA	Fry/ Ozburn		10/14/05 -	2006	-	-	Closed	no credits - trees cut by Perry Co Bd Educ
Pond Creek (stream)	-	Fry/ VanArsdall	Apr 2009	5/13/09 -	-	-	-	-	Not designed
Pond Creek (wetland)	-	Fry/ VanArsdall		5/13/09 -	-	-	-	-	Not designed
Red Lick Creek	LRL-2005-1331	Fry/ Mulhall		10/4/05 4/18/07	Dec 07	2008/2012	Year 5 (2012)	Open	Supplemental planting to occur in 2014
SECC Bank Stabilization	NA	Fry/ Mulhall		2/1/03 5/10/06	Apr 2007	2008-2012	None required	Released	Beaver activities high on site so have proposed to plant a heavy seed mix of native herbaceous plants in spring

									2014.
Terrys Branch	LRL-2005-00205 6/27/06	Fry/ Ozburn	June 2003	7/17/03 10/5/05	Dec 2007	2008-2012	Year 5 (2012)	Open	Maintenance and repairs and supplemental planting to occur in 2014.
Upper Cane Creek	LRL-2009-433-pgj 10/18/09	Fry/ Nowak	--	1/12/05 2/18/09	--	--	-	Open	Road relocation issues being resolved
SALT RIVER									
Harrison Fork	-	Tewksbury/ Lewis		1/16/08 -	-		-	-	In Design
South Fork of Curry's Fork	LRL-2009-98-pgj 9/29/09	Tewksbury/ Mulhall	April 2006	7/18/06 5/13/09	2013	2013/2017	Year 1 (2013)	Open	In Monitoring (Year 2:2014)
GREEN RIVER									
Eagle Cr Tributary (Stream)	-	Jackson/ VanArsdall	Mar 2010 --	3/17/10 --	-	-	-	-	In Design
Eagle Cr Tributary (Wetland)	-	Jackson/ VanArsdall	Mar 2010 --	3/17/10 --	-	-	-	-	In Design
Forestland Gr Tract (Stream)	-	Jackson/ VanArsdall		12/2/09 --	-	-	-	-	Not designed
Forestland Gr Tract (Wetland)	-	Jackson/ VanArsdall		12/2/09 --	-	-	-	-	Not designed
Haney Fk Watershed No. 2	LRL 2004-01363 5/26/05	Jackson/ Mulhall	Mar 2004	5/5/04 4/13/05	2006	2007/2011	Year 5 (2011)	Released	Released from monitoring in FY 2012
Trammel Creek	LRL-2008-936-pgj 4/24/09	Jackson/ Mulhall	Apr 2006	6/7/06 2/18/09	2010	2010/2014	Year 4 (2013)	Open	In Monitoring (Year5:2014). Supplemental planting to occur in 2014.
JACKSON PURCHASE									
Obion Creek	200300263	Fry/ Mowrey		6/4/03 6/4/03	2006	2007/2011	2011	Open	In Monitoring
Obion Creek II	MVM-2010-074	Fry/ Mowrey	Feb 2008	4/16/08 5/13/09	-	-	-	Open	In Construction