

The Cumberland River Compact  
Stream Restoration  
In-Lieu Fee Program Instrument  
February 2018



**CUMBERLAND**  
**RIVER COMPACT**

# Table of Contents

## Contents

Table of Contents.....	2
I. INTRODUCTION .....	3
II. PURPOSE .....	3
III. PROGRAM OPERATION .....	4
Table 1. Program Service Areas.....	6
Table 2. Proposed Advance Type 1 Credits.....	7
Table 3. Program Project Component Breakdown .....	10
Table 4. Draft Price Schedule by Service Area .....	11
IV. PERMANENT PROTECTION .....	20
V. FINANCIAL ASSURANCES .....	22
VI. MODIFICATION OF THIS INSTRUMENT.....	24
VII. DEFAULT, SUSPENSION, AND TERMINATION .....	24
VIII. FORCE MAJEURE.....	26
IX. POINTS OF CONTACT .....	27
X. EFFECTIVE DATE .....	28
APPENDIX A: COMPENSATORY PLANNING FRAMEWORK.....	30
APPENDIX A: COMPENSATION PLANNING FRAMEWORK.....	30
Table 1. Program Service Areas. ....	31
Table 2. Population growth for select counties in the Middle Cumberland Service Area. ....	32
Table 3. Population growth for select areas in the Lower Cumberland Service Area. ....	33
APPENDIX B: EXAMPLE CREDIT SALE LETTER.....	47

## FIGURES

APPENDIX A: COMPENSATORY PLANNING FRAMEWORK

APPENDIX B: EXAMPLE CREDIT SALE LETTER

APPENDIX C: CREDIT LEDGER TEMPLATE

APPENDIX D: ANNUAL REPORT OUTLINE

APPENDIX E: PROJECT MITIGATION PLANS

## I. INTRODUCTION

This document shall constitute the instrument (“Instrument”) that governs the establishment, operation, and use of the Stream Restoration In-Lieu Fee (ILF) Program (the “Program”) sponsored by the Cumberland River Compact (“CRC” or the “Sponsor”).

The establishment, use, operation and maintenance of the Program shall be carried out in accordance with the following authorities:

- A. Clean Water Act (33 U.S.C. §§ 1251, et seq.)
- B. Rivers and Harbors Act (33 U.S.C. § 403)
- C. Fish and Wildlife Coordination Act (46 U.S.C. §§ 661, et seq.)
- D. Regulatory Program of the Corps of Engineers (33 C.F.R., Parts 320-330)
- E. Compensatory Mitigation for Losses of Aquatic Resources (33 C.F.R. Part 332)
- F. Guidelines for Specification of Disposal Sites for Dredged and Fill Material (40 C.F.R., Part 230)
- G. Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army concerning the Determination of Mitigation under the Clean Water Act, Section 404 (b)(1) Guidelines (February 6, 1990); and
- H. Compensatory Mitigation for Losses of Aquatic Resources; Final Rule (73 Fed. Reg. 19,594) (Apr. 10, 2008 (incorporated into Army Regulations under 33 C.F.R Parts 325 and 332) (2008 Mitigation Rule).
- I. T.C.A. § 69-3-101 et seq. and Tenn. Comp. Rules and Regs. 0400-40-7 et seq.

USACE approval of this Instrument constitutes the regulatory approval required for the Cumberland River Compact Stream Restoration In-Lieu Fee Program to be used to provide compensatory mitigation for Department of the Army permits pursuant to 33 C.F.R. 332.8(a)(I). This Instrument is not a contract between the Sponsor or Property Owner and USACE or any other agency of the federal government. Any dispute arising under this Instrument will not give rise to any claim by the Sponsor or Property Owner for monetary damages. This provision is controlling notwithstanding any other provision or statement in the Instrument to the contrary.

## II. PURPOSE

The Program will be used to satisfy compensatory mitigation requirements for permits issued under Section 404 and/or Section 401 of the Clean Water Act (CWA), 33 U.S.C. §§ 1341, 1344, and/or Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. § 403, within the Cumberland River basin in the State of Tennessee. The objectives of the Program are as follows:

- Implement effective stream restoration, enhancement, establishment, and preservation projects to compensate for the loss of ecological functions affected by permitted activities;

- Provide a watershed-level alternative to permittee-responsible mitigation, which will compensate for lost stream functions and services with projects appropriate to the service area;
- Meet current and expected demand for mitigation credits in the service area;
- Provide a mechanism and source of revenue for stream restoration projects in the Cumberland River basin in Tennessee;

These objectives are focused on the anticipated outcomes of the Program, which are supported by the following methodologies:

- Develop an ecologically-based site selection and prioritization process for project implementation;
- Create and maintain a list of strategically selected potential mitigation sites that can be used to provide timely mitigation to replace advanced credit liabilities; and
- Create and develop a request for proposals (RFP) process that can be used as an alternative methodology for replacing advanced credit liabilities.

This Instrument provides the Sponsor with authorization to provide mitigation credits to U.S. Army Corps of Engineers, Nashville District (“Corps”) and Tennessee Department of Environment and Conservation (“TDEC”) permittees, upon approval by the District Engineer (DE), or the Corps’ official representative. Approval shall be in the form of a Corp and/or TDEC permit. Authorization to sell credits to Corps and TDEC permittees is contingent on compliance with all of the terms of this Instrument. Permittees that secure credits from the Program are not responsible for Program compliance with this Instrument. The Sponsor does not have the written or implied authority to approve Corps permits.

### III. PROGRAM OPERATION

#### A. INTERAGENCY REVIEW TEAM

The Corps will form an Interagency Review Team (IRT) comprised of the Corps (IRT Chair; Nashville District), U.S. Environmental Protection Agency (USEPA), U.S. Fish and Wildlife Service (USFWS), Natural Resources Conservation Service (NRCS), TDEC, Tennessee Wildlife Resources Agency (TWRA), Tennessee Valley Authority (TVA), and other representatives invited by the Corps from other federal, state, tribal, and local resource agencies that would have a substantive interest in the establishment and management of the Program.

An IRT meeting will be scheduled annually to review reports detailing yearly Program performance, financial and long-term management funding, and project cost accounting, among others. The Sponsor will be responsible for scheduling the annual meeting with the

IRT.

1. Corps of Engineers:

The Corps is responsible for consulting with the IRT in accordance with the requirements of 33 C.F.R. 332.8, providing oversight of the Program, and ensuring compliance with CWA Section 404 and the Rivers and Harbors Act Section 10. There is only one Corps District, the Nashville District, covered by this Instrument.

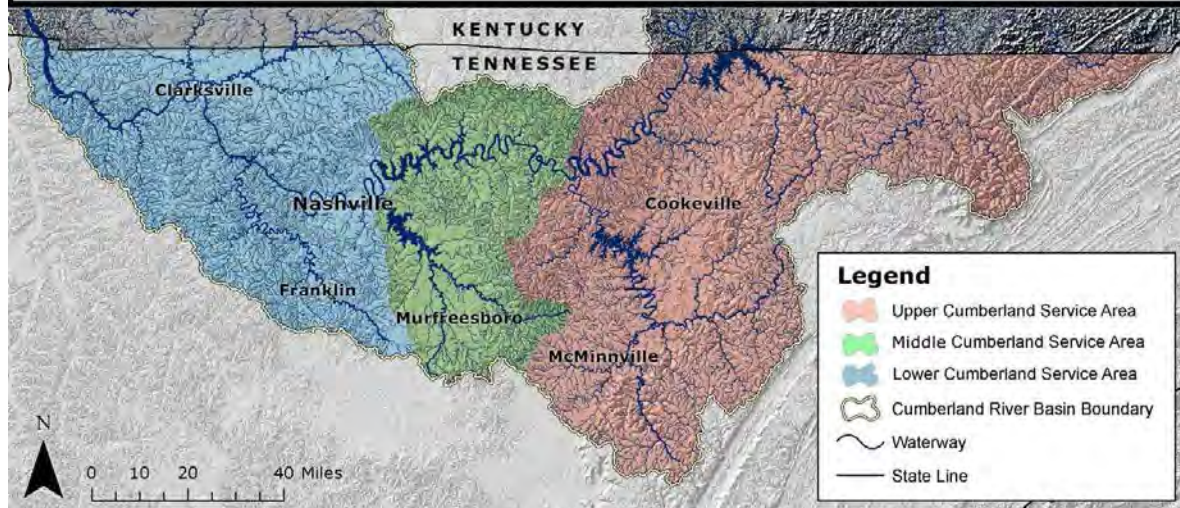
2. IRT Members:

The IRT members are responsible for advising the Corps in assessing monitoring reports, recommending remedial or adaptive management measures, and providing input on credit releases, credit release schedules, and Instrument modifications. The procedures for IRT member review and comment in 33 C.F.R. § 332.8 shall apply. IRT members whose agency has a direct or indirect role in funding, contracting, implementation or other financial involvement with a specific project shall be recused.

#### SERVICE AREAS

The Sponsor will provide compensatory mitigation within the Cumberland River basin in Tennessee utilizing three individual geographic service areas (**Figure 1**). The service areas are based on a combination of 6- and 8-digit hydrologic unit codes (HUCs) (**Table 1**), and were chosen based on consultations between the Sponsor, the Tennessee Chapter of The Nature Conservancy and the IRT. The service areas have been established to provide an appropriate framework in which to site mitigation projects within a smaller scale prioritization process. Further description of the service areas and the prioritization process can be found in the Compensatory Planning Framework ("CPF) in Appendix A to this Instrument.

**Figure 1 - Cumberland River Basin Service Areas**



**Table 1. Program Service Areas**

6-digit HUC Service Area	8-Digit HUC Watersheds	Counties
Upper Cumberland (HUC 051301)	05130101 Upper Cumberland 05130103 Lake Cumberland 05130104 South Fork Cumberland 05130105 Obey 05130106 Cordell Hull 05130107 Collins 05130108 Caney Fork	DeKalb, Jackson, Putnam, White, Van Buren, Warren, Overton, Pickett, Scott, Cumberland*, Coffee*, Cannon*, Morgan*, Anderson*, Campbell*, Claiborne*, Macon*, Clay*, Smith*, Sequatchie*, Grundy*, Wilson*, Bledsoe*, Anderson*

6-digit HUC Service Area	8-Digit HUC Watersheds	Counties
Middle Cumberland (HUC 051302)	05130201 Old Hickory Lake 05130203 Stones	Trousdale, Sumner*, Macon*, Wilson*, Smith*, Rutherford*, Cannon*, Davidson*
Lower Cumberland (HUC 051302)	05130202 Sycamore 05130204 Harpeth 05130205 Lower Cumberland 05130206 Red	Montgomery, Robertson, Cheatham, Davidson*, Rutherford*, Williamson*, Dickson*, Sumner*, Macon*, Houston*, Stewart*, Hickman*

\*Counties that are located only partially within the service area

## 1. Allocation of Advance Credits

Upon approval of the final Instrument, the Program will be permitted to sell advance credits. Advance credits are those credits available for sale prior to being fulfilled in accordance with an approved project mitigation plan (“Mitigation Plan”).

The Program shall conduct initial physical and biological improvement (e.g. grading and planting) by the third full growing season after the first advance credit for a service area is secured by a permittee. For the purposes of this Program, a growing season is defined as April 1 through November 15.

In 2017, it is anticipated that the Corps and TDEC will replace the existing ratio-based stream mitigation guidance<sup>1 1</sup> with one based on a functional assessment methodology for assessing both stream impacts and proposed mitigation credits. However, there are still legacy credit needs generated under the 2004 guidance that will require credits developed using those guidelines. Therefore, two types of advance stream mitigation credits will be established as part of the Program: “Type 1” and “Type 2” credits. Type 1 will be used to satisfy mitigation requirements under the 2004 guidance, while Type 2 will be used to satisfy mitigation requirements under the future guidance. The allocation of Type 2 advance credits will be determined once such guidance has been issued, with a required modification to this Instrument.

The allocation of Type 1 advance credits was determined by undertaking an analysis of existing mitigation bank debits in the service areas from 2012–2016, tracked by the Corps Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS; **Table 2**). The average yearly debit was then combined with the largest yearly standard deviation to account for an estimated annual absorption of mitigation credits for each service area. Because permittee-responsible mitigation is not captured on RIBITS, the approximate yearly credit need was rounded upwards to the next thousand. The total was then multiplied by 3.0 so that the amount of advance credits was sufficient to have enough credits available until Program mitigation project credits are released. This amount of advance credits ensures the ability of the Program, when environmentally preferable, to provide compensatory mitigation for large scale projects that would exceed or use all available advance credits.

**Table 2. Proposed Advance Type 1 Credits**

---

<sup>1 1</sup> “Stream Mitigation Guidelines for the State of Tennessee,” TDEC, Division of Water Pollution Control, Natural Resources Section (July 1, 2004) (*available at* [http://www.tennessee.gov/assets/entities/environment/attachments/water\\_permit\\_stream-mitigation-guidelines.pdf](http://www.tennessee.gov/assets/entities/environment/attachments/water_permit_stream-mitigation-guidelines.pdf)).

Service Area	2012-2016 debit totals (average/year)	Largest yearly deviation	Approximate Yearly Credit Need*	Proposed Advance Credits
Upper Cumberland	20,475 (4,095)	+5,321	10,000	30,000
Middle Cumberland	11,765 (2,353)	+2,832	6,000	18,000
Lower Cumberland	7,760 (1,552)	+1,336	3,000	9,000

The programmatic advanced credit amounts will be re-evaluated annually to consider the Program's compliance with this Instrument and the Compensatory Mitigation for Losses of Aquatic Resources Final Rule, 73 Fed. Reg. 19,594 (April 10, 2008) (codified at 33 C.F.R. Parts 325 and 332) ("2008 Mitigation Rule") or successor regulations, actual credit demand, changes in regulatory guidance regarding calculations of credits and debits, and the Program's demonstrated ability to produce acceptable compensatory mitigation. If the Program sells all of its advance credits and it appears likely that it can fulfill a higher number of advance credits within the required time frame, it may apply for an Instrument modification to increase the number of available advance credits. Otherwise, once the Sponsor has sold all of its advance credits, no more advance credits may be sold until an equivalent number of credits has been released in accordance with the approved credit release schedule outlined in a project-specific Mitigation Plan. Any changes to the Program's advance credit allocation will be submitted for review in accordance with 33 C.F.R. §§ 332.8(d) and (n).

## 2. Request for Proposal (RFP) Process

The Sponsor will develop a RFP process to augment its ability to produce mitigation projects to replace advanced credit liabilities. This process will allow qualified third parties to locate and develop potential projects in areas with identified mitigation needs. All projects developed through the RFP process will adhere to the Program's CPF (Appendix A). The Sponsor remains responsible for the implementation, long-term management, and any required remediation of the mitigation activities conducted by third parties through the RFP process or other contracting mechanisms. 33 C.F.R. § 332.8(l)(3).

## 3. Credit Sales

The Sponsor may sell or transfer available advance or released credits to Corps and/or TDEC permittees to be used as compensatory mitigation for Corps and/or TDEC permits, upon approval by the Corps and/or TDEC. The approval will be in the form of a Corps and/or TDEC



permit.

Once sold to a permittee, mitigation credits may not be re-funded, re-sold or transferred to other entities, except with the approval of the Corps and/or TDEC. Mitigation credit ledgers shall be updated electronically within 30 days of approved releases or sales, and reviewed at least annually by the IRT Chair.

The permittee shall provide the Sponsor with sufficient information to account for impacts and the required mitigation for each Corps and/or TDEC permit in which the permittee is approved to purchase mitigation credits from the Sponsor. The documentation should include the following:

- i. Corps District and TDEC project managers
- ii. Corps permit number and date of authorization
- iii. TDEC Water Quality Certification (WQC) permit number and date of issuance
- iv. Service Area
- v. Project name
- vi. Permittee information (name, address, phone number)
- vii. Project Coordinates (Latitude and Longitude)
- viii. Linear feet and/or acres of impacted waters of the United States (WOUS)
- ix. Functional or other mitigation units lost, if available
- x. Type of waters impacted
- xi. The number of functional or other mitigation units required of the Sponsor to compensate for impacts, including temporal loss and/or cumulative impacts
- xii. The amount paid to the in-lieu fee program for each of the authorized impacts.
- xiii. The date the funds were received from the permittee.
- xiv. Other information as deemed necessary by the Corps and/or TDEC

In cases where the Corps allows permittees to purchase mitigation credits over time for a single Corps permit (i.e. phased projects), the permittee must provide, in addition to the above documentation, a schedule for each individual mitigation credit purchase and the amount of mitigation credits to be purchased in each installment.

#### 4. Credit Cost

Program mitigation credit fees will be determined solely by the Sponsor, and will be subject to change as determined by the Sponsor at their sole discretion. Once a credit is sold or transferred to a permittee; however, its value cannot change. Changes made to the fee costs per unit of credit shall not constitute a modification of this Instrument.

The proposed credit prices are based on a full cost accounting, including costs associated with land acquisition, project planning and design, construction, materials, labor, legal fees, monitoring, remediation or adaptive management measures, program implementation, contingency costs over the life of the project, establishment of a long-term management and protection fund, financial assurances, and program administration.

##### Type 1 Credits

To develop initial fee costs per credit for each service area, an analysis was completed using detailed cost data provided by two other third party stream mitigation providers: The City of Charlotte Umbrella Mitigation Bank and the NC Division of Mitigation Services (NCDMS) In-Lieu Fee Program. Both entities provide stream mitigation using similar methodologies as that proposed by the Program. Specific project cost information was provided to the Sponsor that included actual project costs related to land acquisition, assessment and design, construction, monitoring, maintenance, and administrative costs. As would be expected, project costs varied considerably based on the location, size, and complexity of the projects. The data was reviewed and compared for select projects that would likely be representative of the costs to be expected for each Program service area. For example, costs from more urban regions were evaluated for the Lower Cumberland Basin, while more rural project costs were evaluated for the Upper Cumberland Basin. Project costs were then converted to a per credit basis for comparison of typical costs for the various project components (Table 3). Since neither the City of Charlotte nor the NCDMS programs provided long-term stewardship costs, these costs were estimated for a typical project in each basin based on use of the Long-Term Stewardship Calculator published by The Nature Conservancy in May 2016. These cost estimates are summarized in Table 4 for each of the three proposed service areas.

**Table 3. Program Project Component Breakdown**

Project Component	Estimated Cost per Linear Foot		
	Upper Cumberland Basin	Middle Cumberland Basin	Lower Cumberland Basin
Land Acquisition / Permanent Protection	\$ (b) (4)	\$ (b) (4)	\$ (b) (4)

Mitigation Plan Development / Design Services	\$ (b) (4)	\$ (b) (4)	\$ (b) (4)
Site Implementation / Construction	\$ (b) (4)	\$ (b) (4)	\$ (b) (4)
Monitoring	\$ (b) (4)	\$ (b) (4)	\$ (b) (4)
Maintenance / Adaptive Management	\$ (b) (4)	\$ (b) (4)	\$ (b) (4)
Long Term Stewardship / Management	\$ (b) (4)	\$ (b) (4)	\$ (b) (4)
Contingencies (10%)	\$ (b) (4)	\$ (b) (4)	\$ (b) (4)
Program Administration Fee (15%)	\$ (b) (4)	\$ (b) (4)	\$ (b) (4)
<b>Total Cost per Credit</b>	<b>\$ (b) (4)</b>	<b>\$ (b) (4)</b>	<b>\$ (b) (4)</b>

An official fee schedule of the cost per unit of credit will be released after the Program is approved. As Program mitigation projects are undertaken and the Program has operating experience, the fee schedule will be updated based upon refined estimates of the target project sizes, costs, and anticipated credit sales.

**Table 4. Draft Price Schedule by Service Area**

Service Area	Type 1 Stream Credit Price
Upper Cumberland	\$ (b) (4)
Middle Cumberland	\$ (b) (4)
Lower Cumberland	\$ (b) (4)

When “in-system mitigation” credits<sup>22</sup> are required by TDEC, the Sponsor may apply a cost-adjustment increase factor of up to 100% of the established credit price for the service area to purchasers requiring in- system mitigation. This cost adjustment factor recognizes the increased difficulty, and therefore increased costs, of identifying, securing, and developing mitigation credits within a more confined sub-service area.

#### Type 2 Credits

As discussed in Section III.C.1, Type 2 credits will be developed after issuance of new regulatory guidance from the Corps and TDEC regarding the calculation of stream impact

<sup>22</sup> TDEC Rules 0400-40-03-.06(2)(c), 0400-40-03-.04(4)(b); see TDEC Requirements and Process for In-System Mitigation (*available at* [http://www.tn.gov/assets/entities/environment/attachments/water\\_permit\\_arap-antideg-in-system-mitigation-guidance.pdf](http://www.tn.gov/assets/entities/environment/attachments/water_permit_arap-antideg-in-system-mitigation-guidance.pdf)).

debits and stream mitigation credits. Once such guidance becomes active, the Sponsor will propose a modification to this Instrument regarding the development and use of Type 2 credits that follow the new guidance. Type 2 credit costs will be assessed as part of that Instrument modification.

## 5. Fulfillment and Reallocation

Credits will be identified as advance credits or released credits. Advance credits are made available before mitigation projects have been completed. Released credits are generated from mitigation projects when performance measures and milestones have been achieved. Credits will be accounted for by service area.

D. As released credits are produced by in-lieu fee projects, they must be used to fulfill any advance credits that have already been provided within the project's service area before any remaining released credits can be sold or transferred to permittees. Once previously provided advance credits have been fulfilled, an equal number of advance credits are re-allocated to the sponsor for sale or transfer to fulfill new mitigation requirements, consistent with the terms of this Instrument. The number of advance credits available to the Sponsor at any given time to sell or transfer to permittees in a given service area is equal to the number of advance credits specified in the Instrument, minus any that have already been provided but not yet released. 33 C.F.R. § 332.8(n)(3).

## E. COMPENSATORY MITIGATION PROJECT CREDITS

### 1. Determination of Credits

Mitigation credits generated by individual mitigation projects will be determined as part of the compensatory mitigation plan approval and credit release process. Mitigation credits will be determined in accordance with 33 C.F.R. § 332.8(o). To receive mitigation credits all projects must have a Corps approved project Mitigation Plan that includes all applicable items listed in 33 C.F.R. § 332.4(c)(2)– (14). As stated in Section III.C.1 of this Instrument, two types of stream mitigation credits will ultimately be required for the Program: "Type 1" and "Type 2" credits.

Type 1 Stream Credits – "Type 1" stream mitigation credits will be determined and calculated using the 2004 stream mitigation guidance for the State of Tennessee and will be developed to offset impacts that have been evaluated and permitted using the 2004 guidance.

Type 2 Stream Credits – "Type 2" stream mitigation credits will be determined and calculated using future guidance developed by the Corps and TDEC, and will be developed to offset impacts that are evaluated and permitted using the new guidance. When the new guidance

becomes effective, a modification to this Instrument will be submitted that defines how Type 2 credits will be assessed, allocated, and managed as part of the Program. Until such modification to this Instrument is submitted and approved, only Type 1 credits will be used by the Program.

## 2. Schedule for Credit Release

Released credits shall be tied to ecological performance-based milestones. Mitigation sites, other than preservation projects, shall be subject to the following general mitigation credit release schedule:

<i>Release</i>	<i>Information Required</i>	<i>Percent Credit Release (%)</i>
<i>1</i>	<ul style="list-style-type: none"> <li>- Signed approval of the MBI and Mitigation Plan.</li> <li>- Proof of property ownership, title report and title insurance policy.</li> <li>- A copy of a signed, approved, and recorded Conservation Easement that protects the site in perpetuity is provided to the IRT.</li> <li>- Securing of Construction Financial Assurances.</li> <li>- The Bank Sponsor has obtained all permits, authorizations and other approvals necessary or appropriate to construct, operate, and maintain the Bank, including but not limited to those of any IRT agency.</li> </ul>	<i>20</i>
<i>2</i>	<ul style="list-style-type: none"> <li>- Completion of site modifications &amp; planting as shown in the Mitigation Plan.</li> <li>- IRT approval of the As-Built Plan.</li> </ul>	<i>20</i>
<i>3</i>	- Submit YR 1 monitoring report; No Credit Release	-
<i>4</i>	<ul style="list-style-type: none"> <li>- Project successfully meets Performance Standards in the YR 2 monitoring report.</li> <li>- Monitoring &amp; Adaptive Management Financial Assurances are fully funded.</li> </ul>	<i>15</i>
<i>5</i>	- No YR 3 monitoring report required; No Credit Release	-
<i>6</i>	- Project successfully meeting Performance Standards in the YR 4 monitoring report.	<i>20</i>
<i>7</i>	- Submit YR 5 monitoring report; No Credit Release	-
<i>8</i>	- No YR 6 monitoring report Required; No Credit Release	-
<i>9</i>	<ul style="list-style-type: none"> <li>- Any Required Remedial Actions are completed.</li> <li>- Final Performance Standards have been attained in the seventh monitoring year.</li> <li>- The Bank Sponsor has funded 100% of the Long-Term Management Fund Amount.</li> </ul>	<i>25</i>

If a project site does not achieve the performance-based milestones specified in the project Mitigation Plan, the District Engineer may modify this credit release schedule, including

reducing the number of credits. 33 C.F.R. § 332.8(o)(8)(iii). In the case of preservation, 100% of the mitigation credits will be released upon approval of the project Mitigation Plan and finalization of site protection, including recordation of a permanent site protection instrument (i.e. conservation easement, deed restriction, or other approved legal mechanism).

Deviations from these release schedules may be approved by the Corps on a case-by-case basis after consultation with the IRT and shall be included in the approved project Mitigation Plan.

Approval of deviations from the above release schedule shall be based on past and current performance, specific site characteristics or factors that would affect risk, or other considerations as determined by the Corps.

### 3. Credit Release

The Sponsor shall submit documentation to the Corps demonstrating that the ecological performance-based milestones have been achieved and shall request release of the mitigation credits. The Corps, in consultation with the IRT, shall determine whether the milestones have been achieved and the credits can be released for a compensatory mitigation site per 33 C.F.R. § 332.8(o)(9).

## F. CREDIT ACCOUNTING AND PROGRAM REPORTING

### 1. Credit Ledger

The Sponsor shall establish and maintain appropriate ledgers in accordance with 33 C.F.R. § 332.8(p)(2). Individual credit ledgers for each service area shall track:

- Credit accounting – separate ledgers will be maintained for each type of credit developed (Type 1 or Type 2—see Section III.C.1) and each will include allocated advance credits, advance credits sold, advance credits fulfilled, credits released, released credits sold, current balance of credits available, and any other changes in credit availability; and
- Credit transactions – the permit authorizing the associated impact, its date of issuance and associated stream mitigation guidance, project name, permittee name, impact location, acres or linear feet impacted, aquatic resource impacted, functional units lost and required type for mitigation, amount paid to the Program and the date the funds were received.

Each mitigation project developed as part of the Program shall have a separate credit ledger that tracks generated and released credits for that site by type. A ledger template is

included in Appendix C. If determined necessary by the IRT, the Sponsor may be required to provide additional reporting categories beyond those stated in this Instrument. To track the status of the Program and ensure accurate program accounting, credit ledgers shall be provided to the Corps and IRT monthly for review no later than the 15th of each month.

## 2. RIBITS Credit Ledger:

The Sponsor will be responsible for maintaining the ILF credit ledger in the Regional Internet Banking Information System (RIBITS). The Corps will provide a username and password for the Sponsor to maintain this ledger. All credit transactions shall be entered into the database no later than 7 days after the transaction has occurred or the Corps reserves the right to suspend credit sales until sales transactions are deemed current and compliant. RIBITS mandatory information fields include the following:

1. Jurisdiction
2. Transaction Date
3. Client Name
4. Credits Debited
5. Corps Permit Number- Format: LRN/Year/Permit Number
6. Type
7. Credit Classification

## 3. Annual Program Report

The Sponsor shall compile an annual report for the Program in accordance with 33 C.F.R. § 332.8(i)(3). The Sponsor will submit the annual report to the Corps and IRT by no later than March 31st for the previous calendar year. § 332.8(i)(3). The annual report will include the following information (see template in Appendix D):

- Financial information (see Section V.B);
- A list of all permits for which in-lieu fee Program funds were accepted by service area including:
  - Corps and/or TDEC permit number
  - Service area in which authorized impacts are located
  - Amount of authorized impacts and required compensatory mitigation, by type
  - Amount paid to the Program
  - Date funds were received from the permittee;
- The balance of advance credits and released credits at the end of the report period for each service area;
- Full cost accounting of each project executed during the reporting year, reported separately;

- Overall status of the Program since establishment, including an analysis of the Program's compliance with the requirement that land acquisition and initial physical and biological improvements be completed by the third full growing season after the first advance credit in each service area is secured by a permittee; and
- Spatial analysis of accepted and pending impact projects, as well as the location of existing, proposed, and potential mitigation projects in each service area, stratified by 8-digit HUC.

If the District Engineer determines, as a result of review of annual reports on the operation of the Program, that the Program is not performing in compliance with this Instrument, the District Engineer has the authority to take appropriate action to ensure compliance with the Instrument, as further explained in Section VII, which may include suspension of credit sales and other actions authorized under 33 C.F.R. § 332.8(o)(10).

#### 4. Audits and Instrument Renewal

The Sponsor shall conduct an independent programmatic audit at a minimum of once every five years, the cost of which shall be an administrative expense of the Sponsor. The programmatic audit shall focus on the review of compliance with mandatory, objective Program criteria established by this Instrument and applicable regulations governing ILF programs. The programmatic audit shall be submitted to the Corps for review within 90 days after the 5-year anniversary of the executed Instrument. The Corps or TDEC may request additional audits if the Program is believed to not be in compliance with the Program Instrument or the 2008 Mitigation Rule or successor regulations.

To coincide with the programmatic audit, this Instrument will expire five (5) years from its approval date and will require renewal by the Sponsor and IRT.

### G. COMPENSATORY MITIGATION PROJECTS

#### 1. Draft Prospectus and Mitigation Plan

When a high quality potential project is identified by the Program, the Sponsor will submit a draft prospectus to the IRT using the "Draft Prospectus Submittal Guidance for Stream Mitigation Banks or Stream In-Lieu Fee Projects within Tennessee."<sup>33</sup> This step will give the CRC and the IRT the ability to gauge the project's compensatory mitigation potential.

---

<sup>33</sup> [http://www.tn.gov/assets/entities/environment/attachments/wr\\_permit\\_arap\\_mitigation\\_draft-stream-prospectus-checklist.pdf](http://www.tn.gov/assets/entities/environment/attachments/wr_permit_arap_mitigation_draft-stream-prospectus-checklist.pdf).



Once a project has received tentative approval from the IRT through the draft prospectus process, the Sponsor will submit a Mitigation Plan to the Corps. The Mitigation Plan must include the information required in 33 C.F.R. § 332.8(j) and shall be supported by the CPF.

## 2. General Considerations

The general considerations for compensatory mitigation set forth in 33 C.F.R. § 332.3 shall be the basis for evaluating Program mitigation projects submitted by the Sponsor to the Corps for approval.

## 3. Approval

The Corps' review and approval of addition or expansions of Program mitigation projects, as advised by the IRT, will be considered modifications of this Instrument and will follow the procedures described in 33 C.F.R. § 332.8(d). In general, mitigation projects developed under the Program will be reviewed and approved in accordance with all relevant procedures and requirements in 33 C.F.R. § 332.8. Projects requiring Corps authorization will be approved following current Corps procedure in effect on the date of the proposed modification. The approved Mitigation Plan for each Program mitigation project will be incorporated into Appendix E of this Instrument.

## 4. Implementation

The Sponsor is responsible for the implementation, performance, long-term management, and any required remediation of Program mitigation projects, even if those activities are conducted by other parties. The only exception to this rule is in those instances where the Sponsor purchases mitigation credits from a Corps approved bank in accordance with Section III.H.3 of this Instrument. In those cases, these responsibilities will be transferred to the mitigation bank with appropriate documentation.

## 5. Monitoring

The Sponsor is responsible for monitoring Program mitigation projects. Monitoring shall be in accordance with the approved Mitigation Plan for each mitigation project to ensure performance based milestones are achieved and to determine if additional measures are necessary to ensure the project is consistent with Program objectives.

In general, project-specific Mitigation Plans will detail the parameters to be monitored, the length of the monitoring period, and the frequency of report submission to the Corps. The

Sponsor will be responsible for submitting monitoring reports to the Corps per the schedule outlined in each Mitigation Plan. If the Sponsor fails to submit monitoring reports within thirty (30) days of the deadlines outlined in the project-specific Mitigation Plan, the Corps may take appropriate compliance action § 332.6(c)(2). (see Section VII, “Default, Suspension, and Termination”).

## 6. Adaptive Management

The comprehensive monitoring plan contained within each site-specific Mitigation Plan will provide system wide information as it relates to the site’s goals and objectives. Routine monitoring of channel stability, in-stream structures and riparian condition will uncover any major challenges to the site’s attainment of performance standards. The IRT will be made aware of all major issues that may threaten the site’s ability to meet any and all obligations under this Instrument or the site-specific Mitigation Plan. Approaches to correct the problems will be developed and implemented. Annual monitoring will be adapted as necessary to determine the efficacy of corrective actions. All such measures will be implemented in coordination with the Sponsor, the Corps, and the IRT.

Any actions implemented will be designed to achieve the approved performance standards, and will include a work schedule and updated monitoring criteria, if necessary. Adaptive management plans will be submitted to the Corps for approval prior to implementation.

## 7. Long Term Management

The Sponsor shall be responsible for developing and implementing a long-term protection and management plan for each Program mitigation project. Projects shall be designed, to the maximum extent practicable, to require minimal long- term management once ecological performance standards have been achieved.

The long-term management plan for each mitigation project will be approved by the Corps. The approved plan shall identify the party responsible for both the long-term protection and management of the project site.

After ecological performance standards have been achieved, the long-term management responsibilities may be transferred from the Sponsor to a land stewardship entity, such as a public agency, non-governmental organization, or private land manager, with the Corps’ approval. Until the long-term management responsibilities are transferred to another party, the Sponsor will be responsible for long-term management of the mitigation project. The long-term management plan developed for each mitigation project will include a description

of anticipated management needs with an annual cost estimate and an identified funding mechanism to cover the annual cost estimate. The funding mechanism shall be in place prior to the final release of credits. The approved Mitigation Plan will address the financial arrangements and timing of any necessary transfer of long-term management funds to a land stewardship entity. § 332.8(u)(3).

#### H. ACCEPTANCE OF COMPENSATORY MITIGATION RESPONSIBILITIES

1. The Sponsor agrees to assume all legal responsibility for satisfying the mitigation requirements of permittees who are issued Corps and/or TDEC permits for which mitigation credits are purchased from the Sponsor as compensatory mitigation for impacts authorized by the Corps and/or TDEC permit. The permittee shall retain responsibility for providing the compensatory mitigation until the Corps has received the appropriate documentation that confirms the Sponsor has accepted mitigation responsibilities and received payment.

2. The Sponsor shall provide the Corps and/or TDEC with documentation confirming the Sponsor has accepted responsibility for providing the required compensatory mitigation for a Corps and/or TDEC permit. This documentation will consist of a letter to the permittee, signed by the Sponsor, identifying the permit number(s) and stating the number and type of mitigation credits that have been secured. The Sponsor shall also provide a copy of this letter to the Corps and/or TDEC. Each time the Program accepts fees from a permittee in exchange for advance or released credits, the Program must notify the district engineer of the credit transaction via a credit sale letter within ten (10) days of receiving the fees from the permittee. The credit sale letter must be signed by the Program and dated. A copy of each credit sale letter will be retained in the Corps' and the Program's administrative and accounting records for the Program. A draft credit sale letter is included in Appendix B. The Sponsor retains the right to refuse to sell credits, temporarily shut down a service area, or suspend credit sales at its discretion.

3. The Sponsor may purchase mitigation credits from a Corps approved mitigation bank. In these cases, the instrument(s) governing the mitigation bank shall apply. The Sponsor shall retain responsibility for providing the compensatory mitigation until the Corps has received documentation that confirms the mitigation bank has accepted responsibility for providing the required compensatory mitigation for the respective Corps and/or TDEC permit and received payment.

#### I. COMPENSATION PLANNING FRAMEWORK

1. The CPF for the Program is attached as Appendix A and will be used

to direct the selection and implementation of mitigation projects. The CPF also describes the geographic service areas for the Program and their basis.

2. Modification of the CPF is considered a significant modification to this Instrument and will follow the procedures in 33 C.F.R. § 332.8(d).

#### J. TIMING OF COMPENSATORY MITIGATION PROJECTS

1. In general, implementation of the Mitigation Plan for Program mitigation projects will occur after sufficient funds are available in a service area to undertake a project. Land acquisition and initial physical or biological improvements will be completed by the end of the third full growing season after advance credits are sold in a specific service area. Alternative compensatory mitigation, such as the purchase of mitigation credits from a Corps approved mitigation bank, shall be provided from funds in the Program Account when the Sponsor does not provide sufficient mitigation within three growing seasons after the first advance credit is sold in a service area, unless the Sponsor proposes and the Corps agrees that it would be in the public interest to allow the Sponsor additional time to plan and implement a mitigation project.

2. The Sponsor may identify, design, and/or implement Program mitigation projects in advance of impacts. The timing of implementing project Mitigation Plans may be affected by IRT consultation, procurement procedures, land acquisition, permitting, compliance with other environmental regulations, and other factors which may lead to the Corps' determination that it would be in the public interest to allow the Sponsor additional time to plan and implement Program projects. Alternatively, if the Corps determines there is a compensatory mitigation deficit in a specific service area by the third growing season after the first advance credit in that service area is sold and the Corps determines it is not in the public interest to allow the Sponsor additional time to plan and implement Program projects, the Corps will require the Sponsor to provide alternative compensatory mitigation, which would result in the disbursement of funds to purchase bank credits, solicit request-for-proposals (RFP), etc.; suspend credit sales; or refer the non-compliance with the terms of the instrument to the Department of Justice.

#### IV. PERMANENT PROTECTION

A. Each Program mitigation project site (the aquatic habitats, riparian areas, buffers and upland areas that comprise the overall compensatory mitigation project) will be protected with a real estate instrument or other mechanism, as appropriate, per 33 C.F.R. § 332.7. The Corps is responsible for the review and approval of site protection methods

outlined in each individual Mitigation Plan.

B. Unless approved by the Corps, the Sponsor shall not implement mitigation on areas that will be permanently protected where oil, gas, mineral, timber, or other land use rights or interests are severed from fee ownership, and where such rights could threaten the long-term success or the ecological value of the Program mitigation site.

C. Lands purchased with in-lieu fee monies, including uplands, shall be protected in their natural or restored state to ensure project sustainability. When appropriate, passive recreation activities such as hunting, fishing, nature viewing, hiking, and photography shall be allowed. Activities inconsistent with the Program's purpose shall be prohibited, including:

- a. subdivision of the site into two or more parcels, with the exception of any future dedication of all or part of the site as a nature preserve or other such classification;
- b. any residential, commercial, agricultural or industrial use or activity on the site;
- c. the maintenance of any new man-made modifications such as buildings, structures, boat ramps, or other improvements, unless part of the approved Mitigation Plan;
- d. mining, exploration for, or extraction of oil, gas, or other minerals, hydrocarbons, soils or other materials that disturbs the surface or aquatic resources of the site;
- e. the dumping or storage or disposal of trash, garbage, sewage, debris, or other refuse of any nature;
- f. the cutting or harvesting of trees or wood products, unless approved as part of the approved Mitigation Plan and/or long-term management plan;
- g. earth moving, grading, dredging or filling, unless approved as part of the approved Mitigation Plan;
- h. the construction, maintenance, or erection of any commercial advertisement, sign or billboard, except for posting of signs depicting the project site, including boundary, interpretive or directional signs;
- i. the construction or extension of roads or utility systems inside of existing easements or rights-of-ways, unless court ordered;
- j. use of horses, ponies, bicycles or motorized vehicles, such as cars, trucks, ATVs or motorcycles, except the use of vehicles necessary to complete the construction, monitoring, or maintenance of improvements in the approved Mitigation Plan; and
- k. other activities, actions, or uses that would be detrimental or adverse to soil and water conservation values.

## V. FINANCIAL ASSURANCES

### A. PROGRAM ACCOUNT

All mitigation payments received from permittees shall be deposited into an account (the "Program Account") held at a financial institution that is a member of the Federal Deposit Insurance Corporation (FDIC). The Program Account is to be used solely for the purposes and benefits of mitigation projects and will be established after this Instrument is approved and before any fees are accepted. Funds the Sponsor accepts from any entities other than permittees or for purposes other than providing compensatory mitigation for impacts to aquatic resources must be kept in accounts separate from the Program Account. In addition, all monies generated from the sale or disposal of property, equipment, materials or other items purchased using ILF funds shall be reimbursed and deposited into the Program Account and not diverted for other uses. All interests and earnings accruing to the Program Account will remain in the Program Account for the purposes of providing compensatory mitigation for Corps and/or TDEC permits. § 332.8(i)(1).

Monies in the Program Account will be tracked by service area and used only for eligible mitigation activities, including: land evaluation, selection, and acquisition, project planning and design, purchase of easements or other protective measures, construction, monitoring, remediation and adaptive management activities, long term management, administration, contingency, and/or other costs necessary to complete mitigation projects. Disbursements from the Program Account may only be made upon receipt of written authorization for a mitigation project from the District Engineer, after the District Engineer has consulted with the IRT. The District Engineer has the authority to require the Sponsor to provide alternative compensatory mitigation if the Sponsor does not provide compensatory mitigation in a specific service area by the third growing season after the first advance credit in that service area is sold ( 33 C.F.R. § 332.8 (i)(2)).

Administrative and Reserve funds will be tracked separately from Project funds in the Program Account and are described below.

#### 1. Administrative Funds

Credit costs will include an amount to fund administration of the Program. Such administrative costs may include activities associated with the establishment and operation of the Program, research, planning, and program management. Also included are financial and programmatic audits of the Program. Up to 15% of each credit sold plus 15% any interest accruing on the Program Account shall be used for administrative costs.

## 2. Reserve Funds

Reserve funds will be generated from a contingency of 10% each credit sold plus the proportionate amount of any interest accrued to the Program Account, and will be used for contingency actions related to disasters, long-term management, and site protection. The use of these funds shall be subject to approval from the Corps in consultation with the Sponsor, except for minor activities that do not require a permit, such as long-term management plan activities, fence repair, etc. All activities using Reserve funds shall be reported to the Corps.

The Reserve shall have a minimum balance equal to \$500,000 plus the total amount of the required financial assurances for Program mitigation projects as detailed in their approved Mitigation Plans. The Program may take up to three years to build its Reserve account, with no less than one third of the required reserve amount being developed during each of the three years.

This limit may be adjusted with approval of the Corps and will not constitute an instrument modification. Funds in excess of the limit shall be used by the Sponsor to implement compensatory mitigation projects. Released credits from compensatory mitigation projects funded with excess Reserve funds may be used to fulfill advance credit sales or sold or transferred to permittees. Funds from the sale of these credits shall be deposited back into the Reserve account.

## B. FINANCIAL LEDGER AND REPORTING

### 1. Financial Ledger

The Program will maintain a financial ledger that includes all income received, disbursements, and interest earned by the Program Account in accordance with 33 C.F.R. § 332.8(p)(2). Funds will be tracked separately by each type of activity: Project (by service area), Administrative, and Contingency.

### 2. Financial Reporting

In accordance with 33 C.F.R. § 332.8(q)(1), the Sponsor will submit an annual financial report to the Corps and IRT no later than March 31st for the previous calendar year. The annual financial report will include the following:

- Income received in the Program Account
- Disbursements made from the Program Account

- Interest earned by the Program Account (total and separately to the Project, Administrative, and Reserve funds)
- Balance of Administrative funds
- Balance of Project funds and summary of outstanding tasks for approved Program mitigation projects
- Balance of Reserve funds and summary of financial assurance obligations
- A description of Program expenditures from the account, including costs of land acquisition, planning, construction, monitoring, maintenance, contingencies, adaptive management, and administration § 332.8(i)(3)(iii).
- Other information deemed necessary by the Corps

All books, accounts, reports, files and other records pertaining to the Program shall be retained by the Sponsor and made available at reasonable times for inspection by the Corps.

### 3. Audits

The Sponsor will conduct an independent financial audit of the Program at a minimum of once every five years, the cost of which shall be an administrative expense of the Sponsor.

## VI. MODIFICATION OF THIS INSTRUMENT

A. Modification of this Instrument shall follow the procedures set forth in 33 C.F.R. § 332.8(d). Any modifications the Corps deems of an insignificant nature may be subject to the streamlined review process as outlined in 33 C.F.R. § 332.8(g)(2).

B. The Compensation Planning Framework (CPF) (Appendix A) utilizes various sources of external information/data in its mitigation approach and prioritization. These sources of information/data are expected to be updated or modified over time by the external entities responsible for maintaining these sources of information. The Sponsor's use of updated or modified information from these external sources in the application of its CPF is not considered a modification of the CPF or this Instrument.

## VII. DEFAULT, SUSPENSION, AND TERMINATION

A. If the Corps determines that the Program has failed to provide the required compensatory mitigation within the specified time frame, the Program may be determined to be in default. Default determination could be due to failure to: 1) meet performance-based milestones identified in a project-specific Mitigation Plan; 2) meet ecological performance standards specified in project-specific Mitigation Plans; 3) submit monitoring reports in a timely manner; 4) establish, maintain, and submit appropriate ledgers and annual reports; 5)



report approved credit transactions, 6) complete land acquisition and initial physical and biological improvements by the third full growing season after the first advance credit in that service area is secured by a permittee; and/or 7) otherwise comply with the terms of the Instrument and any approved Mitigation Plans.

If default is determined, the Corps will take appropriate action, which may include but is not limited to: suspending Program credit sales, decreasing the allocation of advance credits, requiring adaptive management actions, suspending approval of new mitigation projects, directing funds to alternative mitigation, utilizing financial assurances, terminating this Instrument, referring the non-compliance with the terms of the Instrument to the Department of Justice, or other actions as approved by the Corps.

B. Either the Corps or the Sponsor may terminate this Instrument. Termination is effectuated when both the following have occurred:

1. Ninety (90) days' written notice has been provided by the terminating party to the non-terminating Parties; and

2. The Sponsor fulfills its legal responsibility to provide any remaining required compensatory mitigation for which advance credits have been transferred, including all associated monitoring and reporting requirements, through one or more of the following options:

a. If no ILF projects are in development at the time the written notice of termination is transmitted, all funds then existing in the Program Account will be transferred to the closest mitigation bank or other entity acceptable to the applicable IRT members. Under this option, final closure will be deemed to have occurred on the date of transfer of such funds by the Sponsor.

b. If one or more ILF project(s) is in development at the time the written notice of termination is transmitted, those ILF project(s) will be completed to the extent achievable with monies on deposit in the Program Account, with all remaining funds in the Program Account transferred to the closest mitigation bank or other entity acceptable to the applicable IRT member(s). Under this option, final closure will be deemed to have occurred on the later of (1) the date of transfer of such funds by the Program Sponsor; or (2) the date the last ILF project is completed to the extent achievable with monies on deposit in the Program Account.

c. If one or more ILF project(s) is in development at the time the written notice of termination is transmitted, the ILF project development contract(s) and associated performance guarantees, along with all related rights and responsibilities

pertaining to those ILF project(s) (including but not limited to the budgeted monies for such ILF project(s) existing in the Program Account), will be transferred to another entity or entities acceptable to the applicable IRT members. Under this option, final closure will be deemed to have occurred on the later of (1) the date of transfer of such funds by the Sponsor; or (2) the date the development contract(s) and associated performance guarantees, along with all related rights and responsibilities of the last ILF project, are transferred to a third party acceptable to the applicable IRT members.

C. Excess funds remaining in the Program Account after the above obligations are satisfied must continue to be used for the restoration, establishment and enhancement, and/or preservation of aquatic resources and associated upland buffers. The Corps shall request the Sponsor to: 1) use these funds to provide further restoration, enhancement or preservation activities; 2) secure credits from another source of third-party mitigation; or 3) transfer funds to another entity, such as a government agency or non-profit organization dedicated to natural resource management, willing to undertake the requisite compensatory mitigation activities. The Corps itself cannot accept directly, retain, or draw upon those funds in the event of a default.

## VIII. FORCE MAJEURE

Any delay or failure of the Program to comply with the terms of this Instrument shall not constitute a default if and to the extent that such delay or failure is primarily caused by any force majeure or other conditions beyond the Program's control. Qualifying natural hazards shall include, but are not limited to: flood; drought; earthquake; tornado; fire; landslide; and effects of climate change on habitat or hydrology. Other conditions beyond the Program's control shall include: interference by third parties; condemnation or other taking by any governmental body; change in applicable law, regulation, rule, ordinance, or permit condition, or the interpretation or enforcement thereof; any order, judgment, action or determination of any federal, state or local court, administrative agency or governmental body; and/or suspension or interruption of any permit, license, consent, authorization or approval.

The Program shall provide written notice to the Corps and IRT if the performance of any in-lieu fee project is affected by any such event as soon as it is reasonably practical, documenting why a given event should be considered a force majeure event. The District Engineer, in consultation with the IRT, shall determine whether the event qualifies and recommend the necessary repairs or modifications required at the site or modifications to monitoring requirements or performance standards in the project Mitigation Plan.

If such event occurs before the final availability of all credits for a project, CRC shall take

remedial action to restore the property to its condition prior to such event, in a manner sufficient to provide adequate mitigation to cover credits that were used for permit requirements prior to such delay or failure to compensate for impacts authorized by Corps and/or TDEC permits. Such remedial action shall be taken by CRC only to the extent necessary and appropriate, as determined by the Corps in consultation with the IRT. If such an event prevents a mitigation project from meeting the time requirements established in project Mitigation Plan or this Instrument, the Corps may, in its discretion, modify the timeline requirements.

## IX. POINTS OF CONTACT

The points of contact for written communication among the parties are as follows or as otherwise specified in the future by written notice to all parties:

### Corps of Engineers

U.S. Army Corps of Engineers  
(b) (6) Regulatory Branch  
Nashville District  
3701 Bell Road  
Nashville, TN 37214-2660  
Phone: (b) (6)  
Email: (b) (6)

### Sponsor

Cumberland River Compact  
Ms. Mekayle Houghton, Executive Director  
Two Victory Ave., Suite 300  
Nashville, TN 37213  
Phone: 615-837-1151  
Email:  
Mekayle.Houghton@cumberlandrivercompact.org

### IRT Members

TDEC, Division of Water Resources  
Natural Resources Unit  
Ms. Vena Jones  
312 Rosa L Parks Ave,  
Nashville, TN 37243-1534  
Phone: 615-253-5320  
Email: vena.l.jones@tn.gov

USFWS, Cookeville Field Office  
Mr. Robbie Sykes  
446 Neal St.  
Cookeville, TN 38501-4027  
Phone: 931-528-6481  
Email: robbie\_sykes@fws.gov

USEPA, Wetlands Regulatory Section  
Ms. Ashley Monroe  
61 Forsyth St.  
Atlanta, GA 30303  
Phone: 404-562-9232  
Email: monroe.ashley@epa.gov

NRCS, TN State Office  
Mr. Matt Walker  
675 U.S. Courthouse, 801 Broadway  
Nashville, TN 37203  
Phone: 615-277-2587  
Email: matt.walker@tn.usda.gov

TWRA

Mr. Robert Todd

P.O. Box 40747

Nashville, TN 37204

Phone: 615-781-6572

Email: Rob.Todd@tn.gov

TVA

Ms. Kim Pilarski & Mr. Craig Phillips

400 West Summit Dr.

Knoxville, TN 37902

Phone: 865-632-2101 (main office no.)

Email: kpilarski@tva.gov; clphillips@tva.gov

## X. EFFECTIVE DATE

This agreement shall become effective when signed by the Nashville District of the U.S. Army Corps of Engineers and the Sponsor. IRT members are invited to sign this Instrument as an indication of their agreement to the terms of the Instrument. The decision of an IRT member not to sign this Instrument does not negate its effectiveness. The Corps retains the final authority for approval of this Instrument.

The Cumberland River Compact Stream Restoration In-Lieu Fee Program Instrument

SIGNATURE PAGE

Department of the Army, Corps of Engineers, Nashville District

By: **(b) (6)** \_\_\_\_\_ 1 Mar 2018  
Date

Tennessee Department of Environment and Conservation

By: \_\_\_\_\_  
Date

Tennessee Wildlife Resources Agency

By: \_\_\_\_\_  
Date

U.S. Fish and Wildlife Service

By: \_\_\_\_\_  
Date

U.S. Environmental Protection Agency

By: \_\_\_\_\_  
Date

Tennessee Valley Authority

By: \_\_\_\_\_  
Date

U.S. Department of Agriculture, Natural Resource Conservation Service

By: \_\_\_\_\_  
Date

The Cumberland River Compact

By: Mike Houghton \_\_\_\_\_ 2.28.18  
Date

The Cumberland River Compact Stream Restoration In-Lieu Fee Program Instrument

**SIGNATURE PAGE**

**Department of the Army, Corps of Engineers, Nashville District**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**Tennessee Department of Environment and Conservation**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**Tennessee Wildlife Resources Agency**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**U.S. Fish and Wildlife Service**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**U.S. Environmental Protection Agency**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**Tennessee Valley Authority**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**U.S. Department of Agriculture, Natural Resource Conservation Service**

By: Matthew Walker, Acting STC 3/1/18  
Date \_\_\_\_\_

**The Cumberland River Compact**

By: \_\_\_\_\_  
Date \_\_\_\_\_

### Approval Signatures

#### Instrument Sponsor

\_\_\_\_\_  
Mekayle Houghton for Cumberland River Compact

\_\_\_\_\_  
Date

#### Nashville Office District Engineer

\_\_\_\_\_  
Lieutenant Colonel Cullen A. Jones

\_\_\_\_\_  
Date

#### Inter-Agency Resource Team Members (optional)

\_\_\_\_\_  
TDEC

\_\_\_\_\_  
Date

\_\_\_\_\_  
USFWS

\_\_\_\_\_  
Date



\_\_\_\_\_  
USEPA



\_\_\_\_\_  
Date

\_\_\_\_\_  
NRCS – TN State Office

\_\_\_\_\_  
Date

\_\_\_\_\_  
TWRA

\_\_\_\_\_  
Date

\_\_\_\_\_  
TVA

\_\_\_\_\_  
Date

The Cumberland River Compact Stream Restoration In-Lieu Fee Program Instrument

**SIGNATURE PAGE**

**Department of the Army, Corps of Engineers, Nashville District**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**Tennessee Department of Environment and Conservation**

By: *Robert Martin* 2-13-18  
Date \_\_\_\_\_

**Tennessee Wildlife Resources Agency**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**U.S. Fish and Wildlife Service**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**U.S. Environmental Protection Agency**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**Tennessee Valley Authority**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**U.S. Department of Agriculture, Natural Resource Conservation Service**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**The Cumberland River Compact**

By: \_\_\_\_\_  
Date \_\_\_\_\_

*11*



The Cumberland River Compact Stream Restoration In-Lieu Fee Program Instrument

**SIGNATURE PAGE**

**Department of the Army, Corps of Engineers, Nashville District**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**Tennessee Department of Environment and Conservation**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**Tennessee Wildlife Resources Agency**

By: Ed Carter 2-12-2018  
Date

**U.S. Fish and Wildlife Service**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**U.S. Environmental Protection Agency**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**Tennessee Valley Authority**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**U.S. Department of Agriculture, Natural Resource Conservation Service**

By: \_\_\_\_\_  
Date \_\_\_\_\_

**The Cumberland River Compact**

By: \_\_\_\_\_  
Date \_\_\_\_\_

The Cumberland River Compact  
Stream Restoration  
In-Lieu Fee Program Instrument  
February 2018



**CUMBERLAND**  
**RIVER COMPACT**

APPENDIX A:  
COMPENSATORY PLANNING FRAMEWORK

## APPENDIX A: COMPENSATION PLANNING FRAMEWORK

The Compensation Planning Framework adopts a landscape-watershed approach to selecting and implementing Program mitigation projects that restore, enhance, re-establish or preserve aquatic resources. This framework will be used to identify, evaluate, and screen potential Program mitigation projects and will be referenced in the Instrument and future project mitigation plans. The Compensation Planning Framework includes the following required ten elements [33 C.F.R. § 332.8 (c)(2)]:

1. The geographic service areas, including a watershed-based rationale for the delineation of each service area;
2. A description of the threats to aquatic resources in the service areas, including how the ILF program will help offset impacts resulting from those threats;
3. An analysis of historic aquatic resource loss and current aquatic resource conditions in the service areas;
4. A statement of aquatic resource goals and objectives for each service area, including a description of the general amounts, types and locations of aquatic resources the program will seek to provide;
5. A prioritization strategy for selecting and implementing compensatory mitigation activities;
6. An explanation of how any preservation objectives satisfy the criteria used in preservation;
7. A description of any public and private stakeholder involvement in plan development and program implementation;
8. A description of the long-term protection and management strategies for activities conducted by the ILF program sponsor; and
9. A strategy for periodic evaluation and reporting on the progress of the program, including a process for revising the planning framework as necessary

### A.1 Service Areas

The Program seeks to establish an option for mitigation that is environmentally preferable to permittee-responsible mitigation. This objective will be accomplished by consolidating mitigation projects and resources, providing financial planning and scientific resource expertise, and reducing uncertainty over project success. To that end, the Program proposes to operate in three (3) service areas outlined in Section III.B of the Instrument and shown in **Figure A1** and **Table 1**.

**Table 1. Program Service Areas.**

6-digit HUC Service Area	8-Digit HUC Watersheds	Counties
Upper Cumberland (HUC 051301)	05130101 Upper Cumberland 05130103 Lake Cumberland 05130104 South Fork Cumberland 05130105 Obey 05130106 Cordell Hull 05130107 Collins 05130108 Caney Fork	DeKalb, Jackson, Putnam, White, Van Buren, Warren, Overton, Pickett, Scott, Cumberland*, Coffee*, Cannon*, Morgan*, Anderson*, Campbell*, Claiborne*, Macon*, Clay*, Smith*, Sequatchie*, Grundy*, Wilson*, Bledsoe*, Anderson*
Middle Cumberland (HUC 051302)	05130201 Old Hickory Lake 05130203 Stones	Trousdale, Sumner*, Macon*, Wilson*, Smith*, Rutherford*, Cannon*, Davidson*
Lower Cumberland (HUC 051302)	05130202 Cheatham Lake 05130204 Harpeth 05130205 Barkley Reservoir 05130206 Red	Montgomery, Robertson, Cheatham, Davidson*, Rutherford*, Williamson*, Dickson*, Sumner*, Macon*, Houston*, Stewart*, Hickman*

\*Counties that are located only partially within the service area

A combination of 6- and 8-digit HUCs were used as the basic units for constructing each service area. In those cases where a HUC straddles state boundaries, only that part of the HUC located in Tennessee is included in the proposed service areas. Service areas were chosen based on a combination of watershed boundaries, land area, predominant land uses, and significant water quality stressors. Level III and IV ecoregions defined by the Environmental Protection Agency (EPA) were also considered during the planning process. There are three (3) Level III ecoregions represented in the Cumberland River basin—Central Appalachians (69), Southwestern Appalachians (68), and the Interior Plateau (71). The two Appalachian mountain ecoregions are relatively narrow strips and make up about a third of the Cumberland River basin's land area. The Interior Plateau's land area comprises the remaining two-thirds of the basin and contains most of the larger population centers. Therefore, using the EPA Level III ecoregion boundaries alone would lead to disproportionately sized service areas that ignore watershed boundaries, particularly in the mountain ecoregions.

The Sponsor believes that the three service areas, in concert with a prioritization process outlined in Section A.6, will result in effective compensation for adverse environmental impacts across the entire service area, and that each has similar aquatic habitat systems and watershed characteristics.

### Upper Cumberland Service Area

This service area includes seven (7) 8-digit HUCs within 6-digit HUC 051301, in a mostly rural area of the state. Population centers within this service area are relatively small and include Cookeville, McMinnville, Sparta, Livingston, and Smithville. In total, this service area encompasses 5,510 square miles and approximately 6,560 stream and river miles in Tennessee ([National Hydrography Dataset - Medium Resolution](#)). Level III and IV ecoregions represented (**Figure A2.1**), from east to west, include: Central Appalachians (69e: Cumberland Mountain Thrust Block; and 69d: Dissected Appalachian Plateau); Southwestern Appalachians (68a: Cumberland Plateau; and 68c: Plateau Escarpment); and the Interior Plateau (71g: Eastern Highland Rim; and 71h: Outer Nashville Basin). While there are obvious differences between these regions, the HUCs included in this service area are connected by similar threats to aquatic resources and existing land use patterns. Based on 2011 land cover data (**Figure A3.1**), this service area is 20% agriculture (cultivated crops and pasture) and 7% developed land, including low to high intensity development (impervious surface 20 to 100% of cover) and open space associated with developed areas (impervious surface <20% of cover). Most of the remaining land cover is forest (64%) and grassland and shrub/scrub (7%).

### Middle Cumberland Service Area

This service area includes two (2) 8-digit HUCs within 6-digit HUC 051302 that are in transition from rural to ex-urban and suburban development due to their proximity to the Nashville Metropolitan Statistical Area (MSA). Population centers within this service area include Murfreesboro, Smyrna, Lebanon, Hendersonville, and Gallatin. Two counties mostly contained within the Middle Cumberland service area, Rutherford and Wilson, have experienced rapid population growth (**Table 2**).

**Table 2. Population growth for select counties in the Middle Cumberland Service Area.**

Location	2000 population*	2010 population*	% Change	2016 population (estimated)**
Rutherford County	182,044	262,604	+44%	308,251
Wilson County	88,809	113,993	+28%	132,781

\* Source: US Census Bureau; \*\* Source: American Community Survey (ACS)

In total, this service area encompasses 1,920 square miles and approximately 2,107 stream and river miles and 51,610 lake acres in middle Tennessee. ([National Hydrography Dataset - Medium Resolution](#)). Only one Level III ecoregion is represented (**Figure A2.2**), the Interior Plateau (71), including the following Level IV ecoregions:

71h: Outer Nashville Basin; and 71i: Inner Nashville Basin. Based on 2011 land cover data (**Figure A3.2**), this service area is 33% agriculture (cultivated crops and pasture) and 16% developed land, including low to high intensity development (impervious surface 20 to 100% of cover) and open space associated with developed areas (impervious surface <20% of cover).

Most of the remaining land cover is forest (43%) and grassland and shrub/scrub (4%).

#### Lower Cumberland Service Area

This service area includes four (4) 8-digit HUCs within 6-digit HUC 051302 that contain the largest cities in the Cumberland Basin. Population centers within this service area include Nashville, Brentwood, Coopertown, Franklin, Springfield, and Clarksville. The city of Nashville itself is already built out to a great degree, as the modest growth of Davidson County (where the city is located) shows, while the counties immediately surrounding Davidson, as well as the city of Clarksville, have experienced more rapid population growth (**Table 3**).

**Table 3. Population growth for select areas in the Lower Cumberland Service Area.**

Location	2000 population*	2010 population*	% Change	2016 population (estimated)**
Davidson County	569,843	626,681	+10%	684,410
Williamson County	126,651	183,182	+45%	219,107
Robertson County	54,423	66,283	+26%	69,165
Clarksville	103,944	132,929	+28%	149,176 <sup>+</sup>

\* Source: US Census Bureau; \*\* Source: American Community Survey (ACS)

+ 2015 population estimate (2016 N/A)

In total, this service area encompasses 5,300 square miles and approximately 4,121 stream and river miles and 79,793 lake acres in middle to northwest Tennessee ([National Hydrography Dataset - Medium Resolution](#)). Only one Level III ecoregion is represented (**Figure A2.3**), the Interior Plateau (71), including the following Level IV ecoregions: 71e: Western Pennyroyal Karst Plain; 71g: Western Highland Rim; 71h: Outer Nashville Basin; and 71i: Inner Nashville Basin. Based on 2011 land cover data (**Figure A3.3**), this service area is 26% agriculture (cultivated crops and pasture) and 14% developed land, including low to high intensity development (impervious surface 20 to 100% of cover) and open space associated with developed areas (impervious surface <20% of cover). Most of the remaining land cover is forest (54%) and grassland and shrub/scrub (4%).

#### A.2 Aquatic Resource Threats

Mitigation projects under Sections 404 and 401 of the CWA involve taking actions to

compensate for impacts to streams, rivers, and other jurisdictional water bodies (e.g. wetlands). Mitigation projects developed through the Program will focus primarily on-stream restoration/enhancement through the methods outlined below. Based on Total Maximum Daily Loads (TMDL's) defined for watersheds in the Program service areas and the 2014 TDEC 303(d) list, the following are the most prominent aquatic resource threats:

- Sediment/siltation
- Bacteria/pathogens (e.g. E. coli)
- pH
- Metals (e.g. iron)
- Habitat/flow alteration
- Nutrients (e.g. phosphorus)

Not all of these threats may be addressed through stream restoration or enhancement. For example, the presence of metals and low pH often stem from acid drainage from abandoned coal mines. Effective corrective measures for acid drainage generally include active treatment systems that require continual maintenance and upkeep, and therefore may not be appropriate for mitigation purposes. On the other hand, stream restoration is often focused on the passive placement of structures that don't require intensive follow-up practices or perpetual maintenance. Therefore, the following stressors that can be addressed through mitigation projects will be the Program's focus:

- Dams
- Agricultural practices
- Urban stormwater runoff
- Land development

### Dams

Dams represent a significant source of impairment throughout the Program service area. Dale Hollow, Cordell Hull, Old Hickory, and Cheatham dams, among others, provide the region with many benefits, including hydropower, flood protection, drinking water, and lake recreation. However, large dam projects also drastically alter or destroy river habitats--tempering flow, altering temperatures and dissolved oxygen levels, disrupting sediment transport, and blocking fish passage. As a result, overall stream function and freshwater plants and animals have been adversely impacted. In addition to the region's large federal dam projects, TDEC has inventoried an additional 224 smaller dams across the region that are either 20 feet or greater in height and retain 30-acre feet of water or greater. These dams impact water quality, and some neglected dams no longer serve any practical purpose. Neglected dams may even exacerbate flooding or represent safety hazards to paddlers or other river users.



The Program may implement dam removal projects to improve and replace stream functions that have been lost. Dam removal will open sections of impounded streams and rivers to a flowing river system, restoring functions related to hydrology, hydraulics, geomorphology, and biology. Functional assessment methods will be used to quantify the improvements provided by proposed dam removal projects.

The Cumberland River Compact and Tennessee Chapter of the Nature Conservancy has mapped and prioritized dams across the entire Cumberland River basin based upon removal feasibility and potential habitat expansion for Species of Greatest Conservation Need using data from the 2015 TN State Wildlife Action Plan (SWAP; **Figure A4**).

#### Agricultural Practices

Certain agricultural practices have impaired many stream miles throughout the Program area, causing increased bacteria levels and siltation. On farms where overgrazing is practiced, loosened topsoil can easily wash into nearby streams during heavy rainfall. Significant sediment and nutrient losses also occur as a result of stream bank erosion, which is prevalent in areas. This sediment smothers aquatic life and habitat and the muddied water prevents sunlight from reaching plants. Poor feeding, watering, and waste management locations for livestock can also lead to sediment problems and can enable bacteria to reach water. When bacteria impair surface or groundwater, people who encounter that water are at risk of ear or eye infections, vomiting or dysentery. The adverse impacts of these grazing practices are especially pronounced where streams and rivers lack sufficiently forested stream banks. Without these natural forest buffers, rainfall can quickly and easily wash pollutants into nearby waters, and streams can also become unstable and begin to erode laterally and vertically.

The Program will address impairments from agricultural practices by performing stream restoration and stabilization projects through agricultural lands where stream systems are currently degraded. Emphasis will be placed on restoring functioning riparian buffers to protect water bodies, excluding livestock from stream and wetland systems, and bank stabilization through the use of bioengineering practices.

#### Urban Stormwater Runoff

In urbanized areas, impervious surfaces, such as roads, buildings, and parking lots, negatively impact water quality in the region. Water quickly runs off these surfaces, rather than slowly infiltrating the soil as it would in a forest or field. As it runs off, pollutants, such as trash, petrochemicals, pet waste, sediment, nutrients, or other pollutants are quickly conveyed into nearby waterways. This rush and volume of stormwater erodes banks, and the conveyed pollutants kill aquatic life and alter freshwater habitats. In addition, they can make water unsafe

to swim in and make treating drinking water more difficult and expensive. While stormwater runoff is a problem in any urbanized area, the Middle and Lower Cumberland service areas have roughly twice the amount of developed land cover than the Upper Cumberland service area.

The Program may pursue stream restoration and stabilization projects in urban and suburban watersheds when the benefits to be achieved will offset the higher costs, as compared to projects in rural watersheds. Stream projects in urban watersheds may also incorporate stormwater best-management practices (BMPs) that improve the quality of stormwater runoff entering the stream system.

### Land Development

The region is experiencing accelerating land development, especially in the outer reaches of the Nashville MSA. When natural areas are developed, the valuable services once provided by these natural areas are lost. Forests, wetlands, and floodplains work for our communities and do so free of charge. They mitigate flooding, control erosion, filter pollutants, and allow rainwater to infiltrate and replenish groundwater reserves. Once this “green infrastructure” is lost, expensive gray infrastructure must be built and maintained to provide many of the same services. The development of natural lands also exacts a price on aquatic and terrestrial ecosystems. Native flora and fauna suffer from the loss, alteration, and pollution of their habitat. Land development is a greater threat in the Middle and Lower Cumberland service areas as Nashville and the surrounding metro area continue to grow.

The Program may develop projects that enhance and preserve stream and riparian communities in areas where these systems are currently providing appropriate functions, but are at risk of being impaired from future development and land-use changes. Such projects will document that the protection efforts proposed will remain stable and functioning as the land nearby is developed in the future.

### A.3 Historic Aquatic Resource Loss

As with much of the southeastern U.S. after European colonization, aquatic resource loss historically occurred largely through large-scale natural resource extraction, including agriculture, timber harvest, mining, and the processing of products generated by these activities. To that end, impacts to streams were associated with significant forest clearing, channel alterations for agricultural drainage and mineral extraction, runoff from mining activities, and construction of mill dams. These impacts resulted in a myriad of effects, including excessive sedimentation, disturbance of flow regimes, channel incision, higher stream temperatures, and degraded water quality.

In the late nineteenth and early twentieth century, as urbanization increased and the industrial revolution was underway, streams began to receive more pollution from point sources such as factories, coal burning power plants, and sewage systems. As the twentieth century progressed, greater use of private and commercial vehicles led to a larger paved road network, increasing stream habitat fragmentation and degradation, and pollutant runoff from impervious surfaces.

Starting in the 1940's, the Corps built a series of locks and dams on the Cumberland River and its tributaries to produce hydroelectric power and provide flood protection and a stable water source for nearby towns and cities. These dams significantly affect flow regime, sediment transport, fish passage, and water temperature. There are 4 dams on the Cumberland main stem in Tennessee, and one additional dam upstream in Kentucky (Wolf Creek/Lake Cumberland). There are also dams on two Cumberland River tributaries in Tennessee: Stones River and Caney Fork River.

#### A.4 Current Resource Conditions

##### Upper Cumberland Service Area

Comparing 2001 and 2011 land cover data, the percentage of agriculture and developed land has remained roughly the same in this service area. In 2001, the percent forest cover was 2 points higher than 2011 (66%), though it seems to have been converted to grassland and shrub/scrub since this land cover was 2% lower in 2001 versus 2011 (5%). Therefore, aquatic resource loss from current and past agricultural practices and dams remain the predominant source of water impairment. Based on Tennessee's 2014 303(d) report, 38% of the Upper Cumberland service area's stream and river miles have been assessed. Of these assessed waters, 64% are classified as "fully supporting" while 36% are classified as "not supporting". Between 2004 and 2014, the total mileage of impaired streams on the list increased by roughly 280 miles. The main stressors include siltation, bacteria, pH, habitat loss due to flow alteration, and metals (iron, manganese and aluminum). Causes include discharges from coal mining/abandoned mines, septic tanks, upstream impoundments, pasture grazing, and silviculture.

##### Middle Cumberland Service Area

Comparing 2001 and 2011 land cover data, the percentage of developed land has increased almost 2.5%, from 13.3% to 15.7% in this service area. Most of this change appears to be a conversion of agricultural and pasture land, which went down by about 1.5% during this period, while forest land only decreased approximately half a percent. While agricultural practices are still a prevalent water stressor, land development and urban stormwater runoff will continue to be problematic for aquatic resources, and will likely increase based on current and future growth in the Nashville MSA. Based on Tennessee's 2014 303(d) report, 100% of the lake acres and 64% of the stream and river miles in the Middle Cumberland service area have been

assessed. Of the assessed stream and river miles, 75% are classified as “fully supporting” while 25% are classified as “not supporting”. No lake acres were deemed non-supporting. Between 2004 and 2014, the total mileage of impaired streams on the list decreased by roughly 20 miles. The main stressors include nutrients (phosphorus, nitrate/nitrite), bacteria, siltation, alteration of stream-side or littoral vegetation, and low dissolved oxygen. Causes include pasture grazing and unrestricted cattle access, stormwater runoff, land development, and municipal point sources.

#### Lower Cumberland Service Area

Comparing 2001 and 2011 land cover data, the percentage of developed land has increased 1.3%, from 12.5% to 13.8% in this service area. Most of this change appears to be a conversion of forest land, as forest cover went down a little over 1% during this period. The percentage of agriculture has remained about the same, decreasing about half a percent. While agricultural practices are still a prevalent water stressor, land development and urban stormwater runoff will continue to be problematic for aquatic resources, and will likely increase based on current and future growth in the Nashville MSA. Based on Tennessee’s 2014 303(d) report, 100% of the lake acres and 67% of the stream and river miles in the Lower Cumberland service area have been assessed. Of the assessed stream and river miles, 66% are classified as “fully supporting” while 34% are classified as “not supporting”. Of the assessed lake acres, 73% are classified as “fully supporting” while 27% are classified as “not supporting”. Between 2004 and 2014, the total mileage of impaired streams on the list increased by roughly 20 miles. An additional 20,459 acres of impaired lake acres were also deemed “not supporting”. The main stressors include nutrients (phosphorus, nitrate/nitrite), bacteria, siltation, alteration of stream-side or littoral vegetation, anthropogenic habitat and physical substrate alterations, and low dissolved oxygen. Causes include land development, stormwater runoff, upstream impoundments, municipal point sources, high density urbanization, and pasture grazing.

#### A.5 Resource Goals and Objectives

The main goals of mitigation site selection by the Program shall be to restore the quality and functions of Tennessee’s aquatic resources by strategically selecting suitable mitigation sites; compensating for permanent losses of aquatic habitat; and ensuring the long-term protection and sustainability of mitigation sites. As an aid to identifying appropriate mitigation sites, available data and information contained in the most current versions of the plans laid out below will be utilized. This list will be expanded as relevant plans in the draft stage are finalized.

- TDEC’s 303(d) list of impaired waters
- TDEC water quality management plans for Cumberland River basin watersheds

- Regional watershed management or restoration plans and data (e.g., watershed plans written to qualify for CWA Section 319 funding, such as ‘Linking Conservation Priorities to Wetland and Stream Mitigation Decisions—a Watershed Approach for the Stones River, Tennessee’)
- Local watershed management plans or initiatives (e.g., ‘Watershed Stewardship Plan for Davidson County’)
- County/city comprehensive plans and county/city and statewide transportation plans
- Tennessee SWAP and Comprehensive Wildlife Conservation Strategy (CWCS)
- Tennessee Natural Heritage Inventory Program BIOTICS database
- Federal agency plans, reports, or studies (U.S. Fish and Wildlife Service, U.S. Forest Service, U.S. Geological Survey)

#### Site Selection Limitations

Site selection will be influenced by conditions that favor the success of mitigation projects.

Possible site selection limitations and considerations include:

- Sites where water quality problems and/or environmental problems that could restrain or negatively impact the survival of a native community of aquatic organisms that would not be addressed by the mitigation project.
- Sites where projected or on-going land-use impacts or changes would threaten a mitigation project unless reasonable assurances are given that future, anticipated impacts would not affect the mitigation project.
- Sites where the mineral/oil/gas rights and surface rights are separated and could potentially interfere with the mitigation project.
- Sites downstream from areas where the mineral/oil/gas rights and surface rights are separated and could potentially interfere with the mitigation project, unless reasonable assurances are given that future, anticipated impacts from extraction would not affect the mitigation project.
- Sites where mitigation efforts were previously performed.

#### A.6 PrioritizationStrategy

#### Mitigation Site Identification

The Sponsor will use a variety of methods to identify potential mitigation sites within the Program’s service areas. These methods are summarized below, and the information gathered will be developed into a Potential Project Database (PPD) that the Sponsor will maintain and use to track and evaluate potential mitigation sites.

1. The Sponsor has already developed a list of potential mitigation sites, most of which include dam removal. This information will be added to the PPD and will include such information as site location, landowner information, type of mitigation that could be provided, potential credits, and other information that is deemed important to future evaluation of the site for mitigation.
2. The Sponsor will also actively solicit information from watershed and conservation groups, local, state and federal agencies, and other organizations that may have information regarding potential mitigation sites within the Program's service areas. This information, solicited on an on-going basis as part of the Program, will be added to the database as information is collected.
3. The Sponsor may, from time to time, issue Requests for Proposals (RFP) for mitigation sites in certain watersheds and service areas. These RFPs may be structured in several ways, but will allow the private sector to propose potential mitigation sites to the Sponsor to meet mitigation demand.

The Sponsor will use their own staff and/or private consultants to assess potential mitigation sites that are identified by the methods listed above, and add this information to the PPD. The goal is to identify numerous sites in each service area that can be evaluated against mitigation needs, using a prioritization matrix for site selection described below. Over time, the Sponsor will collect additional data on potential sites, so that the PPD is continuously evolving with more potential sites and better technical data.

#### Ranking of Mitigation Sites

For each basin or service area, potential sites will be ranked based on the criteria described below, to provide a means of comparing sites and making decisions regarding which sites are appropriate for implementation. Emphasis will be placed on providing high-quality mitigation at an appropriate, market-based price.

#### Ranking Factors for Potential Mitigation Sites:

1. Ecological Functions and Values
  - a. Restoration of the proposed mitigation project site will realize an increase of ecological functions and values compared to existing conditions. The ecological needs of the watershed will help determine the most important functions and values.

- b. Sites that have greater increases to ecological functions and values will rank higher than sites that provide less of an increase in ecological functions and values.
- 2. Probability of Success
  - a. The proposed mitigation project site will be evaluated based on its ability to successfully compensate for the physical loss of aquatic habitat and to ensure a quantitative net gain in aquatic systems area and/or gain in aquatic systems functions.
  - b. The proposed mitigation project site should meet the following criteria and guidelines:
    - I. Proposed work shall not disturb high quality habitats or threatened and endangered species;
    - II. Buffers shall be established around the site to protect the site from potentially incompatible land use areas (e.g., roads, residential/commercial areas) as appropriate;
    - III. Site shall contain adequate hydrology to sustain itself during and after project completion.
- 3. Proximity
  - a. Proposed mitigation project sites that provide connectivity to existing resources (e.g., adjacent wetlands; other protected lands) will be given higher priority in the site selection process over areas without connectivity to existing habitat.
- 4. Functionality and Compatibility
  - a. Mitigation projects will be evaluated based on their ability to provide numerous functions including: water quality improvement, native and rare species support, and aquatic fauna and flora habitat improvement.
  - b. Mitigation project sites will be sized relative to their water source(s) and the reliability of their water source(s).
- 5. Conservation Plans Support
  - a. Local, regional, and state watershed planning documents will be utilized per service area as a guide and resource in siting Program projects in areas of greatest need for restoration.
  - b. The SWAP and CWCS will be used to further help select mitigation projects by providing information on the ancillary benefits and functions the site will provide to aquatic wildlife and aid in identifying aquatic habitat conservation priorities.
  - c. The Tennessee Natural Heritage BIOTICS database will be used as a tool in identifying beneficial information for mitigation site selection; this includes information about high quality natural communities, natural areas, landscape features, and records of federally endangered and threatened species as well as state listed species.

- d. Local land trust conservation plans will be utilized to help identify potential mitigation project sites.

### Prioritization Matrix

#### Prioritization for Stream Mitigation:

1. An appropriate mitigation site(s) is available within the HUC 12 where the impacts are occurring:
  - a. Implement the highest-ranking mitigation site that provides the appropriate mitigation
2. No mitigation sites have been identified within the HUC 12 where the impacts are occurring, and no prior searches by Sponsor staff have occurred:
  - a. Sponsor staff will conduct a watershed search for appropriate mitigation sites in the HUC 12. If an appropriate mitigation site is identified, follow Step 1.
3. No mitigation sites have been identified within the HUC 12 after searches by Sponsor staff, or Sponsor does not wish to perform a watershed search solely with their staff:
  - a. Issue a RFP for third-party providers to propose mitigation sites within the HUC 12, adjacent HUC 12, HUC 8, and/or Program Service Area.
  - b. If an appropriate mitigation site(s) is identified within the HUC 12 through the RFP process, follow Step 1.
4. No mitigation sites have been identified within the HUC 12 where the impacts are occurring, after prior searches by Sponsor staff and/or prior RFP(s) for mitigation in the HUC 12:
  - a. Sponsor may implement the highest-ranking mitigation site in the adjacent HUC 12
5. No mitigation sites have been identified within the HUC 12 or adjacent HUC 12 basins where the impacts are occurring, after prior searches by Sponsor staff and/or prior RFP(s) for mitigation in those basins:
  - a. Sponsor may implement the highest-ranking mitigation site in the HUC 8 where the impacts are occurring
6. No mitigation sites have been identified within the HUC 12, adjacent HUC 12 basins, or HUC 8 where the impacts are occurring, after prior searches by Sponsor staff and/or prior RFP(s) for mitigation in those basins:
  - a. Sponsor may implement the highest-ranking mitigation site in the Program Service Area where the impacts are occurring



The Corps and the IRT will maintain oversight and approval authority throughout the site approval process via review of each proposed mitigation project. Specifically, the Program will document these prioritization strategy efforts through exhibits, maps and a narrative discussion in each project submitted to the Corps and IRT for review. Each proposed project will also identify the impact permits and locations from which fees are being used for a mitigation project.

#### A.7 Preservation Objectives

Based on 33 C.F.R. § 332.3 (h), preservation is defined as the removal of a threat to, or preventing the decline of, aquatic resources. This includes activities associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms and does not result in a gain of aquatic resource area or functions.

Under the Program, preservation actions will be consistent with the watershed approach to protecting aquatic resources. The main objective of preservation mitigation projects is to permanently protect existing water resources that have a significant contribution to conservation needs within a service area.

Reference to any applicable plans as stated in Section A.5 should be made when identifying habitat threats and management goals. These plans will help determine where the greatest preservation and conservation efforts are needed in the areas serviced by the Program. Consultation with local land trust organizations will be conducted to locate preservation opportunities. Preservation strategies will be based on their ability to relieve these threats and the importance of the resource to the watershed and/or State. Preservation will be used to provide compensatory mitigation when the following criteria are satisfied [33 C.F.R. § 332.3(f)(3)(h)]:

1. The resources to be preserved provide important physical, chemical, or biological functions for the watershed;
2. The resources to be preserved contribute significantly to the ecological sustainability of the watershed;
3. Preservation is determined by the Corps in consultation with the IRT to be appropriate and practicable;
4. The resources are under threat of destruction or adverse modifications;
5. The preserved sites will be permanently protected through an appropriate legal instrument.

In general, it is preferable to use preservation as a component of a larger overall mitigation project that includes significant amounts of restoration, rehabilitation, and/or enhancement. Stand-alone preservation projects may be considered if the Sponsor can document an important resource that is under imminent threat, and/or supports state or federally listed threatened and endangered species.

#### A.8 Private and Public Stakeholder Involvement

Strategic partnerships across the state can assist in the identification and implementation of meaningful mitigation. Potential sites that are identified through partner consultations will be evaluated, prioritized, and added to the Potential Projects Database using the process described in Section A.6.

Potential partners in the region include: Federal partners:

- EPA
- Natural Resources Conservation Service
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- U.S. Geological Survey
- U.S. Office of Surface Reclamation and Enforcement
- National Park Service
- U.S. Forest Service

State Partners:

- TN Association of Conservation Districts
- TN Department of Agriculture
- TN Department of Environment and Conservation
- TN State Parks
- TN Stormwater Association
- TN Water Resources Research Center
- TN Wildlife Resources Agency

Local Government Partners:

- Local municipalities (cities and counties)

NGO Partners:

- Relevant watershed associations (as appropriate)

- Appalachian Voices
- Land Trust for TN
- The Nature Conservancy of TN
- Sierra Club - TN Chapter
- South Cumberland Regional Land Trust
- Southeastern Aquatic Resources Partnership
- Statewide Organization for Community Empowerment
- TN Forestry Association
- TN Parks and Greenways Foundation
- TN Resource Conservation and Development Council
- TN Wildlife Federation

#### A.9 Long-Term Protection and Management

The Sponsor shall be responsible for developing and implementing a long-term protection and management plan for each Program project. Whether on publicly or privately-owned property, the Sponsor will record real estate instruments to guarantee each project's long-term protection. Long-term management will be the responsibility of the Sponsor or an approved third party, such as a long-term steward, as identified in each project's approved mitigation plan.

Program projects will be designed, to the maximum extent practicable, to require minimal long-term management efforts once performance standards have been achieved. The Sponsor shall be responsible for maintaining Program projects consistent with the mitigation plan to ensure long-term viability as functional aquatic resources. The Sponsor shall retain responsibility unless and until the long-term management responsibility is formally transferred to a long-term manager with Corps and IRT approval. As required by 33 C.F.R. § 332.7(d), the long-term management plan developed for each Program project will include a description of anticipated management needs with annual cost estimates and an identified funding mechanism (such as non-wasting endowments, trusts, contractual arrangements with future responsible parties, or other appropriate financial instruments).

The final mechanism for long-term protection and management shall be submitted to the IRT for review, and approval will be made by the Corps in consultation with the IRT prior to the release of mitigation project credits. Upon achieving its performance standards and an approved mechanism for long-term protection and management, the Sponsor will request that the Corps issue a written "closure certification," stating that the project has been released from additional monitoring, and the Corps has closed the project file.

#### A.10 Periodic Evaluation Strategy

Every five (5) years, the Sponsor will submit a program findings/evaluation report to the Corps and the IRT as a supplement to the annual Program report; this report will address how the goals and objectives set forth in the Instrument are being met in terms of site selection and project implementation.

The report may also include any proposed changes to the Compensation Planning Framework. A review of the resources used to create the Compensation Planning Framework will be conducted during the evaluation. Requested changes to the Compensation Planning Framework will be submitted as a modification to the Instrument for approval by the Corps in consultation with the IRT.

In addition, a spatial analysis will be conducted within each service area by the Sponsor and submitted with the annual Program report. The analysis will consider accepted and pending project impact locations and their relation to existing, proposed, and potential mitigation site locations in each 8-digit HUC. This analysis will help ensure that the aquatic resources provided will effectively compensate for adverse environmental impacts across the entire service area. The IRT will evaluate the Sponsor's analysis to 1) provide site selection oversight; and 2) make site selection recommendations.

## APPENDIX B: EXAMPLE CREDIT SALE LETTER

### SAMPLE CREDIT SALE LETTER

Date

Department of the Army  
Nashville District, Corps of Engineers  
Regulatory Division  
3701 Bell Road  
Nashville, TN 37214

Subject: Statement of Sale for (number of Credits) (Type 1/Type 2) Stream Mitigation Credits  
from the (service area/project name) to (Permittee's name)

Dear NAME:

The Cumberland River Compact (CRC) and the Army Corps of Engineers (Corps) have established an In-Lieu Fee program in the Cumberland River basin in Tennessee, pursuant to an ILF Instrument between the Corps and CRC.

This letter confirms the sale of (number of credits) (Type 1/Type 2) stream mitigation credits. These credits are being used as compensatory mitigation for (length in linear feet/number of acres) feet/acres of impact to (resource type) in the (name of service area) as authorized by Corps permit (Corps permit number).

By selling credits to the above Permittee, CRC is the only party responsible for fulfilling the mitigation aspect of the permit(s) listed above.

Sincerely,

---

for Cumberland River Compact

## APPENDIX C: CREDIT LEDGER TEMPLATE

### Example Credit Ledger

*A separate ledger will be provided for Type 1 and Type 2 stream mitigation credits.*

Mitigation Site Name	Corps Permit #	TDEC Permit #	Permittee	Transaction Date	Impact Amount	Mitigation Credits Debited

## APPENDIX D: ANNUAL REPORT OUTLINE

### PROPOSED ANNUAL REPORT OUTLINE

- I. Introduction
- II. Overall Status of Program Since Establishment
  - a. Program Status
  - b. Landowner Contacts and Potential Project Site Visits
- III. Credit Costs and Status
- IV. Program Financial Status
  - a. Program Account Status
  - b. Reserve Fund
  - c. Administrative Fund
- V. Mitigation of CWA Section 404 Impacts
  - a. Spatial Analysis of Impacts in Relation to Existing and Proposed Mitigation Projects
- VI. Interagency Review Team Coordination
- VII. Project Statistics and Status
  - a. Upper Cumberland Service Area
  - b. Middle Cumberland Service Area
  - c. Lower Cumberland Service Area

Appendix A: Credit Ledgers

Appendix B: Project Data

Appendix C: List of Approved Compensatory Mitigation Projects (all years)

Appendix D: Monitoring and Compliance Information

APPENDIX E:  
PROJECT MITIGATION PLANS