

## **APPENDIX E PROCEDURES FOR USE OF MITIGATION BANK CREDITS AND DEBIT USE**

### **E.1 Mitigation Bank Service Areas**

Credits from the Coweeman River Mitigation Bank will be used within two distinct Service Areas depending on the type of credit required; one service area will define the use of the bank when an applicant uses Universal Credits for wetlands, buffers and other aquatic resource impacts and another service area will define the use of the bank when the applicant uses DSAYs for ESA listed fish and non-listed fish habitat impacts.

1) The service area for Universal Credits which includes impacts to wetlands, critical area buffers and other regulated aquatic resources is based upon the aquatic functions restored and preserved at the bank project, in conjunction with similar potential aquatic resource impacts in the Lower Columbia River Floodplain and Cowlitz River Watershed (**Figure E-1**).

2) The service area for ESA-designated and proposed critical habitat, non-listed and resident fish, and stream habitat impacts (as measured through DSAYs) is based upon the bank project's restored habitat areas and the potential use of that habitat by ESA-designated and non-listed fish species in the same ecologically significant unit (ESU), or related river system (**Figure E-2**).

### **E.2 Service Area Boundary for Universal Credits**

#### **E.2.1 Universal Credit Use within the Lower Columbia River Floodplain**

The service area boundary for Universal Credits within the Lower Columbia River Floodplain includes portions of the 12-digit Hydrologic Unit Code (HUC) mapped sub-basins along the Columbia River within the historical floodplain of the Columbia River, at or below the 20 foot elevation contour. The upstream extent of the Service Area is the I-5 Bridge at River Mile (RM) 106 in Vancouver, Washington and the downstream extent is the western edge of the Hunt Creek Sub-Basin (HUC 17080030602) at RM 56 near Stella, west of the City of Longview in Washington. The service area also includes the small tributary basins of Coal Creek and Clark Creek that drain into the Columbia River between the City of Longview and RM 56 near Stella. The upstream reach of the service area along the Columbia River extends into the upper tidal hydrogeomorphic region of the Columbia River to the I-5 Bridge which is in the middle of the 12-digit HUC "Lake River-Frontal Columbia River Sub-Basin (HUC 170900120304).

Prior to European settlement, the Lower Columbia River floodplain and tributaries including the Sandy, Washougal, Willamette, Lewis, Kalama, Coweeman and Cowlitz Rivers, and lesser streams, were connected with tidally influenced river processes that were very similar in nature. Higher energy tributary rivers and streams entered the slower moving, but massive Columbia River, within a region of repetitious and periodic slack water and fast moving flows under the influence of Pacific Ocean tides. All the major tributaries within this segment of the Columbia

River originate in the Cascade Mountain Range and sediment deposition and periodic flood flows are common. Native human populations recognized the annual flood cycles and avoided permanent encampment in the low areas of the Columbia River during winter and spring. The bank site was historically part of a large interconnected and tidally influenced floodplain area that included wetlands, oxbows, sloughs and drainages which were heavily influenced by the Cowlitz, Coweeman and Columbia Rivers. These low lying floodplain areas (including the floodplains in the bank site), regularly receive overbank flooding during high river flows, backwatering during spring snow melts and tidal backflow due to the tidal influence in this portion of the Columbia River.

The low-lying topography at the bank site, similar composition of alluvial soils and a consistent tidal connection between the Coweeman, Cowlitz and Columbia Rivers is why the floodplain areas of the bank project are mapped as part of the larger historical Columbia River Floodplain. The bank site is within the tidally influenced portion of the Columbia River Basin and Cowlitz River which is mapped as tidally influenced to River Mile 7.5 on the Coweeman River.

Along the lower Columbia River portion of the Bank's service area from Vancouver to Willow Grove and the tributaries within the tidal reaches, the following aquatic habitat processes and characteristics are shared:

- A shared interaction of floodplain processes, annual floods and sediment deposition, influenced by tidal action.
- The presence of associated back channels, side channels, sloughs, wetlands and low lying lakes.
- Aquatic resource habitat for fish and wildlife that utilize habitat areas along the main stem Columbia River as well as the associated tributaries, including areas such as the bank site and its aquatic areas.
- Vegetation communities and specific species unique to the region that share the same overlapping climate-dependent propagation zones.
- Similar pattern of historic settlement for native cultures in the region that reflect the related natural resource processes occurring in this environment.
- Pattern of historic European settlement and economic interest and trade principally in salmon, timber and other natural resources that are unique to the region.
- Pattern of floodplain control through levees and drainage systems to support agriculture and development, largely focused next to the river and tributaries.

In summation, portions of the Lower Columbia River floodplain are included in the service area based on: 1) the similarities in riverine floodplain geomorphology at the bank site, compared with other similar areas along the lower Columbia River floodplain, 2) the similarities in wetland

processes and other aquatic functions at the bank site compared with other areas of the Columbia River Floodplain and 3) the restoration and creation of tidally influenced wetlands at the Bank site compared with similar areas with current or historical tidal influence along the Lower Columbia River.

The upper and lower river limits of the service area along the Columbia River are also based on a reasonable geographical distance of potential projects from the Bank site location as well as similar topographic features, floodplain soils composition, hydrology and habitat connectivity.

The Service area boundary along the historic lower Columbia River Floodplain has been further detailed by County based upon different watershed characterizations below:

In Clark County, the service area includes that area identified as the Columbia floodplain area by Washington Department of Ecology's Watershed Characterization of Clark County (Ecology, 2007). Specifically, the report states "The Columbia floodplain area is dominated by the influence of the Columbia River. It is located in a rain zone, has sub-surface water flow patterns which are influenced by groundwater discharge from the adjacent upland units and recharge from the river surface waters, geologic deposits consistent primarily of relatively recent river alluvium (sand and silt), and a riverine floodplain and valley walls formed by fluvial action of the river." (Ecology). This area was mapped by Ecology, in cooperation with Clark County.

In Cowlitz County, the service area in the Columbia River floodplain was determined using the following criteria:

1. The service area boundary includes small watersheds immediately above and which directly drain into the Columbia River. The intent is to capture areas that directly influence or are influenced by the Columbia River and are not influenced significantly by surface and subsurface movement of water in major valleys, terraces and mountains that are inland from the historical Columbia River floodplain.
2. The extent of tidal inundation or the 20 foot contour, whichever was greater, was used to determine the upstream boundaries for major rivers and streams. If information on tidal extent was unknown, then the 20 foot contour was used. The 20 foot contour line was selected based on identification of the elevation at which a distinct break between riverine floodplain geomorphology and upland topography occurred. The distinct break is associated with the Columbia River's historical direct influence on wetlands. If the tidal extent upstream on tributaries was downstream of where the 20 foot contour intersected the historic tributary floodplain, then it was used.

### **E.2.2 Universal Credit Use within the Cowlitz River Watershed (WRIA 26)**

The service area for Universal Credits also includes a portion of Water Resource Inventory Area (WRIA) 26 – Cowlitz River Watershed and its major tributaries (including the Coweeman River) below the Mayfield Dam.

In consideration of Ecology’s guidance on locating mitigation and restoration projects using a watershed approach, (Ecology, 2009) the inclusion of the WRIA 26 watershed into the bank’s service area matches future and potential resource impacts in the same hydrologically defined system with those similar restored ecological processes at the bank site. Impacts to the same hydrologically connected ground and surface water flows within WRIA 26 can be offset with improvements to those similarly connected ground and surface water flows within the bank project. The variation of wetland types represented at the Coweeman Mitigation Bank make it uniquely qualified to provide appropriate and in-kind mitigation for a variety of diverse aquatic habitat types in WRIA 26. As an example the Coweeman Mitigation Bank will generate universal credits from the preservation, enhancement rehabilitation and creation activities of wetland types ranging from headwater wetlands along the hillside tributaries down to depressional and riverine wetlands in the floodplain, and finally to the tidally influenced riparian wetlands along the main stem of the Coweeman River. This diverse and all-encompassing system is representative of the wide range of wetland habitat types that are found throughout the WRIA 26 watershed from headwater wetlands in the higher elevations of WRIA 26 to tidally influenced riverine floodplain wetlands in and around the Cities of Kelso and Longview.

The Mayfield Dam in Cowlitz County is the uppermost extent of the service area boundary for universal credit use as most of the land above this point in the watershed is national forestland and the Mayfield Dam is a known landmark representing a hydrologic break and a reasonable geographical distance between the bank site location, and potential projects that wish to utilize credits in the WRIA 26 watershed.

### **E.3 Service Area Boundary for DSAY Credit Use**

The service area for offsetting permanent or temporary habitat impacts to ESA-designated and proposed critical habitat for listed fish species, as well as non-listed and resident fish species and stream habitat impacts, includes portions of the Lower Columbia River Basin and associated tributaries outside of WRIA 26 and portions of the Cowlitz River Watershed (WRIA 26). The limits of the service area for ESA designated fish habitat and non-listed fish habitat are described below and illustrated in Figure E-2.

#### **In the Cowlitz River Watershed (WRIA 26):**

The service area for fish includes all portions of the Cowlitz River Watershed with the exception of areas upstream of the North Fork Toutle River Sediment Retention Structure (SRS) as it is not feasible to offset impacts on ESA listed species and non-listed species above the SRS.

#### **Lower Columbia River Basin and Associated Tributaries outside of WRIA 26:**

The upstream extent of the service area within the Columbia River Basin extends as far as the Port of Kalama and associated properties along the mainstem of the Columbia River. The service area also includes the tidally influenced portions of the Kalama River up to RM 2.8 which is also demarcated by the “Modrow Bridge” over the Kalama River. The Kalama River is recognized as a “contributing” system for LCR coho, Chinook and chum salmon, but is recognized as a

primary system for steelhead. Therefore, impacts to steelhead habitat in the Kalama system cannot be offset with credits from the Bank. The downstream extent of the service area within the Columbia River Basin terminates at river mile 56 on the Columbia River and includes the tidally influenced portions of Germany Creek (approximately ½ mile upstream) as well as all of the other independent tributaries and sloughs between the Cowlitz watershed and Germany Creek.

The Bank service area includes the entirety of Owl Creek, the independent drainage to the Columbia River between the Kalama River and the Cowlitz River. The Owl Creek system is recognized in the LCR recovery plan as “supporting” only to recovery for LCR Chinook, coho, chum and steelhead. It is presumed that impacts in the Owl Creek drainage above the natural barrier on this system, could be offset by withdrawals from the Coweeman Bank for aquatic habitat impacts addressed through WDFW’s HPA program or for Corps and Ecology permit requirements, where mitigation is sought for non-listed fish and aquatic habitat impacts.

The Bank service area also includes the entirety of the Coal Creek and Clark Creek watersheds in Longview which are the first independent tributaries downstream of the confluence of the Cowlitz River with the mainstem Columbia River. The Bank can only be used to offset impacts to non-listed fish habitat above the fish passage barriers in both of these systems.

#### **E.4 Use of Credits outside the Service Area**

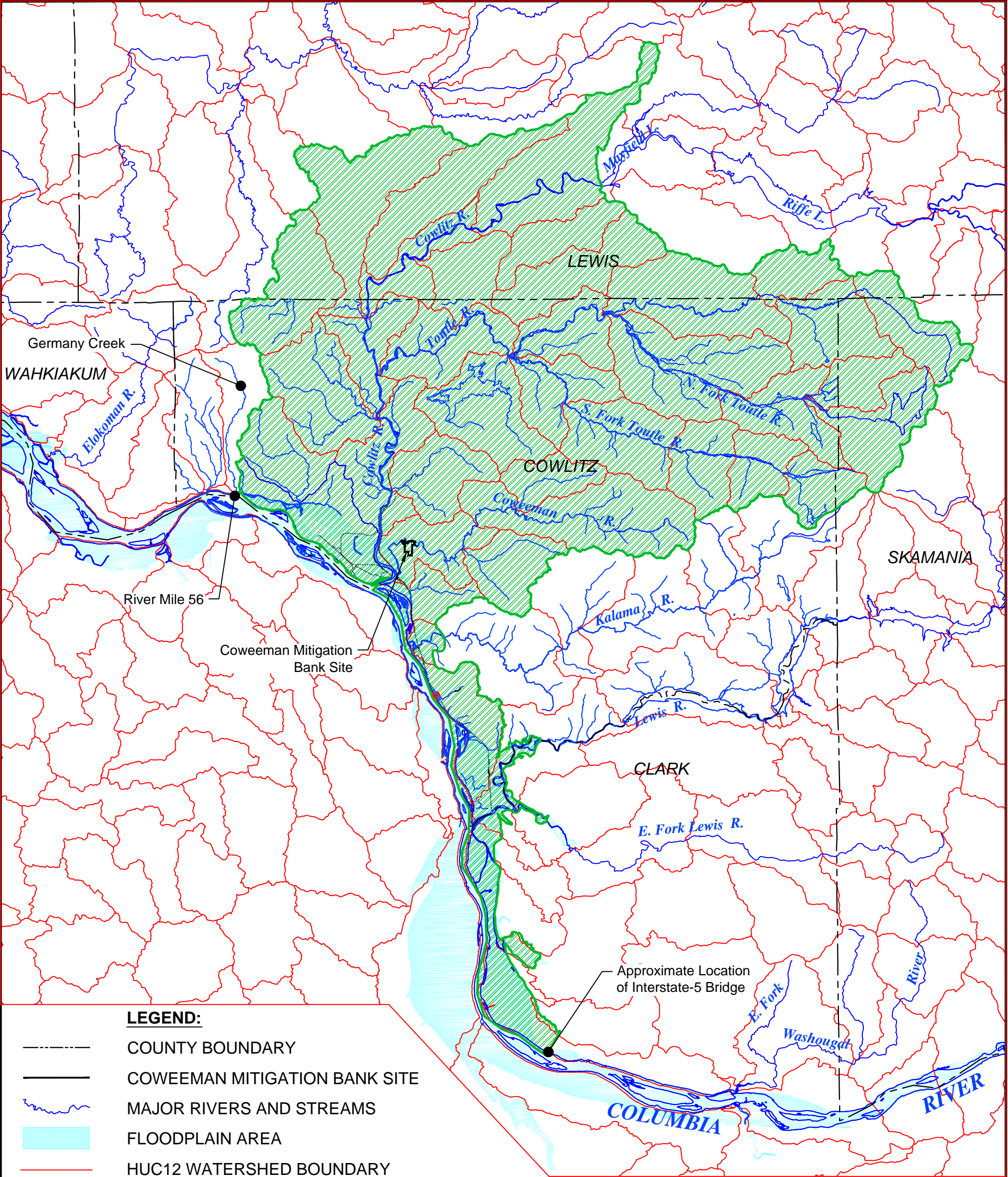
The Bank may be used to compensate for permitted impacts outside the service area if specifically approved by the appropriate agencies requiring mitigation and the Corps and Ecology, following consultation with the IRT, provided that such mitigation would be practicable and environmentally preferable to other mitigation alternatives. As such, out-of-service-area impacts will only be allowed in special circumstances, which will be evaluated on a case-by-case basis (e.g., projects that span multiple basins such as transportation and utility corridors and pipelines, and settlement of enforcement actions).

#### **E.5 Universal Credit Ratios and DSAY Credit Use**

A. Universal credits or DSAYs may be used, subject to the approval of the regulatory agencies with jurisdiction over the impact, to compensate for authorized permanent or temporary impacts, as well as to resolve enforcement or permit compliance actions such as replacing previously implemented project-specific mitigation that has partially or completely failed.

Each credit withdrawal transaction agreement that is associated with a permit must indicate the permit number of the impacting project, date of permit issuance, the number of universal credits and/or DSAYs transacted, and must expressly specify that the Sponsor, and its successors and assigns, assumes responsibility for accomplishment and maintenance of the permittee’s compensatory mitigation requirements associated with the impacting project, upon completion of the credit transfer.

B. The following table depicts the approximate number of Universal Credits typically required by the IRT agencies to compensate for each unit of permanent loss of listed aquatic resource type



**LEGEND:**

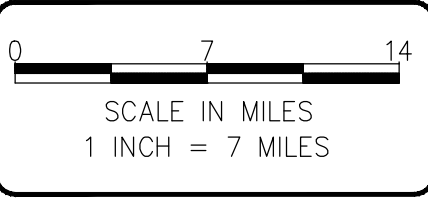
- COUNTY BOUNDARY
- COWEEMAN MITIGATION BANK SITE
- ~~~~~ MAJOR RIVERS AND STREAMS
- ~~~~~ FLOODPLAIN AREA
- HUC12 WATERSHED BOUNDARY
- ~~~~~ COWEEMAN MITIGATION BANK UNIVERSAL CREDIT SERVICE AREA

**SERVICE AREA LIMITATIONS:**

- COLUMBIA RIVER UPSTREAM LIMIT: INTERSTATE 5 BRIDGE IN VANCOUVER
- COLUMBIA RIVER DOWNSTREAM LIMIT: RIVER MILE 56 NEAR STELLA
- COWLITZ WATERSHED: ALL OF WRIA 26 BELOW MAYFIELD DAM

**NOTES:**

- 1. STATE, COUNTY, RIVERS, AND STREAM BOUNDARIES FROM ECOLOGY WEBSITE:  
<http://www.wsdot.wa.gov/mapsdata/geodatacatalog/default.htm>
- 2. FLOODPLAIN DATA FROM J. BURKE, UNIVERSITY OF WASHINGTON.
- 3. HUC12 WATERSHED BOUNDARIES FROM USGS WEBSITE:  
<http://www.water.usgs.gov/wsc/cat/17080001.html>.
- 4. BASE MAP PREPARED BY ECOLOGICAL LAND SERVICES, INC., FEBRUARY 2015.



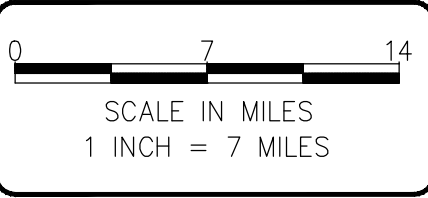
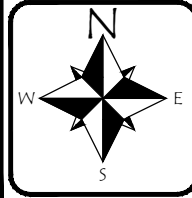
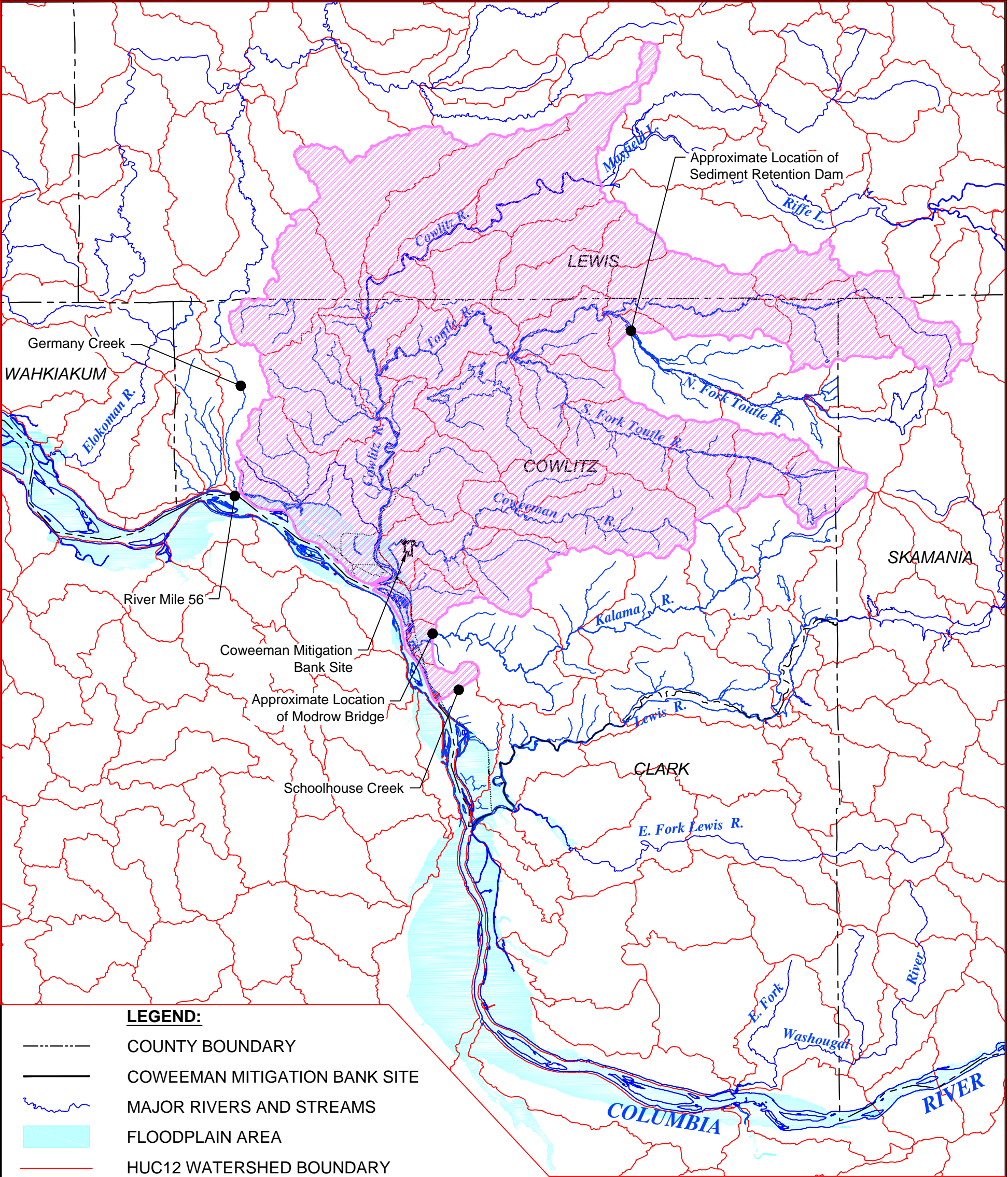


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DATE: 4/21/15  
DWN: BCB  
REQ. BY: ST  
PRJ. MGR: ST  
CHK:  
PROJECT NO:  
1209.14

Figure E-1  
COWEEMAN BANK UNIVERSAL CREDIT SERVICE AREA  
Coweeman Mitigation Bank  
Habitat Bank LLC  
City of Kelso, Cowlitz County, Washington  
Section 31, Township 8N, Range 1W, W.M.  
Section 36, Township 8N, Range 2W, W.M.





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Figure E-2  
COWEEMAN BANK DSAY CREDIT SERVICE AREA  
Coweeman Mitigation Bank  
Habitat Bank LLC  
City of Kelso, Cowlitz County, Washington  
Section 31, Township 8N, Range 1W, W.M.  
Section 36, Township 8N, Range 2W, W.M.