

Snake River – Reach 2 Franklin County**Reach Description:** Snake River from Lower Monumental Dam to McCoy Canyon**Shoreline Jurisdiction:** 2,591 acresSource: <https://fortress.wa.gov/ecy/coastalatlus/UICoastalAtlas/Tools/ShorePhotos.aspx>**Subreaches (SRs); see Figures 10, 11, and 12:**

SR 2a: Begins at the downstream of the Lower Monumental Dam extending 0.8 miles to the southwest

SR 2b: Extends 1.7 miles to the southwest

SR 2c: Extends 0.8 mile to the southwest ending at the edge of Windust Park

SR 2d: Extends 1.8 miles to the southwest

SR 2e: Extends 3.5 miles to the south

SR 2f: Extends 2.3 miles to the south

SR 2g: Extends 6 miles to the southwest ending at McCoy Canyon

CHARACTERISTICS**Ownership** – Most of Reach 2 is publicly owned by Washington State Parks and Recreation Commission with a small amount (less than 10%) of private ownership.

Snake River – Reach 2	Franklin County
<p>Land Use/Current SMP:</p> <p>Land Use Designation:</p> <ul style="list-style-type: none"> • Current land use is Agricultural • Zoning - Agricultural Production 40 <p>Current SMP Environment Designation:</p> <ul style="list-style-type: none"> • Rural and Conservancy 	
<p>Existing Land Cover/Development:</p> <p>Reach 2 consists primarily of unimproved land, local roads, trails, boat launches, parking, and grain elevators. Parking, boat launches, and grain elevators are located on SR 2d.</p>	
<p>Geomorphic Character:</p> <p>Description – Lake Sacajawea is an artificial lake formed by the Ice Harbor Lock and Dam. The lake shoreline and adjacent valley walls consist of outburst flood deposits and the Grande Ronde and Wanapum Basalts. The lake is managed as a run-of-the-river reservoir. Lake levels are managed to fluctuate with river flows.</p> <p>Hardened Banks – Approximately 12,000 linear feet of hardened banks, mostly associated with transportation infrastructure, are known to exist in Reach 2.</p>	
<p>Flooding and Geological Hazards:</p> <p>Flooding – There is a floodplain established in this reach. The 100-year floodplain is very narrow. Base flood elevations have not been determined and no floodway exists. Lower Monumental Dam is located in SR 2a.</p> <p>Geological Hazards – Slopes greater than 40% are present in all subreaches of Reach 2 and mostly occur in the Grande Ronde Basalt.</p>	
<p>Existing Public Access – Windust Park has a boat launch, fishing area, and parking area. Columbia Plateau Trail parallels the shoreline north of Windust Park. State Route 263 (Devils Canyon Road) and Burr Canyon Road also parallel the shoreline. Public access may not be feasible in SR 2e and SR 2g due to high banks and steep slopes.</p> <p>Identified Public Access Improvements – Columbia Plateau Trail Management Plan has identified improvements for the entire trail, where feasible, such as providing new trailheads to be established in specific locations, improving campsite facilities, and providing interpretive signage.</p> <p>Public Access Opportunities – Visual access opportunities may exist on high-bank areas owned by public agencies.</p>	

Snake River – Reach 2	Franklin County
ECOLOGICAL CONDITIONS	
<p>Water Quantity and Sediment:</p> <p>Water quantity is influenced by some minor input from canyons forming low-lying runoff points. The draft of Lake Sacajawea levels may cause movement of some sediment. As the elevation in a lake drops, mobile sediment may aggrade along the banks. This sediment may become mobile again upon lake elevation increase.</p> <p>Sediment input is restricted by upstream dams, but tributary inflow during storm events and/or landslide potential in this reach may cause sediment input.</p>	
<p>Water Quality:</p> <p>The beginning of this reach (SR 2a and SR 2b) of the Snake River is on the 303(d) list (Category 5) for temperature, impaired (Category 4C) by invasive exotic species, has a total maximum daily load in place (Category 4A) for total dissolved gas, and is a water of concern (Category 2) for dissolved oxygen. This overlaps from SR 1h (SR 1h did not have Category 2, dissolved oxygen listed).</p> <p>Another portion of the river near SR 2e is on the 303(d) list (Category 5) for total chlordane, polychlorinated biphenyl, oxaphene, Dieldrin, 2,3,7,8-TCDD, and 4,4'-DDE and is a water of concern (Category 2) for 2,3,7,8-TCDD TEQ.</p>	
<p>Habitat Characteristics and PHS Presence:</p> <p>This reach begins at the Lower Monumental Dam and extends to McCoy Canyon. The river in this reach is not free-flowing, consisting of the upper end of the Lake Sacajawea pool formed by the Ice Harbor Dam. Riparian vegetation is confined to a narrow strip along much of the waterway. Much of the shoreline area is under federal ownership and managed as part of the Snake River Dam system. This reach includes feeding, resting, and nesting habitat for migratory waterfowl and has seasonally high concentrations of waterfowl use. Habitat in this reach may support bald eagle (<i>Haliaeetus leucocephalus</i>) wintering and great blue heron (<i>Ardea herodias</i>) foraging in the associated riparian area and wetlands found intermittently along this reach. The riparian zone, including willows, cattails, and associated shrub-steppe habitat, may provide habitat for mule deer, and habitat suitable for ring-necked pheasant, a WDFW-managed non-native game species, may be present in this reach. The Snake River in this reach supports a number of Endangered Species Act-listed fish species, as identified in the main text of the IAC Report.</p> <p>SR 2a – This subreach includes managed shoreline downstream of the Lower Monumental Dam. The shoreline includes some industrial overwater infrastructure near the dam, and the subreach ends just before Devils Canyon Road shifts closer to the shoreline. There is almost no shoreline riparian vegetation along this subreach, with the exception of sparsely scattered trees.</p> <p>SR 2b – This subreach has minimal amount of riparian vegetation, and the shoreline is separated from upland shrub-steppe habitat by the presence of Devils Canyon Road. As the roadway shifts away from the river, the shoreline has more natural undulations and the riparian zone becomes wider and forms a more contiguous band of cover, with some trees that overhang the waterway.</p>	

Snake River – Reach 2	Franklin County
------------------------------	------------------------

SR 2c – This subreach is characterized by significant riparian community that extends the full width of the shoreline jurisdictional area for many hundreds of feet of shoreline. Windust Park contains a boat launch and protected swim area along the shoreline. This subreach also includes a grain terminal with an overwater loading trestle and mooring dolphins. The subreach ends just before Burr Canyon Road shifts closer to the shoreline, and where the riparian vegetation again diminishes and becomes sparser.

SR 2d – This subreach has a minimal amount of riparian vegetation, and the shoreline is separated from upland shrub-steppe habitat by the presence of Burr Canyon Road, although there are more natural shoreline areas compared to SR 2b. The shoreline is more steeply sloped toward the end of this this subreach, and some of the shoreline bluffs are erosive and result in frequent disturbance from upslope materials.

SR 2e – This subreach is adjacent to more steeply sloped cliffs and bluffs, and in many areas there is frequent disturbance from upslope materials, making shoreline riparian vegetation sparse and disconnected.

SR 2f – This subreach is adjacent to terraced cliffs and bluffs, primarily due to presence of roadways and trails. In a few areas there is frequent disturbance from landslides of upslope materials, making shoreline riparian vegetation sparse and disconnected, but there are large contiguous zones of vegetation interspersed with small clusters of trees where the slopes are less steep immediately adjacent to the shoreline. In an area near the end of the subreach, the riparian vegetation is connected to the adjacent upland shrub-steppe habitat and may potentially support some wetland features under certain water levels; however, in general, the riparian vegetation in this subreach is disconnected from the uplands due to presence of roads and trails.

SR 2g – There is minimal riparian vegetation of any kind in this subreach due to the slope and erosive nature of the shoreline. In general, the riparian vegetation in this subreach, where it exists, is disconnected due to presence of slopes, roads, trails, or terraces created by fluctuations in the water pool level.

ECOLOGICAL FUNCTIONS ANALYSIS

SR 2a

Level of Existing Function – Impaired

Stressors:

- Hydroelectric dam and associated infrastructure
- Roads
- Trails
- Railroad corridor

Potential Restoration Opportunities – Evaluate opportunities to incorporate aquatic habitat complexity (substrate, organic material, structural elements [e.g., large woody debris], and aquatic and riparian vegetation) along with soft bank stabilization techniques, if modifications dam infrastructure are implemented.

Snake River – Reach 2	Franklin County
<p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type. Limit recreation access within intact riparian and shrub-steppe areas. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	
<p>SR 2b</p>	
<p>Level of Existing Function – Partially Functioning</p> <p>Stressors:</p> <ul style="list-style-type: none"> • Railroads • Road • Overhead utilities <p>Potential Restoration Opportunities – Complete shrub-steppe restoration consistent with WDFW restoration guide.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	
<p>SR 2c</p>	
<p>Level of Existing Function – Partially Functioning</p> <p>Stressors:</p> <p>Recreation:</p> <ul style="list-style-type: none"> • Boat ramp • Overwater structures • Swim beach • Parking lot <p>Potential Restoration Opportunities – Evaluate opportunities to incorporate aquatic habitat complexity (substrate, organic material, structural elements [e.g., large woody debris], and aquatic and riparian vegetation) along with soft bank stabilization techniques, if modifications to boat ramp are implemented.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	

Snake River – Reach 2	Franklin County
SR 2d	
<p>Level of Existing Function – Impaired</p> <p>Stressors:</p> <ul style="list-style-type: none"> • Burr Canyon Road located near water’s edge • Dirt road <p>Potential Restoration Opportunities – Make shrub-steppe restoration consistent with WDFW restoration guidelines.</p> <p>Potential Protection Opportunities – Protect native shrub-steppe vegetation to preserve and support re-establishment of this land cover type. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	
SR 2e	
<p>Level of Existing Function – Partially Functioning</p> <p>Stressors:</p> <ul style="list-style-type: none"> • Paved road in northern portion of subreach • Unpaved road continues after paved road ends • Informal parking areas and day use water access areas • Columbia Plateau trail (outside of jurisdiction) <p>Potential Restoration Opportunities – Consolidate water access trails and roads, as well as formalize parking areas. Replant degraded riparian areas.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type.</p>	
SR 2f	
<p>Level of Existing Function – Partially Functioning</p> <p>Stressors:</p> <ul style="list-style-type: none"> • Unpaved road near water’s edge and access roads to water • Informal parking areas and day use water access areas • Columbia Plateau trail (outside of jurisdiction) <p>Potential Restoration Opportunities – Consolidate water access trails and roads, as well as parking areas. Replant degraded riparian areas.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type.</p>	

Snake River – Reach 2	Franklin County
SR 2g	
<p>Level of Existing Function – Partially Functioning</p> <p>Stressors:</p> <ul style="list-style-type: none">• Trail• Trailhead access road• Informal trails• Informal parking areas <p>Potential Restoration Opportunities – Consolidate water access trails, formalize trailhead and parking, and replant degraded areas.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	

C:\Jobs\131028-01.01_Franklin_County_SMP\Maps\Reaches\FranklinCo_ReachBreaks_Mapbook.mxd Ihudson 12/22/2014 10:30:41 AM



LEGEND

-  Reach Break
-  County Boundary
-  SMA Jurisdiction

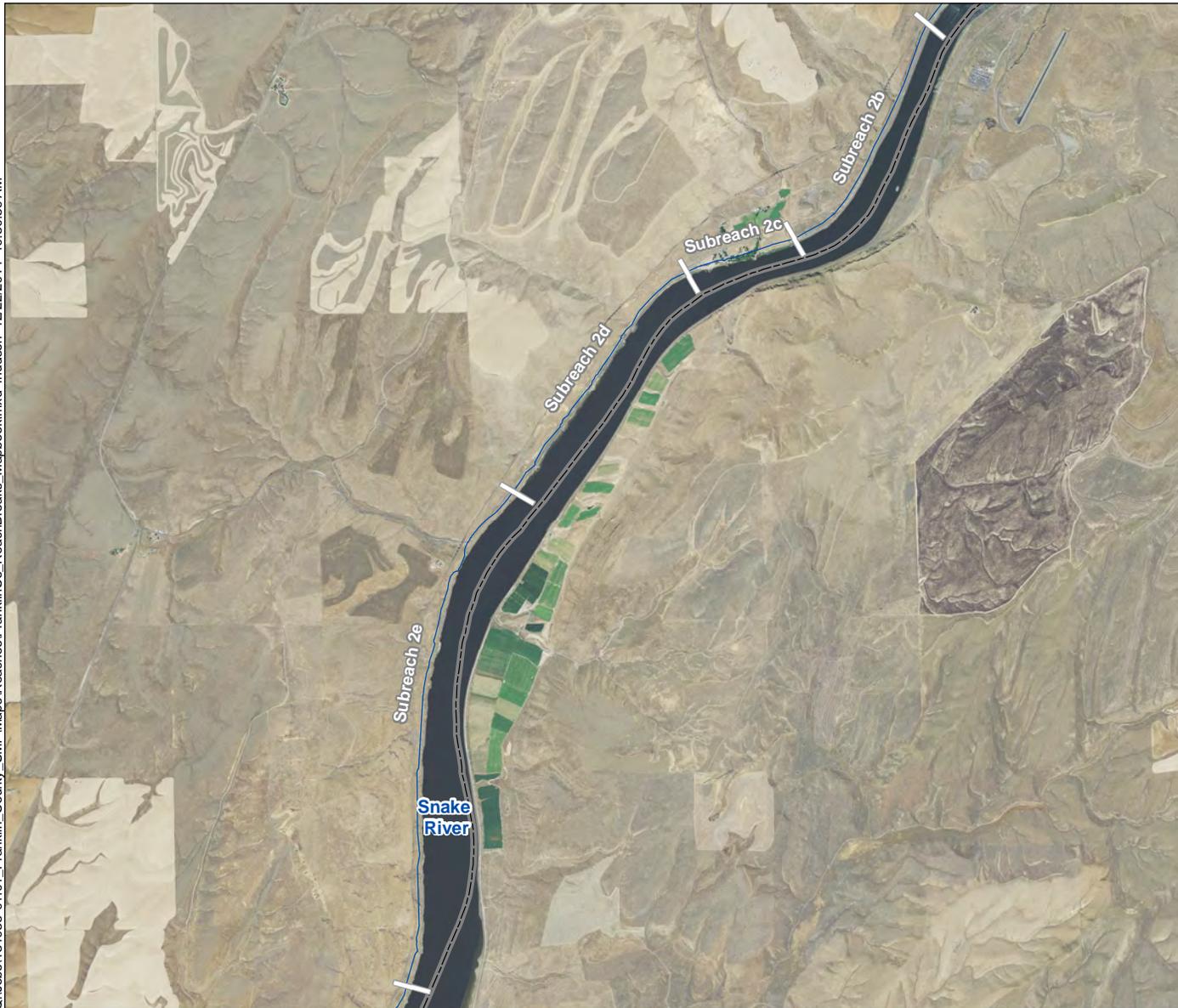
NOTES:

1. This information is to be used for planning purposes only. Data is displayed as is and without any guarantee of accuracy or completeness.
2. Aerial image courtesy of USDA NAIP (2013).



Map 10
Snake River Subreaches 1f-2a
Franklin County Shoreline Master Program
Franklin County, WA

C:\Jobs\131038-01_01_Franklin_County_SMP\Maps\Reaches\FranklinCo_ReachBreaks_Mapbook.mxd lhudson 12/22/2014 10:30:59 AM



LEGEND

-  Reach Break
-  County Boundary
-  SMA Jurisdiction

NOTES:

1. This information is to be used for planning purposes only. Data is displayed as is and without any guarantee of accuracy or completeness.
2. Aerial image courtesy of USDA NAIP (2013).



C:\Jobs\131028-01_01_Franklin_County_SMP\Maps\Reaches\FranklinCo_ReachBreaks_Mapbook.mxd lhudson 12/22/2014 10:31:18 AM

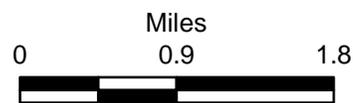


LEGEND

-  Reach Break
-  Populated Place
-  County Boundary
-  SMA Jurisdiction

NOTES:

1. This information is to be used for planning purposes only. Data is displayed as is and without any guarantee of accuracy or completeness.
2. Aerial image courtesy of USDA NAIP (2013).



Snake River – Reach 3 Franklin County**Reach Description:** Snake River from McCoy Canyon to Ice Harbor Dam**Shoreline Jurisdiction:** 3,048 acresSource: <https://fortress.wa.gov/ecy/coastalatl/UICoastalAtlas/Tools/ShorePhotos.aspx>**Subreaches (SRs); see Figures 13 and 14:**

SR 3a: Begins at McCoy Canyon extending 1 mile to the west

SR 3b: Extends 2 miles to the west ending at the edge of agricultural developments

SR 3c: Extends 1.7 miles to the south to the edge of Emma Lake

SR 3d: Extends 0.9 miles to the southwest ending at the downstream of Emma Lake

SR 3e: Extends 0.9 miles to the south to the edge of Big Flat Recreation Area

SR 3f: Extend 4 miles to the southwest ending at the downstream of Big Flat Recreation Area

SR 3g: Extends 1.5 miles to the southwest

SR 3h: Extends 1 mile to the southwest ending at the end of Levey Landing Park

SR 3i: Extends 2.7 miles to the south west ending at the Ice Harbor Dam

CHARACTERISTICS

Ownership – Most of Reach 3 is public. The ownership is separated by federal agencies and Washington State Parks and Recreation Commission. There is a very small amount (less than 5%) owned by a U.S. Indian Tribe.

Snake River – Reach 3	Franklin County
Land Use/Current SMP:	
Land use designation:	
<ul style="list-style-type: none"> • Current land use is Agricultural • Zoning - Agricultural Production 20, Agricultural Production 40, and Rural Residential 5 	
Current SMP Environment Designation:	
<ul style="list-style-type: none"> • Rural and Conservancy 	
Existing Land Cover/Development:	
Reach 3 contains unimproved land, agricultural land, trails, riparian vegetation, a boat launch, docks, parking areas, and a hydroelectric structure. The boat launch, docks, and parking areas are located in SR 3h and SR 3i, and the agricultural land abuts the shoreline on SR 3c, SR 3d, and SR 3e.	
Geomorphic Character:	
Description – Lake Sacajawea is an artificial lake formed by Ice Harbor Lock and Dam. The lake shoreline and adjacent valley walls consist mostly of outburst flood deposits and Wanapum Basalts. The lake is managed as a run-of-the-river reservoir. Lake levels are managed to fluctuate with river flows.	
Hardened Banks – Approximately linear 14,700 feet of hardened banks, mostly associated with transportation infrastructure are known to exist in Reach 3.	
Flooding and Geological Hazards:	
Flooding – There is a floodplain established in this reach. The 100-year floodplain is very narrow. Base flood elevations have not been determined and no floodway exists.	
Geological Hazards – Steep slopes greater than 40% are present throughout Reach 3, most notably along the bluffs of SR 3e, SR 3g, and SR 3i. These steep slopes are primarily comprised of Wanapum and Saddle Mountains Basalts.	
Existing Public Access – Levey Landing Park includes a boat launch, dock, foot bridge, and parking area. Ice Harbor Dam also includes a boat launch and parking area. The Big Flat Habitat Management Unit offers passive recreation and public access. Columbia Plateau Trail parallels the shoreline offering public access.	
Identified Public Access Improvements – The Columbia Plateau Trail Management Plan has identified improvements for the entire trail, where feasible, such as providing new trailheads to be established in specific locations, improving campsite facilities, and providing interpretive signage.	
Public Access Opportunities – Existing public access appears to be adequate in this reach; no additional opportunities exist except for improvement and maintenance of existing facilities.	
ECOLOGICAL CONDITIONS	
Water Quantity and Sediment:	
Water quantity is dependent on dam and reservoir operations. Minor runoff volumes from canyons throughout the reach may increase water quantity during storm events. Irrigation runoff may increase	

Snake River – Reach 3	Franklin County
<p>water quantity throughout the lower subreaches, but pumping stations for agricultural use may reduce water quantity.</p> <p>Sediment input is restricted by upstream dams, but tributary inflow and/or landslide potential in this reach may cause sediment input. Sediment likely builds up at SR 3i at the base of Ice Harbor Dam.</p>	
<p>Water Quality:</p> <p>A portion of this reach (SR 3f to SR 3g) of the Snake River is on the 303(d) list (Category 5) for temperature and dissolved oxygen and is a water of concern (Category 2) for pH.</p> <p>An area near SR 3i of this reach is on the 303(d) list (Category 5) for 2,3,7,8-TCDD, 4,4'-DDE, and polychlorinated biphenyl (PCB) and is a water of concern (Category 2) for 2,3,7,8-TCDD TEQ.</p> <p>The end part of this reach overlapping into reach 4 is on the 303(d) list (Category 5) for temperature, total phosphorus, PCB, chlordane, 4,4'-DDE, dieldrin; has a total maximum daily load in place (Category 4A) for total dissolved gas; and is impaired (Category 4C) by invasive exotic species.</p>	
<p>Habitat Characteristics and PHS Presence:</p> <p>This reach begins at the confluence with the Palouse River and ends at Lower Monumental Dam; the river in this reach is not free-flowing. Riparian vegetation is confined to a narrow strip along the waterway due to steep slopes of the river shoreline. Much of the shoreline area is under federal ownership and managed as part of the Snake River Dam system. This reach includes feeding, resting, and nesting habitat for migratory waterfowl, and has seasonally high concentrations of waterfowl use. Habitat in this reach may support bald eagle wintering and great blue heron foraging in the associated riparian area, and wetlands are found intermittently in certain embayments. The riparian zone, including willows, cattails, and associated shrub-steppe habitat may provide habitat for mule deer, and habitat suitable for ring-necked pheasant, a WDFW-managed non-native game species, may be present in this reach. The Snake River in this reach supports a number of Endangered Species Act-listed fish species, as identified in the main text of the IAC Report.</p> <p>SR 3a – This reach includes the Lost Island Habitat Management Unit, managed USACE to mitigate impacts from dam operations. There is an embayment at the downstream end of the reach that contains wetland habitat. Riparian vegetation is intact along the entire length of the subreach, but relatively narrow at 30 to 80 feet in width. The uplands are planted with grasses and small trees, maintained via irrigation. In between the irrigated areas, the vegetation is shrub-steppe sagebrush vegetation.</p> <p>SR 3b – This subreach has a minimal amount of riparian vegetation, and the shoreline is separated from upland shrub-steppe habitat by the presence of the Columbia Plateau Trail. The shoreline is more steeply sloped toward the end of this this subreach, and some of the shoreline bluffs are erosive and result in frequent disturbance from upslope materials.</p> <p>SR 3c – This subreach has a minimal amount of riparian vegetation, and the shoreline is separated from upland shrub-steppe habitat by the presence of the Columbia Plateau Trail. The shoreline is more steeply sloped toward the end of this this subreach, and some of the shoreline bluffs are erosive and result in frequent disturbance from upslope materials. The uplands in this subreach begin transitioning to agricultural land uses, but this is generally well outside of the shoreline jurisdictional zone, and it is not likely</p>	

Snake River – Reach 3	Franklin County
<p>that runoff from these irrigated fields would be directly conveyed to the river.</p> <p>SR 3d – This subreach has a minimal amount of riparian vegetation, and the shoreline is separated from upland shrub-steppe habitat by the presence of the Columbia Plateau Trail. The shoreline is artificially stabilized, and this reach is adjacent to Emma Lake, although it has no direct connection to the lake.</p> <p>SR 3e – This subreach has a minimal amount of riparian vegetation, and the shoreline is separated from upland shrub-steppe habitat by the presence of the Columbia Plateau Trail. The shoreline is more steeply sloped toward the end of this this subreach, and some of the shoreline bluffs are erosive and result in frequent disturbance from upslope materials. The uplands in this subreach begin transitioning to agricultural land uses, but this is generally well outside of the shoreline jurisdictional zone, and it is unlikely that runoff from these irrigated fields would be directly conveyed to the river.</p> <p>SR 3f – This reach includes the Big Flat Habitat Management Unit that is managed by the USACE to mitigate impacts from dam operations and located on a flat area of land at a bend in the river channel. There is an embayment at the upstream and downstream end of the reach. Dalton Lake is formed on the downstream end by an artificial dike. Riparian vegetation is intact along the entire length of the subreach, but relatively narrow at 30 to 80 feet in width. The uplands are planted with grasses and small trees, maintained via irrigation. In between the irrigated areas, the vegetation is shrub-steppe sagebrush vegetation. There is an informal boat launch area on the river and a number of trails in the uplands.</p> <p>SR 3g – This subreach has a minimal amount of riparian vegetation, and the shoreline is artificially stabilized and separated from upland shrub-steppe habitat by the presence of the Columbia Plateau Trail. There are several embayments at the upstream end of this subreach where riparian vegetation is established and supports trees, small shrubs, and grasses/forbs.</p> <p>SR 3h – This subreach includes Levey Landing Park, and the shoreline includes several embayments that support pockets of riparian vegetation, but in general the vegetation along the shoreline is sparse. The uplands at Level Landing Park are artificially landscaped and maintained. The Park includes recreational docks, a boat launch, trails, and a protected swimming area.</p> <p>SR 3i – This subreach has a minimal amount of riparian vegetation, and the shoreline is artificially stabilized and separated from upland shrub-steppe habitat by the presence of the Columbia Plateau Trail. The shoreline is artificially stabilized, and this reach includes a stretch adjacent to an unnamed lake or impoundment, mostly separated from the rest of the river pool by an artificial dike. The subreach shoreline becomes more undulating, and the shoreline slopes less steep as it nears the Ice Harbor Dam, but vegetation remains minimal along the shoreline, with shrub-steppe habitat predominating within the shoreline jurisdictional zone. There is an additional boat launch near the dam.</p>	

Snake River – Reach 3	Franklin County
ECOLOGICAL FUNCTIONS ANALYSIS	
SR 3a	
<p>Level of Existing Function – Functioning</p> <p>Stressors:</p> <ul style="list-style-type: none"> • Hydroelectric dam infrastructure • Roads • Trails <p>Management of hydro-electric facilities affects water quantity, access to floodplain habitat, and migratory corridors, as well as overall habitat complexity. The water management regimes of the dam systems impact floodplain and riparian functions such as erosion control, wildlife habitat, and migratory corridors. Recreational access via existing roads and trails adjacent to the waterway fragment riparian habitat.</p> <p>Potential Restoration Opportunities – Evaluate opportunities to incorporate aquatic habitat complexity (substrate, organic material, structural elements [e.g., large woody debris], and aquatic and riparian vegetation) along with soft bank stabilization techniques.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type and reduce spread of invasive species. Limit recreation access within intact riparian and shrub-steppe areas, and formalize other recreation access points to minimize riparian habitat fragmentation. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	
<p>SR 3b</p> <p>Level of Existing Function – Functioning</p> <p>Stressors:</p> <p>Upland development:</p> <ul style="list-style-type: none"> • Hydroelectric dam infrastructure • Roads • Trails <p>Management of hydro-electric facilities affects water quantity, access to floodplain habitat, and migratory corridors, as well as overall habitat complexity. The water management regimes of the dam systems impact floodplain and riparian functions such as erosion control, wildlife habitat, and migratory corridors. Recreational access via existing roads and trails adjacent to the waterway fragment riparian habitat.</p> <p>Potential Restoration Opportunities – Evaluate opportunities to incorporate aquatic habitat complexity (substrate, organic material, structural elements [e.g., large woody debris], and aquatic and riparian vegetation) along with soft bank stabilization techniques.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type and reduce spread of invasive species. Limit recreation access within intact riparian and shrub-steppe areas. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	

Snake River – Reach 3	Franklin County
SR 3c	
<p>Level of Existing Function – Functioning</p> <p>Stressors:</p> <p>Upland development:</p> <ul style="list-style-type: none"> • Hydroelectric dam infrastructure • Roads • Trails <p>Management of hydro-electric facilities affects water quantity, access to floodplain habitat, and migratory corridors, as well as overall habitat complexity. The water management regimes of the dam systems impact floodplain and riparian functions such as erosion control, wildlife habitat, and migratory corridors. Recreational access via existing roads and trails adjacent to the waterway fragment riparian habitat.</p> <p>Potential Restoration Opportunities – Evaluate opportunities to incorporate aquatic habitat complexity (substrate, organic material, structural elements [e.g., large woody debris], and aquatic and riparian vegetation) along with soft bank stabilization techniques, if modifications to dam infrastructure are implemented.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type and reduce spread of invasive species. Limit recreation access within intact riparian and shrub-steppe areas. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	
SR 3d	
<p>Level of Existing Function – Partially Functioning</p> <p>Stressors:</p> <p>Upland development:</p> <ul style="list-style-type: none"> • Hydroelectric dam infrastructure • Roads • Trails <p>Management of hydro-electric facilities affects water quantity, access to floodplain habitat, and migratory corridors, as well as overall habitat complexity. The water management regimes and shoreline stabilization in this subreach impact floodplain and riparian functions such as erosion control, wildlife habitat, and migratory corridors. Recreational access via existing roads and trails adjacent to the waterway fragment riparian habitat.</p> <p>Potential Restoration Opportunities – Evaluate opportunities to incorporate aquatic habitat complexity (substrate, organic material, structural elements [e.g., large woody debris], and aquatic and riparian vegetation) along with soft bank stabilization techniques, if modifications to dam infrastructure are implemented.</p>	

Snake River – Reach 3	Franklin County
<p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type and reduce spread of invasive species. Limit recreation access within intact riparian and shrub-steppe areas. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	
<p>SR 3e</p>	
<p>Level of Existing Function: Functioning</p> <p>Stressors:</p> <p>Upland development:</p> <ul style="list-style-type: none"> • Hydroelectric dam infrastructure • Roads • Trails <p>Management of hydro-electric facilities affects water quantity, access to floodplain habitat, and migratory corridors, as well as overall habitat complexity. The water management regimes of the dam systems impact floodplain and riparian functions such as erosion control, wildlife habitat, and migratory corridors. Recreational access via existing roads and trails adjacent to the waterway fragment riparian habitat.</p> <p>Potential Restoration Opportunities – Management of invasive species, steep slopes, and erosive substrates make shoreline modifications impracticable in this subreach.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type and reduce spread of invasive species. Limit recreation access within intact riparian and shrub-steppe areas. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	
<p>SR 3f</p>	
<p>Level of Existing Function – Functioning</p> <p>Stressors:</p> <p>Upland development:</p> <ul style="list-style-type: none"> • Hydroelectric dam infrastructure • Roads • Trails <p>Management of hydro-electric facilities affects water quantity, access to floodplain habitat, and migratory corridors, as well as overall habitat complexity. The management of irrigated vegetated areas provide some enhanced floodplain and riparian functions such as erosion control, wildlife habitat, and migratory corridors. Recreational access via existing roads and trails adjacent to the waterway fragment riparian habitat.</p> <p>Potential Restoration Opportunities – Evaluate opportunities to incorporate aquatic habitat complexity in the vicinity of Dalton Lake (substrate, organic material, structural elements [e.g., large woody debris], and aquatic and riparian vegetation) along with soft bank stabilization techniques, if modifications to dam infrastructure are implemented.</p>	

Snake River – Reach 3	Franklin County
<p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type and reduce spread of invasive species. Limit recreation access within intact riparian and shrub-steppe areas. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	
<p>SR 3g</p>	
<p>Level of Existing Function – Functioning</p> <p>Stressors:</p> <p>Upland development:</p> <ul style="list-style-type: none"> • Hydroelectric dam infrastructure • Roads • Trails <p>Management of hydro-electric facilities affects water quantity, access to floodplain habitat, and migratory corridors, as well as overall habitat complexity. The water management regimes of the dam systems impact floodplain and riparian functions such as erosion control, wildlife habitat, and migratory corridors. Recreational access via existing roads and trails adjacent to the waterway fragment riparian habitat.</p> <p>Potential Restoration Opportunities – Evaluate opportunities to incorporate aquatic habitat complexity and increase habitat connectivity in the vicinity of existing embayments (substrate, organic material, structural elements [e.g., large woody debris], and aquatic and riparian vegetation) along with soft bank stabilization techniques, if modifications to dam infrastructure are implemented.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation, particularly in the embayments of this subreach, to preserve and support re-establishment of this land cover type and reduce spread of invasive species. Limit recreation access within intact riparian and shrub-steppe areas. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	
<p>SR 3h</p>	
<p>Level of Existing Function – Partially Functioning</p> <p>Stressors:</p> <p>Upland development:</p> <ul style="list-style-type: none"> • Hydroelectric dam infrastructure • Roads • Trails <p>Management of recreational facilities in this subreach may affect water quality, access to floodplain habitat, and migratory corridors, as well as overall habitat complexity. The water management regimes of the dam systems impact floodplain and riparian functions such as erosion control, wildlife habitat, and migratory corridors. Recreational access via existing roads and trails adjacent to the waterway fragment riparian habitat.</p>	

Snake River – Reach 3	Franklin County
<p>Potential Restoration Opportunities – Evaluate opportunities to incorporate aquatic habitat complexity (substrate, organic material, structural elements [e.g., large woody debris], and aquatic and riparian vegetation) along with soft bank stabilization techniques, if modifications to dam infrastructure are implemented.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type and reduce spread of invasive species. Limit recreation access within intact riparian and shrub-steppe areas. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	
SR 3i	
<p>Level of Existing Function – Partially Functioning</p> <p>Stressors:</p> <p>Upland development:</p> <ul style="list-style-type: none"> • Hydroelectric dam infrastructure • Roads • Trails <p>Management of hydro-electric facilities affects water quantity, access to floodplain habitat, and migratory corridors, as well as overall habitat complexity. The water management regimes of the dam systems impact floodplain and riparian functions such as erosion control, wildlife habitat, and migratory corridors. Recreational access via existing roads and trails adjacent to the waterway fragment riparian habitat.</p> <p>Potential Restoration Opportunities – Evaluate opportunities to incorporate aquatic habitat complexity (substrate, organic material, structural elements [e.g., large woody debris], and aquatic and riparian vegetation) along with soft bank stabilization techniques, if modifications to dam infrastructure are implemented.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type and reduce spread of invasive species. Limit recreation access within intact riparian and shrub-steppe areas. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	

C:\Jobs\131038-01.01_Franklin_County_SMP\Maps\Reaches\FranklinCo_ReachBreaks_Mapbook.mxd lhudson 12/22/2014 10:31:35 AM



LEGEND

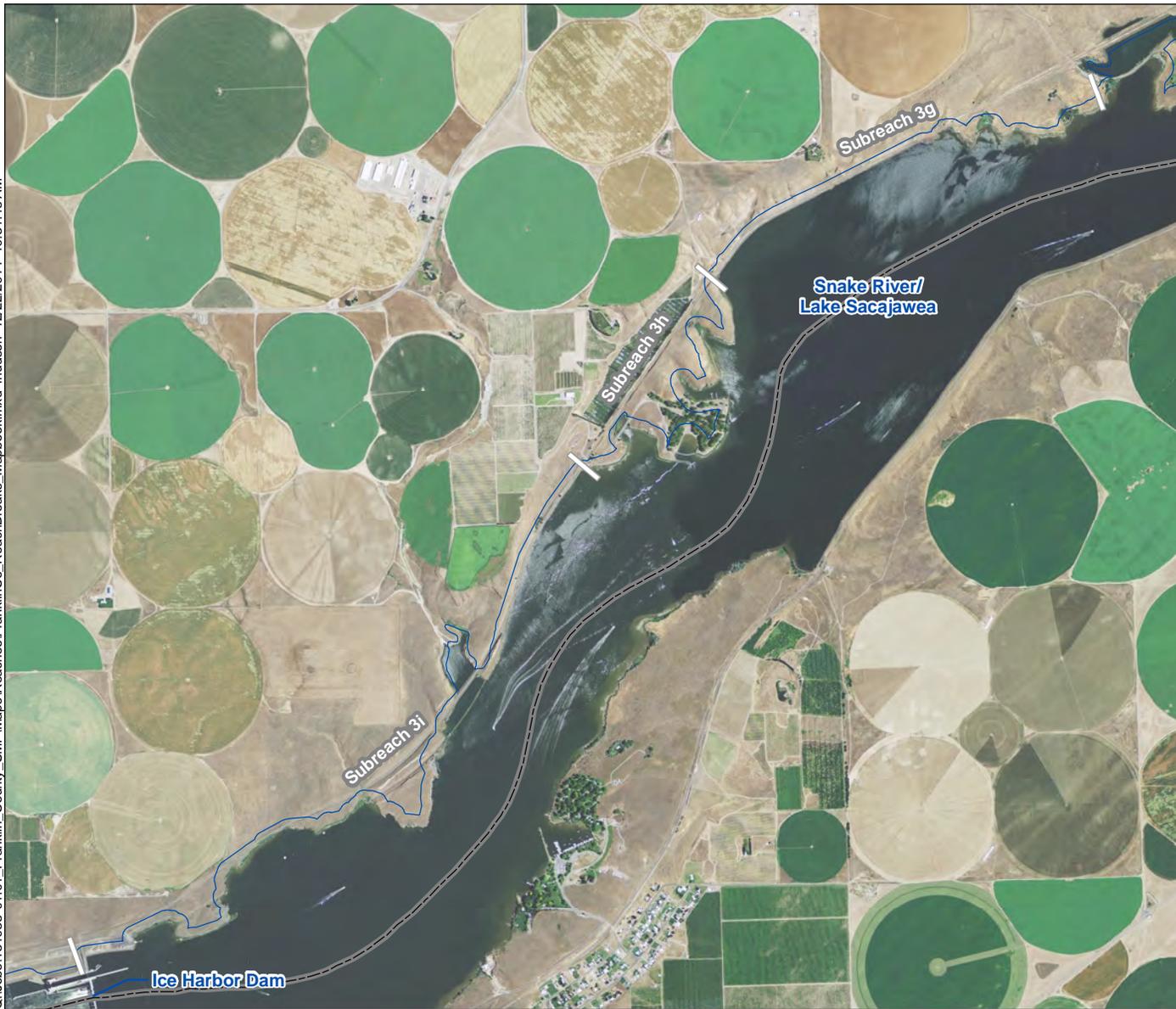
-  Reach Break
-  County Boundary
-  SMA Jurisdiction

- NOTES:**
1. This information is to be used for planning purposes only. Data is displayed as is and without any guarantee of accuracy or completeness.
 2. Aerial image courtesy of USDA NAIP (2013).



Map 13
Snake River Subreaches 3a-3f
Franklin County Shoreline Master Program
Franklin County, WA

C:\Jobs\131038-01.01_Franklin_County_SMP\Maps\Reaches\FranklinCo_ReachBreaks_Mapbook.mxd lhudson 12/22/2014 10:31:48 AM



LEGEND

-  Reach Break
-  County Boundary
-  SMA Jurisdiction

- NOTES:**
1. This information is to be used for planning purposes only. Data is displayed as is and without any guarantee of accuracy or completeness.
 2. Aerial image courtesy of USDA NAIP (2013).



Map 14
Snake River Subreaches 3g-3i
Franklin County Shoreline Master Program
Franklin County, WA

Snake River – Reach 4 Franklin County

Reach Description: Snake River from Ice Harbor Dam to US 12 Bridge

Shoreline Jurisdiction: 1,196 acres



Source: <https://fortress.wa.gov/ecy/coastalatlas/UICoastalAtlas/Tools/ShorePhotos.aspx>

Subreaches (SRs); see Figure 15:

SR 4a: Begins at the downstream of Ice Harbor Dam extending 6.7 miles to the west ending at the beginning of industrial developments

SR 4b: Extends 0.8 mile to the southwest ending at US 12 Bridge

CHARACTERISTICS

Ownership: SR 4a is publicly owned. The ownership is separated by federal agencies and Washington State Parks and Recreation Commission. SR 4b is mostly private with a very small (less than 10%) amount of public ownership.

Land Use/Current SMP:

Land Use Designation:

- Current land use is Agricultural and Urban Growth Area
- Zoning - Agricultural Production 20 and General Industrial District (I-2)

Snake River – Reach 4	Franklin County
<p>Current SMP Environment Designation:</p> <ul style="list-style-type: none"> • Urban, Natural, and Conservancy 	
<p>Existing Land Cover/Development:</p> <p>Reach 4 consists of primarily unimproved vacant land, with some agricultural land. Land cover includes trails, local roads, parking areas, and industrial facilities (petroleum transport facilities). The industrial facilities are located in SR 4b.</p>	
<p>Geomorphic Character:</p> <p>Description – Lake Wallula is an artificial lake that is formed by McNary Lock and Dam downstream on the Columbia River. The lake shoreline consists mostly of outburst flood deposits, sand dune deposits, and to a lesser extent the Saddle Mountains Basalt. The reach consists of low-bank areas near the confluence of the Snake and Columbia rivers. Lake Wallula levels fluctuate with downstream Columbia River Dam management practices.</p> <p>Hardened Banks – Approximately 10,000 linear feet of hardened banks, mostly associated with transportation and industry infrastructure, exist in Reach 4.</p>	
<p>Flooding and Geological Hazards:</p> <p>Flooding – There is a floodplain established in this reach. The 100-year floodplain is very narrow. Base flood elevations have not been determined and no floodway exists.</p> <p>Geological Hazards – Slopes greater than 40% present in SR 4a near Ice Harbor Dam.</p>	
<p>Existing Public Access – Columbia Plateau Trail parallels the shoreline.</p> <p>Identified Public Access Improvements – The Columbia Plateau Trail Management Plan has identified improvements for the entire trail, where feasible, such as providing new trailheads to be established in specific locations, improving campsite facilities, and providing interpretive signage.</p> <p>Public Access Opportunities – Proposed public access improvements, noted above, seem to be adequate to meet the public access need.</p>	
ECOLOGICAL CONDITIONS	
<p>Water Quantity and Sediment:</p> <p>Water quantity is controlled by dam and reservoir operations. Irrigation runoff may increase water quantity, and pumping for agricultural demands may reduce water quantity throughout this reach.</p> <p>Sediment input is restricted by upstream dams, but landslide potential or irrigation runoff in this reach may cause sediment input.</p>	

Snake River – Reach 4	Franklin County
<p>Water Quality:</p> <p>This reach is on the 303(d) list (Category 5) for temperature, total phosphorus, polychlorinated biphenyl, chlordane, 4,4'-DDE, dieldrin; has a total maximum daily load in place (Category 4A) for total dissolved gas; is impaired (Category 4C) by invasive exotic species; and is a water of concern (Category 2) for dissolved oxygen and pH.</p>	
<p>Habitat Characteristics and PHS Presence – This reach marks the transition from where the Snake River flows primarily through rural land use to more intense agricultural use and urban areas. This reach is known to provide white pelican resting places in shallow water areas with old stumps or pilings. Associated wetland areas in this reach support waterfowl nesting and foraging areas, including great blue heron. The wasteways that drain into this reach area seasonally covered with a combination of cattails, willows, and sagebrush, which provide habitat for quail (<i>Oreortyx pictus</i>), ducks (variety of species), burrowing owl (<i>Athene cunicularia</i>), mule deer, and several raptor species. The shrub-steppe open space habitat intermixed with riparian habitat supports burrowing owls, and other small mammals; habitat suitable for ring-necked pheasant, a WDFW-managed non-native game species, may be present in this reach. The Snake River in this reach supports a number of Endangered Species Act-listed fish species, as identified in the main text of the IAC Report.</p> <p>SR 4a – The riparian vegetation is patchy throughout this reach, primarily due to the development of the railroad and trail adjacent to the shoreline. The uplands are consistently in agricultural use, but the shoreline is separated from the agricultural areas by the railroad and trail. There are some locations where more complex riparian habitat is supported, particularly along shorelines adjacent to islands within this reach. There are formal and informal boat launch areas within this subreach.</p> <p>SR 4b – This subreach has non-existent shoreline vegetation and is adjacent to industrial facilities and artificially hardened shorelines. There are barge moorage areas, overwater structures, and the Highway 12 Bridge within this subreach, which artificially shade the water in the river.</p>	
ECOLOGICAL FUNCTIONS ANALYSIS	
SR 4a	
<p>Level of Existing Function – Partially Functioning</p> <p>Stressors:</p> <p>Upland development:</p> <ul style="list-style-type: none"> • Hydroelectric dam infrastructure • Roads and railroads • Trails • Boat launch <p>Management of hydro-electric facilities affects water quantity, access to floodplain habitat, and migratory corridors, as well as overall habitat complexity. The upland development of roads, railroads, and trails impact floodplain and riparian functions such as erosion control, wildlife habitat, and migratory corridors. Recreational access via existing roads and trails adjacent to the waterway fragment riparian habitat.</p>	

Snake River – Reach 4	Franklin County
<p>Potential Restoration Opportunities – Evaluate opportunities to incorporate aquatic habitat complexity (substrate, organic material, structural elements [e.g., large woody debris], and aquatic and riparian vegetation) along with soft bank stabilization techniques.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type and reduce spread of invasive species. Limit recreation access within intact riparian and shrub-steppe areas. Implementation of stormwater controls, particularly at boat launches and roadways, is consistent with Eastern Washington Stormwater Manual.</p>	
ECOLOGICAL FUNCTIONS ANALYSIS	
SR 4b	
<p>Level of Existing Function – Low Functioning</p> <p>Stressors:</p> <p>Upland development:</p> <ul style="list-style-type: none"> • Hydroelectric dam infrastructure • Roads and bridge crossings • Overwater structures • Trails <p>Management of hydro-electric facilities affects water quantity, access to floodplain habitat, and migratory corridors, as well as overall habitat complexity. The upland development of roads, railroads, and bridges impact floodplain and riparian functions such as erosion control, wildlife habitat, and migratory corridors. Recreational access via existing roads and trails adjacent to the waterway fragment riparian habitat.</p> <p>Potential Restoration Opportunities – Evaluate opportunities to incorporate aquatic habitat complexity (substrate, organic material, structural elements [e.g., large woody debris], and aquatic and riparian vegetation) along with soft bank stabilization techniques, if modifications to dam infrastructure are implemented.</p> <p>Potential Protection Opportunities – Protect native riparian and shrub-steppe vegetation to preserve and support re-establishment of this land cover type and reduce spread of invasive species. Limit recreation access within intact riparian and shrub-steppe areas. Make stormwater controls consistent with Eastern Washington Stormwater Manual.</p>	

C:\Jobs\131038-01.01_Franklin_County_SMP\Maps\Reaches\FranklinCo_ReachBreaks_Mapbook.mxd lhudson 12/22/2014 10:32:04 AM



LEGEND

-  Reach Break
-  Incorporated City
-  Urban Growth Area
-  County Boundary
-  SMA Jurisdiction

NOTES:

1. This information is to be used for planning purposes only. Data is displayed as is and without any guarantee of accuracy or completeness.
2. Aerial image courtesy of USDA NAIP (2013).



Map 15
Snake River Subreaches 4a-4b
Franklin County Shoreline Master Program
Franklin County, WA

Esquatzel Coulee – Reach 1 Franklin County

Reach Description: Esquatzel Coulee from 4.5 miles upstream of the Town of Eltopia to the point where its entire flow is diverted at the Esquatzel Diversion Channel headworks

Shoreline Jurisdiction: 847 acres



Source: Google Maps (<https://www.google.com/maps>)

Subreaches (SR); see Figures 16 and 17:

SR 1a: Begins at 4.5 miles upstream of Eltopia extending 3.3 miles to the south

SR 1b: Extends 4.8 miles to the south

SR 1c: Extends 2.6 miles to the south

SR 1d: Extends 2.3 miles to the south ending at the Esquatzel Diversion Channel headworks

CHARACTERISTICS

Ownership: SR A is mostly private. SRs B and SR C are public with a moderate amount (less than 25%) of private ownership near the downstream end of each reach. SR D is private with a few sections owned by federal agencies.

Land Use/Current SMP:

Land use designation:

- Current land use is Agricultural and Rural Settlement
- Zoning: Agricultural Production 20, Rural Community 1, Rural Community 5, and Rural Service District

Current SMP Environment Designation:

- Rural

Esquatzel Coulee – Reach 1 Franklin County
<p>Existing Land Cover/Development:</p> <p>Esquatzel Coulee consists of unimproved vacant land, riparian vegetation, and access roads.</p>
<p>Geomorphic Character:</p> <p>Description – Esquatzel Coulee drainage is mostly a single-thread channel. The channel confinement varies throughout the reach and ranges from confined to moderately confined with minor segments of wide floodplain areas. Valley walls are steep in places and associated with the bedrock basalt outcrops (Saddle Mountains Basalt). The valley bottom consists mostly of alluvium with valley walls consisting of outburst flood deposits along the eastern boundary and bedrock basalt along the western boundary. Sand dune deposits are present along a portion of the reach. A railroad and highway (Interstate 395) alignments are along the valley floor and margins. Railroad bridge crossings constrict the channel at three locations.</p> <p>Hardened Banks – Approximately 13,000 linear feet of artificial hardened banks exist along Reach 1 and are associated with transportation infrastructure (railroad and Interstate 395).</p> <p>Channel Migration Zone (CMZ) – U.S. Highway 395 and the railroad alignment limit and define the CMZ boundary along the reach. The western valley margin is defined by bedrock basalt throughout much of the upper portion of the reach, and the eastern margin is defined by the infrastructure alignments adjacent to the channel. The CMZ widens in a few areas, where the valley bottom is broader with flat topography, and consists of alluvium and outburst flood deposits, which are generally found in the lower portion of the reach.</p>
<p>Flooding and Geological Hazards:</p> <p>Flooding – There is a floodplain established in this reach. The 100-year floodplain is relatively wide. In SR B, through Eltopia, base flood elevations have been determined and a floodway exists.</p> <p>Geological Hazards – Sections of SR A and SR B have slopes greater than 40% and mostly occur within the Saddle Mountains Basalt.</p>
<p>Existing Public Access – No specific public access is currently available. Dirt access roads exist on the shoreline, and public roads cross Esquatzel Coulee in several locations.</p> <p>Identified Public Access Improvements – No public access improvements have been identified.</p> <p>Public Access Opportunities – Public access opportunities are limited due to the sensitive nature of the shoreline.</p>

Esquatzel Coulee – Reach 1 Franklin County
ECOLOGICAL CONDITIONS
<p>Water Quantity and Sediment:</p> <p>Water quantity is dependent on wasteway and drain inflows from irrigation operations. Direct input from irrigation runoff may also occur, especially in SR D where fields are immediately adjacent to the Esquatzel Coulee.</p> <p>Wasteways and lateral drain inflows in this reach may cause sediment input. Some sediment may be deposited into this reach during high precipitation events. Sediment may be able to travel, but it is more likely low velocities would cause sediments to accumulate. SR C likely has the most potential for transporting sediment as it is a straight section of the Esquatzel Coulee compared to other subreaches.</p>
<p>Water Quality:</p> <p>An Eltopia Branch Canal at the confluence with the Esquatzel Coulee is on the 303(d) list (Category 5) for pH and is a water of concern (Category 2) for temperature. The southern end of Esquatzel Coulee is on the 303(d) list (Category 5) for pH and temperature.</p>
<p>Habitat Characteristics and PHS Presence – Habitat for ring-necked pheasant is present in SRs 1b, 1c, and 1d. The Esquatzel Coulee is managed for irrigation water supply and runs through or adjacent to farm and ranching lands. In several locations, there is significant cattle use, and these areas are devoid of shoreline vegetation and show signs of erosion. The riparian vegetation zone is predominantly narrow (generally from 0 to 10 feet), with willows and Russian olive interspersed along the shoreline in areas where conditions may support a somewhat wider vegetative zone.</p> <p>SR 1a – This subreach flows adjacent to U.S. Highway 395 and Burlington Northern Santa Fe Railroad tracks and is not adjacent to significant agricultural areas. The subreach flows through shrub-steppe habitat, with numerous wildlife and cattle trails that lead to the water. Some areas (where the channel of the Esquatzel Coulee bends) form small channels and oxbows, which are likely subject to higher water levels at certain times of the year and are significant enough to support more grasses and small shrubs.</p> <p>SR 1b – This subreach is dominated by shrub-steppe habitat and adjacent to agricultural lands and shrub-steppe habitat to the west, with a sloping bank and U.S. Highway 395 to the east. The vegetation on the east side of the Esquatzel Coulee is generally sparser. There is one small location with larger trees (including cottonwoods and alder species) along this subreach, but in most cases the vegetation consists of grasses (forbs within 10 to 30 feet along the water) with sagebrush species and some Russian olive in the remainder of the shoreline jurisdictional boundary. As the reach goes through Eltopia, it crosses under railroad tracks and a road, and is more confined by development. The amount of water in the channel is reduced as a result of diversions within this subreach.</p> <p>SR 1c – This subreach is extremely narrow and channelized between the railroad tracks and roadways, with very minimal vegetation aside from grasses.</p>

Esquatzel Coulee – Reach 1 Franklin County

SR 1d – This subreach is much less confined, supports wetland habitat, and has open water year-round that supports numerous bird species. The riparian vegetation mostly comprises Russian olive, willow, and cattails. Adjacent uplands are in agricultural use directly to the west, with disturbed shrub-steppe habitat between the Esquatzel Coulee and the road/railroad to the east. The subreach ends as the Esquatzel Coulee again becomes more artificially channelized.

ECOLOGICAL FUNCTIONS ANALYSIS

SR 1a

Level of Existing Function – Functioning

Stressors:

Agricultural use:

- Livestock impacts

Agricultural use may affect water quality due to nutrient inputs from livestock wastes. Livestock activity may cause reduced or disturbed shoreline vegetation, or allow establishment of invasive species, impacting riparian functions such as erosion control, wildlife habitat, and migratory corridors.

Potential Restoration Opportunities – Management and removal of invasive species.

Potential Protection Opportunities – Management and development of specific areas of livestock access and recreational access.

SR 1b

Level of Existing Function – Partially Functioning

Stressors:

Upland development:

- Roads and railroads
- Rural residential development
- Channelization

Agricultural use:

- Livestock impacts
- Water withdrawals

Agricultural use may affect water quality due to nutrient inputs from livestock wastes or agricultural runoff and water withdrawals. Livestock activity may cause reduced or disturbed shoreline vegetation, or allow establishment of invasive species, impacting riparian functions such as erosion control, wildlife habitat, and migratory corridors.

Upland development and channel constriction affect water quality and floodplain access, which impacts functions such as wildlife habitat and migratory corridors.

Esquatzel Coulee – Reach 1 Franklin County
<p>Potential Restoration Opportunities – Management and removal of invasive species.</p> <p>Potential Protection Opportunities – Maximize application of Eastern Washington Stormwater Manual near development areas.</p>
SR 1c
<p>Level of Existing Function – Impaired</p> <p>Stressors:</p> <p>Upland development:</p> <ul style="list-style-type: none"> • Roads and railroads • Channelization <p>Agricultural use:</p> <ul style="list-style-type: none"> • Livestock impacts • Water withdrawals <p>Agricultural use may affect water quality due to nutrient inputs from livestock wastes or agricultural runoff and water withdrawals. Livestock activity may cause reduced or disturbed shoreline vegetation, or allow establishment of invasive species, impacting riparian functions such as erosion control, wildlife habitat, and migratory corridors.</p> <p>Upland development and channel constriction affect water quality and floodplain access, which impacts functions such as wildlife habitat and migratory corridors.</p> <p>Potential Restoration Opportunities – Remove and manage invasive species.</p> <p>Potential Protection Opportunities – Maximize application of Eastern Washington Stormwater Manual near development areas.</p>
SR 1d
<p>Level of Existing Function – Partially Functioning</p> <p>Stressors:</p> <p>Upland development:</p> <ul style="list-style-type: none"> • Roads and railroads • Invasive species <p>Agricultural use:</p> <ul style="list-style-type: none"> • Livestock impacts • Water withdrawals <p>Agricultural use may affect water quality due to nutrient inputs from livestock wastes or agricultural runoff and water withdrawals. Livestock activity may cause reduced or disturbed shoreline vegetation, or allow establishment of invasive species, impacting riparian functions such as erosion control, wildlife habitat, and</p>

Esquatel Coulee – Reach 1 Franklin County

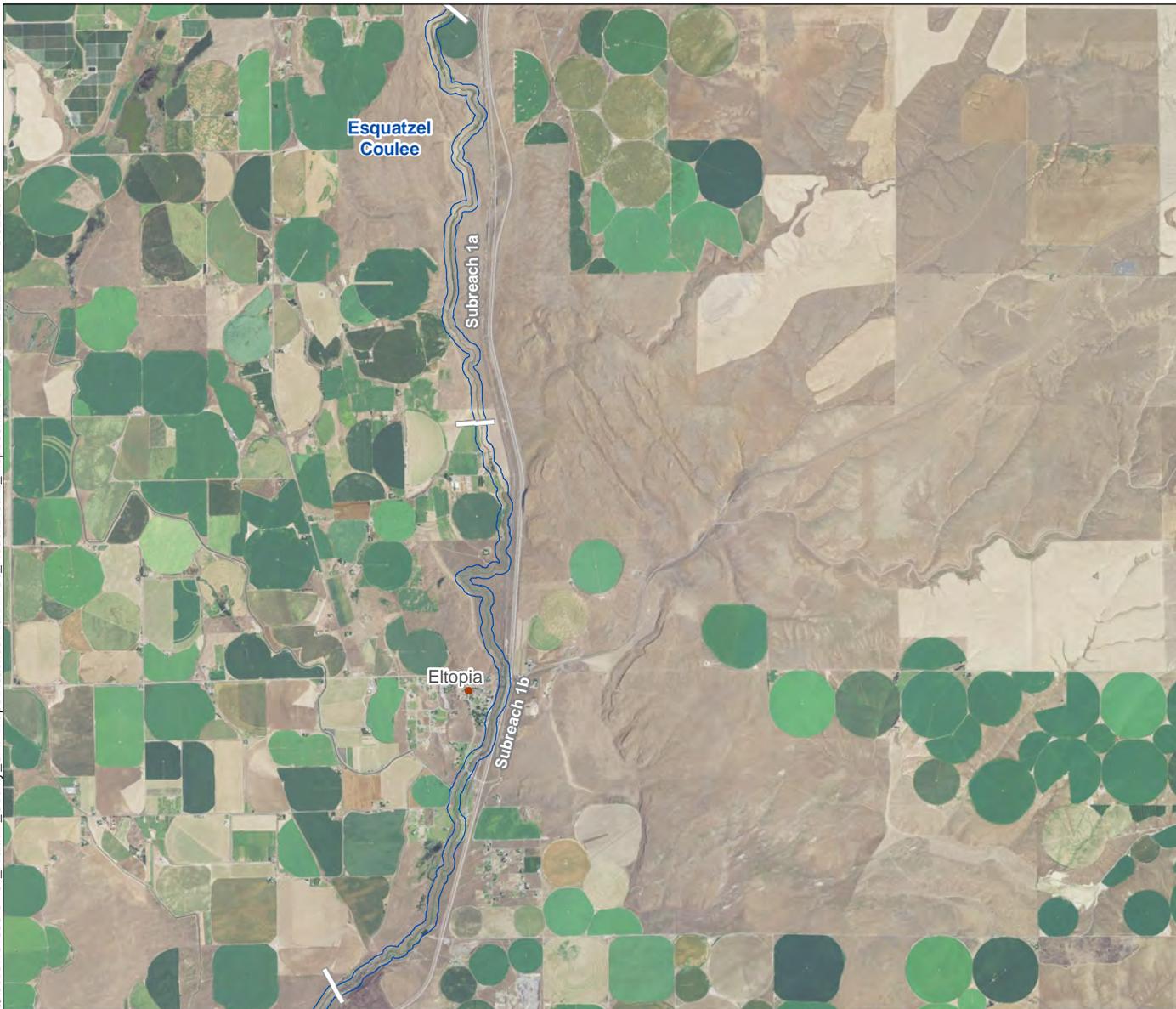
migratory corridors.

Upland development and channel constriction affect water quality and floodplain access, which impacts functions such as wildlife habitat and migratory corridors.

Potential Restoration Opportunities – Manage and remove invasive species.

Potential Protection Opportunities – Maximize application of Eastern Washington Stormwater Manual near development areas.

C:\Jobs\131038-01.01_Franklin_County_SMP\Maps\Reaches\FranklinCo_ReachBreaks_Mapbook.mxd lhudson 12/22/2014 10:32:25 AM



LEGEND

-  Reach Break
-  Populated Place
-  County Boundary
-  SMA Jurisdiction

NOTES:

1. This information is to be used for planning purposes only. Data is displayed as is and without any guarantee of accuracy or completeness.
2. Aerial image courtesy of USDA NAIP (2013).



Map 16
Esquatzel Coulee Subreaches 1a-1b
Franklin County Shoreline Master Program
Franklin County, WA

Q:\Jobs\131038-01.01_Franklin_County_SMP\Maps\Reaches\FranklinCo_ReachBreaks_Mapbook.mxd lhudson 12/22/2014 10:32:38 AM



LEGEND

-  Reach Break
-  County Boundary
-  SMA Jurisdiction

NOTES:

1. This information is to be used for planning purposes only. Data is displayed as is and without any guarantee of accuracy or completeness.
2. Aerial image courtesy of USDA NAIP (2013).



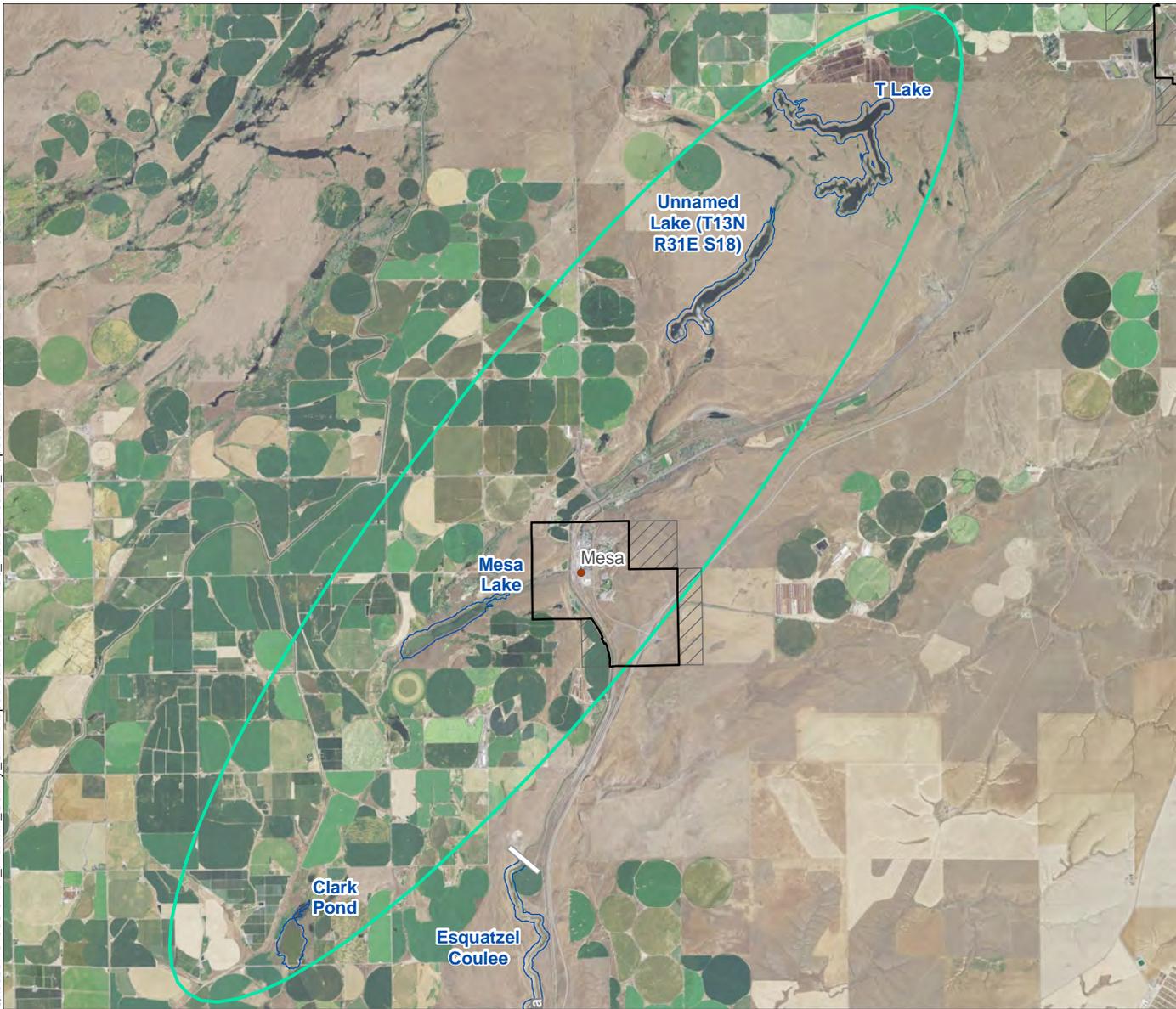
Mesa Area Lakes Group	Franklin County
Reach Description: Located along the Interstate 395 between Connell and Mesa	
Shoreline Jurisdiction: Mesa Lake, 100 acres; Clark Pond, 68 acres; T-Lake, 309 acres; and Unnamed Lake (T13N R31E S18), 170 acres	
	
Source: U.S. Department of Agriculture, <i>National Agriculture Imagery Program (NAIP): 2013 data</i>	
Subreaches (SRs); see Figure 16:	
Not Applicable.	
CHARACTERISTICS	
Ownership: Mesa Lake's ownership is separated between federal and state. A portion of Unnamed Lake (T13N R31E S18) and Clark pond is federally owned. Mesa Lake has an ownership separated between federal and state. T-Lake is privately owned.	

Mesa Area Lakes Group	Franklin County
<p>Land Use/Current SMP:</p> <p>Land Use Designation:</p> <ul style="list-style-type: none"> • Current land use is Agricultural • Zoning is Agricultural Production 20 <p>Current SMP Designation</p> <ul style="list-style-type: none"> • Rural 	
<p>Existing Land Cover/Development:</p> <p>The Mesa Area Lakes Group consists of vacant unimproved land and riparian vegetation. A local access road and irrigation outlet exist on Mesa Lake.</p>	
<p>Geomorphic Character:</p> <p>Description – The lakes occupy depressions, topographic lows, and bedrock coulees. The lakes are fed by surface drainages and local runoff and likely groundwater. In some cases, the lakes have interconnected surface drainages. The lakes occur mostly within members of the Saddle Mountains Basalt Group with the exception of Mesa Lake, which lies mostly within outburst flood deposits.</p> <p>Hardened Banks – Approximately 500 feet of artificial hardened bank is located at the southern end of Clark Pond (Lake) and is associated with a roadway alignment.</p>	
<p>Flooding and Geological Hazards:</p> <p>Flooding – There is a floodplain established for the Mesa Area Lakes Group. Base flood elevations have not been determined and no floodway exists.</p> <p>Geological Hazards – Northwest corner of T-Lake faces a bluff contains Ringold Fine soils and water erosion soils. Although very small (0.005 acre), a section at the northwest corner of T-Lake contains Ringold fine soils, water erosion soils, and slopes greater than 15%, which makes it a designated geologically hazardous area. All lakes contain slopes greater than 40%.</p>	
<p>Existing Public Access – No public access currently exists. Land south of Mesa Lake is owned by the State, and land along the lake north of Mesa is under federal ownership.</p> <p>Identified Public Access Improvements – No public access has been identified.</p> <p>Public Access Opportunities – Public access opportunities exist on publicly owned lands.</p>	

Mesa Area Lakes Group	Franklin County
ECOLOGICAL CONDITIONS	
<p>Water Quantity and Sediment:</p> <p>Water quantity for all lakes is dependent on seepage and/or input from irrigation operations. Mesa Lake has a perennial inflow and outflow channel; T-Lake has an intermittent inflow and an outflow channel; Clark Pond has intermittent inflow (from irrigation drains), but no outflow channel; and Unnamed Lake (T13N R31E S18) may have connectivity with T-Lake, but it does not appear to have an outflow channel.</p> <p>Sediment may be able to travel between lakes through irrigation drains and seasonal streams, but it is likely low velocities would cause sediments to accumulate in the lakes.</p>	
<p>Water Quality:</p> <p>None of the Mesa Area Lakes Group were listed on Ecology’s 303d water quality assessment.</p>	
<p>Habitat Characteristics and PHS Presence – Unnamed Lake (T13N R31E S18) and T-Lake are accessible via a network of gravel roads and user-defined trails. Vegetation along the shoreline of these lakes is limited to grasses, reeds, cattails, Russian olive, and willows, with shrub-steppe sagebrush species dominant outside of a 10- to 30-foot zone. T-Lake and Unnamed Lake (T13N R31E S18) may be connected under certain conditions, but the depressional areas that may connect the two are not under shoreline jurisdiction. Unnamed Lake (T13N R31E S18) is long and narrow, with very minimal vegetation, and more significant user trail and access points developed around the southern end. At these access points, vegetation is absent, and signs of erosion are present. The erosional areas along the shoreline may affect water quality in this end of the lake. This lake area supports a number of identified Ferruginous Hawks (<i>Buteo regalis</i>), as well as other waterfowl and various game and non-game species.</p> <p>Clark Pond is accessible via Ironwood Road, an improved road. It provides suitable fish and wildlife habitat and is managed by Washington Department of Fish and Wildlife for fishing (stocked with trout, also contains largemouth bass, black crappie, and yellow perch), birding, and other wildlife viewing opportunities (waterfowl, songbirds, raptors). There is a gravel access and parking area that is adjacent to the pond, which concentrates the locations of user access along the shoreline. Water from the lake is used to irrigate nearby fields.</p> <p>Mesa Lake supports high numbers of duck and other waterfowl in the winter and has warm-water fish species such as largemouth bass, black crappie, yellow perch, walleye, and bullhead. It has minimal vegetation along the shoreline. An inlet at the southwest end of the lake discharges water into the lake from nearby agricultural drainages, and there is a noticeable plume of sediment at this end of the lake. There is also an access point at this end of the lake. There are two other discharge points on the north shoreline of the lake, and around these areas, the riparian vegetation community is wider and supports growth of small trees, likely Russian olives. There is an outlet into a canal at the northeast end of the lake, which is conveyed under a roadway.</p>	

Mesa Area Lakes Group	Franklin County
ECOLOGICAL FUNCTIONS ANALYSIS	
<p>Level of Existing Function – Functioning</p> <p>Stressors:</p> <p>Agricultural use:</p> <ul style="list-style-type: none">• Irrigation withdrawals <p>Agricultural use may affect water quality due to reduced water availability during the growing season due to water withdrawals and nutrient inputs from adjacent agricultural field runoff. Some livestock activity may cause reduced or disturbed shoreline vegetation, or allow establishment of invasive plant species, impacting riparian functions such as erosion control, wildlife habitat, and migratory corridors.</p> <p>Recreational use:</p> <ul style="list-style-type: none">• Informal trails and access points along lake shorelines <p>Informal recreational use may result in localized water quality impacts or reduced or disturbed shoreline vegetation that leads to the spread of invasive species. The most likely impacts are to riparian functions such as erosion control, wildlife habitat, and migratory corridors.</p> <p>Potential Restoration Opportunities – Management and removal of invasive species.</p> <p>Potential Protection Opportunities – Management and development of specific areas of livestock access and recreational access.</p>	

C:\Jobs\131038-01_01_Franklin_County_SMP\Maps\Reaches\FranklinCo_ReachBreaks_Mapbook.mxd lhudson 12/22/2014 10:32:57 AM



LEGEND

-  Reach Break
-  Populated Place
-  Incorporated City
-  Urban Growth Area
-  County Boundary
-  SMA Jurisdiction
-  SMA Jurisdiction
-  Mesa Area Lakes Group

NOTES:

1. This information is to be used for planning purposes only. Data is displayed as is and without any guarantee of accuracy or completeness.
2. Aerial image courtesy of USDA NAIP (2013).



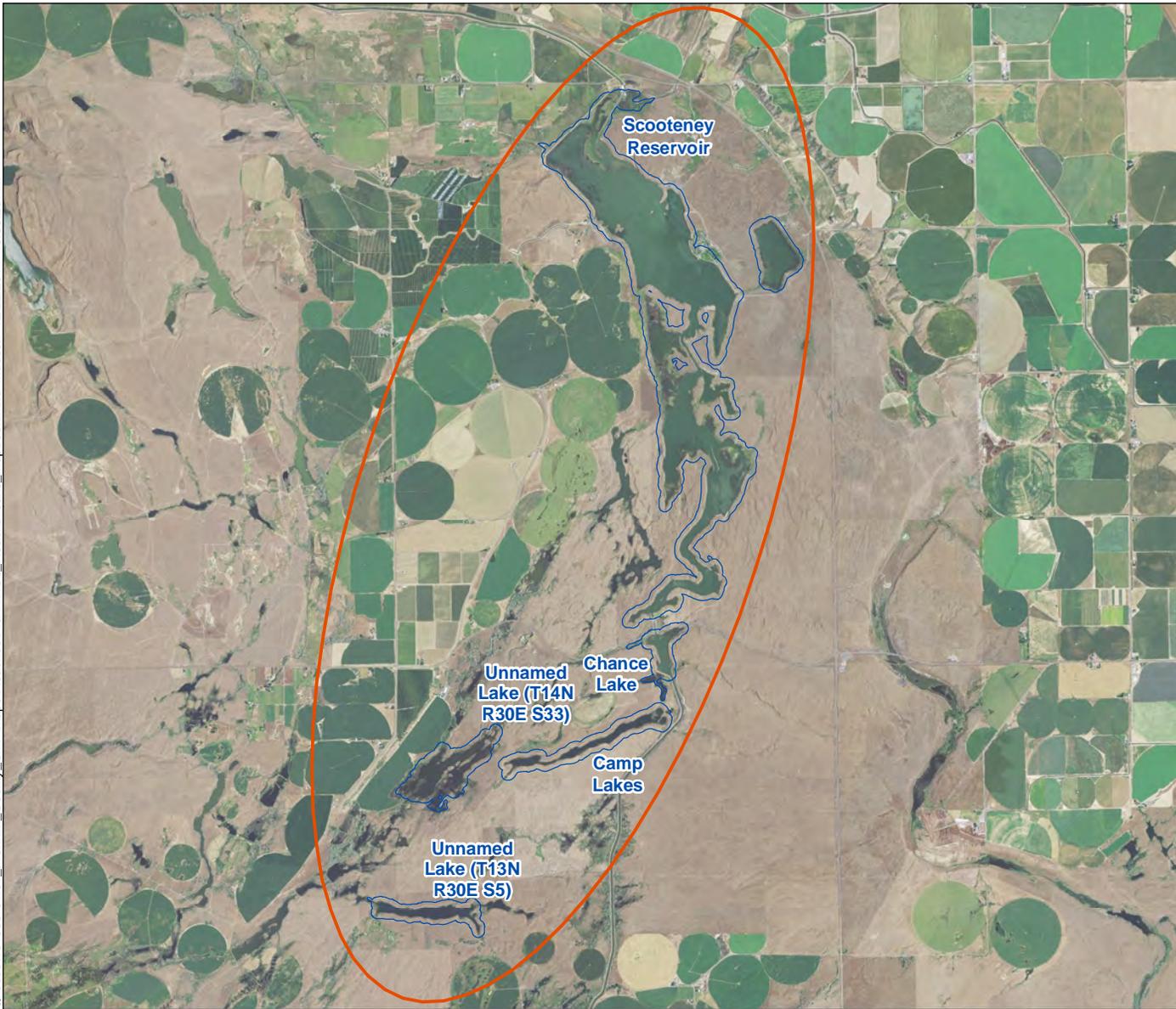
Scootenev Reservoir Lakes Group	Franklin County
Reach Description: Consists of five lakes to the south of Adams County boundary and to the east of US 17	
Shoreline Jurisdiction Scootenev Reservoir, 1,186 acres; Chance Lake, 46 acres; Camp Lake, 107 acres; Unnamed Lake 1 (T14N R30E S33), 112 acres; and Unnamed Lake 2 (T13N R30E S5), 75 acres	
Source: U.S. Department of Agriculture, <i>National Agriculture Imagery Program (NAIP)</i> ; 2013 data	
Subreaches (SRs); see Figure 17:	
Not Applicable.	
CHARACTERISTICS	
Ownership: Scootenev Reservoir (federal); Chance Lake (federal); and Unnamed Lake 2 (T13N R30E S5) (State) have public ownerships. Camp Lakes and Unnamed Lake 1 (T14N R30E S33) are privately owned.	

Scooteny Reservoir Lakes Group	Franklin County
<p>Land Use/Current SMP:</p> <p>Land Use Designation:</p> <ul style="list-style-type: none"> • Current land use is Agricultural • Zoning - Agricultural Production 20 <p>Current SMP Environment Designation:</p> <ul style="list-style-type: none"> • Conservancy and Rural 	
<p>Existing Land Cover/Development:</p> <p>The Scooteny Reservoir Lakes Group consists of unimproved land, irrigation outlets and structures, access roads, boat launches, campsites, parking, bridge, and agricultural land.</p>	
<p>Geomorphic Character:</p> <p>Description – The lakes occupy topographic lows and bedrock coulees. The lakes are fed mostly by surface drainages and local runoff, and likely ground water. The lakes occur mostly within Elephant Mountain, a Member of the Saddle Mountains Basalt Group.</p> <p>Hardened Banks – Approximately 1,900 feet of artificial hardened bank is located at the northern end of Scooteny Reservoir and is associated with a roadway adjacent to the reservoir perimeter.</p>	
<p>Flooding and Geological Hazards:</p> <p>Flooding – There is a floodplain established for all of Scooteny Lakes except Camp Lakes and Unnamed Lake 1 (T13N R30E S33). Base flood elevations have not been determined, and no floodway exists.</p> <p>Geological Hazards – All lakes in Scooteny Reservoir Lakes Group contain slopes greater than 40%.</p>	
<p>Existing Public Access – Scooteny Reservoir recreation activities include boating, camping, fishing, hunting, picnicking, water sports, and wildlife viewing (U.S. Recreation portal). Hendricks Road parallels the north shore of Chance Lake.</p> <p>Identified Public Access Improvements – No additional public access has been identified.</p> <p>Public Access Opportunities – Public access opportunities could be provided on State and other publicly owned lands, in addition to Scooteny Reservoir, such as Camp Lake.</p>	
<p>ECOLOGICAL CONDITIONS</p>	
<p>Water Quantity and Sediment:</p> <p>Water quantity in these lakes is dependent on irrigation operations. Scooteny Reservoir is operated as a re-regulation reservoir for the Columbia Basin Project; it receives inflow from the East Low Canal via the Scooteny Wasteway and from the Potholes Canal. Outflow is controlled by Potholes Canal operations. Chance Lake inflow and outflow are dependent on Potholes Canal operations. Other lakes appear to be dependent on seepage as there does not appear to be visible inflow or outflow channels connecting them to Scooteny Reservoir.</p>	

Scootenev Reservoir Lakes Group	Franklin County
Sediment may be able to travel toward the downstream canal, but it is likely low velocities would cause sediments to accumulate in the lakes.	
<p>Water Quality:</p> <p>Scootenev Reservoir is on the 303(d) list (Category 5) for polychlorinated biphenyls and Dieldrin, is impaired (Category 4C) by invasive exotic species, and is a water of concern (Category 2) for 4,4'-DDE.</p>	
<p>Habitat Characteristics and PHS Presence – This interconnected reservoir lake group supports high numbers of duck and other waterfowl in the winter, and has warm-water fish species such as largemouth bass, black crappie, yellow perch, walleye, and bullhead. The lakes have minimal riparian vegetation along the shoreline, with sparse shrub-steppe vegetation predominant in the shoreline jurisdictional zone. The lakes are part of the Columbia Basin Project, and an inlet at the northwest end of the lake provides water to the main reservoir. There is a high level of recreational access around the Scootenev Reservoir, with a campground, several boat launches, boat docks, and informal boat access areas around the perimeter of the reservoir. Chance Lake is virtually surrounded by formal and informal roads and access trails. The Camp Lakes are long and narrow, more isolated, and have less recreational use, but higher use by cattle for watering, with many trails and access points along the shoreline where the minimal riparian vegetation has been eroded away due to cattle presence. Unnamed Lake 1 (T14N R30E S33) and Unnamed Lake 2 (T13N R30E S5) have more significant shoreline riparian zone, because the slope of the banks is less steep. There are fewer trails and access points around these lakes, and livestock use is minimal as well.</p> <p>Unnamed Lake (T13N R30E S5) consist of a number of lower areas that are hydrologically linked together and provide irrigation water to the agricultural lands to the south as part of the Columbia Basin project. This area has vegetation and conditions that support wetland habitat, as well as waterfowl and various game and non-game species.</p>	
ECOLOGICAL FUNCTIONS ANALYSIS	
<p>Level of Existing Function – Functioning</p> <p>Stressors:</p> <p>Agricultural use:</p> <ul style="list-style-type: none"> • Irrigation withdrawals <p>Agricultural use may affect water quality due to reduced water availability during the growing season due to water withdrawals and nutrient inputs from adjacent agricultural field runoff. Some livestock activity may cause reduced or disturbed shoreline vegetation, or allow establishment of invasive species, impacting riparian functions such as erosion control, wildlife habitat, and migratory corridors.</p> <p>Recreational use:</p> <ul style="list-style-type: none"> • Informal trails and access points along lake shorelines <p>Informal recreational use may result in localized water quality impacts, or reduced or disturbed shoreline vegetation that leads to the spread of invasive species. The most likely impacts are to riparian functions such as erosion control, wildlife habitat, and migratory corridors.</p>	

Scootenev Reservoir Lakes Group	Franklin County
<p>Potential Restoration Opportunities – Management and removal of invasive species.</p> <p>Potential Protection Opportunities – Management and development of specific areas of livestock access and recreational access.</p>	

C:\Jobs\131038-01_01_Franklin_County_SMP\Maps\Reaches\FranklinCo_ReachBreaks_Mapbook.mxd lhudson 12/22/2014 10:33:20 AM



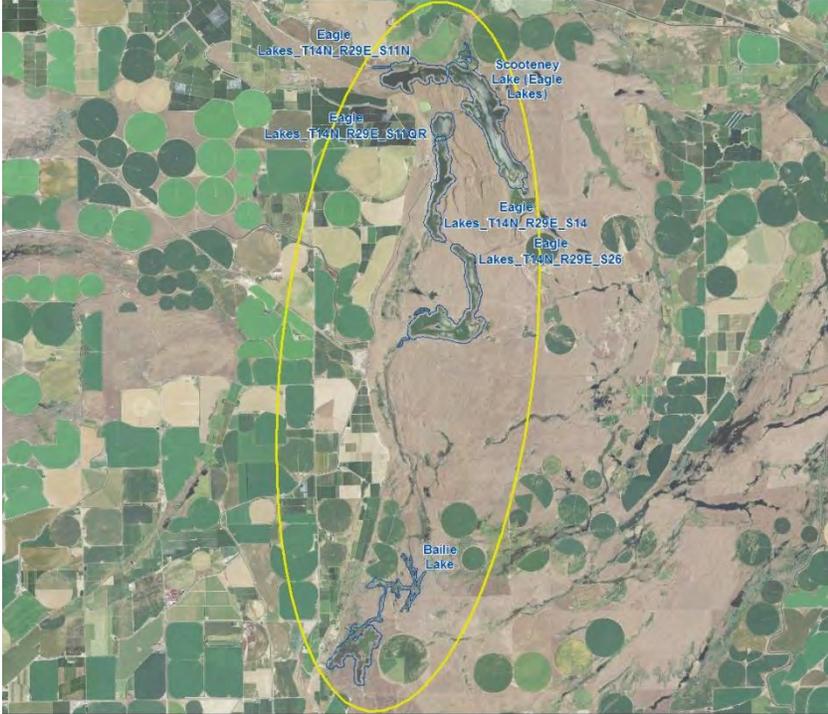
LEGEND

-  County Boundary
-  SMA Jurisdiction
-  Scootenev Reservoir Lake Group

NOTES:

1. This information is to be used for planning purposes only. Data is displayed as is and without any guarantee of accuracy or completeness.
2. Aerial image courtesy of USDA NAIP (2013).



Eagle Lakes Group	Franklin County
<p>Reach Description: Consists of six lakes located to the south of Adams County boundary and the east of Sagehill Road</p>	
<p>Shoreline Jurisdiction: Eagle Lake 1 (T14N R29E S11N), 150 acres; Eagle Lake 2 (T14N R29E S11QR), 59 acres; Scooteny Lake, 340 acres; Eagle Lake 3 (T14N R29E S14), 155 acres; Eagle Lake 4 (T14N R29E S26), 284 acres; and Bailie Lake, 141 acres</p>	
<div style="text-align: center;">  </div> <p style="text-align: center;">Source: U.S. Department of Agriculture, <i>National Agriculture Imagery Program (NAIP)</i>: 2013 data</p>	
<p>Subreaches (SRs); see Figure 18:</p> <p>Not Applicable.</p>	
<p>CHARACTERISTICS</p>	
<p>Ownership: Eagle Lakes Group is mostly private with an exception of a small amount (less than 10%) of federal lands.</p>	

Eagle Lakes Group	Franklin County
<p>Land Use/Current SMP:</p> <p>Land Use Designation:</p> <ul style="list-style-type: none"> • Current land use is Agricultural • Zoning: Agricultural 20 <p>Current SMP Environment Designation:</p> <ul style="list-style-type: none"> • Conservancy 	
<p>Existing Land Cover/Development:</p> <p>The Eagle Lakes Group primarily consists of unimproved land, access roads, and informal trails. Vegetation exists in the northern and eastern portions of the Eagle Lake Group and around Bailie Lake. Irrigation structures are in Eagle Lake 3 (T14N R29E S14) and Eagle Lake 4 (T14N R29E S26).</p>	
<p>Geomorphic Character:</p> <p>Description – The lakes occupy bedrock depressions, topographic lows, and coulees. The lakes are fed by surface drainages and local runoff and likely groundwater as well. In some cases, the lakes have interconnected surface drainages. The lakes occur mostly within numerous members of the Saddle Mountains Basalt Group. The southern-most lake (Eagle Lake 4 [T14N R29E S26]) is partially within outburst flood deposits. Bailie Lake occupies a bedrock topographic depression consisting of Saddle Mountains Basalt.</p> <p>Hardened Banks – Artificial hardened banks are associated with the Wahluke Siphon and infrastructure. Approximately 1,250 feet of artificial hardened banks occur within this lake group, except for Bailie Lake. No hardened banks are identified for Bailie Lake.</p>	
<p>Flooding and Geological Hazards:</p> <p>Flooding – There is a floodplain established for the Eagle Lakes Group. Base flood elevations have not been determined and no floodway exists.</p> <p>Geological Hazards – Eagle Lake 1 (T14N R29E S11N), Scootene Lake, and the western shoreline of Bailie Lake contain simultaneous occurrences of Ringgold fine soils, water erosion soils, and slopes greater than 15%, which make them designated geologically hazardous areas. The western shoreline of Bailie Lake is also an active landslide hazard area. All lakes in Eagle Lakes Group contain slopes greater than 40%.</p>	
<p>Existing Public Access – Although local access roads exist, public access to shoreline is not available due primarily to the private ownership of land and steep slopes at some locations. One park area exists on the south side of Scootene Lake.</p> <p>Identified Public Access Improvements – No public access improvements have been identified.</p> <p>Public Access Opportunities – Public access opportunities exist for public access on public land or via an easement.</p>	

Eagle Lakes Group	Franklin County
ECOLOGICAL CONDITIONS	
<p>Water Quantity and Sediment:</p> <p>Water quantity for the Eagle Lakes is dependent on irrigation operations and seepage. Eagle Lakes receives water from the Potholes East 16.4 Wasteway. The Potholes East 16.4 Wasteway continues through Eagle Lakes and acts as the outlet for Eagle Lakes. Bailie Lake receives inflow from the Potholes East 16.4 Wasteway via the northern portions of the Eagle Lakes system. The Potholes East 16.4 Wasteway continues through Bailie Lake and is the lake’s outlet.</p> <p>Sediment may be able to travel between lakes, but it is likely low velocities would cause sediments to accumulate in the lakes.</p>	
<p>Water Quality:</p> <p>The southern portion (part of the PE 16.4 Wasteway) of the southernmost lake is on the 303(d) list (Category 5) for pH and is a water of concern (Category 2) for temperature.</p>	
<p>Habitat Characteristics and PHS Presence – The lakes in this group are located within shrub-steppe habitat and are interconnected either through natural drainage patterns or artificially constructed or maintained connections. The lakes may also form connections to other nearby depressional areas under certain conditions. The lakes developed as part of the Columbia Basin project, serve water supply needs to the south, and are also used for private recreation purposes. Eagle Lake 4 (T14N R29E S26) lake appears to be accessible to grazing cattle and possibly other wildlife along certain reaches of the shoreline on the eastern side of the lake. Some areas along the shoreline show increased levels of erosion due to the activity, but these are generally small patches where the slope of the shoreline is less steep making these spots more easily accessible. Shoreline riparian vegetation is very sparse along most reaches of the shoreline around all lakes due to the nature of the soils and slope of the banks. In some areas where drainage emerges from the uplands or in areas where lakes are connected, wetland-type vegetation appears in small clusters, dominated primarily by willow species and cattails or rushes, which do provide some shade and overhanging vegetation of the lake waters. These lakes are noted for high concentrations of waterfowl during fall and winter months.</p> <p>While these lakes have minimal development along the shoreline, all of the lakes in this lake group are accessible to the public via gravel roads and trails, although public access is limited by private ownership. Scootenev Lake has two boat launch areas at the northern end of the lake. Eagle Lake 4 (T14N R29E S26) includes a small peninsula at the southern end, which is developed for camping and recreational use, and includes swim and boat docks adjacent to a landscaped camping area. This lake has another informal boating access point off of Hendricks Road.</p> <p>Bailie Lake features significant amounts of Russian olive trees along the shoreline, and some portions of the lake appear to have water quality issues due to low circulation, as there is evidence of algal blooms and eutrophication. This lake area also supports wetland complex habitat with cattails, rushes, and forbs, and provides waterfowl habitat. This lake is used for agricultural irrigation, as well as cattle watering, and some areas of the shoreline along the eastern side have evidence of significant cattle use. This lake has fewer access points and less developed trails and roads around the perimeter.</p>	

Eagle Lakes Group	Franklin County
ECOLOGICAL FUNCTIONS ANALYSIS	
<p>Level of Existing Function: Functioning</p> <p>Stressors:</p> <p>Recreational use:</p> <ul style="list-style-type: none"> • Informal trails and access points along lake shorelines <p>Recreational use may result in localized water quality impacts or reduced or disturbed shoreline vegetation that leads to the spread of invasive species. The most likely impacts are to riparian functions, such as erosion control, wildlife habitat, and migratory corridors.</p> <p>Agricultural use:</p> <ul style="list-style-type: none"> • Livestock impacts <p>Agricultural use may affect water quality due to nutrient inputs from livestock wastes. Livestock activity may cause reduced or disturbed shoreline vegetation or allow establishment of invasive species, impacting riparian functions such as erosion control, wildlife habitat, and migratory corridors.</p> <p>Potential Restoration Opportunities – Management and removal of invasive species.</p> <p>Potential Protection Opportunities – Management and development of specific areas of livestock access and recreational access.</p>	

C:\Jobs\131028-01_01_Franklin_County_SMP\Maps\Reaches\FranklinCo_ReachBreaks_Mapbook.mxd lhudson 12/22/2014 10:33:36 AM



LEGEND

-  County Boundary
-  SMA Jurisdiction
-  Eagle Lakes Group

NOTES:

1. This information is to be used for planning purposes only. Data is displayed as is and without any guarantee of accuracy or completeness.
2. Aerial image courtesy of USDA NAIP (2013).



Wahluke Lakes Group	Franklin County
Reach Description: Located in the northwest corner of the County between the Columbia River and Sagehill Road	
Shoreline Jurisdiction: Wahluke Slope HMA_W (118 acres) and Wahluke Slope HMA_N (130 acres)	
	
<p>Source: U.S. Department of Agriculture, <i>National Agriculture Imagery Program (NAIP): 2013 data</i></p>	
Subreaches (SRs); see Figure 19:	
Not Applicable.	
CHARACTERISTICS	
Ownership: Wahluke Slope HMA_W and Wahluke Slope HMA_N are federally owned.	
Land Use/Current SMP:	
Land Use Designation:	
<ul style="list-style-type: none"> • Current land use is Agricultural • Zoning - Agricultural Production 20 	
Current SMP Environment Designation:	
<ul style="list-style-type: none"> • Rural 	

Wahluke Lakes Group	Franklin County
Existing Land Cover/Development:	
The Wahluke Lakes Group consists of unimproved vacant land, riparian vegetation, and access roads.	
Geomorphic Character:	
Description – Wahluke Lakes occur in the highly erodible Ringold Formation along a broader topographic low connected by a series of surface drainages that drain into the Columbia River. This system is identified as the Wahluke Branch Wasteway.	
Hardened Banks – None identified.	
Flooding and Geological Hazards:	
Flooding – There is a floodplain established for the Wahluke Lakes Group. Base flood elevations have not been determined and no floodway exists.	
Geological Hazards – Wahluke Slope HMA_N contains slopes greater than 40%.	
Existing Public Access – Wahluke Slope Lakes are under federal ownership. No specific public access is currently available. Existing dirt roads provide access to the shoreline.	
Identified Public Access Improvements – No public access improvements have been identified.	
Public Access Opportunities – Public access opportunities are limited due to the sensitive nature of the shoreline.	
ECOLOGICAL CONDITIONS	
Water Quantity and Sediment:	
Water quantity in these lakes is dependent on irrigation operations. The Wahluke Slope Lakes primary source of water is the Wahluke Branch 10 Wasteway, so inflow and outflow are dependent on Wahluke Branch 10 Wasteway flow.	
Sediment may be able to travel between lakes through irrigation canals and seasonal streams, but it is likely low velocities would cause sediments to accumulate in the lakes.	
Water Quality:	
The Wahluke Lakes Group was not listed on Ecology’s water quality assessment; however, these lakes are formed from seepage and runoff from irrigation and agricultural sources, so there is the potential for the typical water quality issues associated with irrigation runoff (e.g., fecal matter, pesticides, sediment, high temperature, and low dissolved oxygen).	

Wahluke Lakes Group	Franklin County
<p>Habitat Characteristics and PHS Presence – These lakes have a minimal amount of riparian vegetation around the shoreline; however, the Wahluke Slope Lakes include wetland complexes that support wetland vegetation in large zone that is several hundred feet in width. Vegetation in this large wetland zone includes invasive Russian olive trees, but also support cattails, rushes, and mixed forbs; habitat suitable for ring-necked pheasant, a WDFW-managed non-native game species, may be present in this reach. These lakes also support waterfowl concentrations year-round, including nesting ducks. The Wahluke Slope Lakes are easily accessible via gravel or dirt roads that run around and within the lake riparian habitat areas, as well as user defined off-road vehicle and hiking trails, particularly in the northern portion of the lake complex.</p>	
ECOLOGICAL FUNCTIONS ANALYSIS	
<p>Level of Existing Function – Functioning</p> <p>Stressors:</p> <p>Agricultural use:</p> <ul style="list-style-type: none"> • Irrigation withdrawals • Livestock access <p>Agricultural use may affect water quality due to reduced water availability during the growing season due to water withdrawals, and nutrient inputs from adjacent agricultural field runoff. Some livestock activity may cause reduced or disturbed shoreline vegetation, or allow establishment of invasive species, impacting riparian functions such as erosion control, wildlife habitat, and migratory corridors. Livestock use may also result in water quality impairments as a result of waste inputs.</p> <p>Recreational use:</p> <ul style="list-style-type: none"> • Informal trails and access points along lake shorelines <p>Informal recreational use may result in localized water quality impacts, or reduced or disturbed shoreline vegetation that leads to the spread of invasive species. The most likely from informal recreational use impacts are to riparian functions such as erosion control, wildlife habitat, and migratory corridors.</p> <p>Potential Restoration Opportunities – Management and removal of invasive species.</p> <p>Potential Protection Opportunities – Management and development of specific areas of livestock access and recreational access.</p>	

C:\Jobs\131038-01.01_Franklin_County_SMP\Maps\Reaches\FranklinCo_ReachBreaks_Mapbook.mxd lhudson 12/22/2014 10:34:00 AM



LEGEND

-  County Boundary
-  SMA Jurisdiction
-  Wahluke Lakes Group

NOTES:

1. This information is to be used for planning purposes only. Data is displayed as is and without any guarantee of accuracy or completeness.
2. Aerial image courtesy of USDA NAIP (2013).

