

#### Appendix E.4: General descriptions of AU stream and lake groups used to analyze potential cumulative impacts.

**AENEAS LAKE** Aeneas Lake is located in Section 25 T37N R26E. The lake measures 52.6 acres and is banded by a narrow strip of vegetation. An intermittent creek provides inflow, but there is no outflow. The lake is surrounded by some residential development and undeveloped lands within a matrix of agriculture, orchards, and range lands. A public access boat launch is operated by WDFW in the SE corner of the Lake and a common open space exists in the NE corner adjacent to a short plat.

**ALBRIGHT LAKE** Albright Lake, also known as Peninsula Lake, is located in Section 7 of T35N R26E with an area of 21.4 acres. The lake is undeveloped and surrounded by WDFW lands to the southwest and private range lands to northeast. There is a developed access point located in the SW corner on WDFW property. Vegetation around lake is limited and the alkaline water chemistry cannot support fish life.

**ALKALI LAKE** Alkali Lake is located in Section 22 of T35N R26E. Alkali Lake is a kettle lake with an area of 63.8 and a shoreline perimeter measuring 2 miles. The lake is surrounded by private land that is roughly 1/3 developed amidst undeveloped lands. No developed Public access is available on the lake. The water in Alkali Lake is considered alkaline, displaying a greenish blue tinge and its water chemistry cannot support fish.

**ALTA LAKE** Alta Lake is located in Section 15, T29N R23E. Alta Lake is 219.6 acres and measures about two miles long and half mile wide. The lake sits in a coulee at the base of steep forested and shrub steppe terrain. The lake contains no inflow or outflow. The north and eastern shoreline houses Alta Lake State Park, where a campground and trails provide visual and direct access to the lakeside including two boat launch ramps. Residential development for seasonal and full time homes exists along the western, northeastern and southern shores. The USFS owns a large portion of the east and west shorelines at the south end of the lake. Alta Lake is used for fishing, motor boating, and swimming.

**ANTOINE CREEK** Antoine Creek joins the mainstem of the Okanogan River at RM 61.2. The Antoine Creek group reaches approximately 5 miles and is oriented in an east-west direction. The creek drains a dry landscape of shrub and rangelands, with some irrigated fields through a narrow, steep-sided canyon noted for erosive gullies exacerbated by hoof wear. Management issues include bank erosion, noxious weeds, and heavy grazing.

**BEAVER CREEK** The Beaver Creek group includes those shorelines below the 20 cfs point in the lower 9 miles of the Beaver Creek. Beaver Creek is a high-moderate gradient, north/south creek draining mountainous terrain and undulating range lands. The creek enters the Methow River at RM 35. The shorelines are privately owned with the exception of the middle and upper reaches that lie within Department of Fish and Wildlife and Okanogan National Forest ownerships. Land uses along Beaver Creek are

dominated by open range grazing; some irrigated fields and dispersed rural residences. There is no public access to the creek within the lower 7 miles except for that provided at bridge crossings.

**BIG TWIN LAKE** Big Twin Lake is located in Section 15 T34N R21E. A kettle lake, Big Twin Lake is a deep depression lined by steep slopes to the SW, S, and East, while the Northern shoreline is a more gradual slope. It is fed by groundwater and supports a trout fishery. The lake measures 65.4 acres with a perimeter of 2 miles. WDFW owns a large portion of shoreline in the SW corner for fishing access as well as a boat launch in the NE corner of the lake. The surrounding land uses are rural residential and a private RV campground.

**BLUE LAKE** Blue Lake is located in 22 of T39N R27E. This kettle lake measures 205 acres. The lake is surrounded by private land with only one structure on the shoreline to date. There is a WDFW access point at the SW corner of the lake. The water in Blue Lake is considered alkaline, displaying a greenish blue tinge and its water chemistry cannot support fish.

**BLUE LAKE (SIN)** Blue Lake is located in Section 22 T37N R25E. The lake measures 205 acres in area. It is an artificial reservoir composed of a series of smaller natural lakes along the Sinlakehin River into one feature. The entire shoreline is owned by WDFW and there are four public access points, three with trailer launch ramps, and one with a hand launch site along the eastern shoreline.

**BONAPARTE CREEK** Bonaparte Creek drains roughly 98,738 (HUC 10) – 102,120 acres of sparsely developed range lands. This 4th order stream flows 24 miles from its headwaters in the east and winds westward to meet the Okanogan River at the city of Tonasket at Okanogan RM 56.7. The creek begins at a gentle gradient supporting a variable width of riparian vegetation and wetlands in its upper reaches. A complex wetland/riparian band can be found at its confluence with Peony Creek. The creek then flows through steeper terrain into a narrow canyon eventually cascading over a natural fall at river mile 1.0– just east of the city. This is where the Bonaparte Creek group ends. The falls create a natural barrier to fish migration, though resident trout and sculpin can be found above the falls. The entire creek is surrounded by private land, primarily used for agricultural grazing. The canyon section holds high potential for wildlife in a relatively undeveloped environment although issues related to winter grazing, hoof shear erosion, lack of cover and invasive species were noted in the Sub Basin Plan. No known public access exists along its shorelines although the canyon is visible in the vicinity of the falls via an unofficial overlook at the Hwy 20 Bridge.

**BONAPARTE LAKE** Bonaparte Lake is located in Section 17 T38N R30E at an altitude of 3550 ft. It measures 151.7 acres. The lake is connected to a chain of small ponds and wetlands that serve as the headwaters of Bonaparte Creek. The shoreline is forested and owned mostly by Okanogan National Forest with exception of the SE corner that is owned by the state. A campground and boat launch in the southern tip is managed by ONF. There is also a small resort with lake access and one dock is located at a Boy Scout

camp along the northern shoreline.

**BOOHER LAKE** Booher Lake is located at T35N R26E. The surface area of the lake is variable depending on hydrologic fluctuations, with a range of 18 – 29 acres. The lake is surrounded by private agricultural range lands with no structures in the shoreline to date. Pine Creek, and intermittent creek provides inflow to the lake; no outflow exists. No public access exists on the lake.

**BREWSTER** Shorelines in the Brewster Group include the banks of the Columbia River along the Wells Pools running from RM 527-536 as well as upstream along the Okanogan River where it meets the Columbia. These shorelines are within the city of Brewster and are characterized by tree fruit agriculture, residential and commercial uses. The majority of the waterfront shoreline area is owned by the Douglas County PUD. Access can be found at the city park, including two docks and a launch, and along the river walk in downtown Brewster. The shoreline along this portion has been greatly modified as part of the development of the Wells Dam impoundment. The entire shoreline has been stabilized with rip rap and supports a narrow band of riparian species in some areas. Fluctuations of the pool create variable habitat zones along the water's edge, and some side bar islands and wetlands do exist; however, the shoreline has been greatly simplified and is more reflective of lakeside environments than river systems.

The southern portion of this group encompasses the shoreline area parallel to US 97 and the BNSF rail road along the Columbia River between Brewster and Indian Dan Canyon, RM 529- 527. It is almost entirely owned by the Douglas County PUD. Those portions not owned by the PUD are composed of residential subdivisions near Brewster and some orchards and industrial uses related to agriculture and transportation. The shoreline through this section has been highly altered from hydroelectric development and includes heavy armoring to support and protect this vital transportation corridor for the railroad and highway. There is one developed access point operated by the PUD near RM 529.

**BROWN LAKE** Brown Lake is located in Section 7 T34N R26E. The lake measures 61.5 acres. It is a very shallow bottomed lake (14 ft max. depth) that emerges at the confluence of two unnamed creeks. Outflow is into Johnson Creek, a tributary to the Okanogan River. Little to no riparian vegetation exists, but the lake does support emergent aquatic vegetation along its edge. The lake is surrounded by open range land, with no formal public access.

**CARLTON - TWISP** The Carlton-Twisp group of the Methow River extends south from Twisp near the Hwy 20 Junction to Carlton -- RM 37.5 – 27.6. The upper portion of this group meanders through a wide, active channel, creating large gravel bars and mid-channel islands. As the river approaches Carlton the stream channel narrows and is surrounded by steep erosive bluffs. Riparian vegetation can be found along stable banks and wide bars. Bank stabilization has occurred throughout this group for road and land protection. There is no developed public access within this group. An informal public access exists between RM 33-34 on WDFW property. The surrounding land uses include rural residential and agriculture.

**CARLTON LAMIRD** The Carlton LAMIRD (Limited Area of More Intense Rural Development) group includes a 1 mile reach of river that encompasses the population center of Carlton centered on RM 27. Carlton houses a post office, RV park, motel, restaurant, general store and fire station, and shoreline uses include public access and dispersed rural residential development. A WDFW fishing access site serves this area adequately for access. It is a popular launch site for commercial and private float trips with a great swimming beach that brings in visitors to Carlton.

**CHEWUCH RIVER** The Chewack (Chewuch) River group flows southwest from high elevations in the Pasayten Wilderness on USFS land through sparsely populated residential and agricultural lands until it meets the Methow River in the town of Winthrop. The Lower Chewack Watershed (HUC 10), which encompasses all shorelines designated in this SMP, drains nearly 200,000 acres of mountainous terrain through a surrounding landscape of forested slopes with patches of meadows in the highlands and shrub-steppe terraced hillsides in the lower reaches. Riparian cover is relatively continuous throughout the reach. There are 5 diversions for irrigation and extensive portions of the river's banks, including the alluvial fans of receiving streams have been rip-rapped for flood control. Public access along the Chewack is plentiful above RM 35 where various developed campgrounds and day use sites are managed by the USFS and WDFW. Informal and undeveloped access sites also exist. A new park, "Sa Teekh Wa", in the Town of Winthrop also provides shoreline access via a pedestrian bridge and riverfront trail. Limited access exists in the more heavily developed areas between RM 28 and 35, with the exception of one WDFW non-motorized (walk-in) location and a scattering of privately owned community open spaces. The Okanogan County Outdoor Recreation Plan identifies "river trails" as a high priority and this lower portion of the Chewack River has no trail system.

**CHOPAKA LAKE** Chopaka Lake is located in Section 4 T39N R25E. The lake measures 68 acres. It sits in a narrow trough with a north-south orientation and surrounded by steep forested slopes. The lake flows out into Chopaka Creek, a tributary of Sinlahekin River. The southwestern 1/3 is privately owned, but the remainder of the shoreline is publicly owned with one WDFW access and a BLM campground and access along the western shoreline.

**CONCONULLY LAKE** Conconully Reservoir is located in Section 18 T35N R25E. The reservoir is an artificial lake impounded by a USBOR dam built just below the confluence of the West and North Forks of Salmon Creek in 1910. Used for irrigation storage, the lake now supports broad recreational and residential uses. Surrounding land uses include open range, agriculture, urbanization and forest lands. Most of the land around the lake is owned by the federal Bureau of Reclamation with much of the north and western shorelines leased to the owners of private cabins and several small resorts. Public access is found along the NE corner at Conconully State Park, as well as at the southern shoreline at the dam.

**CRAWFISH LAKE** Crawfish Lake is located in Section 35 T35N R29E. The lake is 80

acres in area. The lake sits in a shallow basin amidst a forested landscape of gentle slopes. About 1/3 of the shoreline is privately developed with recreational cabins, including some docks. Approximately half of the shoreline lies within the bounds of the Colville Indian Reservation. Public access is available at the northeast corner in USFS campground.

**DAVIS LAKE** Davis Lake is located in Section 20 T34N R22E. The lake, 39.8 acres in area, is fed by an unnamed creek that flows in from the east; no outflow exists, though the lake does terminate to the north in a wetland. There is a public boat launch operated by WDFW at the northern tip of the lake and the southwestern quarter of the lake is owned by the federal government. A small RV park occupies the eastern shoreline. Otherwise, the lake is privately owned and surrounded by open range lands characterized by shrub-steppe habitat.

**DUCK LAKE** Duck Lake is located in Section 10 of T34N R26E. The lake is in a closed basin with no outflow. However it is fed by Johnson and Salmon Creeks as well as supplemented by irrigation diversions. The water is used for irrigation. Surrounding land uses included limited residential development and open range land. The margins of the shoreline support some woody vegetation. There is no public access.

**EAST OSOYOOS** The East Osoyoos group is differentiated from West Osoyoos based on its relative lower level of development. While there are some undeveloped portions of the shoreline, the shoreline still remains primarily in agricultural use. In recent years there has been an emerging resort development as agricultural lands are converted. Access is on this side of the lake to private parcels and resorts. The entire lake is within the city of Oroville with much of the existing development served by city water and a growing number of sewer connections.

**EVANS LAKE** Evan Lake is located in Section 28 of T35N R26E. It is a silt bottomed alkaline lake measuring 32.7 acres. The shoreline is entirely privately owned with no public access or road for access. Surrounding land uses include open space rangeland and one seasonal cabin.

**FANCHER DAM RES** Fancher Dam Reservoir is located in Section 35 T39N R28E. The lake is 26 acres in area. The reservoir is impounded by a dam built in 1923 at the headwaters of Antoine Creek for livestock watering. The southern shoreline and outflow area is heavily forested. There are no public access sites, as the shoreline is entirely privately owned.

**FIELDS LAKE** Fields Lake is located in Section 26 of T40N R29E. The lake measures 25 acres. The sinuous shoreline of the lake is lined by a narrow band of forested vegetation. The lake is fed by a perennial stream as part of the headwaters of Mary Ann Creek, a tributary to Myers Creek. The shoreline is owned by a single private ownership and has no public access.

**FISH LAKE** Fish Lake is located in Sect 22 T36N R25E. The lake measures 101.6

acres. The lake is fed by Gibson Creek and sits in a narrow coulee where the outflow forms Coulee Creek. The northern shoreline is a steep, rocky slope with little vegetated cover. The southern and western shorelines support forested and wet meadows. Public access is provided via a road that circumscribes the lakeshore and campgrounds along the southern shore. The entire shoreline is owned by the USFS or WDFW.

**GOLD CREEK** Gold Creek drains a narrow valley of shrub-steppe and forested slopes in the Lower Methow Sub-watershed (HUC 10). The drainage flows west to east and empties into the Methow River at RM 22.7 and the group includes roughly 4 ½ miles of shoreline. The lower 3.5 miles of the creek has been channelized with rip rap, restricting lateral channel movement (Methow Subbasin Plan, 2004). This group is surrounded by rural residential property that supports grazing and timber harvest. There is no public access along the creek other than an undeveloped USFS site located just east of the Middle Fork Gold Creek Road.

**GREEN LAKE** Green Lake is located in Section 13 T34N R25E. The surface area measures 45 acres. The lake sits in a narrow forested valley and the lake is oriented north-south with an average width less than 500 ft. WDFW operates an access site on the eastern shoreline with a boat launch while the remaining shorelines are privately owned and undeveloped.

**HORSESHOE LAKE** Horseshoe Lake is located in Section 17, T36N R26E, just east of Albright (Peninsula) Lake. It is an alkaline kettle lake measuring 36 acres. The majority of the shoreline is surrounded by open rangeland, though the southern boundary has been subdivided for seasonal homes. There is no established public access; however, there is a large parcel of state-owned land in the northwest corner of lake.

**KEYSTONE - TONASKET** The Keystone-Tonasket Group extends south along the Okanogan River from the southern boundary of Tonasket at RM 56.1 – 52.3. This area occupies a broad floodplain with rural residential and agricultural uses. Residential and agricultural uses have minimized the extent of riparian vegetation as well as the complexity of the channel. The channel is primarily a single course though some mid-channel islands do exist, suggesting a degree of dynamism through this group. There are no developed public access points throughout this section.

**KEYSTONE CANYON** The Keystone Canyon group extends from the Janis Bridge at RM 52.3 to RM 41.7 just north of Riverside. The river is confined to a narrow, steep canyon through much of this group, limiting the extent of a natural floodplain. Where a floodplain does exist, agricultural fields occupy the landscape, confining the river to a single channel. Much of this reach lacks robust riparian vegetation or channel complexity due to natural topography and agricultural conversion. Public access does not exist outside of informal right of ways or bridge crossings.

**LAKE PATEROS** Shorelines in the Lake Pateros group include the banks of the Columbia River along the Wells Pool running downstream from RM 523 to the confluence with the Methow River and extending up the Methow to RM 1.7. It is

characterized by the inundation zone of the Wells Pool along the Columbia and the Methow within the urban growth boundary of Pateros. This area has been heavily altered by inundation and filling. The entire shoreline is composed of up to nine feet of fill and is therefore supported by continuous rip rap along the shoreline. The majority of the waterfront shoreline is owned by the Douglas County PUD. Native riparian vegetation can be found in portions of the Methow River where mid-channel islands, bars, and wetlands have been established for wildlife. The majority of the group, however, is dominated by residential lawns or parkland landscaping along the PUD lands. Residential and commercial development line the north bank of Lake Pateros and the Methow River while public access is provided in the at numerous PUD locations and city parks. WDFW operates 2 access sites in this reach, including a boat launch and fishing site. It is a popular site for all types of watercraft including rafts, kayaks, motorized boats and jet skis. The WDFW site on the south bank of the Methow across from Pateros is the primary take-out site for commercial float trips on the lower Methow River.

**LEADER LAKE** Leader Lake is located in Section 16 T33N R25E. The lake area measures 155 acres and the perimeter is 4 miles in length. The lake is a natural lake supplemented by diversions from Loup Loup Creek and artificially controlled by a dam built circa 1910, but would otherwise drain into Tallant Creek. The shoreline is surrounded by open range lands and sparsely forested hillsides. Approximated 1/3 of the western shoreline is publicly owned and operated by WDFW for fishing, boating, and camping access.

**LEMANASKI LAKE** Lemanski Lake is located in Section 3 T37N R25E. The lake measures 20 acres. There is a private dam that impounds the lake to supplement water supply. The lake is privately owned with no public access other than informal ROW access along the western shoreline.

**LITTLE TWIN LAKE** Little Twin Lake is located in Section 14 T34N R21E. Similar to Big Twin Lake, the water is ground fed and sits in a steep basin. Little Twin Lakes shares a boat launch access site with Big Twin Lake and is otherwise surrounded by private community open space owned by the surrounding rural residents.

**LOST CREEK** Lost Creek flows in a northeast direction from T34N, R30E to T35N, R31E approximately 7 miles. The creek lies in a V-shaped basin and drains a gently sloping, forested landscape almost entirely owned by the ONF before it enters into the West Fork of the Sanpoil River. Surrounding land uses are forestry and open rangelands. No developed public access exists.

**LOWER METHOW** The Lower Methow Group extends from RM 12.8 beginning at the southern boundary of the population center known as Methow to the inundation zone of Lake Pateros at RM 1.7. This shoreline landscape is characterized by steep bluffs that form narrow reaches of canyon topped by wide benches that support rural residential development and orchards. Sandy point bar beaches are formed through wider reaches in this section and this group is popular for white water rafting. It is served by informal

access points at HWY 153 bridge crossings at RM 5 and 6 and an access using County road right of way at the Burma Road Bridge. USFS owns parcels along the shoreline between RM 9-10 which hold potential for access, however, only a single developed access point exists (A WDFW site) between Methow and the WDFW sites on Lake Pateros as the majority of this reach is privately owned.

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**LOWER OKANOGAN** The Lower Okanogan group extends from RM 16.7 of the mainstem of the Okanogan River, and the tributary, Loup Loup Creek, downstream to the confluence with the Columbia River at the northern boundary of Brewster. This reach of the river is impounded by Wells Dam on the Columbia River, creating a large, slow moving pool. The shoreline is dominated by agricultural uses, primarily orchards and hay fields. Riparian vegetation is stable due to the infrequent scour and flooding in this zone caused by the impoundment. The banks are silt and sand. The river divides Okanogan County shoreline jurisdiction from the Colville Confederate Tribe's jurisdiction on the eastern shoreline. Public access along the Lower Okanogan can be found at RM 0.5 at a WDFW fishing access and again at RM 4.5 at a PUD site. Between RM 4.5-16.7 no developed access exists. Informal access can be found along Monse River Road in the lower few miles, but otherwise this group has limited access. Loup Loup Creek contains native resident trout and steelhead but suffers from de-watering from irrigation diversions farther upstream. Eastern brook trout have likely out-competed native bull trout in the system. Anadromous fish cannot pass beyond RM 1 on Loup Loup Creek where a natural falls occurs.

**LOWER SALMON** The Lower Salmon group extends from approximately RM 4.3 at the Okanogan Irrigation Diversion Dam to the Confluence with the Okanogan River. This portion of Salmon Creek does not satisfy the 20 cfs minimum for inclusion in the SMP. However, restoration efforts by the Colville Confederated tribes are securing 10 cfs for Steelhead habitat.

**LOWER SIMILKAMEEN** The Lower Similkameen group includes those shorelines adjacent to the Similkameen River from RM 8.8 at the Enloe Dam downstream to the vicinity of the old rail trestle (RM 6.5). This is a turbulent section of river incised into a steep, sparsely vegetated bedrock canyon.

**LOWER SINLAHEKIN** The Lower Sinlahekin group reaches from RM 10 on the Sinlahekin River at the confluence with Toats Coulee to RM 6.5 where the river empties into Palmer Lake. The river is highly sinuous and historically would have been multi-channelled. However, surrounding agricultural uses have restrained the river to a single channel. Nonetheless, at the Toats Coulee confluence, a wide wetland complex exists. No public access is found within this portion of the river.

**LOWER WELLS POOL** Shorelines in the Lower Wells Pool group include the banks of the Columbia River along the Wells Pool running from RM 517-522 just south of the confluence with the Methow River. The shoreline here has been greatly modified by inundation from hydroelectric development. Land uses through this group include agriculture and grazing and the shoreline is largely owned by the Douglas County PUD. One developed WDFW public access is located near RM 518.

**MALOTT LAMIRD** The Malott LAMIRD group includes those shorelines within this unincorporated community along the main stem of the Okanogan River. The Okanogan River shorelines in the LAMIRD contain residential and some limited commercial development. Shorelines in Malott support rural, low density residential and agricultural uses.

**MAZAMA** The Mazama group begins below where Early Winters Creek flows into the Methow River just upstream from the population center known as Mazama. This group extends downstream through a wide glacially carved valley to RM 50.9 just west of the Town of Winthrop. In addition to shorelines along the mainstem, this group also includes shorelines associated with Wolf Creek extending approximately 2 miles upstream to the 20 cfs mark. Major tributaries include Goat Creek, Fawn Creek, and Wolf Creek. The Methow River is very dynamic through this group, supporting a wide flood plain and channel migration zone with robust riparian forests, side channel habitats, and ox-bow wetlands. Despite the high level of ecologic integrity in this group, shoreline modifications have been made for highway and property protection. Surrounding land uses are characterized by irrigated hay fields, rural residences, seasonal homes, and small-scale resorts and rentals. Access to the river includes Big Valley Ranch, a WDFW property; the Community trail in Mazama; and Early Winters Campground at the confluence of Early Winters Creek and the Methow River. There is also informal access points along road right of ways and at private common areas created via short and long plats.

**MEDICINE LAKE** Medicine Lake is located in Section 5 T35N R26E. It is an alkaline, kettle lake measuring 43.1 acres. The shoreline is entirely privately owned with no public access and surrounded by open range land.

**METHOW - CARLTON** This group runs from the population center of Carlton downstream to the community of Methow, RM 26.7 – 13.3. This group is characterized by a narrowing of the valley floor and numerous steep, forested tributaries that empty in the mainstem of the Methow River, including Cow Creek, Libby Creek, Gold Creek,

McFarland Creek, and French Creek. Irrigated pastures and cropland, orchards, rangelands, and rural residential uses border the shorelines. Riparian vegetation is limited to narrow bands along the often steep banks, though some point bars do support vigorous groves of gallery forests. Highway modifications have hardened and confined the banks around most of the large meanders. There are only two developed public access points within this group, though many informal and common areas provide local access to residents. Public lands along the shoreline between RM 26-24 could hold potential for more access.

**METHOW LAMIRD** The Methow LAMIRD (Limited Area of More Intense Rural Development) group includes a ½ stretch of shoreline that falls within the small community known as Methow and centered around RM 13. Point bars support some riparian vegetation along the shoreline through this group, but much of the river is confined by steep banks in this section with little riparian cover. Shoreline ownership through this section is privately owned (except for a parcel owned by the Pateros School District - Methow Community Center) and primarily residential and agricultural in nature, although a private RV campground lines the north eastern shoreline. Resort and residential development is rapidly occurring in the vicinity of Methow which may cause an increase in demand for river access and services in Methow. The nearest public access is located at the French Creek Road junction where Hwy 153 crosses the river just north of the community.

**MIDDLE METHOW** The Middle Methow group extends from RM 47.5, just south of the town of Winthrop to the RM 41.9 to the Town of Twisp. This extremely active portion of river contains wide meanders and supports a dynamic channel with abandoned and active side channels and mid-channel islands. Riparian forests of mixed cottonwoods and Ponderosa pine line the variable sloped banks and gravel bars. The surrounding land uses are primarily irrigated alfalfa fields, small-scale row crops, and rural residential homes, though there is an airport and some industrial uses as well. Open spaces in this section of river valley support large numbers of mule deer. Public access is limited to informal access along highway right-of-ways, and common areas; that is, no developed public access exists within this group.

**MIDDLE OKANOGAN** The Middle Okanogan group extends downstream from RM 23 in the vicinity of Barnholt Loop to just below RM 20 north of Malott. The shoreline area is in transition from resource to residential uses and has some areas with extensive floodplain.

**MIDDLE SIMILKAMEEN** The Middle Similkameen River group runs northeast from the confluence with Palmer Creek at RM 19.5 then arcs downstream to the southeast where it ends at Enloe Dam. This portion of river sits in a relatively wide valley with a low gradient and supports an active floodplain. Surrounding slopes include shrub-steppe and forested habitats, while agricultural fields occupy first and second flood terraces. Abandoned mines and mill sites and small-scale gold dredge mining occurs within this reach of the river. It is believed that Salmon never reached this portion of the Similkameen. Riparian cover is limited by agricultural use. Public access occurs at

informal pull-outs along the Loomis-Oroville Rd with one primitive BLM campsite located at Similkameen Camp.

**MIDDLE SINLAHEKIN RIVER** The Middle Sinlahekin group runs north from RM 16.5 -10. It drains a forested valley and supports a flood plain. This group ends just below the confluence with Toats Coulee Creek. At the confluence and below, a wide wetland complex exists. Surrounding uses include agriculture, forestry, and open range as well as public access.

**MILES LAKE** Also known as Big Buck Lake, Miles Lake is fresh water lake located at T34N R21E. The outflow into an unnamed creek (Frost Creek) is completely diverted into irrigation canals that serve rural properties along the Twisp River valley. The lake is surrounded by range land and one residential unit. WDFW owns the southern 1/3 portion of the lake, while the remaining 2/3rd is privately owned.

**MOCCASIN LAKE** Moccasin Lake is located in Section 17 T34N R21E. This 32 acre lake is a privately owned lake with no public access but does have a private dock. The lake is surrounded by rangelands and protected via a private conservation easement.

**MOLSON LAKE** Molson Lake is located in Section 8 T40N R29E and is immediately SW of Sidley Lake where it separated by a road bed. The lake measures 20 acres. This is a shallow (maximum depth 20ft), silt bottomed lake that supports aquatic plants. The surrounding land use is open range land. There is no development along the shoreline. Public access is provided at NW corner of the lake at a WDFW site.

**MUSKRAT LAKE** Muskrat Lake is located in Section 15 T39N R29E. The lake measures 40-45 acres depending on water levels. This lake is an extremely shallow (maximum depth 6 ft), silt bottomed lake subject to de-watering. It is surrounded by private agricultural and range lands. There is little potential for public access given the water depth and quality, though options for habitat enhancement may exist.

**OKANOGAN CITY** The Okanogan City group includes those shorelines along the main stem of the Okanogan River near the City of Okanogan as well as lands downstream along the Okanogan River to the vicinity of Barnholt Loop. Salmon Creek is the major tributary for this section river. However, Salmon Creek does not meet the 20 cfs minimum required for designation of its shoreline due to irrigation withdrawal 4.3 miles upstream. The main stem of the Okanogan River through this group is confined to a single channel by channelization and armoring for levees and flood control. A narrow band of riparian vegetation exists throughout the group however, providing a green buffer. Land uses span the range of urban development from rural residential, commercial, educational, institutional and industrial uses throughout this group. Public Access exists at the Alma City Park, at the entrance to the Wastewater Treatment Plant and informal access points exist at Legion Park, at city owned property surrounding the treatment plant and along road rights-of-way and bridge crossings. Overall, access to the riverfront is limited within the City limits.

**OMAK - RIVERSIDE** The Omak-Riverside group extends from RM 40 – 35. This portion of river is primarily constrained to a single wide channel with very little channel complexity. There are two side channel islands located at RM 35 and 38 that support riparian vegetation. Shoreline riparian vegetation is limited by agricultural development throughout much of the group, however, much of the areas between the railroad and river along the eastern bank contains riparian vegetation. Land uses include rangelands, agriculture, industrial and rural residential. There is no developed public access although there are right of ways that are used as informal access points.

**OMAK CITY** The Omak City group runs from near the northern boundary of Omak downstream to the city of Okanogan's northern boundary. The river through Omak takes on a variety of characteristics ranging from free flowing and complex at the lower portion to Corps of Engineers built levees and steep bluffs abutting the river through the heart of the city. Along Aston Island side channels support active wetlands. This wilder portion gives way to a constrained portion where a levees line both sides of the shoreline through the downtown where uses include residential and commercial developments. The northern reaches through Omak and north support rural residential development amidst a unique landscape pocked by massive boulders in the floodplain. Riparian vegetation is typically established between the armored banks and the river throughout this reach. The Omak Eastside Park and Stampede Grounds is an important cultural site in this group. Public access exists at the Stampede Grounds as well as at Aston Island and Pioneer Park. The northern portion has limited public access.

**OROVILLE CITY** Shorelines within the Oroville City group include portions of the Similkameen and Okanogan Rivers upstream of their confluence and within the most heavily developed areas of Oroville. This group is urbanized, yet the river systems maintain a high degree of channel complexity, including wide meanders, wetlands, and side channels. Development along the rivers includes commercial, industrial, and residential uses. WDFW also holds large tracts of land south of the confluence on Okanogan River (Driscoll Island). River access is well provided for in the northern portion of this group on the Okanogan. The southern portion contains two WDFW access sites in the vicinity of the confluence. Lake Osoyoos State Park, located at the outlet of Lake Osoyoos into the Okanogan River provides a developed access and a variety of recreation improvements.

The Similkameen River portion of the group begins where the river emerges from the narrow canyon at the old rail trestle. The river is sinuous and levels out creating large meanders and a well developed floodplain associated with the confluence with the Okanogan River. Surrounding land uses include orchards, range lands, and rural – urban residential at Oroville. Public access is available at the 12th Street Bridge and sewer treatment plant in Oroville.

**PALMER CREEK CONFLUENCE** The Palmer Creek Confluence group encompasses the confluence of the Similkameen River and Palmer Creek which flows from Palmer Lake. This area is very complex, sinuous wide floodplain that hosts a complex wetland system of active and abandoned meanders from the Similkameen and Palmer Creek.

Grazing has altered plant composition, but the confluence support a diverse assemblage of riparian and wetland habitat types. There are no public access areas within this group.

**PALMER LAKE** Palmer Lake is located in Sect 11 T39N R25E. Measuring at over 2,000 acres, this is a lake of Statewide Significance. The shoreline is both privately and publicly owned. The lake is a glacially carved trough fed by the Sinlahekin River. Outflow of the lake is via Palmer Creek which flows into the Similkameen River through a complex, braided wetland system. Surrounding land uses are primarily open range lands with some orchards to the east. The south and western shoreline is a steep, barren hillside with rock outcrops, whereas the north and eastern edges are more gradual and lined with vegetation. Private development along the eastern shoreline consists of permanent and seasonal residences and some private docks. There is a developed boat launch at the southern tip of the lake, a DNR campground and resort near the northern end and other public, undeveloped access points on the west and northern shorelines.

**PATTERSON LAKE** Patterson Lake is located in Section 19 of T34N R21E. The lake measures 160.3 acres. The lake is fed by Rader Creek and a small impoundment on the northern end maintains water levels where it empties into a series of beaver ponds and a single channel that eventually gets diverted for irrigation. The lake is heavily used for recreational fishing, non-motorized boating, swimming and hiking. There is a resort located on the northern shore with a common dock, as well as a launch site along the eastern shore that is operated by WDFW. Trails for hiking and mountain biking parallel the WDFW lands along the western shoreline while the southern end is privately owned and supports irrigated fields.

**PEARRYGIN LAKE** Pearrygin Lake is located in Section 36 of T35N R21E. The lake measures 182 acres. The lake is fed by two perennial streams, Pearrygin Creek and an unnamed creek. The outflow is captured for irrigation via canal. The glacially carved lake sits in a narrow valley where it abuts a forested slope to the south and open shrub-steppe habitat to the north. The majority of the shoreline is owned by Washington State Parks and the park is used heavily for watercraft, camping, hiking and fishing. WDFW owns the eastern shoreline, and there are some private in-holdings along the southwest corner of the lake.

**RAT LAKE** Rat Lake is located in Section 22 of T31N R24E. It is an artificial lake created by an old dam built prior to 1917 for irrigation at the headwaters of Whitestone Creek. Today, it is managed for flood control. Surface area measures 61.2 acres. The eastern shoreline is privately owned while the western shoreline is owned by the federal government. There is small boat launch, operated by WDFW, at the southern tip of the lake at the dam.

**RIVERSIDE TOWN** The Riverside Town group includes those shorelines along the Okanogan River within and to the south of the incorporated location of Riverside, RM 41.7 – RM 36, including the alluvial fan at the confluence of Johnson Creek. The Okanogan River takes a sweeping S-shaped bend through Riverside where the banks are armored with a levee for flood protection. Riparian vegetation waterward of the levee is

intact and robust, but limited to this narrow strip. The surrounding land uses include residential within the town proper and agriculture outside the town center. There are two developed public access sites within Riverside.

**ROBERTS LAKE** Roberts Lake is located in Section 9 T35N R25E. This shallow bottomed lake measures 34 acres and fluctuates greatly depending on water levels. The shoreline does not support woody riparian vegetation. The surrounding land is privately owned, and the uses are open range; there is no public access.

**SALMON/CONCONULLY LAKE** Salmon Lake is located in Section 6 T35N R25E. The surface area measures 292 acres. The lake is impounded by a dam along the western edge where an outlet releases water into the North Fork of Salmon Creek where it flows into Conconully Reservoir. The lake sits in a narrow valley trough at an east-west orientation, surrounded by steep forested hillsides. The lake is almost completely surrounded by public lands, including Forest Service and State lands. Land leases for cabins on BOR lands occur along the northern shoreline. Public access is found in the vicinity of the Dam and a WDFW launch site and resort on the northern shore.

**SIDLEY LAKE** Sidley Lake is located in Section 6 T40N R29E. The lake measures 104.8 acres. This high altitude lake sits at a 3660 ft and has an average depth of 17 feet. The northern shoreline has been structurally modified to support Nine Mile Road. The west and SW shorelines have been platted and contain cabins and homes. Docks are present along private lands. Public access is available at the eastern shoreline where a WDFW launch site is shared with Molson Lake. No public beach exists.

**SINLAHEKIN HEADWATER** The Sinlahekin flows from Blue Lake T37N, R25E and travels northward through a series of ponded, shallow pools connects by a meandering channel of low gradient. This portion of the river is flanked by relatively steep forested banks, but occupies a flat valley that supports flooding and extensive shrub wetlands along the banks. There are numerous WDFW campsites along the river for fishing and camping.

**SPECTACLE LAKE** Spectacle Lake is located in Section 2 T38N R26E. The lake is 313 acres in area. The lake sits in a narrow valley trough with an orientation east-west. The northern shoreline supports orchards; small resorts and range land at the toe of gentle, bare slopes, whereas the southern shoreline is bordered by steep bluffs of undeveloped ONF land with scattered trees and forests.

**TALKIRE LAKE** Talkire Lake is located in Section 22 T36N R28E. The lake measures approximately 38 acres when full. The basin lies within Chewiliken Creek and this shallow bottomed basin is prone to de-watering to form more of a wetland. It is entirely surrounded by private, open range lands and has no public access.

**TOATS COULEE** Toats Coulee is a narrow stream channel draining steep slopes in T39N, R25E. The creek follows an easterly direction and is incised in a V-shaped channel where there is little to no floodplain. South facing slopes support open habitats

of grasslands and shrubs, whereas the northern aspects are forested. Most of the lower reaches of shoreline are privately owned, and undeveloped, whereas the State owns and manages portions of the upper reaches. No public access is developed along the creek.

**TONASKET CITY** The Tonasket City group includes those shorelines within Tonasket. At Tonasket, three tributaries, Bonaparte Creek, Siwash Creek, and Unnamed Creek, flow into the main stem, creating a wide shoreline jurisdiction. Uses include commercial, residential, and some industrial areas in the central group, while agricultural, orchards, and rural residential are found outside. Public access is developed at Lagoons City Park. Informal access exists History Park and at bridge crossings and ROWs, but otherwise is limited in town.

**TORODA CREEK** Toroda Creek is located in the far NE corner of the county in T39N, R31E. It is a tributary of the Kettle River in neighboring Ferry County. Toroda Creek drains a shrub steppe-forested landscape of gentle to steep slopes. The creek is of moderate gradient supporting a narrow floodplain occupied by agricultural fields and grazing lands. There is no public access along this portion of shoreline.

**TWISP RIVER** The Twisp River group begins at the Eagle Creek and flows east to a point a couple miles upstream from Twisp, approximately 12 miles. The Twisp River is a major tributary of the Methow River and support anadromous fish. Much of the river has been channelized through diking and riprap for property protection to support surrounding agricultural and residential uses. Despite this, riparian forests are still supported as is a narrow flood plain. The river meanders through a series of terraced benches where surrounding properties are rural residential and agricultural in nature. Public access can be found about 5 miles upstream at WDFW site and at ONF sites. However, the lower reaches are underserved for public access given the proximity to Twisp and the surrounding residential developments.

**TWISP TOWN** The shorelines in the Twisp Town group include those portions of the Twisp and Methow Rivers within Twisp. The Twisp River portion of this group begins about 2 miles upstream from the Town and is generally unconstrained. As the Twisp River reaches Town, it is stabilized by a flood levee on the southern bank. Where the Methow and Twisp rivers meet, a dynamic alluvial fan from the Twisp inputs large gravels, boulders and cobbles, creating large bars during low water. This area is heavily used by town residents and visitors for fishing, swimming, and beach combing. Surrounding land uses are primarily residential, open space and parks, and a large amount of former industrial and agricultural land. The mainstem of the Methow River is channelized through town and reinforced for bridge abutments at Highway 20. A narrow riparian forest of cottonwoods lines the otherwise steep banks. Public access on the Methow is provided as Twisp park, at the end of E. 2nd Avenue and informal access for foot traffic is found at the Highway 20 bridge. Access on the Twisp is found at the Methow Salmon Recovery Foundation property and at the county road bridge just west of the Town limits.

**UPPER METHOW** The Upper Methow group begins just upstream of where Lost River joins the Methow River. This portion of river is highly dynamic, draining a vast

wilderness landscape of steep forested hills and snow and glacially covered peaks. The river flows in a south east direction where numerous small tributaries and streams contribute sediment and flows. Early Winters Creek enters the system at RM 67.5 creating an alluvial fan where the river meanders through large cobbles and sediments, creating a complex channel structure. This group is highly active with a wide floodplain that actively recruits new cottonwoods and riparian vegetation. Shorelines are largely forested and relatively undeveloped in this group although vacation and full time homes, including a few large track conservation properties and resorts, do occupy the surrounding lands. Public access is highly developed via a trail network for both summer and winter access to the river.

**UPPER OKANOGAN** The Upper Okanogan group begins at the confluence of the Similkameen River with where lake Osoyoos outflows and forms the Okanogan at Oroville and runs south 15 miles, RM 76 - 61. The river meanders southward through a wide floodplain that narrows as it approaches Tonasket at RM 58. The confluence area is a low gradient, complex channel with multiple wide meanders, side channels, wetlands, point bars, and islands. This portion supports seasonal grazing, but is otherwise free flowing and dynamic. As the floodplain begins to narrow near RM 64, orchards and intensive agriculture begin to dominate the surrounding landscape. No developed or established public access exists within this 15 mile stretch.

**UPPER SIMILKAMEEN** The Upper Similkameen begins at the Canadian border in T40N R25E to RM 22.3 where it adjoins the Palmer Creek, the outflow of Palmer Lake. This portion of river supports a wide floodplain with a robust complex channel, marked by side channel wetlands, abandoned oxbows and lush riparian vegetation. Land uses are primarily grazing and interspersed agriculture. Access to the Upper Similkameen is available at two WDFW sites located at RM 23.6, and RM 26.2, respectively.

**WALKER LAKE** Walker Lake is located in Section 27 T38N R30E. The lake is 40 acres in area. The lake is nearly circular in shape and shallow with a maximum depth of 32 feet. The lake bottom is sandy clay and the shoreline is lined by a sandy beach around its entire perimeter. The western shoreline is forested whereas the eastern shoreline is open rangeland. The shoreline is privately owned with no public access.

**WANNACUT LAKE** Wannacut Lake lies with T39N R26N in Section 24. The lake sits in a north/south trough surrounded by moderately forested hills. The shoreline measures approximate 5 miles in length. The eastern shoreline has been heavily subdivided for residential/vacation cabins, while the western shoreline is still intact and supports open range lands. There is one public access site in SW corner of the lake with a boat ramp.

**WEST OSOYOOS** The West Osoyoos group is located in Section 22 T40N R27E. Lake Osoyoos measures 2055 acres and therefore constitutes a shoreline of statewide significance. There are extensive gravel and sand beaches along the shoreline. West Osoyoos constitutes its own group based on its high level of residential development including homes and docks. The entire lake is designated within the city of Oroville (and is served by public water and some sewer). Public access is found along the western

shoreline at the City of Oroville Deep Bay with picnic, launch and swimming areas and numerous private campgrounds and small resorts that provide access.

**WEST SANPOIL RIVER** The West Fork of the Sanpoil River drains an area of nearly 200,000 acres. This portion of the Sanpoil runs in a SE direction from T36N, R30E to T35N, R31E for approximately 10 miles before it enters the mainstem of the Sanpoil. The surrounding landscape includes forested slopes and open rangelands. The West Fork of the Sanpoil sustains an actively floodplain with wide meanders that supports agriculture and grazing. Ownership includes private and Forest Service lands. No public access is documented.

**WHITESTONE LAKE** Whitestone Lake is located in Section 17 T38N R27E. The lake measures 147 acres. The lake is a natural, silt-bottomed lake but is supplemented by irrigation and detained by a small dam. The lake is used for recreation with several small resorts and irrigation storage. The northeastern shoreline has been stabilized for the Loomis-Oroville RD. A boat launch on State land provides access.

**WINTHROP TOWN** Shorelines in the Winthrop Town group include the Chewack River from about RM 0.5 downstream to the confluence with the Methow River, and the Methow River between RM 49-51. Where these rivers meet is a dynamic braided channel. Efforts to control channel movement have resulted in a flood control levee along the right bank of the Methow (which serves a ski trail in the winter) and extensive rip rap along the Chewack to protect riverfront businesses and two bridges. Nevertheless, this highly developed portion of the river still maintains a high level of ecological integrity and the Winthrop Park offers direct public access at the confluence for fishing, swimming and light boat craft launch. A pedestrian bridge at the north end of downtown provides access to a new park area along the Chewuch River and in south Winthrop, Heckendorn Park provides access to the Methow. Visual access to the river is an important feature to the town's identity as the riverfront properties command high real estate values. Recreation and commercial interests are a top priority for shorelines in this group.