ODFW AQUATIC INVENTORIES PROJECT

STREAM REPORT

STREAM: Grande Ronde River LLID: 1169845460718

BASIN: Snake River HUC NUMBER: 17060104

SURVEY DATES: Reach 1 – September 10, 2015
Reach 2 – September 21, 20015
Reaches 3-12 – August 17-31, 2015
Reaches 14-18 – September 8, 2015
Reaches 19-29 – June 17 - September 16, 2015

USGS MAPS: Hilgard, Kamela, LaGrande SE, Limber Jim Creek, Little Beaver Creek, Marley Creek, McIntyre Creek

ECOREGION: Blue Mountains Upland, Valley, and Basin

WATERSHED AREA: 1800km^2 STREAM ORDER: 5

SURVEY CREW: Amy Bardo, Andrew Chione, Kate Roberts, Charles Andrus

REPORT PREPARED BY: Peggy Kavanagh

GENERAL DESCRIPTION:

The Grande Ronde River habitat survey began upstream from the city of LaGrande at Harrison Avenue and continued upstream approximately 73 kilometers to end at a series of steps and cascades. There were approximately 14 kilometers of secondary channel habitat. Twenty-nine reaches were designated based on land use, permission, tributary influence, and survey crew. The land uses were mining, second-growth timber (15-30cm dbh), large timber (30-50cm dbh), mature trees (50-90cm dbh), exclosure, light grazing, greenway, industrial, and no use identified. Thirty percent of the survey length was not surveyed due to lack of access. The surveyed habitat was primarily riffles and scour pools. Cobble, gravel, and sand substrates were most commonly encountered. Wood volume ranged from 0.1 – 29.3m^3 / 100m. Hardwoods 3-15cm and conifers 3-30cm dbh were found most frequently in the riparian zone (based on 59 transects).

REACH DESCRIPTIONS:

Reach 1 - (T02S-R37E-S36SE) – 3,864 meters – Reach 1 began near Harrison Avenue and ended near Perry swimming hole. The stream channel had an unconstrained wide floodplain within a broad valley. The average valley width index was 5.3 percent (range: 5.0-5.5). There were 509 meters of secondary channel habitat. The land uses were large timber and no use identified. The average gradient was 0.3 percent. Scour pools (42%), riffles (36%), and glides (18%) were the dominant stream habitats. The average residual pool depth was 0.62m. Gravel (46%) and cobble (27%) were the dominant stream substrates. Wood volume was 0.2m^3/100m. The trees found most frequently in the riparian zone were 3-15cm dbh conifers and hardwoods. Total number of trees per 100m^2: 2.8 conifers and 2.8 hardwoods (based on 2 riparian transects).

Reach 2 - (T02S-R37E-S35SW) – 7,523 meters – Reach 2 extended to Five Points Creek. The reach was constrained by hillslopes in a moderate v-shaped narrow valley. The average valley width index was 3.1 percent (range: 1.2-5.0). There were 716 meters of secondary channel habitat. The land uses were industrial (highway, railroad) and second-growth timber. The average gradient was 0.6

percent. The dominant stream habitats were riffle (53%) and scour pool (38%). The average residual pool depth was 0.38m. Cobble (42%) and gravel (31%) were the dominant stream substrates. Wood volume was 0.6m^3/100m. The trees found most frequently in the riparian zone were 3-30cm dbh conifers. Total number of trees per 100m^2: 4.2 conifers and 0.9 hardwoods (based on 3.8 riparian transects).

Reach 3 - (T02S-R37E-S31SE) – 2,094 meters – Reach 3 extended from Five Points Creek to a property boundary. The stream channel was constrained by hillslopes in a moderate v-shaped valley. The average valley width index was 2.2 percent (range: 2.0-2.3). There were 1073 meters of secondary channel habitat. The land uses were greenway (Hilgard State Park) and large timber. The average gradient was 0.3 percent. Riffle (43%), scour pool (35%), and glide (18%) composed most of the stream habitat. The average residual pool depth was 0.41m. Gravel (40%), cobble (26%), and sand (26%) were the primary stream substrates. Wood volume was 1.9m^3/100m. The trees found most frequently in the riparian zone were 3-15cm dbh hardwoods. Total number of trees per 100m^2: 0.0 conifers and 3.8 hardwoods (based on 2.8 riparian transects).

Reach 4 - (T02S-R37E-S36SE) – 1,205 meters – Reach 4 spanned the extent of mixed permission. The side of the stream where permission was not obtained was not surveyed. This impacted the crew's ability to collect all metrics. The channel was constrained by alternating hillslopes and high terraces. The valley width index was 8.0 percent. The average gradient was 0.5 percent. The surveyed habitat was primarily riffle (55%) and glide (37%) habitats with gravel (53%) and cobble (31%) substrates. The average residual pool depth was 0.35m. A single piece of wood was recorded. No riparian transect was conducted.

Reach 5 - (T03S-R36E-S06NW) – 3,584 meters – Reach 5 extended between property boundaries. This reach was not surveyed.

Reach 6 - (T03S-R36E-S12NW) – 3,200 meters – Reach 6 extended from Spring Creek to Bear Creek. The stream channel was unconstrained in a wide floodplain within a broad valley. The average valley width index was 5.7 percent (range: 4.0-8.0). There were 1,674 meters of side channel habitat. The land use was large timber. The average gradient was 0.3 percent. Riffle (43%), scour pool (29%), and glide (22%) were the dominant stream habitats. The average residual pool depth was 0.47m. The substrate was a mix of gravel (41%), sand (24%), cobble (23%), and fine sediment (10%). Wood volume was 0.7m^3/100m. The trees found most frequently in the riparian zone were 30-50cm conifers and 3-90cm dbh hardwoods. Total number of trees per 100m^2: 0.1 conifers and 0.8 hardwoods (based on 3 riparian transects).

Reach 7 - (T03S-R36E-S15NE) – 3,964 meters – Reach 7 extended from Bear Creek to a property boundary. The stream channel had an unconstrained wide floodplain with multiple channels. The average valley width index was 11.3 percent (range: 5.8-20.0). There were 2,536 meters of secondary channel habitat. The land use was not distinctive, and the crew selected no use identified. The average gradient was 0.5 percent. Scour pools (48%) and riffles (45%) were the dominant stream habitats. The average residual pool depth was 0.42m. Gravel (54%), cobble (20%), and sand (20%) were the dominant stream substrates. Wood volume was 3.6m^3/100m. The trees found most frequently in the riparian zone were 3-15cm dbh hardwoods. Total number of trees per 100m^2: 0.3 conifers and 1.8 hardwoods (based on 3 riparian transects).

Reach 8 - (T03S-R36E-S16SW) – 1,741 meters – Reach 8 encompassed private property. This reach was not surveyed.

Reach 9 - (T03S-R36E-S20NE) – 504 meters – Reach 9 comprised Red Bridge State Park. The stream channel was constrained by alternating high terraces and hillslopes in a broad valley. The valley width index was 8.0. The land uses were large timber and mature trees. The average gradient was 0.7 percent. Riffles (57%) composed most of the stream habitat, and slackwater pools (14%), scour pools (16%), and glides (13%) composed the remaining substrate. The average residual pool depth was 0.35m. Gravel (39%) and cobble (47%) were the dominant stream substrates. No instream wood was counted. The trees found most frequently in the riparian zone were 3-15cm dbh

hardwoods. Total number of trees per 100m^2: 1.0 conifers and 2.0 hardwoods (based on 1 riparian transect).

Reach 10 - (T03S-R36E-S20NE) – 6,740 meters – Reach 10 was not surveyed; permission was not obtained.

Reach 11 - (T03S-R35E-S36NE) – 466 meters – Reach 11 extended from a property boundary to Meadow Creek. The stream channel was constrained by alternating hillslopes and high terraces in a broad valley. The valley width index was 3.0. There were 45 meters of side channel habitat. The land uses were large timber and mature trees. The average gradient was 0.4 percent. Riffles (53%) and scour pools (39%) dominated the stream habitat. The average residual pool depth was 0.38m. Gravel (40%) and cobble (39%) were the dominant stream substrates. Wood volume was 7.3m^3/100m. The trees found most frequently in the riparian zone were 3-30cm dbh conifers. Total number of trees per 100m^2: 2.7 conifers and 0.0 hardwoods (based on 1 riparian transect).

Reach 12 - (T03S-R35E-S36NE) – 2,155 meters – Reach 12 began at Meadow Creek and ended at a property boundary. The stream channel was constrained by multiple terraces in a broad valley. The average valley width index was 23.7 percent (range: 22.0-27.0). There were 897 meters of side channel habitat. The land uses were large timber and mature trees. The average gradient was 0.6 percent. Riffles (56%) and scour pools (28%) dominated the stream habitat. The average residual pool depth was 0.42m. Gravel (55%), sand (18%), and cobble (19%) were the dominant stream substrates. Wood volume was 0.6m^3/100m. The riparian transects were primary grassy low terraces void of trees (based on 2 riparian transects).

Reach 13 - (T03S-R34E-S01NW) – 139 meters – Reach 13 spanned private property. It was not surveyed.

Reach 14 - (T03S-R34E-S01NW) – 826 meters – Reach 14 extended from a property boundary to a land use change. The reach was an unconstrained single channel within a broad valley floor. The valley width index was 5.0. The land use was large timber. The average gradient was 0.7 percent. The dominant stream habitat was riffle (66%). Scour pool habitat accounted for 22 percent. The average residual pool depth was 0.48m. Gravel (50%) and cobble (31%) were the dominant stream substrates. Instream wood volume was 0.1m^3/100m. The trees found most frequently in the riparian zone were 3-15cm dbh hardwoods. Total number of trees per 100m^2: 0.3 conifers and 33.7 hardwoods (based on 1 riparian transect).

Reach 15 - (T04S-R35E-S02SE) – 1,409 meters – Reach 15 ended at Warm Spring Creek. The stream channel was unconstrained in a wide floodplain within a broad valley. The valley width index was 11.0. There were 543 meters of secondary channel habitat. The land uses were light grazing and large timber. The average gradient was 0.7 percent. Riffles (51%) and scour pools (32%) composed most of the stream habitat. The average residual pool depth was 0.45m. Gravel (42%), sand (24%), and cobble (23%) were the primary stream substrates. Wood volume was 3.4m^3/100m. The trees found most frequently in the riparian zone were 3-15cm dbh hardwoods. Total number of trees per 100m^2: 0.3 conifers and 3.0 hardwoods (based on 1 riparian transect).

Reach 16 - (T04S-R35E-S11NW) – 892 meters – Reach 16 extended from Warm Spring Creek to a property boundary. The stream channel was constrained by alternating high terraces and hillslopes in a broad valley. The valley width index was 6.6. There were 242 meters of side channel habitat. The land uses were large timber and light grazing. The average gradient was 0.6 percent. The stream habitat was a mix of riffle (54%), glide (26%), and scour pool (17%) habitat. The average residual pool depth was 0.33m. Gravel (40%), cobble (31%), and sand (21%) were the dominant stream substrates. Wood volume was 3.9m^3/100m. The trees found most frequently in the riparian zone were 15-50cm dbh conifers. Total number of trees per 100m^2: 2.0 conifers and 0.7 hardwoods (based on 1 riparian transect).

Reach 17 - (T04S-R34E-S11SW) – 1,459 meters – Reach 17 extended between property boundaries. This reach was not surveyed.

Reach 18 - (T04S-R35E-S14SW) – 1,071 meters – Reach 18 began at a property boundary and ended at the confluence of Fly Creek. The stream channel was unconstrained in a broad valley. The valley width index was 4.7 percent. There were 766 meters of side channel habitat. The land uses were large timber and exclosure. The average gradient was 0.9 percent. Riffles (62%) dominated the stream habitat. There was 26 percent scour pool habitat. The average residual pool depth was 0.48m. Gravel (42%), sand (25%), and cobble (20%) were the dominant stream substrates. Wood volume was 24.4m^3/100m. The trees found most frequently in the riparian zone were 3-15cm dbh hardwoods. Total number of trees per 100m^2: 0.0 conifers and 9.0 hardwoods (based on 1 riparian transect).

Reach 19 - (T04S-R35E-S23NW) – 2,105 meters – Reach 19 began at the confluence of Fly Creek and ended at the confluence of Whitehorse Creek. The stream channel was constrained by alternating hillslopes and high terraces within a broad valley. The average valley width index was 3.1 percent (range: 1.5-5.0). There were 934 meters of secondary channel habitat. The land use was large timber. The average gradient was 1.3 percent. The stream habitat was a mix of rapid (53%), riffle (26%), and scour pool (13%). The average residual pool depth was 0.27m. Cobble (39%), gravel (28%) and fine sediment (19%) were the dominant stream substrates. Thirteen percent of the units had undercut bank. Wood volume was 13.9m^3/100m. The trees found most frequently in the riparian zone were 3-15cm dbh hardwoods. Total number of trees per 100m^2: 0.1 conifers and 8.7 hardwoods (based on 5 riparian transects).

Reach 20 - (T04S-R35E-S26NW) – 4,808 meters – Reach 20 extended from Whitehorse Creek to a tributary junction. The reach was constrained by hillslopes in a moderate v-shaped narrow valley. The average valley width index was 1.9 percent (range: 1.0-3.3). There were 1,491 meters of secondary channel habitat. The land uses were large timber and second-growth timber. The average gradient was 1.4 percent. The dominant stream habitats were riffle (34%), rapid (30%), and scour pool (27%). The average residual pool depth was 0.19m. Cobble (38%), gravel (22%), fine sediment (17%), and boulder (16%) were the dominant stream substrates. Wood volume was 6.9m^3/100m. The trees found most frequently in the riparian zone were 3-15cm dbh hardwoods. Total number of trees per 100m^2: 2.8 conifers and 3.5 hardwoods (based on 7 riparian transects).

Reach 21 - (T05S-R35E-S01SW) – 5,281 meters – Reach 21 extended from a tributary junction to a property boundary. The stream channel was constrained by hillslopes in a moderate v-shaped valley. The average valley width index was 1.5 percent (range: 1.0-4.0). There were 918 meters of secondary channel habitat. The land uses were second-growth timber and large timber. The average gradient was 1.4 percent. Riffles (85%) composed most of the stream habitat. There was seven percent scour pool habitat. The average residual pool depth was 0.27m. The stream substrate was a mix of cobble (34%), gravel (29%), fine sediment (21%), and boulder (12%). Seventeen percent of the units had undercut bank. Wood volume was 8.7m^3/100m. The trees found most frequently in the riparian zone were 3-15cm dbh hardwoods and conifers. Total number of trees per 100m^2: 4.4 conifers and 2.6 hardwoods (based on 9.5 riparian transects).

Reach 22 - (T05S-R36E-S19NW) – 10,808 meters – Reach 22 extended between property boundaries. This reach was not surveyed.

Reach 23 - (T06S-R36E-S05SW) – 1,951 meters – Reach 23 extended upstream from a property boundary to a geomorphic change. The stream channel was constrained by hillslopes in a moderate v-shaped narrow valley. The average valley width index (vwi) was 3.0 (range: 1.0-8.0). Typically, the vwi for a narrow valley is ≤2.5. Due to averaging, the vwi was greater than 2.5. There were 683 meters of side channel habitat. The land use was second-growth timber. The average gradient was 3.2 percent. Rapids (55%) and riffles (27%) dominated the stream habitat. There was nine percent scour pool habitat. The average residual pool depth was 0.32m. Fine sediment (34%), cobble (26%), boulder (20%), and gravel (19%) composed the stream substrate. Thirty percent of the units had undercut bank. Wood volume was 11.2m^3/100m. The trees found most frequently in the riparian zone were 3-15cm dbh conifers. Total number of trees per 100m^2: 7.5 conifers and 0.3 hardwoods (based on 3.8 riparian transects).

Reach 24 - (T06S-R36E-S04SW) – 1,189 meters – Reach 24 extended to a land use change. The stream channel had an unconstrained wide floodplain within a broad valley. The valley width index was 4.0. There were 151 meters of secondary channel habitat. The land use was large timber. The average gradient was 0.9 percent. Scour pool (60%) was the dominant stream habitat; riffle accounted for an additional 33 percent of the stream habitat. The average residual pool depth was 0.32m. Gravel (43%), fine sediment (30%), and cobble (27%) were the dominant stream substrates. Sixty-five percent of the units had undercut bank. Wood volume was 15.8m^3/100m. The trees found most frequently in the riparian zone were 3-30cm dbh conifers and 3-15cm dbh hardwoods. Total number of trees per 100m^2: 7.7 conifers and 2.3 hardwoods (based on 1 riparian transect).

Reach 25 - (T06S-R36E-S04SW) – 350 meters – Reach 25 ended at Clear Creek. The reach was unconstrained in a broad valley floor. The valley width index was not determined. There were 121 meters of secondary channel habitat. The land uses were mining and large timber. The average gradient was 0.5 percent. The primary stream habitats were scour pool (42%), riffle (24%), slackwater pool (18%), and steps (12%). The average residual pool depth was 0.21m. Sand (40%), gravel (25%), and cobble (24%) were the primary stream substrates. Seventeen percent of the units had undercut bank. Wood volume was 15.5m^3/100m. The trees found most frequently in the riparian zone were 3-15cm dbh conifers. Total number of trees per 100m^2: 12.7 conifers and 0.0 hardwoods (based on 1 riparian transect).

Reach 26 - (T06S-R36E-S09NW) – 878 meters – Reach 26 extended from Clear Creek to Muir Creek. The stream channel was unconstrained in a broad valley. The valley width index was not determined. There were 140 meters of secondary channel habitat. The land uses were mining and second-growth timber. The average gradient was 1.1 percent. Scour pool (63%) dominated the stream habitat; slackwater habitat accounted for an additional 21 percent. The average residual pool depth was 0.33m. Fine sediment (40%) and gravel (35%) were the dominant stream substrates. Forty-six percent of the units had undercut bank. Wood volume was 5.3m^3/100m. A riparian transect was not conducted.

Reach 27 - (T06S-R36E-S09NE) – 2,137 meters – Reach 27 extended from Muir Creek to East Fork Grande Ronde River. The stream channel was an unconstrained wide floodplain in a broad valley. The average valley width index was 8.4 (range: 3.5-11.0). There were 316 meters of secondary channel habitat. The land uses were mining and second-growth timber. The average gradient was 0.7 percent. Scour pool (68%) and riffle (21%) composed most of the stream habitat. The average residual pool depth was 0.34m. Gravel (58%) and sand (31%) were the dominant stream substrates. Fifty-seven percent of the units had undercut bank. Wood volume was 7.0m^3/100m. The trees found most frequently in the riparian zone were 3-30cm dbh conifers. Total number of trees per 100m^2: 5.7 conifers and 0.0 hardwoods (based on 6 riparian transects).

Reach 28 - (T06S-R36E-S10SE) – 666 meters – Reach 28 extended from East Fork Grande Ronde River to a geomorphic change. The average valley width index was 7.7 (range: 4.9-10.5). The stream channel was an unconstrained wide floodplain in a broad valley. There were 366 meters of secondary channel habitat. The land uses were mining and second-growth timber. The average gradient was 1.6 percent. Scour pool (63%) and riffle (14%) composed most of the stream habitat. The average residual pool depth was 0.29m. The substrate was primarily fine sediment (37%) and gravel (39%). Sixty-nine percent of the units had undercut bank. Wood volume was 8.5m^3/100m. The trees found most frequently in the riparian zone were 3-15cm dbh conifers. Total number of trees per 100m^2: 15.7 conifers and 0.0 hardwoods (based on 1 riparian transect).

Reach 29 - (T06S-R36E-S15NE) – 305 meters – Reach 29 extended to a series of steps and cascades known as “The Falls”. The stream channel was constrained by high terraces in a broad valley. The average valley width index was 6.0 percent (range: 1.0-11.0). There were 175 meters of side channel habitat. The land uses were second-growth timber and large timber. The average gradient was 2.6 percent. Scour pool (42%), rapid (20%), and riffle (20%) constituted the stream habitat. The average residual pool depth was 0.21m. The stream substrate was a mix of sand (42%), boulder (20%), cobble (13%), bedrock (11%), and gravel (10%). Fifty-one percent of the units had undercut bank. Wood volume was 29.3m^3/100m. The trees found most frequently in the riparian

zone were 3-15cm dbh conifers. Total number of trees per 100m^2: 12.2 conifers and 1.3 hardwoods (based on 2 riparian transects).

COMMENTS:

Chinook, whitefish, dace, shiners, bull trout, steelhead/rainbow trout, suckers, sculpin, and other fishes were observed during the survey, primarily while snorkeling. The last fish observed was at unit 2157 (73,250m).

A potential barrier to fish movement was noted at unit 1679 (Reach 24, 68,963m). A log habitat structure consisting of two stacked logs was approximately 0.25m above the water's surface. No water was flowing over the structure at the time of the survey.

Restoration projects were observed. Boulder weirs were noted in Reaches 6, 7, 14, and 15. Log / boulder habitat structures were prominent in Reaches 18-29. In some reaches, the log/boulder habitat structures created backwater habitat.

Cool water seeps were encountered while surveying. These occurred at the following locations:

U306 (18,618m) LP
U337 (20,245m) LP GPS: 11T 0399985, 5018485
U344 (20,354m) LP GPS: 11T 0399908, 5018426 – mid-channel
U346 (20,534m) LP GPS: 11T 0399856, 5018323
U353 (20,759m) LP GPS: 11T 0399599, 5018302
U366 (21,441m) LP GPS: 11T 0399148, 5018053 also near where Jordan enters
U435 (22,483m) LP - cold upper end
U595 (35,927m) GPS: 11T 0391379, 5012588
U599 (35,927m) LP on 02 0391208, 5012566 – large spring
U602 (36,080m) cold H_2O enters at lone pine tree in meadow GPS: 11T 0391351, 5012611
U824 (43,330m) BW
U828 (43,330m) SP on 02 channel
U1417 (51,411m) BW GPS: 11T 0392053, 5000386
U1663 (68,797m) LP GPS: 11T 0396618, 4991244
U1783 (69,857m) BP GPS: 11T 0397141, 4990571
U1885 (70,984m) LP GPS: 11T 0397842, 7989933
U1920 (71,324m) LP GPS: 11T 0398096, 4989758
U1928 (71,393m) LP on 02 channel GPS: 11T 0398166, 4989715

CHaMP sites were encountered during the survey, beginning upstream of Five Points Creek. CHaMP sites had been flagged, though flagging was difficult to find. The crew ensured overlap between AQI and CHaMP as follows:

AQI U241 (12,192m) – CHaMP 109658 bottom of site (BOS)
AQI U301 (18,291m) – CHaMP 420954 BOS
AQI U328 (19,966m) – CHaMP 000205 BOS
AQI U504 (24,342m) – CHaMP 071770 BOS
AQI U631 (36,819m) – CHaMP 269114 BOS
AQI U662 (38,072m) – CHaMP 000202 BOS
AQI U734 (40,086m) – CHaMP 457530 BOS
AQI U770 (42,291m) – CHaMP 031546 BOS
AQI U1066 (46,368m) – CHaMP 486202 BOS
AQI U1381 (50,067m) – CHaMP 235322 BOS
AQI U1413 (51,145m) – CHaMP 370490 BOS
AQI U1443 (52,594m) – CHaMP 321338 BOS
AQI U1468 (53,598m) – CHaMP 000277 BOS
AQI U1493 (66,001m) – CHaMP 468458 BOS
AQI U1551 (66,892m) – CHaMP 206314 BOS
AQI U1673 (68,944m) – CHaMP 148970 BOS

AQI U1865 (70,629m) – CHaMP 280042 BOS
AQI U1881 (70,883m – CHaMP 000009 BOS
AQI U1965 (71,816m) – CHaMP 099818 BOS
AQI n/a - CHaMP 000245

Wildlife observations included deer, garter snake, fishes, frog, bat, caddis flies, salmonids, mussels, kingfisher, yellow warblers, raccoon, beaver, crayfish, elk, bear, eagle, snail, hawk, merganser, nuthatch, Townsend solitaire, dipper, tree frog, Columbia spotted frog, otter, woodpecker, cedar waxwing, Western tanager, Western bluebird, and coyote.

The survey frequently had a road along one side. Highway 84 influenced Reaches 1-3; Highway 244 and Grande Ronde River Road / USFS RD 51 were present along Reaches 4-29.

Named tributaries which entered the surveyed portion included Five Points Creek, Rock Creek, Spring Creek, Jordan Creek, Bear Creek, Winter Canyon, Meadow Creek, Warm Springs, Fly Creek, Whitehorse Creek, Clear Creek, Muir Creek, and East Fork Grande Ronde River.

TRANSCRIPTION OF CREW NOTES
Notes are sequential based on habitat unit number from downstream to upstream

September 9 – Started surveying the lower canyon reach (Harrison Street to Five Point Creek). What a maze of irrigation diversion structures, highway bridges, and railroad bridges. Switched out to snorkeling gear mid-morning and hit the pools in the previous reaches. Not many salmonids until we reached USFS land. The rain over the weekend increased flow two-fold compared to last week which puts flow about normal for this time of year.

September 10 – Surveyed about 2miles of lower canyon reach and ended just downstream of the Perry swimming hole. Habitat was simple in this section of the canyon. The highway infrastructure put a squeeze on the river. Deep pools occurred where the river has been pushed up against a bedrock bank. Also, the bridge abutments had deep scour pools. Some sections of the river are bedrock and elsewhere the substrate was usually coarse and thin.

September 15 – 32 pools snorkeled between Harrison Street and the Perry swimming hole. Very few fish in most pools. Only 5 salmonids and only in the downstream portions. No bass or other top predators. Cool, rainy weather on the way. The river was 10-14°C when we snorkeled.

U74-145 – September 21 – Quite a lot more pools than thought there would be - likely due to all the bedrock. Very pretty fall colors with the cottonwoods. Spotted old otter scat.

U146-217 – September 22 – More pools. Quite a few long stretches of long units and only a couple of 02 channels. We had a couple of glides too, though none deep enough to snorkel. Still quite a bit of bedrock. Finished up to Five Points Creek.

We surveyed abt 4miles from just below Perry swimming hole to Five Points Creek. We had a lot of long pools and riffles. The river looked nicer than it does from the highway. Perry swimming hole was easily 3m deep. We only saw a few shiners and dace and a couple of sculpin. No salmonids today.

September 24 - Finished snorkeling up to Five Points Creek. Saw salmonids in the first 2 pools in the creek and 1 pool below the creek (Five Points). The 2nd pool had so many *O.mykiss* of all sizes that I could only estimate their numbers. It seemed that many fish are taking refuge in the much colder Five Points Creek.

U504 – August 25 – 15°C at 0900 – 13 CFS at Perry - Surveyed 800m of mainstem length upstream of Bear Creek. Progress slowed by over 3000m of multiple channels. The major side channel has the best salmonid habitat. The main channel has cut deep along the north edge of the valley floor. Numerous old “restoration” boulders and some large wood, mostly ineffective. Some side channels are artificial and were part of the boulder project. Land was privately owned by a rancher, but was not grazed along the river. The vegetation was mostly tall grass and forbs with scattered large cottonwoods and hawthorn thickets. Large Ponderosa pine grew along the north bank on sloping ground. Temps ranged from 14°C in the morning 24°C in the afternoon. Not much in the way of cold seeps.

August 26 – Started from U450 (the mega pool). The river was mostly up against the right edge of the valley until the end of the Reach 7. Not nearly the maze of multiple channels as previous day. Channel units were mostly alternating riffle and lateral pool. Quite a few old style “restoration” structures mostly rock dikes and boulder weirs. Also buried rootwads sticking out of bank to serve as rip rap. Valley floor was quite wide extending to the highway to the right hillslope (300-600m). Timber was scarce on these low and high terraces. No grazing of timber harvest on ether private or Forest Service land.

August 27 – Finished up last 390m of USFS land to boundary of Reach 8. Reach 9 was surveyed quickly as a ~500m stretch at Red Bridge State Park. There were two man-made cobble dams in this reach that completely spanned the channel; thereby creating artificial impoundments. Reach 10 was not surveyed. Reach 11 amounted to ~600m of USFS land before the next property line, which bisected the final pool (U554). No side channels in either Reach 9 or 11, made for an uncomplicated day. Temps ranged from 14°C in the morning to 21°C at the end of the day.

August 31 – Started at Meadow Creek confluence and transitioned from Red Canyon to the alluvial flats of

the Starkey area. Beyond the Grande Ronde Road bridge, the valley widened to over 0.5km. The river occasionally ran up against the paved road and was usually riprapped at those locations. Went abt 2km, just short of the first house on the west side of the road. All private land toady, and none was being grazed. Mostly a riffle/pool sequence with an occasional side channel. Temps ranged from 12-22°C. Vegetation near the river was mainly grasses/forbes with some alder and hawthorn.

September 1 – Snorkeled the habitat units from the previous week. At the beginning of the day, saw a few fish that weren't shiners, dace, or suckers. Things got more interesting beyond the bridge where the GR road splits from Hwy244. We saw several Chinook and *O.mykiss* in a pool created at a cement bridge support. Saw 1 small mouth bass in a deeper pool. Most Chinook spotted were <100mm. Most units contained a handful of *O.mykiss*, of various size classes and over the course of the day, there were 3-4 big fish at 200+mm. Pools were quick to survey, as most Chinook and trout were concentrated at the upper end of the pools. The surprise of the day was a side channel pool with water temp 6°C less than the mainstem. This spot contained dozens of Chinook and *O.mykiss*. Quite the refuge!

September 2 – Habitat surveys continued with Reach 14 after a MX unit. The hillslopes were coming closer on both banks, making for fewer meandering channels. RI – LP sequence still dominates. It was quite chilly and overcast today with water temps ranging 14° - 20°C. Started a new reach (R16) right after Warm Spring Creek, as the valley continued to narrow. Took pictures of 'old style' habitat structure of logs lashed together with wire, and a myriad of boulders. Grazing was evident for the first time – sported several cow and their pies.

September 3 – Completed Reach 16. Reach 17 is private property – no access. Reach 18 started back up on USFS land. Light grazing was evident. It really felt like fall on this upper section near Fly Creek! Trees turning colors and leavers in the water. Lots of BV sticks and shews, with a few blown-out dams on both main channel and a side channel. Units were getting a bit shorter. The find of the day were some spawning Chinook near a blown out beaver dam and the subsequent pool. We watched them for several minutes as the female dug a redd and the larger male chased a jack away. More large salmon spotted upstream at the HS logs in same pool. HS logs were all the rage today and kept Chip busy counting wood. Though the sun was out at times, the air was chilly. Water started at 13°C.

September 8 – Finished Reach 18 on USFS to Fly Creek. Went back to finish Reach 12, then surveyed Reach 14 at Delve property. Water uncharacteristically cold, ranging from 8-18°C. The Forest Service log and boulder placement has created excellent habitat. Cows next to the stream on FS land were trespassing, having gotten through the riparian fence.

U797-811 – June 16 – Started at Fly Creek and moved upstream. Many parr were encountered as well as 5 adult Chinook. Mussels were collected and an abundance of crayfish, caddisfly larvae, and other water insects were seen.

U812-835 – June 17 – Many habitat structures of LWD and boulders were in place. Some parr and 2 adult Chinook were seen. 1 was 60-75cm. Many caddisfly larvae, surface-gliding insects, 2 frogs, and a large area of mussels were seen.

June 22 – We surveyed to a USFS campground. We surveyed 02 channels and lots of artificially-placed jams with boulders. We saw several stressed fish with fungus growing on them. Many parr and minnows were seen in numerous backwaters as well as sculpin a, crayfish, and water insects. Fresh and old beaver activity was seen along this entire stretch of river.

U863-892 - June 23 – Complex area with lots of wood, multiple log jams, and deep pool with many fish. Lots of birds.
Several salmon were resting in LP (U880) below an SS and 1 dead salmon was seen in DP (U883).

U893-914 – June 24 – Lots of log jam (LJ) today. Near end of day, conifers started shifting on right side from dominantly Ponderosa to Spruce/Douglas fir. No fish today, but dead deer (roadkill?). Saw a dipper.
Unnamed trib encountered flowing into U884 with 11°C temp at 0900. Mainstem 14°C at 0925. Many RB, lots of HS/DJ which create many lP units as well as BW. Lots of signs of beaver including a small beaver dam and pool. We didn't see salmon today.

U915-946 – June 25 – No adult salmon; saw coyote, deer, elk signs, snail, Western tanager. A lots less wood after U923. More boulder substrate. Right hillslope trees more Doug fir/Engelman spruce but left side still Ponderosa pine. Unit 150 marked end of Reach 19 at start of Whitehorse Creek.

As we neared a reach break, the substrate became mainly cobble and boulder and we saw a little bedrock. The majority of the units are RB. I saw snails and a dead fish (non-salmonid). We reached Whitehorse Creek. Trib was 12°C at 1345 and mainstem was 21°C at 1348.

U916-983 - July 1 – Couple of metrics, lots of boulders/bedrock./ Narrowing down even more. Some wood. 26°C at end of day.

The banks have become steeper and are made mostly of bedrock. We saw 1 adult salmon, lots of mussels, crayfish, and a tree frog. Most units were RB and LP.

U984-1025 – July 6 – Definitely more bedrock, some deep pools where bedrock was and I think our deepest pool yet at 1.1m deep. Saw 1 adult salmonid in that pool. Found a curious IP dug up by person (likely not animal) – perfectly round. Rocks getting slipperier.

U1021 looks dug. The water in it was much cooler than the mainstem The IP temp was 17°C at 1315 and the mainstem was 23°C at 1315.

U1026-1080 – July 7 – Lots of small pools to steps. A lot of bedrock and places where ½ channel was only slightly wetted raised bar.

We reached CHaMP site 486202. Bedrock was becoming much more prevalent. Most units alternating SB and LP with lots of BW. Water temp was 25° at 1546. I saw mussel beds throughout the day.

U1081-1119 – July 8 – Some more wood/HS and the remains of a fish carcass – 1/3 remaining, too crispy to take sample. Thunderstorm rolled in as we were exiting.

Water temp 19°C at 1115. SS/ was 14°C at 1245; mainstem was 22°C at 1245.

U949-1037 – Jul 9 – snorkeled = Overcast with cooler water. Saw some large salmonids and small *O.mykiss.*

We snorkeled today and saw many juvenile Chinook and *O.mykiss*. Western pearly shell mussels and crayfish were present in almost every pool. We saw many whitefish, suckers, pikeminnow, dace, shiners, 2 adult Chinook were seen.

U1164-1203 – July 15 – 2 unnamed tributaries were colder than mainstem

Two unnamed tribs were colder than the main channel.

U1120-1203 – July 16 – Snorkeled these units. Some nice big pools, a couple with big adult Chinook. Pools with whitefish and suckers.

Snorkeled and saw lots of Chinook, *O.mykiss*, whitefish, pikeminnow, dace, shiners, suckers, sculpin. Crayfish and mussels in every unit.

U1204-1238 – July 20 – Long RB + RI mostly – some pools. Some wood. Right side some trees killed by a fire (not burned very largely but thought prescribed burn). Found dead Dusky footed woodrat on log. And dead rodent in 02. A couple of new birds.

There are more 30-50cm dbh conifers close to the stream than farther downstream. They have become more abundant than the 3-15cm hardwoods we have become accustomed to seeing. Tree frog spotted. Many small garter snakes have been seen since June 16.

U1239-1295 – July 21 – Lots of pools today. A couple of neat pools – nice and deep with Chinook. U1273 had a dead, submerged salmon along with 2 live Chinook. The last unit was a pool shaded by trees, deep, and had lots of wood. Also a well-developed 02 separated by an island with lots of trees.

3 adult salmon and a frog. There were a lot of HS in the form of LWD and boulders. We have been seeing less bedrock. A fair amount of fresh beaver activity was noted.

U1296-1336 – July 22 – Surveyed a good deal. Lots of long secondary channels.

Grande Ronde River habitat survey continued

Lots of 02 channels today. Lots of beaver activity. Elk and deer tracks. We took a snout sample of a dead salmon. We saw 1 Chinook adult.

U1204-1336 – July 23 – Snorkeled these units. A big pool with 6 Chinook! Spotted sandpiper. Temp range 13.5-25°C, and it wasn't really a hot day today! Only 1 whitefish.

We saw several adult salmon. Most fish were juvenile Chinook and *O.mykiss* with many dace, pikeminnow, suckers, sculpin. Mussels and crayfish were common in almost every unite. Water temp rose to 25°C today by 1620.

U1337-1372 – July 27 – Surveying efficiently, covering ground. A lot of wood, few 02 channels. The area we surveyed today really opened up with a bit of meadow on one side of the stream and lots of elk sign (some fresh) and deer too. Found a small spring much colder than river. Found part of weather gauge downstream of a gauge station. To whom does it belong?

Today the right bank was mostly a wide flat floodprone zone with lots of grasses and fewer trees and shrubs. There were elk tracks everywhere and many deer tracks as well. There were a lot of 02 channels and a few units had frogs. A stressed mountain whitefish was spotted moving sluggishly.

U1373-1410 – July 28 – more long units. Covered ~990m. A few pools. Found one trib contributing ~10% of the flow, and it was colder. This area is thick with elk/deer signs. Seeing Scotch thistle and mullein in meadows.

Today we passed through CHaMP site 235322. There were several 02 channels and many units had frogs. We passed through the rest of the wide grassy area and were still seeing lots of elk and deer tracks. Two unnamed tribs were surveyed. U1375 was 8°C at 0908 while the mainstem was 11°C at 0900. The other trib was dry.

U1411-1437 – July 29 – Covered a lot of distance. Drew found a couple of skulls and a snakeskin. Saw some salmon. A lot of long riffles with some pools. Will have a lot of ground to cover tomorrow snorkeling.

We passed through CHaMP site 370490. Lots of deer and elk tracks were seen. Pools and HS were farther apart now and there were many long riffles. Several adult salmon were seen hanging out in the deeper pools.

U1337-1437 – July 30 - Snorkeled these units. Saw 21 adults Chinook, (22) 130-199 *O.mykiss*, and (6) 200+ *O.mykiss*. Saw some large sculpin (10-15mm). Last pool had poor visibility but we saw elk upriver.

We were able to see some fish in that unit. There was a cold seep in BW (U1417). There were about 30 juvenile chinook grouped tightly around it. We saw a heard of elk in the river ahead of us while snorkeling out last pool.

U1438-1463 – August 3 – Cool sightings – brown bodied bat flying in circles bothered by our presence but also drinking water. A really deep pool that we couldn't get a depth. Sections of huge boulders and come CB, and one tributary. Water didn't get as warm – overcast. Trees definitely starting to change again. Now lodgepole, larch. Saw a few salmon.

We passed through CHaMP site 321338. The rip rap in U1445-1457 had many large boulders, some the size of a car. We saw a large bat flying around in U1444. It flew in circles, squeaking loudly, and swooped down to drink water.

U1464-1490 – August 4 – Still thick in lodgepole pine, after bridge crossing, Ponderosa pine on left. Unknown tracks. Some RB with steep sections.

We had some long RI and RB. We saw (2) 90+cm larches and a family of common mergansers in U1478.

U1695-1510 – August 5 - Finished section below Vey Meadows and started above it. Above it very shaded, rocks are mossy, loads of naturally downed trees. We just started a section with a maze of side channels. Can tell the transition from basalt from lower down to granite. Above Vey, there is a mix of tree species – Engelman spruce, Douglas fir, lodgepole pine, larch, Ponderosa pine. Might have seen a Townsend solitaire. Saw a grass of Parnassus, bluebells. Saw a few salmon and was spooked by one too.

Started above Vey Meadows. We surveyed through CHaMP sites 468458 and passed a fish acclimatization site on the left. The channel turned into a maze of 02 channels so surveying was very slow. There was a lot of downed wood among the 02 channels and main channel through this area.

U1438-1510 – August 6 – snorkeled units 1438-1510 and habitat surveyed units 1511-1516. Hab surveyed in a tangled mess for a little bit and made more sense of it. Not very many fish in the pools snorkeled. Upper GR definitely stays cooler later in the day, but very shaded and not as wide. We saw 9 adult Chinook.

U1518-1560 – August 10 – A lot of 02 today and 1 tributary. Bear tracks along bank all day. Got spooked by a fish and saw a bat. Thunderstorm rolled in this afternoon, rained, stayed cool all day. Saw a few salmon. Lots of downed wood.

We surveyed upstream and had a lot of 02 channels. We finished the maze-like area with many 02 channels and are starting to make headway again. We started CHaMP site 206314. Lots of elk scat and trampled grass in bed-down-areas were present. We also saw many deer and bear tracks. We came across an old beaver dam.

U1561-1584 – August 11 – River was pretty today. Narrow and ended in a small meadow. It had riffles and lots of salmons. Saw a creeper (bird).

We finished CHaMP site 206314 and continued upstream through RB and CB along with a few pools. The steep units gave way to RI and LP with lots of gravel and sand substrate. Many adult salmon were seen, especially in the last few pools. Lots of elk, bear, and deer tracks.

U1585-1679 – August 24 – Began resurvey where it opens up into a meadow. An insane number of pools separated by short riffles/steps. Saw some loose salmon eggs, a few more freshly dead salmon.

U1680-1771 – August 25 - Many pools. Start off with lots of wood; seeing more and more dead fish. Less smokey. Unconcerned whitetail buck yearling watched and ate while we surveyed nearby.
Many adult salmon and redds were seen.

August 26 – Today we passed Clear Creek and had a lot of LP and SS units. The area has lots of mine tailings. We saw a lot of fresh beaver activity and surveyed a beaver dam and correlating pool. We came across a few salmon carcasses and many redds. Many adult salmon were seen as well as a couple of jacks.

U1585-1771 – August 27 – Snorkeled these units

We finished snorkeling a lot of our units, but not all of them. We saw several adult salmon and (5) adult bull trout. We found a cool seep and marked gps coordinates for it.

U1772-1857 – August 31 - Lots of pools and a lot less adult fish.

We saw several redds and several salmon carcasses and only a few live Chinook. The area was heavily affected by mining and there were mine tailing everywhere between both hillslopes.

U1680-1787 – September 1 – Snorkeled these units. Not many adult Chinook, some bull trout, juvenile and adult whitefish. Cold water – 8.5°C start temp.

U1788-1857 – September 2 – Steady 10°C all day. Cloudy and chilly day. Saw a few bull trout.

We snorkeled and surveyed though the end of CHaMP site 280042.

September 3 – Re-snorkeled chip and Kate's section. Saw a big trout (~33cm. Then snorkeled our section.

We snorkeled Chip and Kate's pools and saw mostly shiner, dace, and pike minnow. Around Meadow Creek, we saw a few juvenile Chinook and *O.mykiss* and 1 nice *O.mykiss* that looked to be 250-300cm. We finished snorkeling our section.

U1939-2022 – September 8 - Cold water today and some frost on the ground this morning. Rained and snowed in the mountains this weekend so that contributed to the cold. Most of the main channel units were pools. Ended at East Fork GR. EFGR has lots of flow and has cold water.

We habitat surveyed and most of our units were LP and Steps. The area was filled with mine tailing and I wrote MI in my notes whenever they were right along the channel. There were lots of HS in the form of LWD and boulder steps and log steps. We reached East Fork Grande Ronde River and passed a CHaMP site. I am seeing fewer garter snakes (colder weather?). I saw a lot of small Columbia spotted frogs (under 50mm)

and a few large ones (50-70mm). There were many Pacific tree frogs close to the stream. We found a couple of patches of snow. I saw a couple of salmon redds.

U1939-2022 – September 9 – Snorkeled these units. Still cold. Fewer fish overall, it seems. No adult Chinook and few adult bull trout. Learned that Sept/Oct is when they spawn around here and can be resident or migratory.

We snorkeled all our pools. We noticed slightly less fish overall. We saw mostly the usual juvenile Chinook and <80mm *O.mykiss* with a liberal assortment of larger *O.mykiss* including some nice 200+mm fish. We saw 4 adults bull trout. No adult Chinook were seen; carcasses were scarce. The water was quite chilly after all the rain over the weekend. It was 5°C when we started and reached 9°C by 1430.

U2023-2115 – September 10 – Lots of 02. Narrowing channel. Pretty.

We surveyed almost to what we think is the top of the survey. We had 2 long 02 channels and the main channel was noticeably narrower. We had many pools and steps. Many LWD structures were present and the area was still full of mine tailing including a large hill of rocks (photo). Lots of elk bedding areas, tracks, scat were present.

U2024-2115 – September 14 – Snorkeled these units. Still cold. Relatively fewer Chinook juvenile and <80mm *O.mykiss*. Saw many large bull trout and trout parr. Took some photos. Huge spider with huge egg sac on it.

We saw bull trout and brook trout. The usual Chinook and *O.mykiss* were present, although there seemed to be less of them than we were used to seeing. There was a pool (U2113) with an abundance of clay along the channel walls and bottom. The clay had created beautiful undercuts along the banks and ruts on the bottom. This pool was 64m long and had max depth of 1.2m, most of its length being deep. It had multiple HS in the form of LWD. Most of the substrate was sand with a little silt mixed.

U2116-2168 – September 16 – Finished up to the falls. Surveyed above the falls for exploratory data.

We finished the top today! The hillslopes got much closer together. The falls are a series of cascades alternating with rapids-over-boulder and pools. After the falls, the river remains very steep.

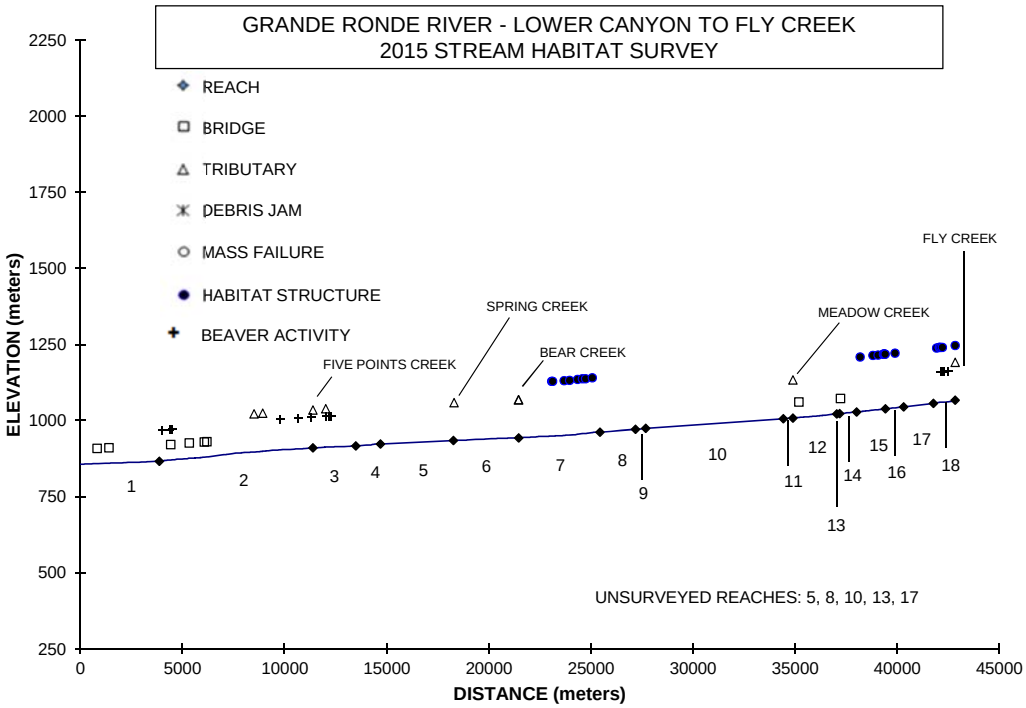
U2116-2168 – September 17 – Snorkeled these units. Above the falls, we found a couple of bull trout and *O.mykiss*. Hard to maneuver between the terrain and downed trees. Just snorkeled significant pools above the falls.

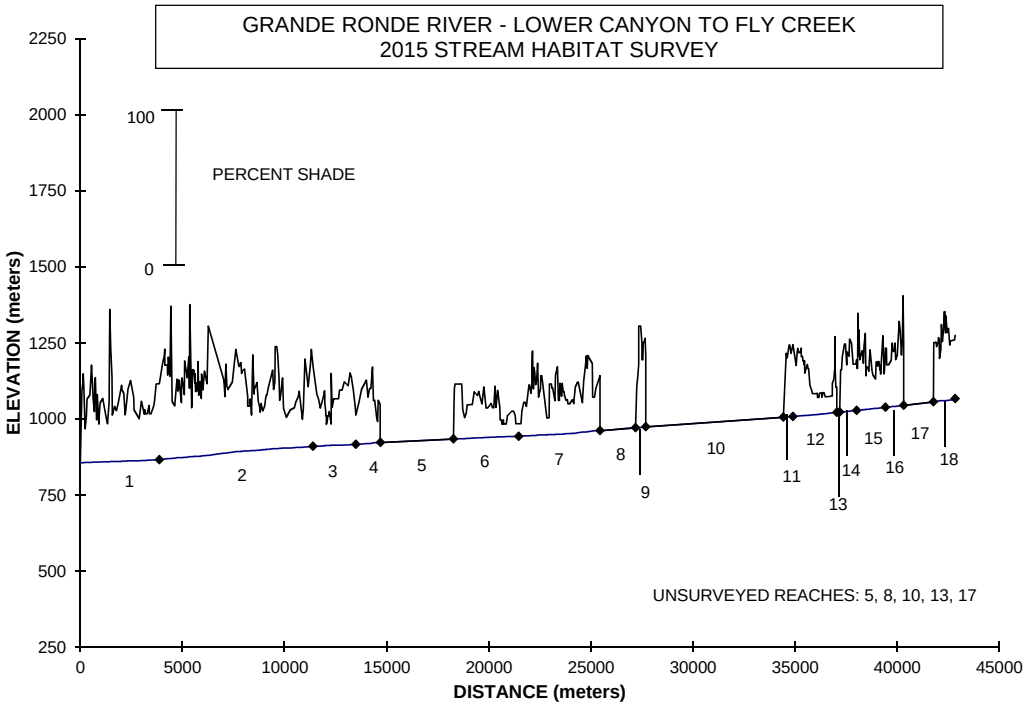
We snorkeled up to the end of our survey and above the cascade units. We saw very few fish. Most pools above didn't contain fish. It was steep and full of wood and boulders. There was a 500mm bull trout.

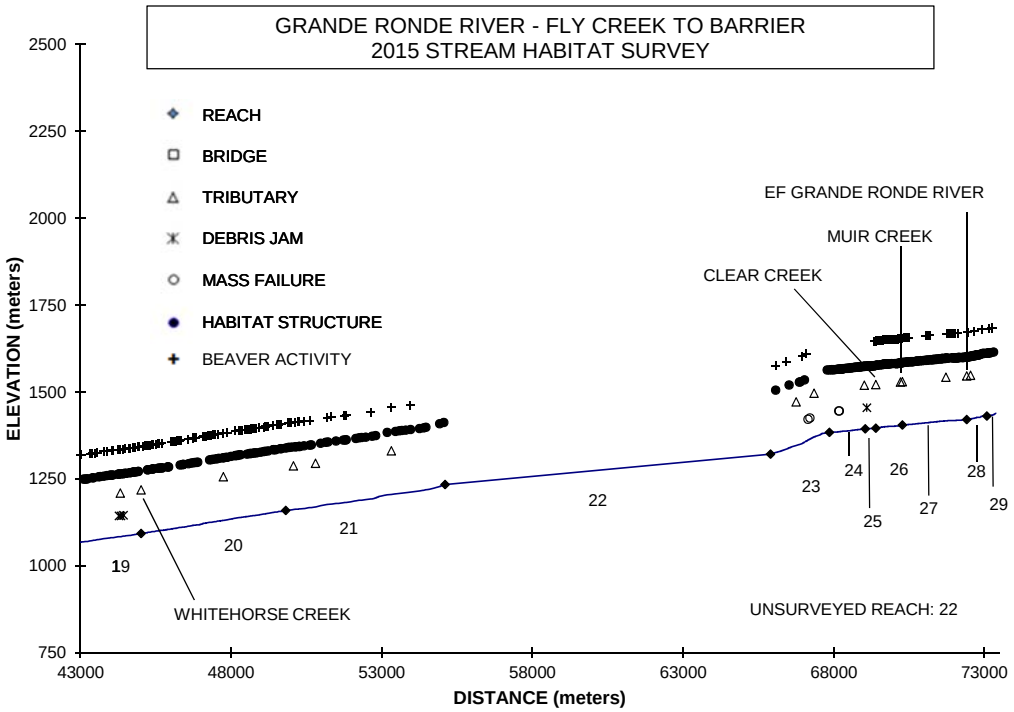
Notes:

When plotting gps points on the USGS topographic map, things didn't line up as well as they had downstream. Mostly impacted was the section between Vey Meadows and survey end (likely due to mining activity in the area which has impacted the stream channel).

Starting August 3, when driving to the site, noticed a few cattle on section we had already surveyed. Basically the whole section we had already surveyed, but especially the meadow near Grand Ronde guard station (U1470). Seemed to be lightly grazed.


GRANDE RONDE RIVER - LOWER CANYON TO FLY CREEK
2015 STREAM HABITAT SURVEY
REACH
BRIDGE
TRIBUTARY
DEBRIS JAM
MASS FAILURE
HABITAT STRUCTURE
BEAVER ACTIVITY
FIVE POINTS CREEK
SPRING CREEK
BEAR CREEK
MEADOW CREEK
FLY CREEK
ELEVATION (meters)
DISTANCE (meters)
UNSURVEYED REACHES: 5, 8, 10, 13, 17


GRANDE RONDE RIVER - LOWER CANYON TO FLY CREEK
2015 STREAM HABITAT SURVEY
PERCENT SHADE
ELEVATION (meters)
DISTANCE (meters)
UNSURVEYED REACHES: 5, 8, 10, 13, 17


GRANDE RONDE RIVER - FLY CREEK TO BARRIER
2015 STREAM HABITAT SURVEY
REACH
BRIDGE
TRIBUTARY
DEBRIS JAM
MASS FAILURE
HABITAT STRUCTURE
BEAVER ACTIVITY
EF GRANDE RONDE RIVER
MUIR CREEK
CLEAR CREEK
WHITEHORSE CREEK
UNSURVEYED REACH: 22
ELEVATION (meters)
DISTANCE (meters)
2500
2250
2000
1750
1500
1250
1000
750
43000
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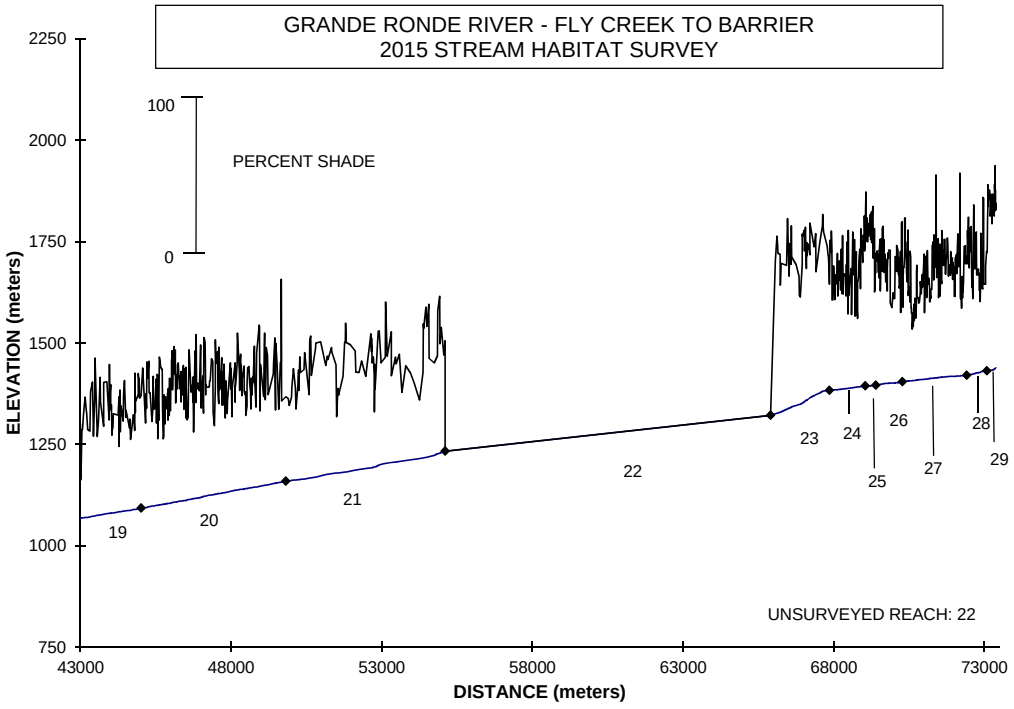
GRANDE RONDE RIVER - FLY CREEK TO BARRIER
2015 STREAM HABITAT SURVEY
100
PERCENT SHADE
0
UNSURVEYED REACH: 22
ELEVATION (meters)
DISTANCE (meters)
2250
2000
1750
1500
1250
1000
750
43000
48000
53000
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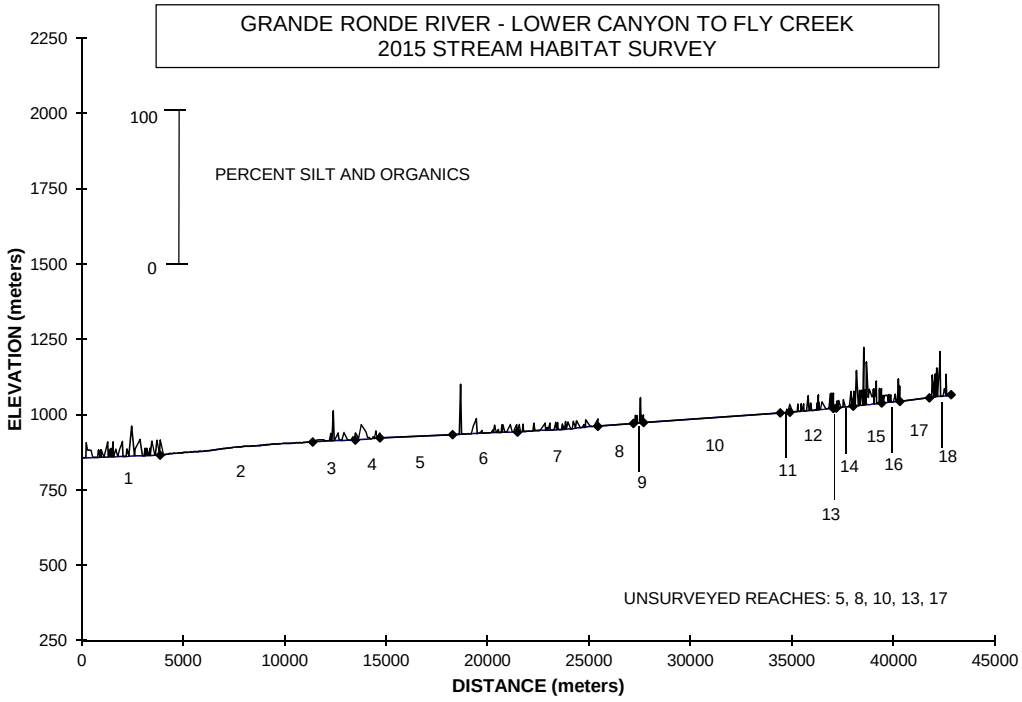
GRANDE RONDE RIVER - LOWER CANYON TO FLY CREEK
2015 STREAM HABITAT SURVEY
100
0
PERCENT SILT AND ORGANICS
ELEVATION (meters)
2250
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UNSURVEYED REACHES: 5, 8, 10, 13, 17
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10000
15000
20000
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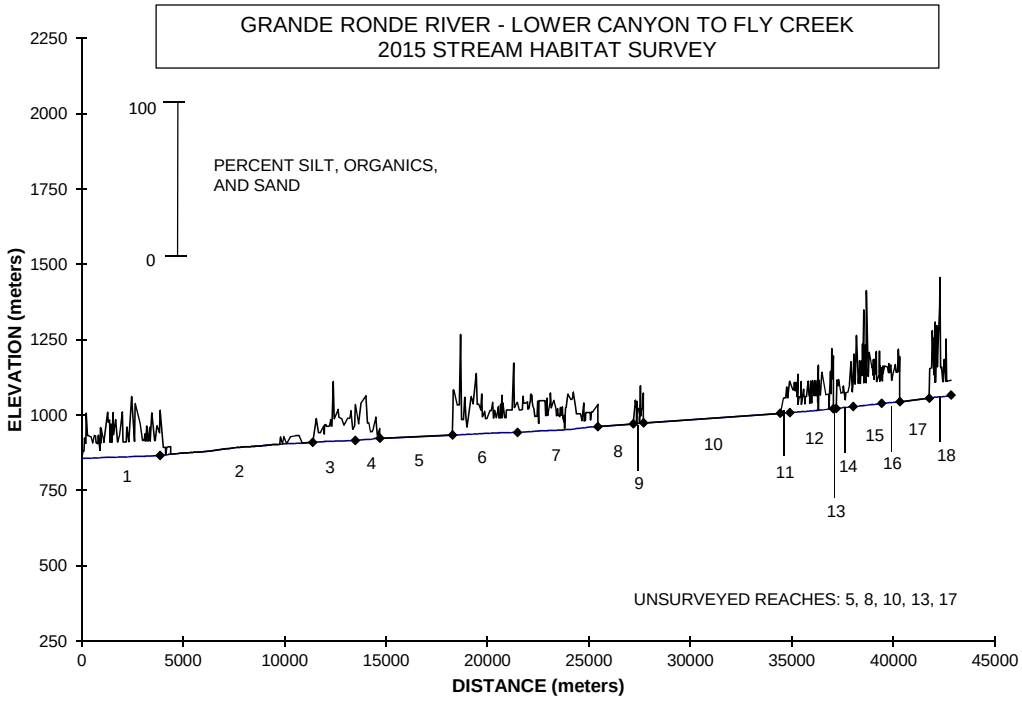
35000
40000
45000
DISTANCE (meters)


GRANDE RONDE RIVER - LOWER CANYON TO FLY CREEK
2015 STREAM HABITAT SURVEY
100
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PERCENT SILT, ORGANICS,
AND SAND
ELEVATION (meters)
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1750
1500
1250
1000
750
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6
7
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9
10
11
12
13
14
15
16
17
18
UNSURVEYED REACHES: 5, 8, 10, 13, 17
0
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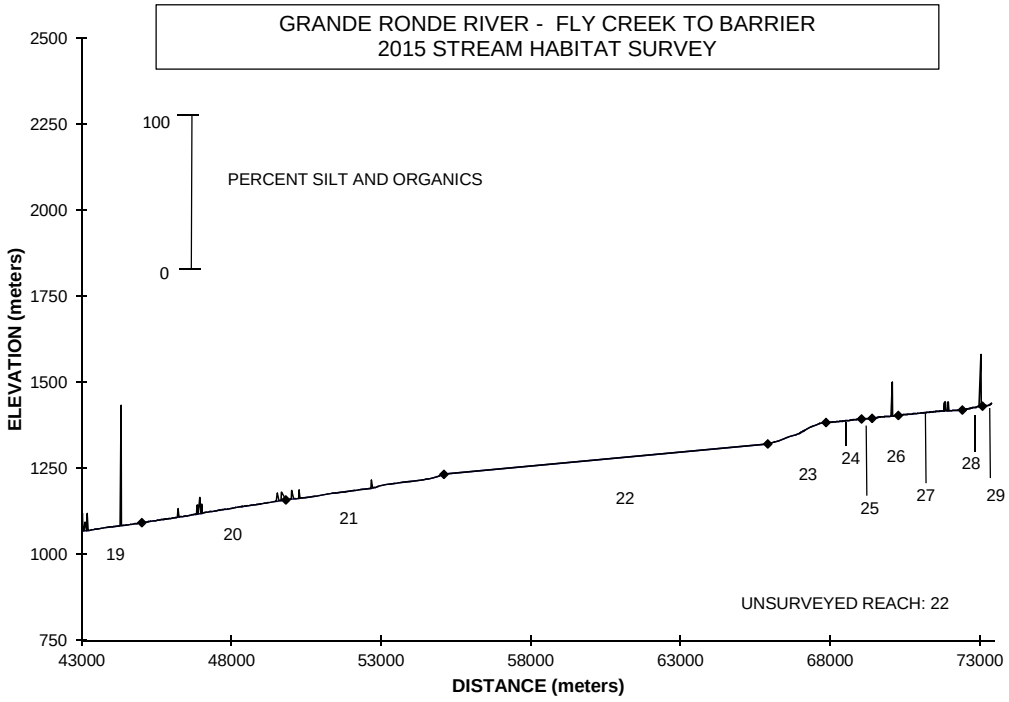
10000
15000
20000
25000
30000
35000
40000
45000
DISTANCE (meters)


GRANDE RONDE RIVER - FLY CREEK TO BARRIER
2015 STREAM HABITAT SURVEY
100
0
PERCENT SILT AND ORGANICS
ELEVATION (meters)
2500
2250
2000
1750
1500
1250
1000
750
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29
UNSURVEYED REACH: 22
43000
48000
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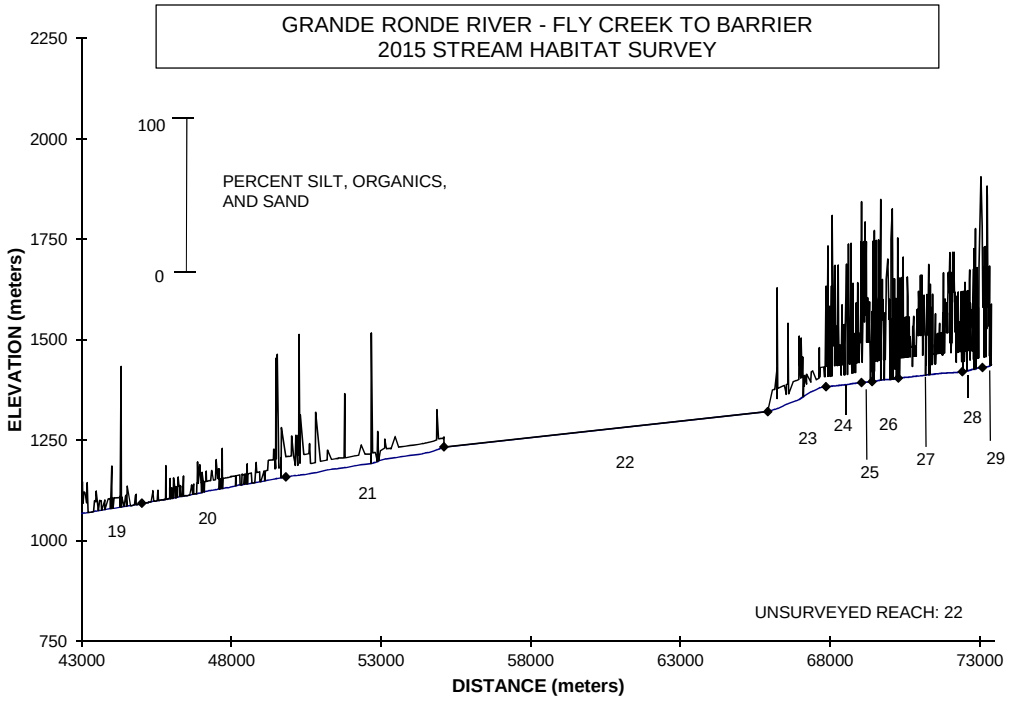
58000
63000
68000
73000
DISTANCE (meters)


GRANDE RONDE RIVER - FLY CREEK TO BARRIER
2015 STREAM HABITAT SURVEY
100
0
PERCENT SILT, ORGANICS,
AND SAND
ELEVATION (meters)
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1750
1500
1250
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UNSURVEYED REACH: 22
43000
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58000
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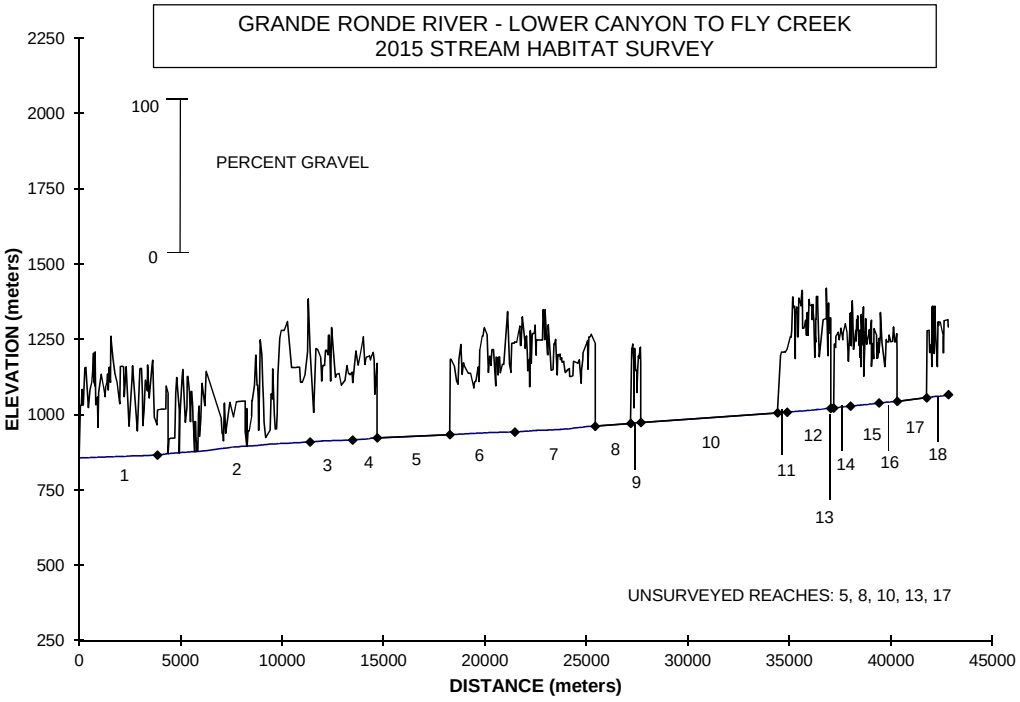
73000
DISTANCE (meters)


GRANDE RONDE RIVER - LOWER CANYON TO FLY CREEK
2015 STREAM HABITAT SURVEY
100
0
PERCENT GRAVEL
ELEVATION (meters)
2250
2000
1750
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1250
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UNSURVEYED REACHES: 5, 8, 10, 13, 17
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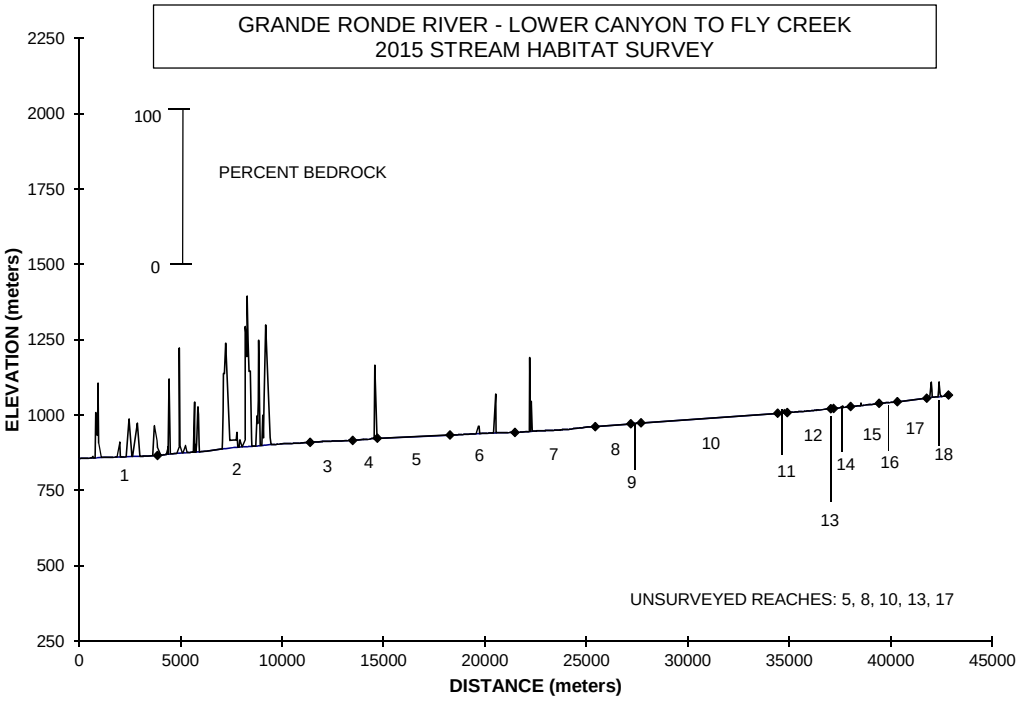
DISTANCE (meters)


GRANDE RONDE RIVER - LOWER CANYON TO FLY CREEK
2015 STREAM HABITAT SURVEY
100
0
PERCENT BEDROCK
ELEVATION (meters)
2250
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1750
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1250
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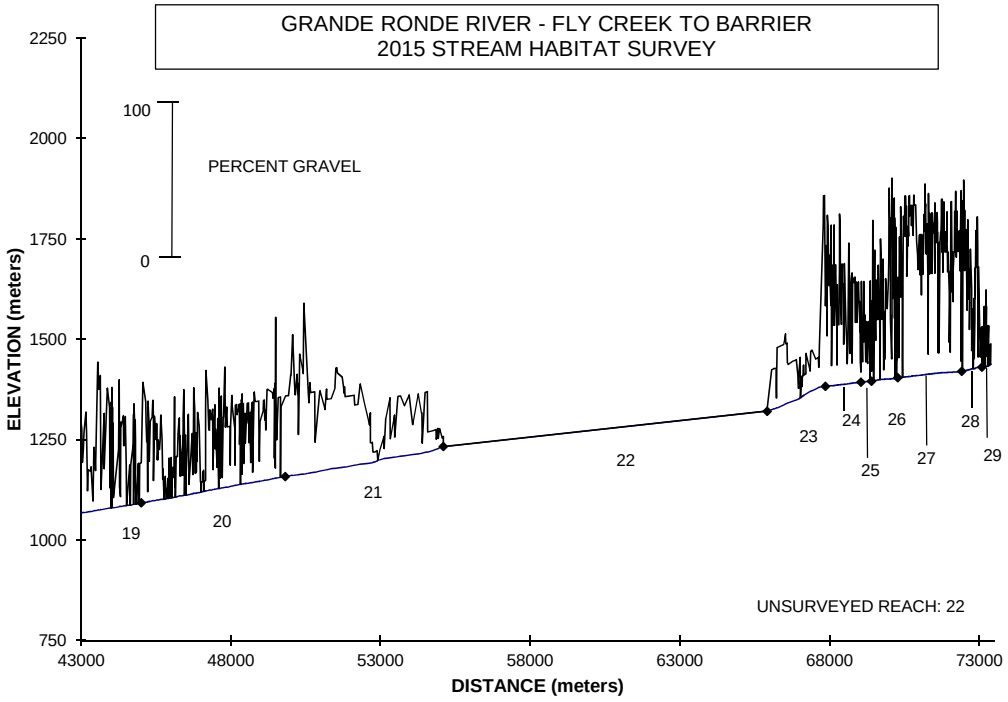
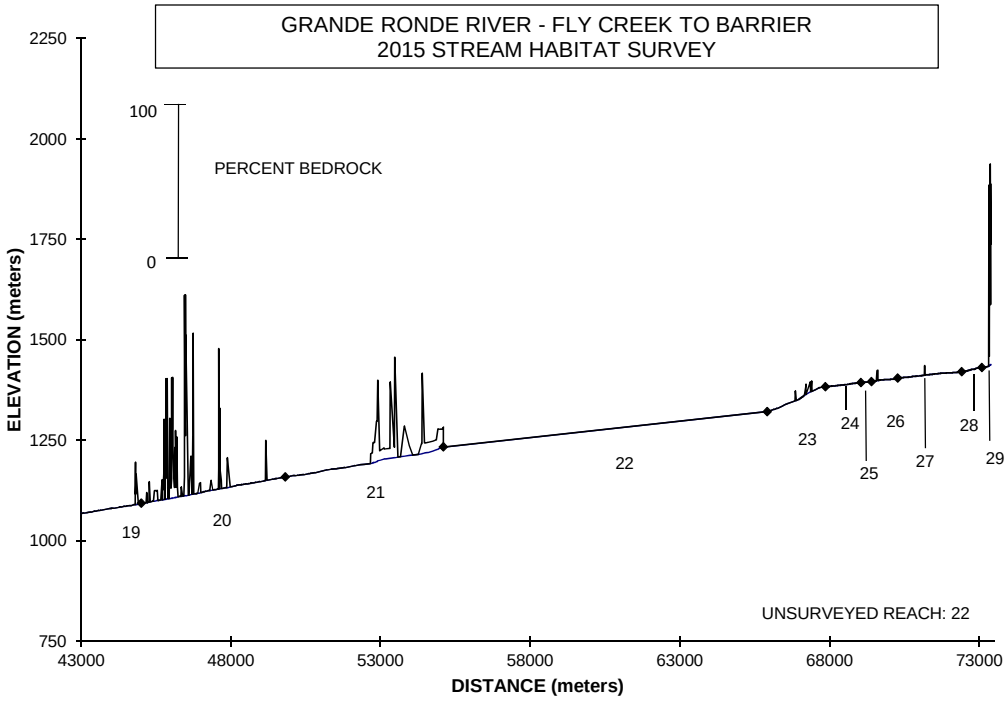
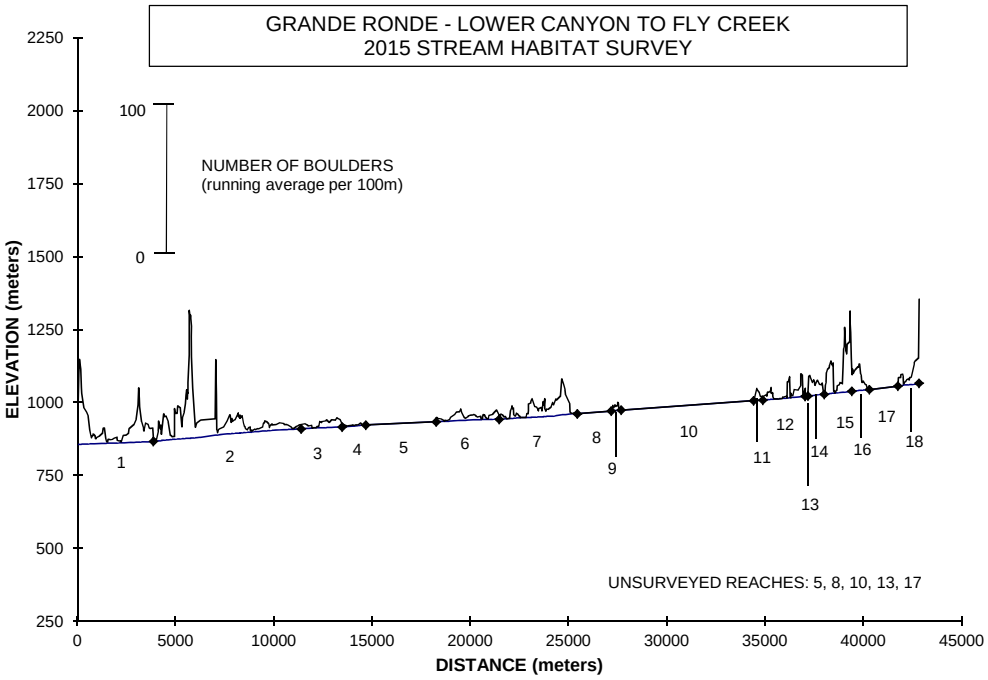
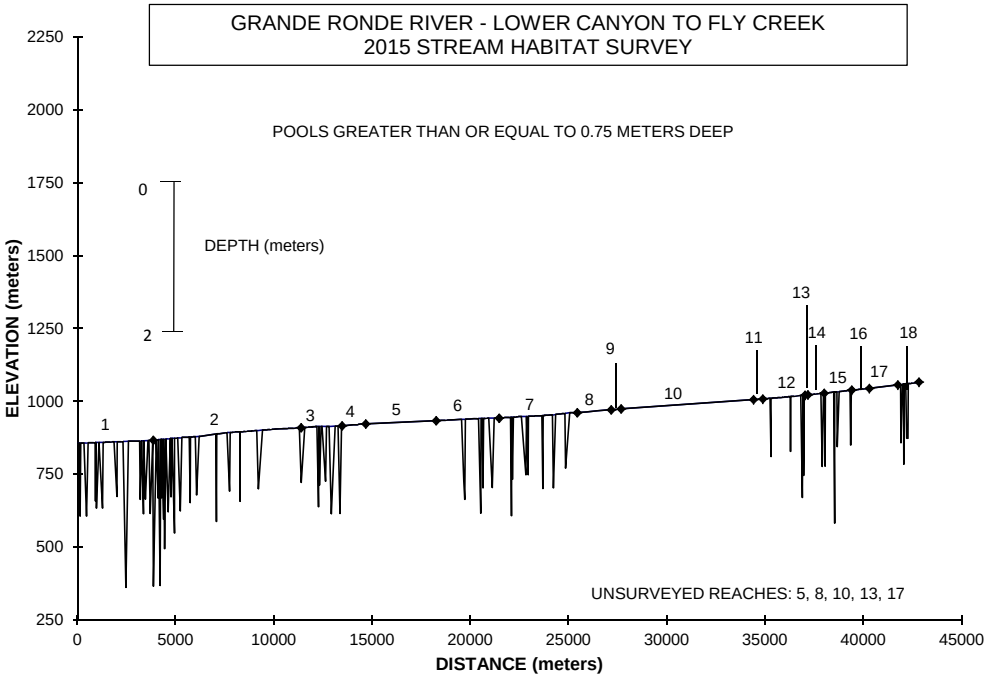
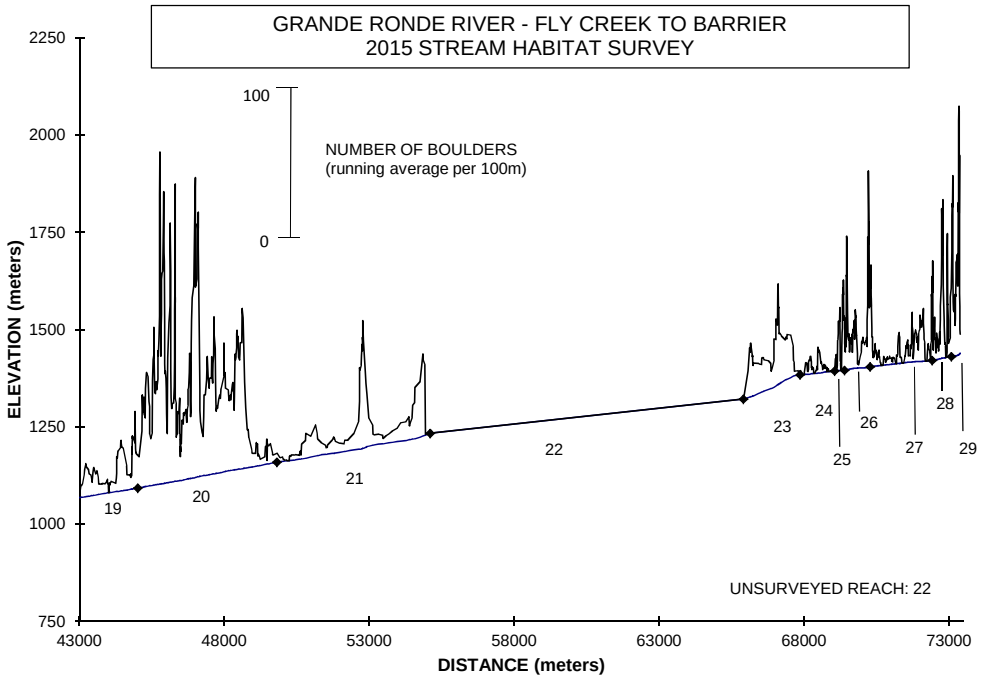
16
17
18
UNSURVEYED REACHES: 5, 8, 10, 13, 17
0
5000
10000
15000
20000
25000
30000
35000
40000
45000
DISTANCE (meters)

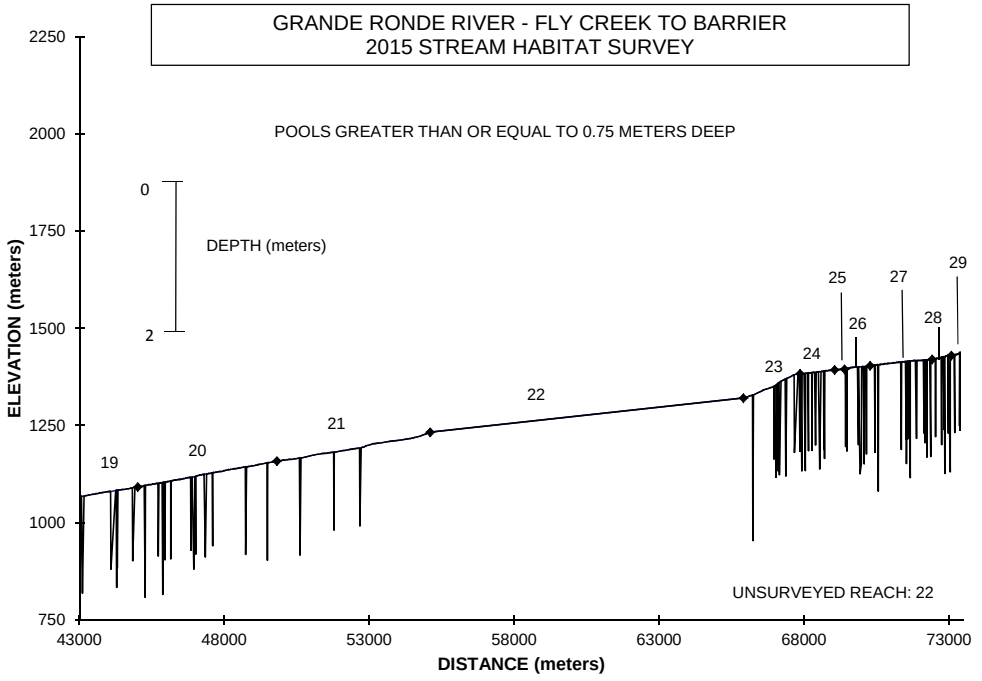

GRANDE RONDE RIVER - FLY CREEK TO BARRIER
2015 STREAM HABITAT SURVEY
100
0
PERCENT GRAVEL
ELEVATION (meters)
2250
2000
1750
1500
1250
1000
750
19
20
21
22
23
24
25
26
27
28
29
UNSURVEYED REACH: 22
43000
48000
53000
58000
63000
68000
73000
DISTANCE (meters)

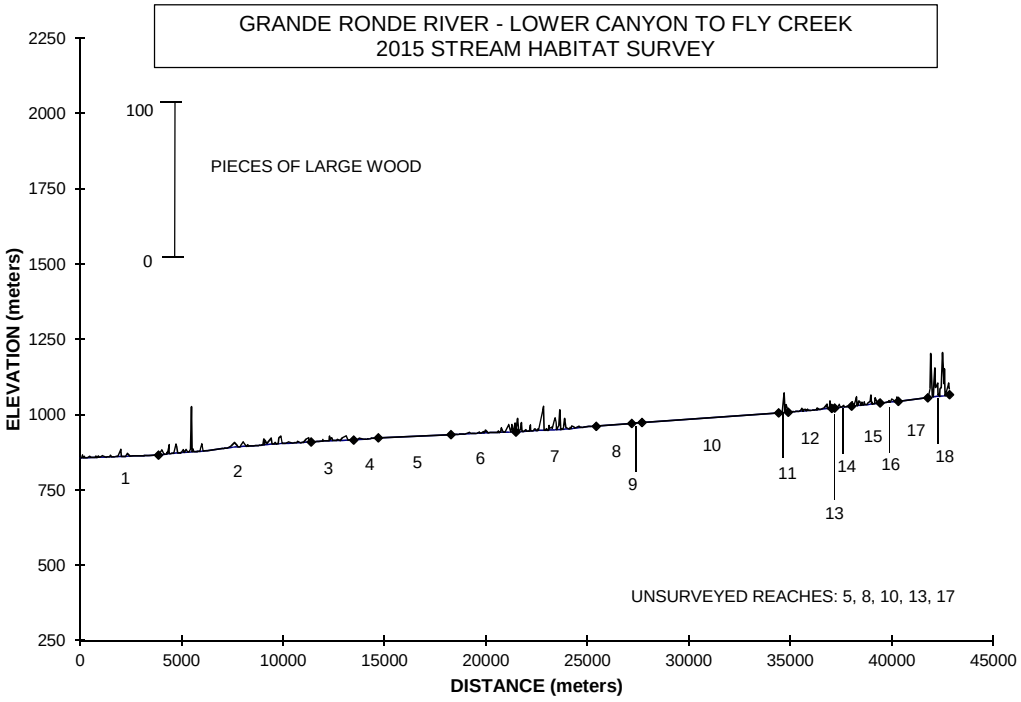

GRANDE RONDE RIVER - FLY CREEK TO BARRIER
2015 STREAM HABITAT SURVEY
100
0
PERCENT BEDROCK
ELEVATION (meters)
2250
2000
1750
1500
1250
1000
750
19
20
21
22
23
24
25
26
27
28
29
UNSURVEYED REACH: 22
43000
48000
53000
58000
63000
68000
73000
DISTANCE (meters)

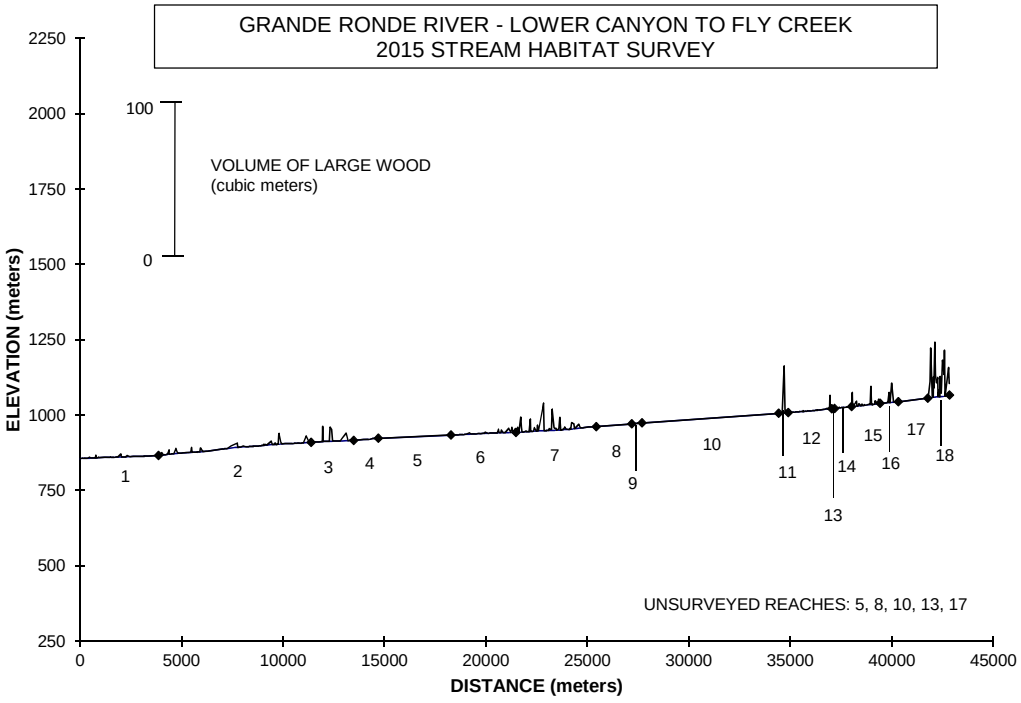

GRANDE RONDE - LOWER CANYON TO FLY CREEK
2015 STREAM HABITAT SURVEY
NUMBER OF BOULDERS
(running average per 100m)
100
0
ELEVATION (meters)
DISTANCE (meters)
UNSURVEYED REACHES: 5, 8, 10, 13, 17

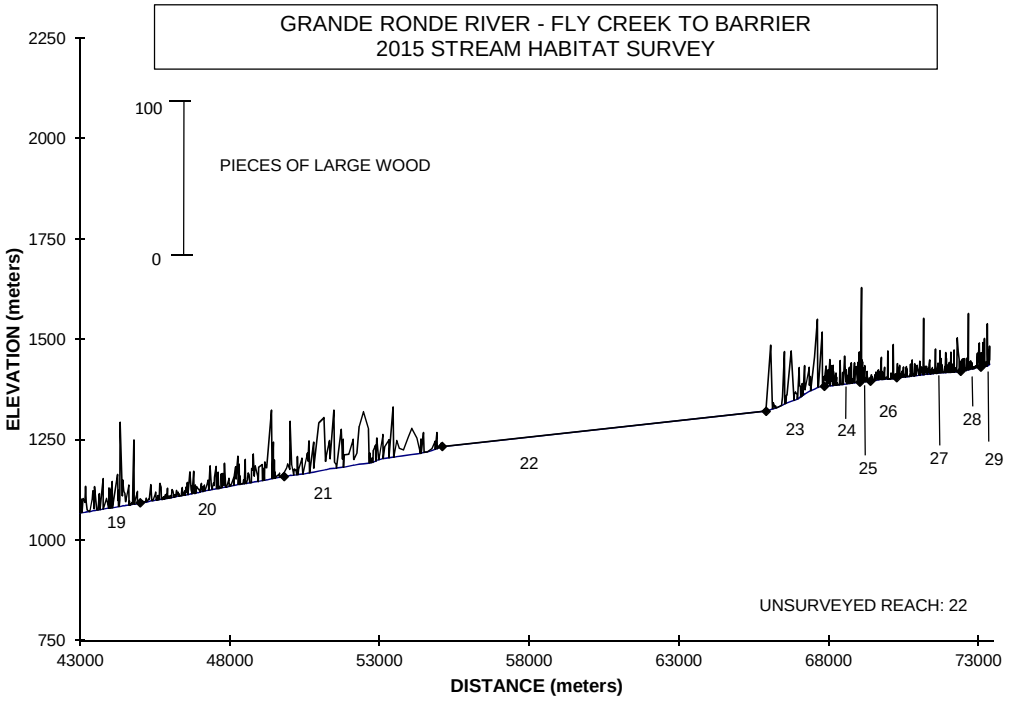

GRANDE RONDE RIVER - LOWER CANYON TO FLY CREEK
2015 STREAM HABITAT SURVEY
POOLS GREATER THAN OR EQUAL TO 0.75 METERS DEEP
DEPTH (meters)
0
2
ELEVATION (meters)
DISTANCE (meters)
UNSURVEYED REACHES: 5, 8, 10, 13, 17

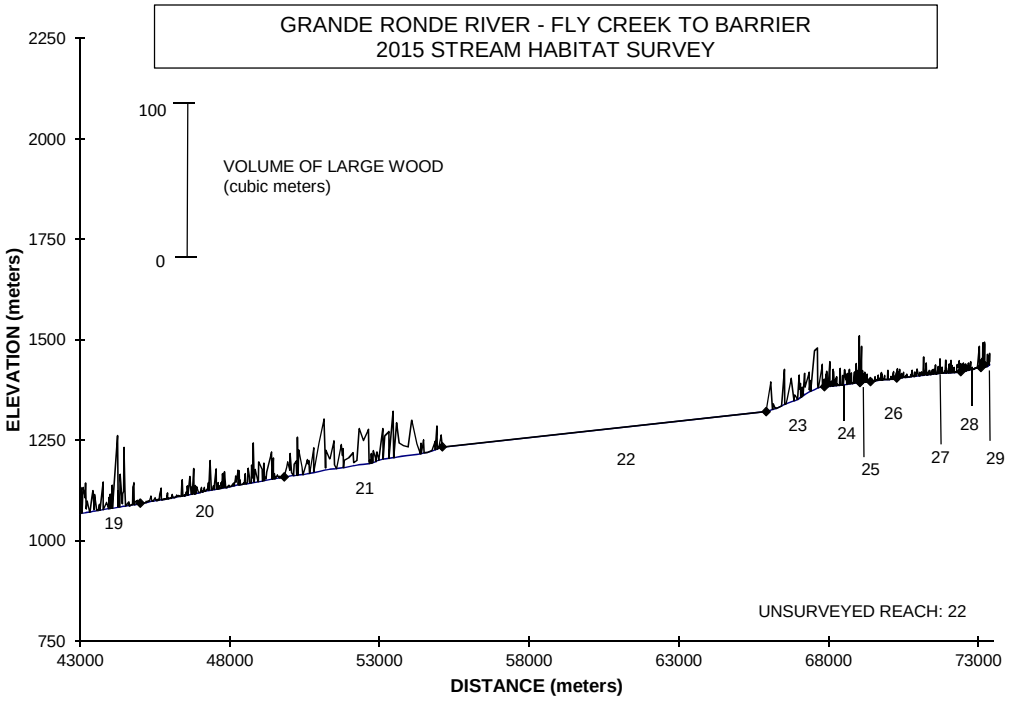

GRANDE RONDE RIVER - FLY CREEK TO BARRIER
2015 STREAM HABITAT SURVEY
100
0
NUMBER OF BOULDERS
(running average per 100m)
ELEVATION (meters)
2250
2000
1750
1500
1250
1000
750
19
20
21
22
23
24
25
26
27
28
29
UNSURVEYED REACH: 22
43000
48000
53000
58000
63000
68000
73000
DISTANCE (meters)

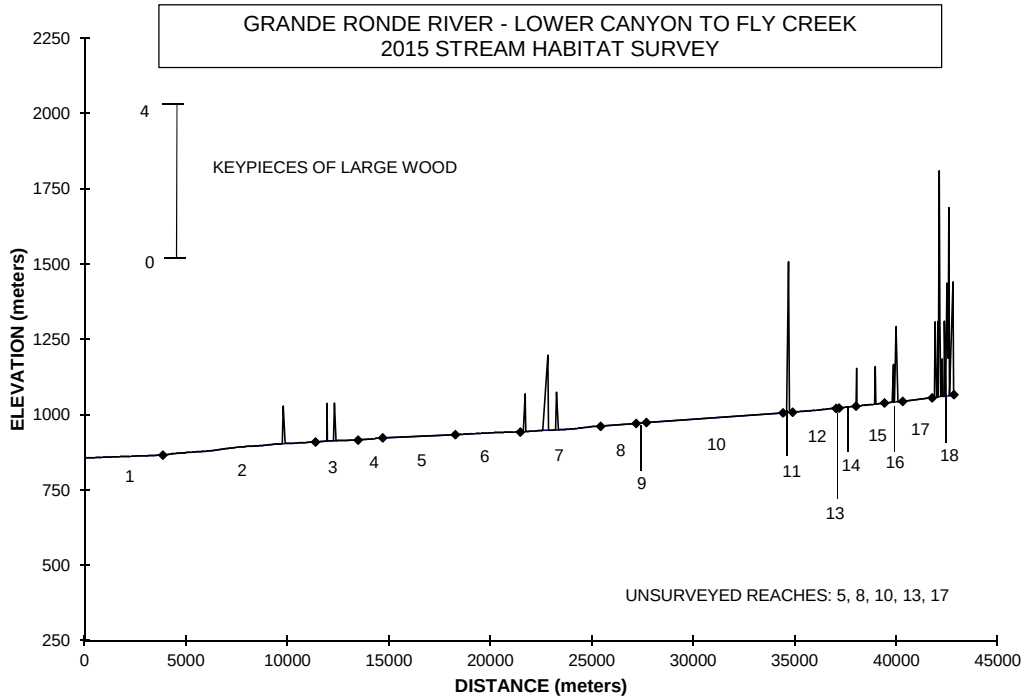

GRANDE RONDE RIVER - FLY CREEK TO BARRIER
2015 STREAM HABITAT SURVEY
POOLS GREATER THAN OR EQUAL TO 0.75 METERS DEEP
0
2
DEPTH (meters)
ELEVATION (meters)
2250
2000
1750
1500
1250
1000
750
19
20
21
22
23
24
25
26
27
28
29
UNSURVEYED REACH: 22
43000
48000
53000
58000
63000
68000
73000
DISTANCE (meters)

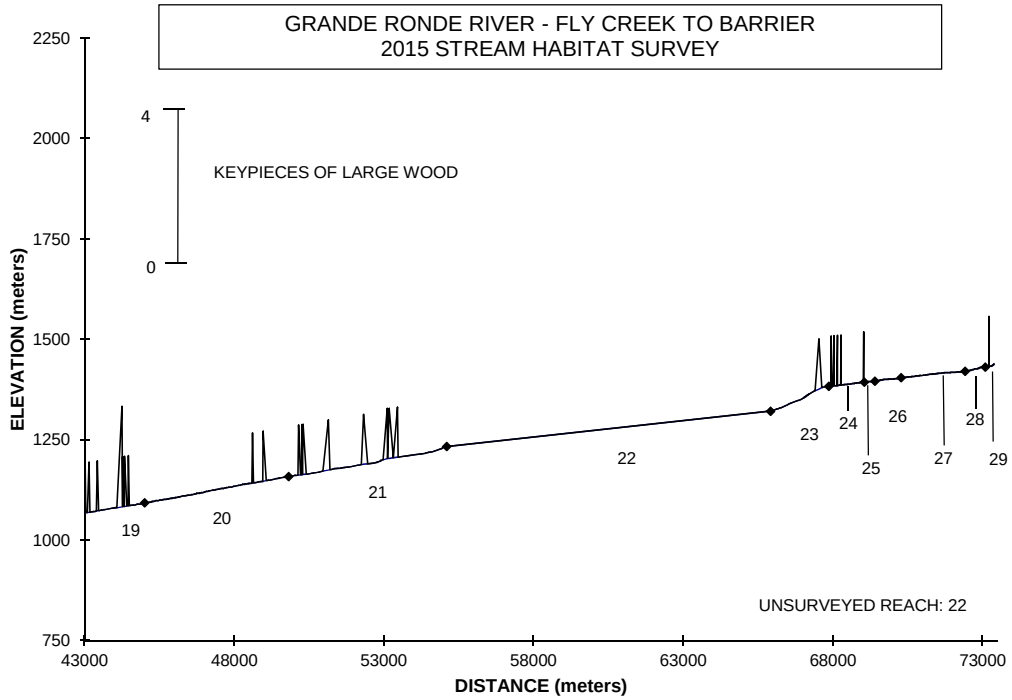

GRANDE RONDE RIVER - LOWER CANYON TO FLY CREEK
2015 STREAM HABITAT SURVEY
PIECES OF LARGE WOOD
100
0
ELEVATION (meters)
2250
2000
1750
1500
1250
1000
750
500
250
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
UNSURVEYED REACHES: 5, 8, 10, 13, 17
0
5000
10000
15000
20000
25000
30000
35000
40000
45000
DISTANCE (meters)


GRANDE RONDE RIVER - LOWER CANYON TO FLY CREEK
2015 STREAM HABITAT SURVEY
VOLUME OF LARGE WOOD
(cubic meters)
100
0
ELEVATION (meters)
2250
2000
1750
1500
1250
1000
750
500
250
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
UNSURVEYED REACHES: 5, 8, 10, 13, 17
0
5000
10000
15000
20000
25000
30000
35000
40000
45000
DISTANCE (meters)


GRANDE RONDE RIVER - FLY CREEK TO BARRIER
2015 STREAM HABITAT SURVEY
100
0
PIECES OF LARGE WOOD
ELEVATION (meters)
2250
2000
1750
1500
1250
1000
750
19
20
21
22
23
24
25
26
27
28
29
UNSURVEYED REACH: 22
43000
48000
53000
58000
63000
68000
73000
DISTANCE (meters)


GRANDE RONDE RIVER - FLY CREEK TO BARRIER
2015 STREAM HABITAT SURVEY
100
0
VOLUME OF LARGE WOOD
(cubic meters)
ELEVATION (meters)
2250
2000
1750
1500
1250
1000
750
19
20
21
22
23
24
25
26
27
28
29
UNSURVEYED REACH: 22
43000
48000
53000
58000
63000
68000
73000
DISTANCE (meters)


GRANDE RONDE RIVER - LOWER CANYON TO FLY CREEK
2015 STREAM HABITAT SURVEY
KEYPIECES OF LARGE WOOD
4
0
ELEVATION (meters)
2250
2000
1750
1500
1250
1000
750
500
250
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
UNSURVEYED REACHES: 5, 8, 10, 13, 17
0
5000
10000
15000
20000
25000
30000
35000
40000
45000
DISTANCE (meters)


GRANDE RONDE RIVER - FLY CREEK TO BARRIER
2015 STREAM HABITAT SURVEY
KEYPIECES OF LARGE WOOD
4
0
ELEVATION (meters)
2250
2000
1750
1500
1250
1000
750
19
20
21
22
23
24
25
26
27
28
29
UNSURVEYED REACH: 22
43000
48000
53000
58000
63000
68000
73000
DISTANCE (meters)

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/2/2016 Survey Date: 9/9/2015

REACH 1 **T02S-R37E-S36SE** **REACH 1**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	100%

Valley Width Index 5.3 VWI Range: 5 - 5.5

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	100%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	3,864	75,746	0
Secondary	509	2,897	2

Channel Dimensions (m)

Wetted	Active	Floodprone *n* = 2	First Terrace *n* = 0
Width: 15.7	Width: 26.5	74.0 (34 - 114)	(-)
Depth: 0.49	Height: 1.0	2.0 (1.5 - 2.5)	(-)

W:D ratio: 28.9
Stream Flow Type: LF
Average Unit Gradient: 0.3%
Water temperature (°C): 13.0 - 13.0

Entrenchment (ACW:FPW ratio): 3.0
Habitat Units/100m (total channel length): 1.7
Habitat Units/100m (primary channel length): 1.9

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	LT	NU
Riparian Vegetation:	S	P

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	0%	Reach avg: 41%
		Range: 22 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	15	0.4
Volume (m^3):	7	0.2
Key pieces (>=12m x 0.60m):	0	0.0

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/2/2016 Survey Date: 9/21/2015

REACH 2 **T02S-R37E-S35SW** **REACH 2**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 3.1 VWI Range: 1.2 - 5

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	7,523	141,040	0
Secondary	716	5,657	5

Channel Dimensions (m)

Wetted	Active	Floodprone *n* = 4	First Terrace *n* = 3
Width: 15.3	Width: 26.0	31.9 (28 - 36.5)	38.7 (37.5 - 40)
Depth: 0.43	Height: 0.7	1.4 (1.3 - 1.6)	2.4 (1.85 - 2.65)

W:D ratio: 37.9
Stream Flow Type: MF
Average Unit Gradient: 0.6%
Water temperature (°C): 15.0 - 15.0

Entrenchment (ACW:FPW ratio): 1.3
Habitat Units/100m (total channel length): 1.7
Habitat Units/100m (primary channel length): 1.9

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	IN	ST
Riparian Vegetation:	G	S

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	0%	Reach avg: 46%
		Range: 18 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	108	1.4
Volume (m^3):	46	0.6
Key pieces (>=12m x 0.60m):	1	0.0

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/2/2016 Survey Date: 8/17/2015

REACH 3 **T02S-R37E-S31SE** **REACH 3**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 2.2 VWI Range: 2 - 2.3

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	2,094	36,812	0
Secondary	1,073	3,637	13

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 2		First Terrace *n* = 0	
Width:	8.2	Width:	37.1	79.8	(66.5 - 93)	(-	)
Depth:	0.28	Height:	0.9	1.7	(1.7 - 1.7)	(-	)

W:D ratio: 43.6
Stream Flow Type: LF
Average Unit Gradient: 0.3%
Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 2.1
Habitat Units/100m (total channel length): 2.2
Habitat Units/100m (primary channel length): 3.3

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	GN	LT
Riparian Vegetation:	S	D3

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	3%	Reach avg: 40%
		Range: 14 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	18	0.9
Volume (m^3):	41	1.9
Key pieces (>=12m x 0.60m):	2	0.1

REACH 4 **T02S-R37E-S36SE** **REACH 4**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 8.0 VWI Range: 8 - 8

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	1,205	22,663	0
Secondary	0	0	0

Channel Dimensions (m)

Wetted	Active	Floodprone *n* = 1	First Terrace *n* = 0
Width: 17.3	Width: 33.1	237.0 (237 - 237)	(-)
Depth: 0.26	Height: 0.9	1.8 (1.8 - 1.8)	(-)

W:D ratio: 36.8
Stream Flow Type:
Average Unit Gradient: 0.5%
Water temperature (°C): -

Entrenchment (ACW:FPW ratio): 7.2
Habitat Units/100m (total channel length): 1.1
Habitat Units/100m (primary channel length): 1.1

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:		
Riparian Vegetation:		

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	0%	Reach avg: 33%
		Range: 14 - 50

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	1	0.1
Volume (m^3):	0	0.0
Key pieces (>=12m x 0.60m):	0	0.0

REACH 5 **T03S-R36E-S06NW** **REACH 5**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index VWI Range: -

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	3,584	46,592	0
Secondary	0	0	0

Channel Dimensions (m)

Wetted	Active	Floodprone *n* = 0	First Terrace *n* = 0
Width: 13.0	Width:	(-)	(-)
Depth: 0.00	Height:	(-)	(-)

W:D ratio:
Stream Flow Type:
Average Unit Gradient: 0.0%
Water temperature (°C): -

Entrenchment (ACW:FPW ratio):
Habitat Units/100m (total channel length): 0.0
Habitat Units/100m (primary channel length): 0.0

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:		
Riparian Vegetation:		

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	0%	Reach avg: 22%
		Range: 22 - 22

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	0	
Volume (m^3):	0	
Key pieces (>=12m x 0.60m):	0	

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/2/2016 Survey Date: 8/19/2015

REACH 6 **T03S-R36E-S12NW** **REACH 6**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	100%

Valley Width Index 5.7 VWI Range: 4 - 8

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	100%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	3,200	54,580	0
Secondary	1,674	6,249	8

Channel Dimensions (m)

Wetted	Active	Floodprone *n* = 3	First Terrace *n* = 0
Width: 11.2	Width: 39.5	211.3 (99 - 300)	(-)
Depth: 0.31	Height: 1.4	2.7 (2.5 - 2.9)	(-)

W:D ratio: 28.6
Stream Flow Type: LF
Average Unit Gradient: 0.3%
Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 5.4
Habitat Units/100m (total channel length): 1.6
Habitat Units/100m (primary channel length): 2.4

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	LT	
Riparian Vegetation:	G	D3

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	0%	Reach avg: 23%
		Range: 8 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	32	1.0
Volume (m^3):	23	0.7
Key pieces (>=12m x 0.60m):	0	0.0

REACH 7 **T03S-R36E-S15NE** **REACH 7**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	100%

Valley Width Index 11.3 VWI Range: 5.8 - 20

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	100%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	3,966	67,703	0
Secondary	2,536	9,951	16

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 3	First Terrace *n* = 0
Width:	8.6	Width:	35.3	217.7 (157 - 300)	(-)
Depth:	0.34	Height:	0.9	1.9 (1.3 - 2.4)	(-)

W:D ratio: 39.2
Stream Flow Type: LF
Average Unit Gradient: 0.5%
Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 6.1
Habitat Units/100m (total channel length): 2.4
Habitat Units/100m (primary channel length): 3.9

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	NU	
Riparian Vegetation:	P	

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	4%	Reach avg: 26%
		Range: 8 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	121	3.1
Volume (m^3):	141	3.6
Key pieces (>=12m x 0.60m):	7	0.2

REACH 8 **T03S-R36E-S16SW** **REACH 8**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index VWI Range: -

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	1,741	27,856	0
Secondary	0	0	0

Channel Dimensions (m)

Wetted	Active	Floodprone *n* = 0	First Terrace *n* = 0
Width: 16.0	Width:	(-)	(-)
Depth: 0.00	Height:	(-)	(-)

W:D ratio:
Stream Flow Type:
Average Unit Gradient: 0.0%
Water temperature (°C): -

Entrenchment (ACW:FPW ratio):
Habitat Units/100m (total channel length): 0.1
Habitat Units/100m (primary channel length): 0.1

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:		
Riparian Vegetation:		

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	0%	Reach avg: 22%
		Range: 22 - 22

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	0	
Volume (m^3):	0	
Key pieces (>=12m x 0.60m):	0	

REACH 9 **T03S-R36E-S20NE** **REACH 9**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 8.0 VWI Range: 8 - 8

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	100%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	504	8,330	0
Secondary	0	0	0

Channel Dimensions (m)

Wetted	Active	Floodprone *n* = 1	First Terrace *n* = 0
Width: 16.2	Width: 32.0	61.0 (61 - 61)	(-)
Depth: 0.26	Height: 0.8	1.6 (1.6 - 1.6)	(-)

W:D ratio: 40.0
Stream Flow Type: LF
Average Unit Gradient: 0.7%
Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 1.9
Habitat Units/100m (total channel length): 2.8
Habitat Units/100m (primary channel length): 2.8

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	LT	MT
Riparian Vegetation:	S	P

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	7%	Reach avg: 49%
		Range: 28 - 67

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	0	
Volume (m^3):	0	
Key pieces (>=12m x 0.60m):	0	

REACH 10 **T03S-R36E-S20NE** **REACH 10**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index VWI Range: -

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	6,740	107,840	0
Secondary	0	0	0

Channel Dimensions (m)

Wetted		Active	Floodprone *n* = 0	First Terrace *n* = 0
Width:	16.0	Width:	(-)	(-)
Depth:	0.00	Height:	(-)	(-)

W:D ratio:
Stream Flow Type:
Average Unit Gradient: 0.0%
Water temperature (°C): -

Entrenchment (ACW:FPW ratio):
Habitat Units/100m (total channel length): 0.0
Habitat Units/100m (primary channel length): 0.0

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:		
Riparian Vegetation:		

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	0%	Reach avg: 22%
		Range: 22 - 22

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	0	
Volume (m^3):	0	
Key pieces (>=12m x 0.60m):	0	

REACH 11 **T03S-R35E-S36NE** **REACH 11**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 3.0 VWI Range: 3 - 3

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	100%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	466	7,667	0
Secondary	45	720	0

Channel Dimensions (m)

Wetted	Active	Floodprone *n* = 1	First Terrace *n* = 0
Width: 16.7	Width: 22.5	43.0 (43 - 43)	(-)
Depth: 0.34	Height: 1.1	2.1 (2.1 - 2.1)	(-)

W:D ratio: 21.4
Stream Flow Type: LF
Average Unit Gradient: 0.4%
Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 1.9
Habitat Units/100m (total channel length): 1.4
Habitat Units/100m (primary channel length): 1.5

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	LT	MT
Riparian Vegetation:	S	C50

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	0%	Reach avg: 43%
		Range: 36 - 47

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	19	4.1
Volume (m^3):	34	7.3
Key pieces (>=12m x 0.60m):	4	0.9

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/2/2016 Survey Date: 8/31/2015

REACH 12 **T03S-R35E-S36NE** **REACH 12**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 23.7 VWI Range: 22 - 27

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	100%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	2,155	19,229	0
Secondary	897	2,746	7

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 3	First Terrace *n* = 0
Width:	6.4	Width:	16.0	285.7 (235 - 311)	(-)
Depth:	0.29	Height:	0.7	1.4 (1.1 - 1.9)	(-)

W:D ratio: 25.0
Stream Flow Type: LF
Average Unit Gradient: 0.6%
Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 17.9
Habitat Units/100m (total channel length): 2.8
Habitat Units/100m (primary channel length): 3.9

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	LT	MT
Riparian Vegetation:	P	S

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	5%	Reach avg: 23% Range: 11 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	24	1.1
Volume (m^3):	14	0.6
Key pieces (>=12m x 0.60m):	0	0.0

REACH 13 **T03S-R34E-S01NW** **REACH 13**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index VWI Range: -

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	139	1,668	0
Secondary	0	0	0

Channel Dimensions (m)

Wetted	Active	Floodprone *n* = 0	First Terrace *n* = 0
Width: 12.0	Width:	(-)	(-)
Depth: 0.00	Height:	(-)	(-)

W:D ratio:
Stream Flow Type:
Average Unit Gradient: 0.0%
Water temperature (°C): -

Entrenchment (ACW:FPW ratio):
Habitat Units/100m (total channel length): 0.7
Habitat Units/100m (primary channel length): 0.7

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:		
Riparian Vegetation:		

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	0%	Reach avg: 22%
		Range: 22 - 22

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	0	
Volume (m^3):	0	
Key pieces (>=12m x 0.60m):	0	

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/2/2016 Survey Date: 9/8/2015

REACH 14 **T03S-R34E-S01NW** **REACH 14**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	100%

Valley Width Index 5.0 VWI Range: 5 - 5

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	100%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	826	9,091	0
Secondary	64	132	2

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 1	First Terrace *n* = 0
Width:	8.9	Width:	29.0	154.0 (154 - 154)	(-)
Depth:	0.30	Height:	0.8	1.6 (1.6 - 1.6)	(-)

W:D ratio: 36.3
Stream Flow Type: LF
Average Unit Gradient: 0.7%
Water temperature (°C): 16.0 - 16.0

Entrenchment (ACW:FPW ratio): 5.3
Habitat Units/100m (total channel length): 2.0
Habitat Units/100m (primary channel length): 2.2

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	LT	
Riparian Vegetation:	D3	S

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	0%	Reach avg: 36%
		Range: 28 - 47

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	3	0.4
Volume (m^3):	1	0.1
Key pieces (>=12m x 0.60m):	0	0.0

REACH 15 **T04S-R35E-S02SE** **REACH 15**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	100%

Valley Width Index 11.0 VWI Range: 11 - 11

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	100%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	1,409	14,479	0
Secondary	543	1,620	7

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 1	First Terrace *n* = 0
Width:	7.6	Width:	25.5	172.0 (172 - 172)	(-)
Depth:	0.31	Height:	0.7	1.4 (1.4 - 1.4)	(-)

W:D ratio: 36.4
Stream Flow Type: LF
Average Unit Gradient: 0.7%
Water temperature (°C): 13.5 - 13.5

Entrenchment (ACW:FPW ratio): 6.7
Habitat Units/100m (total channel length): 3.1
Habitat Units/100m (primary channel length): 4.3

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	LG	LT
Riparian Vegetation:	P	S

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	2%	Reach avg: 33%
		Range: 11 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	52	3.7
Volume (m^3):	48	3.4
Key pieces (>=12m x 0.60m):	2	0.1

REACH 16 **T04S-R35E-S11NW** **REACH 16**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	100%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 6.6 VWI Range: 6.6 - 6.6

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	100%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	892	11,049	0
Secondary	242	828	4

Channel Dimensions (m)

Wetted	Active	Floodprone *n* = 1	First Terrace *n* = 1
Width: 9.3	Width: 16.0	18.0 (18 - 18)	20.0 (20 - 20)
Depth: 0.21	Height: 0.9	1.7 (1.7 - 1.7)	2.2 (2.2 - 2.2)

W:D ratio: 18.8
Stream Flow Type: LF
Average Unit Gradient: 0.6%
Water temperature (°C): 12.0 - 12.0

Entrenchment (ACW:FPW ratio): 1.1
Habitat Units/100m (total channel length): 2.2
Habitat Units/100m (primary channel length): 2.8

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	LT	LG
Riparian Vegetation:	D30	C30

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	0%	Reach avg: 41%
		Range: 28 - 72

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	12	1.3
Volume (m^3):	35	3.9
Key pieces (>=12m x 0.60m):	5	0.6

REACH 17 **T04S-R34E-S11SW** **REACH 17**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index VWI Range: -

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	1,459	20,426	0
Secondary	0	0	0

Channel Dimensions (m)

Wetted		Active	Floodprone *n* = 0	First Terrace *n* = 0
Width:	14.0	Width:	(-)	(-)
Depth:	0.00	Height:	(-)	(-)

W:D ratio:
Stream Flow Type:
Average Unit Gradient: 0.0%
Water temperature (°C): -

Entrenchment (ACW:FPW ratio):
Habitat Units/100m (total channel length): 0.1
Habitat Units/100m (primary channel length): 0.1

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:		
Riparian Vegetation:		

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	0%	Reach avg: 22%
		Range: 22 - 22

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	0	
Volume (m^3):	0	
Key pieces (>=12m x 0.60m):	0	

REACH 18 **T04S-R35E-S14SW** **REACH 18**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 4.7 VWI Range: 4.7 - 4.7

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	100%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	1,071	11,057	0
Secondary	766	2,735	4

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 1		First Terrace *n* = 0	
Width:	6.2	Width:	13.0	50.0	(50 - 50)	(-)	
Depth:	0.30	Height:	0.9	1.7	(1.7 - 1.7)	(-)	

W:D ratio: 15.3
Stream Flow Type: LF
Average Unit Gradient: 0.9%
Water temperature (°C): 13.0 - 13.0

Entrenchment (ACW:FPW ratio): 3.8
Habitat Units/100m (total channel length): 2.8
Habitat Units/100m (primary channel length): 4.8

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	LT	EX
Riparian Vegetation:	C30	S

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	2%	Reach avg: 50%
		Range: 28 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	193	18.0
Volume (m^3):	262	24.4
Key pieces (>=12m x 0.60m):	27	2.5

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/2/2016 Survey Date: 6/17/2015

REACH 19 **T04S-R35E-S23NW** **REACH 19**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 3.1 VWI Range: 1.5 - 5

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	100%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	2,105	21,660	0
Secondary	934	3,869	7

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 5		First Terrace *n* = 1	
Width:	6.4	Width:	17.3	49.2	(34 - 76)	37.5	(37.5 - 37.5)
Depth:	0.31	Height:	0.7	1.4	(0.76 - 2.1)	2.0	(2 - 2)

W:D ratio: 28.5
Stream Flow Type: MF
Average Unit Gradient: 1.3%
Water temperature (°C): 19.0 - 19.0

Entrenchment (ACW:FPW ratio): 3.0
Habitat Units/100m (total channel length): 4.9
Habitat Units/100m (primary channel length): 7.1

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	LT	
Riparian Vegetation:	D3	S

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	13%	Reach avg: 52%
		Range: 8 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	337	16.0
Volume (m^3):	293	13.9
Key pieces (>=12m x 0.60m):	8	0.4

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/2/2016 Survey Date: 6/25/2015

REACH 20 **T04S-R35E-S26NW** **REACH 20**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 1.9 VWI Range: 1 - 3.3

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	4,808	52,249	0
Secondary	1,491	4,146	29

Channel Dimensions (m)

Wetted	Active	Floodprone *n* = 8	First Terrace *n* = 2
Width: 7.3	Width: 19.5	35.9 (16.7 - 63.3)	33.1 (31.2 - 35)
Depth: 0.34	Height: 0.7	1.5 (1.14 - 2.1)	3.4 (1.46 - 5.3)

W:D ratio: 27.7
Stream Flow Type: MF
Average Unit Gradient: 1.4%
Water temperature (°C): 21.0 - 21.0

Entrenchment (ACW:FPW ratio): 1.8
Habitat Units/100m (total channel length): 5.8
Habitat Units/100m (primary channel length): 7.6

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	LT	ST
Riparian Vegetation:	D3	C30

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	7%	Reach avg: 60%
		Range: 14 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	527	11.0
Volume (m^3):	334	6.9
Key pieces (>=12m x 0.60m):	4	0.1

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/2/2016 Survey Date: 7/27/2015

REACH 21 **T05S-R35E-S01SW** **REACH 21**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 1.5 VWI Range: 1 - 4

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	5,281	55,671	0
Secondary	918	2,840	17

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 10		First Terrace *n* = 0	
Width:	7.5	Width:	17.5	37.4	(20.1 - 73)	(-	)
Depth:	0.29	Height:	0.9	1.9	(1.26 - 2.8)	(-	)

W:D ratio: 19.1
Stream Flow Type: MF
Average Unit Gradient: 1.4%
Water temperature (°C): 16.0 - 16.0

Entrenchment (ACW:FPW ratio): 2.3
Habitat Units/100m (total channel length): 2.0
Habitat Units/100m (primary channel length): 2.4

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	ST	LT
Riparian Vegetation:	G	C15

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	17%	Reach avg: 53%
		Range: 26 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	543	10.3
Volume (m^3):	457	8.7
Key pieces (>=12m x 0.60m):	8	0.2

REACH 22 **T05S-R36E-S19NW** **REACH 22**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index VWI Range: -

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	10,808	108,080	0
Secondary	0	0	0

Channel Dimensions (m)

Wetted		Active	Floodprone *n* = 0	First Terrace *n* = 0
Width:	10.0	Width:	(-)	(-)
Depth:	0.00	Height:	(-)	(-)

W:D ratio:
Stream Flow Type:
Average Unit Gradient: 0.0%
Water temperature (°C): -

Entrenchment (ACW:FPW ratio):
Habitat Units/100m (total channel length): 0.0
Habitat Units/100m (primary channel length): 0.0

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:		
Riparian Vegetation:		

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	0%	Reach avg: 22%
		Range: 22 - 22

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	0	
Volume (m^3):	0	
Key pieces (>=12m x 0.60m):	0	

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/2/2016 Survey Date: 8/5/2015

REACH 23 **T06S-R36E-S05SW** **REACH 23**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 3.0 VWI Range: 1 - 8

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	1,951	13,238	0
Secondary	683	1,936	13

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 4	First Terrace *n* = 3
Width:	4.6	Width:	18.5	22.8 (14.6 - 34.8)	24.7 (17.5 - 29.5)
Depth:	0.28	Height:	0.7	1.4 (1.3 - 1.6)	1.8 (1.35 - 2.15)

W:D ratio: 26.1
Stream Flow Type: MF
Average Unit Gradient: 3.2%
Water temperature (°C): 14.5 - 14.5

Entrenchment (ACW:FPW ratio): 1.2
Habitat Units/100m (total channel length): 3.5
Habitat Units/100m (primary channel length): 4.7

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	ST	
Riparian Vegetation:	C15	S

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	30%	Reach avg: 76%
		Range: 52 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	350	17.9
Volume (m^3):	219	11.2
Key pieces (>=12m x 0.60m):	2	0.1

REACH 24 **T06S-R36E-S04SW** **REACH 24**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	100%

Valley Width Index 4.0 VWI Range: 4 - 4

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	100%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	1,189	7,947	0
Secondary	151	314	2

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 1	First Terrace *n* = 0
Width:	5.7	Width:	9.5	42.5 (42.5 - 42.5)	(-)
Depth:	0.35	Height:	0.6	1.2 (1.2 - 1.2)	(-)

W:D ratio: 15.8
Stream Flow Type: MF
Average Unit Gradient: 0.9%
Water temperature (°C): 12.5 - 12.5

Entrenchment (ACW:FPW ratio): 4.5
Habitat Units/100m (total channel length): 7.2
Habitat Units/100m (primary channel length): 8.1

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	LT	
Riparian Vegetation:	G	C15

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	65%	Reach avg: 60%
		Range: 34 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	267	22.5
Volume (m^3):	187	15.8
Key pieces (>=12m x 0.60m):	6	0.5

REACH 25 **T06S-R36E-S04SW** **REACH 25**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index VWI Range: -

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	100%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	350	2,579	0
Secondary	121	448	4

Channel Dimensions (m)

Wetted		Active	Floodprone *n* = 0	First Terrace *n* = 0
Width:	5.7	Width:	(-)	(-)
Depth:	0.27	Height:	(-)	(-)

W:D ratio: Entrenchment (ACW:FPW ratio):
Stream Flow Type: MF Habitat Units/100m (total channel length): 10.2
Average Unit Gradient: 0.5% Habitat Units/100m (primary channel length): 13.7
Water temperature (°C): 13.5 - 13.5

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	MI	LT
Riparian Vegetation:	C30	G

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	17%	Reach avg: 74%
		Range: 46 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	113	32.2
Volume (m^3):	54	15.5
Key pieces (>=12m x 0.60m):	0	0.0

REACH 26 **T06S-R36E-S09NW** **REACH 26**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	100%

Valley Width Index VWI Range: -

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	100%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	878	5,219	0
Secondary	140	252	2

Channel Dimensions (m)

Wetted		Active	Floodprone *n* = 0	First Terrace *n* = 0
Width:	4.9	Width:	(-)	(-)
Depth:	0.34	Height:	(-)	(-)

W:D ratio: Entrenchment (ACW:FPW ratio):
Stream Flow Type: MF Habitat Units/100m (total channel length): 9.5
Average Unit Gradient: 1.1% Habitat Units/100m (primary channel length): 11.0
Water temperature (°C): 12.0 - 12.0

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	MI	ST
Riparian Vegetation:	C15	G

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	46%	Reach avg: 58%
		Range: 34 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	141	16.1
Volume (m^3):	47	5.3
Key pieces (>=12m x 0.60m):	0	0.0

REACH 27 **T06S-R36E-S09NE** **REACH 27**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	100%

Valley Width Index 8.4 VWI Range: 3.5 - 11

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	100%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	2,137	11,329	0
Secondary	316	655	14

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 5		First Terrace *n* = 1	
Width:	4.6	Width:	8.8	51.2	(13 - 77)	13.5	(13.5 - 13.5)
Depth:	0.34	Height:	0.7	1.4	(1.2 - 1.6)	2.0	(1.95 - 1.95)

W:D ratio: 12.3
Stream Flow Type: MF
Average Unit Gradient: 0.7%
Water temperature (°C): 9.5 - 9.5

Entrenchment (ACW:FPW ratio): 6.3
Habitat Units/100m (total channel length): 8.0
Habitat Units/100m (primary channel length): 9.2

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	MI	ST
Riparian Vegetation:	G	S

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	57%	Reach avg: 53%
		Range: 26 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	330	15.4
Volume (m^3):	151	7.0
Key pieces (>=12m x 0.60m):	0	0.0

REACH 28 **T06S-R36E-S10SE** **REACH 28**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	100%

Valley Width Index 7.7 VWI Range: 4.9 - 10.5

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	100%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	666	3,024	0
Secondary	366	1,233	6

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 2		First Terrace *n* = 1	
Width:	4.0	Width:	11.8	57.2	(51 - 63.3)	58.0	(58 - 58)
Depth:	0.34	Height:	0.7	1.4	(1.4 - 1.4)	1.8	(1.75 - 1.75)

W:D ratio: 16.8
Stream Flow Type: MF
Average Unit Gradient: 1.6%
Water temperature (°C): 7.5 - 7.5

Entrenchment (ACW:FPW ratio): 6.7
Habitat Units/100m (total channel length): 9.0
Habitat Units/100m (primary channel length): 14.0

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	MI	ST
Riparian Vegetation:	G	S

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	69%	Reach avg: 58%
		Range: 21 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	138	20.7
Volume (m^3):	57	8.5
Key pieces (>=12m x 0.60m):	0	0.0

REACH 29 **T06S-R36E-S15NE** **REACH 29**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 6.0 VWI Range: 1 - 11

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	100%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	305	1,329	0
Secondary	175	296	0

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 2		First Terrace *n* = 1	
Width:	3.5	Width:	8.8	10.3	(7 - 13.6)	8.1	(8.1 - 8.1)
Depth:	0.39	Height:	0.7	1.3	(1.3 - 1.3)	1.7	(1.7 - 1.7)

W:D ratio: 13.5
Stream Flow Type: MF
Average Unit Gradient: 2.6%
Water temperature (°C): 7.5 - 7.5

Entrenchment (ACW:FPW ratio): 1.2
Habitat Units/100m (total channel length): 11.0
Habitat Units/100m (primary channel length): 17.4

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	ST	LT
Riparian Vegetation:	S	C15

Bank Condition and Shade

Bank Status	Percent of Units	Shade (% of 180)
Undercut Banks:	51%	Reach avg: 83%
		Range: 46 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	124	40.6
Volume (m^3):	89	29.3
Key pieces (>=12m x 0.60m):	1	0.3

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 9/9/2015

REACH 1 **T02S-R37E-S36SE** **REACH 1**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	2	23	7.5	0.00	140	0		0	15	53	33	0	0
GLIDE	10	609	22.1	0.33	14,109	53		2	14	52	28	4	0
POOL-BACKWATER	2	63	9.0	0.55	717	2		12	25	40	17	5	0
POOL-DAMMED	3	167	9.3	0.80	1,490	50		22	23	33	12	10	0
POOL-LATERAL SCOUR	27	1,756	15.7	0.85	32,907	195		6	15	41	26	6	6
RIFFLE	26	1,703	14.3	0.21	28,114	208		1	12	50	30	6	2
STEP/BEDROCK	1	13	17.0	0.20	221	5		0	10	20	20	1	50
STEP/COBBLE	2	39	25.0	0.10	945	0		0	13	70	18	0	0
Total:	73	4,373	15.7	0.49	78,643	513	**Avg:**	4	14	46	27	5	4

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Percent	Large Boulders Number	(# / $100m^2$)
Dammed & BW Pools	5	230	9.2	0.70	2,207	2.81%	52	2.4
Scour Pools	27	1,756	15.7	0.85	32,907	41.84%	195	0.6
Glides	10	609	22.1	0.33	14,109	17.94%	53	0.4
Riffles	26	1,703	14.3	0.21	28,114	35.75%	208	0.7
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	3	52	22.3	0.13	1,166	1.48%	5	0.4
Dry	2	23	7.5	0.00	140	0.18%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths		Primary Channel Length
	Total	# / Km	# / Km
All Pools:	32	7.3	8.3
Pools >=1m deep:	8	1.8	2.1
Complex pools (LWD pieces>=3):	1	0.2	0.3
Pool frequency (channel widths/pool):	5.2		
Residual pool depth (avg):	0.62		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 9/21/2015

REACH 2 **T02S-R37E-S35SW** **REACH 2**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	3	92	2.5	0.00	137	0		7	20	55	17	2	0
GLIDE	6	534	20.6	0.24	11,166	19		0	2	51	42	1	4
POOL-BACKWATER	9	88	4.3	0.41	406	0		0	0	19	22	10	49
POOL-LATERAL SCOUR	61	3,279	15.8	0.69	55,765	527		0	1	29	43	14	12
PUDDLED UNIT	2	23	1.8	0.08	43	0		25	42	17	17	0	0
RIFFLE	50	4,122	16.7	0.19	77,074	156		0	1	35	48	9	6
STEP/BEDROCK	4	13	17.3	0.48	200	0		0	0	9	10	4	78
STEP/BOULDERS	1	2	13.5	0.40	20	11		0	0	0	20	70	10
STEP/COBBLE	6	86	19.5	0.39	1,874	34		0	0	27	48	24	1
STEP/STRUCTURE	2	1	13.3	0.18	13	1		0	0	15	75	10	0
Total:	144	8,238	15.3	0.43	146,697	748	**Avg:**	0	2	31	42	11	13

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	9	88	4.3	0.41	406	0.28%	0	0.0
Scour Pools	61	3,279	15.8	0.69	55,765	38.01%	527	0.9
Glides	6	534	20.6	0.24	11,166	7.61%	19	0.2
Riffles	50	4,122	16.7	0.19	77,074	52.54%	156	0.2
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	13	101	17.4	0.38	2,107	1.44%	46	2.2
Dry	5	115	2.2	0.03	180	0.12%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	70	8.5	9.3
Pools >=1m deep:	7	0.8	0.9
Complex pools (LWD pieces>=3):	4	0.5	0.5
Pool frequency (channel widths/pool):	4.5		
Residual pool depth (avg):	0.38		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/17/2015

REACH 3 **T02S-R37E-S31SE** **REACH 3**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	11	468	3.0	0.00	1,270	4		9	53	26	11	1	0
GLIDE	4	338	18.8	0.25	7,058	5		4	11	47	37	1	0
POOL-BACKWATER	2	13	2.8	0.48	36	2		6	19	50	13	1	11
POOL-LATERAL SCOUR	26	1,050	8.1	0.55	14,207	39		8	20	42	28	2	0
PUDDLED UNIT	2	65	2.8	0.08	100	1		10	37	32	20	0	0
RIFFLE	19	1,208	10.3	0.15	17,553	45		5	20	42	32	1	0
STEP/COBBLE	5	26	7.1	0.08	224	0		2	26	43	29	0	0
Total:	69	3,167	8.2	0.28	40,449	96	**Avg:**	7	26	40	26	1	0

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Percent	Large Boulders Number	(# / $100m^2$)
Dammed & BW Pools	2	13	2.8	0.48	36	0.09%	2	5.5
Scour Pools	26	1,050	8.1	0.55	14,207	35.12%	39	0.3
Glides	4	338	18.8	0.25	7,058	17.45%	5	0.1
Riffles	19	1,208	10.3	0.15	17,553	43.40%	45	0.3
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	5	26	7.1	0.08	224	0.55%	0	0.0
Dry	13	533	3.0	0.01	1,370	3.39%	5	0.4
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	28	8.8	13.4
Pools >=1m deep:	3	0.9	1.4
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	3.0		
Residual pool depth (avg):	0.41		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/18/2015

REACH 4 **T02S-R37E-S36SE** **REACH 4**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
GLIDE	5	398	20.2	0.24	8,410	2		3	9	53	35	0	0
POOL-LATERAL SCOUR	2	139	12.5	0.55	1,772	3		2	3	39	26	6	24
RIFFLE	6	668	16.5	0.18	12,481	8		1	11	57	30	0	0
Total:	13	1,205	17.3	0.26	22,663	13	**Avg:**	2	9	53	31	1	4

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Percent	Large Boulders Number	(# / $100m^2$)
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	2	139	12.5	0.55	1,772	7.82%	3	0.2
Glides	5	398	20.2	0.24	8,410	37.11%	2	0.0
Riffles	6	668	16.5	0.18	12,481	55.07%	8	0.1
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	0	0			0	0.00%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	2	1.7	1.7
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	18.2		
Residual pool depth (avg):	0.35		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/18/2015

REACH 5 **T03S-R36E-S06NW** **REACH 5**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
MIX OF HABITATS	1	3,584	13.0	0.00	46,592	0		17	17	17	17	17	17
Total:	1	3,584	13.0	0.00	46,592	0	**Avg:**	17	17	17	17	17	17

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	0	0			0	0.00%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	0	0			0	0.00%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	0	0			0	0.00%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	0	0.0	0.0
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	0.0		
Residual pool depth (avg):			

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/19/2015

REACH 6 **T03S-R36E-S12NW** **REACH 6**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	6	846	4.8	0.00	3,065	0	17	30	35	18	0	0
GLIDE	11	666	19.6	0.25	13,606	28	0	19	47	31	2	0
POOL-BACKWATER	3	21	2.7	0.23	56	0	12	27	38	20	0	3
POOL-BEAVER DAM	1	49	5.0	0.65	245	0	10	20	40	30	0	0
POOL-LATERAL SCOUR	22	1,428	9.6	0.60	16,518	37	13	26	37	21	1	2
POOL-PLUNGE	2	65	13.5	0.83	902	9	1	17	48	29	5	0
PUDDLED UNIT	2	62	4.0	0.06	226	0	23	35	35	8	0	0
RIFFLE	28	1,732	12.3	0.16	26,186	27	9	24	42	25	0	0
STEP/BEAVER DAM	1	5	5.0	0.00	25	0	5	11	53	32	0	0
Total:	76	4,874	11.2	0.31	60,829	101	**Avg:** 10	24	41	23	1	1

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	4	70	3.3	0.34	301	0.49%	0	0.0
Scour Pools	24	1,493	9.9	0.62	17,420	28.64%	46	0.3
Glides	11	666	19.6	0.25	13,606	22.37%	28	0.2
Riffles	28	1,732	12.3	0.16	26,186	43.05%	27	0.1
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	1	5	5.0	0.00	25	0.04%	0	0.0
Dry	8	908	4.6	0.02	3,291	5.41%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	28	5.7	8.8
Pools >=1m deep:	2	0.4	0.6
Complex pools (LWD pieces>=3):	3	0.6	0.9
Pool frequency (channel widths/pool):	4.4		
Residual pool depth (avg):	0.47		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/19/2015

REACH 7 **T03S-R36E-S15NE** **REACH 7**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	8	318	5.0	0.00	2,112	0		6	24	58	13	0	0
GLIDE	5	167	10.6	0.28	2,035	6		1	12	62	24	1	0
POOL-BACKWATER	2	39	3.0	0.23	108	0		6	35	57	2	0	0
POOL-LATERAL SCOUR	72	3,023	8.5	0.56	37,171	135		5	20	51	20	2	2
PUDDLED UNIT	8	227	2.4	0.15	572	0		10	31	50	9	0	0
RIFFLE	54	2,675	9.9	0.16	34,997	118		2	19	56	21	1	1
STEP/BEDROCK	1	9	3.0	0.03	27	0		0	0	0	0	0	100
STEP/COBBLE	6	44	12.4	0.08	632	6		0	9	64	24	3	0
Total:	156	6,502	8.6	0.34	77,654	265	**Avg:**	4	20	54	20	1	2

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Percent	Large Boulders Number	(# / $100m^2$)
Dammed & BW Pools	2	39	3.0	0.23	108	0.14%	0	0.0
Scour Pools	72	3,023	8.5	0.56	37,171	47.87%	135	0.4
Glides	5	167	10.6	0.28	2,035	2.62%	6	0.3
Riffles	54	2,675	9.9	0.16	34,997	45.07%	118	0.3
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	7	53	11.1	0.07	659	0.85%	6	0.9
Dry	16	545	3.7	0.07	2,684	3.46%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths		Primary Channel Length
	Total	# / Km	# / Km
All Pools:	74	11.4	18.7
Pools >=1m deep:	5	0.8	1.3
Complex pools (LWD pieces>=3):	9	1.4	2.3
Pool frequency (channel widths/pool):	2.5		
Residual pool depth (avg):	0.42		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/27/2015

REACH 8 **T03S-R36E-S16SW** **REACH 8**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
MIX OF HABITATS	1	1,741	16.0	0.00	27,856	0		17	17	17	17	17	17
Total:	1	1,741	16.0	0.00	27,856	0	**Avg:**	17	17	17	17	17	17

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	0	0			0	0.00%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	0	0			0	0.00%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	0	0			0	0.00%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	0	0.0	0.0
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	0.0		
Residual pool depth (avg):			

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/27/2015

REACH 9 **T03S-R36E-S20NE** **REACH 9**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
GLIDE	1	44	25.0	0.25	1,100	0		5	11	53	32	0	0
POOL-DAMMED	2	64	17.5	0.48	1,147	1		11	9	41	39	0	0
POOL-LATERAL SCOUR	3	91	15.0	0.45	1,315	3		3	10	39	42	5	0
RIFFLE	6	302	15.3	0.18	4,725	17		0	8	45	43	4	0
STEP/STRUCTURE	2	3	15.0	0.01	43	0		0	0	15	85	0	0
Total:	14	504	16.2	0.26	8,330	21	**Avg:**	3	8	39	47	3	0

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	2	64	17.5	0.48	1,147	13.77%	1	0.1
Scour Pools	3	91	15.0	0.45	1,315	15.79%	3	0.2
Glides	1	44	25.0	0.25	1,100	13.21%	0	0.0
Riffles	6	302	15.3	0.18	4,725	56.72%	17	0.4
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	2	3	15.0	0.01	43	0.52%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	5	9.9	9.9
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	3.2		
Residual pool depth (avg):	0.35		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/27/2015

REACH 10 **T03S-R36E-S20NE** **REACH 10**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
MIX OF HABITATS	1	6,740	16.0	0.00	107,840	0		17	17	17	17	17	17
Total:	1	6,740	16.0	0.00	107,840	0	**Avg:**	17	17	17	17	17	17

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	0	0			0	0.00%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	0	0			0	0.00%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	0	0			0	0.00%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	0	0.0	0.0
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	0.0		
Residual pool depth (avg):			

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/27/2015

REACH 11 **T03S-R35E-S36NE** **REACH 11**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
GLIDE	1	45	16.0	0.15	720	4		0	15	40	40	5	0
POOL-LATERAL SCOUR	3	176	17.3	0.57	3,258	10		2	14	41	34	8	1
RIFFLE	3	290	16.3	0.18	4,409	21		0	10	39	43	8	0
Total:	7	511	16.7	0.34	8,387	35	**Avg:**	1	12	40	39	8	0

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	3	176	17.3	0.57	3,258	38.85%	10	0.3
Glides	1	45	16.0	0.15	720	8.58%	4	0.6
Riffles	3	290	16.3	0.18	4,409	52.57%	21	0.5
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	0	0			0	0.00%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	3	5.9	6.4
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	7.6		
Residual pool depth (avg):	0.38		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/31/2015

REACH 12 **T03S-R35E-S36NE** **REACH 12**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY CHANNEL	1	9	2.0	0.10	18	0		15	30	55	0	0	0
DRY UNIT	4	147	2.8	0.00	407	0		15	31	41	13	0	0
GLIDE	6	196	9.2	0.23	1,811	4		0	13	62	24	0	0
POOL-BACKWATER	2	41	3.5	0.10	139	0		25	45	25	5	0	0
POOL-DAMMED	1	77	12.0	1.40	924	21		10	15	35	30	10	0
POOL-LATERAL SCOUR	29	871	6.1	0.54	6,181	45		7	22	52	17	2	0
PUDDLED UNIT	2	48	1.0	0.08	48	0		15	25	43	18	0	0
RIFFLE	36	1,651	6.6	0.15	12,340	22		3	15	60	21	1	0
STEP/COBBLE	3	11	8.3	0.12	93	0		0	3	63	33	0	0
STEP/STRUCTURE	1	1	14.0	0.01	14	0		0	0	80	20	0	0
Total:	85	3,052	6.4	0.29	21,975	92	**Avg:**	6	18	55	19	1	0

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Percent	Large Boulders Number	(# / $100m^2$)
Dammed & BW Pools	3	118	6.3	0.53	1,063	4.84%	21	2.0
Scour Pools	29	871	6.1	0.54	6,181	28.13%	45	0.7
Glides	6	196	9.2	0.23	1,811	8.24%	4	0.2
Riffles	36	1,651	6.6	0.15	12,340	56.16%	22	0.2
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	4	12	9.8	0.09	107	0.49%	0	0.0
Dry	7	204	2.1	0.04	473	2.15%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths		Primary Channel Length	
	Total	# / Km		# / Km
All Pools:	32	10.5		14.8
Pools >=1m deep:	2	0.7		0.9
Complex pools (LWD pieces>=3):	0	0.0		0.0
Pool frequency (channel widths/pool):	6.0			
Residual pool depth (avg):	0.42			

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 9/8/2015

REACH 13 **T03S-R34E-S01NW** **REACH 13**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
MIX OF HABITATS	1	139	12.0	0.00	1,668	0		17	17	17	17	17	17
Total:	1	139	12.0	0.00	1,668	0	**Avg:**	17	17	17	17	17	17

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	0	0			0	0.00%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	0	0			0	0.00%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	0	0			0	0.00%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	0	0.0	0.0
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	0.0		
Residual pool depth (avg):			

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 9/8/2015

REACH 14 **T03S-R34E-S01NW** **REACH 14**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	2	35	2.5	0.00	90	0		0	10	70	20	0	0
GLIDE	2	88	11.0	0.28	968	19		0	10	48	38	5	0
POOL-LATERAL SCOUR	5	180	10.8	0.70	2,033	22		6	13	47	31	3	0
RIFFLE	9	587	8.7	0.16	6,132	44		3	13	47	33	5	0
Total:	18	890	8.9	0.30	9,223	85	**Avg:**	3	12	50	31	4	0

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	5	180	10.8	0.70	2,033	22.04%	22	1.1
Glides	2	88	11.0	0.28	968	10.50%	19	2.0
Riffles	9	587	8.7	0.16	6,132	66.48%	44	0.7
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	0	0			0	0.00%	0	0.0
Dry	2	35	2.5	0.00	90	0.98%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	5	5.6	6.1
Pools >=1m deep:	1	1.1	1.2
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	6.1		
Residual pool depth (avg):	0.48		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 9/2/2015

REACH 15 **T04S-R35E-S02SE** **REACH 15**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	4	61	3.5	0.00	219	6		10	42	29	18	1	0
GLIDE	4	142	11.5	0.23	1,750	9		9	23	43	24	3	0
POOL-ISOLATED	1	4	2.0	0.15	8	0		22	44	22	11	0	0
POOL-LATERAL SCOUR	22	579	7.9	0.61	5,165	128		14	25	36	20	5	0
PUDDLED UNIT	3	158	2.2	0.05	354	0		13	23	45	18	0	0
RIFFLE	24	985	7.5	0.16	8,248	114		3	19	49	26	3	0
STEP/COBBLE	2	23	15.5	0.10	356	0		0	20	55	25	0	0
Total:	60	1,952	7.6	0.31	16,099	257	**Avg:**	9	24	42	23	3	0

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Percent	Large Boulders Number	(# / $100m^2$)
Dammed & BW Pools	1	4	2.0	0.15	8	0.05%	0	0.0
Scour Pools	22	579	7.9	0.61	5,165	32.08%	128	2.5
Glides	4	142	11.5	0.23	1,750	10.87%	9	0.5
Riffles	24	985	7.5	0.16	8,248	51.23%	114	1.4
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	2	23	15.5	0.10	356	2.21%	0	0.0
Dry	7	219	2.9	0.02	573	3.56%	6	1.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	23	11.8	16.3
Pools >=1m deep:	2	1.0	1.4
Complex pools (LWD pieces>=3):	4	2.0	2.8
Pool frequency (channel widths/pool):	3.3		
Residual pool depth (avg):	0.45		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 9/2/2015

REACH 16 **T04S-R35E-S11NW** **REACH 16**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	2	22	3.0	0.00	66	0		10	25	40	25	0	0
GLIDE	4	190	15.0	0.23	3,133	9		3	19	44	33	2	0
POOL-BACKWATER	1	28	4.0	0.35	112	2		10	29	38	19	5	0
POOL-LATERAL SCOUR	4	153	11.4	0.49	2,025	11		9	20	40	29	3	0
PUDDLED UNIT	2	38	1.5	0.05	65	0		15	25	35	25	0	0
RIFFLE	11	699	9.2	0.16	6,420	91		1	19	38	36	6	0
STEP/COBBLE	1	4	14.0	0.15	56	0		0	20	60	20	0	0
Total:	25	1,134	9.3	0.21	11,877	113	**Avg:**	5	21	40	31	4	0

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	1	28	4.0	0.35	112	0.94%	2	1.8
Scour Pools	4	153	11.4	0.49	2,025	17.05%	11	0.5
Glides	4	190	15.0	0.23	3,133	26.38%	9	0.3
Riffles	11	699	9.2	0.16	6,420	54.06%	91	1.4
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	1	4	14.0	0.15	56	0.47%	0	0.0
Dry	4	60	2.3	0.03	131	1.10%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	5	4.4	5.6
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	1	0.9	1.1
Pool frequency (channel widths/pool):	14.2		
Residual pool depth (avg):	0.33		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 9/3/2015

REACH 17 **T04S-R34E-S11SW** **REACH 17**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
MIX OF HABITATS	1	1,459	14.0	0.00	20,426	0		17	17	17	17	17	17
Total:	1	1,459	14.0	0.00	20,426	0	**Avg:**	17	17	17	17	17	17

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	0	0			0	0.00%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	0	0			0	0.00%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	0	0			0	0.00%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	0	0.0	0.0
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	0.0		
Residual pool depth (avg):			

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 9/3/2015

REACH 18 **T04S-R35E-S14SW** **REACH 18**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	2	83	5.0	0.00	415	0		5	25	40	30	0	0
GLIDE	2	50	8.8	0.25	445	3		0	19	46	31	1	2
POOL-BEAVER DAM	4	125	4.5	0.70	608	0		24	30	41	5	0	0
POOL-LATERAL SCOUR	14	389	7.4	0.59	3,552	18		15	31	33	18	2	1
PUDDLED UNIT	2	121	1.8	0.15	213	0		20	45	25	10	0	0
RIFFLE	23	1,057	6.3	0.16	8,504	57		4	19	50	25	2	1
STEP/BEAVER DAM	4	12	4.5	0.01	54	0		24	30	41	5	0	0
Total:	51	1,837	6.2	0.30	13,791	78	**Avg:**	10	25	42	20	2	1

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	4	125	4.5	0.70	608	4.41%	0	0.0
Scour Pools	14	389	7.4	0.59	3,552	25.76%	18	0.5
Glides	2	50	8.8	0.25	445	3.23%	3	0.7
Riffles	23	1,057	6.3	0.16	8,504	61.66%	57	0.7
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	4	12	4.5	0.01	54	0.39%	0	0.0
Dry	4	204	3.4	0.08	628	4.55%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	18	9.8	16.8
Pools >=1m deep:	2	1.1	1.9
Complex pools (LWD pieces>=3):	10	5.4	9.3
Pool frequency (channel widths/pool):	7.9		
Residual pool depth (avg):	0.48		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 6/25/2015

REACH 19 **T04S-R35E-S23NW** **REACH 19**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BOULDERS	1	6	2.0	0.10	12	0	0	0	50	30	20	0
DRY CHANNEL	4	47	1.6	0.00	108	1	48	0	35	18	0	0
GLIDE	2	43	5.3	0.13	323	0	0	5	67	28	0	0
POOL-ALCOVE	1	4	1.5	0.30	6	0	100	0	0	0	0	0
POOL-BACKWATER	28	175	2.9	0.28	502	12	30	8	18	32	8	3
POOL-BEAVER DAM	1	9	12.0	0.45	109	1	100	0	0	0	0	0
POOL-DAMMED	2	78	8.0	0.65	600	1	83	0	5	10	3	0
POOL-LATERAL SCOUR	26	358	8.1	0.66	3,020	56	3	5	29	46	15	1
POOL-STRAIGHT SCOUR	8	80	3.5	0.39	389	4	29	0	24	40	8	0
PUDDLED UNIT	3	34	1.5	0.05	48	1	17	15	55	14	0	0
RAPID/BOULDERS	22	1,289	10.0	0.31	13,478	163	0	2	31	52	16	0
RIFFLE	33	860	5.9	0.16	6,571	56	7	7	40	41	6	0
STEP/BEAVER DAM	1	2	6.0	0.01	12	0	95	5	0	0	0	0
STEP/BOULDERS	6	10	9.3	0.30	99	1	0	0	7	30	58	4
STEP/COBBLE	8	40	8.9	0.19	196	5	0	5	27	57	11	0
STEP/STRUCTURE	4	5	8.6	0.11	55	11	5	5	20	30	40	0
Total:	150	3,038	6.4	0.31	25,529	312	**Avg:** 14	5	28	39	12	1

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	32	266	3.5	0.31	1,217	4.77%	14	1.2
Scour Pools	34	437	7.0	0.60	3,409	13.35%	60	1.8
Glides	2	43	5.3	0.13	323	1.27%	0	0.0
Riffles	33	860	5.9	0.16	6,571	25.74%	56	0.9
Rapids	22	1,289	10.0	0.31	13,478	52.80%	163	1.2
Cascades	1	6	2.0	0.10	12	0.05%	0	0.0
Step/Falls	19	57	8.8	0.20	362	1.42%	17	4.7
Dry	7	81	1.5	0.02	156	0.61%	2	1.3
Culverts	0	0			0	0.00%	0	0.0

REACH 19 **T04S-R35E-S23NW** **REACH 19**

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	66	21.7	31.4
Pools >=1m deep:	4	1.3	1.9
Complex pools (LWD pieces>=3):	13	4.3	6.2
Pool frequency (channel widths/pool):	2.7		
Residual pool depth (avg):	0.27		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 7/21/2015

REACH 20 **T04S-R35E-S26NW** **REACH 20**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BOULDERS	1	1	13.0	0.40	7	4		0	5	5	30	60	0
DRY CHANNEL	1	27	2.0	0.00	54	2		10	10	35	40	5	0
DRY UNIT	14	492	3.1	0.00	1,682	9		18	31	27	23	1	0
POOL-BACKWATER	55	223	2.6	0.28	588	84		16	25	12	24	13	10
POOL-DAMMED	4	65	9.2	0.55	586	4		2	21	35	42	0	0
POOL-ISOLATED	4	12	1.1	0.20	15	1		0	35	7	22	12	25
POOL-LATERAL SCOUR	112	1,563	8.4	0.52	13,975	743		5	6	24	45	15	4
POOL-PLUNGE	1	4	13.0	0.60	52	0		0	5	10	80	5	0
POOL-STRAIGHT SCOUR	15	190	6.3	0.50	1,361	68		18	1	18	39	12	12
PUDDLED UNIT	14	354	2.4	0.06	978	19		29	18	23	24	5	0
RAPID/BEDROCK	2	40	11.8	0.25	517	14		0	0	18	26	5	51
RAPID/BOULDERS	45	1,438	10.6	0.28	16,163	742		0	3	26	47	20	4
RIFFLE	46	1,722	9.3	0.18	19,080	364		5	9	37	41	7	1
STEP/BEDROCK	10	31	8.2	0.34	231	13		0	1	8	16	11	65
STEP/BOULDERS	26	67	7.4	0.37	428	141		0	1	9	23	62	5
STEP/COBBLE	15	69	8.8	0.27	666	31		0	2	23	60	15	0
STEP/STRUCTURE	1	1	10.0	0.30	13	0		0	30	40	30	0	0
Total:	366	6,299	7.3	0.34	56,395	2,239	**Avg:**	7	10	22	38	16	7

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Percent	Large Boulders Number	(# / $100m^2$)
Dammed & BW Pools	63	300	2.9	0.29	1,189	2.11%	89	7.5
Scour Pools	128	1,757	8.2	0.52	15,388	27.29%	811	5.3
Glides	0	0			0	0.00%	0	0.0
Riffles	46	1,722	9.3	0.18	19,080	33.83%	364	1.9
Rapids	47	1,478	10.6	0.28	16,680	29.58%	756	4.5
Cascades	1	1	13.0	0.40	7	0.01%	4	61.5
Step/Falls	52	168	8.0	0.33	1,338	2.37%	185	13.8
Dry	29	873	2.7	0.03	2,714	4.81%	30	1.1
Culverts	0	0			0	0.00%	0	0.0

REACH 20 **T04S-R35E-S26NW** **REACH 20**

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	191	30.3	39.7
Pools >=1m deep:	3	0.5	0.6
Complex pools (LWD pieces>=3):	33	5.2	6.9
Pool frequency (channel widths/pool):	1.7		
Residual pool depth (avg):	0.19		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 7/27/2015

REACH 21 **T05S-R35E-S01SW** **REACH 21**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BOULDERS	2	99	5.8	0.40	577	70	0	0	3	13	55	30
DRY UNIT	9	218	1.6	0.00	353	0	16	55	20	9	0	0
POOL-BACKWATER	3	22	3.7	0.35	85	1	5	38	42	13	2	0
POOL-DAMMED	1	17	12.0	0.80	198	5	5	60	10	10	10	5
POOL-LATERAL SCOUR	35	538	7.7	0.58	4,293	84	1	16	27	35	14	6
POOL-STRAIGHT SCOUR	2	14	1.5	0.33	21	1	11	42	22	22	3	0
PUDDLED UNIT	8	169	1.7	0.04	280	0	12	57	23	6	1	0
RAPID/BOULDERS	6	306	9.3	0.28	2,951	117	0	5	8	34	45	8
RIFFLE	55	4,790	9.1	0.17	49,445	302	0	8	37	44	9	1
STEP/BOULDERS	2	14	8.8	0.35	122	8	0	5	5	35	45	10
STEP/COBBLE	1	12	14.8	0.15	173	2	0	5	40	50	5	0
STEP/STRUCTURE	1	1	13.5	0.01	14	1	0	0	10	40	50	0
Total:	125	6,198	7.5	0.29	58,511	591	**Avg:** 3	18	29	34	12	3

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	4	38	5.8	0.46	283	0.48%	6	2.1
Scour Pools	37	553	7.4	0.56	4,314	7.37%	85	2.0
Glides	0	0			0	0.00%	0	0.0
Riffles	55	4,790	9.1	0.17	49,445	84.51%	302	0.6
Rapids	6	306	9.3	0.28	2,951	5.04%	117	4.0
Cascades	2	99	5.8	0.40	577	0.99%	70	12.1
Step/Falls	4	26	11.5	0.22	308	0.53%	11	3.6
Dry	17	387	1.7	0.02	633	1.08%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	41	6.6	7.8
Pools >=1m deep:	1	0.2	0.2
Complex pools (LWD pieces>=3):	15	2.4	2.8
Pool frequency (channel widths/pool):	8.6		
Residual pool depth (avg):	0.27		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/5/2015

REACH 22 **T05S-R36E-S19NW** **REACH 22**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
MIX OF HABITATS	1	10,808	10.0	0.00	108,080	0		17	17	17	17	17	17
Total:	1	10,808	10.0	0.00	108,080	0	**Avg:**	17	17	17	17	17	17

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	0	0			0	0.00%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	0	0			0	0.00%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	0	0			0	0.00%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	0	0.0	0.0
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	0.0		
Residual pool depth (avg):			

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/5/2015

REACH 23 **T06S-R36E-S05SW** **REACH 23**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BOULDERS	3	86	6.7	0.23	566	33		0	5	13	40	40	2
DRY UNIT	6	173	2.9	0.00	462	2		0	38	33	19	10	1
POOL-BACKWATER	1	3	1.5	0.40	4	1		0	42	21	32	5	0
POOL-DAMMED	2	18	8.1	1.05	139	1		0	63	8	23	8	0
POOL-LATERAL SCOUR	20	198	4.6	0.55	926	38		6	36	14	23	20	0
POOL-PLUNGE	2	13	6.0	0.85	77	4		0	21	8	36	36	0
POOL-STRAIGHT SCOUR	2	44	6.8	0.65	350	5		0	30	35	30	5	0
PUDDLED UNIT	7	75	1.7	0.01	116	4		6	52	14	17	11	1
RAPID/BOULDERS	22	1,268	6.1	0.26	8,399	234		0	11	18	37	34	1
RIFFLE	20	742	3.4	0.10	4,064	53		0	41	29	21	9	0
STEP/BEAVER DAM	1	2	2.5	0.01	4	0		0	40	40	20	0	0
STEP/BOULDERS	3	8	6.0	0.22	39	11		0	15	8	27	50	0
STEP/COBBLE	1	5	5.0	0.25	24	0		0	0	10	60	30	0
STEP/LOG	2	2	3.8	0.01	6	0		0	88	0	10	3	0
Total:	92	2,633	4.6	0.28	15,174	386	**Avg:**	2	32	19	26	20	0

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Percent	Large Boulders Number	(# / $100m^2$)
Dammed & BW Pools	3	20	5.9	0.83	143	0.94%	2	1.4
Scour Pools	24	254	4.9	0.58	1,353	8.91%	47	3.5
Glides	0	0			0	0.00%	0	0.0
Riffles	20	742	3.4	0.10	4,064	26.78%	53	1.3
Rapids	22	1,268	6.1	0.26	8,399	55.35%	234	2.8
Cascades	3	86	6.7	0.23	566	3.73%	33	5.8
Step/Falls	7	16	4.7	0.13	72	0.47%	11	15.3
Dry	13	248	2.3	0.01	578	3.81%	6	1.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	27	10.3	13.8
Pools >=1m deep:	2	0.8	1.0
Complex pools (LWD pieces>=3):	7	2.7	3.6
Pool frequency (channel widths/pool):	5.3		
Residual pool depth (avg):	0.32		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/25/2015

REACH 24 **T06S-R36E-S04SW** **REACH 24**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	2	37	2.5	0.00	81	0	5	50	40	3	3	0
POOL-ALCOVE	4	38	1.3	0.18	48	0	41	54	5	0	0	0
POOL-BACKWATER	2	15	2.3	0.38	34	0	0	30	60	10	0	0
POOL-DAMMED	1	15	5.5	0.45	84	0	0	90	5	5	0	0
POOL-LATERAL SCOUR	46	764	5.8	0.54	4,878	34	0	34	41	25	1	0
POOL-STRAIGHT SCOUR	1	11	8.0	0.80	90	1	0	30	15	50	5	0
RIFFLE	26	408	6.2	0.14	2,730	3	0	12	51	36	0	0
STEP/COBBLE	10	49	5.6	0.15	293	1	0	13	56	31	0	0
STEP/STRUCTURE	4	2	8.6	0.15	22	0	0	45	26	27	3	0
Total:	96	1,340	5.7	0.35	8,261	39	**Avg:** 2	28	43	27	1	0

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	7	69	2.2	0.27	166	2.01%	0	0.0
Scour Pools	47	775	5.9	0.54	4,969	60.15%	35	0.7
Glides	0	0			0	0.00%	0	0.0
Riffles	26	408	6.2	0.14	2,730	33.05%	3	0.1
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	14	52	6.4	0.15	315	3.81%	1	0.3
Dry	2	37	2.5	0.00	81	0.98%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	54	40.3	45.4
Pools >=1m deep:	3	2.2	2.5
Complex pools (LWD pieces>=3):	25	18.7	21.0
Pool frequency (channel widths/pool):	2.6		
Residual pool depth (avg):	0.32		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/26/2015

REACH 25 **T06S-R36E-S04SW** **REACH 25**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	3	35	1.7	0.00	65	2		0	47	37	17	0	0
POOL-DAMMED	3	73	7.3	0.57	552	12		0	60	20	17	3	0
POOL-LATERAL SCOUR	15	177	5.8	0.43	1,154	27		0	40	20	30	11	0
POOL-PLUNGE	2	9	8.3	0.45	77	1		0	61	26	10	3	0
POOL-STRAIGHT SCOUR	1	10	3.0	0.40	30	0		0	100	0	0	0	0
PUDDLED UNIT	1	6	1.3	0.01	7	0		0	50	50	0	0	0
RAPID/BOULDERS	1	9	6.5	0.15	59	0		0	20	10	40	30	0
RIFFLE	8	99	6.3	0.13	725	1		0	31	38	25	6	0
STEP/BOULDERS	3	17	6.0	0.20	99	4		0	23	10	37	30	0
STEP/COBBLE	4	25	7.5	0.11	205	2		0	28	35	35	3	0
STEP/STRUCTURE	7	12	5.2	0.21	55	9		0	38	18	17	27	0
Total:	48	471	5.7	0.27	3,027	58	**Avg:**	0	40	25	24	11	0

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Percent	Large Boulders Number	(# / $100m^2$)
Dammed & BW Pools	3	73	7.3	0.57	552	18.23%	12	2.2
Scour Pools	18	197	5.9	0.43	1,261	41.66%	28	2.2
Glides	0	0			0	0.00%	0	0.0
Riffles	8	99	6.3	0.13	725	23.94%	1	0.1
Rapids	1	9	6.5	0.15	59	1.93%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	14	53	6.0	0.18	358	11.84%	15	4.2
Dry	4	41	1.6	0.00	73	2.40%	2	2.8
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	21	44.6	59.9
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	6	12.7	17.1
Pool frequency (channel widths/pool):			
Residual pool depth (avg):	0.21		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/26/2015

REACH 26 **T06S-R36W-S09NW** **REACH 26**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	1	5	1.2	0.00	6	0	0	33	33	33	0	0
POOL-BEAVER DAM	5	131	5.6	0.68	889	9	24	63	10	2	1	0
POOL-DAMMED	3	50	5.0	0.63	251	9	0	46	39	13	2	0
POOL-LATERAL SCOUR	40	614	5.1	0.50	3,353	112	3	43	38	14	2	0
POOL-PLUNGE	1	3	8.0	0.60	20	0	0	30	65	5	0	0
POOL-STRAIGHT SCOUR	1	9	6.0	0.70	56	3	0	70	10	0	20	0
PUDDLED UNIT	1	10	1.0	0.01	10	0	0	70	0	30	0	0
RIFFLE	9	101	3.7	0.09	382	2	0	29	53	15	1	2
STEP/BEAVER DAM	6	10	4.4	0.09	53	0	15	62	20	3	0	0
STEP/BEDROCK	1	6	2.2	0.15	12	0	0	0	20	40	0	40
STEP/BOULDERS	1	6	6.5	0.10	36	0	0	10	40	50	0	0
STEP/COBBLE	9	45	4.8	0.09	241	4	0	11	64	23	1	1
STEP/STRUCTURE	19	30	5.3	0.22	162	38	0	15	20	12	53	0
Total:	97	1,019	4.9	0.34	5,472	177	**Avg:** 3	35	35	14	12	1

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	8	181	5.4	0.66	1,140	20.83%	18	1.6
Scour Pools	42	626	5.2	0.51	3,429	62.67%	115	3.4
Glides	0	0			0	0.00%	0	0.0
Riffles	9	101	3.7	0.09	382	6.98%	2	0.5
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	36	96	5.0	0.16	505	9.23%	42	8.3
Dry	2	15	1.1	0.01	16	0.29%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	50	49.1	56.9
Pools >=1m deep:	3	2.9	3.4
Complex pools (LWD pieces>=3):	17	16.7	19.4
Pool frequency (channel widths/pool):			
Residual pool depth (avg):	0.33		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/19/2015

REACH 27 **T06S-R36E-S09NE** **REACH 27**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	8	78	2.8	0.00	236	4	1	49	49	0	0	0
GLIDE	1	27	5.5	0.30	151	0	0	33	67	0	0	0
POOL-ALCOVE	1	1	1.2	0.20	1	0	0	100	0	0	0	0
POOL-BACKWATER	6	24	2.0	0.36	49	3	9	79	12	0	0	0
POOL-ISOLATED	1	2	0.6	0.07	1	0	15	40	45	0	0	0
POOL-LATERAL SCOUR	88	1,526	5.0	0.56	7,978	118	0	33	60	6	0	0
POOL-PLUNGE	1	5	3.5	0.30	16	0	0	20	80	0	0	0
POOL-STRAIGHT SCOUR	3	38	5.0	0.52	179	4	0	38	52	10	0	0
PUDDLED UNIT	6	48	2.3	0.02	100	2	15	50	35	0	0	0
RIFFLE	39	578	4.0	0.12	2,551	20	0	25	67	7	0	0
STEP/COBBLE	23	114	5.5	0.12	648	1	0	11	80	8	0	0
STEP/STRUCTURE	20	14	5.8	0.22	74	26	0	21	37	12	30	0
Total:	197	2,453	4.6	0.34	11,983	178	**Avg:** 1	31	58	7	3	0

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Percent	Large Boulders Number	(# / $100m^2$)
Dammed & BW Pools	8	27	1.7	0.30	51	0.43%	3	5.8
Scour Pools	92	1,568	5.0	0.56	8,173	68.20%	122	1.5
Glides	1	27	5.5	0.30	151	1.26%	0	0.0
Riffles	39	578	4.0	0.12	2,551	21.29%	20	0.8
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	43	128	5.6	0.17	721	6.02%	27	3.7
Dry	14	125	2.6	0.01	336	2.80%	6	1.8
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	100	40.8	46.8
Pools >=1m deep:	5	2.0	2.3
Complex pools (LWD pieces>=3):	39	15.9	18.3
Pool frequency (channel widths/pool):	2.8		
Residual pool depth (avg):	0.34		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 9/10/2015

REACH 28 **T06S-R36W-S10SE** **REACH 28**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)		Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	3	70	3.3	0.00	243	3		10	30	35	24	2	0
POOL-ALCOVE	1	22	9.0	0.50	196	0		50	50	0	0	0	0
POOL-DAMMED	1	15	3.5	0.55	51	0		0	40	50	10	0	0
POOL-LATERAL SCOUR	42	621	4.1	0.54	2,659	98		1	42	42	13	2	0
POOL-PLUNGE	1	2	7.1	0.45	11	0		0	10	20	70	0	0
POOL-STRAIGHT SCOUR	1	6	4.0	0.50	25	2		0	70	20	10	0	0
PUDDLED UNIT	3	23	3.9	0.05	87	2		17	40	25	17	2	0
RAPID/BOULDERS	3	48	3.6	0.23	186	5		0	3	53	33	10	0
RIFFLE	16	180	2.7	0.11	576	7		6	35	42	16	1	0
STEP/COBBLE	7	25	5.3	0.12	136	1		0	25	61	14	1	0
STEP/STRUCTURE	15	20	4.3	0.22	88	65		0	15	22	5	58	0
Total:	93	1,032	4.0	0.34	4,257	183	**Avg:**	3	34	39	14	11	0

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Percent	Large Boulders Number	(# / $100m^2$)
Dammed & BW Pools	2	36	6.3	0.53	247	5.80%	0	0.0
Scour Pools	44	629	4.2	0.54	2,694	63.29%	100	3.7
Glides	0	0			0	0.00%	0	0.0
Riffles	16	180	2.7	0.11	576	13.53%	7	1.2
Rapids	3	48	3.6	0.23	186	4.38%	5	2.7
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	22	45	4.6	0.19	224	5.26%	66	29.5
Dry	6	93	3.6	0.03	330	7.75%	5	1.5
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	46	44.6	69.1
Pools >=1m deep:	2	1.9	3.0
Complex pools (LWD pieces>=3):	17	16.5	25.5
Pool frequency (channel widths/pool):	1.9		
Residual pool depth (avg):	0.29		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 9/16/2015

REACH 29 **T06S-R36E-S15NE** **REACH 29**

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BEDROCK	3	21	2.3	0.40	56	20	0	2	0	0	15	83
POOL-DAMMED	2	23	5.0	0.58	118	10	0	55	10	13	23	0
POOL-LATERAL SCOUR	21	169	3.5	0.52	630	49	4	53	7	11	18	7
POOL-PLUNGE	1	2	4.0	0.75	8	2	0	10	10	20	30	30
POOL-STRAIGHT SCOUR	1	9	5.5	0.60	51	5	0	30	10	30	30	0
RAPID/BOULDERS	7	81	3.6	0.25	326	51	0	26	14	21	36	4
RIFFLE	9	147	2.0	0.12	318	4	14	62	12	9	3	0
STEP/BEDROCK	1	2	4.0	1.00	8	2	0	0	0	5	5	90
STEP/BOULDERS	4	12	4.0	0.33	52	15	0	17	6	16	59	1
STEP/COBBLE	3	13	4.5	0.20	55	2	0	27	33	33	7	0
STEP/LOG	1	0	8.0	0.35	3	0	0	90	5	0	5	0
Total:	53	480	3.5	0.39	1,625	160	**Avg:** 4	42	10	13	20	11

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	2	23	5.0	0.58	118	7.26%	10	8.5
Scour Pools	23	181	3.6	0.53	689	42.39%	56	8.1
Glides	0	0			0	0.00%	0	0.0
Riffles	9	147	2.0	0.12	318	19.59%	4	1.3
Rapids	7	81	3.6	0.25	326	20.06%	51	15.6
Cascades	3	21	2.3	0.40	56	3.43%	20	35.8
Step/Falls	9	27	4.6	0.36	118	7.27%	19	16.1
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

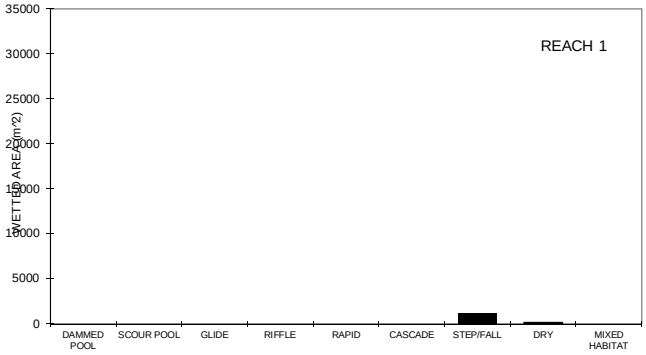
	Total of all Channel Lengths Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	25	52.1	81.8
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	8	16.7	26.2
Pool frequency (channel widths/pool):	2.2		
Residual pool depth (avg):	0.21		

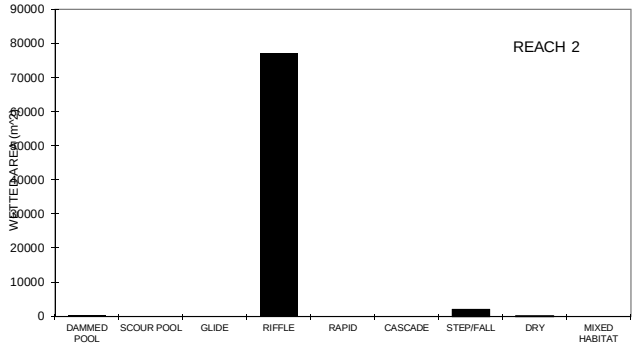
STREAM SUMMARY **GRANDE RONDE RIVER**

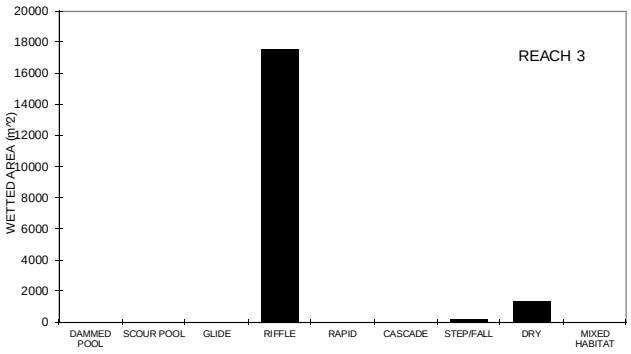
Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Substrate Percent Wetted Area S/O	Snd	Grvl	Cbl	Bldr	Bdrk	Large Boulders (#>0.5m)
2114	87,672	7.7	0.33	1,019,31	5	20	36	27	9	3	6,740

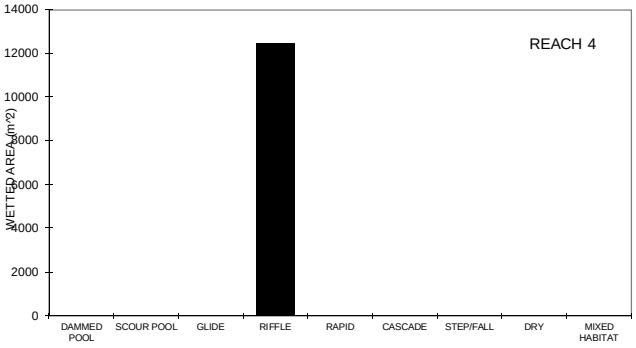
Habitat Group	Wetted Area (m^2)	Percent
Dammed & BW Pools	11,101	1.09%
Scour Pools	228,449	22.41%
Glides	66,785	6.55%
Riffles	333,623	32.73%
Rapids	42,079	4.13%
Cascades	1,218	0.12%
Step/Falls	9,120	0.89%
Dry	14,475	1.42%
Culverts	0	0.00%
Unsurveyed	312,462	30.65%

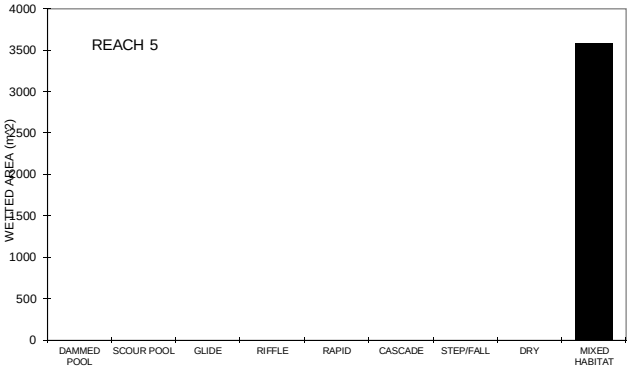
GRANDE RONDE RIVER 2015 HABITAT DISTRIBUTION

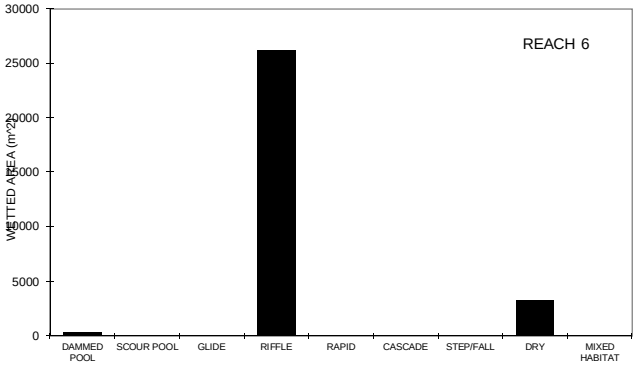


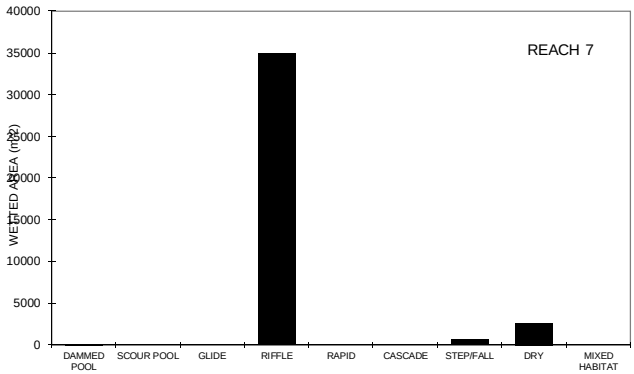


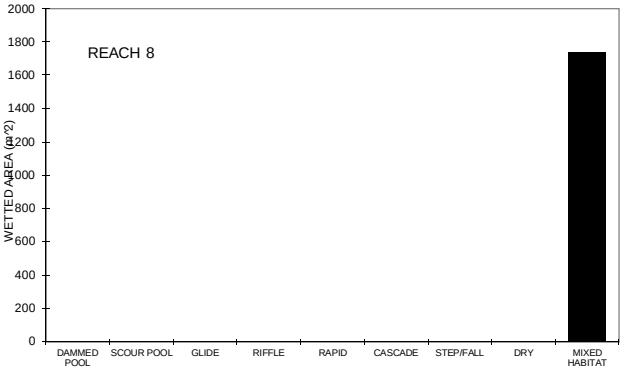












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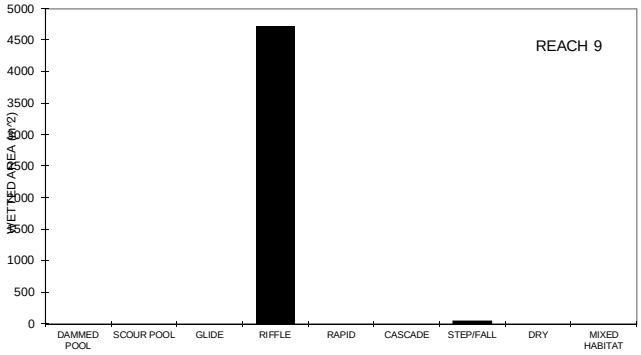

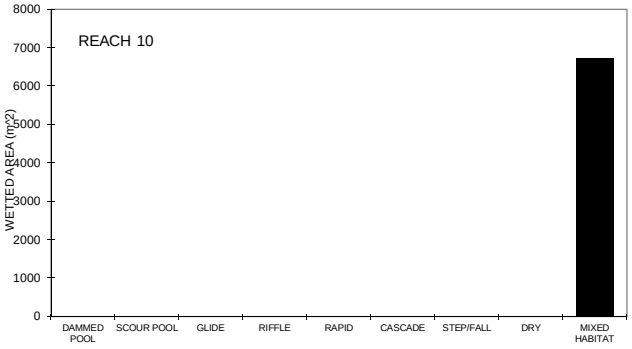

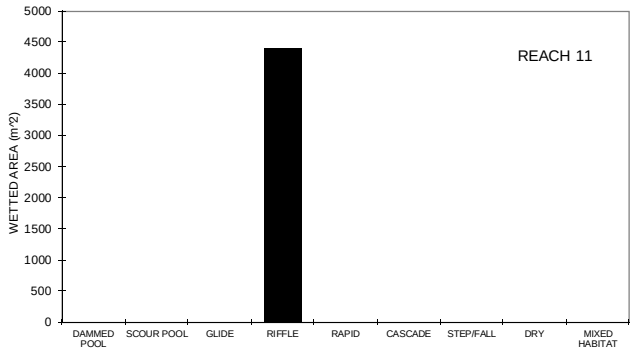

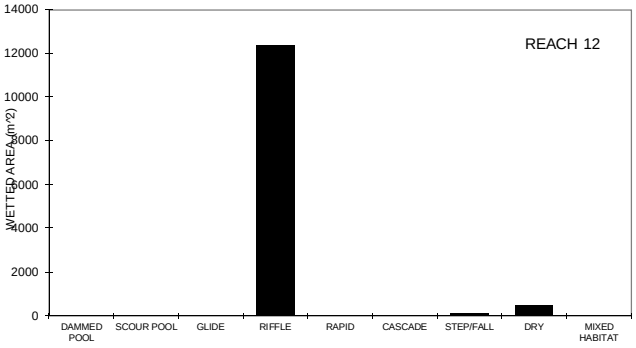

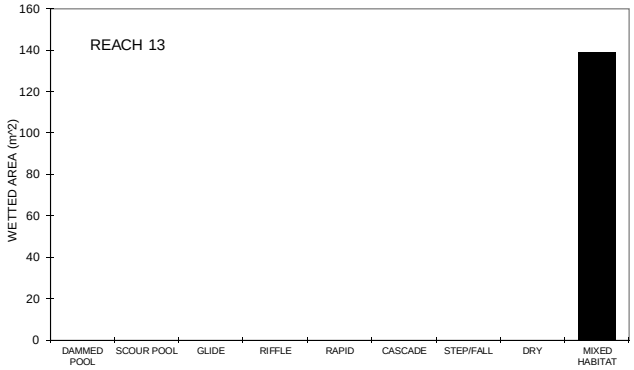

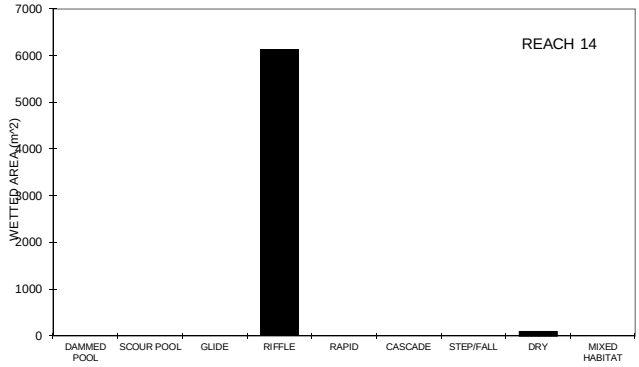

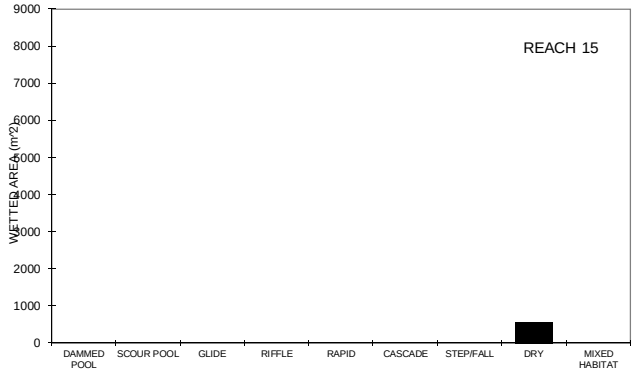

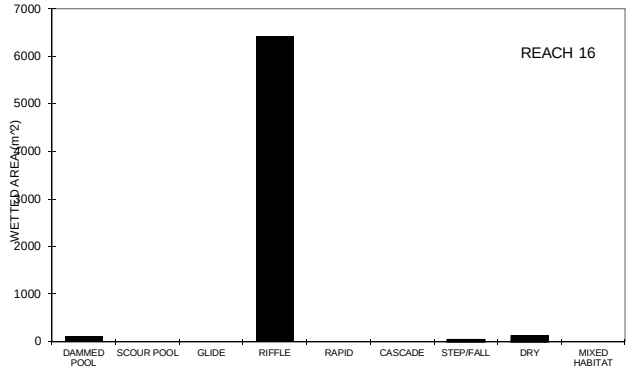

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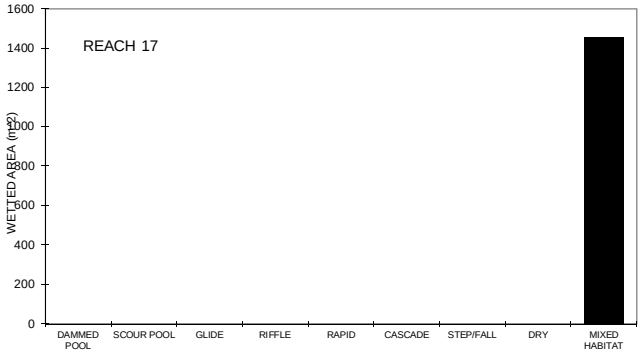
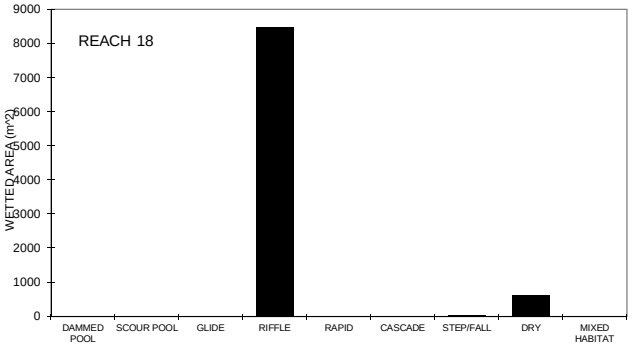
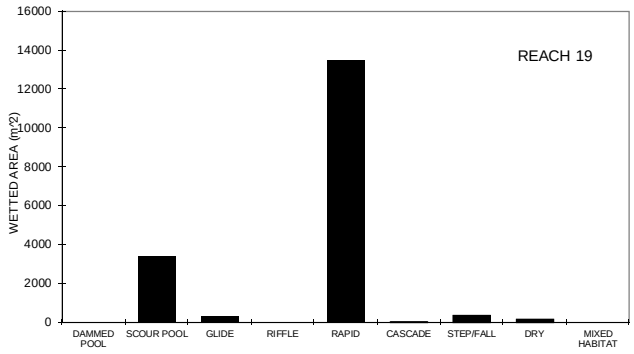
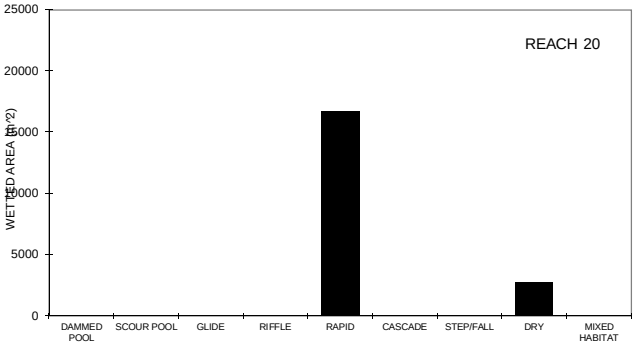
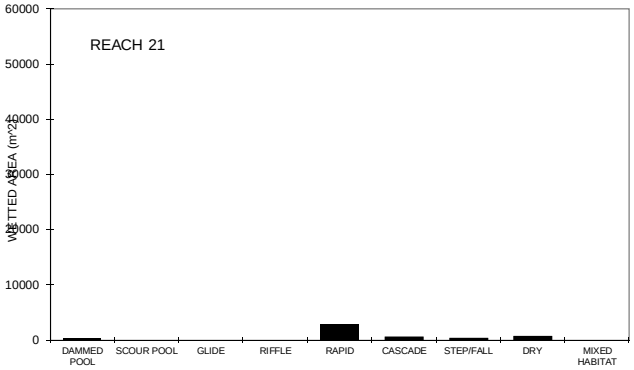
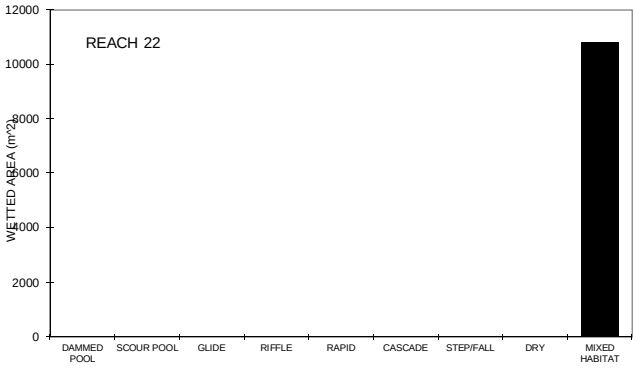


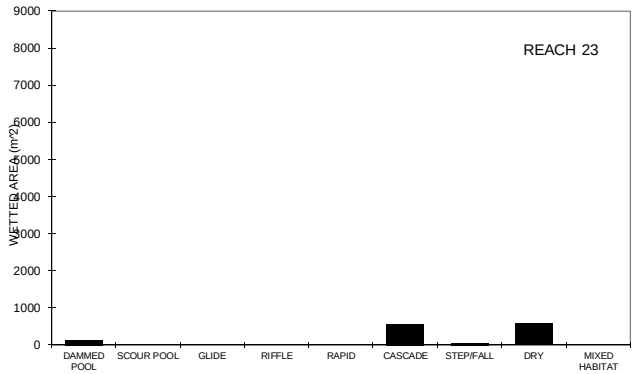


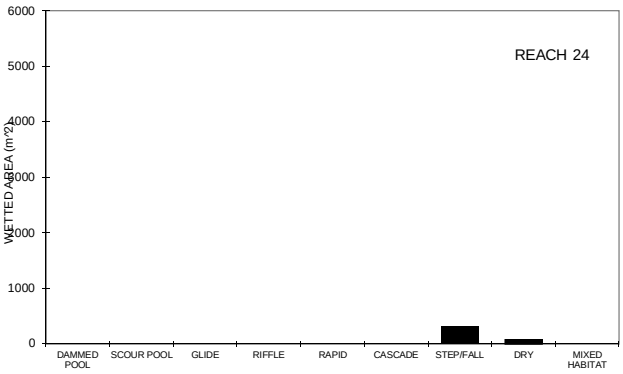




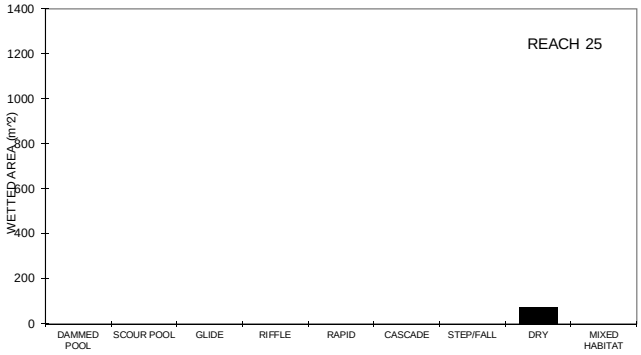


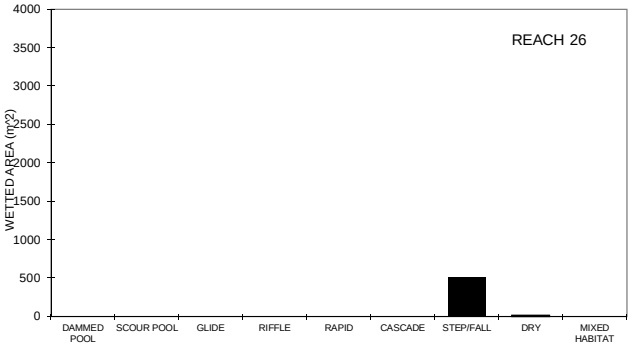


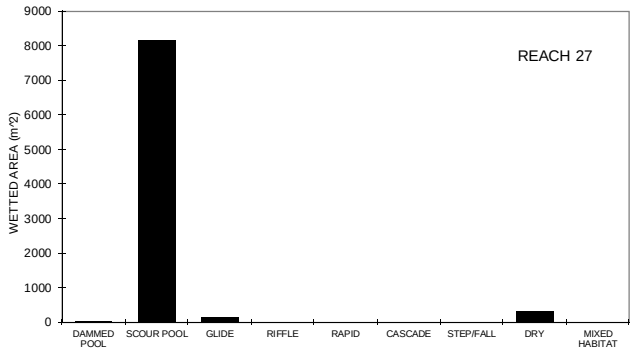


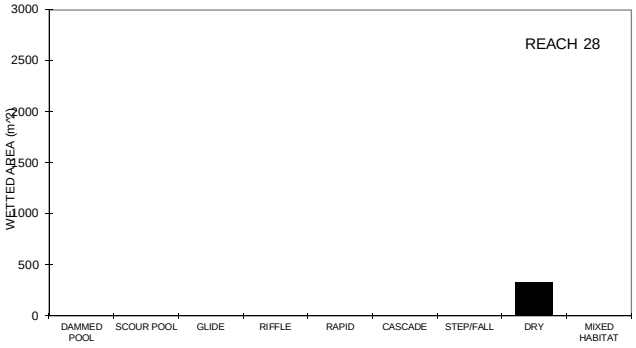


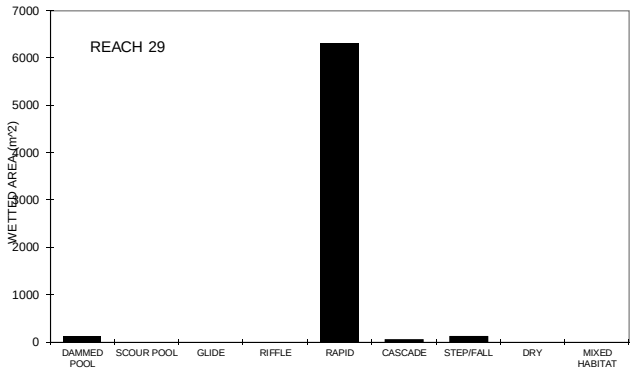
GRANDE RONDE RIVER 2015 HABITAT DISTRIBUTION











OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 9/10/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1 **REACH 1**

Summary of Riparian Zone (0-30m) **2 transects**

Total hardwoods/1000	518
Total conifers/1000 ft	518
Total conifers >20" dbh/1000 ft	30
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	2.5	3.5	3.5	2.0	0.0	2.0	6.0	7.5
15-30cm	1.5	0.0	0.5	0.0	0.0	1.0	2.0	1.0
30-50cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50-90cm	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	4.0	3.5	4.0	2.0	0.5	3.0	2.8	2.8

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	25	26	35
Shrub cover	50	33	35
Grass/forb cover	18	20	10

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	50	50	50
High terrace	0	25	25
Low terrace	50	25	25
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	24	24	13

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 9/21/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 2 **REACH 2**

Summary of Riparian Zone (0-30m) **3.83 transects**

Total hardwoods/1000	159
Total conifers/1000 ft	763
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.3	1.0	2.1	1.0	2.3	0.0	4.7	2.1
15-30cm	1.0	0.3	2.3	0.0	1.8	0.0	5.2	0.3
30-50cm	0.0	0.0	1.3	0.3	1.3	0.0	2.6	0.3
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	1.3	1.3	5.7	1.3	5.5	0.0	4.2	0.9

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	28	43	43
Shrub cover	34	26	20
Grass/forb cover	21	39	43

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	39	39	52
High terrace	26	39	13
Low terrace	26	0	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	13	26	26
Riprap	0	0	0
Surface slope (%)	34	38	34

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 8/17/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 3 **REACH 3**

Summary of Riparian Zone (0-30m) **2.83 transects**

Total hardwoods/1000	688
Total conifers/1000 ft	0
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	8.1	0.0	2.1	0.0	0.0	0.0	10.2
15-30cm	0.0	0.7	0.0	0.4	0.0	0.0	0.0	1.1
30-50cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	8.8	0.0	2.5	0.0	0.0	0.0	3.8

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	18	15	7
Shrub cover	36	19	21
Grass/forb cover	44	42	21

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	18	35	35
High terrace	0	0	0
Low terrace	88	53	35
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	18	18
Riprap	0	0	0
Surface slope (%)	3	12	26

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 8/19/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 6 **REACH 6**

Summary of Riparian Zone (0-30m) **3 transects**

Total hardwoods/1000	142
Total conifers/1000 ft	20
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0
15-30cm	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3
30-50cm	0.0	0.3	0.3	0.3	0.0	0.0	0.3	0.7
50-90cm	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	0.3	0.3	2.0	0.0	0.0	0.1	0.8

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	19	33	13
Shrub cover	26	23	23
Grass/forb cover	45	46	45

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	0	0	17
High terrace	0	17	17
Low terrace	67	50	50
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	33	33	17
Riprap	0	0	0
Surface slope (%)	0	0	9

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 8/19/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 7 **REACH 7**

Summary of Riparian Zone (0-30m) **3 transects**

Total hardwoods/1000	325
Total conifers/1000 ft	61
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	2.7	0.3	0.0	0.0	2.3	0.3	5.0
15-30cm	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0
30-50cm	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0
50-90cm	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	3.0	1.0	0.0	0.0	2.3	0.3	1.8

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	8	7	3
Shrub cover	13	15	11
Grass/forb cover	68	61	78

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	0	0	33
High terrace	0	0	0
Low terrace	100	100	67
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	0	0	11

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 8/27/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 9 **REACH 9**

Summary of Riparian Zone (0-30m) **1 transects**

Total hardwoods/1000	366
Total conifers/1000 ft	183
Total conifers >20" dbh/1000 ft	61
Total conifers >35" dbh/1000 ft	61

Average number of trees in a 5-meter wide band

Diameter	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	0.0	0.0	0.0	0.0	5.0	0.0	5.0
15-30cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-50cm	0.0	0.0	1.0	0.0	1.0	0.0	2.0	0.0
50-90cm	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0
>90cm	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0
Total/100m2	0.0	0.0	2.0	0.0	1.0	6.0	1.0	2.0

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	10	40	70
Shrub cover	50	35	60
Grass/forb cover	43	10	18

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	50	50	50
High terrace	0	0	0
Low terrace	50	50	50
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	25	25	25

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 8/27/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 11 **REACH 11**

Summary of Riparian Zone (0-30m) **1 transects**

Total hardwoods/1000	0
Total conifers/1000 ft	488
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0
15-30cm	0.0	0.0	2.0	0.0	3.0	0.0	5.0	0.0
30-50cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	0.0	5.0	0.0	3.0	0.0	2.7	0.0

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	5	20	15
Shrub cover	50	75	40
Grass/forb cover	13	20	5

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	50	50	50
High terrace	0	0	0
Low terrace	50	50	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	50
Riprap	0	0	0
Surface slope (%)	43	13	23

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 8/31/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 12 **REACH 12**

Summary of Riparian Zone (0-30m) **2 transects**

Total hardwoods/1000	0
Total conifers/1000 ft	0
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-30cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-50cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	4	11	3
Shrub cover	11	19	6
Grass/forb cover	89	81	94

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	0	0	0
High terrace	0	0	25
Low terrace	100	100	75
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	0	0	0

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 9/8/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 14 **REACH 14**

Summary of Riparian Zone (0-30m) **1 transects**

Total hardwoods/1000	6157
Total conifers/1000 ft	61
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	38.0	0.0	46.0	0.0	17.0	0.0	101.0
15-30cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-50cm	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	1.0	38.0	0.0	46.0	0.0	17.0	0.3	33.7

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	53	50	50
Shrub cover	3	3	3
Grass/forb cover	45	48	48

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	0	0	0
High terrace	0	0	0
Low terrace	100	100	100
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	0	0	0

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 9/2/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 15 **REACH 15**

Summary of Riparian Zone (0-30m) **1 transects**

Total hardwoods/1000	549
Total conifers/1000 ft	61
Total conifers >20" dbh/1000 ft	61
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	9.0	0.0	0.0	0.0	0.0	0.0	9.0
15-30cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-50cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50-90cm	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	9.0	0.0	0.0	1.0	0.0	0.3	3.0

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	13	0	8
Shrub cover	10	5	5
Grass/forb cover	90	95	95

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	0	50	50
High terrace	0	0	0
Low terrace	100	50	50
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	0	23	23

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 9/3/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 16 **REACH 16**

Summary of Riparian Zone (0-30m) **1 transects**

Total hardwoods/1000	122
Total conifers/1000 ft	366
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-30cm	0.0	0.0	0.0	0.0	3.0	0.0	3.0	0.0
30-50cm	0.0	0.0	1.0	0.0	2.0	0.0	3.0	0.0
50-90cm	0.0	1.0	0.0	1.0	0.0	0.0	0.0	2.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	1.0	1.0	1.0	5.0	0.0	2.0	0.7

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	23	28	50
Shrub cover	3	18	40
Grass/forb cover	73	83	60

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	50	50	50
High terrace	50	50	50
Low terrace	0	0	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	35	23	13

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 9/8/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 18 **REACH 18**

Summary of Riparian Zone (0-30m) **1 transects**

Total hardwoods/1000	1646
Total conifers/1000 ft	0
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	5.0	0.0	22.0	0.0	0.0	0.0	27.0
15-30cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-50cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	5.0	0.0	22.0	0.0	0.0	0.0	9.0

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	25	43	5
Shrub cover	40	25	5
Grass/forb cover	23	55	85

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	0	50	50
High terrace	0	0	0
Low terrace	100	50	50
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	0	23	23

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 6/17/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 19 **REACH 19**

Summary of Riparian Zone (0-30m) **5 transects**

Total hardwoods/1000	1585
Total conifers/1000 ft	24
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	12.4	0.0	9.0	0.2	3.0	0.2	24.4
15-30cm	0.0	0.2	0.2	0.2	0.0	1.2	0.2	1.6
30-50cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	12.6	0.2	9.2	0.2	4.2	0.1	8.7

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	57	46	28
Shrub cover	30	35	38
Grass/forb cover	59	39	37

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	20	30	30
High terrace	0	10	20
Low terrace	70	50	30
Floodplain	10	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	10	20
Riprap	0	0	0
Surface slope (%)	18	22	23

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 7/1/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 20 **REACH 20**

Summary of Riparian Zone (0-30m) **7 transects**

Total hardwoods/1000	644
Total conifers/1000 ft	505
Total conifers >20" dbh/1000 ft	44
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.3	5.7	1.0	2.6	0.7	1.4	2.0	9.7
15-30cm	0.6	0.6	0.9	0.1	0.6	0.1	2.0	0.9
30-50cm	0.6	0.0	1.6	0.0	1.4	0.0	3.6	0.0
50-90cm	0.4	0.0	0.1	0.0	0.1	0.0	0.7	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	1.9	6.3	3.6	2.7	2.9	1.6	2.8	3.5

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	32	33	28
Shrub cover	26	31	15
Grass/forb cover	41	34	42

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	57	36	57
High terrace	0	7	14
Low terrace	43	36	14
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	21	14
Riprap	0	0	0
Surface slope (%)	32	23	36

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 7/27/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 21 **REACH 21**

Summary of Riparian Zone (0-30m) **9.5 transects**

Total hardwoods/1000	475
Total conifers/1000 ft	796
Total conifers >20" dbh/1000 ft	6
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	1.3	6.4	3.4	0.9	2.6	0.4	7.3	7.8
15-30cm	0.6	0.0	1.5	0.0	2.3	0.0	4.4	0.0
30-50cm	0.2	0.0	0.7	0.0	0.3	0.0	1.3	0.0
50-90cm	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	2.1	6.4	5.7	0.9	5.3	0.4	4.4	2.6

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	27	27	24
Shrub cover	16	5	7
Grass/forb cover	55	59	66

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	53	53	68
High terrace	0	0	0
Low terrace	37	26	21
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	11	21	11
Riprap	0	0	0
Surface slope (%)	26	35	29

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 8/5/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 23 **REACH 23**

Summary of Riparian Zone (0-30m) **3.83 transects**

Total hardwoods/1000	48
Total conifers/1000 ft	1368
Total conifers >20" dbh/1000 ft	16
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	4.4	0.8	5.2	0.0	5.7	0.0	15.4	0.8
15-30cm	2.1	0.0	1.0	0.0	1.0	0.0	4.2	0.0
30-50cm	1.0	0.0	1.0	0.0	0.5	0.0	2.6	0.0
50-90cm	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	7.8	0.8	7.3	0.0	7.3	0.0	7.5	0.3

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	49	40	46
Shrub cover	24	10	9
Grass/forb cover	41	50	57

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	39	78	78
High terrace	26	26	13
Low terrace	26	0	0
Floodplain	13	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	39	58	54

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 8/25/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 24 **REACH 24**

Summary of Riparian Zone (0-30m) **1 transects**

Total hardwoods/1000	427
Total conifers/1000 ft	1402
Total conifers >20" dbh/1000 ft	122
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	4.0	7.0	3.0	0.0	3.0	0.0	10.0	7.0
15-30cm	3.0	0.0	2.0	0.0	5.0	0.0	10.0	0.0
30-50cm	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
50-90cm	1.0	0.0	1.0	0.0	0.0	0.0	2.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	8.0	7.0	6.0	0.0	9.0	0.0	7.7	2.3

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	45	38	40
Shrub cover	10	5	5
Grass/forb cover	85	90	90

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	50	50	50
High terrace	0	0	0
Low terrace	50	50	50
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	55	55	25

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 8/26/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 25 **REACH 25**

Summary of Riparian Zone (0-30m) **1 transects**

Total hardwoods/1000	0
Total conifers/1000 ft	2316
Total conifers >20" dbh/1000 ft	183
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	0.0	1.0	0.0	23.0	0.0	24.0	0.0
15-30cm	0.0	0.0	2.0	0.0	4.0	0.0	6.0	0.0
30-50cm	2.0	0.0	1.0	0.0	2.0	0.0	5.0	0.0
50-90cm	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	5.0	0.0	4.0	0.0	29.0	0.0	12.7	0.0

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	65	60	75
Shrub cover	0	5	15
Grass/forb cover	45	40	50

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	0	0	0
High terrace	0	0	0
Low terrace	100	100	100
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	0	0	0

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 8/19/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 27 **REACH 27**

Summary of Riparian Zone (0-30m) **6 transects**

Total hardwoods/1000	0
Total conifers/1000 ft	1036
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	1.2	0.0	2.3	0.0	5.3	0.0	8.8	0.0
15-30cm	0.8	0.0	4.0	0.0	2.5	0.0	7.3	0.0
30-50cm	0.3	0.0	0.2	0.0	0.3	0.0	0.8	0.0
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	2.3	0.0	6.5	0.0	8.2	0.0	5.7	0.0

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	15	24	25
Shrub cover	12	5	6
Grass/forb cover	50	48	38

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	8	42	33
High terrace	0	8	8
Low terrace	83	42	42
Floodplain	0	0	0
Wetland/meadow	0	8	0
Stream channel	0	0	0
Roadbed/Railroad	8	8	8
Riprap	0	0	0
Surface slope (%)	4	13	12

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 9/10/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 28 **REACH 28**

Summary of Riparian Zone (0-30m) **1 transects**

Total hardwoods/1000	0
Total conifers/1000 ft	2865
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	7.0	0.0	12.0	0.0	16.0	0.0	35.0	0.0
15-30cm	4.0	0.0	2.0	0.0	3.0	0.0	9.0	0.0
30-50cm	0.0	0.0	1.0	0.0	2.0	0.0	3.0	0.0
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	11.0	0.0	15.0	0.0	21.0	0.0	15.7	0.0

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	40	45	60
Shrub cover	5	5	10
Grass/forb cover	30	25	50

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	0	0	0
High terrace	50	50	50
Low terrace	50	50	50
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	0	0	0

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY Report Date: 2/1/2016 Survey Date: 9/16/2015

RIPARIAN ZONE VEGETATION SUMMARY

REACH 29 **REACH 29**

Summary of Riparian Zone (0-30m) **2 transects**

Total hardwoods/1000	244
Total conifers/1000 ft	2225
Total conifers >20" dbh/1000 ft	91
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	7.5	1.0	15.0	0.0	1.5	1.0	24.0	2.0
15-30cm	1.5	2.0	6.5	0.0	1.0	0.0	9.0	2.0
30-50cm	1.0	0.0	1.0	0.0	0.0	0.0	2.0	0.0
50-90cm	0.0	0.0	1.0	0.0	0.5	0.0	1.5	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	10.0	3.0	23.5	0.0	3.0	1.0	12.2	1.3

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	43	82	43
Shrub cover	14	5	12
Grass/forb cover	49	50	55

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	50	100	50
High terrace	50	25	25
Low terrace	0	0	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	43	33	72

OREGON DEPARTMENT OF FISH AND WILDLIFE **GRANDE RONDE RIVER**

HABITAT INVENTORY - RIPARIAN SURVEY 6/17/2015

Summary of Riparian Zone (0-30m) for all reaches **59 transects**

Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream

Total hardwoods/1000	540
Total conifers/1000 ft	662
Total conifers >20" dbh/1000 ft	19
Total conifers >35" dbh/1000 ft	1

Average number of trees in a 5-m wide band

Diameter class (cm)	Zones 1-3 0-30 meters Conifer	Hardwood
3-15cm	5.9	8.3
15-30cm	3.3	0.4
30-50cm	1.4	0.1
50-90cm	0.3	0.1
>90cm	0.0	0.0

OREGON DEPARTMENT OF FISH AND WILDLIFE GRANDE RONDE RIVER

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 9/10/2015

RIPARIAN ZONE VEGETATION

Reach 1 Reach 1

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
20	LF	1	LT	0	0	20	30	**Conifer**						50% GRAVEL
								Hardwood						
20	LF	2	LT	0	25	40	10	**Conifer**						
								Hardwood	4					
20	LF	3	LT	0	30	50	10	**Conifer**						40% GRAVEL
								Hardwood	4	2				
20	RT	1	HS	45	40	0	20	**Conifer**	5	3				50% DUFF, 30% COBBLE
								Hardwood						
20	RT	2	HS	45	40	0	10	**Conifer**	7	1				90% DUFF, PINE
								Hardwood						
20	RT	3	HS	0	70	0	20	**Conifer**				1		RR TRACKS AT 50M
								Hardwood						
67	LF	1	HS	50	40	100	0	**Conifer**						
								Hardwood	7					
67	LF	2	HS	50	40	90	10	**Conifer**						
								Hardwood						
67	LF	3	HS	50	40	90	10	**Conifer**						
								Hardwood						
67	RT	1	LT	0	20	80	20	**Conifer**						
								Hardwood						
67	RT	2	HT	0	0	0	50	**Conifer**						I-84, 50% CEMENT
								Hardwood						
67	RT	3	HT	0	0	0	0	**Conifer**						100% CEMENT, I-84
								Hardwood						

OREGON DEPARTMENT OF FISH AND WILDLIFE GRANDE RONDE RIVER

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 9/21/2015

RIPARIAN ZONE VEGETATION

Reach 2 Reach 2

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
74	LF	1	HS	100	30	30	20	**Conifer**		2				50% BEDROCK, ESTIMATED COWS IN Z2 AND Z3
								Hardwood						
74	LF	2	HS	80	90	10	90	**Conifer**	5	3				
								Hardwood						
74	LF	3	HS	80	90	30	70	**Conifer**	4	2	1			
								Hardwood						
74	RT	1	LT	10	10	40	0	**Conifer**						20% OF ZONE IS HT, 60% 4M OF ZONE IS PRIVATE LAND WITH 305 BEDROCK, 40% OF
								Hardwood						
74	RT	2	HT	10	5	0	80	**Conifer**		2	1			
								Hardwood						
133	LF	1	LT	0	50	60	10	**Conifer**		1				
								Hardwood		1				
133	LF	2	HS	140	60	10	40	**Conifer**		4	1			
								Hardwood						
133	LF	3	RB	0				**Conifer**						CAN'T SEE ZONE 3
								Hardwood						
133	RT	1	HS	70	5	10	0	**Conifer**						90% RIP RAP ROCKS
								Hardwood	4					
133	RT	2	HS	60	0	0	0	**Conifer**						100% ROCKS AND DIRT
								Hardwood						
133	RT	2	RG	0	0	0	0	**Conifer**						100% ROCKS FROM GRAVEL
								Hardwood						
185	LF	1	HT	0	60	70	30	**Conifer**	1					30% OF ZONE IS LT
								Hardwood						
185	LF	2	HT	0	100	100	0	**Conifer**	2	0	3			Z2 AND Z3 ESTIMATED DUE TO MANY TREES, MOSTLY ST, 50% RIP RAP ROAD AND 50% 100% CONCRETE HWY84 HWY84
								Hardwood						
185	LF	3	HS	60	100	80	0	**Conifer**	5	5	3			
								Hardwood						
185	RT	1	RB	2	5	5	0	**Conifer**						
								Hardwood						
185	RT	2	RB	0	0	0	0	**Conifer**						
								Hardwood						
185	RT	3	RB	0	0	0	0	**Conifer**						
								Hardwood						
213	LF	1	HS	90	5	10	90	**Conifer**		1				THIS SIDE ESTIMATED
								Hardwood						
213	LF	2	HS	70	20	10	90	**Conifer**	1					
								Hardwood						

213	LF	3	HS	40	70	10	90	**Conifer**		1		
								Hardwood				
213	RT	1	HT	0	60	50	20	**Conifer**				30% ROCKS
								Hardwood				
213	RT	2	HT	0	70	80	10	**Conifer**				10% STICKS AND LEAVES
								Hardwood	4	1		
213	RT	3	HT	0	0	0	100	**Conifer**				
								Hardwood				

RIPARIAN ZONE VEGETATION

Reach 3 Reach 3

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
219	LF	1	LT	0	75	15	20	**Conifer**						75% COBBLE
								Hardwood	22	2				
219	LF	2	LT	0	75	0	50	**Conifer**						50% COBBLE, SILT
								Hardwood	6	1				
219	LF	3	LT	0	25	90	10	**Conifer**						
								Hardwood						
219	RT	1	LT	0	5	30	70	**Conifer**						
								Hardwood						
219	RT	2	HS	25	0	70	30	**Conifer**						
								Hardwood						
219	RT	3	RB	5	0	0	0	**Conifer**						100% PAVEMENT HWY84
								Hardwood						
275	LF	1	LT	0	20	100	0	**Conifer**						
								Hardwood	1					
275	LF	2	RB	0	15	0	15	**Conifer**						15% FILL, 75% DIRT
								Hardwood						
275	LF	3	HS	80	10	10	15	**Conifer**						
								Hardwood						
275	RT	1	LT	0	5	15	80	**Conifer**						HILGARD STATE PARK ON RIGHT, 30% CEMENT, HSP ON
								Hardwood						
275	RT	2	LT	0	0	1	70	**Conifer**						
								Hardwood						
275	RT	3	LT	0	0	0	2	**Conifer**						98% CEMENT, HSP ON
								Hardwood						
286	LF	1	LT	0	0	50	5	**Conifer**						45% GRAVEL AND COBBLE
								Hardwood						
286	LF	2	LT	0	0	40	5	**Conifer**						55% GRAVEL AND COBBLE
								Hardwood						
286	RT	1	HS	15	0	5	90	**Conifer**						5% COBBLE
								Hardwood						
286	RT	2	HS	45	0	0	80	**Conifer**						10% GRAVEL AND COBBLE,
								Hardwood						
286	RT	3	HS	45	0	5	80	**Conifer**						15% BEDROCK
								Hardwood						

RIPARIAN ZONE VEGETATION

Reach 6 Reach 6

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
306	LF	1	RB	0	0	0	15	**Conifer**						HWY244, 30% CEMENT, 55% GRAVEL
								Hardwood						
306	LF	2	RB	0	0	0	15	**Conifer**						HWY244, 30% CEMENT, 55% GRAVEL
								Hardwood						
306	LF	3	HS	55	0	20	30	**Conifer**						55% BEDROCK, COBBLE
								Hardwood						
306	RT	1	LT	0	0	20	80	**Conifer**						
								Hardwood						
306	RT	2	LT	0	40	20	80	**Conifer**						
								Hardwood		1	1			
306	RT	3	LT	0	30	30	70	**Conifer**						HS JUST BEYOND RIPARIAN,
								Hardwood						
323	LF	1	LT	0	45	40	60	**Conifer**						
								Hardwood						
323	LF	2	HT	0	60	15	85	**Conifer**			1			
								Hardwood	2			1		
323	LF	3	HT	0	10	0	75	**Conifer**						25% SAND AND HUMAN CUT
								Hardwood						
323	RT	1	LT	0	40	70	30	**Conifer**						
								Hardwood						
323	RT	2	LT	0	95	100	0	**Conifer**						
								Hardwood	1					
323	RT	3	LT	0	40	40	60	**Conifer**						HS JUST BEYOND
								Hardwood						
344	LF	1	RB	0	0	5	5	**Conifer**						90% CEMENT, HWY244
								Hardwood						
344	LF	2	RB	0	0	0	0	**Conifer**						HWY244, 100% CEMENT
								Hardwood						
344	LF	3	RB	0	0	0	5	**Conifer**						HWY244, 95% CEMENT AND GRAVEL
								Hardwood						
344	RT	1	LT	0	30	20	80	**Conifer**						
								Hardwood			1			
344	RT	2	LT	0	0	5	95	**Conifer**						
								Hardwood						
344	RT	3	LT	0	0	50	30	**Conifer**						20% DUFF
								Hardwood						

OREGON DEPARTMENT OF FISH AND WILDLIFE GRANDE RONDE RIVER

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/19/2015

RIPARIAN ZONE VEGETATION

Reach 7 Reach 7

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
421	LF	1	LT	0	0	10	90	**Conifer**						
								Hardwood						
421	LF	2	LT	0	5	20	80	**Conifer**						
								Hardwood						
421	LF	3	LT	0	0	0	100	**Conifer**						
								Hardwood						
421	RT	1	LT	0	5	10	90	**Conifer**						
								Hardwood						
421	RT	2	LT	0	10	20	80	**Conifer**		1				
								Hardwood						
421	RT	3	HS	30	5	20	80	**Conifer**						
								Hardwood						
482	LF	1	LT	0	0	0	20	**Conifer**						80% GRAVEL
								Hardwood						
482	LF	2	LT	0	10	30	5	**Conifer**						65% GRAVEL
								Hardwood						
482	LF	3	LT	0	10	20	80	**Conifer**						LANDOWNER FENCE AT 30M
								Hardwood	5					
482	RT	1	LT	0	10	10	80	**Conifer**						20% DUFF
								Hardwood				1		
482	RT	2	LT	0	0	0	80	**Conifer**						20% DUFF, PILE OF WOODY
								Hardwood						
482	RT	3	HS	35	0	5	55	**Conifer**						40% BOULDER
								Hardwood						
507	LF	1	LT	0	5	30	50	**Conifer**						20% DUFF, BRANCHES
								Hardwood						
507	LF	2	LT	0	10	20	20	**Conifer**	1		1			20% DUFF, 40% GRAVEL
								Hardwood						
507	LF	3	LT	0	0	20	50	**Conifer**						30% GRAVEL
								Hardwood	2					
507	RT	1	LT	0	25	20	80	**Conifer**						
								Hardwood	8					
507	RT	2	LT	0	5	0	100	**Conifer**						
								Hardwood						
507	RT	3	LT	0	0	0	100	**Conifer**						HS JUST BEYOND 30M
								Hardwood						

OREGON DEPARTMENT OF FISH AND WILDLIFE GRANDE RONDE RIVER

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/27/2015

RIPARIAN ZONE VEGETATION

Reach 8 Reach 8

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
533	LF	3	HS	45	30	80	10	**Conifer**		3				
								Hardwood						
533	RT	1	LT	0	0	80	20	**Conifer**						
								Hardwood						
533	RT	2	LT	0	0	70	30	**Conifer**						
								Hardwood						
533	RT	3	RB	0	0	0	0	**Conifer**						HWY244, HS 10M BEYOND RIP, 100%
								Hardwood						

RIPARIAN ZONE VEGETATION

Reach 9 Reach 9

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
547	LF	1	HS	50	15	80	5	**Conifer**						15% BARE SLOPE
								Hardwood						
547	LF	2	HS	50	30	70	5	**Conifer**			1			25% BARE SLOPE
								Hardwood						
547	LF	3	HS	50	70	70	5	**Conifer**			1			25% BARE SLOPE
								Hardwood	5					
547	RT	1	LT	0	5	20	80	**Conifer**						GABION AT 10M, RED BRIDGE
								Hardwood						
547	RT	2	LT	0	50	0	15	**Conifer**					1	RBSP
								Hardwood						
547	RT	3	LT	0	70	50	30	**Conifer**						20% DUFF, RBSP
								Hardwood				1		

RIPARIAN ZONE VEGETATION

Reach 11 Reach 11

					Cover (percent)				Diameter class (cm)					
Unit	**Side**	**Zone**	**Surface**	**Slope**	**Canopy**	**Shrub**	**Grass**		**3-15**	**15-30**	**30-50**	**50-90**	**>90**	**Notes**
553	LF	1	HS	85	10	20	5	**Conifer**						75% BEDROCK AND MOSS, 10% DUFF
								Hardwood						
553	LF	2	HS	25	40	80	10	**Conifer**	3	2				
								Hardwood						

OREGON DEPARTMENT OF FISH AND WILDLIFE GRANDE RONDE RIVER

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/31/2015

RIPARIAN ZONE VEGETATION

Reach 12 Reach 12

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
594	LF	1	LT	0	0	5	95	**Conifer**						
								Hardwood						
594	LF	2	LT	0	0	10	90	**Conifer**						2 CONIFER SEEDLINGS
								Hardwood						
594	LF	3	LT	0	0	10	90	**Conifer**						
								Hardwood						
594	RT	1	LT	0	0	5	95	**Conifer**						
								Hardwood						
594	RT	2	LT	0	0	5	95	**Conifer**						2 STUMPS
								Hardwood						
594	RT	3	LT	0	0	5	95	**Conifer**						HWY244 AND HS AT 115M
								Hardwood						
631	LF	1	LT	0	10	25	75	**Conifer**						
								Hardwood						
631	LF	2	LT	0	45	60	40	**Conifer**						
								Hardwood						
631	LF	3	HT	0	10	10	90	**Conifer**						DREDGE SPOIL
								Hardwood						
631	RT	1	LT	0	5	10	90	**Conifer**						
								Hardwood						
631	RT	2	LT	0	0	0	100	**Conifer**						
								Hardwood						
631	RT	3	LT	0	0	0	100	**Conifer**						
								Hardwood						

RIPARIAN ZONE VEGETATION

Reach 14 Reach 14

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
659	LF	1	LT	0	100	0	0	**Conifer**			1			11T 0390933, 5010988, PONDEROSA ALDER
								Hardwood	32					
659	LF	2	LT	0	100	0	0	**Conifer**						
								Hardwood	46					
659	LF	3	LT	0	100	0	0	**Conifer**						ALDER
								Hardwood	17					
659	RT	1	LT	0	5	5	90	**Conifer**						HAWTHORN
								Hardwood	6					
659	RT	2	LT	0	0	5	95	**Conifer**						HAWTHORN
								Hardwood						
659	RT	3	LT	0	0	5	95	**Conifer**						HAWTHORN
								Hardwood						

RIPARIAN ZONE VEGETATION

Reach 15 Reach 15

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
677	LF	1	LT	0	0	0	100	**Conifer**						
								Hardwood	4					
677	LF	2	LT	0	0	0	100	**Conifer**						
								Hardwood						
677	LF	3	LT	0	0	0	100	**Conifer**						120M TO GRANDE RONDE ROAD
								Hardwood						
677	RT	1	LT	0	25	20	80	**Conifer**						HILLSLOPE AT 6M
								Hardwood	5					
677	RT	2	HS	45	0	10	90	**Conifer**						20% BEDROCK
								Hardwood						
677	RT	3	HS	45	15	10	90	**Conifer**				1		20% BEDROCK
								Hardwood						

RIPARIAN ZONE VEGETATION

Reach 16 Reach 16

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
743	LF	1	HT	0	40	5	95	**Conifer**						
								Hardwood				1		
743	LF	2	HT	0	50	5	95	**Conifer**						
								Hardwood				1		
743	LF	3	HT	0	30	50	50	**Conifer**						HS @ 90M
								Hardwood						
743	RT	1	HS	70	5	0	50	**Conifer**						50% BEDROCK AND SOIL
								Hardwood						
743	RT	2	HS	45	5	30	70	**Conifer**			1			FENCE AT 15M
								Hardwood						
743	RT	3	HS	25	70	30	70	**Conifer**		3	2			
								Hardwood						

RIPARIAN ZONE VEGETATION

Reach 18 Reach 18

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
791	LF	1	LT	0	0	10	15	**Conifer**						75% GRAVEL AND COBBLE
								Hardwood						
791	LF	2	LT	0	80	40	20	**Conifer**						40% LEAVES AND SOIL, THICK ALDER
								Hardwood	22					
791	LF	3	LT	0	10	0	80	**Conifer**						20% GRAVEL AND COBBLE, GR
								Hardwood						
791	RT	1	LT	0	50	70	30	**Conifer**						
								Hardwood	5					
791	RT	2	HS	45	5	10	90	**Conifer**						HS AT 12M
								Hardwood						
791	RT	3	HS	45	0	10	90	**Conifer**						
								Hardwood						

RIPARIAN ZONE VEGETATION

Reach 19 Reach 19

Unit	Side	Zone	Surface	Slope	Cover (percent) Canopy	Shrub	Grass		Diameter class (cm) 3-15	15-30	30-50	50-90	>90	Notes
806	LF	1	LT	0	100	20	80	**Conifer**						
								Hardwood	11	1				
806	LF	2	LT	0	90	30	70	**Conifer**						
								Hardwood	17	1				
806	LF	3	LT	0	5	100	0	**Conifer**						
								Hardwood						
806	RT	1	LT	0	80	40	60	**Conifer**						
								Hardwood	4					
806	RT	2	LT	0	95	10	5	**Conifer**						85% DOWNED WOOD, DUFF
								Hardwood	8					
806	RT	3	RB	0	90	60	40	**Conifer**						RB TRANSITIONS INTO HS
								Hardwood	7	6				
831	LF	1	LT	0	70	30	70	**Conifer**						
								Hardwood	6					
831	LF	2	LT	0	10	30	70	**Conifer**						
								Hardwood	3					
831	LF	3	LT	0	40	60	40	**Conifer**						
								Hardwood	1					
831	RT	1	FP	0	20	20	80	**Conifer**						11T 0390395, 5006763 NAD83
								Hardwood						
831	RT	2	HS	58	30	30	70	**Conifer**						
								Hardwood	1					
831	RT	3	HS	58	50	10	90	**Conifer**						
								Hardwood						
863	LF	1	LT	0	95	40	60	**Conifer**						11T 0390433, 5006194 NAD83
								Hardwood	11					
863	LF	2	LT	0	90	95	5	**Conifer**						
								Hardwood	2					
863	LF	3	HT	0	0	10	1	**Conifer**						CAMPGROUND, 90% PAVEMENT STEEP SLOPE - ESTIMATION
								Hardwood						
863	RT	1	HS	110	10	5	60	**Conifer**						
								Hardwood						
863	RT	2	HS	90	0	30	60	**Conifer**						
								Hardwood						
863	RT	3	HS	90	5	35	55	**Conifer**	1					
								Hardwood						
905	LF	1	LT	0	30	40	60	**Conifer**						11T 0390337, 5005767 NAD83
								Hardwood	10					

905	LF	2	LT	0	80	90	10	**Conifer**			
								Hardwood	13		
905	LF	3	LT	0	80	95	5	**Conifer**			
								Hardwood	7		
905	RT	1	HS	65	0	30	40	**Conifer**			
								Hardwood			
905	RT	2	HS	60	5	5	40	**Conifer**		1	
								Hardwood			
905	RT	3	HS	70	2	0	50	**Conifer**			
								Hardwood			
942	LF	1	LT	7	95	40	20	**Conifer**			40% ROCK
								Hardwood	16		
942	LF	2	RB	0	0	5	0	**Conifer**			95% PAVEMENT
								Hardwood			
942	LF	3	RB	0	0	5	0	**Conifer**			95% PAVEMENT
								Hardwood			
942	RT	1	LT	0	70	30	60	**Conifer**			METRIC AND RIP CONDUCTED
								Hardwood	4		
942	RT	2	HT	9	60	20	60	**Conifer**			
								Hardwood	1		
942	RT	3	HT	10	10	0	90	**Conifer**			
								Hardwood			

RIPARIAN ZONE VEGETATION

Reach 20 Reach 20

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
967	LF	1	HS	58	70	0	5	**Conifer**		1	2			90% ROCK RIP RAP
								Hardwood	11					
967	LF	2	RB	0	0	0	0	**Conifer**						100% ROADBED
								Hardwood						
967	LF	3	HS	58	0	100	0	**Conifer**						
								Hardwood						
967	RT	1	LT	0	40	30	70	**Conifer**				1		
								Hardwood	1					
967	RT	2	HS	60	30	50	50	**Conifer**		1				
								Hardwood						
967	RT	3	HS	62	0	40	60	**Conifer**						
								Hardwood						
1024	LF	1	HS	45	30	20	25	**Conifer**			2			55% RIP RAP
								Hardwood	4					
1024	LF	2	HS	45	50	20	10	**Conifer**			3			70% RIP RAP
								Hardwood						
1024	LF	3	RB	0	5	0	60	**Conifer**	3					40% GRAVEL
								Hardwood						
1024	RT	1	HS	72	5	10	50	**Conifer**						60% ROCK
								Hardwood						
1024	RT	2	HS	72	30	0	50	**Conifer**	2					50% ROCK AND DEBRIS
								Hardwood						
1024	RT	3	HS	72	0	10	30	**Conifer**						60% ROCK
								Hardwood						
1094	LF	1	HS	60	0	0	20	**Conifer**						80% RIP RAP
								Hardwood						
1094	LF	2	RB	0	0	0	0	**Conifer**						100% ROADBED
								Hardwood						
1094	LF	3	HS	60	5	0	50	**Conifer**						50% DIRT
								Hardwood						
1094	RT	1	HS	30	10	20	40	**Conifer**				1		40% DEAD WOOD
								Hardwood						
1094	RT	2	HS	30	5	20	10	**Conifer**		1	3			70% RESTORATIO N LOGS,
								Hardwood						
1094	RT	3	HT	0	90	0	40	**Conifer**			5			60% RESTORATIO N LOGS,
								Hardwood						
1151	LF	1	HS	15	100	80	5	**Conifer**						
								Hardwood	2	4				

1151	LF	2	RB	0	10	20	30	**Conifer**			1			50% ROADBED
								Hardwood						
1151	LF	3	HS	100	0	0	0	**Conifer**						90% ROADBED/ROCK
								Hardwood						
1151	RT	1	HS	80	30	10	30	**Conifer**						40% DIRT AND ROCKS
								Hardwood	2					
1151	RT	2	HT	27	20	10	80	**Conifer**			3	1		
								Hardwood						
1151	RT	3	HT	27	10	0	80	**Conifer**			1			
								Hardwood						
1201	LF	1	LT	0	0	40	60	**Conifer**						
								Hardwood						
1201	LF	2	LT	0	80	100	0	**Conifer**						
								Hardwood						
1201	LF	3	RB	0	0	10	5	**Conifer**						
								Hardwood						
1201	RT	1	LT	0	40	50	50	**Conifer**	1	2				
								Hardwood	12					
1201	RT	2	LT	0	30	60	40	**Conifer**		2	1			
								Hardwood						
1201	RT	3	LT	0	50	10	70	**Conifer**		3		1		
								Hardwood						
1237	LF	1	LT	1	80	40	40	**Conifer**				1		
								Hardwood	2					
1237	LF	2	LT	1	40	20	70	**Conifer**						
								Hardwood		1				
1237	LF	3	LT	3	70	0	90	**Conifer**						
								Hardwood	6	1				
1237	RT	1	HS	90	10	30	10	**Conifer**	1	1				
								Hardwood	1					
1237	RT	2	HS	80	30	10	50	**Conifer**	4	2				40% DUFF
								Hardwood						
1237	RT	3	HS	40	40	0	70	**Conifer**	2	1				30% DUFF
								Hardwood						
1296	LF	1	LT	0	0	0	100	**Conifer**						
								Hardwood	5					
1296	LF	2	LT	0	90	90	10	**Conifer**						
								Hardwood	9					
1296	LF	3	HS	45	40	40	0	**Conifer**						60% CONCRETE ROADBED
								Hardwood						
1296	RT	1	LT	0	30	30	70	**Conifer**						
								Hardwood						
1296	RT	2	LT	0	50	30	70	**Conifer**	1					
								Hardwood	9					
1296	RT	3	HS	43	80	5	30	**Conifer**			4			65% MOSS AND DOWNED
								Hardwood	4					

RIPARIAN ZONE VEGETATION

Reach 21 Reach 21

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
1367	LF	1	LT	0	5	10	90	**Conifer**						
								Hardwood	23					
1367	LF	2	LT	0	10	10	90	**Conifer**						
								Hardwood	2					
1367	LF	3	LT	0	40	5	95	**Conifer**	2					
								Hardwood	4					
1367	RT	1	RB	0	0	0	0	**Conifer**						50% RIP RAP, 50% ROADBED
								Hardwood						
1367	RT	2	HS	67	20	0	50	**Conifer**		2	1			50% ROCKS
								Hardwood						
1367	RT	3	HS	67	0	0	50	**Conifer**						50% ROCKS
								Hardwood						
1397	LF	1	LT	0	40	15	85	**Conifer**						
								Hardwood	8					
1397	LF	2	LT	0	0	5	95	**Conifer**						
								Hardwood						
1397	LF	3	LT	0	0	0	100	**Conifer**						
								Hardwood						
1397	RT	1	HS	150	10	10	10	**Conifer**						80% BEDROCK AND SOIL
								Hardwood						
1397	RT	2	HS	150	20	20	30	**Conifer**		3				50% BEDORCK AND SOIL
								Hardwood						
1397	RT	3	HS	45	20	5	60	**Conifer**						ESTIMATED ZONE 3, 35% DUFF, STICKS
								Hardwood						
1411	LF	1	LT	0	40	5	40	**Conifer**	2	1				55% RIP RAP, 50% HILLSLOPE
								Hardwood						
1411	LF	2	RB	0	0	0	10	**Conifer**						80% CONCRETE RB, 10%
								Hardwood						
1411	LF	3	HS	-10	60	70	30	**Conifer**	3	2				50% ROADBED, 50%
								Hardwood						
1419	LF	1	HS	35	0	0	20	**Conifer**						80% RIPRAP
								Hardwood						
1419	LF	2	RB	0	0	0	5	**Conifer**						90% CONCRETE ROAD, 10%
								Hardwood						
1419	LF	3	HS	20	0	0	50	**Conifer**						50% RIP RAP
								Hardwood						
1419	RT	1	LT	0	10	95	5	**Conifer**						
								Hardwood	1					

1419	RT	2	LT	0	5	0	100	**Conifer**	1				
								Hardwood					
1419	RT	3	LT	0	20	0	100	**Conifer**		3	1		
								Hardwood					
1434	LF	1	HS	30	0	5	40	**Conifer**					60% RIP RAP, 5% CONCRETE
								Hardwood					
1434	LF	2	RB	0	0	0	0	**Conifer**					100% CONCRETE ROAD
								Hardwood					
1434	LF	3	HS	25	0	0	80	**Conifer**					20% ROAD, ZONE IS ALSO 20%
								Hardwood					
1434	RT	1	LT	0	60	5	90	**Conifer**			1		5% DEAD LOGS, BRANCHES
								Hardwood	1				
1434	RT	2	HS	90	80	5	95	**Conifer**	4	2	0	1	ZONE IS ALSO 50% LOW
								Hardwood					
1434	RT	3	HS	90	70	40	50	**Conifer**		2			10% DEAD BRANCHES
								Hardwood					
1443	LF	1	LT	0	10	10	70	**Conifer**					20% LWD FROM HS
								Hardwood	2				
1443	LF	2	LT	0	5	5	95	**Conifer**					
								Hardwood	7				
1443	LF	3	LT	0	0	0	70	**Conifer**					30% HILLSLOPE RIP RAP
								Hardwood					
1443	RT	1	HS	80	15	10	90	**Conifer**	1				
								Hardwood	2				
1443	RT	2	HS	80	10	0	90	**Conifer**	1	1	1		10% DEAD LOGS AND STICKS
								Hardwood					
1443	RT	3	HS	40	5	0	90	**Conifer**		1			10% DEAD LOGS AND STICKS
								Hardwood					
1460	LF	1	HS	40	40	60	10	**Conifer**	4				30% RIP RAP
								Hardwood					
1460	LF	2	RB	0	0	0	0	**Conifer**					80% CONCRETE ROAD, 20%
								Hardwood					
1460	LF	3	HS	90	5	0	10	**Conifer**	4				90% BEDROCK
								Hardwood					
1460	RT	1	HS	25	30	10	80	**Conifer**	1				10% DEAD LOGS AND STICKS
								Hardwood	1				
1460	RT	2	HS	25	80	10	80	**Conifer**	10	1	1		10% DEAD LOGS AND STICKS
								Hardwood					
1460	RT	3	HS	45	20	10	80	**Conifer**	4	1			10% DEAD LOGS AND STICKS
								Hardwood					
1470	LF	1	LT	0	5	20	80	**Conifer**					
								Hardwood					
1470	LF	2	LT	0	5	10	90	**Conifer**					
								Hardwood					
1470	LF	3	HS	15	0	0	100	**Conifer**					
								Hardwood					

1470	RT	1	HS	60	10	0	90	**Conifer**	2			
								Hardwood				
1470	RT	2	HS	35	70	0	80	**Conifer**	3	1		20% LOGS AND STICKS
								Hardwood				
1470	RT	3	RB	0	40	5	40	**Conifer**	7			55% RAODBED, 50% OF
								Hardwood				
1478	LF	1	HS	20	20	0	90	**Conifer**	1			10% DEAD PINE NEEDLES
								Hardwood	2			
1478	LF	2	HS	45	90	20	40	**Conifer**	3	1	3	40% RIP RAP
								Hardwood				
1478	LF	3	RB	0	0	0	5	**Conifer**	1			80% CONCRETE ROAD, 15%
								Hardwood				
1478	RT	1	HS	25	90	15	80	**Conifer**		4	1	5% DEAD LOGS, STICKS, DUFF
								Hardwood				
1478	RT	2	HS	25	90	5	80	**Conifer**	4	2	1	15% DEAD LOGS, STICKS, DUFF
								Hardwood				
1478	RT	3	HS	30	95	5	80	**Conifer**	2	9	2	15% DEAD LOGS, STICKS, DUFF
								Hardwood				
1491	LF	1	HS	30	70	20	70	**Conifer**		1		
								Hardwood	10			
1491	LF	2	HS	60	15	10	80	**Conifer**	1			10% DIRT ROAD OVERGROWN
								Hardwood				
1491	LF	3	HS	60	5	0	100	**Conifer**		2		
								Hardwood				
1491	RT	1	RB	0	50	20	0	**Conifer**	1			80% RIP RAP, 50% OF
								Hardwood	11			ZONE IS
1491	RT	2	HS	90	10	0	20	**Conifer**	5	1		60% CONRETE,
								Hardwood				20% DIRT,
1491	RT	3	HS	30	80	0	70	**Conifer**	2	2		30% STICKS AND
								Hardwood				NEEDLES

RIPARIAN ZONE VEGETATION

Reach 23 Reach 23

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
1493	LF	1	LT	25	60	30	50	**Conifer**	1	1	1			20% NEEDLES, 20% OF
								Hardwood						
1493	LF	2	HT	0	70	0	10	**Conifer**		1	2			ZONE 2 IS 6M WIDE AS PRIVATE
								Hardwood						
1493	RT	1	LT	0	80	10	40	**Conifer**	1	1	1			50% DEAD LOGS, NEEDLES
								Hardwood						
1493	RT	2	HT	0	70	10	40	**Conifer**	1	1	2			50% DEAD LOGS, NEEDLES
								Hardwood						
1493	RT	3	HT	0	60	10	6	**Conifer**	3		1			30% NEEDLES, LOGS
								Hardwood						
1544	LF	1	HT	0	5	0	90	**Conifer**		1				10% NEEDLES, LOGS
								Hardwood						
1544	LF	2	HS	45	10	0	100	**Conifer**		1				10% NEEDLES AND LOGS
								Hardwood						
1544	LF	3	HS	45	30	5	95	**Conifer**	5					
								Hardwood						
1544	RT	1	HS	70	60	10	20	**Conifer**			1			
								Hardwood	1					
1544	RT	2	HS	85	70	10	50	**Conifer**	3					40% DUSTY SOIL, NEEDLES,
								Hardwood						
1544	RT	3	HS	50	90	10	30	**Conifer**	1	1	1			60% DUFF AND STICKS
								Hardwood						
1559	LF	1	FP	0	15	10	80	**Conifer**	1	2				10% DEAD LOGS
								Hardwood						
1559	LF	2	HS	60	10	0	80	**Conifer**	5					20% DUFF, SOIL
								Hardwood						
1559	LF	3	HS	60	50	5	95	**Conifer**	2	3				
								Hardwood						
1559	RT	1	HS	110	70	30	20	**Conifer**	2	2				40% LOGS, 10% ROCK
								Hardwood						
1559	RT	2	HS	110	40	40	30	**Conifer**	10					20% ROCKS, 10% LOGS
								Hardwood						
1559	RT	3	HS	35	50	20	70	**Conifer**	10					10% LOGS
								Hardwood						
1577	LF	1	HT	0	90	50	20	**Conifer**	12		1	1		30% DEAD NEEDLES
								Hardwood	2					
1577	LF	2	HS	50	30	0	70	**Conifer**						30% DEAD LOGS
								Hardwood						

1577	LF	3	HS	80	30	10	70	**Conifer**	1			20% DEAD LOGS
								Hardwood				
1577	RT	1	HS	110	10	50	10	**Conifer**		1		30% DEAD TREES, 10% ROCKS
								Hardwood				
1577	RT	2	HS	110	20	20	20	**Conifer**	1	1		30% DEAD TREES, 10% ROCKS
								Hardwood				
1577	RT	3	HS	110	10	0	30	**Conifer**				60% DEAD TREES AND STICKS, 10%
								Hardwood				

OREGON DEPARTMENT OF FISH AND WILDLIFE GRANDE RONDE RIVER

HABITAT INVENTORY Report Date: 1/28/2016 Survey Date: 8/25/2015

RIPARIAN ZONE VEGETATION

Reach 24 Reach 24

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
1586	LF	1	LT	0	30	10	90	**Conifer**	4	1				
								Hardwood	7					
1586	LF	2	LT	0	5	0	100	**Conifer**						
								Hardwood						
1586	LF	3	LT	0	10	0	100	**Conifer**		1	1			
								Hardwood						
1586	RT	1	HS	110	60	10	80	**Conifer**		2		1		10% DEAD STICKS, LOGS
								Hardwood						
1586	RT	2	HS	110	70	10	80	**Conifer**	3	2		1		10% DEAD STICKS, LOGS
								Hardwood						
1586	RT	3	HS	50	70	10	80	**Conifer**	3	4				ESTIMATED DUE TO STEEPNESS
								Hardwood						

RIPARIAN ZONE VEGETATION

Reach 25 Reach 25

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
1681	LF	1	LT	0	60	0	30	**Conifer**			1			MINE TAILINGS, 20% ROCKS,
								Hardwood						
1681	LF	2	LT	0	80	0	40	**Conifer**		2	1			MINE TAILINGS, 20% LOGS,
								Hardwood						
1681	LF	3	LT	0	90	20	20	**Conifer**	19	4	1			MINE TAILINGS, 20%
								Hardwood						
1681	RT	1	LT	0	70	0	60	**Conifer**			1	3		ROCKS FROM MAIL TAILINGS
								Hardwood						
1681	RT	2	LT	0	40	10	40	**Conifer**	1					50% LOGS
								Hardwood						
1681	RT	3	LT	0	60	10	80	**Conifer**	4		1			10% LOGS
								Hardwood						

RIPARIAN ZONE VEGETATION

Reach 27 Reach 27

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
1885	LF	1	RB	0	0	0	10	**Conifer**						60% GRAVLE, 20% RIP RAP
								Hardwood						
1885	LF	2	WL	0	50	0	80	**Conifer**	1	4				LOW SPOT FROM MINING
								Hardwood						
1885	LF	2	HS	45	20	0	90	**Conifer**	2	4				10% LOGS
								Hardwood						
1885	RT	1	LT	0	0	0	80	**Conifer**						MINE TAILINGS THROUGHOU
								Hardwood						
1885	RT	2	LT	0	5	0	80	**Conifer**						20% ROCKS AND LOGS
								Hardwood						
1885	RT	3	LT	0	5	0	60	**Conifer**	1					40% ROCKS, DIRT, STICKS
								Hardwood						
1923	LF	1	LT	0	5	0	80	**Conifer**		1				20% DIRT
								Hardwood						
1923	LF	2	LT	0	5	0	20	**Conifer**		1				MINE TAILING ROCKS ZONE 1 AND 2
								Hardwood						
1923	LF	3	LT	0	10	0	30	**Conifer**	1	1	2			40% ROCKS, STICKS, DUFF
								Hardwood						
1923	RT	1	LT	0	10	0	100	**Conifer**	2	1				
								Hardwood						
1923	RT	2	LT	0	10	1	80	**Conifer**		2				10% DIRT
								Hardwood						
1923	RT	3	LT	0	5	0	100	**Conifer**	2					
								Hardwood						
1956	LF	1	LT	0	5	5	20	**Conifer**	1		1			ROCKS FROM MINE TAILINGS,
								Hardwood						
1956	LF	2	LT	0	25	5	95	**Conifer**	3	1				
								Hardwood						
1956	LF	3	RB	0	0	0	5	**Conifer**						GRAVEL ROAD WITH MIINE
								Hardwood						
1956	RT	1	LT	0	5	5	100	**Conifer**						
								Hardwood						
1956	RT	2	HS	50	40	0	95	**Conifer**		3	1			30% OF ZONE IS LOW TERRACE
								Hardwood						
1956	RT	3	HS	45	75	0	100	**Conifer**	9	4				
								Hardwood						
1976	LF	1	LT	0	0	0	40	**Conifer**						20% OF ZONE IS MINE TAILING
								Hardwood						

1976	LF	2	RB	0	0	0	0	**Conifer**				100% GRAVEL ROAD,
								Hardwood				
1976	LF	3	LT	0	0	5	0	**Conifer**	1			ROCKS FROM MINE TAILINGS,
								Hardwood				
1976	RT	1	LT	0	80	80	20	**Conifer**				20% IS HILLSLOPE
								Hardwood				
1976	RT	2	HS	25	50	20	50	**Conifer**		3		20% STICKS AND LOGS,
								Hardwood				
1976	RT	3	HS	50	10	10	10	**Conifer**	1	1		5% ROCKS FROM TAILINGS,
								Hardwood				
2018	LF	1	LT	0	0	0	5	**Conifer**				ROCKS FROM MINE TAILINGS ALL
								Hardwood				
2018	LF	2	HT	0	0	0	0	**Conifer**				100% ROCKS
								Hardwood				
2018	LF	3	HT	0	50	10	10	**Conifer**		4		30% OF ZONE IS HILLSLOPE,
								Hardwood				
2018	RT	1	HS	50	30	20	10	**Conifer**	3	1		60% ROCKS FROM MINE TAILINGS
								Hardwood				
2018	RT	2	HS	10	40	20	20	**Conifer**	4	3		LOTS OF BV CHEWED STUMPS IN
								Hardwood				
2018	RT	3	HS	10	40	20	40	**Conifer**	8	3		40% ROCKS, STICKS, NEEDLES
								Hardwood				
2022	LF	1	LT	0	15	15	80	**Conifer**				ENTIRE ZONE HAS ROCKS
								Hardwood				
2022	LF	2	LT	0	0	5	10	**Conifer**				85% ROCKS
								Hardwood				
2022	LF	3	LT	0	25	10	50	**Conifer**	1			40% ROCKS
								Hardwood				
2022	RT	1	LT	0	30	20	60	**Conifer**	1	2	1	20% NEEDLES AND STICKS
								Hardwood				
2022	RT	2	HS	45	70	10	10	**Conifer**	4	3		80% ROCKS, STICKS, DUFF
								Hardwood				
2022	RT	3	HS	30	60	10	10	**Conifer**	8	2		20% LOGS, STICKS, 30% ROCKS, 30%
								Hardwood				

RIPARIAN ZONE VEGETATION

Reach 28 Reach 28

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
2069	LF	1	LT	0	0	0	20	**Conifer**						ROCKS FROM MINE TAILNGS
								Hardwood						
2069	LF	2	LT	0	0	0	30	**Conifer**						70% ROCKS
								Hardwood						
2069	LF	3	LT	0	30	10	80	**Conifer**	2	2	2			10% ROCKS
								Hardwood						
2069	RT	1	HT	0	80	10	40	**Conifer**	7	4				50% NEEDLES, STICKS, LOGS
								Hardwood						
2069	RT	2	HT	0	90	10	20	**Conifer**	12	2	1			70% NEEDLES, STICKS, LOGS
								Hardwood						
2069	RT	3	HT	0	90	10	20	**Conifer**	14	1				70% NEEDLES, STICKS, LOGS
								Hardwood						

RIPARIAN ZONE VEGETATION

Reach 29 Reach 29

					Cover (percent)				Diameter class (cm)					
Unit	Side	Zone	Surface	Slope	Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	Notes
2116	LF	1	HT	30	40	5	75	**Conifer**	5	3				20% NEEDLES
								Hardwood						
2116	LF	2	HT	20	70	5	55	**Conifer**	4	2	1	1		40% NEEDLES, STICK, LOG
								Hardwood						
2116	LF	3	HT	0	30	5	85	**Conifer**						10% NEEDLES, STICKS
								Hardwood	2					
2116	RT	1	HT	0	60	20	60	**Conifer**	10					20% NEEDLES, 50% OF
								Hardwood						
2116	RT	2	HS	30	100	10	60	**Conifer**	9	2				30% NEEDLES
								Hardwood						
2116	RT	2	HS	15	90	5	65	**Conifer**	11	3	1			30% NEEDLES
								Hardwood						
2156	LF	1	HS	50	30	20	50	**Conifer**			2			30% LOGS, STICKS
								Hardwood						
2156	LF	2	HS	40	80	0	60	**Conifer**	5	3	0	1		40% LOGS AND STICKS
								Hardwood						
2156	LF	3	HS	65	50	30	60	**Conifer**	3			1		10% LOGS
								Hardwood						
2156	RT	1	HS	90	40	10	10	**Conifer**						40% ROCKS, 40% STICKS AND LOGS
								Hardwood	2	4				
2156	RT	2	HS	60	70		10	**Conifer**	1	3				80% ROCKS, 10% LOGS
								Hardwood						
2156	RT	3	HS	150	50	0	20	**Conifer**		2				80% BEDROCK AND
								Hardwood						

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
1	1	RI	00	69		T=12C/0830; 83-412705/5021628	START AT IRRIGATION OUTLET
1	2	GL	00	115		27-412785/5021426	
1	3	LP	00	145		LINE OF BOULDERS CROSSING POOL HEAD	
1	4	LP	00	170		IRRIGATION DIVERSION, LINE OF BOULDERS CROSSING LP HEAD	
1	5	DP	02				BORDERED BY BLDRS-THREE SIDES
1	7	DP	01	227		BOULDER DAM CREATED BY SWIMMERS, COBBLE DAM	
1	8	DP	01	288			COBBLE DAM
1	9	GL	00	333		BC-HWY 30; NAD 83-0412399/5021526	
1	10	LP	00	461	CS/	RR TRACKS/; BEGIN STEEP CANYON	
1	12	RI	00	628		NAD 27-412229/5021477	
1	13	LP	00	686		T=13.5C; NAD 83-412149/5021679	
1	14	RI	00	709		T=13C/0845	
1	16	LP	00	782		UTM 11T 412148/5021727	
1	17	RI	00	800		BEDROCK CHANNEL	
1	18	LP	00	828	BC	UNDER BC-HWY; 11T 412150/5021814	HWY 84
1	19	RI	00	911		BEDROCK CHANNEL; T=13C/0915	
1	20	LP	01	931		BEDROCK CHANNEL; 11T 412145/5021900	
1	24	LP	02		AM	TRANSPORTATION CORRIDOR	FROG, ALGAE
1	29	SR	01	944		H=0.25M	
1	30	LP	01	969		UTM-412153/5021914	
1	32	LP	00	1286		UTM-412128/5022059	
1	34	LP	00	1378		RAILROAD ABOVE; UTM-411919/5022061	
1	36	RI	01	1406	BC	BC-HWY	
1	37	LP	00	1440	BC	BC-HWY; UTM-411857/5021994	
1	39	LP	00	1548		/FWY; UTM-411785/5022012	
1	40	SC	00	1560	WL	H=0.25M; RIVER OTTER DEN	OTTER SCAT
1	41	GL	00	1673		BEGIN YELLOW FLAGGING TO MARK POOLS	
1	44	LP	00	2010		UTM-41447/5021860; BEDROCK/	
1	46	SC	01	2037		H=0.25M	
1	47	GL	00	2128		UTM-411309/5021808	
1	48	RI	00	2194		T=14.5C/1115	
1	49	LP	00	2228		UTM-411150/5021768, LARGE CEMENT CHUNKS AT POOL HEAD	
1	51	LP	00	2463		UTM-411024/5021695; BEDROCK/	BEDROCK OUTCROPPING/
1	52	RI	02				BEDROCK OUTCROPPING/
1	53	LP	02			UTM-410882/5021662; BEDROCK/	
1	55	BW	10			UTM-410873/5021731	
1	56	RI	01	2608	WL		BABY GARTER SNAKE
1	58	LP	00	2878			HUGE POOL
1	61	LP	00	3124		UTM-410452/5022049	
1	64	LP	00	3202		UTM-410362/5022088	
1	66	LP	00	3359		UTM-410295/5022141	
1	68	LP	00	3463		UTM-410180/5022155	
1	69	RI	00	3597		TRANSPORTATION CORRIDOR ON RIGHT	
1	70	GL	00	3639		T=15.5C/1200	
1	71	LP	00	3713		UTM-409966/5022052	BEDROCK CLIFF/
1	72	RI	00	3833		UTM-410204/5022149	
1	73	LP	00	3864		T=17C/1325; UTM-409815/5021947	END REACH
2	74	RI	00	4024	BV	UTM-0409803/5021945	OLD BEAVER CHEWS
2	75	LP	00	4108		T=12.5C/0845	UTM-0409632/5021924
2	77	SS	00	4139		H=0.2M	MANMADE COBBLE STEP AT TAILOUT
2	78	LP	00	4205		PERRY SWIMMING HOLE	UTM-0409521/5021903; SWIM HOLE
2	80	LP	01	4276			UTM-0409409/5021913
2	81	RI	01	4300	WL	OTTER SCAT	
2	82	LP	01	4390	BV		OLD BD; UTM-0409383/5021959
2	84	LP	02				UTM-0409416/5021973

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
2	85	BW	10			FULL OF ALGAE	
2	86	BW	10				UTM-0409390/5022022
2	87	SS	00	4391		H=0.1M	COBBLE STACKED ACROSS CHNL
2	88	LP	00	4435	BC	HWY 84 BC	HWY 84; UTM-0409390/5022032
2	89	RI	00	4499	BV	FRESH AND OLD BV CHEWS	
2	90	LP	00	4618	/CS		RIPRAP; UTM-0409337/5022123
2	91	RI	01	4726	/CS	RIPRAP, BEDROCK WALL/	
2	92	LP	02				UTM-0409152/5022101
2	93	LP	00	4772		BEDROCK WALL/	UTM-0409117/5022085
2	95	LP	00	4944		BEDROCK WALL/	UTM-0409050/5022040
2	96	SR	00	4950		H=0.3M	BEDROCK WALL/
2	97	LP	00	4978		BEDROCK WALL/	UTM-0408934/5021984
2	99	BW	10				UTM-0408878/5021987
2	100	LP	00	5111	/CS		RIPRAP; UTM-0408788/5022002
2	101	LP	00	5234		BEDROCK WALL/	UTM-0408772/5022023
2	103	LP	01	5343	BC, /CS		UTM-0408613/5022140; RIPRAP
2	104	LP	01	5361	/CS	HAMILTON CR FRONTAGE RD BC	UTM-0408680/5022160; RIPRAP
2	105	BW	10			BEDROCK/	UTM-0408632/5022098
2	106	LP	02			BEDROCK WALL/	UTM-0408625/5022101
2	107	RI	02			BEDROCK WALL/	
2	108	LP	02				UTM-0408618/5022121
2	110	LP	02		BC		
2	111	LP	01	5442	CS/		UTM-0408601/5022217; RIPRAP
2	113	LP	02		AM	COLUMBIA SPOTTED FROG, ALGAE	
2	114	PD	02		AM	COL. SPOTTED FROG	
2	115	DU	02			DEBRIS JAM	DARK SOIL
2	116	LP	00	5531	/CS		RIPRAP; UTM-0408608/5022319
2	117	RI	00	5558	/CS, WL	RIPRAP, SQUIRREL	
2	118	LP	00	5602	/CS		UTM-0408597/5022388
2	119	SC	00	5606	/CS	H=0.2M	RIPRAP FROM U117-U143
2	120	LP	00	5626	/CS	BEDROCK WALL/	UTM-0408594/502230
2	121	SC	00	5636	/CS	H=0.15M	BEDROCK WALL/
2	122	LP	00	5692	/CS		UTM-0408580/5022468
2	123	SC	00	5701	/CS	H=0.2M	
2	124	LP	00	5747	/CS		UTM-0408581/5022526
2	125	SC	00	5766	/CS	H=0.1M	
2	126	LP	00	5801	/CS		UTM-0408565/5022594
2	127	SB	00	5802	/CS	H=0.2M	
2	128	LP	00	5853	/CS		UTM-0408559/5022629
2	129	RI	00	5884	/CS		
2	130	LP	00	5912	/CS		UTM-0408516/5022692
2	131	LP	00	5941	/CS/		UTM-0408482/5022709
2	132	RI	00	6003	/CS	T=16C/1425	RIPRAP
2	133	LP	00	6069	/CS, BC	UTM-0409382/5022803	UTM-0408397/5022772; HAMILTON
2	134	RI	00	6198	/CS, BC	HAMILTON CR FRONTAGE RD	RIPRAP, HWY 84
2	135	LP	00	6265	WL, /CS	HISTORICAL ARCH BRIDGE	BEDROCK WALL/, OTTER SCAT
2	136	RI	00	7010	/CS	AND HWY 84 BRIDGE	UTM-0408209/5022745=U135
2	137	LP	00	7049	/CS	BEDROCK WALL/	UTM-0408055/5022725
2	138	LP	00	7075	/CS	BEDROCK WALL/	UTM-0408016/5022733
2	139	RI	00	7101	/CS	BEDROCK WALL/	
2	140	LP	00	7123	/CS	BEDROCK WALL/	UTM-0407955/5022744
2	141	RI	00	7172	/CS	BEDROCK WALL/	
2	142	LP	00	7226	/CS		UTM-0407885/5022737
2	143	RI	00	7440	/CS, SS/	SSX2	
2	144	RI	00	7615		83-0409344/5022727	

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
2	145	LP	00	7754		27-0407424/5022525; T=18C/1605	UTM-0407460/5022729; BRK WALL/
2	146	LP	00	7786		LOTS OF DEER, ELK SIGN, BEDROCK WALL/, UTM-0407334/5022748	
2	147	RI	00	7825		T=10.5C/0900	
2	148	LP	00	7855			UTM-0407265/5022780
2	150	LP	01	7927			UTM-0407209/5022812
2	151	RI	01	8030		LOTS OF EROSION/	
2	154	LP	02		BV		UTM-0407189/5022859; BV CHEWS
2	155	BW	10				UTM-0407188/5022843
2	158	LP	02				UTM-0407176/5022879
2	160	LP	00	8190	/CS		UTM-0407110/5022912
2	161	SR	00	8192	/CS	H=0.1M	
2	162	LP	00	8266	/CS		UTM-0406978/5023002
2	163	SR	00	8268	/CS	H=0.2M	
2	164	LP	00	8290	/CS		UTM-0406906/5023016
2	165	SR	00	8292	/CS	H=0.25M	
2	166	RI	01	8325	/CS		
2	167	BW	10			FULL OF ALGAE	
2	168	LP	00	8379	/CS		UTM-0406849/5023014
2	170	LP	01	8500	TJ/		UTM-0406741/5023948
2	171	DU	11				UNNAMED TRIB-DRY
2	172	RI	00	8521		LOTS OF EROSION/	
2	173	LP	00	8545		EROSION/	UTM-0406669/5022920
2	174	RI	00	8646		LOTS OF EROSION/	
2	175	LP	00	8710	/CS		UTM-0406559/5022883
2	176	LP	01	8781	/CS		UTM-0406497/5022865
2	177	BW	10		/CS		UTM-0406460/5022863, AQU VEG
2	178	RI	00	8809	/CS	EROSION/	
2	179	LP	01	8838	/CS		UTM-0406405/5022828
2	180	BW	10		/CS	AQUATIC VEGETATION, ALGAE	
2	181	RI	00	8856	/CS		
2	182	GL	00	8896	/CS		UTM-0406356/5022814
2	183	RI	01	8930	/CS, /TJ	T=15C/1210; UTM-0406286/4022776	
2	184	DU	11		/CS/, CE	HAMILTON CANYON	GOES INTO CULVERT UNDER HWY 84
2	185	RI	00	9016	/CS		
2	186	LP	00	9065	/CS		UTM-0406252/5022704
2	187	SC	00	9093	/CS		
2	188	LP	00	9126	/CS		UTM-0406212/5022638
2	189	LP	00	9206			UTM-0406200/5022608
2	190	RI	00	9417	/CS	RIPRAP	
2	191	LP	01	9464			UTM-0406010/5022375
2	192	RI	02		/CS		RIPRAP
2	193	LP	00	9530			UTM-0405994/5022346
2	194	SC	00	9546		H=0.5M	
2	195	LP	00	9620			UTM-0405946/5022293
2	197	GL	00	9729			UTM-0405844/5022214
2	198	RI	00	9762			U199 UTM-0405758/5022183
2	199	LP	00	9803	BV, WL	OTTER DEN AND TRACKS	OTTER DEN, BV STICKS
2	200	RI	00	9899	WL	OTTER SCAT	CONCRETE CHUNKS
2	201	GL	00	9951			UTM-0405625/502228
2	202	RI	00	10094	WL	CONCRETE FROM OLD BRIDGE	GARTER SNAKE
2	203	GL	00	10280	CS/CS		UTM-0405471/5022329
2	204	RI	00	10478	CS/CS		
2	205	RI	00	10540	CS/CS		
2	206	LP	00	10669	BV; CS/CS	OLD BEAVER CHEWS	UTM-0405053/5022452
2	207	RI	00	10718	CS/CS		

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
2	208	LP	00	10874	BV, CS/CS	NEW BEAVER CHEWS	UTM-0404880/5022410
2	209	RI	00	10922	CS/CS		
2	210	GL	00	10999	CS/CS		UTM-0404695/5022336
2	211	RI	00	11145		T=18C/1600; UTM-0404378/5022203	
2	212	GL	00	11265		BEFORE 5 POINT CREEK	UTM-0404497/5022222
2	213	RI	01	11304	BV	OLD CHEWED STICKS	
2	214	LP	02				UTM-0404372/5022195; /EROSION
2	215	LP	01	11387	/TJ	END REACH	UTM-0404339/5022190
2	216	BW	10			MAINSTEM ABOVE TRIB T=18.5C/1615	
2	217	RI	11		BC	FIVE POINT CR, T=14C/1620	HWY 84
3	218	RI	01	11570		START AT FIVE POINT CR	
3	219	RI	01	11672	WL	83-0404139/5022045	CRAYFISH; ~25M GRAVEL BAR
3	220	DU	02			27-0404220/5021844	MOSTLY GRASSY COVERED, SOIL
3	221	LP	02			T=13C	
3	222	DU	02			/HWY 84	GRASSY COVERED, SOIL
3	223	LP	02			T=15C	FLOATING TRACHEOPHYTES
3	224	SC	02		WL	DEER TRACKS	
3	225	LP	02			T=14C	
3	226	DU	02		WL	DEER PRINTS, DROPPINGS	
3	227	LP	02			T=14C	GRASSY, SOIL COVERED
3	228	DU	02		AM, WL	GAME TRAIL, FROG	
3	229	GL	00	11749		PERRY GAGE-14 CFS; 8/17/15	NAD 83-0404046/5021973
3	230	RI	00	11914			NAD 27-0404127/5021771
3	231	RI	00	11949			NAD 83-0403931/5021732
3	232	LP	00	11962			NAD 27-0404011/5021530
3	233	SC	00	11971		H=0.2M	
3	234	LP	01	12008	TJ/	ROCK CREEK	NAD83-0403933/5021702
3	235	RI	01	12019			NAD 27-0404012/5021499
3	236	LP	01	12040	BV	BEAVER STICKS	NAD83 0403894/5021677
3	237	SC	01	12047			NAD 27-0403973/5021474
3	238	LP	01	12099		BV DENS IN BANK	NAD 27-0403956/5021484
3	239	RI	01	12107			NAD 83-0403872/5021686
3	240	LP	01	12150		T=22C	
3	241	RI	01	12192	BV	BOS (BOTTOM OF SITE) 109658	CHEWS; 83-0403819/5021683
3	242	LP	01	12280		BV DEN	NAD 83-403760/5021642
3	243	SC	01	12286	AM, BV	CHEWS	NAD 27-403842/5021440
3	244	LP	01	12330		T=24C	NAD27-403773/5021353
3	245	SC	02			T=23C	NAD83-403674/5021556
3	246	LP	02		TJ/		ROCK CR; 83-403911/5021673
3	247	PD	11			ROCK CR; T=20C	ROCK CR; 27-403990/5021471
3	248	RI	02				NAD 27-403972/5021438
3	249	LP	02		WL		NAD83-403893/5821640; SWALLOWS
3	251	RI	02		WL	WOODPECKER	
3	252	LP	02				T=19C
3	254	LP	02		AM	FROGS	
3	255	DU	02			MOSTLY GRASS, SOIL	
3	256	DU	02		WL	GAME HEN	
3	257	LP	02		WL	GARTER SNAKE	
3	258	RI	02		WL	CRAYFISH	
3	260	RI	02		BV	CHEWS, STICKS	
3	261	LP	02		BV		
3	262	DU	02			GRASS, SEDGES, MARSHY	
3	264	DU	02			SMALL PUDDLE	
3	266	DU	02			GRASS, SEDGES, SOIL	
3	267	RI	02			T=17C	

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
3	269	RI	02				MARSHY, GRASS, SOIL
3	271	PD	02			ACW=4M	GRASS, SOIL
3	272	DU	02				NAD83-403653/5021551
3	273	LP	01	12399		DOWNSTREAM END OF CAMPGROUND	NAD27-403734/5021349
3	274	RI	01	12446		T=14.5/0900	NAD27-403627/5021334
3	275	LP	00	12634		/HILLGARD STATE PARK (HSP)	NAD83-403546/5021536
3	276	RI	00	12686		/HSP	
3	277	GL	00	12816			NAD83-403331/5021662; /HSP
3	278	LP	00	12922		/RIPRAP/	NAD27-403410/5021440
3	279	RI	00	13116	BC	DOWNSTREAM HWY 244 BC	HWY 224; 83-402917/5021751
3	280	GL	01	13201		/HSP, PVC	NAD27-402997/5021849
3	281	BW	10			BEDROCK OUTCROP	
3	282	RI	00	13271		UPSTREAM OF PICNIC AREA; T=19C/11	83-402857/5021626; CHINKED LOG
3	283	LP	00	13369	WL	CAR SIZED BOULDERS	OTTER SCAT; 27-402777/5021828
3	284	RI	01	13452		BEND AWAY FROM FREEWAY	
3	285	BW	10				ALGAE; 83-402646/5021876
3	286	LP	00	13481		END REACH	NAD27-402726/5021674
4	287	RI	00	13644			NAD27-402666/5021506
4	288	GL	00	13764		T=22C/1400	NAD83-402585/5021709
4	289	RI	00	14006		GRAVEL BAR ISLAND	NAD83-402540/5021360
4	292	GL	00	14221		UTM-0402540/5021360	
4	293	RI	00	14308			0.6M DEPTH NEAR BOULDER
4	294	GL	00	14349		UTM-0402537/5021200	
4	296	GL	00	14499	WL	UTM-0402593/5021062	FRESHWATER MUSSEL
4	297	RI	00	14547			LOGGING CABLE
4	298	LP	00	14582		UTM-0402689/5021036; T=24C/1515	OLD CEMENT BRIDGE ABUTMENT
4	299	LP	00	14686	CS/	UTM-0402826/5021059	END REACH
5	300	MX	00	18270		T=24.5C/1540; UTM-0403026/5020804	SCHILLER PROPERTY - NO ACCESS
6	301	GL	01	18291	/TJ	BEGIN AT BOS CHAMP 420954	
6	302	LP	11			SPRING CR; T=13C/0830	SPRING CREEK
6	303	RI	00	18306	CS/	R6 START UTM 27-0401346/5019286	RIPRAP
6	304	GL	00	18338	CS/	R6 START UTM83-0401266/5019488	RIPRAP
6	305	RI	00	18506	CS/	T=14C/0900	RIPRAP
6	306	LP	00	18618	CS/		RIPRAP
6	307	LP	02		CS	LAND OWNED BY GUN CLUB	
6	308	DU	02				MARSHY, GRASS, SOIL
6	309	RI	00	18675			HAWTHORN
6	311	RI	01	18814		CHAMP SITE 420954; 30M UP FROM U312	START, HANDCUT STUMPS W WIRE
6	312	DU	02		BV		DAM
6	313	GL	00	18887		UTM-0400843/5019240	
6	315	GL	00	18987		UTM-0400810/5019094	
6	317	GL	00	19284		BEGIN NEAR USFS BOUNDARY	
6	318	RI	01	19442		WATER GAGE=0.80 FT	METAL TEMP GAGE POSTS/
6	320	BW	10		AM	U321 UTM-400278/5019104	FROG, LOTS OF ALGAE
6	321	GL	00	19499		BEGIN BOULDER PLACEMENT PROJECT	~15 YRS AGO
6	322	RI	00	19556		T=22C/1330; UTM-0400205/5019040	0.5M DEEP POOL
6	323	LP	00	19669		UTM-0400188/5019042; T=22°C, BOULDERS WITH VEGETATION GROWTH	
6	324	LP	00	19711		UTM-0400078/5019020	
6	326	GL	00	19859			/PLACED RIPRAP
6	327	RI	00	19913			/PLACED RIPRAP
6	328	GL	00	19966		UTM-0400039/5018794; CHAMP SITE 00205, BOVINE BONE	
6	330	RI	02			U331 T=20C	
6	331	LP	02			SPRING CHNL ENTERS AT 039995/5018693, MANY CATTAILS	
6	332	RI	02			SPRING T=20C	MANY CATTAILS
6	333	LP	02			0.5 CFS	

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
6	334	RI	02				SLOW FLOW
6	335	LP	02		WL		GEESE
6	337	LP	00	20245			COLD SEEP/; 399952/5018485
6	338	RI	01	20302	WL	GARTER SNAKE	
6	342	SD	02		BD	H=0.5M; NEW BEAVER DAM	DRY; BV DAM
6	343	BP	02		BV	BEAVER POOL	
6	344	LP	01	20354		UTM-0399908/5018426	COLD SEEP MID-CHANNEL
6	345	RI	01	20422			UTM-399872/5018413
6	346	LP	00	20534		UTM-399856/5018323	COLD SEEP/
6	348	LP	01	20614		UTM-0399802/5018246	
6	349	PP	01	20643		T=16C/0945; UTM-0399741/5018268	PLACED BLDRS-SEE PHOTO
6	351	LP	01	20713		UTM-0399685/5018283	
6	352	RI	01	20733		UTM-0399621/5018293	UTM-399599/5018302
6	353	LP	01	20759	CS/		COLD SEEP/; PLACED BOULDERS
6	354	DU	02		WL		ALGAE, ELK DROPPINGS
6	355	PD	02		AM		FROG
6	356	RI	01	20851			SMALL BW/
6	357	LP	01	20913		UTM-0399526/5018359	MOSTLY GRASS, SOIL
6	358	PD	02				MOSTLY GRASS, SOIL
6	361	LP	01	21123		UTM-0399456/5018394	
6	362	BW	10				ALGAE
6	363	RI	01	21217		T=21C/1150; T=22C/1230	
6	364	GL	01	21285		UTM-0399273/5018251	
6	365	PP	00	21321		UTM-0399258/5018183	FIVE INLINE PLACED BOULDERS
6	366	LP	01	21441	TJ/	UTM-0399248/5018151; T=24C/1315	UTM-399148/5018053; COLD SEEP/
6	367	LP	11			JORDAN CREEK	JORDAN CR
6	368	DU	11				JORDAN CR
6	369	DU	02				GRASSY, SOIL
6	370	RI	01	21470	TJ/	JUST DOWNSTRTEAM OF BEAR CREEK, END REACH AT BEAR	
6	371	RI	11			BEAR CREEK	BEAR CR; MARSHY
6	373	RI	02				GRASSY, SEDGES
6	374	LP	02				GRASSY, ALGAE, MANMADE
6	375	RI	02				GRASSY
6	376	LP	02			02 ENDS IN EXCAVATED WETLAND	
7	377	LP	00	21565		UTM-0399148/5018042	
7	379	RI	02			BEGIN MAJOR SIDE CHANNEL	02 BEGINS
7	380	LP	02		AM	UTM-0399002/5017935	FROG
7	381	LP	02			UTM-0399000/5017918	MANY 80-90MM FISH-NO ID
7	382	RI	02		WL		DEER, COYOTE TRACKS
7	383	LP	02			UTM-0398956/5017880	
7	384	LP	02		WL	UTM-0398921/5017856	DEER, ELK TRACKS
7	385	LP	02			UTM-0398908/5017837	
7	386	LP	02				SIDE CHANNEL OFF 02 CHANNEL
7	389	LP	02			ENDS BY HAY BARNS	GRASS, BRYOPHYTES
7	390	DU	02				0.15M DEEP PD
7	392	LP	02			UTM-0398856/5017799	
7	393	LP	02			UTM-0398842/5017794	
7	395	RI	02				VERY LITTLE FLOW
7	397	LP	02			UTM-0398812/5017679	ENDS IN WETLAND
7	400	RI	02				HEAVY SEDGES
7	403	LP	02			UTM-0398739/5017778; RON 1	
7	404	LP	02			UTM-0398723/5017772; RON 2	
7	407	LP	02			UTM-0398698/5017679; RON 3	
7	408	LP	02			UTM-0398688/5017675; RON 4	
7	410	LP	02			UTM-0398669/5017661; RON 5	

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
7	411	SR	02			H=0.5M; HEADCUT, HARDPAN	BEDROCK=HARDPAN="HP"
7	412	LP	02			UTM-0398654/5017653; RON 6	RON 6; HP
7	414	GL	02			RON 7	
7	415	RI	02				BEDROCK=HARDPAN="HP"
7	416	LP	02			UTM-0398598/5017589; RON 8	HP
7	417	RI	02				HP
7	419	LP	01	21754		UTM-0398928/5017912; RON 10	
7	420	RI	01	21778		U421 27-0398964/5017679	
7	421	LP	01	21843		T=24C/1345; NAD83-0398884/5017883	RON 11
7	423	GL	01	21994		PRIVATE RANCH LAND	
7	425	LP	01	22102		RON 12	
7	427	LP	01	22135		RON 13	
7	429	LP	01	22215		RON 14	
7	431	LP	01	22288		RON 15	
7	433	GL	01	22389		RON 16	
7	435	LP	01	22483		RON 17	COLDER UPPER END
7	436	GL	01	22522		RON 18	
7	437	BW	10			RON 19	RON 19
7	439	LP	01	22592	WL	RON 20	ELK TRACKS, GARTER SNAKE
7	442	LP	02				LOTS OF ALGAE
7	443	DU	02				SMALL PUDDLE
7	444	BW	10			SHALLOW BW	
7	446	GL	02			RON 22	
7	448	LP	02			RON 23	
7	450	LP	01	22835		RON 25	
7	452	LP	01	22940	WL	RON 24	RON 24; MUSSELS
7	455	RI	02				LOTS OF ALGAE, STAGNANT
7	457	LP	02		AM	RON 21	FROG
7	459	RI	02			T=23C/1715	NEARLY STAGNANT
7	460	DU	02			U461 UTM 27-0398631/5017363	
7	461	SC	01	22961		UTM 83-0398550/5017565	
7	462	LP	01	23069	HS	RON 26	RESTORATION BOULDERS
7	464	LP	00	23108		RON 27	
7	465	RI	01	23131	HS		RESTORATION BOULDERS
7	466	DU	02				GRASSY, MUCKY
7	469	LP	00	23228		RON 28	
7	471	LP	02				STANDING WATER
7	472	RI	02				MUCKY
7	473	LP	02			T=15C/1000	
7	474	PD	02			ACW=2M	CATTAILS, CAREX
7	475	LP	01	23366	CS/	RON 29	
7	476	RI	00	23408	CS/		
7	477	LP	01	23458		RON 30	
7	479	RI	02				MUCK, SEDGES
7	481	RI	01	23484		UTM 27-0398027/5017196; T=19C/1115	
7	482	LP	00	23559		UTM 83-0397947/5017398; RON 31	
7	485	LP	00	23689	HS	RON 32	RESTORATION BOULDERS
7	486	LP	02		AM		FROG
7	487	SC	02			H=0.3M	
7	490	LP	02		HS		RESTORATION BOULDERS
7	491	SC	01	23700		H=0.75M	
7	495	LP	01	23789		RON 33	
7	496	SC	00	23794		H=0.2M	
7	499	LP	00	23951	HS	RON 34	RESTORATION BOULDERS
7	502	LP	00	24175		RON 35	LOGGING WIRE IN STREAM

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
7	503	LP	00	24230		RON 36; U504 UTM-0397264/5017494	
7	504	RI	00	24342	HS	CHAMP SITE-071770; FLAGGING	RESTORATION BOULDERS
7	505	LP	00	24376		RON 37	
7	506	RI	00	24579	HS	WITHIN CHAMP SITE 071770	RESTORATION BOULDERS
7	507	RI	01	24649		UTM-0397015/5017268; T=22/1404	
7	511	LP	00	24740	HS	UTM-0396950/5017277	RESTORATION BOULDERS
7	512	LP	00	24765		BOTTOM OF CHAMP SITE 071770	CHAMP SITE ENDS
7	513	RI	00	24820		U512 UTM-0396882/5017290	
7	514	LP	00	24847		UTM-0396799/5017262	
7	515	RI	00	25061	WL, HS	U516 UTM 27-0396786/5016851, GARTER SNAKE, RESTORATION BOULDERS	
7	516	LP	00	25076		UTM 83-0396706/5017053; T=23/1515	
7	518	LP	02			POWERLINE CROSSING	GRASS, SEDGES
7	519	LP	02				ALGAE, POOR VISIBILITY
7	520	DU	02				ALGAE, POOR VISIBLITY
7	524	SC	02			H=0.2M	DRY STEP
7	525	LP	02				ALGAE, POOR VISIBILITY
7	527	LP	02				ALGAE, MUCK, POOR VISIBILTY
7	530	LP	01	25173			T=13C/0900-1030, CRAYFISH
7	531	RI	01	25235		T=14C/0915	
7	532	LP	00	25435		UTM-0396757/5016806; USFS BOUNDARY, END REACH	
8	533	MX	00	27176		UTM 83-0395485/5016335; T=14.5C/0941, MERLO PROPERTY - NO ACCESS	
9	534	RI	00	27246		RED BRIDGE STATE PARK	
9	535	GL	00	27290		UTM 27-0395566/5016133	/RED BRIDGE STATE PARK="RBSP"
9	536	RI	00	27341	WL		WHITE TAIL DEER; RBSP
9	537	SS	00	27343		H=0.3M; DAM MADE BY CAMPERS	MANMADE CBL DAM; /RBSP; P-1352
9	538	DP	00	27366		UTM-0395597/4016227; DAM POOL	IMPOUNDMENT
9	539	RI	00	27383			/RBSP
9	540	LP	00	27427			/RBSP; T=14C/1030-1115
9	541	RI	00	27496			/RBSP
9	542	SS	00	27497		H=0.3M; DAM MADE BY CAMPERS	/RBSP; MANMADE CBL DAM; P-1353
9	543	DP	00	27538		/GABION RIPRAP; UTM-0395664/5016115	/RBSP; CF
9	544	RI	00	27563			/RBSP
9	545	LP	00	27588			/RBSP; 10 FT BRK CLIFF
9	546	RI	00	27658		/PUMP HOUSE	/RBSP
9	547	LP	00	27680		UTM 0395657/5015937; T=17C/1100	/RBSP, END REACH
10	548	MX	00	34420		DID NOT SURVEY - NO ACCESS	MERLO PROPERTY
11	549	RI	00	34563		UTM 83-0392318/5013456; T=17C/1145	
11	550	LP	00	34605		START R11 AT ~USFS BOUNDARY	CRAYFISH IN ALL POOLS
11	552	LP	00	34740		BEDROCK WALL/	BEDROCK OUTCROPPING/
11	553	RI	00	34790		USFS TIMBER THINNING; T=21C/1300	
11	554	LP	01	34886		UTM 83-0392012/5013192, END REACH	T=15.5-16.5C/1130-1230
11	555	GL	11		BC	MEADOW CR; T=12C/0900; FLOW=2 CFS, MEADOW CREEK; HWY 244	
12	556	RI	00	35049		UTM 83-0391966/5013216	
12	557	RI	00	35090		UTM 27-0392045/5013015	
12	560	LP	00	35195	BC, /CS/		HWY 244; CEMENT BRIDGE SUPPORT
12	561	RI	00	35257			T=20C/1300
12	563	SC	00	35300		H=0.25M	
12	564	LP	00	35365		UTM-0396732/5012904	
12	567	RI	00	35436			ROAD / HIGHWAY 244
12	569	LP	02				LOTS OF ALGAE
12	570	DU	02				SEDGES, MUCK
12	573	LP	01	35573		UTM 83-0391691/5012773	T=21C/1400
12	577	LP	01	35664		UTM-0391546/5012700	
12	578	RI	01	35717	WL	T=15C/1100	CRAYFISH IN MOST POOLS
12	579	LP	02		AM		GRASSES, ELODEA, FROG

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
12	580	RI	02		/CS, WL		GARTER SNAKE
12	581	LP	02		/CS	T=15.5C/1050	BLDRS, ELODEA
12	583	RI	02				GRASS, ELODEA
12	584	LP	02				GRASS, ELODEA
12	586	LP	01	35793		UTM-0391533/5012642	ELODEA
12	588	PD	02				ALGAE
12	592	SC	00	35881		H=0.10M	
12	593	LP	02				GRASSY
12	594	LP	01	35927		UTM-0391379/5012588	T=22C/1530
12	595	LP	02			COLD GROUNDWATER	T=16C/1530; COLD GROUNDWATER
12	596	RI	02				DEEP ORANGE, BROWN SILT
12	597	RI	02		/CE	T=14C/1200	DIFFUSE WETLAND; P-1378-80
12	598	RI	02				DIFFUSE WETLAND
12	599	LP	02			LARGE SPRING, UTM-0391208/5012566	
12	601	LP	00	36013		UTM-0391318/5012596	TEMP RANGED 20-24C
12	602	RI	00	36080		COLD WATER ENTERS AT LONE PINE TREE	
12	603	BW	10		AM	IN MEADOW, UTM-0391351/5012611	FROG, GRASSES
12	608	LP	00	36186		UNDERCUT AND EROSION OVERHANG	
12	609	RI	00	36213	WL		GARTER SNAKE
12	610	LP	00	36250	CS/	RIRPAP/; T=19.5/1300	BOULDERS
12	613	SC	01	36303		H=0.3M	
12	614	LP	01	36316		UTM-0391232/5012381	
12	618	BW	10				ALGAE, MUCK, GRASSES
12	623	RI	02		TJ/	TJ/; WINTER CANYON?	
12	624	DC	11			CC, WINTER CANYON?	GRASSY
12	626	LP	02		CS/		BOULDERS, MUCK, ELODEA
12	627	RI	02		CS/		ALGAE
12	629	DU	02				MUCK, GRASSES
12	630	RI	01	36669		U631 UTM-391132/502064	
12	631	RI	00	36819		CHAMP SITE-267114; T=22C/1445	START CHAMP SITE 269114 RP
12	632	SS	00	36820		H=0.3M; MANMADE BOULDER DAM	COBBLE DAM-SEE PHOTO
12	633	DP	00	36897		UTM-0391179/5011931, RIPRAP	IMPOUNDMENT
12	634	RI	00	36928	CS/		
12	635	LP	01	36939			T=23C/1630
12	636	RI	01	36954		T=13C/1145	
12	639	RI	02		WL		GARTER SNAKE
12	640	LP	00	37041		UTM-0391069/5011780	END REACH
13	641	MX	00	37180		DID NOT SURVEY - NO ACCESS	ANDERSON PROPERTY-NO ACCESS
14	642	LP	00	37220	BC	UTM-0391047/5011674; T=16C/1300	T=16C/1300
14	643	RI	00	37278		DOWNSTREAM END OF DELVE PROPERTY	
14	645	RI	00	37407			ADULT FISH TRAP-SEE PHOTO
14	646	GL	00	37459	CS/		
14	648	LP	00	37535		UTM-0390866/5044391	
14	649	RI	00	37631			/BEDROCK OUTCROPPING
14	652	RI	02		WL	GARTER SNAKE	RESTORATION BOULDERS
14	654	RI	02				GRASSY
14	656	RI	01	37838	CS/		
14	657	LP	01	37913		UTM-0390956/5011108	
14	658	RI	00	37977			DEEP POCKET-0.5M-FAST WATER
14	659	LP	00	38006		UTM-390933/5010988, END REACH	T=15C/1200; T=18C/1400
15	660	GL	00	38020		DOWNSTREAM END OF BOWMAN PROPERTY	
15	661	LP	00	38056		UTM 83-0390921/5010962; T=13.5C/0910	LARGE DOWNED TREE ACROSS RIVER
15	662	RI	01	38072		CHAMP SITE 000202 BOS	ERODED UNDERCUT
15	663	LP	02				GRASSY AT UPSTRM END
15	664	DU	02				GRASSY

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
15	666	LP	01	38101		UTM-0390889/5010918	/OVERHANGING TREE ROOTS
15	668	LP	00	38173	HS	UTM-0390850/5010894	REST BOULDERS, 1 WIRED TO LOG
15	671	LP	02		CS/		
15	674	LP	01	38287		UTM-0390767/5010768	
15	678	RI	02				GRASS, MUCK
15	679	PD	02				MARSHY AT TOP
15	680	DU	02			WITHIN CHAMP SITE 000202	MOSTLY GRASS, SOIL
15	681	LP	01	38436		UTM-390665/5010737; T=13.5C/1030	
15	687	SC	01	38489		H=0.7M	
15	688	LP	01	38535			/BEDROCK OUTCROPPING
15	689	SC	00	38546		H=0.15M; CHAMP SITE 15M UPSTM OF U688	
15	691	RI	00	38648			COW PIE IN ACTIVE CHANNEL
15	696	LP	00	38807	HS	UTM-0390380/5010597	RESTORATION BOULDERS
15	699	LP	00	38970		UTM-0390334/5010436	DOWNSTREAM WATER GAP
15	702	LP	02		HS		LOGS LASHED TOGETHER WITH WIRE
15	705	LP	01	39052	HS	T=18C/1400	RESTORATION BOULDERS
15	708	LP	00	39164		UTM-0390396/5010240	
15	710	LP	02				MUSSELS
15	711	RI	02				MUSSELS
15	712	RI	00	39300	CS/		
15	713	LP	00	39318	HS	UTM-0390577/5010001	RESTORATION BOULDERS
15	714	RI	00	39330	HS		RESTORATION BOULDERS
15	715	LP	00	39353	HS		RESTORATION BOULDERS
15	716	RI	00	39383	HS		RESTORATION BOULDERS
15	717	LP	01	39407	HS	UTM-0390633/5009951	RESTORATION BOULDERS
15	718	RI	11			WARM SPRINGS CR; FLOW=0.1 CFS	WARM SPRING CR = 13°C AT 1400
15	719	RI	00	39415		33M TO CULVERT OUTLET	END REACH
16	720	RI	00	39460		UTM-390625/5009926	T=16C AT 1400
16	722	SC	00	39493		H=0.25M	
16	724	RI	00	39707	WL		BABY GARTER SNAKE
16	727	GL	00	39780		UTM 27-390431/5009632; FLOW=16 CFS	
16	728	RI	00	39808		UTM 83-390351/5009834; T=15.5C/1430	
16	729	LP	00	39868	CS/	T=11C/0800	ROAD/
16	730	RI	00	39893	WL, HS		DEER
16	733	BW	10			UTM-0390390/5009659	
16	734	RI	01	40086		CHAMP SITE 457530 (BOTTOM OF SITE)	
16	735	RI	02			BEGINS DOWNSTREAM END OF U734	
16	740	DU	02				GRASS, DIRT
16	741	PD	02				GRASS, DIRT
16	742	LP	01	40247	WL		DEER ON HS; T=19C/1430
16	743	RI	00	40288		UTM 83-0390393/5009364	
16	744	LP	00	40307		UTM 27-390476/5009160; T=12C/0930	T=12C, END REACH
17	745	MX	00	41766		WITHIN CHAMP SITE 457530	PRIVATE PROPERTY, NO ACCESS
18	746	GL	00	41788		DOWNSTREAM END OF USFS	
18	747	RI	01	41889		FENCE CROSSING STREAM; T=13C/1015	
18	748	DU	02			UTM 83-390593/5008139	GRASS, SOIL
18	749	LP	02			UTM 27-390672/5007938	
18	751	LP	01	41919	HS	UTM-0390587/5008015	LOGS
18	754	RI	01	41999	BV		BEAVER CHEWS
18	755	LP	01	42026			T=18.5C AT 1530
18	756	RI	02				MUCKY
18	757	PD	02		BV		BV CHEWS
18	758	RI	01	42044	HS		LOGS
18	759	LP	01	42059	HS	UTM-0390563/5007900	HUGE ROOTWAD; PHOTO-1421
18	761	LP	00	42132	BV, HS		BV STICKS, LOGS

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
18	762	RI	02		HS		LOGS
18	764	LP	01	42210	HS, BV	UTM 27-390640/5007490	LOGS, BV STICKS
18	765	LP	01	42275	BV	UTM 83-0390555/5007691;T=14.5C/1245,	BV STICKS;SPAWNING CHK; PHOTOS
18	768	RI	02				GRASSY
18	769	LP	02				GRASSY
18	770	LP	00	42291		CHAMP SITE 031546	START CHAMP SITE 031546
18	773	LP	01	42379		UTM-0390609/5007629	
18	775	LP	01	42500	BV		BV CHEWS, STICKS
18	777	RI	02		BV		
18	778	SD	02		BD	H=0.15M	
18	779	BP	02		BV	UTM-0390594/5007645	
18	781	SD	02		BD	H=0.2M	H=0.2M
18	782	BP	02		BV		
18	784	SD	02		BD	H=0.3M	H=0.2M
18	785	BP	02		BV		
18	787	SD	02		BD	H=0.25M	H=0.3M
18	788	BP	02		BV		
18	790	LP	00	42598			T=18C AT 1700
18	792	RI	00	42811		CHAMP SITE 031546	WIRE FENCE BISECTS CHANNEL
18	793	RI	01	42837	HS	ENDS AT CONFLUENCE WITH FLY CREEK; T=9C/1045, RESTORATION BOULDER	
18	794	RI	02		TJ/	UTM 83-0390515/5007208; T=10C/1100	
18	795	LP	02		AM	OVERFLOW CHNL OF FLY CR	FROG
18	796	RI	02			END R18 AT CONF; UTM 27-3905095/5007006, ENDS IN SUBSURFACE FLOW	
19	797	RI	00	42876		83-0390515/5007211	START AT FLY CR
19	798	RB	01	42919	CS/	T=16C	MUSSELS
19	799	RI	12		BV	ACW=4.0; T=15C/1120	FRESH CHEWS
19	800	LP	12		WL	2 SNAKES	
19	801	RI	12		BV	SALMONID FRY ON MARGINS	OLD CHEWS
19	802	LP	00	42934	CS/		0390475/5007120
19	803	SC	00	42936	BV	54M REMNENT CHANNEL	OLD BEAVER ACTIVITY
19	804	LP	00	42958	BV		2 ADULT CHINOOK
19	806	RI	00	43006		VALLEY WIDTH (VW)=76M	FRY
19	807	LP	00	43036	HS, /CS	UTM 83-0390414/5007066	LWD, BOULDERS; 0390414/5007066
19	808	RI	01	43092	HS		LARGE WOOD HABITAT STRUCTURE
19	809	LP	01	43120	HS	T=20C	WOOD+BOULDER; 0390426/5007009
19	810	BW	10		HS, WL	CEDAR WAXWING	BW CREATED BY U809 LWD
19	811	RB	01	43145		LARGE SALMON	
19	814	RI	02		/CS, HS	RIPRAP	LARGE WOOD AND BOULDER HS
19	816	RI	02				PARR
19	817	DC	02			UTM-0390395/5006941	CONNECTS 02 AND 01
19	818	LP	00	43176	HS		LWD, MUSSELS; 0390411/5006843
19	819	RB	00	43247		T=16.5C	
19	820	SP	00	43268	BV	FRESH CHEW	0390384/5006844
19	821	RB	01	43330	BV, HS	FRESH CHEW	LARGE WOOD AND BOULDER HS
19	823	BW	10		BV, HS	LARGE SALMON, FRESH CHEW	LARGE WOOD AND BOULDER HS
19	824	BW	10		BV		OLD BEAVER ACTIVITY (BV)
19	825	RI	02		HS		LARGE WOOD AND BOULDER HS
19	826	SP	02		AM		FROG
19	828	SP	02		BV, AM		OLD CHEWS, FROG
19	829	SP	02		AM		FROG, ALGAE
19	830	DC	02		BV		OLD CHEWS
19	831	RI	01	43365	HS		LARGE WOOD AND BOULDER HS
19	832	BW	10		BV		OLD CHEWS
19	833	BW	10		BV, AM	UTM-0390434/5006690	FROG, PARR
19	834	RB	00	43403	BV, AM		FROG

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
19	835	LP	00	43420	HS	VW=56; T=18C, 0390428/5006685	LARGE WOOD AND BOULDER HS
19	836	RB	00	43490	BV		24-30" CHINOOK
19	837	RI	01	43534	HS		BOULDERS
19	838	RB	01	43582	HS		LARGE WOOD AND BOULDER HS
19	841	SP	02		HS		LWD
19	842	SC	02			H=0.4M	H=0.4M
19	843	SC	01	43597		H=0.1M	H=0.1M
19	844	BW	10		HS	PARR	LARGE WOOD AND BOULDER HS
19	845	RB	01	43708	BV, HS	/OLD FIRE, OLD BV	LARGE WOOD AND BOULDER HS
19	846	BW	10		BV		MUSSELS, PARR
19	847	BW	10		BV, HS	RACCOON PRINTS	PARR
19	848	BW	10			ACROSS FROM CAMPSITE	PARR
19	849	SC	00	43709		H=0.2M	LARGE WOOD AND BOULDER HS
19	850	RI	01	43813	BV, HS, WL	BALD EAGLE; WOODPECKER	LARGE WOOD HS
19	851	RB	01	43886	WL	YELLOW WARBLER	
19	852	SP	01	43898	HS		LWD; 0390437/5006240
19	853	BW	10				PARR
19	854	SC	01	43901		H=0.1M	H=0.1M
19	855	RI	01	43937	HS	STEELHEAD	2 ADULT SALMON; PHOTOS
19	857	GL	02				PARR
19	860	SC	02			H=0.15M	NEAR CAMPGROUND; H=0.15M
19	861	LP	02		HS	PARR, MINNOWS, SCULPIN	WOOD, BEAVER DAM
19	862	BW	10				FRY
19	863	SB	00	43939	HS	UTM 83-0390433/5006154; H=.15M	ARTIFICIAL STRUCTURE? P-0571
19	864	RI	00	43958		T=20C/1600	
19	865	SB	00	43959	HS	H=0.25M	ARTIFICIAL STRUCTURE? P-0574
19	866	RI	01	43984	BV, WL	ELK PRINT	BEAVER CHEWS
19	867	BW	10				PARR
19	868	SC	00	43985		H=0.15M	
19	869	RI	01	44010	BV, HS	VW=53.5	LARGE WOOD, BEAVER CHEWS
19	870	BW	10		WL	KINGFISHER	PARR; P-0575
19	871	BW	10		MUSSELS		
19	872	LP	00	44018			0390454/5006124
19	873	RB	01	44186	HS, BV		LARGE WOOD AND BOULDER HS
19	874	RI	02		BV		CHEWS
19	875	LP	02		BV, HS		WOOD HS, PARR
19	877	RI	02		BV		BV CHEWS
19	880	LP	01	44214	HS	SUCKERS, 4 LARGE SALMON	LWD, TROUT, PARR, SUCKERS
19	882	SS	01	44217	HS, DJ	H=0.55M	DJ CROSSING CHANNELS; P-0583
19	883	DP	01	44245	BV	TRACKS ON BANK	P-0590; 0390453/5005926
19	884	LP	01	44259	BV, TJ/	BV DOWNED TREE	0390449/5005904; BV TRAILS
19	885	LP	01	44273	HS, DJ	WESTERN PEARL SHELL MUSSELS	LARGE WOOD
19	886	RI	02		BV, HS	ARE COMMON IN REACH	PARR, CHEWS, LARGE WOOD
19	887	SS	02		HS, DJ		SAME SS AS U882
19	888	DP	02		HS, BV		LWD, BV CHEWS, MUSSELS
19	891	RI	02		BV		FRESH CHEWS
19	892	PD	02			UTM-0390429/5005876	
19	893	RI	11			83-0390461/5005893	U878 TJ; 0390461/5005893
19	894	SP	11		BV	27-0390540/5005691	T=11C/0900, PARR
19	895	RB	01	44348	HS	T=11C/0900	LARGE WOOD (LWD)
19	896	RI	02			T=14C/0900	
19	899	LP	01	44361	BV, HS, DJ		BV CHEWS; 0390414/5005812
19	900	BW	10		HS/		LARGE WOOD AND BOULDER HS
19	901	RI	00	44394	HS/	DEAD DEER	LARGE WOOD AND BOULDER HS
19	902	LP	00	44406	BV		OLD CHEWS

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
19	903	RB	01	44438	HS, BV		CHEWS, LWD, BLDRS
19	904	AL	10		BV		PARR, CHEWS, P-0605
19	905	LP	00	44452	HS/	UTM-0390337/5005767	LWD, BLDRS; 0390337/5005767
19	906	RB	01	44563	/BV	T=18C/1153	BV DEN; P-0611-0613
19	907	SD	02		BD	H=0.25M	
19	908	BP	02		BV		P-0611-0613
19	909	LP	00	44573	BV, /HS	0390251/5005643; PARR	LARGE WOOD AND BOULDER HS
19	910	RB	01	44584	HS/		LARGE WOOD AND BOULDER HS
19	911	BW	10		BV		CHEWS
19	912	BW	10		BV		CHEWS
19	913	LP	00	44595	BV		0390250/5005635; OLD CHEWS
19	914	RB	01	44683	BV, /HS	DIPPER	LWD, CHEWS
19	915	RB	02		BV		OLD DOWNED TREES 3-15CM
19	921	LP	00	44689	BV, /HS		0390244/5005522; LWD, OLD CHEW
19	922	SB	00	44689		H=0.15M	
19	923	LP	01	44701	/HS	SPOOLCART	3902445/5005522; LWD AND BOULDERS
19	924	BW	10		/HS	WATER SEEMS COOLER-LESS ALGAE ON ROCKS, PARR, LWD AND BOULDERS	
19	925	RI	00	44733		COYOTE, DEER. ELK SIGN	
19	926	LP	00	44747	BV		390268/5005488; BEAVER CHEWS
19	927	SB	00	44751		H=0.1M	
19	928	LP	01	44756	BV		390269/5005468
19	930	SB	00	44757		H=0.5M	
19	931	LP	01	44770	HS/		390269/5005968; LWD AND BOULDERS
19	932	BW	10				PARR
19	934	RB	01	44852	BV, HS	WESTERN TANAGER	LWD; FRESH,OLD BV
19	935	RI	02		BV		PARR; CHEWS
19	936	BW	10				PARR
19	937	SS	00	44853	HS	H=0.25M	PLACED BOULDERS
19	939	LP	00	44880	BV		390375/5005428
19	940	SB	00	44881		H=.05M	
19	941	LP	00	44893	BV		390390/5005416; P-0624; CHEWS
19	942	RB	01	44942	TJ/	END REACH AT WHITEHORSE CREEK	WHITEHORSE CR
19	943	CB	11			WHITEHORSE CR; T=12C	WHITEHORSE CR; T=125C/1345
19	945	SS	11		CE	H=0.2M	0.2M DROP; 1X1
19	946	DC	12			T=21C/1348	DRY CHANNEL OF WHITEHORSE CR
20	947	RB	00	44996	BV, CS/	83-0390472/5005340	RIPRAP; FRESH BV
20	948	RB	00	45092	BV, CS/		CHEWS, RIPARP
20	949	SP	00	45101	CS/, BV		390529/5005242
20	950	RB	00	45129	CS/, BV		RIPRAP; CHEWS
20	951	LP	00	45143	BV		390484/5005208
20	952	SB	00	45158	BV, HS	H=0.3M	CHEWS; LINE OF BOULDERS
20	953	RB	00	45174	HS, BV		BOULDERS; CHEWS
20	954	LP	00	45200	BV	SCREW TRAP SITE	390472/5005184;SCREW TRAP SITE
20	955	RB	00	45217	BV		WEIR; GAGE 1.2
20	956	RI	01	45247	BV		CHEWS
20	957	RB	01	45304	BV,HS,CS/		RIPRAP, BOULDERS, CHEWS
20	958	RI	02		HS		LARGE WOOD DEBRIS
20	959	RI	00	45335	HS		BOULDERS SCATTERED
20	960	LP	00	45353	HS, BV		0390519/5005030
20	961	SB	00	45354		H=0.1M	
20	962	SP	00	45388		MUSSEL BEDS	0390516/5005516; MUSSELS
20	963	RB	01	45442	CS/, BV		RIPRAP, CHEWS
20	965	LP	00	45460			0390593/5004953; MUSSELS
20	967	SP	01	45502	CS/, BV	83-0390599/5004936; T=23/1256	CHEWS, RIPRAP
20	968	BW	10		BV, CS/		0390599/5004936

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
20	969	SC	00	45502	CS/	H=0.15M	RIPRAP
20	970	LP	00	45512	CS/,BV, HS		0390632/5004958
20	971	RB	00	45535	BV,CS/,HS		BOULDERS, CHEWS, RIPRAP
20	972	LP	00	45555	BV		0390652/5004919
20	974	RI	01	45596	HS/		LWD, BOULDERS
20	975	BW	10		HS/		0390706/5004890
20	976	LP	01	45641	HS/HS,BV		0390708/5004883
20	979	RB	00	45648	HS/	H=0.3M	BOULDERS
20	980	LP	00	45657	AM	TREE FROG	0390772/5004970; TREE FROG
20	982	LP	01	45701	CS/	GETTING INTO BEDROCK	0390798/5004795; MUSSELS
20	983	BW	10		CS/	T=26C/1550	RIPRAP
20	984	SB	00	45703	CS/	DIPPER; H=0.15M	RIPRAP
20	985	LP	00	45707	CS/		0390805/5004805
20	986	SB	00	45709	CS/	H=0.15M	RIPRAP
20	987	LP	00	45719	CS/		RIPRAP
20	988	SB	00	45723	CS/	H=0.2M	RIPRAP
20	989	LP	00	45731	CS/		0390801/5004795
20	990	SB	01	45738	CS/	H=0.35M	RIPRAP
20	991	BW	10		CS/		RIPRAP
20	992	LP	00	45746	CS/		0390819/5004778
20	993	SB	00	45748	CS/	H=0.15M	RIPRAP
20	994	LP	00	45762	CS/		0390816/5004769
20	995	SR	00	45764	CS/	H=0.2M	RIPRAP
20	996	RB	00	45782	CS/		RIPRAP
20	997	SP	00	45810	CS/	SALMONID	0390821/5004744
20	998	RB	01	45830	CS/, HS		LWD, BOULDERS, RIPRAP
20	1000	LP	00	45837	CS/,HS		0390770/5004636
20	1001	RB	00	45846	CS/		RIPRAP
20	1002	LP	00	45856	CS/, HS		0390786/5004668
20	1003	RB	00	45859	CS/	H=0.1M	RIPRAP
20	1004	LP	00	45874	CS/		0390776/5004650
20	1005	SB	00	45876	CS/	H=0.1M	RIPRAP
20	1006	SP	00	45889	CS/		0390776/5004650
20	1007	SR	00	45891	CS/	H=1.0M	RIPRAP
20	1008	RB	00	45923	CS/		RIPRAP
20	1009	LP	01	45931	CS/		RIPRAP
20	1011	RB	00	45943	CS/		RIPRAP
20	1012	LP	01	45955	CS/, BV		0390718/5004624
20	1014	SR	00	45956		H=.05M	
20	1018	LP	00	45978	CS/		0390714/5004589
20	1019	RR	00	45990	BV	H=0.25M	CHEWS
20	1020	LP	01	46004	BV	T=23C/1320	0390699/5004547
20	1021	IP	10			T=17C/1314	IP T=17C/1315; P-0652
20	1022	BW	10		BV	UTM-0390771/5004562	0390697/5004592
20	1023	BW	10		BV, HS	T=24C/1529	CHEWS, LWD
20	1025	BW	10				0390715/5004655
20	1026	LP	00	46061		PILE OF GRAVEL-P-0652	03907225/5004532
20	1027	SB	00	46062		H=0.15M	
20	1028	LP	01	46079			0390732/5004518
20	1030	SB	00	46080		H=0.1M	
20	1031	LP	00	46084	BV		0390749/5004516
20	1032	SB	00	46086		H=0.15M	
20	1033	LP	00	46091			0390753/5004502
20	1034	RI	00	46113	BV		OLD CHEWS
20	1035	RB	01	46131	BV		OLD CHEWS

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
20	1036	BW	10		BV		FRESH CHEWS
20	1037	LP	00	46149	BV		0390783/5004467
20	1038	RB	01	46178	BV		CHEWS
20	1040	RI	01	46205	BV		OLD CHEWS
20	1042	LP	01	46216	BV		0390835/5004435
20	1043	BW	10				MUSSELS
20	1044	SB	00	46220	CS/	H=0.1M;	RIPRAP
20	1045	LP	01	46233	CS/		0390865/5004437
20	1047	SC	00	46234	CS/	H=.05M	RIRAP
20	1048	LP	00	46236	CS/, BV		0390863/5004429
20	1049	SB	00	46237	CS/	H=0.15M	RIPRAP
20	1050	LP	00	46240	HS, CS/		BLDRS, RIPRAP
20	1051	SB	00	46242	CS/	H=0.1M	RIPRAP
20	1052	LP	01	46271	CS/, BV		0390875/5004419
20	1055	SB	00	46273	CS/	H=0.25M	RIPRAP
20	1056	LP	00	46278	CS/	T=15C/1025	0390774/5004505
20	1057	RB	01	46318	CS/		RIPRAP
20	1058	BW	10				PARR
20	1059	LP	01	46332	CS/,HS/		0390929/5004350
20	1061	BW	10		CS/,HS/		LWD, RIRAP, BOULDERS
20	1062	BW	10		CS/,HS/		LWD, RIRAP, BOULDERS
20	1063	SC	00	46333	CS/,HS/	H=0.1M	LWD, RIRAP, BOULDERS
20	1064	SP	01	46345	CS/,HS/HS		0390938/5004360
20	1065	BW	10		/HS		CHAMP SITE 1066-1114
20	1066	RI	00	46368		CHAMP SITE 486202 BOS (360)	0390935/5004349; CHAMP 486202
20	1067	LP	01	46391			0390936/5004304
20	1068	BW	10				MUSSELS, PARR
20	1070	SR	00	46392		H=0.2M	
20	1073	LP	01	46417		HALF OF WETTED IS BEDROCK BAR	0390929/5004278
20	1075	SR	00	46418		P-0683-0685; H=0.15M	PINE DEAD FROM BEETLE
20	1076	SP	01	46429			0390946/5004254
20	1079	SR	00	46430		H=0.25M	
20	1080	LP	00	46445		T=25C/1545	0390923/5004256; T=25C/1545
20	1083	RI	00	46511			MUSSELS
20	1084	LP	01	46522	BV, HS/		0390956/5004180
20	1085	BW	10		HS	T=17C/1230	0390964/5004183
20	1086	RI	01	46536		MUSSEL BEDS	
20	1087	BW	10		HS		0390943/5004169
20	1088	BW	10		/HS		0390967/5004181
20	1089	RB	01	46604	/HS,CS/		LWD, RIPRAP, BOULDERS, MUSSELS
20	1094	RI	00	46641	CS/, SS/	83-0390945/5004102; T=19C/1115	SS T=14C/1245
20	1095	RB	01	46662	BV	ELK TRACKS; SEEP T=14.5C/1245	OLD CHEWS
20	1099	LP	01	46676	BV, HS/		0390917/5004056
20	1102	BW	10				0390902/5004055
20	1103	SR	01	46678		H=0.25M	
20	1104	RI	01	46693	BV	PHOTOS 0699-700	FRESH AND OLD CHEWS
20	1105	LP	02				0390896/5004052
20	1106	SB	02			H=0.1M	
20	1107	LP	02				0390882/5004047
20	1108	LP	01	46729	HS/HS	CHAMP SITE 486802	0390873/5004012; END OF CHAMP
20	1109	BW	10		BV		0390884/5004039; PARR
20	1111	BW	10				0390901/5004009; PARR
20	1115	RI	00	46739	BV		CHAMP SITE U1066-1114
20	1116	LP	00	46758	BV		0390880/5003988
20	1117	SB	00	46759		H=0.1M	

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
20	1118	LP	01	46764	BV		0390875/5003983
20	1120	SC	01	46772		H=0.2M	
20	1121	LP	01	46782	/HS	T=13.5C/0915	0390853/5003973; LWD, BOULDERS
20	1122	SC	01	46788		H=0.2M	
20	1123	LP	01	46806	WL	WESTERN BLUEBIRD	0390867/5003940
20	1124	RB	01	46829	WL, HS/	JUVENILE EAGLE	LWD
20	1126	SC	02		BV	H=0.45M	OLD CHEWS
20	1129	LP	01	46878			0390847/5003886
20	1133	LP	00	46932			0390843/5003814
20	1135	SP	00	46945			0390862/5003824
20	1136	SB	00	46946		H=0.5M	
20	1137	LP	00	46950	CS/	RIPRAP	
20	1138	RB	00	46993	CS/, BV	RIPRAP	
20	1139	LP	00	46999	CS/, BV		0390853/5003746
20	1140	RB	00	47021	CS/	RIPRAP	
20	1141	SP	00	47031	CS/,BV		0390851/5003735
20	1142	SB	00	47033	CS/, BV	H=0.15M	RIPRAP, CHEWS
20	1143	LP	00	47036	CS/, BV		0390847/5003745
20	1144	RB	01	47067	CS/, BV	CHEWS, RIPRAP	
20	1146	LP	01	47089	CS/,CE/,BV	0390856/5003677	NO WATER IN CHANNEL
20	1148	SB	00	47094	CS/CS	H=0.25M	RIPRAP
20	1149	LP	00	47107	CS/CS, BV	T=17C/1130	RIPRAP, CHEWS
20	1150	RB	00	47164	BV, CS/CS	UTM-0390853/5003609	RIPRAP, CHEWS
20	1151	RI	00	47204	BV		
20	1152	LP	01	47218	BV, HS/		0390863/5003550; LWD, BLDRS
20	1154	RB	01	47237	BV	CHEWS	
20	1155	BW	10				0390850/5003522
20	1156	LP	01	47278	HS/HS, BV		0390871/503483; LWD, BLDRS
20	1157	BW	10		BV		
20	1158	BW	10				0390864/5003497
20	1159	RB	00	47324	BV		
20	1160	LP	01	47337	BV, /HS		0390907/5003421; LWD, BLDRS
20	1161	BW	10				0390920/5003430
20	1162	RB	01	47380	BV		CHEWS
20	1163	PD	02			ACW=2.5M	
20	1164	LP	00	47406		T=13.5C/0836	0390935/5003368
20	1165	SC	00	47415	BV	H=0.2M	CHEWS
20	1166	LP	00	47429	HS/		0390937/5003344
20	1167	RB	01	47482	CS/, HS/HS	LWD, BLDRS, RIPRAP	
20	1172	LP	01	47495	BV, CS/		0390964/5003271
20	1173	LP	02		BV		0390929/5003320
20	1174	SC	02			H=0.15M	
20	1176	PD	02			ACW=3.0M	
20	1177	SP	02				0390937/5003293
20	1178	DU	02			ACW=4.0M	
20	1179	RI	01	47517	CS/	RIPRAP	
20	1180	BW	10				0390947/5003254
20	1181	LP	01	47528	CS/		0390947/5003240
20	1182	SR	02		CS/	H=0.3M	RIPRAP
20	1184	SR	00	47530	/HS, CS/	H=0.25M	LWD, BOULDERS, RIPRAP
20	1185	RI	00	47545	CS/		RIPRAP
20	1186	LP	01	47568	CS/		RIPRAP
20	1187	SR	01	47572	CS/	H=0.15M	RIPRAP
20	1188	SP	02		/TJ	T=20C/1242	0390945/5003201; UNNAMED TJ
20	1189	PD	02			ACW=3.0M	

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
20	1191	RI	11			T=10.5C/1230	0390119/5003083; T=11C/1240
20	1192	LP	00	47578	CS/	UTM-0390119/5003083	0390960/5003186
20	1193	RB	01	47618	CS/	P-0731	RIPRAP
20	1196	LP	00	47628	CS/		0390960/5003151
20	1197	SC	00	47641	CS/	H=0.15M	RIPRAP
20	1198	LP	01	47653	HS/HS		0390964/5003115; LWD, BLDRS
20	1199	BW	10				0390970/5003126
20	1200	BW	10		BV		0390967/5003113
20	1201	RB	01	47676	BV, TJ/	T=21C/1418	UNNAMED TJ
20	1202	RI	11			T=10.5C/1550; UTM-0390976/5003072	0390976/5003072
20	1203	BW	10		BV		0390960/5003092
20	1204	LP	00	47692	HS/HS	T=21.5C/1552	0390965/5003086;LWD, BLDRS
20	1205	BW	10		BV		0390969/5003087
20	1207	LP	01	47757	HS/HS	W.LARCH,LODGEPOLE PINE;T=13C/084	0390974/5003017; LWD, BLDRS
20	1211	RI	01	47799	/CS,HS,BV	WHT PINE, W.LARCH, LODGEPOLE, PON	DEROSA, D.FIR, E.SPRUCE, PLACED LO
20	1214	LP	00	47817			0390978/5002954
20	1215	RB	01	47911	CS/	SPOTTED SANDPIPER	RIPRAP
20	1217	LP	01	47917	CS/	T=18C/1016	0391016/5002884
20	1218	BW	10				0391005/5002870
20	1219	SB	00	47919	CS/	H=0.05M	RIPRAP
20	1220	LP	01	47929	BV, HS/		0391015/5002861; LWD, BLDRS
20	1221	BW	10		CS/	OTTER SCAT	RIPRAP
20	1223	RB	01	47965	CS/		RIPRAP
20	1224	BW	10				0391998/5002829
20	1225	LP	00	47976	CS/		0391008/5002828
20	1226	RI	01	48064	BV, HS/HS	DEAD TREES-OLD PRESCRIBED BURN	LWD, BLDRS, OLD CHEWS
20	1227	BW	10				0390994/5002788; PARR
20	1228	LP	00	48071	BV		0391007/5002715
20	1229	SB	00	48072	BV	H=0.15M	OLD CHEWS
20	1230	LP	00	48091	BV, /HS	LARGE FISH SPINE	0391010/5002678
20	1231	RB	01	48135	AM, HS/	TREE FROG, LWD, BLDR	
20	1232	BW	10		BV		0390970/5002695
20	1234	PD	02			ACW=1M	
20	1235	SP	02			DEAD RODENT IN WATER	
20	1237	LP	01	48145	/HS	UTM-0391002/5002682; T=25C/1351	0391007/5002667; LWD, BLDRS
20	1238	BW	10				0390989/5002655
20	1240	RI	01	48210	HS/, BV		CHEWS, LWD, BLDRS
20	1245	PD	02		BV		OLD CHEWS
20	1246	LP	00	48222	BV		0391036/5002596
20	1247	SC	00	48225		H=0.05M	
20	1248	LP	01	48253	BV, /HS		0391046/5002576
20	1249	BW	10				0391055/5002577
20	1252	SB	00	48255	BV	H=0.45M	
20	1253	DP	00	48266		BOULDERS	0391076/5002582
20	1256	LP	00	48290			0391102/5002570; PARR
20	1258	LP	02				0391110/5002571; CRAYFISH,PARR
20	1259	LP	00	48310	BV		0391125/5002565
20	1260	CB	00	48311		H=0.05M	
20	1261	LP	00	48320			0391130/5002547
20	1262	RI	01	48355	CS/	T=19C/1115	RIPRAP
20	1263	BW	10		CS/		0391164/5002594; MUSSELS
20	1264	LP	01	48363	CS/		0391153/5002536
20	1265	SC	01	48367	CS/	H=0.1M	RIPRAP
20	1266	LP	01	48385	BV		0391176/5002506
20	1270	LP	01	48418	BV		0391181/5002469

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
20	1271	LP	02		BV		0391193/5002495
20	1272	SC	01	48423		H=0.2M	PHOTO=2 ADULT CHINOOK
20	1273	LP	01	48457	BV, HS, AM	2 ADULT CHINOOK	0391215/5002443; FROG
20	1275	BW	10		BV		0391200/5002436
20	1276	LP	02				0391173/5002510; PARR
20	1277	PD	02		CS/		RIPRAP
20	1278	SP	02		CE/,CS/,HS		NO WATER IN CULVERT
20	1279	RI	02		CS/		RIPRAP
20	1281	LP	00	48482			0391196/5002419
20	1282	RI	00	48530	BV		OLD CHEWS
20	1283	LP	01	48544	BV, HS/		0391191/5002350
20	1285	RI	01	48577	BV, /HS		LWD, BOULDER, CHEWS
20	1287	LP	01	48587	BV,CS/,/HS		0391227/5002332
20	1289	RB	01	48602	BV, CS/		RIPRAP, CHEWS
20	1291	LP	01	48623	CS/,BV		0391253/5002297
20	1293	RB	00	48655	BV, CS/	ADULT SALMON; DEER TRACKS	RIPRAP, CHEWS
20	1294	LP	01	48668	BV,WL,HS	P-0772-774	0391243/5002257; ADULT SALMON
20	1295	BW	10		BV		0391234/5002258
20	1296	RI	01	48702	BV	T=13C/0847	CHEWS
20	1297	LP	01	48719	BV, HS/HS	UTM 83-0391248/5002253; GR 26	0391266/5002220
20	1298	DU	02				SOIL AND GRASSES-SUBSTRATE
20	1299	LP	02				SOIL SUBSTRATE
20	1300	DU	02		WL		ELK, DEER TRACKS
20	1302	DU	02		CS/		RIPRAP
20	1303	RI	01	48755	BV		CHEWS
20	1304	LP	01	48780	BV, HS/HS		0391294/5002148
20	1305	BW	10		BV		0391285/5002146
20	1306	BW	10		BV	LOTS OF ELK, DEER SIGN	0391299/5002148
20	1307	RI	01	48865	BV	GR 27-TAG ON TREE	CHEWS
20	1308	LP	02		BV		CHEWS
20	1309	RI	02		BV		CHEWS
20	1310	RI	02		HS/		LOG
20	1311	DU	02				OVERGROWN CHANNEL
20	1313	LP	01	48880	BV	O.MYKISS W/FUNGUS ON HEAD-PHOTO,	0391328/5002051
20	1314	SC	01	48886		H=0.2M	
20	1315	LP	01	48905	HS/		0391346/5002036; LWD
20	1316	RI	01	49013	/HS, WL,BV	SPOTTED SANDPIPER	LWD, CHEWS
20	1317	LP	01	49030	BV	T=21C/1230	0391333/5002924
20	1318	LP	02		BV		0391354/5002093
20	1319	DU	02		BV		HEAVY BV
20	1320	LP	02		HS/		0391351/5002028; LWD, PARR
20	1322	PD	02			DUCKWEED	CHANNEL MUD, GRASS
20	1323	LP	02		AM	T=15C/1300; FROG	T=15C/1300, FROG, DUCKWEED
20	1324	PD	02		WL		GARTER SNAKE
20	1325	DU	02				OVERGROWN W/GRASS, DARK SOIL
20	1326	PD	02				GRASS, DUCKWEED IN CHANNEL
20	1327	LP	02				GRASS, DUCKWEED IN CHANNEL
20	1328	DU	02		WL		ELK RUB
20	1330	DU	02				DARK SOIL W/ GRASS
20	1331	RI	01	49050	WL	GARTER SNAKE	
20	1332	LP	01	49071	BV,WL,/HS	SALMON SKELETON	0391304/5001894
20	1333	RI	01	49089	BV	CHEWS	
20	1334	LP	01	49103			0391292/5001855
20	1335	RI	02		/HS	27-0391352/5001604	ADULT SALMON; LWD, BLDRS
20	1336	RI	00	49143	BV	T=23C/1500; 83-0391271/5001805	NAD 27 FROM U1337-1366

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
20	1337	LP	01	49163	BV, HS		0391349/5001610
20	1338	RI	01	49332	HS, BV,/SS	DEER TRACKS; SPRING W/T=9C/1020	FRESH CHEWS, SS T=9C/1020
20	1339	PD	02		BV		CHEWS
20	1340	DU	02		BV		DARK SOIL, GRASS
20	1341	LP	00	49348	HS		0391358/5001437; LWD, BLDRS
20	1342	RI	01	49389	WL, HS	ELK TRACKS, LWD, BLDR	
20	1343	BW	10				0391386/5001406
20	1344	PP	01	49393			0391396/5001395
20	1345	SB	01	49394		H=0.25M	PLACED BLDRS?
20	1346	DP	01	49407	WL		0391411/5001396; DEER TRACKS
20	1347	SC	01	49412		H=0.1M	
20	1348	LP	01	49420	WL, HS/		0391415/5001386, SALMON
20	1350	SS	01	49433		H=0.25M	
20	1351	DP	01	49460	WL, BV	BV AND COYOTE TRACKS	0391438/5001384; CANINE TRACKS
20	1352	RI	01	49516	AM,WL,BV	WATER TEMP GAUGE	FROG, GARTER SNAKE, CHEWS
20	1353	LP	02		WL		0391387/5001390; ELK TRACKS
20	1354	SB	02			H=0.2M; ELK TRACKS	PLACED BOULDERS
20	1355	RI	02		WL		ELK TRACKS
20	1356	DU	02		WL		GARTER SNAKE
20	1357	PD	02		WL,AM	FROG P-0819; T=19.5/1200	FROG, GARTER SNAKE
20	1358	LP	02		HS/, BV		0391481/5001396; LWD, BLDRS
20	1360	RI	02		WL		DEER TRACKS
20	1361	BW	10				0391526/5001381
20	1362	RI	01	49569	/HS,WL	CAMPSITE ON RT	/CAMPSITE; GARTER SNAKE
20	1363	LP	00	49593	BC,HS,BV	BRIDGE (FS 5115)	0391581/5001347; FS 5115
20	1364	SC	00	49594	CS/CS	H=0.2M	PLACED STEP
20	1365	DP	00	49607	CS/CS,WL	WEATHER DATA STATION GAUGE	0391592/5001335; DEER, CANINE
20	1366	RI	01	49750	WL,HS,CS	/TREE PLANTINGS, END REACH	GARTER SNAKE, BLDRS
21	1367	RI	01	49833	BV,HS,CS	ELK SCAT, TRACKS	LWD, BLDR, RIPRAP
21	1368	LP	02			T=17.5C/1345	
21	1369	LP	00	49860	BV,HS	UTM 83-0391574/5001403; GR 30	0391600/5001307
21	1370	RI	01	49933	WL,BV	SALMONID, WHITEFISH	ADULT SALMON, ELK TRACKS
21	1371	LP	01	49950	HS,WL		0391670/5001251; ELK, DEER TRA
21	1372	DU	02				DARK SOIL, GRASS
21	1373	RI	01	50005	/TJ,WL	T=12C/0840	UNNAMED TJ; T=11C/0900
21	1374	LP	11			T=8C/0908	0391634/5001160
21	1375	RI	11		WL		T=8C/0908; ELK, DEER TRACKS
21	1376	PD	02			TRIB FLOWS THROUGH HS	DARK SOIL, GRASS
21	1377	SP	02			ALONG SIDE OF RIVER	DARK SOIL, GRASS
21	1378	DU	02			FULL OF AQUATIC PLANTS	DARK SOIL, GRASS
21	1379	PD	02				DARK SOIL, GRASS
21	1380	DU	02				DARK SOIL, GRASS
21	1381	RI	00	50067	WL, BV	START CHAMP SITE 235322 (320M)	CHAMP SITE 235322; DEER,ELK TR
21	1382	LP	00	50087	HS/,WL	T=11C/0900	0391733/5001149
21	1383	RI	01	50149		RIVER SPLITS	
21	1384	LP	01	50174	BV,/SS,WL	0391782/5001097	ELK, COYOTE TRACKS
21	1385	RI	01	50184	HS/	BV TUNNELS ALONG BANK; SPRING	LWD
21	1386	LP	01	50195	AM,BV,/HS		0391793/5001083;FROG, COYOTE
21	1387	RI	01	50219	HS/		LWD
21	1388	LP	01	50238		POOLS FLAGGED IN CHAMP SECTION	0391828/5001064
21	1389	RI	01	50348	BV, /HS		MUSSELS
21	1390	RI	02		CS/,CE/,WL		DRY CULVERT ENTRY, SNAKE
21	1391	LP	02		CS/		0391845/5001092
21	1393	PD	02		AM	FROG P-0831	TREE FROG; P-0830-831
21	1394	DU	02				CHANNEL = DARK SOIL AND GRASS

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
21	1395	PD	02				CHANNEL = DARK SOIL AND GRASS
21	1396	DU	02		WL	W.TANAGER, CLIFF SWALLOWS	CHANNEL = DARK SOIL AND GRASS
21	1397	RI	01	50521	WL	T=19C/150	DEER, ELK TRACKS; SNAKE
21	1398	LP	02			UTM 83-0391895/5000977	
21	1400	SP	02		AM		FROG
21	1401	PD	02		AM		FROG, SNAILS
21	1403	LP	00	50546	WL,HS,BV		0392032/5000959
21	1405	LP	00	50601	HS	CRAYFISH IN MOST UNITS	0392080/5000910
21	1406	RI	01	50734	TJ/,AM/WL		FROG, SNAKE, UNNAMED TJ
21	1407	PD	11		WL		0392145/5000868, SNAKE
21	1408	LP	00	50744	WL, CS/	NO TEMP-LOW WATER, ELK TRACKS	0392143/5000807; SALMON
21	1409	RI	00	50905	CS, HS		RIPRAP
21	1410	BW	10			DEER, ELK PRINTS	
21	1411	RI	00	51078	WL, HS	T=12C/0820; 83-0392021/5000670	DEER TRACKS, LWD, BLDRS
21	1412	RI	00	51132	BV		CHEWS
21	1413	LP	00	51145	CS/,/HS	START CHAMP 370490 (360 LONG)	0391984/5000508; CHAMP 370490
21	1414	RI	00	51267	BV	ELK, DEER TRACKS, CHEWS	
21	1415	LP	00	51281	HS/	GR 34	0392034/5000386
21	1416	RI	01	51411	WL,CS,HS	LWD, BLDRS	
21	1417	BW	10			COLD SEEP	0392053/5000340
21	1418	LP	00	51438	CS	T=17C/1135	0392141/5000360
21	1419	RI	00	51480	CS/	END CHAMP 370490	END CHAMP 370490
21	1420	LP	01	51494			0392137/5000294
21	1421	RI	01	51653	HS, WL	MUSSELS, ELK TRACKS; LWD	
21	1423	RI	02		AM,WL		FROG, ELK, DEER TRACKS
21	1424	DU	02		WL		ELK, DEER TRACKS
21	1425	RI	01	51700	BV	FRESH CHEWS	
21	1426	LP	01	51718	/HS	SALMON; GR 36	0392105/5000065; LWD
21	1427	LP	02			HS DIVERTS WATER INTO 02	
21	1428	PD	02			VW=26.5	
21	1429	DU	02				0392326/4999859
21	1430	SC	00	51730		H=0.45M	
21	1431	LP	00	51754	HS/,BV		0392116/5000060
21	1432	RI	00	51900	WL,CS/	SM MAMMAL TRACK; RIPRAP	
21	1433	RI	00	52051	CS,WL	ELK, DEER TRACK, RIPRAP	
21	1434	LP	00	52075	HS,CS	T=21C/1420; UTM-0392325/4999849	0392326/4999859;5 ADULT SALMON
21	1435	RI	00	52180	/HS,CS/	MANY SALMON IN U1434	LWD, RIPRAP
21	1436	RI	01	52260	WL,HS	GR 37	ELK, DEER TRACKS
21	1437	RI	02		CS,HS		LWD, BLDRS
21	1438	RI	00	52398	HS,WL,CS	T=10.5C/0920	ELK, DEER, LWD, BLRS
21	1439	RI	01	52567	BV,CS		RIPRAP, CHEWS
21	1440	RI	01	52593	/SS	1/2 EATEN SALMON ON HS	CHAMP SITE 321338
21	1441	RI	02		CS/		CHAMP 321338
21	1442	RI	02		WL	START CHAMP 321338; 392699/4999599,	GOOSE FEATHER
21	1443	SS	00	52594		H=0.4M; T=16C/1030	
21	1444	DP	00	52610	WL,HS	BAT-BROWN BODY	0392698/4999599; BAT; LWD, BLD
21	1445	RB	00	52651	CS/		RIPRAP
21	1446	LP	00	52660	CS/	LODGEPOLE, LARCH	RIPRAP
21	1447	RB	00	52683	CS/		RIPRAP
21	1448	LP	00	52692	CS/		0392703/4999516
21	1449	SB	00	52696	CS/	H=0.25M	RIPRAP
21	1450	LP	00	52703	CS/		0392705/4999508
21	1451	SB	00	52712	CS/, WL	H=0.25M	EAGLE FEATHER
21	1452	LP	00	52731	HS,HS,CS/		0392703/4999497;2 ADULT SALMON
21	1453	CB	00	52799	CS/	RIPRAP	

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
21	1454	LP	00	52817	CS/,PN	DEEP POLE WITH CASCADE	0392672/4999414;3 ADULT SALMON
21	1455	CB	00	52848	CS/	MILE MARKER 6	BIG CHUNKS OF BRK
21	1456	RI	00	52911	CS/	END CHAMP 321338	END CHAMP 321338
21	1457	RI	00	53051	CS/		RIPRAP
21	1458	LP	00	53058			0392608/4999197
21	1459	RI	00	53108	CS/, HS		LWD, RIPRAP
21	1460	RI	00	53246	TJ/, BV	0392697/4998928; T=18.5C/1430	UNNAMED TJ; ADULT SALMON
21	1461	RI	11		CC, CS	T=14C/1510	T=14C/1530
21	1462	LP	00	53256	WL	T=19C/1520	0392637/4999006
21	1463	RI	00	53394	CS/, HS/HS		BLDRS, RIPRAP, LWD
21	1464	LP	00	53407	WL	T=12.5C/0850	0392545/4998892; ELK TRACKS
21	1465	RI	01	53512	/HS		LWD
21	1466	PD	02				CHANNEL DARK SOIL,GRAVEL,SAND
21	1467	DU	02				CHANNEL DARK SOIL,GRAVEL,SAND
21	1468	RI	00	53598	HS/HS,CS/	START CHAMP 000277 (360M); GR 40	BEGIN CHAMP 000277, LWD
21	1469	RI	00	53730	HS/	T=14C/0945	SALMON SKELETON; LWD
21	1470	RI	00	53893	/HS, BV	UTM-392595/4998388; END OF CHAMP S	END CHAMP 000277
21	1471	RI	01	54006	WL, HS/HS	VW=35, ELK, DEER TRACKS	LARGE WOOD, BOULDERS
21	1472	BW	10				PARR
21	1473	LP	02		/HS,WL		0392736/4998437; LWD, TRACKS
21	1475	RI	02		WL	HAWK W/ BLACK TIP WINGS, WHITE TAIL	
21	1476	RI	00	54185	HS		LWD, BLDRS
21	1477	RI	00	54300	CS/	T=19C/1240; MERGANSERS	RIPRAP
21	1478	RI	00	54315	WL	UTM-392923/4998184	MERGANSER FAMILY
21	1479	LP	00	54326	HS/		0392921/4998160; LWD, BLDRS
21	1480	RI	00	54403	HS/HS	USES 51 BRIDGE	LWD, BLDRS
21	1481	LP	00	54428			0392934/4998078
21	1482	RI	00	54497	BC,WL,AM	BIG LARCH TREE	USFS RD 51; DEER TRACKS, FROG
21	1483	LP	00	54510	/CS		0393014/4998019
21	1484	RI	00	54678	/CS		RIPRAP
21	1485	RB	00	54786	/CS		RIPRAP
21	1486	LP	00	54796			0393124/4997762
21	1487	RB	00	54853	WL, HS/HS		LWD, BLDRS, DEER TRACKS
21	1488	LP	00	54868	/CS		0393077/4997726
21	1489	RB	00	54906	/CS	T=24C/1520	RIPRAP
21	1490	RI	00	54991	/CS,CE,HS/		RIPRAP, LWD, BLDR, PERCHED CE
21	1491	RB	00	55030	/CS	T=12C/0825; UTM-393021/4997610	0392995/4997574, END REACH
22	1492	MX	00	65838		VEY MEADOWS	VEY MEADOWS-NO ACCESS
23	1493	RI	01	66001	BV, HS	GR 01; START CHAMP 468458; T=12C/10	0395111/4992665;CHAMP 468458
23	1494	RI	02			VW=139.2	SUBSTRATE DARK SOIL AND GRASS
23	1495	LP	02			U1493 UTM-396486/4991543	SUBSTRATE DARK SOIL AND GRASS
23	1496	RI	02			SALMON AT U1493	SUBSTRATE DARK SOIL AND GRASS
23	1497	LP	02		WL	RED BREASTED NUTHATCH	SUBSTRATE DARK SOIL AND GRASS
23	1498	PD	02			T=11C/1230	T=11C/1230
23	1499	LP	02				SUBSTRATE DARK SOIL AND GRASS
23	1500	PD	02				SUBSTRATE DARK SOIL AND GRASS
23	1501	DU	02				SUBSTRATE DARK SOIL AND GRASS
23	1502	RB	00	66050		END CHAMP 468458; OTTER SCAT	END CHAMP 468458
23	1504	LP	00	66082	WL		0395290/4992513;2 ADULT SALMON
23	1506	SB	00	66155	CS/	H=0.4M	PLACED BOULDERS
23	1507	DP	00	66163	CS/	FISH ACCLIMITAGATION HOLDING PEN	0395362/4992463
23	1508	RI	00	66183		MOSSY, VERY SHADED	
23	1509	RB	01	66364	BV	MANY 02 CHNLS	ADULT SALMON
23	1510	RB	01	66394	WL	T=17C/1515	DEER TRACKS
23	1511	RI	01	66456	HS/HS	T=15C/1410	LWD

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
23	1512	SP	01	66468		LOTS OF WOOD IN THIS AREA-PLACED AND NATURAL, 0395673/4992149	
23	1513	RB	01	66516	WL	DEER TRACKS	
23	1514	RI	02		HS/HS	CHANNEL CLOGGED WITH DEBRIS	
23	1515	RI	02		HS/HS		
23	1516	RI	02		WL		DEER TRACKS
23	1518	SL	02			H=0.65M	LOG CROSSING SANDY CHNL
23	1519	LP	02			T=12C/0900	
23	1520	RI	02		WL		DEER TRACK
23	1521	SL	02			BEAR TRACKS	
23	1522	PD	02		WL		BEAR TRACKS
23	1523	LP	02			PARR	~10 PARR
23	1524	RI	02		WL		~21 PARR, DEER TRACKS
23	1526	SD	02		BD	H=0.45M	OLD BV DAM 2.5*1.5M
23	1527	PD	02		WL		
23	1528	LP	02		BV		DOWNED TREE BY BV
23	1530	DU	02		WL	MANY BEAR TRACKS	ELK SCAT
23	1532	LP	01	66525			0395656/4992363
23	1533	RB	01	66541		SALMON	2 ADULT SALMON
23	1535	LP	02		WL		0395565/4992341;DEER TRACKS
23	1536	RB	02				DEER TRACKS = DT
23	1537	DP	02		WL	TOWNSEND SOLITAIRE	0395566/4992319; DT
23	1539	RI	02			BLUEBELLS	
23	1541	RB	01	66689	WL, 2-TJ/		UNAMMED TJ, SALMON SKELETON
23	1543	SB	02			H=0.6M	
23	1544	RI	11			T=10C/0900	T=10C/0900
23	1545	RI	11		WL	T=7C/1300	ELK SCAT
23	1546	RI	00	66781		UTM-395787/4992296; T=14C/1145	
23	1547	LP	01	66790	WL,HS/		0395791/4992211;GARTER SNAKE
23	1548	BW	10		/LA		
23	1549	RI	00	66823	/HS		LARGE WOOD AND BOULDER HS
23	1550	RB	00	66886	WL, BV	START CHAMP 206314; BAT	OLD CHEWS, ELK TRACKS
23	1551	PP	01	66892			0395782/4992170; CHAMP 206314
23	1552	SB	01	66893		H=0.55M	
23	1556	LP	00	66961	/HS		0395801/4992106;ADULT SALMON
23	1558	LP	01	67009		T=14.5C/1515; UTM-395842/4992116	0395829/4992123
23	1559	RB	01	67028	BV		CHEWS
23	1560	LP	01	67034		T=11.5C/0940	0395839/4992115
23	1561	SC	01	67039		H=0.25M	
23	1562	LP	01	67045			0395843/4992107
23	1563	DU	02			THICK AND BRUSHY	
23	1565	CB	00	67056		END CHAMP 206314	END CHAMP SITE 206314
23	1567	PP	00	67079	/LS		0395867/4992101;ADULT SALMON
23	1568	CB	00	67138	/LS		
23	1569	LP	00	67146			1395931/4992021;SALMON
23	1570	RB	01	67282	TJ/,WL	T=14C/1135	UNNAMED TJ, DT, SALMON
23	1571	RI	11			T=13C/1130	T=13C/1130
23	1572	LP	00	67298			0395956/4991990
23	1573	RB	00	67331			SALMON
23	1574	LP	00	67340			0395928/4991958;SALMON
23	1575	RB	00	67467	WL		DIPPERS, ELK TRACKS
23	1576	RB	00	67558			2 ADULT SALMON
23	1577	LP	00	67569		UTM-396031/4991806; T=17.5C/1330	0396056/4991811; SALMON
23	1579	LP	00	67595		OPENS UP, MANY SALMON	0396065/4991818; SALMON
23	1580	RI	01	67720	WL,HS*2	SHALLOW, SALMOND	GARTER SNAKE, BEAR TRACKS
23	1582	LP	00	67735			0396128/4991899; SALMON

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
23	1584	SP	00	67789	HS/HS	GR6, END REACH	0396155/4991891; LWD, SALMON
24	1585	LP	00	67812			0396210/4991886; SALMON, REDD
24	1586	RI	01	67821		UTM-0396228/4991874; T=10.5C/1015	
24	1588	LP	01	67853	HS/		0396255/4991858; REDDS, SALMON
24	1589	LP	02			VW=41.5	0396234/4991870
24	1590	SC	00	67859		H=0.1M	
24	1591	LP	00	67876	HS/		0396276/4991851; SALMON, LWD
24	1593	LP	00	67911	HS/		0396290/4991845. REDD, SALMON
24	1594	RI	00	67927	HS		LWD
24	1595	LP	01	67972	WL, 3*HS	SALMON, BEAR TRACKS	0396303/4991810
24	1596	BW	10				0396310/4771789
24	1597	RI	00	67982		H=0.35M	
24	1598	LP	00	67996		SALMON EGGS AT TOP OF POOL	0396317/4991755; SALMON EGGS
24	1599	SS	00	67997		H=0.2M; V-SHAPED	
24	1600	LP	00	68032	5*HS		0396324/4991744; LWD, SALMON
24	1601	LP	00	68054	HS		0396345/4991717; BLDRS
24	1603	LP	00	68082	2*HS		0396363/4991685; LWD, REDD
24	1604	SC	00	68084		H=0.15M	
24	1605	LP	00	68096	/LA, HS	INTERESTING ROCK CONGLOMERATE	0396364/4991674; SALMON, LWD
24	1606	RI	00	68124	/LA, HS	REDDS IN EVERY POOL	
24	1607	LP	00	68136			0396387/4991637; SALMON, REDD
24	1608	RI	00	68157	2*HS		LWD, BLDRS
24	1609	LP	00	68178	HS		0396399/4991614;SALMON CARCASS
24	1610	SC	01	68182		H=0.1M	
24	1611	LP	01	68190	HS, WL		0396406/4991590; SALMON, REDD
24	1613	AL	10			DRY	VERY SANDY SOIL
24	1614	LP	00	68203	HS	0396412/4991580	SALMON; LWD, BOULDERS
24	1615	SC	00	68205		H=0.15M	
24	1616	LP	00	68211			0396406/4991568
24	1617	RI	01	68227	HS		LWD
24	1618	AL	10			DRY	
24	1619	LP	00	68246	HS		0396427/4991554; SALMON
24	1620	LP	00	68260	HS*2		0396440/4991549; LWD, BLDRS
24	1621	RI	00	68266	WL	H=0.15M	DT
24	1622	LP	00	68284	WL		0396459/4991539;BEAR TRACKS
24	1624	LP	01	68325	HS, WL		0396487/4991548;SALMON, REDD
24	1625	SC	02			H=0.15M	
24	1626	LP	02				0396484/4991536
24	1627	RI	02		HS		LWD
24	1628	LP	02		WL		ELK TRACKS
24	1630	LP	00	68354	HS		0396521/4991554
24	1632	LP	00	68372			0396539/4991550; SALMON
24	1634	LP	00	68408	HS		0396555/4991530;SALMON CARCASS
24	1635	SC	00	68412		H=0.25M	
24	1636	LP	00	68420	HS		0396571/4991513; LWD
24	1637	SC	00	68429		H=0.15M	
24	1638	LP	00	68473	WL, HS		039583/4991502;BEAR TRACKS, LW
24	1639	RI	00	68510	HS,WL		DT,LWD, EROSION ON RT
24	1640	LP	00	68526	HS*3		0396619/4991440; LWD
24	1641	LP	00	68544	HS*2		0396616/4991427; LWD, BLDRS
24	1643	LP	01	68580			0396630/4991389;SALMON, REDD
24	1644	LP	02		HS		0396621/4991405;REDD, LWD
24	1645	RI	02		HS		LWD, SALMON SKELETON
24	1646	RI	00	68599			VEGETATION EXCLOSURE/
24	1647	SP	00	68611	HS*2		0396637/4991354

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
24	1648	SS	00	68611	HS	H=0.25M; SILL LOG	NOTCHED HAB LOG
24	1649	LP	00	68631	HS*2		0396639/4991347;SALMON ,EXCL/
24	1650	RI	00	68640	WL		VEG EXCLOSURE, ELK TRACKS
24	1651	LP	00	68649			0396644/4991320
24	1652	RI	00	68658			VEG EXCLOSURE/
24	1653	LP	00	68678	HS		0396651/4991314;LWD
24	1654	RI	00	68685	WL		BEAR, ELK, DEER TRACKS
24	1655	LP	00	68695	WL, HS	0396668/4991290	VEGETATION EXCLOSURE/
24	1657	LP	00	68727		0396645/4991275	/VEGETATION EXCLOSURE
24	1658	SS	00	68727		H=0.25M; SILL LOG	HAB LOG CREATES STEP
24	1659	LP	00	68735		/VEGETATION EXCLOSURE	0396625/4991269
24	1660	RI	00	68756	HS	/VEGETATION EXCLOSURE	LWD
24	1661	LP	00	68766	HS		0396626/4991244;REDD, LWD
24	1662	SC	00	68774		H=0.35M	
24	1663	LP	01	68797	WL, HS	COLD SEEP-0396620/4991223; FISH	0396618/4991229; LWD, DT
24	1664	AL	10			DRYISH	
24	1665	SC	00	68805	WL	H=0.25M	EAGLE FEATHER
24	1666	LP	00	68822	WL, HS		0396625/4991198;DIPPER, LWD
24	1667	RI	00	68835	HS		LWD
24	1668	LP	00	68854	HS, WL	DEER TRACKS	0396631/4991171; REDD
24	1669	RI	00	68892	WL, HS	BEAR TRACK, LWD	
24	1670	LP	01	68911			0396657/4991131
24	1671	RI	01	68922	HS	LARGE WOOD	
24	1673	LP	00	68944	TJ/, WL,HS	CHAMP SITE 148970, BLUE FLAG SP	0396653/4991088; CHAMP 148970
24	1674	DU	11				DARK SOIL, GRASSES
24	1675	RI	00	68951		BLUE FLAG "RI"; H=0.15M	
24	1676	LP	01	68962	WL, HS	"BF"=BLUE FLAG "4 SP"	0396628/4991075;BEAR TRACKS
24	1677	LP	02				0396629/4991072
24	1678	LP	02				0396630/4991073; ERODING BANK/
24	1679	SS	00	68963	PA, DJ, HS	2 STACKED SILL LOGS; H=0.25M	2 HAB LOGS=PA=NO H20 SPILLING
24	1680	DP	00	68978	WL	END REACH	0396636/4991053; BEAR TRACKS
25	1681	RI	00	68996		UTM-396620/4991069; T=9C/0915; GAUG	TEMP GAUGE IN CHANNEL
25	1682	SC	01	69004		H=0.2M	
25	1683	LP	01	69032	DJ	BLUE FLAG; DJ	0396602/4991035
25	1684	LP	02		WL	BLUE FLAG = 7 PP	0396631/4991023; BEAR TRACKS
25	1685	SS	02		HS	H=0.15M; SILL LOG	PLACED HAB LOG
25	1686	RI	02			BLUE FLAG = 9 RI	SAME DJ AS IN U1683
25	1687	SS	00	69032	HS	H=0.15M	PLACED HABITAT LOG
25	1688	SC	00	69039		H=0.2M	
25	1689	PP	00	69044	HS	GR 18	0396626/4990984;SALMON
25	1690	SS	00	69044	HS	H=0.25M	PLACED HABITAT LOG
25	1691	DP	00	69067	WL, HS	BLUE FLAG =U11 SP	0396612/4990984
25	1692	RI	01	69073	HS	H=0.25M	LARGE WOOD
25	1693	LP	01	69081		BLUE FLAG =13 SP	0396641/4990953
25	1694	LP	01	69092			0396637/4990952
25	1695	RI	00	69102	HS	BLUE FLAG = SP 13; H=0.35M	CAMPSITE/; LWD, BLDRS
25	1696	PP	00	69106		BLUE FLAG=14 PP, GR 19	0396649/4990841
25	1697	SS	00	69106	HS	H=0.3M; CUT OUT SILL LOG	PLACED HAB LOG
25	1698	DP	00	69145	HS*2	CHAMP SITE 148970 ENDS	0396641/4990937;CAMPSITE/
25	1699	SB	00	69154		BLUE FLAG=15 SP; H=0.45M	END CHAMP SITE U1698
25	1700	DP	00	69165	HS*2		0396659/4990894; LARGE WOOD
25	1701	SB	00	69169		H=0.15M	
25	1702	LP	00	69176			0396657/4990868
25	1703	SB	00	69180	HS	H=0.15M	LARGE WOOD
25	1704	LP	00	69188	HS		0396667/4990890;SALMON

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
25	1705	RB	00	69197	HS*2		LARGE WOOD
25	1706	LP	00	69203	HS,WL		0396682/4990858;DEER, LWD
25	1707	RI	00	69218		WHITE TAIL BUCK	
25	1708	LP	00	69231			0396702/4990864
25	1710	LP	01	69248	HS		0396714/4990831;SALMON
25	1711	SC	01	69254		H=0.35M	
25	1712	LP	01	69276		TREE PLANTINGS	0396729/4990839; MINING
25	1713	PD	02		WL		DEER TRACKS
25	1715	SS	00	69277	BV,HS	H=0.3M; BOULDERS	MINING, BEAVER CHEWED STICKS
25	1716	LP	01	69283			0396748/4990825; MINING
25	1717	SS	01	69287	HS	H=0.45M; BOULDERS	MINING; PLACED BLDRS
25	1718	LP	01	69294			0396755/4990823; MINING
25	1719	SS	01	69299	HS	H=0.45M; BLDRS	MINING; PLACED BLDRS
25	1720	LP	01	69328	/TJ,BV	END REACH AT CLEAR CREEK	0396756/4990024; MINING
25	1721	RI	02				MINING
25	1722	LP	02				0396743/4990821; MINING
25	1723	DU	02				MINING
25	1724	SP	02				MINING; LOTS ALGAE
25	1725	DU	02				MINING
25	1726	RI	11			CLEAR CR; T=13C/1230	MINING; CLEAR CR
25	1727	LP	11		BV,WL	TEMP GAGE	0396790/4990796; MI
25	1728	SC	11			H=0.45M	MINING
26	1729	SS	00	69330	CS/	H=0.45M; BOULDERS	MINING; RIPRAP
26	1730	LP	00	69349	CS/,BV	T=15C/1230	0396792/4990804; CHEWS
26	1731	SS	00	69351	BV,HS,CS/	H=0.35M; BOULDERS	LWD, CHEWS
26	1732	DP	00	69366	BV, HS,CS/		0396813/4990795
26	1733	RI	01	69372	HS		REDD, LWD
26	1734	LP	02				0396829/4990796;SALMON
26	1735	SC	02			H=0.1M	
26	1736	LP	00	69384	HS*2		0396836/4990803;SALMON, LWD
26	1737	SS	00	69386		H=0.25M; V-SHAPED, BOULDERS	PLACED BOULDERS
26	1738	LP	00	69398	CS/		SALMON, RIPRAP
26	1739	SS	00	69400	BV, CS/	H=0.15M; BOULDERS	CHEWS, RIPRAP
26	1740	LP	00	69407	CS/CS		0396862/4990794;SALMON
26	1741	SS	00	69409	CS/CS	H=0.15M; BOULDERS	RIRAP
26	1742	LP	00	69424	BC, WL	USFS 5135 BRIDGE	0396873/4990805;USFS 5135
26	1743	LP	00	69436	CS/CS, BV		0396887/4990801SALMON, REDD
26	1745	LP	00	69452	BV	H=0.1M	0396906/4990810
26	1746	LP	00	69467	BV,HS,WL		0396922/4990816;DT, CHEWS
26	1747	RI	00	69477	BV	H=0.2M	CHEWS
26	1748	LP	00	69489	BV,HS,/SS	SS T=14C/1415; T=17C/1420	0396946/4990799;CHEWS, LWD
26	1749	SB	00	69495	BV	H=0.45M	CHEWS
26	1750	RI	01	69511	BV		CHEWS
26	1751	LP	01	69516	BV		0396960/4990785
26	1752	SC	01	69521		H=0.45M	
26	1753	LP	02		HS,BV		0396959/4990788;LWD, BOULDERS
26	1754	LP	02		BV		0396968/4990792
26	1755	SR	02			H=0.35M	
26	1756	RI	02		HS		LWD
26	1757	LP	00	69545	BV		0396968/4990767; CHEWS
26	1758	SS	00	69545	BV,HS	H=0.3M; W/BV STICKS	PLACED HAB LOG
26	1759	DP	00	69561	BV,HS		0396973/4990766;SALMON
26	1760	RI	00	69572	BV,HS	H=0.25M	SALMON, LWD
26	1761	LP	00	69584	HS,BV		0396979/4990726; REDD, SALMON
26	1762	LP	00	69595	BV,HS*2		0396988/4990711; LWD, CHEWS

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
26	1763	SS	00	69595	HS	H=0.2M; SILL LOG	PLACED LOGS
26	1764	SD	00	69601	BD	H=0.45M	SALMON, CHEWS
26	1765	BP	00	69617	BV, HS		0397006/4990713;SALMON
26	1766	SS	00	69619	BV	H=0.35M; BLDRS	OLD CHEWS
26	1768	LP	00	69660	WL, BV,HS		0397033/4990696;BEAR TRACK
26	1769	LP	00	69672	BV,HS		0397047/4990673;LWD, CHEWS
26	1770	SS	00	69672	BV,HS	H=0.2M; CUT OUT SILL LOG	HAB LOG PLACED
26	1771	LP	00	69679	BV	83-397072/4990663; 27-397152/4990462;	0397072/4990668; REDD
26	1772	SS	00	69679	HS,BV	T=9C/0900; H=.15M	LWD, BOULDERS, CHEW
26	1773	DP	00	69698	BV,HS		0397067/4990671; LWD
26	1774	SS	00	69698	BV,HS	H=0.25M; CUT OUT SILL LOG	PLACED HAB LOGS
26	1775	LP	00	69717	BV,WL,HS		0397079/4990664; DT, LWD
26	1776	SS	00	69717	BV	H=0.15M; CUT OUT SILL LOG	CHEWS
26	1777	LP	00	69732	BV,HS		0397104/4990643; LWD
26	1778	SS	00	69738	BV,HS	H=0.45M	PLACED BOULDERS
26	1779	LP	00	69766	HS,BV		0397116/4990635
26	1780	SS	00	69769	BV,HS	H=0.25M	PLACED HAB BOULDERS
26	1781	LP	00	69803	BV,WL,HS		0397116/4990599
26	1782	SD	00	69803	BD	H=0.35M	CHEWS
26	1783	BP	00	69857	BV,HS	PREVIOUS WEEK THERE WERE ~15 SAI	0397141/4990571; SALMON
26	1784	LP	00	69900	BV		0397170/4990589;REDDS, CARCASS
26	1785	LP	00	69912			0397186/4990565; REDD
26	1787	LP	00	69959	BV,HS		0397202/4990549
26	1788	SC	00	69963		H=0.15M	
26	1789	PP	00	69966	BV		0397223/4990522; CHEWS
26	1790	SD	00	69967	BD	H=0.35M	CHEWS
26	1791	BP	00	70008	BV,HS		0397225/4990520; LWD
26	1792	LP	00	70020	BV,HS		0397260/4990494; CHEWS, LWD
26	1793	SS	00	70022	HS	H=0.15M	PLACED HAB LOG
26	1794	LP	01	70059	BV,HS		0397271/4990494; SALMON
26	1796	LP	01	70084	BV,HS		0397306/4990461; LWD
26	1797	SC	01	70090	HS	H=0.15M	BLDRS
26	1798	LP	02		AM		0397272/4990486; FROG
26	1799	SD	02		BD	H=0.25M	PLACED HAB LOG
26	1800	LP	02		BV		0397279/4990481
26	1801	SD	02		BD	H=0.1M	OLD CHEWS
26	1802	BP	02		BV		0397284/4990477
26	1803	LP	02		BV		0397292/4990468
26	1804	SD	02		BD	H=0.15M	FRESH, OLD CHEWS
26	1805	BP	02		BV		0397297/4990464
26	1808	SC	02			H=0.15M	
26	1809	LP	02				0397324/4990471
26	1811	LP	00	70102	BV,HS		0397322/4990462; LWD, BLDRS
26	1812	SC	00	70105	BV	H=0.2M	CHEWS
26	1813	LP	00	70124			0397341/4990463; REDD, SALMON
26	1814	SS	00	70125	HS	H=0.2M	HAB BOULDERS PLACED
26	1815	LP	01	70146	TJ/,HS		0397362/4990457; UNNAMED TJ
26	1816	DU	11				UNNAMED TRIB
26	1817	SS	00	70147		H=0.15M	PLACED HAB BOULDERS
26	1818	LP	00	70165	BV,HS		0397385/4990447;LWD
26	1819	SS	00	70167	BV,HS	H=0.45M	PLACED HAB BOULDERS
26	1820	LP	00	70176			0397408/4990443
26	1821	SS	00	70178	BV,HS	H=0.4M	PLACED HAB BOULDERS
26	1822	SP	00	70187	HS		0397407/4990452;LWD
26	1823	LP	00	70200	HS,BV		0397419/4990415;MI

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
26	1824	SC	01	70207	TJ/,HS	T=14C/1230; H=0.2M; TJ=MUIR CR	END REACH AT MUIR CRK; MINING
26	1825	PD	11			MUIR CREEK; T=12.5C/1225	MUIR CR
27	1826	LP	00	70235	HS,WL		0397429/4990423; MINING
27	1827	SS	00	70237	HS	H=0.4M; BLDRS	PLACED HAB BLDRS
27	1828	SP	00	70243			0397450/4990404
27	1829	SS	00	70245		H=0.3M; BLDRS	PLACED HAB BLDRS
27	1830	LP	00	70264			0397455/4990398
27	1831	RI	00	70273	WL		DT, ELK TRACKS
27	1832	LP	00	70285	BV,HS		0397479/4990390;LWD
27	1833	SS	00	70286		H=0.15M; SILL LOG	PLACED HAB BLDRS
27	1834	LP	00	70306	HS		0397484/4990390;LWD, BLDRS
27	1835	SC	01	70310		H=0.25M	
27	1837	LP	00	70326			0397518/4990382
27	1838	LP	00	70346	/SS,BV		0397532/4990374; MINING
27	1839	RI	01	70361	BV,HS		MINING; LWD
27	1840	LP	01	70374	HS		0397564/4990380; MINING
27	1841	SS	01	70375		H=0.2M; BLDRS	
27	1845	AL	10				DARK SOIL W/GRASS
27	1846	LP	00	70387	HS		0397578/4990382
27	1847	LP	00	70398			0397588/4990368
27	1848	SC	00	70404		H=0.25M	
27	1849	LP	00	70435	BV,HS	MINE TAILINGS AND TORNDOWN LODG	0397602/4990360;MI
27	1850	RI	00	70449			MINE TAILINGS (MI)
27	1851	LP	00	70467			0397618/4990319; SALMON
27	1852	SC	00	70471	WL	H=0.3M	ELK TRACKS
27	1853	LP	00	70489	HS		0397595/4990311;REDD, CARCASS
27	1855	LP	00	70509	HS		0397590/4990293;REDD, LWD,BLDR
27	1856	SS	00	70510		H=0.1M; SILL LOG	PLACED HAB LOG
27	1857	LP	00	70529	HS		0397590/4990280; LWD,BLDR
27	1858	SS	00	70530		H=0.15M; T=10C/1315	PLACED HAB LOG
27	1859	LP	00	70545	HS*2		0397596/4990270; SALMON, REDD
27	1860	RI	00	70553		H=0.1M	
27	1861	LP	00	70576	AM,HS,WL		0397607/4990242; FROG,CARCASS
27	1862	SC	00	70582		H=0.25M	
27	1863	LP	00	70601			0397618/4990215;REDD
27	1864	SC	00	70606		H=0.1M	
27	1865	LP	00	70629		CHAMP SITE 280042 START 4M INTO PC	0397640/4990201CHAMP 280042
27	1866	RI	00	70659	HS	160 LONG	LWD
27	1867	LP	00	70674	HS*2		0397663/4990155; SALMON, REDD
27	1869	LP	00	70686	HS	BF-"SP U3"	0397666/4990139; STACKED BLDRS
27	1870	SC	00	70690		H=0.25M; BF-"SP U4"	
27	1871	LP	00	70726	WL, HS	HALF WAY THRU POOL BF	0397661/4990126;LWD, ELK TRACK
27	1872	RI	00	70742		H=0.15M	REDD
27	1873	LP	00	70756		TEMP LOGGER	0397702/4990093; TEMP LOGGER
27	1874	LP	00	70774		CHAMP 280042 SHOULD END HERE	0397718/4990088;END CHAMP SITE
27	1876	LP	00	70803	HS	STACKED BOULDERS/	0397739/4990073
27	1877	RI	01	70811	HS		LWD, BLDRS
27	1878	LP	02		HS,AM		0397749/4990063;FROG, LWD, BLD
27	1879	GL	00	70838	CS/		0397750/4990046;RIPRAP
27	1880	RI	00	70872	CS/,WL	TALL EXCLOSURE FENCE ON RT BANK,	/ELK EXCLOS., SALMON SKELETON
27	1881	LP	00	70883	HS/,CS/	START CHAMP SITE 000009, 156 LONG,	0397789/4989004; CHAMP 000009
27	1882	RI	00	70937	CS/,/HS	TEMP LOGGER, NO FLAGGING	DT, BEAR TRACKS
27	1883	LP	00	70949	CS/		0397847/4989992; CARCASS
27	1884	RI	00	70957	CS/		BOULDER WEIR-PLACED
27	1885	LP	00	70984	HS/,CS/	T=12C/1100	0397842/7989933; LWD

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
27	1886	SC	00	70986	BV,CS/	H=0.05M	RIPRAP, CHEWS
27	1887	LP	00	70995	CS/,/HS		0397853/4989908; LWD
27	1888	RI	00	71016	AM,BV		FROG, CHEWS
27	1889	LP	01	71038	/HS	END CHAMP 000009	0397864/4989880;END CHAMP SITE
27	1890	IP	10			FROG	
27	1892	LP	00	71068	HS/		0397893/4989857; LWD, BLDRS
27	1893	RI	01	71093	WL		DT, ELK TRACK
27	1894	BW	10		/HS		LWD
27	1895	LP	01	71113	AM,BV	REDD	0397910/4989829; TREE FROG
27	1896	RI	01	71119	BV		CHEWS, /EROSION
27	1897	PP	01	71123	BV		0397934/4989825
27	1898	RI	02		AM,WL	MANY FROGS	MANY SM FROGS; ELK TRACKS
27	1899	LP	02		WL, AM	YELLOW JACKET NEST	FROGS, ELK TRACKS
27	1900	RI	02		/HS		LWD
27	1901	SS	00	71123		H=0.1M	PLACED LOGS
27	1904	LP	01	71158	AM, HS/		0397963/4989847;FROGS
27	1905	DU	02		WL		DT, ELK TRACKS
27	1906	PD	02		AM	MANY FROGS; T=14.5C/1215	SMALL FROGS
27	1908	SS	00	71159	HS	H=1.0M; CATTAILS	PLACED LOGS
27	1909	LP	00	71190	AM,WL		0397972/4989834; FROGS, SALMON
27	1910	LP	00	71202	WL		0398008/4989822; ELK TRACKS
27	1911	SS	00	71202	HS	H=1.0M; WOOD	PLACED LOGS
27	1912	SP	00	71227	HS		0398032/4989784; SALMON
27	1913	SS	00	71228	HS	H=0.15M; BLDRS	PLACED BLDRS
27	1915	LP	00	71257	HS/,AM	REDD; LG O.MYKISS	0398039/4989804, PLACED LOGS
27	1916	SC	00	71261		H=0.15M	
27	1917	LP	00	71283	WL,AM,/HS	REDD	0398068/4989779; FROG, SALMON
27	1918	RI	00	71295	AM	FROGS	SMALL FROGS
27	1919	LP	00	71307	HS/HS		0398090/4989755;LWD
27	1920	LP	00	71324	HS/	REDD; COLD SEEP	0398096/4989758;REDD, LWD
27	1922	LP	00	71341	HS/		0398132/4989748;PLACED LOGS/
27	1923	SC	00	71346		UTM-398129/4989750; T=15.5C/1355	
27	1924	LP	00	71354	HS/		0398129/4989744;PLACED LOG/
27	1925	RI	00	71363		H=0.15M	
27	1926	LP	00	71393	HS/		0398147/4989732;LWD
27	1928	LP	02		/HS	COLD SEEP	0398166/4989715; LWD
27	1929	RI	02		AM		SM FROG
27	1930	LP	01	71417			0398184/4989709; EROSION/
27	1931	RI	01	71430	AM		TREE FROGS
27	1933	LP	00	71449	HS/HS,WL		0398191/4989693;LWD, BLDR
27	1934	SC	01	71454	AM	H=0.15M	SM FROG
27	1935	LP	02		AM,WL,/HS		FROG, LWD, ELK TRACKS
27	1936	DU	02		WL	SM TREE FROG	ELK TRACKS
27	1937	PD	02		AM,/HS,WL		ELK TRACKS, FROG, LWD
27	1938	DU	02		WL		ELK TRACKS
27	1939	LP	01	71465	HS	T=5C/0900	0398189/4989677; MI
27	1940	RI	00	71480		RAINSTORM AND SNOW IN MTNS=COLI	MINE TAILINGS = MI
27	1941	LP	00	71510	HS		0398216/4989668; MI, REDD
27	1942	LP	00	71517	HS		0398207/4989625; MI, LWD
27	1943	SC	00	71521		H=0.5M	
27	1944	LP	00	71531	HS		0398215/4989622; LWD, BLDRS
27	1945	SS	00	71531	HS	H=0.1M; GR 50	PLACED LOG
27	1947	SS	00	71551	HS	H=0.25M; BLDRS	PLACED LOG, BOULDER
27	1948	LP	00	71588	HS		0398237/4989605; LWD
27	1949	SS	00	71590		H=0.2M; BLDRS	

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
27	1950	LP	00	71619	HS	VW=76	0398246/4989564; MI, LWD
27	1951	LP	00	71637	HS		0398262/4989536; MI, LWD
27	1952	SC	00	71644		H=0.15M	MI
27	1953	LP	01	71657	/TJ,AM,HS		0398263/4989501;MI, UNNAMED
27	1954	PD	11			T=4.5C/1015	DARK SOIL, GRASS
27	1955	SP	00	71663	HS		0398276/4989502;MI, LWD
27	1956	SC	00	71672	HS	UTM-398269/4989498; T=6C/1005	BLDRS
27	1957	LP	00	71692	BV, HS		0398277/4989491; LWD, BLDRS
27	1958	SC	00	71695		H=0.05M	
27	1959	LP	00	71712			0398282/4989477, AQU VEG
27	1960	SC	00	71721		H=0.15M	AQU VEG
27	1961	LP	00	71746	/CS,HS		0398307/4989477; MI
27	1962	SC	00	71750	/CS	H=0.15M	MI, RIPRAP
27	1963	LP	00	71765	HS,BV,WL		0398343/4989446; MI
27	1964	LP	00	71799	WL,HS		0398340/4989439; LWD, ELK TRAC
27	1965	LP	00	71816	HS,BV	START CHAMP SITE 099818	0398357/4989443; CHAMP 099818
27	1966	SC	00	71820		H=0.1M	
27	1967	LP	00	71842	HS		0398362/4989414; MI, LWD
27	1968	RI	00	71855	WL,HS		MI, DIPPER, LWD
27	1969	LP	00	71859	HS		0398391/4989436; MI
27	1970	RI	00	71867		H=0.05M	
27	1971	LP	00	71876	HS	TEMP LOGGER	0398400/4989438; LWD, BLDR
27	1972	SS	00	71876	BV,HS	H=0.2M	PLACED LOG
27	1973	LP	00	71893	HS		0398413/4989443; /ERODING
27	1974	LP	00	71927	/CS,HS		0398407/4989460; LWD
27	1975	SS	00	71928	BV,/CS	H=0.1M; BLDRS	MI
27	1976	LP	00	71965	HS,/CS	UTM-398436/4989470; T=7C/1220	0398439/4989470; MI, END CHAMP
27	1977	SS	00	71965	HS	END CHAMP SITE 099818; H=0.25M	MI; PLACED BLDRS
27	1978	LP	00	71987	HS		0398473/4989446;LWD
27	1979	RI	01	72002	HS		BLDRS, LWD
27	1980	BW	10		HS		0398480/4989425;LWD
27	1982	LP	00	72021	HS		0398499/4989424;LWD
27	1983	RI	00	72038	HS		LWD, BLDRS
27	1984	LP	00	72049	HS		0398532/4989421
27	1985	SS	00	72049	BV	H=0.2M	BEAVER CHEWS
27	1986	LP	00	72063	HS		0398548/4989415
27	1987	SS	00	72064	HS	H=0.15M; SILL LOG	HAB LOGS PLACED
27	1988	LP	00	72086	HS		0398552/4989424; SALMON
27	1989	LP	00	72105	HS		0398581/4989402;REDD, LWD, BLD
27	1991	LP	01	72126	HS		0398602/4989420; LWD
27	1992	LP	02		AM,WL,HS	COLUMBIA SPOTTED FROG	0398603/4989412
27	1993	RI	02		AM/WL	COLUMBIA SPOTTED FROG, DEER TRACKS	
27	1994	BW	10		WL		DEER AND ELK TRACKS
27	1995	LP	00	72135			0398608/4989431; MI
27	1996	SC	00	72140			MI
27	1997	LP	01	72164			0398621/4989434; MI
27	1998	LP	01	72180			0398630/4989455
27	1999	RI	01	72187	HS		LWD
27	2000	LP	01	72206	HS		0398648/4989446; HAB LOGS
27	2001	SC	01	72209		H=0.1M	
27	2002	LP	01	72222	HS		0398662/4989452; LWD, BLDRS
27	2003	LP	01	72235	HS		0398678/4989462
27	2004	LP	02		WL,AM		COLUMBIA SPOTTED FROG, ALGAE
27	2005	PD	02		AM,WL	COLUMBIA SPOTTED FROG	GARTER SNAKE
27	2007	PD	02		AM		COLUMBIA SPOTTED FROG

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
27	2009	PD	02		HS		/EROSION, LWD
27	2011	RI	01	72265	HS		LWD, BLDRS
27	2013	LP	02		/CS	VW=42	RIPRAP
27	2014	RI	02		/CS		RIPRAP
27	2015	LP	00	72298	HS		0398715/4989472; LWD, BLDRS
27	2016	SS	00	72299		H=0.1M	
27	2017	SC	00	72304		H=0.1M	
27	2018	LP	00	72323	HS	UTM-398741/4989447; T=8.5C/1600	0398742/4989445 ;LWD
27	2019	SS	00	72324		H=0.1M	STACKED BLDRS
27	2020	LP	01	72344	TJ/,HS	END REACH	0398745/4989424
27	2021	RI	11			T=8.5C/1630	EAST FORK GRANDE RONDE RIVER
27	2022	LP	11			T=8.5C/1630-GRANDE RONDE	0398759/4989425
28	2023	SS	00	72345		UTM-398761/4989413; T=6.5C/0915	
28	2024	LP	00	72369	HS		0398751/4989411; LWD
28	2025	SS	00	72370	HS	H=0.25M; BOULDERS	PLACED HABITAT BOULDERS
28	2026	LP	00	72380	BV,HS		0398772/4989388; CHEWS
28	2027	SS	00	72381	HS	H=0.2M; SILL LOG	PLACED HAB LOG
28	2028	LP	00	72390	HS		0398775/4989389; LWD, BLDR
28	2029	SS	00	72394		H=0.2M	
28	2030	LP	00	72406	HS		0398787/4989387; LWD, BLDR
28	2031	SC	00	72410		H=0.3M	
28	2032	LP	00	72418	HS		0398802/4989381; MI; LWD
28	2033	LP	00	72435	HS		0398814/4989368; MI; LWD
28	2034	SC	00	72440		H=0.25M	
28	2035	LP	00	72447	HS		0398825/4989357;LWD, BOULDER
28	2036	SC	00	72451		H=0.25M	
28	2037	LP	01	72468	/TJ,HS	T=7C/1030	0398835/4989355; UNNAMED TJ
28	2038	RI	01	72477	HS,AM,WL		COLUMBIA SPOTTED FROG, LWD
28	2039	LP	01	72494	HS		0398857/4989364; LWD
28	2041	LP	01	72511	WL,HS		0398874/4989368; ELK SCAT,LWD
28	2042	LP	01	72524			0398883/4989372
28	2045	LP	01	72545	HS		0398901/4989375; LWD, BLDRS
28	2046	RI	01	72560	HS		LWD
28	2047	LP	01	72568	HS	PLACED HABITAT LOG	0398918/4989361
28	2048	LP	01	72580	HS	PLACED HABITAT LOG	0398924/4989355
28	2049	LP	01	72596	BV	BEAVER DOWNED TREE	0398933/4989346
28	2051	RI	02		WL	MAP SHOWS THIS AS START OF CREEK, ELK TRACKS	
28	2052	SP	02				0398868/4989350
28	2053	SS	02		HS		PLACED HAB BOULDERS
28	2055	LP	02				0398881/4989347
28	2056	SS	02			H=0.15M; BLDRS	PLACED HAB BOULDERS
28	2057	LP	02		HS,WL		LWD, BOULDER, ELK TRACKS
28	2058	LP	02		HS	DJ	LWD
28	2059	RI	02		HS,WL		LWD, ELK TRACK
28	2060	LP	02		HS		0398921/4989330; LINE OF BLDRS
28	2061	RI	02		HS,WL		LWD, ELK TRACKS
28	2063	RI	02		HS		LWD
28	2064	PP	00	72609	HS		0398958/4989330; LWD
28	2065	SS	00	72609	HS	H=0.2M; SILL LOGS	PLACED HAB LOGS
28	2066	LP	00	72627	HS		0398958/4989334; LWD
28	2067	LP	00	72632	HS		0398978/4989329; LWD
28	2068	RI	00	72660	HS		MI; LWD, BLDR
28	2069	LP	00	72676	HS	UTM-399005/4989341; T=8.5C/1230	0399010/4989344
28	2070	SS	00	72678	HS	H=0.35M; BLDRS	PLACED BOULDERS=HABITAT STRUC
28	2071	LP	00	72718	HS	PLACED BOULDERS=HABITAT STRUCTURE, 0399025/4989329; LWD, BLDRS	

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
28	2072	SS	00	72719	HS	H=0.4M; BLDRS	PLACED HAB BLDRS
28	2073	LP	00	72734	HS		0399035/4989294;LWD, BLDR
28	2074	SS	00	72735	HS	H=0.4M; BLDRS	PLACED HAB BLDRS
28	2075	LP	00	72757	HS		0399052/4989285;BLDRS
28	2076	SS	00	72759	HS	H=0.4M; BLDRS	PLACED HAB BLDRS
28	2077	LP	01	72783	HS,WL		0399073/4989279;LWD, ELK TRACK
28	2078	SC	01	72785		H=0.15M	
28	2079	LP	01	72793			0399098/4989266
28	2080	RB	01	72811			MI = MINING ACTIVITY
28	2081	LP	01	72816			0399113/4989253; MI
28	2082	RB	01	72835			MI
28	2083	LP	01	72842			0399120/4989234; MI
28	2084	SS	01	72842	HS	H=0.15M; LOG	LWD
28	2085	DP	01	72857	BV		0399119/4989224; MI
28	2086	SC	01	72860		H=0.1M	P-155 U2085 MINING TAILINGS
28	2087	LP	01	72867			0399131/4989220
28	2089	LP	01	72885	HS		0399146/4989220; BLDRS
28	2090	SS	01	72887	HS	H=0.3M; BLDRS	PLACED HAB BLDRS
28	2091	LP	01	72907	HS		0399153/4989211
28	2092	LP	02		AM,HS		0399081/4989282;MI, C.S FROG
28	2093	RI	02				MI
28	2094	LP	02		HS		0399091/4989294;MI;PLACED BLDR
28	2095	LP	02		HS,WL		0399098/4989310; MI; LWD,BLDRS
28	2096	DU	02				MI
28	2097	PD	02		WL,HS		MI; ELK TRACKS, BLDRS
28	2098	LP	02		HS		MI; LWD, BLDRS
28	2099	PD	02		WL		MI
28	2100	DU	02				MI
28	2101	RI	02			WATER GOES SUBSURFACE	MI
28	2102	LP	02				0399140/4989251; MI
28	2103	RI	02				MI
28	2105	SC	02			H=0.1M	
28	2106	LP	02		TJ/,HS	02 COMES INTO THIS	0399154/4989234; UNNAMED TJ
28	2107	SS	02		HS	H=0.65M; GOES UP TO FALLS?	PLACED HAB BLDRS
28	2108	RI	02				DARK SOIL, GRASSES
28	2109	RI	02				DARK SOIL, GRASSES
28	2110	PD	02				DARK SOIL, GRASSES
28	2111	DU	02		WL		ELK SCAT
28	2112	SS	01	72907		H=0.15M	
28	2113	LP	01	72971	HS,WL	GR 69	0399155/4989185; LWD
28	2114	SC	01	72975	WL		ELK TRACKS; HIGH BANKS
28	2115	LP	01	73009	WL,HS	LWD AND BOULDERS, REDD	0399173/4989126, END REACH
29	2116	RB	01	73026	HS	UTM-399201/4989115; T=8C	LWD
29	2117	LP	01	73031	HS		0399216/4989100; LWD
29	2119	SP	01	73052	HS		0399229/4989094; LWD
29	2121	LP	01	73061			0399229/4989093; HIGH BANKS
29	2122	SB	01	73064	HS	H=0.35M	LWD, HIGH BANKS
29	2123	DP	01	73073			0399254/4989117; HIGH BANKS
29	2124	SB	01	73073		H=0.75M	
29	2125	DP	01	73088	BV,WL	BEAVER CHEWS, ELK TRACKS	0399262/4989098
29	2126	RI	02			RUNS THROUGH GRASS-PHOTO 1206	AQUATIC VEGETATION, P-1202
29	2127	LP	02				BRUSHY
29	2128	RI	02		WL	ALDERS LINE BANK	ELK SIGNS
29	2129	LP	02			ELK SIGN	SANDY SOIL
29	2130	RI	02				SANDY SOIL WITH GRASSES

GRANDE RONDE RIVER 2015 COMMENT SUMMARY

REACH	UNIT#	TYPE	CHAN	DIST.(m)	COMMENTS	NOTE_ESTIMATOR	NOTE_NUMERATOR
29	2131	LP	02				SANDY SOIL WITH GRASSES
29	2132	RI	02		WL	ELK SCAT	SANDY SOIL WITH GRASSES
29	2133	LP	02				SANDY SOIL WITH GRASSES
29	2134	RI	02		WL		ELK TRACKS AND SCAT
29	2136	RI	02		WL		ELK TRACKS AND SCAT
29	2137	RI	02				HIGH BANKS
29	2138	LP	02		WL		ELK TRACKS
29	2141	LP	00	73123	WL,HS		0399270/4989077; ELK, LWD
29	2142	SB	00	73126		H=0.45M	
29	2143	LP	00	73137			0399310/4989085
29	2144	RI	00	73145	HS		LWD
29	2145	LP	00	73151			0399324/4989069
29	2146	SC	00	73155		H=0.3M	
29	2147	LP	00	73164			0399322/4989057
29	2148	SC	00	73168		H=0.25M	
29	2149	LP	00	73174			0399321/4989037
29	2150	SL	00	73174		H=0.45M	
29	2151	LP	00	73183	BV,WL	CHEWS, ELK TRACKS	0399335/4989044
29	2152	RB	00	73204	BV,WL		ELK TRAIL, OLD BV CHEWS
29	2153	LP	00	73210	WL		0399350/4989027
29	2154	RB	00	73217		H=0.55M	
29	2155	LP	00	73225			0399358/4989026
29	2156	RB	00	73240	HS	T=7C/1345	LWD
29	2157	LP	00	73250			0399388/4989008; BEDROCK WALLS
29	2158	CR	00	73257		UTM-0399386/4989033; H=1.0M FALLS	"THE FALLS" CONTINUE TO U2167
29	2159	SB	00	73262		UTM-0399381/4989026	
29	2160	LP	00	73270			0399391/4989001
29	2161	CR	00	73279		UTM-0399390/4989058; H=2M	
29	2162	LP	00	73287			0399411/4988995
29	2164	PP	00	73294			0399423/4988981
29	2165	CR	00	73299		UTM-0399424/4989016; H=1.45M	
29	2166	LP	00	73306			0399425/4988995
29	2167	SR	00	73308		UTM-0399468/4988987; H=1.75M	
29	2168	LP	00	73315		EOS UTM-0399443/4988987	EOS; 0399432/4989009

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 1 - Unit 2 - Looking upstream from the survey start
The lower end of the River was surveyed in September.

Reach 1 - Unit 4 - Irrigation return

Reach 2 - Unit 74 - Looking up the river with glimpses of the streamside riparian vegetation and the hillslopes.

Reach 2 - Unit 78 - Bedrock flanks the Perry swimming hole.

Reach 2 - Unit 132 - Looking upstream towards the historical arch bridge.

Reach 3 - Unit 219 - Downstream view of the reach and adjacent highway.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 3 - Unit 286 - Looking downstream at the end of the previous reach in late August.

Reach 3 - Unit 286 - The left riparian zone. In Reach 3, access was not permitted for property to the right of the creek middle.

Reach 6 - Unit 322 - Looking downstream

Reach 6 - Unit 322 - Looking upstream. The ring of boulders on the right appear to be artificially-placed; thereby, creating pooled water.

Reach 6 - Unit 323 - The left riparian zone had a long floodplain and some larger deciduous trees.

Reach 6 - Unit 323 - The right riparian zone was composed of a high terrace and conifer-dominated hillslope.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 7 - Unit 405 - Huge pool forms the confluence of a main channel and a secondary channel.

Reach 7 - Unit 405 - Looking down the secondary channel from the large pool which feeds it.

Reach 7 - Unit 439 - An upstream view of the 01 channel as it approaches the large pool.

Reach 7 - Unit 482 - The left riparian zone

Reach 7 - Unit 482 - The right riparian zone had an adjacent hillslope.

Reach 9 - Unit 534 - Shallow, riffle habitat as seen in August.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 9 - Unit 534 - The left riparian zone had shrubs and conifers on the adjacent hillslope.

Reach 9 - Unit 534 - The right riparian photo is just upstream from the Highway 244 bridge crossing.

Reach 9 - Unit 537 - Human-built step-over-structure pools water.

Reach 9 - Unit 547 - A downstream view of the lateral scour pool.

Reach 12 - Unit 556 - Streamside vegetation and hillside conifers

Reach 12 - Unit 594 - An upstream view of a pool.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 12 - Unit 624 - Looking downstream from the top of a side channel. The mainstem is in the background.

Reach 12 - Unit 624 - Looking up the side channel toward a culvert and surveyor. The channel flows through hyrdophilic plants.

Reach 12 - Unit 631 - A downstream view of the reach as seen in September

Reach 14 - Unit 642 - A cattle bridge crossed over the stream channel.

Reach 14 - Unit 642 - Looking downstream towards a surveyor.

Reach 14 - Unit 645 - A fish trap on the left of the photograph.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 15 - Unit 660 - A fence crossing

Reach 15 - Unit 660 - Looking upstream from the fence crossing.

Reach 15 - Unit 701 - The right streamside is fenced to allow cattle access, though not across the river.

Reach 15 - Unit 702 - Cabled logs form a habitat structure

Reach 16 - Unit 720 - Low water exposes cobble and seasonal vegetation in September.

Reach 16 - Unit 743 - Here, the hillslope is closer to the channel.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 18 - Unit 746 - Looking left at a fence line, surveyor, low water, exposed gravels, and hillslope.

Reach 18 - Unit 746 - The fence line is to the right of this photograph (right riparian zone).

Reach 18 - Unit 746 - An upstream view of the stream cooridor

Reach 19 - Unit 751 - USFS-placed habitat structures

Reach 18 - Unit 758 - An upturned tree and fencing within a scour pool

Reach 18 - Unit 758 - A wood placement

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 18 - Unit 765 - Chinook salmon adults

Reach 18 - Unit 765 - Fence crossing near surveyor and additional fencing toward rear of photograph

Reach 18 - Unit 791 - Looking downstream towards wood pieces and habitat structures

Reach 19 - Unit 797 - A downstream view from June, 2015. Photographs beginning with Reach 19 were taken from June-September.

Reach 19 - Unit 797 - The right riparian and mouth of Fly Creek behind the surveyors

Reach 19 - Unit 797 - An upstream view of the new reach

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 19 - Unit 814 - Wood collected at the top of a secondary channel

Reach 19 - Unit 834 - A Columbia spotted frog

Reach 19 - Unit 842 - An adult Chinook salmon with a wound on the dorsal side of its head and fungus on its snout.

Reach 19 - Unit 849 - An upstream view of placed habitat structures, streamside vegetation, and blue sky.

Reach 19 - Unit 873 - Sunshine highlighting undercut bank

Reach 19 - Unit 882 - Surveyor standing on an accumulation of wood

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 19 - Unit 882 - A side channel on the right had a lot of beaver influence. There was a debris jam at the top of the channel.

Reach 19 - Unit 905 - A surveyor standing in the shade of a shrub while preparing a riparian transect.

Reach 19 - Unit 905 - A hillslope with shrub and conifer trees characterized the right riparian zone.

Reach 19 - Unit 905 - Looking upstream towards habitat structures

Reach 19 - Unit 908 - Upstream protection from a habitat structure and downstream beaver activity help form a spot of quiet habitat.

Reach 19 - Unit 942 - An upstream view of the landuse, streamside vegetation, and the fast water habitat.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 19 - Unit 944 - Whitehorse Creek flows through a culvert to enter the Grande Ronde River.

Reach 20 - Unit 955 - In the sunshine is the location of the ODFW Early Life History Project trap site.

Reach 20 - Unit 967 - An upstream view of the riverine habitat

Reach 20 - Unit 980 - Bedrock flanks the left bank of the river

Reach 20 - Unit 980 - A tree frog matches its perch.

Reach 20 - Unit 995 - Summer low flows are evident in this upstream photograph with exposed substrate.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 20 - Unit 1020 - Shallow water allows a glimpse of the stream substrate.

Reach 20 - Unit 1073 - A beetle-killed tree?!

Reach 20 - Unit 1080 - Looking upstream at the streamside vegetation and exposed substrate.

Reach 20 - Unit 1087 - A backwater habitat tucked behind boulders on the right of the image.

Reach 20 - Unit 1094 - A steep bank on the left of the stream channel

Reach 20 - Unit 1094 - Looking right

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 20 - Unit 1192 - A snag creating undercut banks. Crew's 2m long depth staff at right of image for scale.

Reach 20 - Unit 1201 - Looking to the right side of the stream channel.

Reach 20 - Unit 1228 - Trees entering the stream channel. Hillslope scree as seen behind the tree trunks.

Reach 20 - Unit 1993 - The remains of a fish caught on a piece of wood.

Reach 20 - Unit 1207 - Wood accumulation on the stream bank. Perhaps for bank stabilization or was a former habitat structure.

Reach 20 - Unit 1214 - The right riparian had a diversity of tree species and an exposed bank.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 20 - Unit 1258 - A crayfish, potentially with parasites on its claws

Reach 20 - Unit 1313 - An *O. mykiss* with fungus on its head. It was moving very slowing in the shallows.

Reach 20 - Unit 1332 - A sloughing stream bank and adjacent exposed substrate

Reach 20 - Unit 1332 - The survey crew looks upstream towards a habitat structure.

Reach 20 - Unit 1332 - Streamside conifers and shurbs line the stream channel

Reach 20 - Unit 1332 - A large tree with exposed roots and erosion. On the tree was a tag that read "GR28". Depth staff for scale.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 21 - Unit 1382 - Looking upstream to the entry of a side channel.

Reach 21 - Unit 1387 - The left riparian zone was rocky with few trees. The NF 5160 road was beyond this slope.

Reach 21 - Unit 1387 - The right riparian zone had grasses and shrubs on a terrace.

Reach 21 - Unit 1418 - A downstream view of the stream habitat

Reach 21 - Unit 1418 - An upstream view of the river

Reach 21 - Unit 1433 - Looking downstream at the visible substrate and streamside vegetation.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 21 - Unit 1443 - Looking downstream at the large wood accumulation and riparian vegetation.

Reach 21 - Unit 1443 - A step-over-structure helped pool water

Reach 21 - Unit 1454 - Boulder and bedrock flank a deep pool

Reach 21 - Unit 1455 - A step within a cascade which could prove challenging to some fish.

Reach 21 - Unit 1460 - A long view of the stream habitat and wood

Reach 21 - Unit 1470 - An upstream view

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 21 - Unit 1478 - A riparian transect - follow the measuring tape up the left landforms.

Reach 21 - Unit 1478 - Tall conifer line the stream channel, as well as contribute to it.

Reach 21 - Unit 1480 - An upstream view of the riverine habitat

Reach 21 - Unit 1491 - Looking downstream at the reach end

Reach 21 - Unit 1491 - The left riparian zone

Reach 21 - Unit 1491 - Right riparian vegetation is minimal, due to the NF1560 road paralleling the creek.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 23 - Unit 1493 - Looking downstream

Reach 23 - Unit 1493 - The left riparian zone

Reach 23 - Unit 1493 - The right riparian zone

Reach 23 - Unit 1493 - An upstream view of the stream cooridor

Reach 23 - Unit 1502 - A rock formation protruding from the hillside.

Reach 23 - Unit 1548 - A mass movement on the right streambank

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 23 - Unit 1544 - Looking downstream

Reach 23 - Unit 1544 - A view of the left riparian zone

Reach 23 - Unit 1544 - The right riparian zone and downed wood in the foreground.

Reach 23 - Unit 1544 - Looking upstream at the stream habitat

Reach 23 - Unit 1559 - Downstream view with exposed boulders and cobble

Reach 23 - Unit 1568 - An active landslide impacting the creek

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 23 - Unit 1577 - Looking downstream at the fast water and streamside vegetation

Reach 23 - Unit 1577 - The left riparian zone

Reach 23 - Unit 1577 - An upstream view of the riverine habitat

Reach 24 - Unit 1585 - An upstream view of the low-gradient habitat with streamside vegetation.

Reach 24 - Unit 1598 - Salmon eggs loose on the stream bottom.

Reach 24 - Unit 1679 - Due to the summer low flows, this habitat structure was poised to be a potential barrier to fish movement. Water flowed through the structure, but not over it.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 25 - Unit 1681 - A downstream view of placed and accumulated wood which created a dammed pool.

Reach 25 - Unit 1681 - The left riparian zone

Reach 25 - Unit 1681 - The right riparian zone

Reach 25 - Unit 1681 - Looking upstream toward multiple channels and downed wood.

Reach 27 - Unit 1885 - Looking downstream in the early morning light as filtered by smoke from the nearby forest fire.

Reach 27 - Unit 1992 - An upstream view of the low gradient, pool-riffle-pool habitat.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 27 - Unit 1955 - A downstream view of the stream channel, riparian conifers, and downed wood.

Reach 27 - Unit 1955 - Looking upstream at the shallow water and streamside vegetation.

Reach 27 - Unit 1976 - Another downstream view

Reach 27 - Unit 1976 - Mining spoils were visible from the creek in some areas.

Reach 28 - Unit 2108 - A downstream view of the stream, accumulated wood, and streamside vegetation.

Reach 28 - Unit 2108 - The right riparian zone had grass and shrubs on the streambank.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 28 - Unit 2023 - Habitat structures protruding from the stream banks.

Reach 28 - Unit 2023 - Looking upstream at the shrubby streamside vegetation and the narrowing channel.

Reach 28 - Unit 2069 - Looking downstream

Reach 28 - Unit 2069 - The left ripairan zone

Reach 28 - Unit 2077 - A large pool as seeen from a couple of angles. The pool was 24.5 meters long with an average width of 8.5 meters.

Grande Ronde River 2015 Summer Habitat Survey Photographs

Reach 28 - Unit 2084 - Surveyor atop a mine tailing pile is difficult to see, and is a gauge of the scale of the tailings.

Reach 29 - Unit 2116 - Looking downstream

Reach 29 - Unit 2116 - An upstream view

Reach 29 - Unit 2156 - A downstream view of the stream habitat and streamside vegetation

Reach 29 - Unit 2156 - Looking upstream at a scour pool and cascading water

Reach 29 - Unit 2158 - A closer look of the cascade. Surveyor with depth staff for scale.

Grande Ronde River 2015 Summer Habitat Survey Photographs

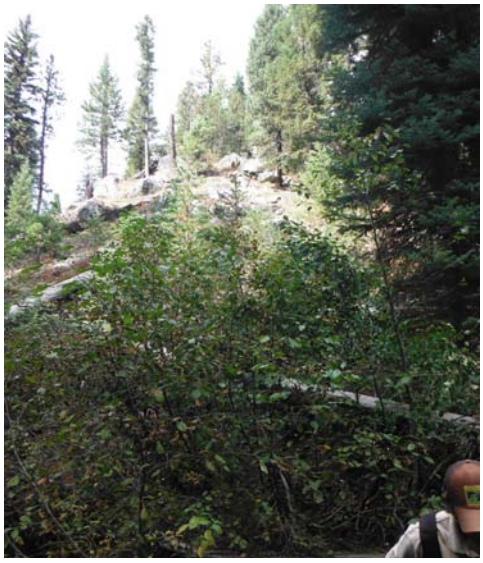
Reach 29 - Unit 2161 - The second cascading obstacle

Reach 29 - Unit 2165 - The third in a series of cascades. Downed wood and boulders contribute to the habitat.

Reach 29 - Unit 2167 - The last cascade unit of the 2015 summer stream habitat survey.

Reach 29 - Unit 2168 - Looking upstream from the top of the final unit in the stream habitat survey.

Grande Ronde River Photographs - Upstream from the survey end



The hillslope left

The hillslope on the right

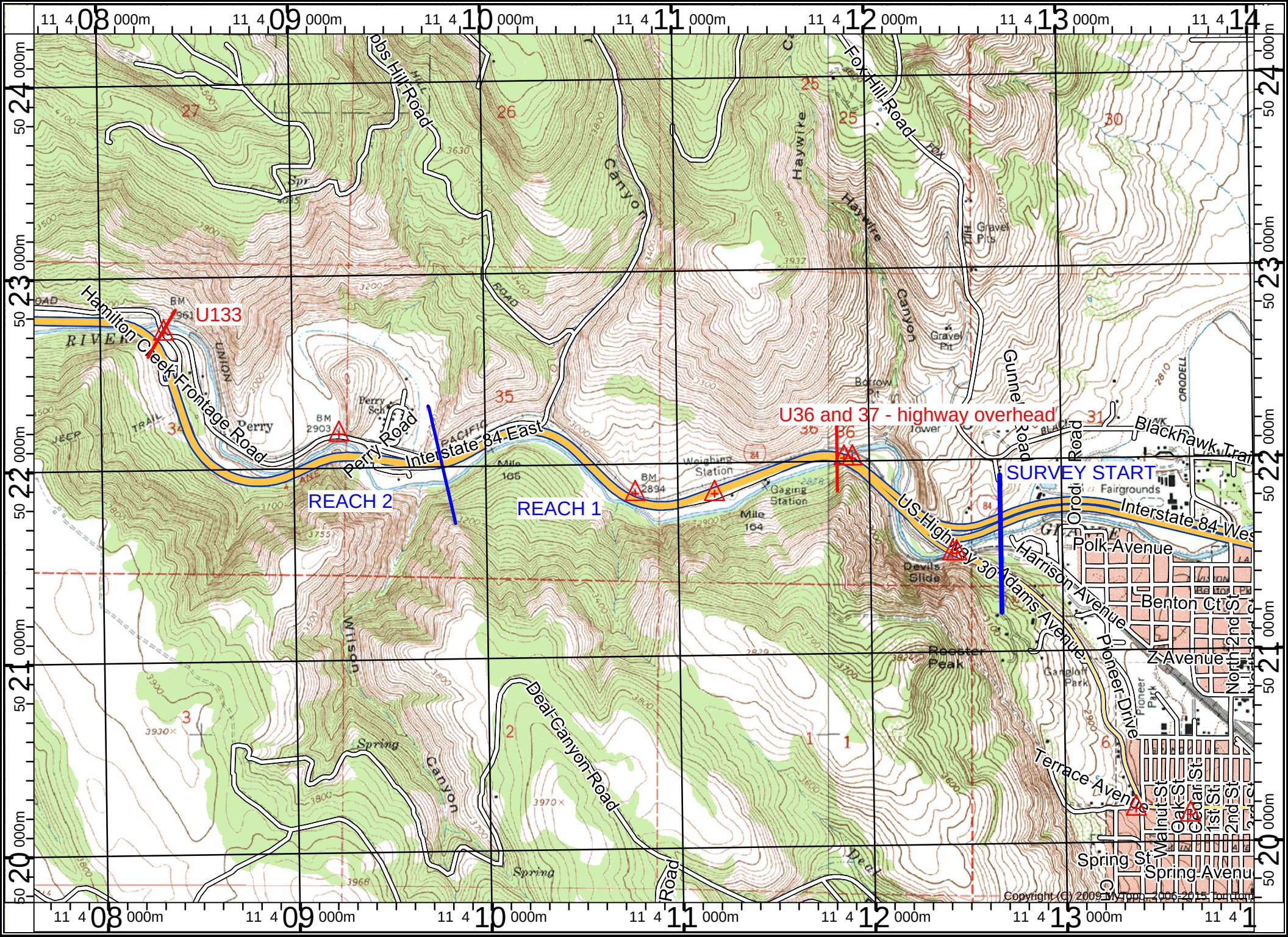
Above the survey end, the channel split. The crew followed the left arm.

Crew saw a bull trout in this pool.

Grande Ronde River Photographs - Upstream from the survey end

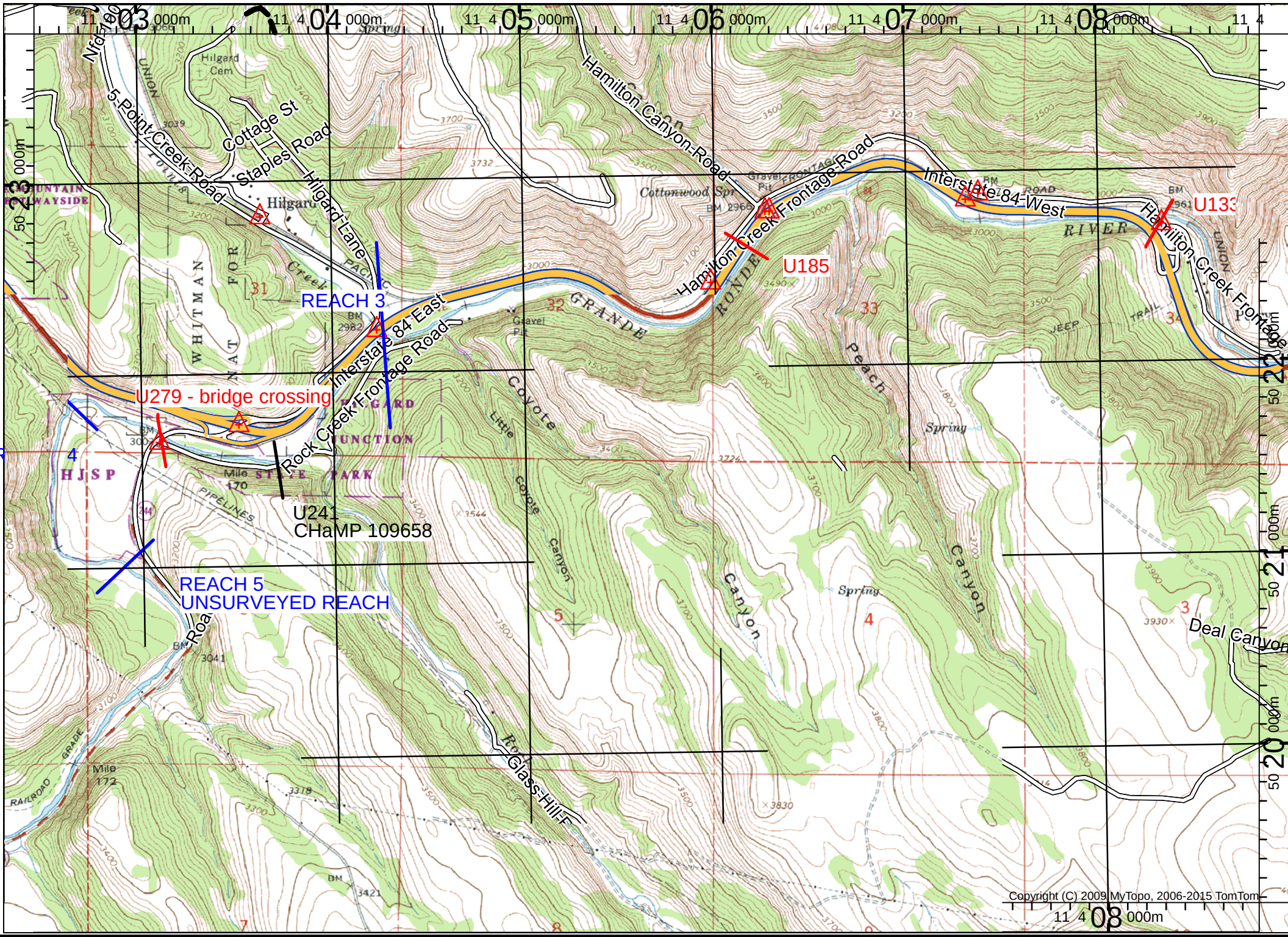
The gps reading here was 0399550, 4988930.

The crew ended the exploratory jaunt at the unit depicted on the left. The gps reading here was NAD83 0399563, 4988907.



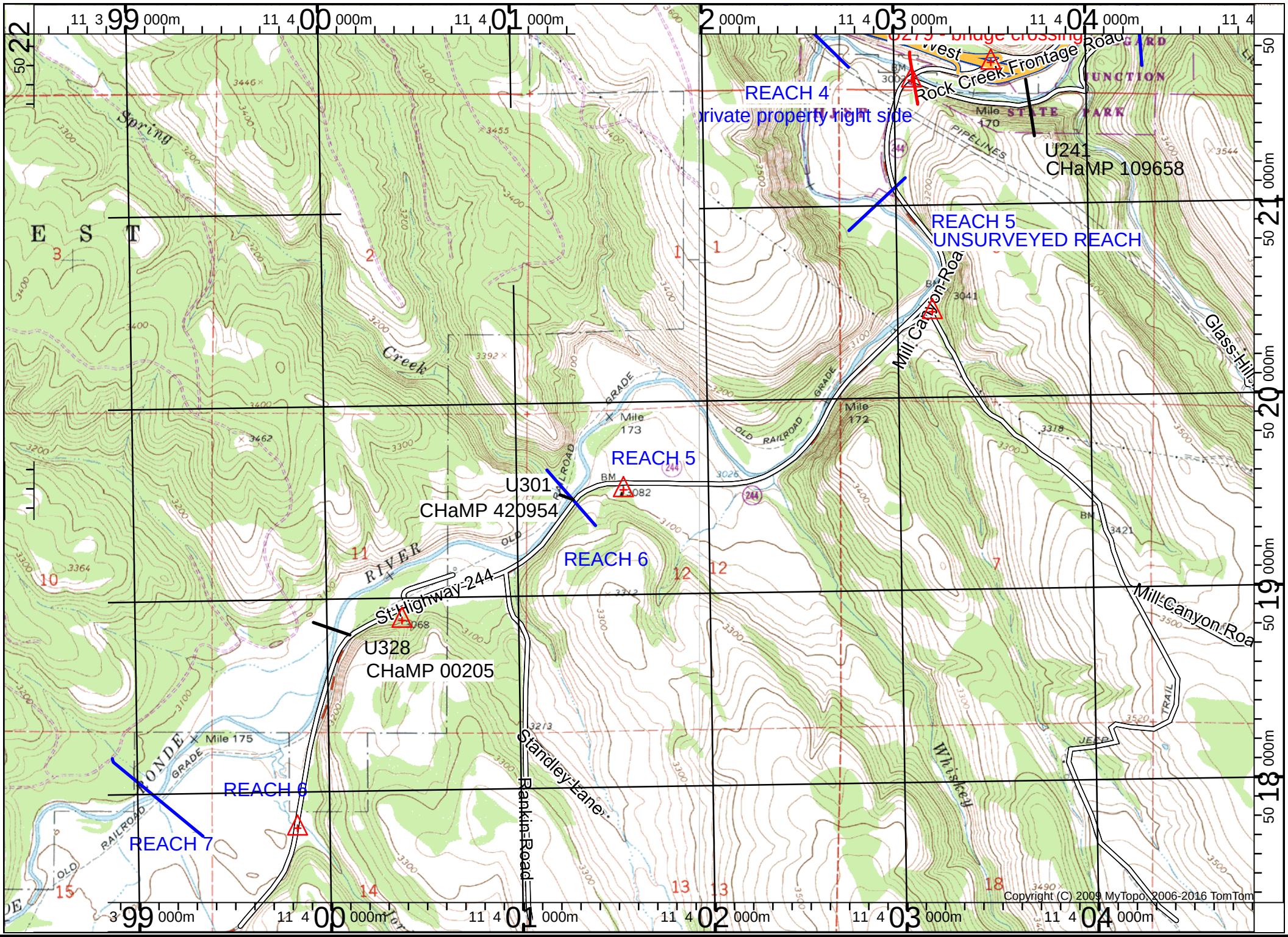
Map Name: HILGARD
Horizontal Datum: NAD83

GRANDE RONDE RIVER HABITAT SURVEY - SUMMER 2015
MAP 1



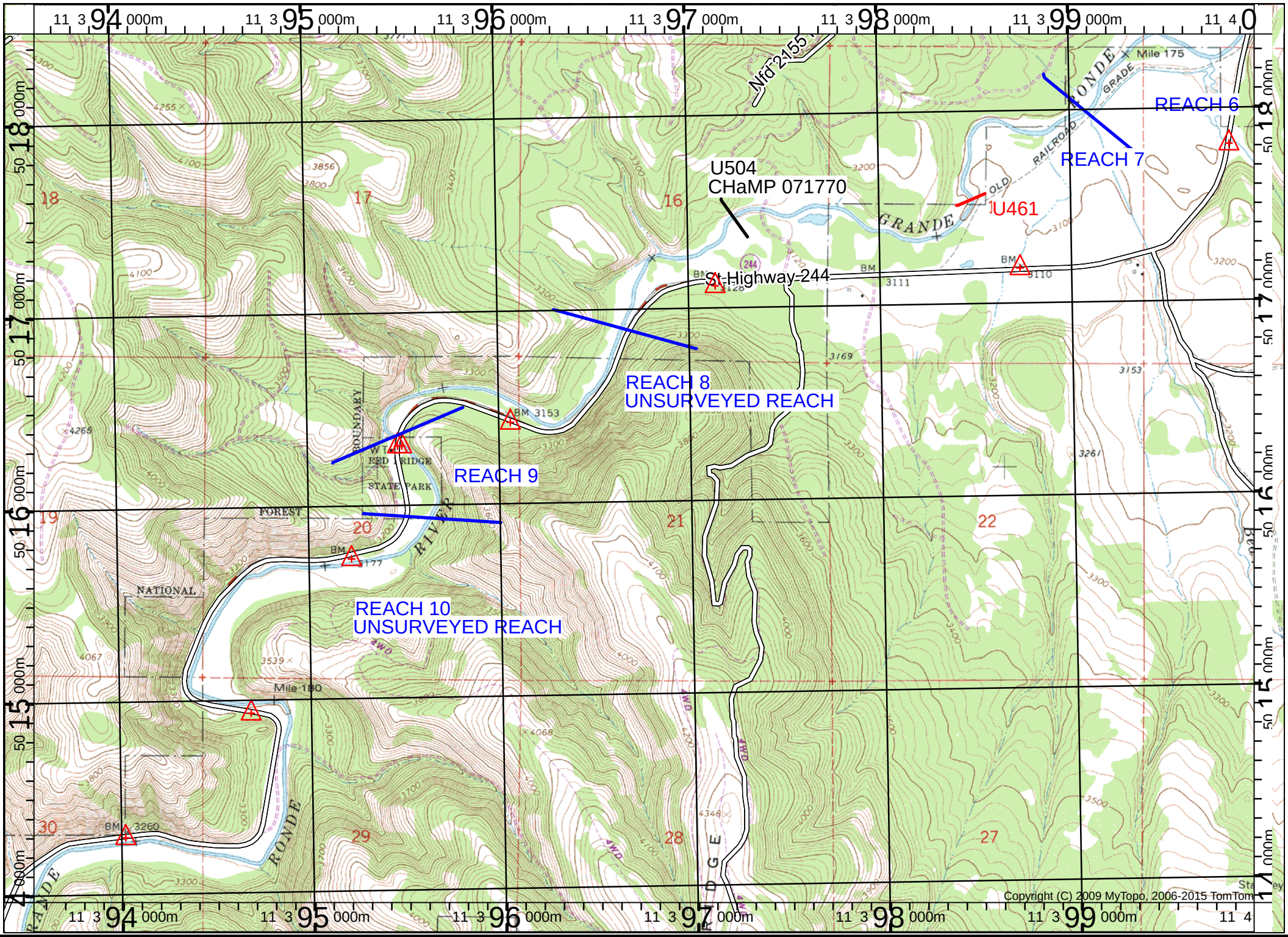
Map Name: HILGARD
Horizontal Datum: NAD83

GRANDE RONDE RIVER HABITAT SURVEY - 2015 SUMMER
MAP 2



Map Name: KAMELA SE
Horizontal Datum: NAD83

GRANDE RONDE RIVER HABITAT SURVEY - 2015 SUMMER



Map Name: KAMELA SE
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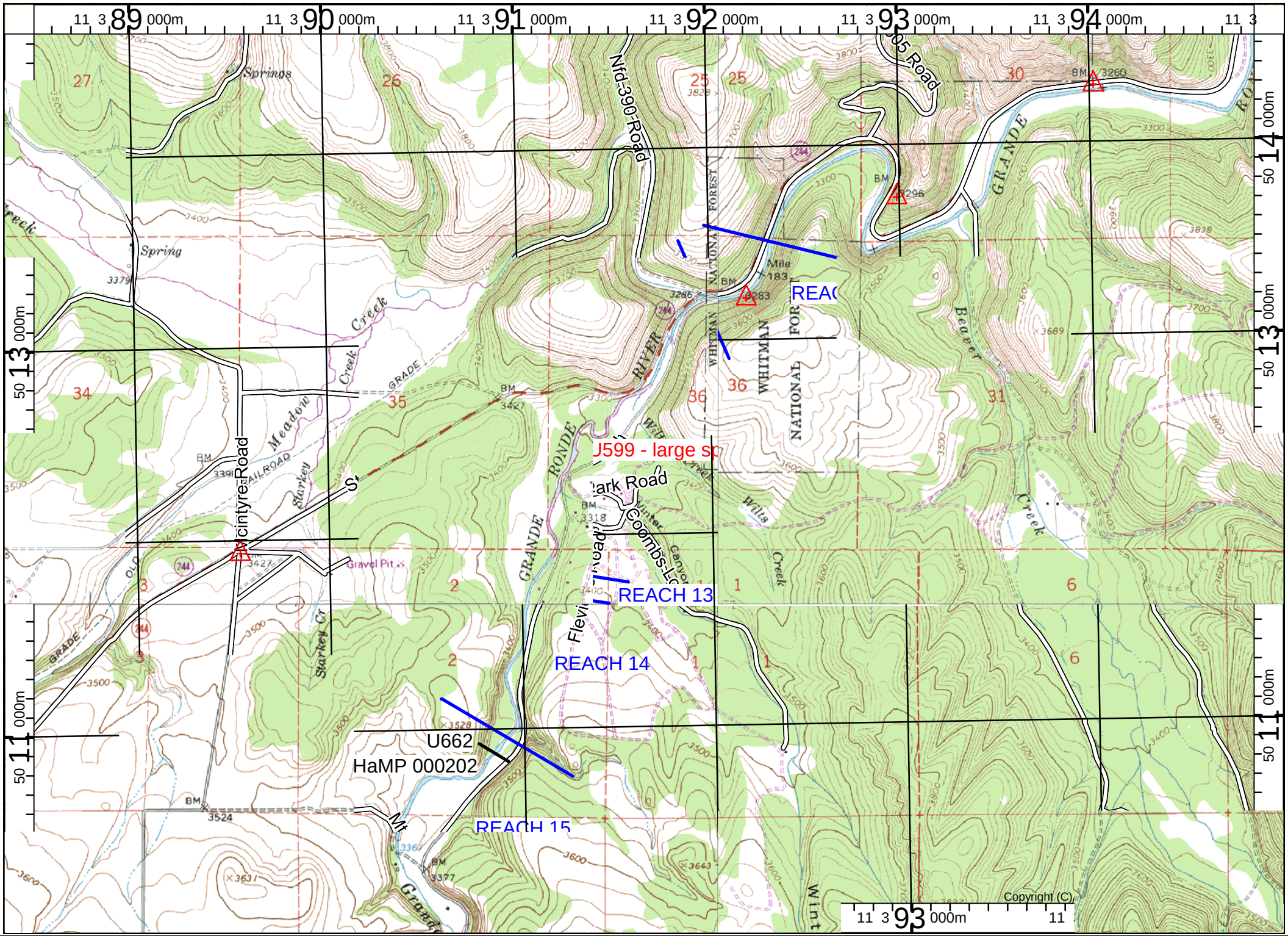
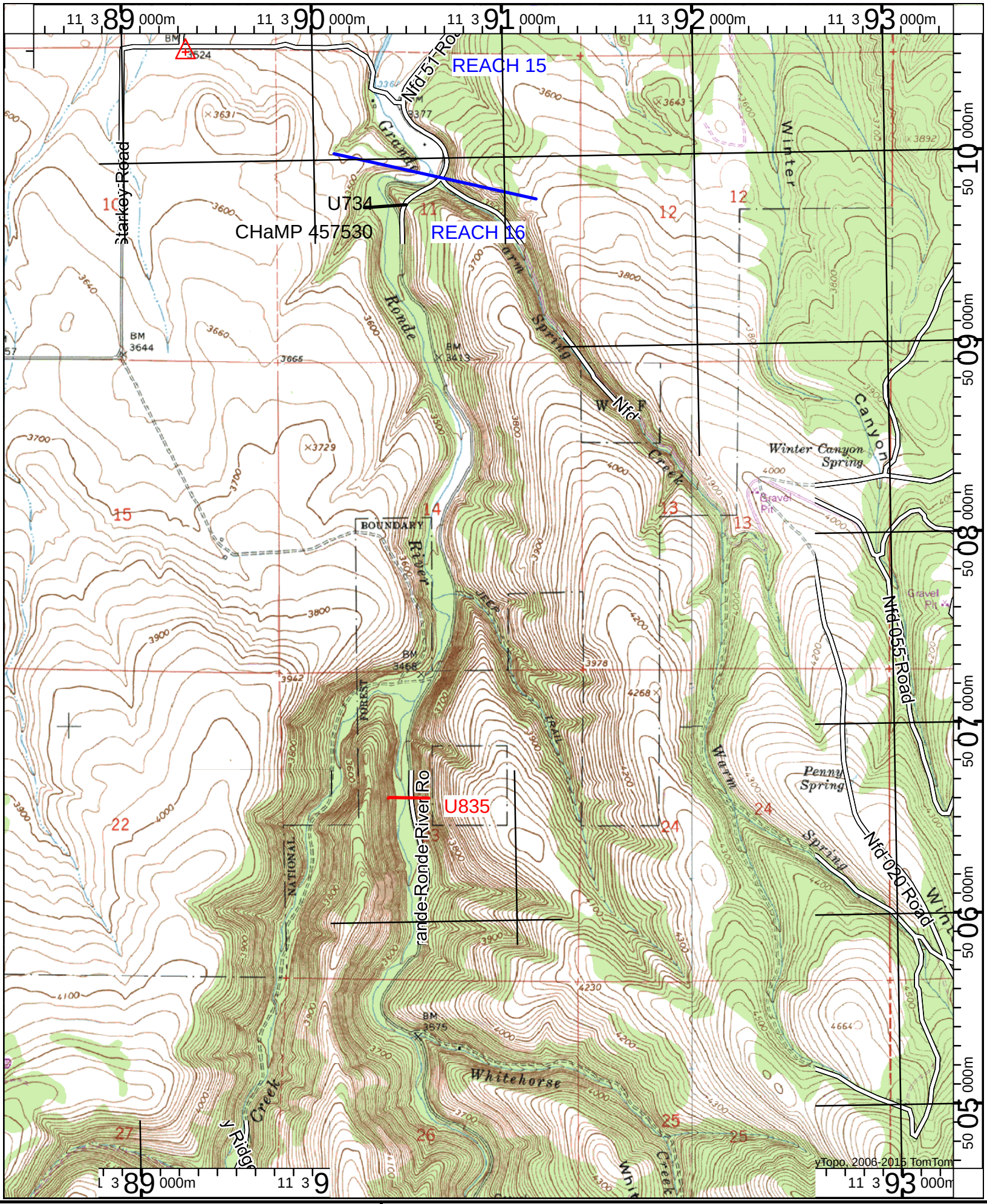
GRANDE RONDE RIVER HABITAT SURVEY - 2015 SUMMER
MAP 3



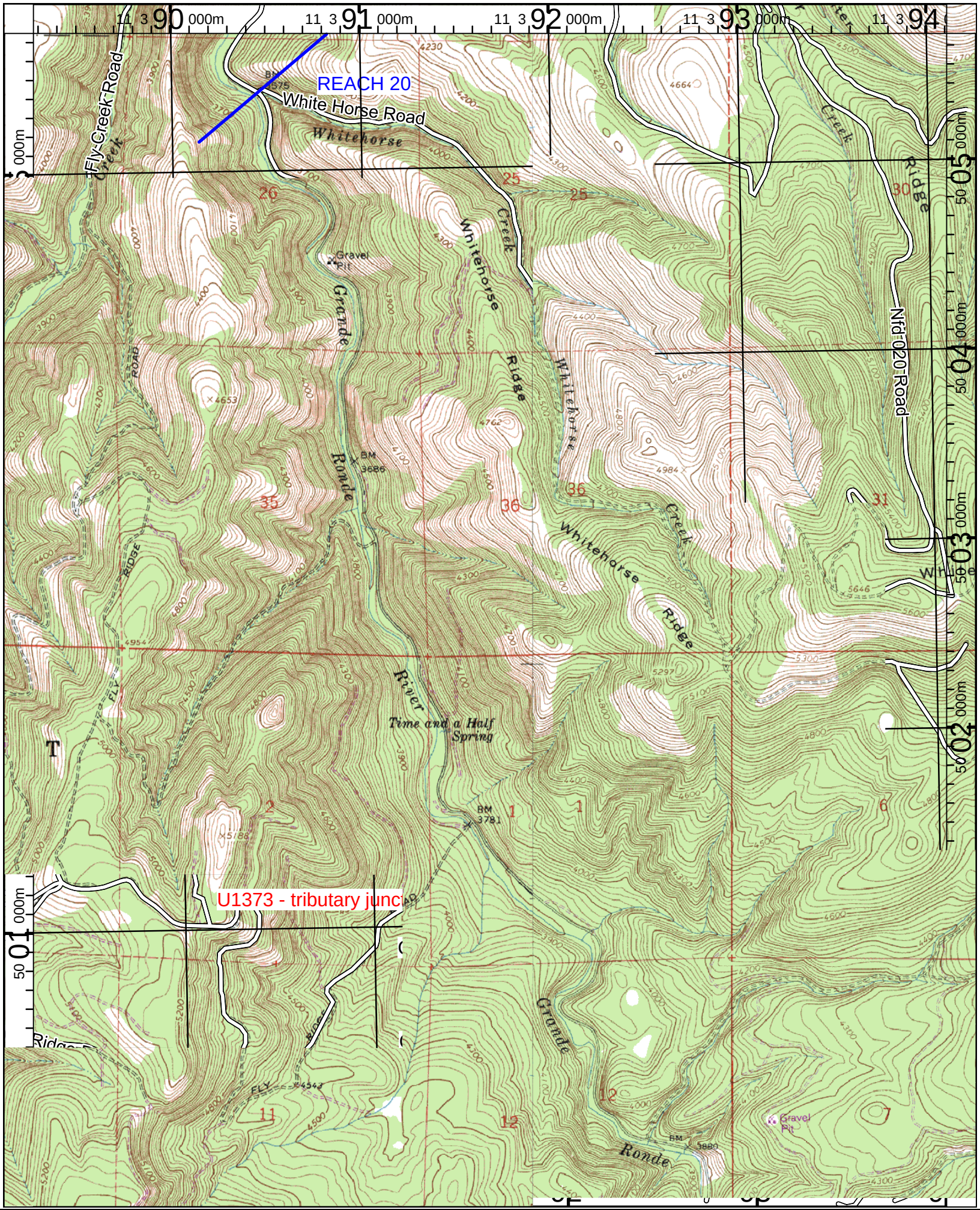
Map Name: MC INTYRE CREEK
Horizontal Datum: NAD83

GRANDE RONDE RIVER HABITAT SURVEY - 2015 SUMMER
MAP 4



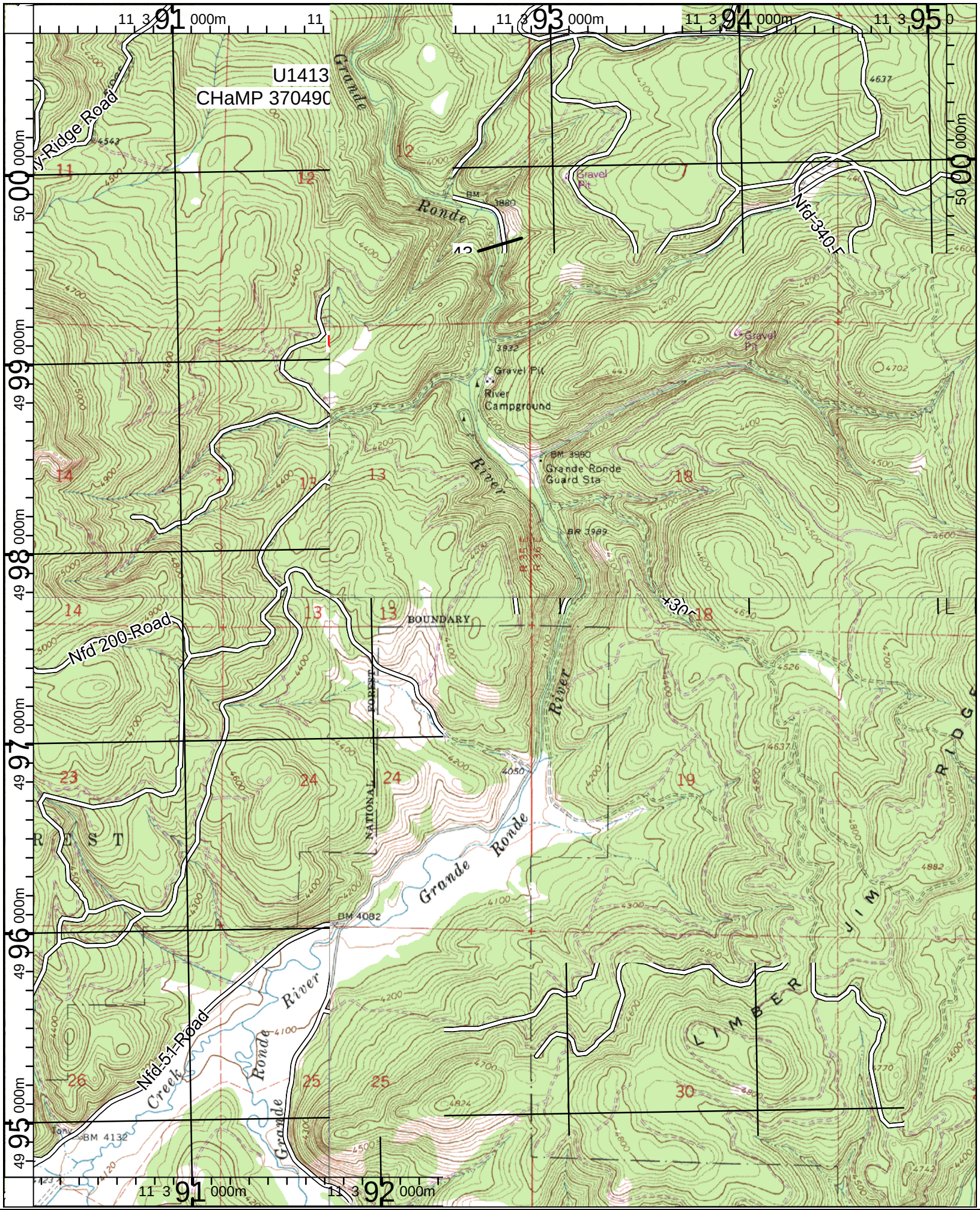
Map Name: MARLEY CREEK
Horizontal Datum: NAD83

GRANDE RONDE RIVER HABITAT SURVEY - 2015 SUMMER
MAP 5

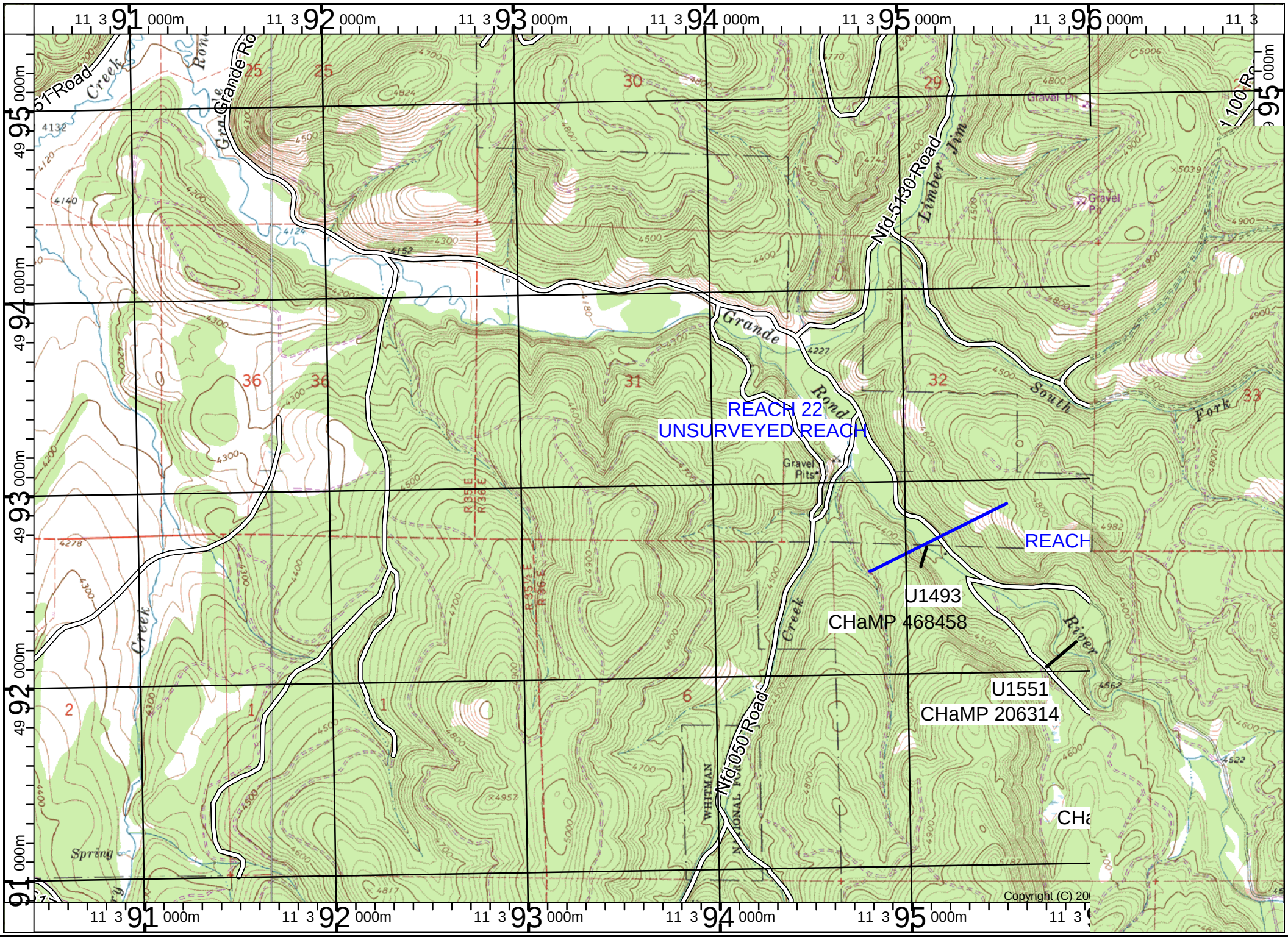


Map Name: MARLEY CREEK
Horizontal Datum: NAD83

GRANDE RONDE RIVER HABITAT SURVEY - 2015 SUMMER
MAP 6



Map Name: LIMBER JIM CREEK Horizontal Datum: NAD83	GRANDE RONDE RIVER HABITAT SURVEY - 2015 SUMMER MAP 7



Map Name: LIMBER JIM CREEK
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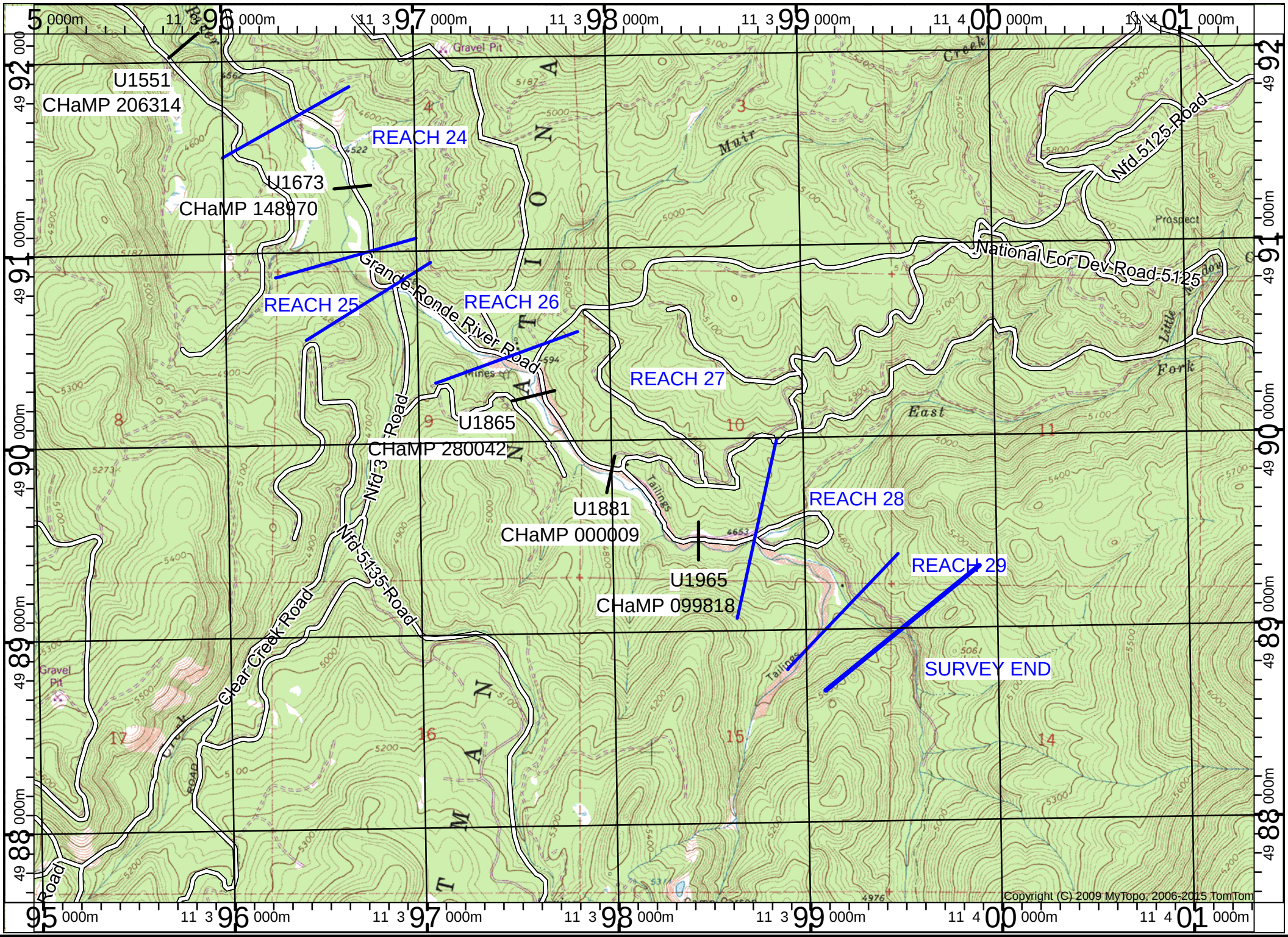
GRANDE RONDE RIVER HABITAT SURVEY - 2015 SUMMER
MAP 8



Map Name: LIMBER JIM CREEK
Horizontal Datum: NAD83

GRANDE RONDE RIVER HABITAT SURVEY - 2015 SUMMER
MAP 9