

South Fork Salmon R.

- Identification of habitat areas and their associated quality rankings done by Petrosky (IDFG).
- Poverty Flat has undergone a transition from habitat quality ranking of 2 to a 3 and back to a 2 over the period of run reconstruction.

Middle Fork Salmon R.

- Identification of habitat areas and their associated quality rankings done by Petrosky (IDFG).
- Overwintering is estimated by examination of weir count data.

Mid-Columbia

- Identification of habitat areas and their associated quality rankings done by Langness and LaVoy, with advice from Steele (also of WDFW) and Bombrick (YIN). Used previous reports such as those by Williams (WDFW), Mullan (USFWS), Meekin (consultant), and Kohn (YIN), and collective works (System Planning, and Salmon and Steelhead Stock Inventory (SASSI)/ Wild Stock Inventory (WSI)).
- Mid-Columbia PUDs required under FERC relicensing to conduct full season/ full river surveys, thus, spawning habitat well known at least in the Methow and Wenatchee.
- In the Wenatchee, we exclude Icicle Creek since spawning there is now considered just hatchery surplus that escapes the intense sport and tribal fishery below the hatchery barrier dam. None-the-less, that portion of the Icicle gets included in our rearing areas under 17020011-04-01.
- Peshastin Creek is currently surveyed for spawning, but rarely has spawning been recently recorded. Anticdotal information indicates that Ingalls Creek (17020011-03-03) may have spawning; however, gradients, flows, etc. combined with the absence of spawning in the mainstem Peshastin between Ruby and Mill creeks, leads us to exclude Ingalls Creek.
- Lake Wenatchee (17020011-11-01) is included in our rearing area, but there is some questions how or if this HUC sub-sub-area gets used in rearing other than as a migratory corridor.
- One reach in the Wenatchee that is particularly poorly defined by HUC sub-sub-areas is from Lake Wenatchee to Chiwaukum Ck. The mainstem Wenatchee forms the boundary for two sub-sub-areas: 17020011-09-01 (Chiwawa) and 11-01 (Chiwaukum). And sub-sub-area 07-02 spans across the mainstem Wenatchee and the lowest reaches of the Chiwawa.
- Entiat spawning surveys are one-time peak counts done by WDFW. The upper extent is thought to be a box canyon a few miles below Entiat Falls (the "extent of anadromy").
- Our mid-Columbia rearing habitats are based on work done by Williams and Mullan during the late 80's. Some of their information is expressed as an extent of anadromy, which needed to be interpreted for spring chinook, as their focus was on the trout/steelhead enigma.
- Entiat stock is the only one we pushed rearing into the mainstem Columbia River. This was thought reasonable because the lowest reaches of the Entiat is so harsh during winter, forcing some of the juveniles out into the Rocky Reach reservoir (Lake Entiat).
- In the Methow, the reach from Early Winters down to Goat Creek (17020008-18-03) and some of the lower Lost River (11-01), dry up in the late summer. It is thought that spring chinook spawning that takes place here, every year, is not completely futile since enough interstacial flow remains in this glacial till. Rearing is thought to occur here when flows adequate, and even overwintering in some of the pooled areas is possible. This delicate balance of nature is threatened by proposals to build a large resort in the Early Winters/ Mazama area.
- Mainstem Methow spring chinook spawning extends down just below the town of Winthrop, (Chewuch, alias Chewack R.) though some spawning occurs down to the town of Carlton (Puckett Ck.).

Lower Columbia (WA)

- Identification of habitat area and quality ranking done by Langness with advice from other WDFW/ PSMFC personnel: Dammers, Fiscus, Mohoric, Woodard, Hymer, and Pettit. Besides review of spawning surveys (ground and snorkel), some of the previous collective reports were used (System Planning, Salmon and Steelhead Stock Inventory (SASSI)/ Wild Stock Inventory (WSI), etc.), and a few reports such as Bryant (USFWS).
- Wind River (17070105) spawning surveys are done by WDFW as an adult live/dead count. Established index areas do encompass the general areas of redd deposition. The principal spawning occurs from the Beaver Campground to Paradise Creek, with some down to Panther Ck.
- Bryant's report states that backwater of Bonneville Dam flooded out most of the original chinook spawning habitat, and that Shipherd (Shepard) Falls formed a block for them. The Carson

Lumber Co. dam 14 miles above the mouth blocked even steelhead passage to the Carson NFH. These obstacles were overcome in the 50's before our run reconstructions. Tributaries are of little value though Bryant's report indicated some spawning potential above the steep canyons of the lower 3.5 miles of Panther Ck. Panther Ck. doesn't get surveyed for spring chinook.

- All Wind sub-sub-areas have extensive inclusion of tributaries that should not be considered.
- Rearing in the Wind is likely to extend down to Shipherd Falls.
- Bryant suggested that spawning occurred in the upper reaches of the Klickitat before this century; however, irrigation, lumbering operations and other developments changed the flow and thus accessibility during the first half of this century. He also indicated some possible spawning in the West Fork prior to the early years of this century. We have included the lower West Fork in our list since it is part of 17070106-05-01, but spawning is not assumed to recently take place there.
- Most spawning in the Klickitat occurs from Parrott's Bridge (3 miles below the Big Muddy) up to Castile Falls. We extend the spawning up to McCormick Meadows (RM 83), which we have assumed is about the boundary of sub-sub-area 08-01 (Elkhorn Ck?).
- Sub-sub-area 03-01 contains part of the mainstem where spawning occurs; however, it also contains all of Outlet Creek which is blocked about a mile up by a 50 foot fall (Outlet Falls).
- Spawning does extend down below Parrott's Bridge (RM 49.4), but in low and inconsistent numbers. While surveys go down to Twin Bridge (RM 18.3), redds have been recorded only down to Leidl Bridge (RM 32.2).
- Dammers has seen juvenile spring chinook up to McCormick meadows at least during August.
- The lower extent of rearing in the Klickitat is undefined, but would occur above the several miles of steep-walled canyon waters.
- Overwintering in the Lower Columbia is thought to occur throughout the full rearing area. Spring waters and pools in the upper reaches might actually provide better habitat than the lower reaches.

Lower Columbia (OR)

- Identification of habitat area and quality ranking done by Beamesderfer and Schaller.

Snake River (OR)

- Identification of habitat area and quality ranking done by Beamesderfer and Schaller.