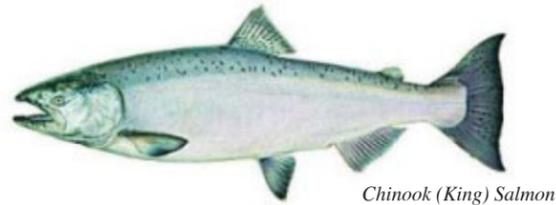


Fish of the Mid-Columbia River



Chinook (King) Salmon



Steelhead



Sockeye Salmon



Coho Salmon



White Sturgeon



Bull Trout



Lamprey

White Sturgeon

Acipenser transmontanus

White sturgeon are common and abundant in the waters downstream of Bonneville Dam. Below Bonneville Dam, adult sturgeon are known to migrate into the ocean to feed on marine fish and large invertebrates. Above Bonneville Dam, small populations of white sturgeon can be found throughout the Columbia and Snake rivers. There is a small population of white sturgeon that live in the Wells Reservoir. These fish do not migrate to the ocean but instead complete their entire life cycle within the Columbia River above the dam.

The roe or eggs from sturgeon are a delicacy known as "caviar" and their flesh is white, tender and boneless. For these two reasons, white sturgeon have been heavily harvested throughout their entire range including the Columbia, Fraser and Sacramento rivers. Douglas PUD is starting a white sturgeon enhancement program in the spring of 2013. The first fish from this program will be stocked into the Wells Reservoir starting in 2014.

DISTINGUISHING CHARACTERISTICS:

- Grey color, with sharp bony plates (scutes) along the back
- The skeleton is mostly cartilage
- Toothless mouth protrudes from the underside of the head
- Can live up to 100 years
- Can grow to 20 feet long and weigh up to 1,800 pounds

WHEN THEY PASS THE DAMS:

Few sturgeon migrate through the fish ladders at the Columbia River dams. Anglers fish year round for sturgeon below Bonneville Dam.

Bull Trout

Salvelinus confluentus

Bull trout are not actually a trout but a char native to the rivers of the North Pacific Coast and Interior West. Columbia River bull trout were historically called Dolly Varden. Bull trout are piscivorous meaning that they prefer to eat fish. The diet preference of bull trout at times has come into conflict with societal desire for larger runs of salmon and steelhead. For many years bull trout were considered a nuisance species



and efforts to reduce their numbers included bounties, fishing tournaments and commercial removal measures. Methow River bull trout average three to ten pounds but can get as large as 15 pounds. In other states bull trout have been recorded as large as 32 pounds. Adults average 16 to 31 inches in length.

Bull trout require clean, cold and well oxygenated waters to complete their life cycle. For these reasons they prefer to spawn in the headwaters of streams often migrating into very small streams and creeks to spawn. The Twisp, upper Methow and Lost rivers are bull trout strongholds above Wells dam. Juvenile bull trout rear throughout the Methow River Basin. After several years in the Methow, some juvenile bull trout migrate into the Columbia River and rear in the reservoirs above and below Wells Dam. Once mature, these fish will migrate back into the headwaters of the Methow River to spawn. Bull trout are capable of spawning multiple times. Peak spawning in the Methow takes place in August and September. After spawning the post-spawn adults migrate downstream to overwinter in larger bodies of water including the lower Methow and Columbia rivers. Bull trout are listed as a threatened species under the protection of the Endangered Species Act.

DISTINGUISHING CHARACTERISTICS:

- Large mouth
- No spots on the dorsal fin
- Copper to gold colored body with light-colored irregular-shaped spots (salmon and steelhead have light-colored bodies with dark spots)
- Spawning bull trout are brightly colored with yellow, orange and salmon-colored spots on a red-gold background
- Fins have white leading edges

WHEN THEY PASS WELLS DAM:

Adult bull trout pass Wells Dam during the spring and early summer before water temperatures exceed 17 degrees Celsius. The peak of the bull trout migration at Wells Dam takes place during the first week of June. Bull trout passing Wells Dam are destined for the Twisp and Methow rivers. Bull trout are not anadromous but instead prefer to spawn and rear in cold rivers and streams. Bull trout are also less specific than salmon and steelhead about which river they spawn in during any given year. Fish tagged at Wells Dam have been observed spawning in the Methow River one year and in the Entiat River the next year.

- Summer: April - July (average run size is 57 adult fish)

Lamprey

Lampetra tridentata



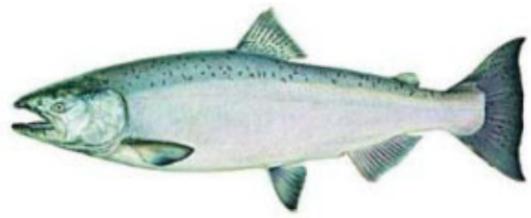
The Pacific Lamprey is an ancient anadromous fish found throughout the Columbia and Snake rivers. Lamprey have a complex life cycle that is similar to salmon with the notable exception of their adult phase which takes place in the ocean but is parasitic rather than piscivorous or fish eating. Rather than eating smaller fish like Chinook or coho, lamprey prefer to attach and feed on the flesh of live fish and marine mammals. Pacific lamprey are anadromous, meaning they hatch in freshwater, grow to maturity in the ocean, and return to the fresh water to spawn. Lamprey migrate upstream in the fall, overwinter in large rivers and then spawn in the spring in small rivers and streams. Also similar to salmon, all Pacific lamprey die after spawning. Lamprey swim using an undulating or snake-like motion, and rest by attaching to rocks with their suction-cup-shaped mouth.

DISTINGUISHING CHARACTERISTICS:

- Body shaped like an eel
- Three-rows of teeth with a suction-cup mouth
- Skeleton made of cartilage
- Life span of 7 years or more
- Female lays between 34,000 and 106,000 eggs
- Worm-like larvae (young)
- Returning adult average size 18 to 24 inches

WHEN THEY PASS WELLS DAM:

Lamprey can be seen in the fish ladders of lower Columbia River from June to October. Lamprey pass Wells Dam during the months of August, September and October but adult lamprey have been observed during every month of the year.



Chinook Salmon

Oncorhynchus tshawytscha

Chinook (or King) salmon are the largest of the Columbia River salmon. Adults average 22 pounds, but many 40- to 50-pound fish are frequently observed in the fish ladders. Adults average 20 to 52 inches in length.

There are three runs of Chinook salmon at Wells Dam. Spring Chinook return in the spring and spawn in August and September. Summer and fall Chinook return in the summer and fall, respectively, and spawn in October and November. Summer and fall Chinook cannot be distinguished genetically, and are managed as a single run and thus are often referred to as summer/fall Chinook. Adult Chinook salmon die after spawning. The eggs are deposited in depressions in the river called redds. Chinook eggs incubate in the river until the water warms in the spring. In the spring, their offspring emerge from the gravel and rear in the Methow, Okanogan and Columbia rivers before migrating to the ocean. Juvenile spring Chinook salmon typically rear in freshwater for one year before entering the ocean. Juvenile summer and fall Chinook salmon initiate their ocean migration shortly after emerging from their redds. Distance from the ocean generally determines how long these fish rear in freshwater. After spending one to five years in the ocean, adult Chinook migrate up the Columbia River to the stream where they were hatched. There, they spawn and die, completing the cycle.

DISTINGUISHING CHARACTERISTICS:

- Large size
- Oval body
- Silver in color until close to spawning when the male turn a dark "dirty" maroon hue or red color. The females become darker silver to almost black
- Spots on the upper portion of body and on the tail or 'caudal fin'
- Crescent shape end of tail
- Black gum line

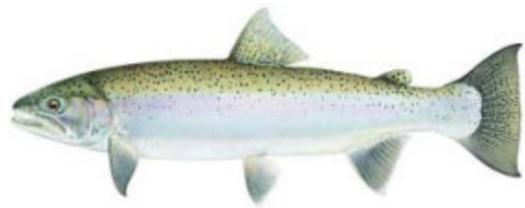
WHEN THEY PASS WELLS DAM:

Chinook salmon pass Wells Dam between May and November in three runs:

- Spring: May and June (average run size: 5,000 adult per year)
- Summer: July to August (average run size: 32,000 adults per year)

- Fall: September to November (average run size: 5,000 adults per year)

Spring Chinook migrate into the Chewuch, Twisp, Lost and upper Methow rivers to spawn, the summer and fall runs of Chinook spawn in the Okanogan, Methow and Columbia rivers. Spring Chinook in the Methow River are one of only two stocks of salmon in the Columbia River listed as an endangered species under the Endangered Species Act. Summer and fall Chinook are common and abundant and can be fished in the Columbia and Okanogan rivers during July, August, September and October.



Steelhead

Oncorhynchus mykiss

Steelhead are rainbow trout that migrate to the ocean. They average 7 pounds and can grow as large as 28 pounds. Adults average 16 to 34 inches in length.

Unlike salmon, steelhead spawn in the spring and do not necessarily die after spawning. A small number of adult steelhead return to the ocean as “kelts,” feed for six months to a year and then return to spawn again the following spring. Steelhead spend from one to three years in the ocean before returning to their spawning streams. Spawning occurs from March to June depending upon the elevation and water temperature of the river. Juvenile steelhead can spend from one to seven years in fresh water before migrating to the ocean. Steelhead spawn throughout the Methow and Okanogan rivers. Methow and Okanogan river steelhead are designated as a threatened species under the Endangered Species Act. The hatchery component of the steelhead run above Wells Dam is abundant and anglers are allowed to catch these fish in the fall and winter months.

DISTINGUISHING CHARACTERISTICS:

- Long slender body (“torpedo” shaped)
- Steel blue, spotted back with silvery sides. When close to spawning, both the male and female develop a pink to rose-red stripe down the sides (the “rainbow”) and get a slight olive green tint on the back
- Squared-off end of tail with fine spots throughout
- White gum line
- Hatchery raised fish will have adipose fins (on back just in front of tail) or ventral fins clipped for identification

WHEN THEY PASS WELLS DAM:

Steelhead can be seen throughout the year although most steelhead move past Wells Dam from August through November with a small but significant number of fish passing the dam in February and March prior to spawning. All of the steelhead populations upstream of Wells Dam are considered summer-run steelhead.

- Summer Steelhead: August to November and February to March (average run size 12,000 adults)

Many summer-run steelhead pass Wells Dam in the late summer and fall and hold in the Columbia and lower Methow and Okanogan rivers, where they spend the winter. In the spring these fish move to their home streams to spawn.



Sockeye Salmon

Oncorhynchus nerka

Mature sockeye salmon (commonly called blueback, silver-side, Alaska red, or nerka) average three to seven pounds but can get as large as 12 pounds. Adults average 16 to 25 inches in length.

Unlike other salmon, sockeye require spawning grounds in streams flowing into or from lakes. After sockeye eggs hatch in the stream, juveniles migrate to a lake and spend one to two years there before migrating to the ocean. They will mature in the ocean, and usually return to the same stream to spawn between the ages of two and five. Sockeye populations are subject to large fluctuations in population size. Anglers are allowed to pursue sockeye in years of high abundance. Landlocked sockeye are called Kokanees. Since these fish do not migrate to the ocean (e.g. those found in Lake Chelan), they complete their life-cycle entirely in fresh water, moving between feeding and spawning areas.

DISTINGUISHING CHARACTERISTICS:

- Metallic blue back with silvery sides
- Spawning males turn bright red with a green head and tail and a hump on their backs. Females turn a similar color, but the body is a darker blotched red and has no hump
- Almost clear tail and fins

WHEN THEY PASS WELLS DAM:

The peak of the Lake Osoyoos sockeye run is short, lasting less than 3 weeks at Wells Dam. These fish can be found in the lower Columbia River in June and at Wells Dam in July, although a few sockeye are still present at Wells Dam into

early August. In years when the Okanogan River water temperatures exceed 21 degrees Celsius, large numbers of Lake Osoyoos sockeye can be found holding in the Wells Reservoir at the mouth of the Okanogan River.

- Summer: July and August (average run size is highly variable: up to 325,000 adult fish)



Coho Salmon

Oncorhynchus kisutch

Mature Columbia River coho (or silver) salmon average six to 10 pounds and can grow as large as 26 pounds. Adults average 18 to 30 inches in length.

Upper Columbia River coho have been functionally extinct for most of this century. Recent efforts to reintroduce coho to the tributaries of the Upper Columbia River have proven to be highly successful. In 2011, over 5,000 adult coho migrated over Wells Dam and into the Methow River to spawn. Coho spawn in the late fall and early winter. Similar to Chinook salmon, the eggs incubate in the gravel during the winter and emerge in the spring.

Juvenile coho spend one year in the Methow, Chewuch and Twisp rivers where they rear before initiating their ocean migration the following spring. Adults generally spend one to two years in the ocean before returning to spawn and die in the stream where they were hatched.

DISTINGUISHING CHARACTERISTICS:

- Silver in color until they are near spawning, when the male turns a brick-red color and the female becomes a dull bronze
- Spots on upper portion of body and on upper tip of tail
- Crescent shaped end of tail
- White gum line
- “Nose” protrudes over lower jaw as the fish near spawning

WHEN THEY PASS WELLS DAM:

The coho go through the fish ladders at Wells Dam between September and early December, with the peak of the run during late October.

- Late Fall: September to December (average run size: 1,300 adults)