

## **Steelhead/rainbow trout resources of the Eel River watershed**

The Eel River flows northwesterly, entering the Pacific Ocean about 13.5 miles south of Eureka. It is the third largest river system in California and drains a watershed of about 3,684 square miles (DFG 1997). The entire watershed contains a total of about 3,488 stream miles and the mainstem Eel River consists of about 200 stream miles. In 1997, staff from DFG cited the Eel as historically the third largest producer of salmon and steelhead amongst California watersheds (DFG 1997a).

Cape Horn and Scott Dams in the upper Eel River are the main elements of the Potter Valley Project, a hydroelectric operation owned by the Pacific Gas and Electric Company (PG&E). Cape Horn Dam was completed in 1908 and Scott Dam was completed in 1922 (PG&E 1998). Cape Horn Dam is located about 156 miles upstream from the mouth of the Eel River and forms Van Arsdale Reservoir. Scott Dam is located about 12 miles further upstream and forms Lake Pillsbury. A fish ladder operates on Cape Horn Dam and enables steelhead to access the river section between the two dams. Upstream of Scott Dam the mainstem Eel River consists of about 29 stream miles which is inaccessible to anadromous fish, but supports a population of resident rainbow trout.

The Potter Valley Project involves the diversion of water through a tunnel from Van Arsdale Reservoir to the hydropower facility in Potter Valley then into the East Branch of the Russian River. The storage capacity provided by Lake Pillsbury enables year-round water diversions. The construction of the project prevented steelhead migration to the upper reaches of the Eel River and altered water flows and temperatures in the downstream reaches (PG&E 1998). The original fish ladder configuration at Cape Horn Dam created some fish passage problems and required modification in 1962 and 1987. The water diversion at Van Arsdale Reservoir also created some fish passage problems for salmonids. A horizontal travelling fish screen was put in place at the diversion in 1972 and operated into the 1980s. However, this screen "...was subject to frequent breakdowns" due to heavy sediment and organic debris loads (PG&E 1998). A new, inclined fish screen was installed in 1995. During the interim between the mid-1980s and 1995, alternative measures were used to reduce the potential for fish entrainment.

Early documentation of steelhead in the Eel River includes a 1925 article in California Fish and Game, written by John Snyder of Stanford University (DFG 1925). Snyder described a run of fish that were known locally as "half-pounders" and were "...usually present in the lower reaches of the river in considerable numbers from the first of October until about the middle of November, when high water permits them to pass up stream" (DFG 1925, p. 49). Analysis of scale samples determined that these fish were young steelhead, estimated to be about three years old, that were entering the Eel River on their first spawning run.

Staff from DFG completed the "Eel River Salmon and Steelhead Restoration Action Plan" in 1997. The authors wrote that Eel River steelhead runs had declined significantly since 1900 and attributed this decline primarily to "...land development and associated resource uses that included poor road design and construction, poor logging and grazing practices, excessive water diversions, and over-fishing" (DFG 1997, p.12). These human impacts exacerbated the effects of major flooding that took place in 1955 and 1964 and a prolonged drought that occurred from 1988 through 1994. The record flooding that occurred in December of 1964 resulted in "severe damage in river valleys throughout the Eel River Basin" due to "...an enormous volume of soil and rock [that] was stripped from the land and deposited downstream or carried to the sea" (DWR 1971, p. 25). During the flood, peak discharge near the mouth of the Eel River reached 26,500 cubic meters per second and it has been said to rank "... among some of the world's greatest recorded floods for a basin of this size" (Lisle 1990, p. 313). The 1997 action plan reports that DFG estimated an annual spawning escapement of 82,000 steelhead in the Eel River in 1964, while this number dropped to

about 20,000 fish in the late 1980s (DFG 1997).

The Department of Fish and Game operates a salmonid trapping and planting operation at the Van Arsdale Fisheries Station on the Eel River at Cape Horn Dam. Annual counts of steelhead have been conducted at the Van Arsdale Station since 1933 using an upstream migrant trap, with numbers ranging from a high of 9,528 steelhead in the 1944-45 season to a low of 31 steelhead in the 1990-91 season. Annual count results are presented in Appendix B. Some of the Eel River steelhead captured at the fisheries station were spawned and their progeny raised at the Mad River Hatchery and subsequently planted in the Eel River.

## References

- [DFG] Department of Fish and Game. 1925. The Half-Pounder of Eel River, A Steelhead Trout. Report by John O. Snyder
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- [DWR] Department of Water Resources. 1971. Sediment Transport and Turbidity in the Eel River Basin, California. Report by William M. Brown and John R. Ritter
- Lisle, T.E., 1990. The Eel River northwestern California; high sediment yields from a dynamic landscape In: M.G. Wolman and H.C. Riggs (ed.), Surface Water Hydrology, V. O-1, The Geology of North America, Geological Society of America. p. 311-314.
- [PG&E] Pacific Gas & Electric. 1998. Potter Valley Project Monitoring Program (FERC No. 77, Article 39): Effects of Operations on Upper Eel River Anadromous Salmonids, Final Report. Report by Steiner Environmental Consulting.

## **Steelhead/rainbow trout resources of the lower Eel River**

The following discussion of *O. mykiss* resources is specific to the section of the Eel River located between the mouth and the South Fork Eel River confluence. The middle and upper reaches of the mainstem are discussed in separate sections of this report.

### **Eel River-Lower Reach**

The lower Eel River was examined in 1973 as part of a study of water temperature conditions in the Eel River system (Kubicek 1977). Fingerling and yearling salmonids up to 5 inches in length were observed scattered throughout this section of stream, and fishermen at the mouth of the Van Duzen River were observed catching juvenile salmonids up to 7 inches in length (Kubicek pers. comm.).

Steelhead of multiple age classes were consistently observed throughout the Eel River, including the lower reach, during surveys conducted between 1969 and 1986 (Jones and Thompson 1969, Puckett and Hinton 1973, Jones and Emig 1985, Jones and Baker 1986).

Habitat descriptions included in the 1997 Eel River Action Plan described the lower Eel River as “an important juvenile rearing area” for salmonids and noted that the estuary provides valuable nursery habitat where juveniles experience high growth rates (DFG 1997a). This area of the river was noted to suffer habitat impacts from elevated sedimentation, introduction of agricultural waste, and logging of riparian forests. Upstream of Rio Dell, the lower Eel River has been found to provide rearing habitat as well as some holding areas for summer steelhead and spawning habitat in some years (DFG 1997a).

### **Salt River**

The Salt River is tributary to the Eel River and consists of about 10.2 stream miles. It flows northwesterly, entering the Eel River Estuary about 0.2 miles from the mouth of the Eel River.

A 1983 DFG status report of California Wild and Scenic Rivers lists the number of stream miles accessible to anadromous species in tributaries of the Eel River. In this report the Salt River is listed as containing eight miles of stream accessible to steelhead (DFG 1983). The report notes that this number represents the stream miles “open to fish passage” and “is not a measure of habitat availability or habitat quality” (DFG 1983, p. H-45). The distribution estimates were made by examining DFG fisheries files and USGS maps.

A watershed assessment of the Salt River watershed was prepared in 2005. According to the report steelhead were observed in the estuarine portion of the river in 1977 and 1995 (DFG 2005).

### **Cutoff Slough**

Cutoff Slough is tributary to the Salt River. It flows north, entering the Salt River about 1.9 miles upstream from the Eel River confluence. No fisheries information was found for Cutoff Slough. The creek is included to provide context for fisheries information applying to a tributary.

### **Centerville Slough**

Centerville Slough is tributary to Cutoff Slough and consists of about 1.9 stream miles. It flows north, entering Cutoff Slough at about stream mile 1.8.

A watershed assessment of the Salt River watershed was prepared in 2005. According to the report “salmonid fry” were observed in Centerville Slough in 1984 (DFG 2005).

### **Russ Creek**

Russ Creek consists of about 4.4 stream miles and is tributary to Centerville Slough. It flows northwesterly and enters Centerville Slough at about stream mile 0.6.

A DFG report indicates that Russ Creek was stocked with steelhead trout from 1930-34 (DFG 1934a). Staff from DFG surveyed Russ Creek in 1938 and did not observe *O. mykiss* but noted that natural propagation “should be considerable” in this creek. The survey report notes the presence of “good” spawning areas and “good” pools and shelter (DFG 1938a).

In a 1990 field note, DFG staff write that the creek historically supported steelhead and salmon populations, however “None of these species have been observed for the past few years.” The note mentions several limiting factors including passage barriers, bank failures, livestock damage, and sedimentation (DFG 1990).

Staff from DFG conducted a stream inventory of Russ Creek in 2004. Surveyors did not observe *O. mykiss* in Russ Creek during the survey (CCC 2004). The inventory report recommended that a box culvert at Centerville Road and a dam 496 feet upstream from the road crossing be assessed for fish passage.

### **Reas Creek**

Reas Creek is tributary to the Salt River and consists of about 3.6 stream miles. It flows north, entering the Salt River at about stream mile 4.3. A 10,000 foot section of Reas Creek is channelized downstream of Centerville Road (DFG 2004a).

Staff from DFG surveyed Reas Creek in 1938 and did not observe any fish. The survey report noted “excellent” spawning areas, “good” pools and shelter, and “abundant” fish foods in the creek, as well as an accumulation of garbage and refuse underneath a road bridge that crosses the creek (DFG 1938b).

A description of aquatic resources in the Eel River delta states that Reas Creek was one of three streams in the Ferndale area that were regularly stocked with trout from 1953-66 (Anonymous 1973).

A watershed assessment of the Salt River watershed was prepared in 2005. According to this report, in 1972 DFG staff described Reas Creek as, "...probably the best trout stream in the Eel Delta below the Van Duzen River" (DFG 2005, p. 57).

Electrofishing was conducted in Reas Creek in 2004 and salmonids were not observed (DFG 2004a). The survey found habitat conditions to be "less than suitable for salmonids" and noted habitat impacts from cattle operations and road crossings.

### **Francis Creek**

Francis Creek is tributary to the Salt River and consists of about 4.3 stream miles. It flows north, entering the Salt River north of the town of Ferndale. The creek is channelized through Ferndale (DFG 2003a).

Staff from DFG surveyed Francis Creek in 1938 and observed steelhead ranging from 2.0 to 2.5 inches in length. The survey report noted "good" spawning areas, "good" pools and shelter, and "abundant" fish foods but described the stream bed as "an unsightly mess of refuse and garbage in frequent places through town" (DFG 1938c).

Stocking records indicate that Francis Creek was stocked with steelhead annually from 1931 to 1935 and in 1939 (DFG 1935a, DFG 1939a). A description of aquatic resources in the Eel River delta states that Francis Creek was one of three streams in the Ferndale area that were regularly stocked with trout from 1953-66 (Anonymous 1973).

In 2003 steelhead YOY were captured in Francis Creek and relocated during a flood control project (DFG 2005). Staff from DFG surveyed Francis Creek in 2003 and observed YOY trout that could have been steelhead, rainbow trout, or cutthroat trout (DFG 2003a).

### **Williams Creek**

Williams Creek is tributary to the Salt River and consists of about 5.8 stream miles. It flows north and enters the Salt River at about stream mile 8.3.

Stocking records indicate that Williams Creek was stocked with steelhead annually from 1930 through 1934 (DFG 1934b). Steelhead presence was noted in Williams Creek during an undated DFG stream survey, likely conducted around 1934. The survey report notes that natural propagation "should be considerable" in the creek and states "This stream is not of much value as a fishing stream but is good feeder" (DFG ca. 1934b).

A description of aquatic resources in the Eel River delta states that Williams Creek was one of three streams in the Ferndale area that were regularly stocked with trout from 1953-66 (Anonymous 1973).

Staff from DFG conducted a stream inventory of Williams Creek in 2003. Salmonids were not observed during the survey (DFG 2003b). The inventory report recommended increasing canopy and treating sources of fine sediment in the creek.

### **Coffee Creek**

Coffee Creek is tributary to the Salt River and consists of about one mile of intermittent stream. It flows north and enters the Salt River east of the town of Ferndale.

A watershed assessment of the Salt River watershed was prepared in 2005. According to the report an adult rainbow trout was observed in Coffee Creek in 1973 (DFG 2005).

### **Palmer Creek**

Palmer Creek is tributary to the Eel River and consists of about 1.3 stream miles. It flows south, entering the Eel River about 8.5 miles from its mouth.

During a 1997 fish passage assessment steelhead were observed in Palmer Creek downstream of the Northern Pacific Railroad culvert (HCRCDC 1997). Approximately one mile of anadromous fish habitat was noted above the railroad crossing.

Staff from DFG conducted biological sampling in Palmer creek in 2000 to determine whether juvenile salmonids were present in the creek. A 160 foot section of the creek, located about one mile upstream from Highway 101, was surveyed and no salmonids were found (DFG 2000a).

### **Strong's Creek**

Strong's Creek is tributary to the Eel River and consists of about 5.3 stream miles. It enters the Eel River in the town of Fortuna, about 9.8 miles upstream from its mouth.

An undated DFG stream survey report, likely written during the mid-1930s, mentions the construction of the Newburg Ponds on Strong's Creek. According to the survey these ponds were part of a sawmill operation and as a result of their construction "The dam prevented fish from entering and [the] run of [steelhead] dropped to nothing." The survey report states that after the mill ceased operation the ponds were stocked with *O. mykiss* and "...the run of [steelhead] is coming back" (DFG ca. 1934c). Stocking records indicate that Newburg Ponds were stocked with steelhead in 1932, 1933, and 1934 (DFG 1934c). Strong's Creek was stocked with steelhead from 1930 to 1935 (DFG 1935b).

A 1956 memo addresses the topic of a possible dam construction on Strong's Creek. Staff from DFG write, "...this stream is definitely known to be used as a steelhead spawning area" (McCormick 1956).

A survey for Coastal Cutthroat Trout was conducted in Strong's Creek during in 1984. Two small salmonids, which are described as "apparently steelhead," were captured in the creek (Franklin 1984).

Staff from DFG conducted a stream inventory of Strong's Creek in 1993. Juvenile steelhead were observed during the survey (CCC 1993a). The inventory report recommended treating sources of fine sediment, increasing canopy, and excluding cattle from the creek to avoid trampling and effects from defecation.

A watershed analysis of the Lower Eel River and Eel River Delta was prepared in 2005. This document lists Strongs Creek as one of two streams containing the majority of the potential steelhead habitat in the Eel Delta area (Adams 2006).

### **Rohner Creek**

Rohner Creek is tributary to Strongs Creek and consists of about 3.9 stream miles. It flows south through the town of Fortuna, entering Strongs Creek east of the sewage treatment ponds (Jong 2002).

In a 1964 memo DFG staff document the effects of a fish kill that occurred in Rohner Creek that year. Dead rainbow trout were observed in the creek during the event (DFG 1964).

Staff from DFG surveyed the creek in 1972 and 1982 and did not observe fish during either survey (DFG 1972, DFG 1982a). Large amounts of sand and silt were observed during both surveys, and bank stabilization work was recommended in 1972.

### **Mill Creek**

Mill Creek is tributary to Strongs Creek and consists of about two stream miles (DFG 2004b). It flows west, entering Strongs Creek about 1.3 miles upstream of the Eel River.

A 1973 letter addresses the potential impacts of plans to realign Mill Street in Fortuna. Regarding Mill Creek, DFG staff write that "...fish do not ascend this tributary to Strongs Creek beyond Rohnerville Road" (Rogers 1973).

Staff from DFG observed juvenile salmonids in Mill Creek in 1997 and 1999, and a redd believed to have been built by steelhead in 1998 (DFG 2004c). Notes on these observations state, "...the reaches above both Rohnerville Road and Mill Creek Road are restorable and considered to be Class One streams according to California Forest Practice Rules." Class One watercourses are characterized by, "...fish always or seasonally present onsite, includes habitat to sustain fish migration and spawning" (DFG 2007, p. 2).

### **Jameson Creek**

Jameson Creek is tributary to Strongs Creek and consists of about 2.2 stream miles. It flows west, entering Strongs Creek about 1.7 miles upstream from the confluence with the Eel River.

Jameson Creek was surveyed by DFG staff in 1982. The field note states, "The fact that there is little, if any, spawning gravel in this creek...and that there was less than 1 cfs flow of water (after heavy rains)...probably precludes the use of this creek to anadromous fish" (DFG 1982b).

### **Strongs Creek tributary**

An unnamed tributary to Strongs Creek consists of about 0.6 stream miles. It flows west and enters Strongs Creek near the Rohnerville Road crossing.



No fish were found during electrofishing of this creek in 1980. The field note reports that the creek is “heavily damaged by livestock” and “may not flow during the summer months” (DFG 1980a).

### **North Fork Strongs Creek**

North Fork Strongs Creek consists of about 2.5 stream miles and is tributary to Strongs Creek. It flows southwesterly and enters Strongs Creek near the town of Newburg, at about stream mile 3.4.

Stocking records indicate that North Fork Strongs Creek was stocked with *O. mykiss* in 1931 and 1932 (DFG 1932).

Staff from DFG conducted a stream inventory of North Fork Strongs Creek in 1993. Juvenile and YOY *O. mykiss* were observed during the survey (CCC 1993b). The inventory report noted impacts of cattle trampling and defecation in the streambed and recommended increasing canopy and treating sources of fine sediment in the creek.

### **Van Duzen River**

The Van Duzen River is tributary to the Eel River and consists of about 73 stream miles. It flows northwesterly, entering the Eel River at about stream mile 13.5. Steelhead resources of the Van Duzen and its tributaries are described in the following chapter.

### **Barber Creek**

Barber Creek is tributary to the Eel River and consists of about 2.7 stream miles. It flows east, entering the Eel River at about stream mile 13.6.

A six-foot high concrete falls located 100 yards upstream from the mouth of Barber Creek was said to form a complete barrier to steelhead in 1973 (DFG 1973a). Staff from DFG surveyed the creek in 1973 and captured juvenile *O. mykiss* downstream of these falls. The survey report describes the stream as “small, muddy, and exposed” and noted that “good habitat for fish is lacking” (DFG 1973a).

### **Price Creek**

Price Creek is tributary to the Eel River and consists of about eight stream miles. It flows east, entering the Eel River at Price Creek School.

A hatchery operated on Price Creek from about 1898 to 1915. During this time period both salmon and steelhead were raised at the hatchery and planted in Price Creek (Anonymous ca. 1921).

Staff from DFG surveyed Price Creek during the 1930s. Steelhead were observed during two surveys and described as “common” in 1938 (DFG 1938d). The second survey, probably conducted in 1934, notes that the stream is “...very small during summer and likely goes dry in lower part” (DFG ca. 1934a). Stocking records indicate that the creek was stocked with steelhead from 1930 through 1934 (DFG 1934d).

Staff from DFG observed an adult steelhead during a 1981 survey of Price Creek. The survey report noted that the creek "... suffers from much bank erosion and heavy siltation" (DFG 1981a).

Staff from DFG conducted a stream inventory of Price Creek in 1999. Multiple steelhead year classes were observed at three different sampling locations during the survey (DFG 1999a). The inventory report noted that several small rock dams in the creek created passage barriers at some flows and recommended modification of these structures. The report also recommended increasing canopy in the creek, treating sources of fine sediment, and excluding cattle from the creek to avoid trampling and effects from defecation.

### **Price Creek tributary (Adams Creek)**

An unnamed tributary to Price Creek consists of about 1.1 stream miles and is known as Adams Creek. It flows east, entering Price Creek at about stream mile 2.6.

Staff from DFG surveyed Adams Creek in 1981. The survey report states, "Adams Creek probably provides marginal spawning and rearing habitat for anadromous salmonids due to its lack of spawning gravel and low summer flows" (DFG 1981b).

A 1983 DFG status report of California Wild and Scenic Rivers lists the number of stream miles accessible to anadromous species in tributaries of the Eel River. In this report Adams Creek is listed as containing 0.1 miles of stream accessible to steelhead (DFG 1983). The report notes that this number represents the stream miles "open to fish passage" and "is not a measure of habitat availability or habitat quality" (DFG 1983, p. H-45). The distribution estimates were made by examining DFG fisheries files and USGS maps.

### **Sweet Creek**

Sweet Creek is tributary to Price Creek and consists of about 2.3 stream miles. It flows north, entering Price Creek at about stream mile 3.9.

In a 1938 survey of Sweet Creek, steelhead YOY were described as "common." The report describes spawning areas as "good" in the lower 100 yards of the creek (DFG 1938e).

Fish sampling was performed throughout the Eel River watershed in 1989 and 1990 as part of a four-year study conducted by researchers at UC Davis. During this sampling, *O. mykiss* were observed in Sweet Creek (Brown 1991).

### **Oil Creek**

Oil Creek is tributary to the Eel River and consists of about 2.1 stream miles (DFG 2002a). It flows north, entering the Eel River just south of Price Creek School.

Juvenile *O. mykiss* were observed during a 1938 survey of Oil Creek. The report also notes the presence of "good spawning areas" (DFG 1938f).

In a 1977 survey report, Oil Creek is characterized as "...unsuitable for anadromous fishes due to heavy deposits of silt and lack of spawning gravel. During the survey *O. mykiss* fry and one larger salmonid were observed within 100 feet of the mouth of the stream (DFG 1977).

During a 1990 passage assessment of Oil Creek staff from DFG captured YOY *O. mykiss*. The report concludes that the creek, "...has good spawning and rearing habitat for adult and juvenile salmonids" (Sartori 1990).

Staff from DFG surveyed Oil Creek in 1999 and 2002. Multiple *O. mykiss* year classes were observed during both surveys (DFG 1999b, DFG 2002a).

### **Howe Creek**

Howe Creek is tributary to the Eel River and consists of about six stream miles (DFG 1998a). It flows north, entering the Eel River about 15.4 miles upstream from its mouth.

In 1938, DFG staff surveyed Howe Creek and noted the presence of 1.5 to 4 inch steelhead. Their abundance was said to be "common" to "abundant" and natural production described as "very good" to "excellent" (DFG 1938g).

In describing the characteristics of Howe Creek, a 1980 stream survey report states, "Areas suitable for anadromous fish spawning were continuous throughout the entire drainage." The survey also reports that local residents obtained large catches of steelhead in 1979 (DFG 1980b).

Staff from DFG surveyed Howe Creek in 1998. Biological sampling was not conducted, however the surveyors observed "...what appeared to be steelhead/rainbow trout throughout the entire survey length" (DFG 1998a).

Multiple age classes of *O. mykiss* were captured during 2001 sampling in Howe Creek (Divine 2001).

### **Atwell Creek**

Atwell Creek is tributary to Howe Creek and consists of about 3.9 stream miles. It flows north and enters Howe Creek about 1.5 miles upstream from the Eel River.

In 1938, DFG staff surveyed Atwell Creek and observed juvenile steelhead. Natural propagation was said to be "considerable" and spawning areas described as "good" (DFG 1938h).

A 1980 stream survey of Atwell Creek noted the impact of sediment flowing from a small tributary approximately 450 feet upstream from the confluence with Howe Creek. Suitable spawning areas were found to be "numerous" above this tributary and the stream was described as a "good producer of salmonids" (DFG 1980c).

Staff from DFG surveyed Atwell Creek in 1993 and 1999. Multiple *O. mykiss* year classes were observed during both surveys (CCC 1993c, DFG 1998b).

### **Howe Creek tributary (West Fork Howe Creek)**

An unnamed tributary to Howe Creek consists of about 1.3 stream miles (DFG 1998c). It flows north and enters Howe Creek about 3.1 miles upstream from the Eel River.

Staff from DFG surveyed West Fork Howe Creek in 1998. Two electrofishing sites yielded YOY and juvenile *O. mykiss* (DFG 1998c).

### **Slater Creek**

Slater Creek is tributary to the Eel River and consists of about 2.1 stream miles. It flows north, entering the Eel River west of the town of Belleview.

In a 2002 planning assessment of the Lower Eel River watershed, Slater Creek is listed as having a known historical population of steelhead. The basis for this determination is unknown (DFG 2002b).

### **Eel River tributary (Belleview Creek)**

An unnamed tributary to the Eel River consists of about 0.65 miles of intermittent stream and is known locally as Belleview Creek (DFG 2004d). It flows north, entering the Eel River at about stream mile 17.6.

Staff from DFG conducted a stream inventory of Belleview Creek in 2004. Biological sampling was not conducted during the survey and fish observations are not noted in the report. The report states that the culvert under Blue Slide Road is a complete barrier to fish passage (DFG 2004d).

### **Nanning Creek**

Nanning Creek is tributary to the Eel River and consists of about 2.4 stream miles. It flows west, entering the Eel River east of the town of Rio Dell.

In 1973 sampling was conducted twice in Nanning Creek. "Resident rainbow trout" were observed on both occasions. A 10 foot high waterfall located about 0.25 miles upstream from the mouth of the creek was believed to be a complete barrier to anadromous fish (DFG 1973b). A 1979 survey of Nanning Creek found that suitable spawning areas were "very limited." Where gravel did exist it was described as "usually cemented in sand and silt" (DFG 1979a).

Staff from DFG surveyed Nanning Creek in 1992. Surveyors observed *O. mykiss* at three sites located between 1,487 and 7,154 feet upstream from the mouth of the creek (CCC 1992a).

### **Dean Creek**

Dean Creek is tributary to the Eel River and consists of about 2.4 stream miles. It flows northeasterly and enters the Eel River near the Murphy Memorial Bridge over highway 101 in Rio Dell.

A total of 1,954 juvenile steelhead were rescued by DFG staff from Dean Creek in 1939 and 690 steelhead were rescued in 1940 (DFG 1940, DFG 1941).

Staff from DFG conducted a stream inventory of Dean Creek in 1992 and observed YOY and juvenile *O. mykiss*. The report noted that the mouth of the creek had “poor access for migrants” and should be modified to facilitate passage (CCC 1992b, p. 9). The inventory report also recommended treating sources of fine sediment, particularly those related to the road system.

### **Monument Creek**

Monument Creek is tributary to the Eel River and consists of about 2.1 stream miles (CCC 1990). It flows north to its confluence with the Eel River near the town of Scotia.

Staff from DFG conducted stream inventories of Monument Creek in 1990 and 1992. Electrofishing was conducted during both surveys and *O. mykiss* ranging from 1.4 to 6.3 inches were collected (CCC 1990, CCC 1992c).

The Pacific Lumber Company performed sampling in Monument Creek from 1998-2002 as part of a habitat conservation plan for the company’s property. Juvenile steelhead were collected in the creek every year during that time period with numbers ranging from 2 to 125 fish captured per year (PLC 2003).

### **Kiler Creek**

Kiler Creek is tributary to the Eel River and consists of about 2.2 stream miles (CCC 1992d). It flows north, entering the Eel River at about stream mile 23.6.

Staff from DFG conducted a stream inventory of Kiler Creek in 1992. The report indicates that YOY *O. mykiss* were captured at two electrofishing sites. Fish were observed up to about one mile upstream from the mouth of the creek at which point the stream exhibited a steep gradient and “access for migrating salmonids is an ongoing potential problem” (CCC 1992d). The inventory report recommended treating sources of fine sediment.

### **Dinner Creek**

Dinner Creek is tributary to the Eel River and consists of about 2.3 stream miles (Holzerland 1990a). It flows north and enters the Eel River at about stream mile 24.4.

Staff from DFG rescued *O. mykiss* from Dinner Creek in 1939 and 1940 (DFG 1940, DFG 1941).

During a 1987 assessment of potential restoration projects in Dinner Creek juvenile steelhead were observed at a density of 40 individuals per 100 feet. The report describes the creek as having “good” rearing habitat and “fair” spawning habitat (CCC 1987a).

Staff from DFG conducted a stream inventory of Dinner Creek in 1990. *Oncorhynchus mykiss* was observed at two sites during the survey (Holzerland 1990a). The inventory report recommended stabilizing the sites of stream bank erosion identified during the survey, particularly at one site located about 3,900 feet upstream from the creek mouth.

In 1998, DFG staff inspected Dinner Creek following a fire that damaged portions of the watershed. Young-of-year and yearling steelhead were observed during the inspection (DFG 1999c).

### **Twin Creek**

Twin Creek consists of about 2.4 stream miles and is tributary to the Eel River. It flows north, entering the Eel River at about stream mile 24.7.

Staff from DFG surveyed Twin Creek in 1938 and noted “good” spawning areas and “good” pools and shelter. The creek was found to be dry from the mouth to about 85 yards upstream and steelhead YOY were “abundant” about 125 yards upstream from the mouth (DFG 1938i).

Twin Creek was one of a number of streams sampled as part of a 1976 study on the distribution of fishes in the Eel River system. During this study steelhead were observed in Twin Creek (DFG 1980d).

Staff from DFG conducted stream inventories of Twin Creek in 1990 and 1993. *Oncorhynchus mykiss* ranging from 53-160 mm FL were collected during these surveys (DFG 1999d, Holzerland 1990b).

### **Stitz Creek**

Stitz Creek is tributary to the Eel River and consists of about 3.4 stream miles (CCC 1992e). It flows south, entering the Eel River at about stream mile 26.

Staff from DFG conducted a stream inventory of Stitz Creek in 1992. Electrofishing at three sites yielded a total of four juvenile *O. mykiss* (CCC 1992e). The survey report notes the presence of several log debris accumulations that form potential barriers and states that the stream is “over-loaded in fine sediments.”

### **Jordan Creek**

Jordan Creek is tributary to the Eel River and consists of about 3.2 stream miles. It flows north and enters the Eel River at about stream mile 27.5.

Staff from DFG rescued *O. mykiss* from Jordan Creek in 1939 and 1940 (DFG 1940, DFG 1941).

Jordan Creek was examined in 1973 as part of a study of water temperature conditions in the Eel River system and “many fingerlings” were observed (Kubicek 1977).

A 1986 field note indicates that an adult steelhead was observed within 0.75 miles of the mouth of Jordan Creek that year. It states that the creek provides “good spawning and rearing habitat for anadromous fishes” (DFG 1986a).

Staff from DFG conducted a stream inventory of Jordan Creek in 1991. *Oncorhynchus mykiss* YOY were captured at four electrofishing sites between 0.2 and 1.8 miles upstream from the Eel River. The inventory report noted that spawning gravel in the creek is limited and also recommended treating sources of fine sediment (CCC 1991a).

The Pacific Lumber Company performed sampling in Jordan Creek from 2000-2002 as part of a habitat conservation plan for the company's property. Juvenile steelhead were collected in Jordan Creek in 2000, 2001, and 2002 (PLC 2003).

### **Greenlow Creek (Greenlaw)**

Greenlow Creek, also referred to as Greenlaw Creek, is tributary to the Eel River and consists of about 2.9 stream miles. It flows north, entering the Eel River at about stream mile 27.8.

Greenlow Creek was one of a number of streams sampled as part of a 1976 study on the distribution of fishes in the Eel River system. During this study steelhead were observed in Greenlow Creek (DFG 1980d).

A 1986 field note states that Greenlow Creek provides "fair spawning and rearing habitat." No fish were observed during the survey (DFG 1986b).

Staff from DFG conducted a stream inventory of Greenlow Creek in 1991 and collected juvenile *O. mykiss* at two sites. During this survey the stream channel was dry for the first 752 feet upstream from the Eel River confluence (CCC 1991b). The inventory report recommended treating sources of fine sediment.

### **Darnell Creek**

Darnell Creek is tributary to the Eel River and consists of about 0.9 stream miles. It flows south, entering the Eel River at about stream mile 30.5.

Staff from DFG conducted a stream inventory of Darnell Creek in 1992. Electrofishing yielded five juvenile *O. mykiss* at a site located 92 feet upstream from the mouth of the creek. The report describes a culvert under Shively Road as a barrier to fish passage in need of modification and recommended also treating sources of fine sediment (CCC 1992f).

### **Shively Creek**

Shively Creek is tributary to the Eel River and consists of about 3.5 stream miles. It flows southwesterly, north of the town of Shively, and enters the Eel River at about stream mile 31.4.

Shively Creek was one of a number of streams sampled as part of a 1976 study on the distribution of fishes in the Eel River system. During this study steelhead were observed in Shively Creek (DFG 1980d).

In 1979 staff from DFG surveyed Shively Creek and observed an adult steelhead. The survey report describes the creek as an "active salmonid spawning stream" and found the middle and upper sections to be "excellent for all life phases of salmonids" (DFG 1979b).

Staff from DFG conducted a stream inventory of Shively Creek in 1992. Young-of-year and juvenile *O. mykiss* were observed during the survey. The report notes sedimentation and damage to the creek caused by livestock (DFG 1992a). Two culverts located about 1.1 and 1.2 miles upstream from the mouth were noted to restrict fish passage at some flows.

### **Panther Creek**

Panther Creek is tributary to Shively Creek and consists of about 1.5 stream miles. It flows southwesterly and enters Shively Creek at about stream mile 0.6.

Panther Creek was one of a number of streams sampled as part of a 1976 study on the distribution of fishes in the Eel River system. During this study steelhead were observed in Panther Creek (DFG 1980d).

Panther Creek is mentioned in a 1979 survey of the Shively Creek watershed. The creek is described as being “of little significance to anadromous fish” (DFG 1979b).

### **Bear Creek**

Bear Creek is tributary to the Eel River and consists of about 5.2 stream miles. It flows north, entering the Eel River at about stream mile 32.2, near the town of Shively.

Staff from DFG rescued *O. mykiss* from Bear Creek in 1939 and 1949 (DFG 1940, DFG 1950a).

Field notes indicate that staff from DFG observed adult steelhead in Bear Creek in 1984 and 1987. Fifty individuals were observed within a mile of the Eel River in 1987 and ranged in length from 18-32 inches (CCC 1987b, DFG 1984).

In a 1997 memo written by DFG staff, fish habitat conditions in Bear Creek are described in relation to a proposed timber harvest plan for the area. The memo describes a “...history of cumulative effects in the Bear Creek watershed as a result of timber harvest related activities...” (DFG 1997b, p. 3). Anadromous fish habitat in the watershed is categorized as “severely and thoroughly degraded” with issues including a lack of pools, elimination of riparian vegetation, high water temperatures, and chronic sediment input (DFG 1997b).

Staff from DFG conducted a stream inventory of Bear Creek in 1999. Multiple *O. mykiss* year classes were observed at three electrofishing sites during this survey (DFG 2000b). The inventory report recommended increasing canopy as well as treating sources of fine sediment in the creek.

The Pacific Lumber Company performed sampling in Bear Creek from 1998-2002 as part of a habitat conservation plan for the company’s property. Juvenile steelhead were collected in Bear Creek every year during that time period (PLC 2003).

### **Chadd Creek**

Chadd Creek is tributary to the Eel River and consists of about 4.5 stream miles. It flows north, entering the Eel River at about stream mile 33, south of the town of Shively.



Chadd Creek was one of a number of streams sampled as part of a 1976 study on the distribution of fishes in the Eel River system. During this study steelhead were observed in Chadd Creek (DFG 1980d).

Field notes from 1989-1993 indicate that steelhead were observed in Chadd Creek throughout this time period (DFG 1993, Moody 1988, Preston 1989). In 1992 DFG staff conducted a stream inventory of Chadd Creek and observed YOY, age 1+, and age 2+ *O. mykiss* (CCC 1992g).

Staff from DFG conducted a stream inventory of Chadd Creek in 1998. Biological sampling was not conducted during the survey, but surveyors observed “juvenile salmonids” from the stream banks at several locations (DFG 1998d). The inventory report recommended treating sources of fine sediment in the creek, including sediment sources related to the road system.

### **Chadd Creek tributary 1**

An unnamed tributary to Chadd Creek consists of about 0.9 miles of intermittent stream. It flows north, entering Chadd Creek about 0.3 miles upstream from the Eel River.

Staff from DFG surveyed this tributary in 1939 and observed “young steelhead” about 50 feet upstream from Highway 101 (DFG 1939b).

### **Chadd Creek tributary 2**

An unnamed tributary to Chadd Creek consists of about 1.1 stream miles. It flows east, entering Chadd Creek about 1.8 miles upstream from the Eel River.

Staff from DFG conducted a stream inventory of this tributary in 1992. Biological sampling was conducted at one site and four YOY *O. mykiss* were observed. The report recommends managing sediment sources related to the road system in order to improve habitat in this tributary (CCC 1992h).

### **Bridge Creek**

Bridge Creek is tributary to the Eel River and consists of about 1.5 stream miles. It flows south, entering the Eel River at about stream mile 35.3.

Bridge Creek was one of a number of streams sampled as part of a 1976 study on the distribution of fishes in the Eel River system. During this study steelhead were observed in Bridge Creek (DFG 1980d).

Bridge Creek is included in a 1997 assessment of fish passage problems in relation to the Northern Pacific Railroad. The creek is described as “historically an anadromous [steelhead] stream” with “several miles of suitable habitat.” However, fish access was prohibited by a complex culvert at the railroad crossing. The report recommends replacement of the culvert with a bridge and notes that the stream has “good quality coho and steelhead possibilities” (HCRC 1997).

## **Larabee Creek**

Larabee Creek is tributary to the Eel River, consists of about 24 stream miles, and drains a watershed of about 81.5 square miles (DFG 2000c). It flows west, entering the Eel River just north of the town of Larabee, at about stream mile 36.5.

Staff from DFG regularly rescued *O. mykiss* from Larabee Creek during the period from 1938-1952 (DFG 1938j, DFG 1940, DFG 1952, DFG 1953). Between 4,149 and 13,431 steelhead were rescued from the creek each year.

In 1938 staff from DFG surveyed Larabee Creek and observed steelhead ranging from 1.5 to 5.0 inches in length. Natural propagation of the fish was said to be “extensive” and the survey report noted “good” to “excellent” spawning areas and “good” pools and shelter (DFG 1938k).

A 1950 field note records observations of Larabee Creek made by staff from DFG. The creek was said to contain “beautiful spawning gravels” where it was examined near the mouth of Thurman Creek. The streambed of Larabee Creek was found to be dry about one mile further upstream (DFG 1950b).

Larabee Creek was examined in 1973 as part of a study of water temperature conditions in the Eel River system. During this study “several fingerlings and yearlings up to 5 inches in length” were observed in the creek (Kubicek 1977).

Staff from the Bureau of Land Management (BLM) surveyed a section of Larabee Creek in 1977 and observed juvenile *O. mykiss*. Surveyors found the surveyed section to have “excellent spawning grounds for salmon and steelhead” and noted that Larabee Creek is “...believed to be an important tributary to the fisheries of the Eel River” (BLM 1977).

In 1978 USFS estimated the economic value of anadromous fisheries in the Six Rivers National Forest (USFS 1978). At the time, the spawning escapement of steelhead in Larabee Creek was estimated to be about 2,000 fish.

Staff from DFG conducted a stream inventory of Larabee Creek in 1992. *Oncorhynchus mykiss* were observed at two locations (CCC 1992i). The inventory report recommended treating sources of fine sediment.

During a 2000 stream inventory, staff from DFG surveyed approximately 23 miles of Larabee Creek, from the confluence with the Eel River to the Cooper Creek confluence. Multiple *O. mykiss* year classes were observed at four electrofishing sites located in the reach 13 to 23 miles upstream from the Eel River confluence (DFG 2000c). The inventory report noted that water temperature may limit the fishery and recommended increasing canopy.

The Pacific Lumber Company performed sampling in Larabee Creek from 1998-2002 as part of a habitat conservation plan for the company’s property. Juvenile steelhead were collected in Larabee Creek every year during that time period (PLC 2003). *Oncorhynchus mykiss* were also collected during additional sampling conducted by the Pacific Lumber Company in 2003 (Oliver 2003).

## **Balcom Creek**

Balcom Creek is tributary to Larabee Creek and consists of about 1.3 stream miles (CCC 1992j). It flows north, entering Larabee Creek at about stream mile 2.1.

A 1983 DFG status report of California Wild and Scenic Rivers lists the number of stream miles accessible to anadromous species in tributaries of the Eel River. In this report Balcom Creek is listed as containing 1.6 miles of stream accessible to steelhead (DFG 1983). The report notes that this number represents the stream miles “open to fish passage” and “is not a measure of habitat availability or habitat quality” (DFG 1983, p. H-45). The distribution estimates were made by examining DFG fisheries files and USGS maps.

Staff from DFG conducted a stream inventory of Balcom Creek in 1992. No fish were observed during the survey and the report recommends additional assessment of a barrier located 94 feet from the confluence with Larabee Creek (CCC 1992j). Treatment of fine sediment sources was also recommended.

### **Carson Creek**

Carson Creek is tributary to Larabee Creek and consists of about 2.3 stream miles. It flows south, entering Larabee Creek about 2.5 miles upstream from the Eel River.

A 1983 DFG status report of California Wild and Scenic Rivers lists the number of stream miles accessible to anadromous species in tributaries of the Eel River. In this report Carson Creek is listed as containing 0.2 miles of stream accessible to steelhead (DFG 1983). The report notes that this number represents the stream miles “open to fish passage” and “is not a measure of habitat availability or habitat quality” (DFG 1983, p. H-45). The distribution estimates were made by examining DFG fisheries files and USGS maps.

Staff from DFG conducted a stream inventory of Carson Creek in 1992. During the survey YOY and age 1+ *O. mykiss* were observed from the mouth of the creek to about 0.4 miles upstream (CCC 1992k). The inventory report recommended treating sources of fine sediment in the creek, included sediment sources related to the road system.

### **Scott Creek**

Scott Creek is tributary to Larabee Creek and consists of about 2.2 stream miles. It flows north, entering Larabee Creek about four miles upstream from the Eel River.

Staff from DFG conducted a stream inventory of Scott Creek in 1992. Three sites were sampled during the survey and YOY *O. mykiss* were observed at two of the three. The report states that the stream’s high gradient means that “access for migrating salmonids is an ongoing potential problem” (CCC 1992l). It also recommended treating sources of fine sediment, including those related to the road system.

### **Arnold Creek**

Arnold Creek is tributary to Larabee Creek and consists of about 1.1 stream miles. It flows north, entering Larabee Creek about 4.7 miles upstream from the Eel River.

Staff from DFG conducted a stream inventory of Arnold Creek in 1992. No fish were found during electrofishing at two sites in the stream. The report describes fish passage as an “ongoing potential problem” due to the high gradient of the stream and the presence of a boulder cascade near the mouth (DFG 1992b).

### **Burr Creek**

Burr Creek is tributary to Larabee Creek and consists of about 4.5 stream miles. It flows south, entering Larabee Creek at about stream mile 10.5.

Staff from DFG surveyed Burr Creek in 1938 and did not observe fish. “Fair” spawning areas were noted, along with “good” pools and shelter (DFG 1938l).

A 1983 DFG status report of California Wild and Scenic Rivers lists the number of stream miles accessible to anadromous species in tributaries of the Eel River. In this report Burr Creek is listed as containing two miles of stream accessible to steelhead (DFG 1983). The report notes that this number represents the stream miles “open to fish passage” and “is not a measure of habitat availability or habitat quality” (DFG 1983, p. H-45). The distribution estimates were made by examining DFG fisheries files and USGS maps.

### **Cold Creek**

Cold Creek is tributary to Burr Creek and consists of about 1.1 miles of intermittent stream. It flows west, entering Burr Creek at about stream mile 1.5.

Staff from DFG surveyed Cold Creek in 1938 and did not observe fish. The stream was described as, “Dry except for small, isolated pools” (DFG 1938m).

### **Little Burr Creek**

Little Burr Creek is tributary to Burr Creek and consists of about 2.3 stream miles. It flows west, entering Burr Creek at about stream mile 2.4.

Staff from DFG surveyed Little Burr Creek in 1938 and wrote, “no fish seen, probably none.” Spawning areas in the creek was described as “fair” (DFG 1938n).

Staff from DFG conducted a stream inventory of Little Burr Creek in 2000. One site near the confluence with Burr Creek was electrofished and 13 *O. mykiss* of multiple year classes were observed. The report noted that “access for migrating salmonids appears to be a problem” and the culvert at Alderpoint Road may be a complete barrier. It also recommended increasing canopy (DFG 2000d).

### **Mill Creek**

Mill Creek is tributary to Larabee Creek and consists of about 3.7 stream miles. It flows south, entering Larabee Creek about 13.8 miles upstream from the Eel River.

Stocking records indicate that Mill Creek was stocked with 2,250 rainbow trout in 1933 (DFG 1933). Mill Creek is included in a 1938 study of suggested stream improvement projects. In this report, Mill Creek is described as containing an eight-foot high waterfall, “impassable to fish,” located 50 feet downstream of the Alderpoint Road crossing (DFG 1938o). Staff from DFG surveyed Mill Creek in 1938 and noted the presence of YOY and seven-inch long steelhead about 50 feet upstream from the road crossing. The survey report noted “fair” spawning areas, “excellent” pools and shelter, and cited the falls downstream from the road crossing as a likely passage barrier (DFG 1938p).

A 1983 DFG status report of California Wild and Scenic Rivers lists the number of stream miles accessible to anadromous species in tributaries of the Eel River. In this report Mill Creek is listed as containing 0.2 miles of stream accessible to steelhead (DFG 1983). The report notes that this number represents the stream miles “open to fish passage” and “is not a measure of habitat availability or habitat quality” (DFG 1983, p. H-45). The distribution estimates were made by examining DFG fisheries files and USGS maps.

### **Knack Creek**

Knack Creek is tributary to Larabee Creek and consists of about 3.2 stream miles. It flows southwesterly, entering Larabee Creek at about stream mile 14.2.

Staff from DFG surveyed Knack Creek in 1938 and did not observe fish in the creek. A survey report notes “fair” spawning areas and “good” pools and shelter (DFG 1938q).

Staff from DFG conducted a stream inventory of Knack Creek in 2000. The survey extended from the mouth about 0.1 miles upstream and no fish were observed. The survey report noted a steep gradient and some stream bank erosion that was contributing sediment to the creek (DFG 2000e).

### **Martin Creek**

Martin Creek is tributary to Larabee Creek and consists of about three stream miles. It flows southwesterly, entering Larabee Creek at about stream mile 15.4.

Staff from DFG surveyed Martin Creek in 1938 and observed YOY steelhead about 60 feet upstream from Blocksburg Road crossing. The survey report noted “fair” spawning areas and “good” pools and shelter (DFG 1938r).

Staff from DFG conducted a stream inventory of Martin Creek in 2000. Multiple *O. mykiss* year classes were collected at two electrofishing sites within about 0.5 miles of the mouth of the creek. Juvenile steelhead were also observed at about stream mile 0.9, below a series of 10-16 foot waterfalls (DFG 2000f). The inventory report noted limited spawning areas and several sites of stream bank erosion. It recommended increasing canopy and treating sources of fine sediment.

### **Bosworth Creek**

Bosworth Creek is tributary to Larabee Creek and consists of about 1.5 stream miles. It flows southwesterly, entering Larabee Creek at about stream mile 16.7.

Staff from DFG surveyed Bosworth Creek in 1938 and did not observe *O. mykiss*. The survey report noted “fair” spawning areas, “excellent” pools and shelter, and boulder falls near the Blocksburg Road crossing which were said to create a possible fish passage barrier (DFG 1938s).

### **Larabee Creek tributary**

An unnamed tributary to Larabee Creek consists of about 1.4 stream miles. It flows south, entering Larabee Creek about 19.3 miles upstream from the Eel River confluence.

Staff from DFG conducted a stream inventory of Larabee tributary in 2000. Surveyors observed juvenile salmonids, described as “probably age 1+ and 2+ steelhead,” from the mouth of the creek to the culvert under Alderpoint Road. The culvert was described as, “likely impeding fish passage.” The inventory report noted low flows, possibly due to water diversions, and effects from cattle trampling. It also recommended treating sources of fine sediment (DFG 2000g).

### **Thurman Creek**

Thurman Creek is tributary to Larabee Creek and consists of about four miles of intermittent stream. It flows south from Charles Mountain, entering Larabee Creek at about stream mile 20.4.

A 1983 DFG status report of California Wild and Scenic Rivers lists the number of stream miles accessible to anadromous species in tributaries of the Eel River. In this report Thurman Creek is listed as containing 1.5 miles of stream accessible to steelhead (DFG 1983). The report notes that this number represents the stream miles “open to fish passage” and “is not a measure of habitat availability or habitat quality” (DFG 1983, p. H-45). The distribution estimates were made by examining DFG fisheries files and USGS maps.

### **Barn Creek**

Barn Creek is tributary to Thurman Creek and consists of about 2.6 miles of intermittent stream. It flows south from Charles Mountain, entering Thurman Creek about 1.3 miles upstream from Larabee Creek.

A 1983 DFG status report of California Wild and Scenic Rivers lists the number of stream miles accessible to anadromous species in tributaries of the Eel River. In this report Barn Creek is listed as containing 0.1 miles of stream accessible to steelhead (DFG 1983). The report notes that this number represents the stream miles “open to fish passage” and “is not a measure of habitat availability or habitat quality” (DFG 1983, p. H-45). The distribution estimates were made by examining DFG fisheries files and USGS maps.

### **Hayfield Creek**

Hayfield Creek is tributary to Larabee Creek and consists of about 3.2 stream miles. It flows southwesterly, entering Larabee Creek at about stream mile 20.9.

A 1983 DFG status report of California Wild and Scenic Rivers lists the number of stream miles accessible to anadromous species in tributaries of the Eel River. In this report Hayfield Creek is listed as containing 0.5 miles of stream accessible to steelhead (DFG 1983). The report notes that this number represents the stream miles “open to fish passage” and “is not a measure of habitat availability or habitat quality” (DFG 1983, p. H-45). The distribution estimates were made by examining DFG fisheries files and USGS maps.

### **Cooper Creek**

Cooper Creek is tributary to Larabee Creek and consists of about 2.5 stream miles. It flows west, entering Larabee Creek at about stream mile 23.

A 1983 DFG status report of California Wild and Scenic Rivers lists the number of stream miles accessible to anadromous species in tributaries of the Eel River. In this report Cooper Creek is listed as containing 0.5 miles of stream accessible to steelhead (DFG 1983). The report notes that this number represents the stream miles “open to fish passage” and “is not a measure of habitat availability or habitat quality” (DFG 1983, p. H-45). The distribution estimates were made by examining DFG fisheries files and USGS maps.

Staff from DFG conducted a stream inventory of Cooper Creek in 2001. Biological sampling was not performed during the survey and no fish observations were recorded. The report notes several locations where bank erosion was contributing sediment to the creek. The road system was noted to be a source of sediment in some areas (DFG 2001).

### **Mountain Creek**

Mountain Creek is tributary to Larabee Creek and consists of about 3.2 stream miles. It flows west, entering Larabee Creek at about stream mile 24.1, approximately 1.3 miles north of the town of Blocksburg.

A 1983 DFG status report of California Wild and Scenic Rivers lists the number of stream miles accessible to anadromous species in tributaries of the Eel River. In this report Mountain Creek is listed as containing 0.5 miles of stream accessible to steelhead (DFG 1983). The report notes that this number represents the stream miles “open to fish passage” and “is not a measure of habitat availability or habitat quality” (DFG 1983, p. H-45). The distribution estimates were made by examining DFG fisheries files and USGS maps.

### **Allen Creek**

Allen Creek is tributary to the Eel River and consists of about 1.3 stream miles. It flows west, entering the Eel River at about stream mile 38.

Staff from DFG conducted a stream inventory of Allen Creek in 1992. Two sites were electrofished during the survey and no fish were found at either site. The creek's high gradient and two culverts near its mouth were noted to create access problems for migrating salmonids (CCC 1992m).

### **Weber Creek**

Weber Creek is tributary to the Eel River and consists of about 2.4 stream miles. It flows west from Mount Baldy, entering the Eel River at about stream mile 38.8.

Weber Creek was one of a number of streams sampled as part of a study on the distribution of fishes in the Eel River system. During this study steelhead were observed in Weber Creek in 1976 (DFG 1980d).

Staff from DFG conducted a stream inventory of Weber Creek in 1992. Young-of-year and age 1+ *O. mykiss* were observed during the survey (CCC 1992n). The inventory report recommended increasing canopy and treating sources of fine sediment.

Weber Creek is included in a 1997 assessment of fish passage problems in relation to the Northern Pacific Railroad. The report states that yearling and YOY *O. mykiss* were observed above and below the railroad crossing during inspection (HCRCD 1997).



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