**Van Duzen River**

The Van Duzen River is tributary to the Eel River and consists of about 73 stream miles. It flows northwesterly from headwaters in the Six Rivers National Forest, entering the Eel River at about stream mile 13.5, near the town of Alton. The Van Duzen River drains an area of about 429 square miles (DFG 1997a).

Staff from DFG surveyed the Van Duzen River in the early 1930s. Dates are lacking from survey reports, however the surveys likely were conducted around 1934. One report from this period describes the Van Duzen River as, "One of the best spawning streams tributary to Eel River" (DFG ca. 1934a). Another report notes that the river is stocked with steelhead and describes natural propagation as "very successful throughout entire stream" (DFG ca. 1934a). Both reports note that the river is heavily fished.

The Van Duzen River has been regularly stocked with steelhead. Records from DFG indicate that the river was stocked from 1930 to 1938, and during the 1970s, 80s, and early 90s (DFG 1936a, DFG 1938a, DFG 1993).

An inventory of anadromous fish resources is included in a 1965 California Fish and Wildlife Plan. In its description of the Van Duzen River, the inventory stated that the watershed contained a total of 113 miles of steelhead habitat and supported a spawning run of 10,000 steelhead. It was also noted that spawners are sometimes blocked by logging debris and can be delayed by low flows in the fall. This report also noted that falls located about 30 miles upstream from the mouth of the Van Duzen are only passable to some summer steelhead at certain flows, and that the Eaton Roughs area another 12 miles upstream is impassable to all anadromous fish. The report stated, "The productive potential for anadromous fish could be significantly increased if passage could be provided over existing natural barriers" (DFG 1965a, p. 382).

The Van Duzen River was examined in 1973 as part of a study of water temperature conditions in the Eel River system (Kubicek 1977). During this study, fingerling and yearling salmonids were observed scattered throughout the section of stream between the mouth and the Eaton Roughs barrier. Resident rainbow trout up to nine inches in length were observed throughout the section of stream above Browns Canyon (Kubicek pers. comm.).

In a 1983 report on the status of California summer steelhead stocks the author notes that "Recent summer steelhead counts in [the Van Duzen River] have been low" (Roelofs 1983, p. 25). This decrease in population numbers since the early 1960s was attributed to damage caused by the 1964-65 floods, which created barriers to upstream migration and resulted in a "total loss of holding pools" in the Van Duzen River (DFG 1992a, Roelofs 1983).

Counts of summer steelhead in the Van Duzen River were conducted by staff from DFG in 1960 and yearly by staff from DFG and Caltrout from 1979 through 1999. Some observations of summer steelhead were also provided by local landowners. A summary table of these fish counts indicates that at least one adult summer steelhead was observed in the Van Duzen River each year that counts were made (DFG 1999a). In notes made during the 1997 summer steelhead survey, surveyors mentioned that summer fish populations were affected by high water temperatures, fishing, predation by river otters, and mass wasting which had caused many pools in the stream to fill with sediment (DFG 1997b).

In 1992 the Humboldt Chapter of the American Fisheries Society published a report identifying the risk of extinction in 49 salmon and steelhead stocks. In this report, summer steelhead in the Van Duzen River were designated as "high risk of extinction." High risk stocks were defined by populations that "showed continuing spawner declines with fewer than 200 adults" (Higgins 1992). In 1995 testimony regarding timber harvest plans in the Yager Creek watershed, fisheries biologist Patrick Higgins reported that summer steelhead runs in the Van Duzen River numbered less than 100 fish annually (Higgins 1995a).

Staff from DFG completed the "Eel River Salmon and Steelhead Restoration Action Plan" in 1997 (DFG 1997a). In this report the Van Duzen River was described as containing "…somewhat harsh summer conditions for the few juvenile salmonids and spring/summer adults that live in it, but it has many tributaries that provide hospitable conditions for salmonid stocks" (DFG 1997a, p. 20). The lower reach of the mainstem Van Duzen River, between Bridgeville and the mouth, was said to contain some spawning and rearing habitat. Fish habitat in the Van Duzen River was affected by increased sediment input, cattle grazing, logging, and introductions of non-native Sacramento squawfish (DFG 1997a).

Fish sampling in the Van Duzen River was conducted in 2001. Datasheets document the collection of steelhead at several locations in the river, including near the confluence of Grizzly Creek, near the town of Bridgeville, and near the "Jocko Arnot" bridge (Nakamoto 2003).

**Barber Creek**

Barber Creek is tributary to the Van Duzen River and consists of about 4.3 stream miles. It flows west, entering the Van Duzen at about stream mile 2.5.

In 1965 Barber Creek was surveyed from its mouth to the Highway 36 bridge. Juvenile salmonids, as well as "abundant" spawning areas and shelter, were observed in the creek. Habitat became less suitable for salmonids in the lower section of the creek which flows into the Van Duzen River flood plain and partially flows underground (Mongold 1965).

Barber Creek was sampled during a 1984 survey for Coastal Cutthroat Trout. Five steelhead trout were captured immediately downstream of the Highway 36 bridge during the survey (Franklin 1984).

Staff from DFG sampled a section of Barber Creek in 1988 and did not observe salmonids. A field note states that "fish habitat is available," the stream is "relatively undisturbed," and "Steelhead are known to exist to at least highway 36" (DFG 1988a).

**Wolverton Gulch Creek**

Wolverton Gulch Creek is tributary to Barber Creek and consists of about 3.8 stream miles. It flows south, entering Barber Creek about 0.4 miles upstream from the Van Duzen River confluence.

Salmonids were observed during a 1963 survey of Wolverton Gulch, but described as "very scarce." The creek was said to have poor spawning and nursery habitat due to a lack of water, excessive siltation, possible pollution, and few food sources (Gaumer 1963).

In an undated survey of Wolverton Gulch, probably conducted in the mid 1960s, "numerous" salmonids up to eight inches in length were observed. The creek was described as "a good nursery stream" due to the presence of these fish (DFG ca. 1965).

Wolverton Gulch was sampled during a 1984 survey for Coastal Cutthroat Trout. A total of 17 YOY and juvenile steelhead were captured in the creek (Franklin 1984).

Wolverton Gulch was inspected in 1997 in relation to a Timber Harvest Plan in the watershed. Salmonids were observed during the investigation and fish habitat was described as being "in fairly good condition" (DFFP 1997).

Staff from DFG conducted a stream inventory of Wolverton Gulch in 1997. Multiple year classes of *O. mykiss* were observed in the creek (DFG 1998a). The inventory report noted a limited spawning gravel and multiple log debris accumulations in the creek. It recommended treating sources of fine sediment and excluding cattle from the creek to avoid trampling and effects from defecation.

**Yager Creek**

Yager Creek is tributary to the Van Duzen River and consists of about 15.2 stream miles. It flows southwesterly, entering the Van Duzen River about five miles upstream from the Eel River confluence.

Staff from DFG rescued *O. mykiss* from Yager Creek in 1938 and 1940 (DFG 1938b, DFG 1941). Records indicate that Yager Creek was stocked with *O. mykiss* annually from 1930 to 1936 and in 1938 (DFG 1936b, DFG 1939). The creek was surveyed from the mouth to the confluence with Lawrence Creek in 1938 and steelhead ranging from 1.5 to 6.0 inches in length were said to be "common" to "abundant." The survey report noted "very extensive" natural propagation of the fish (DFG 1938c).

Yager Creek was surveyed in 1964. The survey found "abundant" salmonids, including rainbow trout ranging from 2-12 inches. "Excellent" spawning areas were also identified (Gaumer 1964).

Yager Creek was examined in 1973 as part of a study of water temperature conditions in the Eel River system. During this study fingerlings and yearling salmonids up to six inches long were observed in Yager Creek, including about 50 salmonids in one pool (Kubicek 1977).

Staff from DFG conducted a stream inventory of Yager Creek in 1991. Juvenile steelhead ranging from about three to eight inches were captured during the survey (CCC 1991a). The inventory report recommended treating sources of fine sediment. In a 1995 letter providing comments on a Timber Harvest Plan in the Yager Creek watershed Patrick Higgins describes the creek as, "…a major salmon and steelhead producing tributary of the Van Duzen River." High water temperatures and a lack of shade canopy are described as major limiting factors in Yager Creek (Higgins 1995b).

**Wilson Creek**

Wilson Creek is tributary to Yager Creek and consists of about 2.4 stream miles. It flows south, entering Yager Creek about 0.5 miles upstream from the Van Duzen River confluence.

Staff from DFG conducted a stream inventory of Wilson Creek in 1991. Three sites were electrofished and a total of five steelhead, ranging from about 3-12 inches in fork length, were found at one site. The lowest 0.8 miles of Wilson Creek was dry during the survey (CCC 1991b). The inventory report recommended treating sources of fine sediment.

A 2003 memo concerning a Timber Harvest Plan in the Wilson Creek watershed states that steelhead are found in the creek. The memo notes that in most years flows become subsurface in the lower reaches of Wilson Creek and these lower reaches are also impacted by channelization, livestock grazing, and water diversions (DFG 2003a).

**Cooper Mill Creek**

Cooper Mill Creek is tributary to Yager Creek and consists of about 3.1 stream miles. It flows south, entering Yager Creek near Yager Camp, about 3.1 miles upstream from the Van Duzen River confluence.

Staff from DFG conducted a stream inventory of Cooper Mill Creek in 1990 during which YOY and juvenile steelhead were observed at two sites (DFG 1990). The inventory report noted the presence of several log debris accumulations in the creek and recommended increasing canopy and treating sources of fine sediment. An additional stream inventory was conducted in 1996. Biological sampling was not performed during this survey, but the report notes that *O. mykiss* were observed in Cooper Mill Creek in 1993 (DFG 1996a).

The Pacific Lumber Company operated a fish trap on Cooper Mill Creek from November 2000 to January 2001 in order to collect eggs and milt for the company's fish hatchery. Steelhead were collected during this period and numerous steelhead fry were observed during downstream migrant trapping in Cooper Mill Creek in April and May of 2001 (Darby 2001).

**Blanton Creek**

Blanton Creek is tributary to Yager Creek and consists of about 1.4 stream miles. It flows south, entering Yager Creek about 7.7 miles upstream from the Van Duzen River confluence.

Staff from DFG conducted a stream inventory of Blanton Creek in 1991. Four sites were electrofished and all yielded YOY and/or juvenile *O. mykiss* (CCC 1991c). The inventory report noted several sites of stream bank erosion and recommended treating sources of fine sediment.

In a 1995 declaration regarding proposed timber harvest plans in the Yager Creek watershed, Patrick Higgins describes Blanton Creek as, "…one of the last high quality refuge streams in the Yager Creek basin" (Higgins 1995a, p. 3). The creek is said to have the lowest levels of fine sediment of any tributary to Yager Creek.

**Lawrence Creek**

Lawrence Creek is tributary to Yager Creek and consists of about 14.5 stream miles. It flows south, entering Yager Creek at about stream mile nine.

Stocking records indicate that Lawrence Creek was stocked with 25,000 steelhead in 1930 (DFG 1930a). In an undated DFG stream survey report, likely dating from the 1930s, Lawrence Creek is described as a "Good winter spawning stream and probably natural reproduction will keep stream stocked to summer capacity" (DFG ca. 1934b).

Staff from DFG surveyed Lawrence Creek in 1938 and observed steelhead ranging from 1.5 to 5.0 inches in length. The survey report noted "good" spawning areas, "good" pools and shelter, and "abundant" fish foods in the creek (DFG 1938d).

Lawrence Creek was sampled as part of a 1967-68 study of the Van Duzen and North Fork Eel Rivers. Steelhead were captured in the creek during the study (DFG 1968).

Staff from DFG conducted stream inventories of the lower, middle, and upper sections of Lawrence Creek in 1991 (CCC 1991d, CCC 1991e, CCC 1991f). Four sites were sampled and between 47-124 YOY and juvenile steelhead were captured at each site.

The steelhead population in Lawrence Creek was sampled from 1992-1995 as part of a stream monitoring study of five streams. Steelhead were consistently collected in the creek during this time period and population estimates ranged from 850 to 1,658 individuals (DFG 1997c).

The Pacific Lumber Company performed sampling in Lawrence 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 33-198 fish captured per year (PLC 2003).

**Corner Creek**

Corner Creek is tributary to Lawrence Creek and consists of about 2.7 stream miles. It flows east, entering Lawrence Creek about 3.7 miles upstream from the Yager Creek confluence.

Staff from DFG conducted a stream inventory of Corner Creek in 1991. Steelhead were observed at three sampling sites, all within 0.3 miles of the confluence with Lawrence Creek. The report noted that the creek, "…offers good conditions for rearing fish" with the condition that the stream's high gradient made access for migrating fish an "ongoing potential problem" (CCC 1991g). The report recommended treating sources of fine sediment.

**Shaw Creek**

Shaw Creek is tributary to Lawrence Creek and consists of about 3.7 stream miles. It flows west, entering Lawrence Creek about 3.8 miles upstream from the Yager Creek confluence.

The steelhead population in Shaw Creek was sampled from 1992-1995 as part of a stream monitoring study of five streams. Steelhead were consistently collected in the creek during this time period and population estimates ranged from 157 to 238 individuals (DFG 1997c).

Staff from DFG conducted a stream inventory of Shaw Creek in 2000. Sampling at three sites produced a total of 28 steelhead comprising three year classes. The survey report notes that the Pacific Lumber Company and California Conservation Corps have installed several stream improvement structures in the creek (DFG 2000a).

**Fish Creek**

Fish Creek is tributary to Lawrence Creek and consists of about 1.1 stream miles. It flows south, entering Lawrence Creek about 4.8 miles upstream from the Yager Creek confluence.

Staff from DFG conducted a stream inventory of Fish Creek in 1991 and observed YOY and juvenile *O. mykiss* in the creek. The report notes that a boulder fishway was constructed in 1992 to provide access through the braided lower reach of Fish Creek (CCC 1992a). Treatment of fine sediment sources was recommended.

Staff from DFG conducted another stream inventory of Fish Creek in 1998 and performed biological sampling in 1996. Young-of-year *O. mykiss* were observed in the creek during the 1996 sampling. Results of the 1998 habitat inventory indicate that the fishway at the mouth of the creek was not functioning at that time (DFG 1998b).

**Booths Run Creek**

Booths Run Creek is tributary to Lawrence Creek and consists of about five stream miles. It flows west, entering Lawrence Creek about eight miles upstream from the Yager Creek confluence.

Staff from DFG conducted a stream inventory of Booths Run in 1991 and "many" YOY salmonids were observed at one location. Recommendations in the report include increasing riparian vegetation and addressing stream bank erosion (CCC 1991h).

**Bell Creek**

Bell Creek is tributary to Lawrence Creek and consists of about 4.2 stream miles (CCC 1991i). It flows south, entering Lawrence Creek about 9.1 miles upstream from the Yager Creek confluence.

Staff from DFG conducted a stream inventory of Bell Creek in 1991. During the survey YOY and juvenile *O. mykiss* were captured at three sites. The inventory report noted that the stream's high gradient and several log debris accumulations made fish passage "an ongoing potential problem." Recommendations for improving habitat in the stream included addressing potential migration barriers and sediment sources (CCC 1991i).

Staff from NMFS conducted sampling in several Eel River tributaries as part of a salmonid habitat restoration evaluation and monitoring project. Reports of this sampling indicate that steelhead were observed in Bell Creek in 1998 and 1999 (DFG 1999b, DFG 2000b).

**Yager Creek tributary (Strawberry Creek)**

An unnamed tributary to Yager Creek consists of about 1.3 stream miles and is known as Strawberry Creek. It flows south, entering Yager Creek about 10.2 miles upstream from the Van Duzen River confluence.

Staff from DFG conducted stream inventories of Strawberry Creek in 1991 and 1996 (CCC 1991j, DFG 1996b). Juvenile and YOY *O. mykiss* were observed in 1991 and YOY were observed in 1996. The 1996 report notes limited spawning gravel in Strawberry Creek.

The Pacific Lumber Company performed sampling in Strawberry 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 25-89 fish captured per year (PLC 2003).

**South Fork Yager Creek**

South Fork Yager Creek is tributary to Yager Creek and consists of about 11 stream miles. It flows northwesterly, entering Yager Creek at about stream mile 14.2.

Staff from DFG surveyed South Fork Yager Creek in 1938 and noted low flows. The creek consisted of intermittent pools in some sections. No fish were observed and a survey report describes the creek as "probably barren" (DFG 1938e).

Staff from DFG conducted stream inventories of South Fork Yager Creek in 1991, 1996, and 2000. Young-of-year and age 1+ *O. mykiss* were observed in the creek during all three surveys. The 2000 report recommends increasing woody cover within pools in the creek in order to improve rearing habitat (CCC 1991k, DFG 1996c, DFG 2000c).

The Pacific Lumber Company performed sampling in South Fork Yager Creek from 1999-2002 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 93-125 fish captured per year (PLC 2003).

**North Fork Yager Creek**

North Fork Yager Creek is tributary to Yager Creek and consists of about 12.1 stream miles (DFG 2003b). It flows southwesterly, entering Yager Creek about 15.2 miles upstream from the Van Duzen River confluence.

Staff from DFG surveyed North Fork Yager Creek in 1938 and observed "abundant" YOY steelhead. Steelhead ranging from five to seven inches in length were described as "common." Spawning areas in the creek were said to be "good" and "excellent" pools and shelter were noted (DFG 1938f).

In a 1995 declaration regarding proposed timber harvest plans in the Yager Creek watershed, Patrick Higgins notes that abundant rainbow trout were observed in North Fork Yager Creek in 1964. The document also describes the creek as lacking canopy cover (Higgins 1995a).

Staff from DFG conducted a stream inventory of North Fork Yager Creek in 1991. Young-of-year and juvenile *O. mykiss* were collected during biological sampling, including individuals to eight inches in length (CCC 1991l).

The Pacific Lumber Company performed sampling in North Fork Yager Creek from 1999-2002 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 7-215 fish captured per year (PLC 2003

Staff from DFG conducted a stream inventory of North Fork Yager Creek in 2003. Sixteen sites were electrofished during the survey and numerous *O. mykiss* of three year classes observed. The report notes that the creek "…offers overall suitable habitat conditions for rearing anadromous fish like steelhead" but noted the impacts of high water temperatures, lack of shade, and some passage problems (DFG 2003b). The report recommended increasing canopy and treating sources of fine sediment.

**Grouse Creek**

Grouse Creek is tributary to North Fork Yager Creek and consists of about 1.6 stream miles. It flows southeasterly, entering North Fork Yager Creek about 5.1 miles upstream from the Yager Creek confluence.

Staff from DFG conducted a stream inventory of Grouse Creek in 2003. Young-of-year, age 1+, and age 2+ *O. mykiss* were observed during the survey (CCC 2003). The inventory report recommended treating sources of fine sediment.

**Lone Star Creek**

Lone Star Creek is tributary to Grouse Creek and consists of about 2.5 stream miles. It flows southwesterly, entering Grouse Creek about 0.1 miles upstream from the North Fork Yager Creek confluence.

Staff from DFG surveyed Lone Star Creek in the vicinity of Kneeland Road in 1938. Surveyors did not observe fish and noted that the creek is "probably barren" in the area surveyed and "should be stocked." The survey report noted "good" spawning areas, "good" pools and shelter, and "very good" fish food sources (DFG 1938g).

**Salmon Creek**

Salmon Creek is tributary to North Fork Yager Creek and consists of about 1.4 stream miles. It flows south, entering North Fork Yager Creek about 6.5 miles upstream from the Yager Creek confluence.

A report on fish rescue work carried out in 1938 includes discussion of activities in Salmon Creek, "tributary to the lower Van Duzen River." The creek under discussion may be the North Fork Yager Creek tributary or may be another creek not identified in current geographical references. The report states, "In 1938, 5,100 fish (95 percent steelhead; 5 percent rough fish at 89 per ounce) were rescued in Salmon Creek…, beginning June 15" (DFG 1938b).

**Dairy Creek**

Dairy Creek is tributary to North Fork Yager Creek and consists of about 4.9 stream miles. It flows northeasterly, entering North Fork Yager Creek about 8.1 miles upstream from the Yager Creek confluence.

Stocking records indicate that Dairy Creek was stocked with 10,000 rainbow trout in 1932 (DFG 1932). Staff from DFG surveyed Dairy Creek in the early 1930s and noted the presence of steelhead. A survey report noted that the creek was a "Small stream and not of much importance." Natural propagation of the fish was said to be "Probably slight on account of size of stream" (DFG ca. 1934c).

**Middle Fork Yager Creek**

Middle Fork Yager Creek is tributary to Yager Creek and consists of about five stream miles. It flows west, entering Yager Creek about 15.2 miles upstream from the Van Duzen River confluence.

Staff from DFG conducted a stream inventory of Middle Fork Yager Creek in 1991. *Oncorhynchus mykiss* YOY and juveniles were observed at two of the three sites electrofished during the survey. Recommendations listed in the report include increasing canopy and treating sources of fine sediment (CCC 1991m).

The Pacific Lumber Company performed sampling in Middle Fork Yager 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 42-173 fish captured per year (PLC 2003).

**Cuddeback Creek**

Cuddeback Creek is tributary to the Van Duzen River and consists of about 1.3 stream miles. It flows south, entering the Van Duzen about seven miles upstream from the Eel River confluence.

Staff from DFG rescued *O. mykiss* from Cuddeback Creek in 1940 (DFG 1941). Cuddeback Creek was surveyed in 1963 and salmonids were observed in the upper half of the stream. "Good" spawning conditions and "abundant" nursery areas were also observed in the upper half of the stream, habitat in the lower half of the stream was described as "poor" (DFG 1963).

A DFG field note reports that local residents claim to have seen adult steelhead in Cuddeback Creek in 1987. Staff from DFG observed a large redd upon inspection of the creek (DFG 1987a). In a 1988 field note, DFG staff report an observation of "rainbow trout" in Cuddeback Creek (DFG 1988b).

A 2003 memo concerning a timber harvest plan in the Cuddeback Creek watershed states that steelhead are found in the creek. The memo notes that in most years flows become subsurface in the lower reaches of Cuddeback Creek and that the stream is impacted by high levels of fine sediment (DFG 2003a).

**Cummings Creek**

Cummings Creek is tributary to the Van Duzen River and consists of about 3.2 stream miles. It flows west, entering the Van Duzen River at about stream mile eight.

During a 1938 survey of Cummings Creek "many" YOY *O. mykiss* were observed and natural propagation in the stream is categorized as "very extensive." The survey report notes the presence of pollution and logging debris in the stream (DFG 1938h). Staff from DFG rescued steelhead trout from Cummings Creek in 1940 and from 1949-1951 (DFG 1941, DFG 1950, DFG 1951, DFG 1952).

Cummings Creek was surveyed in 1985 and YOY salmonids were observed in the stream. A large amount of sand and silt within the stream was cited as a significant problem, with road crossings, unstable banks, and cattle damage being the main causes (DFG 1985).

Staff from DFG conducted a stream inventory of Cummings Creek in 1991. Steelhead ranging from 1.4 to 6.7 inches FL were sampled at three electrofishing sites (CCC 1991n). The inventory report recommended treating sources of fine sediment. The Pacific Lumber Company performed sampling in Cummings 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 54-147 fish captured per year (PLC 2003).

**Fiedler Creek**

Fiedler Creek is tributary to Cummings Creek and consists of about 1.8 miles of intermittent stream. It flows south and enters Cummings Creek about 0.1 miles upstream from the Van Duzen River confluence.

Field notes from 1965 indicate that small salmonids were observed in Fiedler Creek in May and July that year. The survey reports note the impact of a water diversion in the creek and state that rescue operations may be necessary as many fish die in the stream every summer (DFG 1965b, Hicks 1965).

A field note indicates that steelhead redds and one live fish were observed in Fiedler Creek in 1987. The note states that "excellent quality salmon and steelhead spawning gravel" was also observed in the creek (DFG 1987b).

**Van Duzen River tributary**

An unnamed tributary to the Van Duzen River consists of about one stream mile. It flows northeasterly and enters the Van Duzen River at about stream mile 9.3.

This unnamed tributary was surveyed during a 2002 evaluation of fish passage at a culvert in the stream. During this survey *O. mykiss* was observed up to the first main fork in the creek, about 0.2 miles from the mouth. Surveyors observed some "reasonable fish habitat" within the creek and numerous small debris dams including one large log that formed a complete barrier to migration (Darby 2002).

**Hely Creek**

Hely Creek is tributary to the Van Duzen River and consists of about three stream miles. It flows southwesterly, entering the Van Duzen River at about stream mile 14.6.

Staff from DFG surveyed Hely Creek in 1938 and found YOY steelhead to be "abundant" at a survey station located 100 yards upstream from the mouth. The survey report noted "extensive" natural propagation of the fish, "good" spawning areas, and "good" pools and shelter in the creek (DFG 1938i).

Staff from DFG conducted a stream inventory of Hely Creek in 1991. Three sites were electrofished during the survey and multiple year classes of *O. mykiss* were observed. Several erosion sites were noted and the inventory report recommended treating sources of fine sediment (CCC 1991o).

The Pacific Lumber Company performed sampling in Hely 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 74-194 fish captured per year (PLC 2003).

**Root Creek**

Root Creek is tributary to the Van Duzen River and consists of about 4.5 stream miles (CCC 1992b). It flows northwesterly, entering the Van Duzen River at about steam mile 20.5.

Staff from DFG conducted a stream inventory of Root Creek in 1991. Juvenile and YOY *O. mykiss* were sampled during the survey. No fish were observed above a debris accumulation located about 2.6 miles upstream from the mouth of the creek (CCC 1992b). The inventory report recommended treating sources of fine sediment.

The Pacific Lumber Company performed sampling in Root 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 36-91 fish captured per year (PLC 2003).

**Grizzly Creek**

Grizzly Creek is tributary to the Van Duzen River and consists of about 5.7 stream miles. It flows southwesterly, entering the Van Duzen River at about stream mile 23, in Grizzly Creek Redwoods State Park.

Grizzly Creek was examined in 1973 as part of a study of water temperature conditions in the Eel River system. During this study several fingerling salmonids were observed in Grizzly Creek (Kubicek 1977).

Staff from DFG conducted a stream inventory of Grizzly Creek in 1991. Three sites were electrofished during the survey and YOY, age 1+, and age 2+ *O. mykiss* were observed (CCC 1992c). The report recommended treating sources of fine sediment and increasing canopy.

A study site in Grizzly Creek was used in a 1995 study of sculpin ecology in the Eel River watershed. The paper describes the creek as "moderately disturbed" and notes that the watershed had been logged in areas upstream of Grizzly Creek Redwoods State Park (Brown 1995).

The Pacific Lumber Company performed sampling in Grizzly 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 105-321 fish captured per year (PLC 2003).

**Stevens Creek**

Stevens Creek is tributary to Grizzly Creek and consists of about 2.4 stream miles. It flows south, entering Grizzly Creek about 0.5 miles upstream from the Van Duzen River.

Staff from DFG conducted a stream inventory of Stevens Creek in 1991. Juvenile and YOY *O. mykiss* were observed at two sampling sites in the creek. A 30 foot high cascade was observed about one mile upstream from the mouth of the creek and was listed as the likely limit of anadromy (CCC 1991p).

**Fish Creek**

Fish Creek is tributary to the Van Duzen River and consists of about 2.5 stream miles. It flows north, entering the Van Duzen River at about stream mile 27.2.

Staff from DFG conducted a stream inventory of Fish Creek in 1991. Juvenile and YOY *O. mykiss* were observed at two sampling sites in the stream. The creek was noted to have "good conditions for rearing fish" but fish passage was said to be "an ongoing potential problem" (CCC 1991q). The inventory report recommended treating sources of fine sediment.

**Hoagland Creek**

Hoagland Creek is tributary to the Van Duzen River and consists of about 2.7 stream miles. It flows north, entering the Van Duzen River at about stream mile 30.

Staff from DFG surveyed Hoagland Creek in 1938 and observed "abundant" YOY steelhead. The survey report noted "extensive" natural propagation of the fish, "good" spawning areas, and "good" pools and shelter in the creek (DFG 1938j).

Staff from DFG conducted a stream inventory of Hoagland Creek in 1991. Three sites were sampled during the survey and juvenile and YOY *O. mykiss* were observed at each site. The report notes impacts from cattle trampling, sediment input, and fish passage problems in the stream (CCC 1991r).

**Brown Creek**

Brown Creek is tributary to the Van Duzen River and consists of about 3.1 stream miles. It flows south, entering the Van Duzen River at about stream mile 30.6, east of the town of Bridgeville.

Stocking records indicate that Brown Creek was stocked with a total of 25,000 steelhead in 1930 (DFG 1930b). Staff from DFG surveyed Brown Creek in 1938 and observed steelhead ranging from 1.5 to 6.0 inches in length. The creek was said to contain "good" spawning areas and "good" pools and shelter. It was described as "semi-exposed" (DFG 1938k).

Staff from DFG conducted a stream inventory of Brown Creek in 1991. Juvenile and YOY *O. mykiss* were observed during the survey, but no fish were observed upstream of a waterfall located about 0.4 miles upstream from the mouth. A gravel bar at the mouth of the creek was noted to create a barrier to out migrant anadromous fish and construction of a fishway was recommended (CCC 1991s). The inventory report also recommended treating sources of fine sediment.

**Little Larabee Creek**

Little Larabee Creek is tributary to the Van Duzen River and consists of about five stream miles (DFG 1996d). It flows west, entering the Van Duzen River at about stream mile 31.5.

Staff from DFG rescued *O. mykiss* from Little Larabee Creek in 1938 (DFG 1938b). Staff from DFG surveyed Little Larabee Creek in 1938 and noted the presence of "abundant" steelhead ranging from 1.5 to 2.5 inches in length near the Van Duzen Highway bridge crossing. The survey report noted "fair" spawning areas and "good" pools and shelter in the creek (DFG 1938l).

Little Larabee Creek was examined in 1973 as part of a study of water temperature conditions in the Eel River system. During this study fingerlings were observed in the lower portion of Little Larabee Creek. The mouth of the creek was almost dry during the 1973 survey, however the report cites a 1968 description which noted that the creek "provides excellent salmonid nursery habitat" (Kubicek 1977, p.192).

Staff from DFG conducted stream inventories of Little Larabee Creek in 1991 and 1996. Juvenile and YOY *O. mykiss* were observed in the creek during both surveys (CCC 1991t, DFG 1996d).

**Baker Creek**

Baker Creek is tributary to the Van Duzen River and consists of about 3.6 stream miles. It flows south, entering the Van Duzen River at about stream mile 39.3.

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 Baker 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.

The mouth of Baker Creek was observed during a 1997 survey of steelhead in the Van Duzen River. Baker Creek was noted to lack surface flows at it confluence with the Van Duzen River (DFG 1997b).

**Little Van Duzen River (South Fork Van Duzen River)**

The Little Van Duzen River, also known as the South Fork Van Duzen River, is tributary to the Van Duzen River and consists of about 19.8 stream miles (CCC 1992d). It flows north, entering the Van Duzen River at about stream mile 45.4.

Stocking records indicate that the Little Van Duzen River was stocked with *O. mykiss* annually from 1930 to 1936 and in 1938 (DFG 1936c, DFG 1938m). Staff from DFG surveyed the Little Van Duzen River in 1938 and observed "abundant" steelhead ranging from 1.5 to 4.0 inches in length. Natural propagation of the fish was noted to be "very extensive" and "good" spawning areas were observed (DFG 1938n).

The Little Van Duzen River is mentioned in a 1965 study of California's anadromous fish resources. The report states that the river is "inaccessible to anadromous fish because of a natural barrier on the main Van Duzen, about 11 miles downstream of the confluence" (Fry 1965, p. S-71).

The Little Van Duzen River is described in a 1983 report by researchers at Humboldt State University. The paper reports that more than 100 summer steelhead were seen in the river in the 1960s, but the 1964-65 flood created barriers to migration. Summer steelhead were not seen during surveys in 1980 and 1982. Barrier removal was recommended in order to provide access to the Little Van Duzen River and increase numbers of summer steelhead (Roelofs 1983).

The Little Van Duzen River was examined in 1973 as part of a study of water temperature conditions in the Eel River system. During this study fingerling and yearling steelhead, up to six inches in length, were observed in the Little Van Duzen River (Kubicek 1977).

Staff from DFG conducted a stream inventory of the Little Van Duzen River in 1992. Juvenile *O. mykiss* were observed at multiple locations in the river, up to a debris accumulation located about 13.4 miles upstream from the confluence with the Van Duzen River. Some larger fish were also observed, including adult steelhead ranging from 16-20 inches in length (CCC 1992d). The inventory report recommended increasing canopy and treating sources of fine sediment.

Staff from DFG and USFS "…conducted an exhaustive search for summer steelhead in the Van Duzen River [basin] in July, 1997" (Preston 1997). The resulting report states, "A total of one adult summer steelhead was observed in the South Fork Van Duzen River. Trout of all age classes were common, including ten to twelve inch fish." The report also notes substantial aggradation (Preston 1997).

**Butte Creek**

Butte Creek is tributary to the Little Van Duzen River and consists of about 5.9 stream miles. It flows northeasterly, entering the Little Van Duzen about 2.8 miles upstream from the Van Duzen River confluence.

Stocking records indicate that Butte Creek was stocked with 5,000 rainbow trout in 1934 (DFG 1934). Staff from DFG surveyed Butte Creek in 1938 and noted that steelhead ranging from 1.25 to 7.0 inches in length were "abundant." Spawning areas were described as "good" (DFG 1938o).

Butte Creek was examined in 1973 as part of a study of water temperature conditions in the Eel River system. Some salmonid fingerlings were observed in Butte Creek during this study (Kubicek 1977).

Staff from DFG conducted a stream inventory of Butte Creek in 1992. Juvenile and YOY *O. mykiss* were observed during the survey. The report noted that cattle were causing damage to some sections of the stream and recommended treating sources of fine sediment (CCC 1991u).

**Horse Creek**

Horse Creek is tributary to Butte Creek and consists of about 3.7 stream miles. It flows northwesterly, entering Butte Creek about 1.7 miles upstream from the Little Van Duzen River confluence.

Staff from DFG conducted a stream inventory of Horse Creek in 1992. Juvenile and YOY *O. mykiss* were observed in the stream, and all recorded observations took place within about one mile of the mouth (DFG 1992b). The inventory report recommended increasing canopy and treating sources of fine sediment.

**Swift Creek**

Swift Creek is tributary to Butte Creek and consists of about 2.2 stream miles. It flows northwesterly, entering Butte Creek about two miles upstream from the Little Van Duzen River confluence.

Staff from DFG conducted a stream inventory of Swift Creek in 1992. Biological sampling was not conducted during the survey, but surveyors observed YOY and age 1+ salmonids which were assumed to be *O. mykiss* (CCC 1992e). Low flows were observed during the survey and the report recommended an additional survey during a period of higher flow.

**Thompson Creek**

Thompson Creek is tributary to the Little Van Duzen River and consists of about 3.1 stream miles. It flows southwesterly, entering the Little Van Duzen River about six miles upstream from the Van Duzen River confluence.

Staff from DFG conducted a stream inventory of Thompson Creek in 1992. Juvenile and YOY *O. mykiss* were observed during sampling in the stream. A series of waterfalls and cascades located about 0.8 miles upstream from the mouth is believed to affect fish passage and the report recommended treating sources of fine sediment (CCC 1992f).

**Dairy Creek**

Dairy Creek is tributary to the Little Van Duzen River and consists of about 3.2 stream miles. It flows southwesterly, entering the Little Van Duzen River at about stream mile 7.4.

Staff from DFG conducted a stream inventory of Dairy Creek in 1992. Juvenile and YOY *O. mykiss* were observed in the stream. The report noted damage caused by cattle in "at least two sections" of the stream and recommended treating sources of fine sediment (CCC 1992g).

**Panther Creek**

Panther Creek is tributary to the Little Van Duzen River and consists of about 2.1 stream miles. It flows west, entering the Little Van Duzen River at about stream mile 8.3.

Staff from DFG conducted a stream inventory of Panther Creek in 1992. The Panther Creek channel was dry for the first 0.4 miles upstream of the mouth. Multiple year classes of *O. mykiss* were observed further upstream (CCC 1992h). The report recommended treating sources of fine sediment

**Dolores Creek**

Dolores Creek is tributary to the Little Van Duzen River and consists of about 0.7 stream miles. It flows south, entering the Little Van Duzen River at about stream mile 10.6.

Staff from DFG conducted a stream inventory of Dolores Creek in 1992. No fish were observed during the survey. Flow was intermittent at the mouth and the creek was dewatered at a point approximately 226 feet upstream (CCC 1992i).

**Blanket Creek**

Blanket Creek is tributary to the Little Van Duzen River and consists of about 2.6 stream miles. It flows west, entering the Little Van Duzen River at about stream mile 11.1.

Staff from DFG conducted a stream inventory of Blanket Creek in 1992. Juvenile and YOY *O. mykiss* were observed in the creek. The report notes a lack of spawning gravels and stream bank erosion among the issues impacting salmonid habitat and it recommended treating sources of fine sediment (CCC 1992j).

**Bear Creek**

Bear Creek is tributary to the Little Van Duzen River and consists of about 1.7 stream miles. It flows west, entering the Little Van Duzen River at about stream mile 12.2.

Staff from DFG conducted a stream inventory of Bear Creek in 1992. Juvenile and YOY *O. mykiss* were sampled during electrofishing in the creek, and notes indicate that "one large steelhead/rainbow trout" was observed about 1.1 miles upstream from the mouth (CCC 1992k). The report noted fish passage problems due to the high gradient of the stream and recommended increasing canopy and treating sources of fine sediment.

**Lost Canyon**

Lost Canyon Creek is tributary to the Little Van Duzen River and consists of about 1.7 stream miles. It flows north, entering the Little Van Duzen River at about stream mile 13.9.

Staff from DFG conducted a stream inventory of Lost Canyon Creek in 1992. During the survey three steelhead measuring six inches in length were observed about 0.6 miles upstream from the mouth of the creek. The report also notes that "numerous salmonids," including some YOY were observed further upstream. It recommended treating sources of fine sediment (CCC 1992l).

**Browns Canyon Creek**

Browns Canyon Creek is tributary to the Van Duzen River and consists of about 3.1 stream miles. It flows east, entering the Van Duzen River at about stream mile 58.3.

Field notes report observations made by forest service staff during a 1978 survey of Browns Canyon Creek. A "sizable population of resident rainbow trout" was observed upstream of the second tributary, located about 0.7 miles upstream from the mouth. Downstream of this point few fish were observed and habitat was affected by bank erosion and fine sediments (USFS 1978).

**Shanty Creek**

Shanty Creek is tributary to the Van Duzen River and consists of about 2.8 stream miles. It flows northeasterly, entering the Van Duzen River at about stream mile 62.

Shanty Creek was examined in 1973 as part of a study of water temperature conditions in the Eel River system. During this study many "resident rainbow trout," up to eight inches in length, were observed in Shanty Creek (Kubicek 1977).

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 Shanty Creek (Brown 1991).

**Black Lassic Creek**

Black Lassic Creek is tributary to the Van Duzen River and consists of about 3.6 stream miles. It flows northeasterly, entering the Van Duzen River at about stream mile 63.8.

Forest service staff surveyed Black Lassic Creek in 1980. No fish were observed during the survey and the report notes that the creek "has little to offer in the way of suitable fish habitat." Low and intermittent flows were noted and the lack of habitat was attributed to a road culvert barrier, the stream gradient, and extensive boulder roughs (USFS 1980).

Staff from USFS surveyed the creek again in 1982 in response to reports of fish use. Higher flows were noted to create better habitat during this survey. Resident rainbow trout, including fry, fingerlings, and adults, were observed in a small section of the creek directly upstream of the road crossing (USFS 1982).

**West Fork Van Duzen River**

The West Fork Van Duzen River is tributary to the Van Duzen River and consists of about five stream miles. It flows northeasterly, entering the Van Duzen River at about stream mile 68.6

The West Fork Van Duzen River was examined in 1973 as part of a study of water temperature conditions in the Eel River system. During this study many "resident rainbow trout," up to five inches in length, were observed in the West Fork Van Duzen (Kubicek 1977).

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 the West Fork Van Duzen River (Brown 1991).

**Big Meadow Creek**

Big Meadow Creek is tributary to the West Fork Van Duzen River and consists of about 2.8 stream miles. It flows north, entering the West Fork Van Duzen about two miles upstream from the Van Duzen River confluence.

Stocking records indicate that Big Meadow Creek was stocked with 3,548 steelhead in 1930 (DFG 1930c).
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 Big Meadow Creek is listed as containing 2.8 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.

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