

Harral, Carl .1986.
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THE RESOURCES AGENCY OF CALIFORNIA
Department of Fish and Game

STREAM SURVEY

Date July 14-16, 86

Name: Redwood Creek

County: Humboldt

Stream Section: From powerlines in Sec. 3 to Hwy. 299. Length: 15 mi.

Tributary to: Pacific Ocean

Twp. 11N R. 1E Sec.: 32

On July 14-16, 1987, Redwood Creek was surveyed by Carl Harral, Dave McLeod, Phil Warner, DFG, Alderon Laird, T.F.C., and Tim Esquivel, CCC, to assess it's value to anadromous fishes and to identify potential stream enhancement sites. All numerical values are approximations only.

STREAM DESCRIPTION:

POWERLINES TO PARDEE CREEK:

Active slide located on left bank at powerlines with a large log jam at base of slide. Slide was about 600' wide at base x 2000' high. The toe of the slide was about 15' high at base and was buttressed by a log jam and several large boulders. The slide had many tension cracks and was active. There was evidence that the slide material had flowed over the boulders and log jam sometime last winter. The slide is beginning to revegetate with some grasses and shrubs.

Log jam at base of slide was approximately 60'w x 12'h x 50'l with logs up to 4'x 60' and was suspended above stream bottom by boulders that averaged 6' diameter. The jam was helping to stabilize the toe of the slide and was not a problem for fish passage.

The stream flowed through a wide "V" shaped canyon. Streambank stability was generally good with the exception of the major slide at the beginning of the survey. There were a few smaller slides in this section but they were relatively small and contained fair amounts of rock and were not adding large amounts of fines to the stream. Several old revegetated slides that had stabilized were observed.

The stream channel in this section was generally steep and narrow with exposed bedrock and boulders dominating the channel. The wetted width averaged 10', bankfull width was about 30', and total channel was about 75' wide. Average riffle depth was about 3". Pools ranged from 2'w x 4'l x 1'd, to 15'w x 30'l x 3'd, and averaged 4'w x 10'l x 18"d.

The bottom composition averaged 5% bedrock, 45% boulder, 20% rubble, 10% cobble, 5% gravel in isolated patches, and 15% sand and silt. The boulders ranged from 1 to 20' and averaged 4' in this section.

Shade canopy ranged from 0% to 30% and averaged 10% and consisted mainly of red alder, big leaf maple, willow, and douglas fir.

Spawning habitat was limited to isolated patches of gravel at the tailout of pools. Rearing habitat was good and was provided by pools formed by boulders and woody debris.

Much of the woody debris was stored on the flood terraces created in the '64' flood. Some of the terraces were 15' high. There were small log jams and woody debris accumulations in pools at 300 yd. intervals.

About 2500' above Pardee Creek was the beginning of a boulder roughs section that was about 1500' long. In the upper 1000' of the roughs the channel narrowed to about 40' w and the gradient increased to approximately 15%. Boulders ranged from 2' to 20' and averaged 10'. The falls ranged from 2'h to 10'h and averaged 4'h. Pools averaged 4'd, 15'w, 25'l. The flow cascaded over boulders from pool to pool. In the lower 500' of this roughs section the gradient decreased to about 6% and boulders decreased to about 3'. The roughs was a probable barrier to salmon but not to steelhead. There are two possible low flow barriers in this section.

Young of the year steelhead were estimated at about 150 per 100'. There were about 6, 1+ and 4, 2+ steelhead observed in the pools in this section.

Caddisfly larvae were abundant, with stonefly and mayfly larvae also observed.

PARDEE TO BRADFORD CREEK:

This section was typified by long low gradient riffle sections with very few pools. The bottom composition changed to about 40% boulders, that averaged 2' and ranged from 1' to 4', rubble 15%, cobble 10%, gravel 20%, sand and silt 15%. The wetted width of the stream increased to about 20', riffles were 4"d, and pools averaged 3'd.

Spawning habitat was limited to pool tailout areas. Rearing was limited by the few pools in this section.

There was beaver and cattle dung in the creek in some of the pools. Most of the willows in this section have been stripped of leaves by the cattle and are dying. Some coyote brush and a few alders also showed evidence of cattle damage. This was the only section that showed negative impacts to the vegetation by cattle.

There were about 1/2 as many fish observed in this section as compared to the upper section.

BRADFORD TO MINON CREEK:

The stream channel alternates between low gradient riffle sections and narrow bedrock, boulder sections with cascading flow from pool to pool. There were many pools in this section and they ranged from 1-5'd, x 2-20'w, x 3-60'l. These pools provided good rearing habitat and spawning gravel was also good in this section.

MINON CREEK TO HWY 299:

The stream continued to alternate between low gradient riffles and narrow boulder, bedrock sections with low gradient riffle sections dominating. Some of the riffles were over 1500' long. The boulders ranged from 1-15' diameter and averaged about 3'diameter. There were lots of pocket pools in the boulder sections. The bankfull width ranged from 50-300' wide, and averaged 75' wide. The wetted width averaged about 40' wide. Pools ranged from 1-8' deep and averaged about 3' d. One pool was estimated at 15' deep. The larger pools were about 25' w x 130'l x 3'd. Spawning gravels were available in patches in the boulder sections and abundant in the glides at the tailout of the larger pools. Rearing habitat was good in the boulder sections. Most of the larger pools lacked cover.

There were at least four major slides in this section. The first one was located on the right bank and was about 1500' above the road crossing to the Ayers Cabin in section 7. The slide was on the outside of a bend and was horseshoe shaped at the toe. It was about 400' w. at base x 2000' h. and contained a high percentage of fines. There was a gully located in the middle of the slide that is keeping the toe of the slide wet in the winter. At the head scarp there are several old growth fir trees with roots exposed that are ready to fall. There are a few large logs and rootwads in the toe of the slide that are helping to stabilize a short section of the slide's toe. The slide appears to be active during the rainy season. This slide is a major sediment contributor to the system.

The second major slide in this section was located on the left bank about 1500' below the Ayers Cabin in section 7. It was about 200'w at base x 300'h. The toe was located about 125' away from the streambank. There was a alluvial fan of slide material that ran from the toe of the slide to the stream. This material is beginning to revegetate. The slide is contributing fines to the system.

The third slide in this section was located on the left bank just below the unnamed intermittent tributary in the NW 1/4 of section 23. It was about 200'w at base x 400'h.

The fourth slide was located on the left bank about 1/2 mile above Hwy 299. It was about 250'w. at base and 400'h. It is active and contributing fines to the stream.

FISHES OBSERVED:

It was estimated, by visual observation from the banks, that there were about 150 young of the year, 10 1+, and 6 2+, per 100' at the beginning of the survey. These numbers fluctuated but generally declined to about 75 young of the year, 8 1+ and 3 2+ per pool by the end of the survey. Some sections seemed to be completely void of fish even though there were similar habitat types. On May 26, 1987, this same section of Redwood Creek was walked to identify potential enhancement sites. One adult steelhead was seen under the log jam at the powerlines in section 3. There were very few young of the year seen then. Two fish that were about 10" long were observed near the Ayres Cabin on the July survey. Most of these fish were assumed to be steelhead. Two lamprey carcasses were seen.

REDDS:

There were about 75 redds observed. Most were assumed to be steelhead redds. Towards the end of the survey there were some redds that were older and larger than most of the others and may have been salmon redds. There were several lamprey nests observed.

TRIBUTARIES:

The tributaries were not surveyed although most of named tributaries, and some of the larger unnamed tributaries, appeared to provide good habitat for steelhead. Pardee Creek had a 15' falls at the mouth that was probably a barrier.

BARRIERS:

The boulder roughs section about 2500' above Pardee Creek, described in the text above, may be a barrier to salmon but not to steelhead. There is a 45' cascade, falls barrier mentioned in a 1972 survey around the section line between sections 10 and 15, T4N, R4E.

COMMENTS:

Since the 1972 survey by Rogers and Hartzimanolis, the upper section of Redwood Creek has made great progress healing itself from the 1964 flood and past logging practices. There are still several major slides and many smaller ones contributing fines to the system. There also many others that have stabilized and revegetated themselves. There are more fish and more food organisms in the stream now too. Shade canopy has also increased. The stream channel, in the upper portion of the surveyed section, has flushed out most of the sediment deposition caused by the 1964 floods and is fairly stable now (Varnum, Ozaki, 1986). There are still some long sections of deposition closer to the Hyw 299 bridge.

RECOMMENDATIONS:

Redwood Creek should be managed as an anadromous stream. Slide stabilization and pool cover should be considered as high priority stream enhancement projects for this portion of the stream.

written by: Carl Harral
FWAII

To Eureka

To Willow Cr.

Hwy 299

Redwood Creek

To Korbelt

Cool Spr. Cr.

Ayers Cabin

High Prairie

Minon Creek

Lake Prairie Cr.

Panther Creek

Pardee Cr.

Bradford Cr.



Scale 1/2" = 1 mile

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Powerlines

Redwood Creek 5-26-87



Typical stream section
— just upstream of Pardee Cr.



15' barrier at the mouth of
— Pardee Creek.



Typical stream section
downstream of Pardee Cr
Note gravel terrace on
right bank.

Redwood Creek 5-26-87



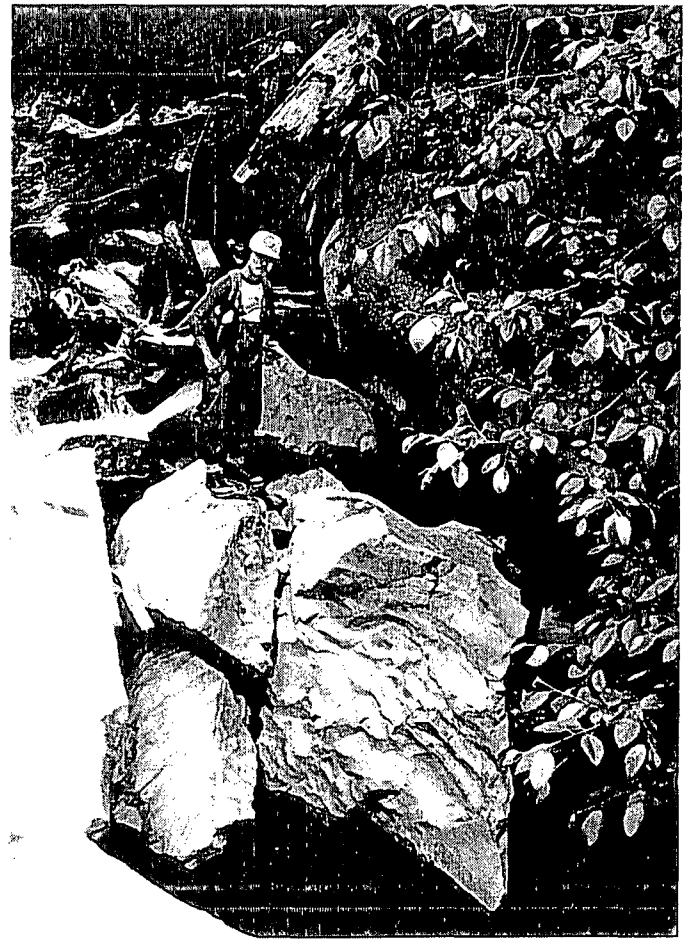
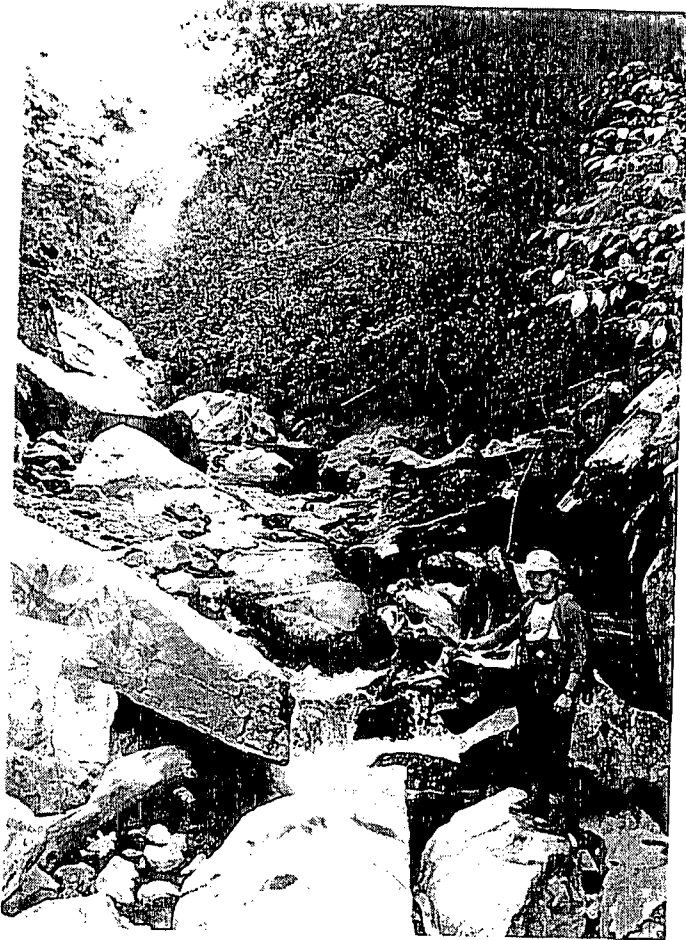
Typical stream section
3/4 mile below powerlines
section 3.



Typical stream section
— 1 mile below powerlines

Redwood Cr. 5-26-87

3



Begin boulder roughs section 2500' above Pardee Cr.
Photos were taken with Esquivel (pictured) standing on
same rock. Not a Barrier.

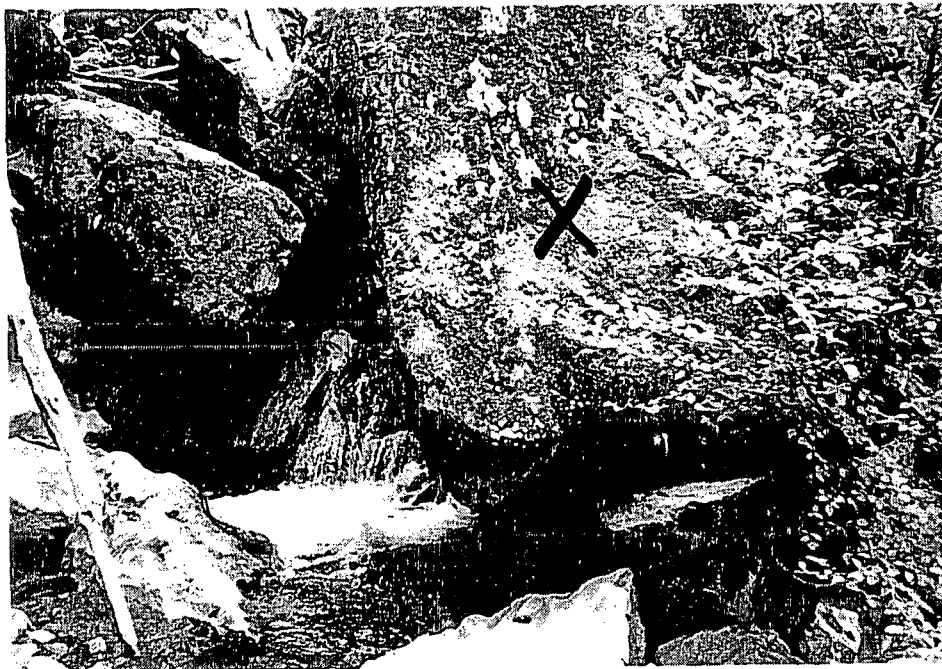
Redwood Creek 5-26-87



10' Boulder falls 2500' above Pardee Cr.
Probable Barrier to salmon

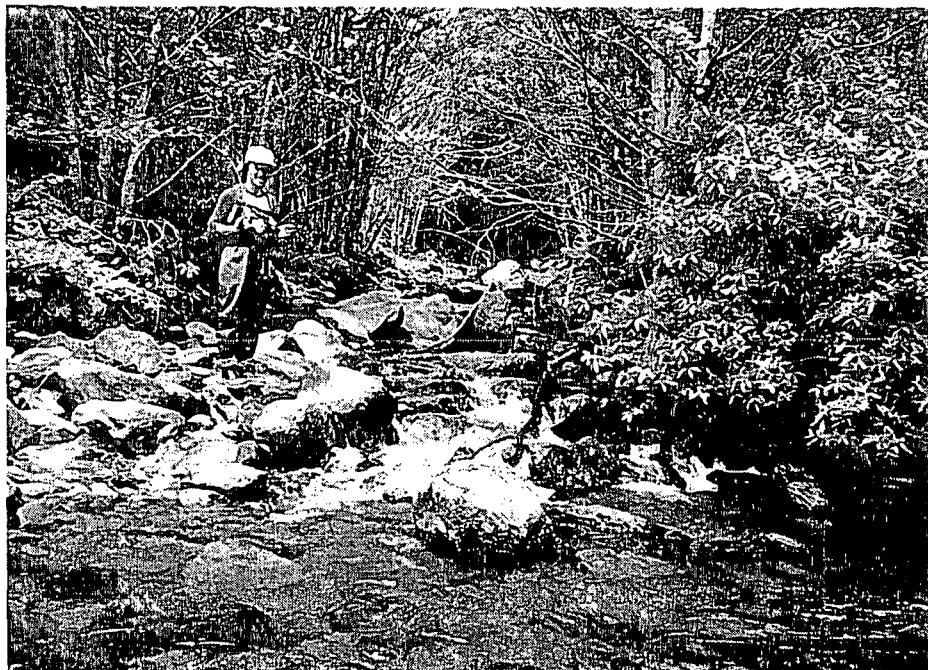


10' boulder falls shown in background.
"X" shows boulder pictured below.

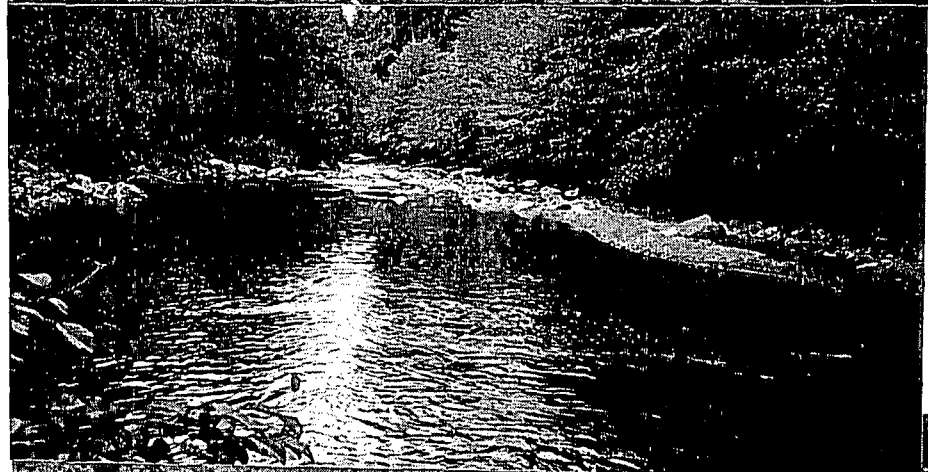


downstream view of 15' long chute on
left side of boulder. Alternate route around
falls.

Redwood Creek 5-26-87



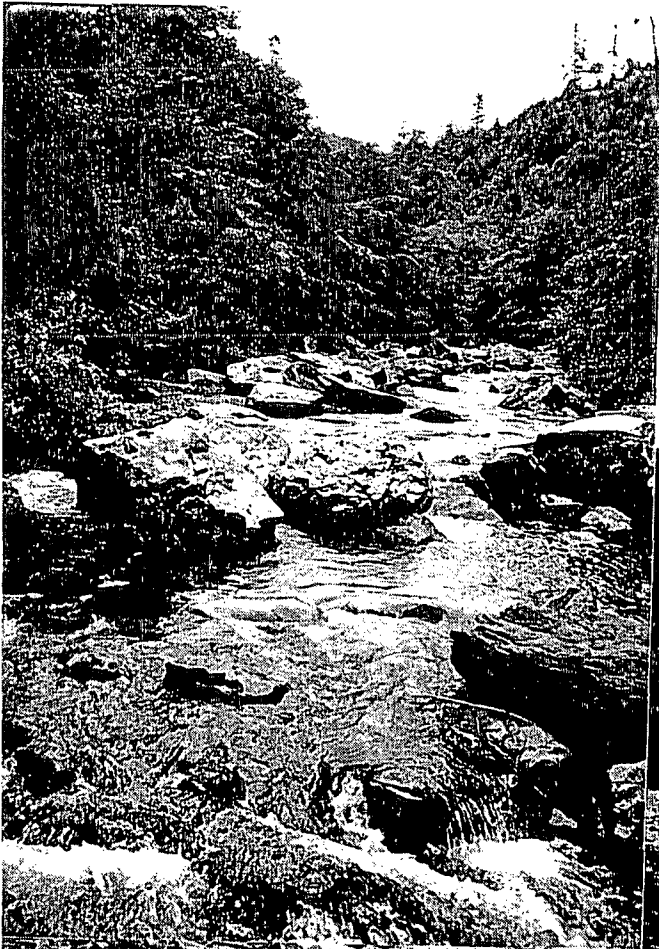
— Mouth of Bradford Cr.



Pool below the mouth of
— Bradford Creek.



Slide 1500' below
— Ayers cabin on right
bank



Typical stream section upstream
of Cool Spring Cr. in section 6.

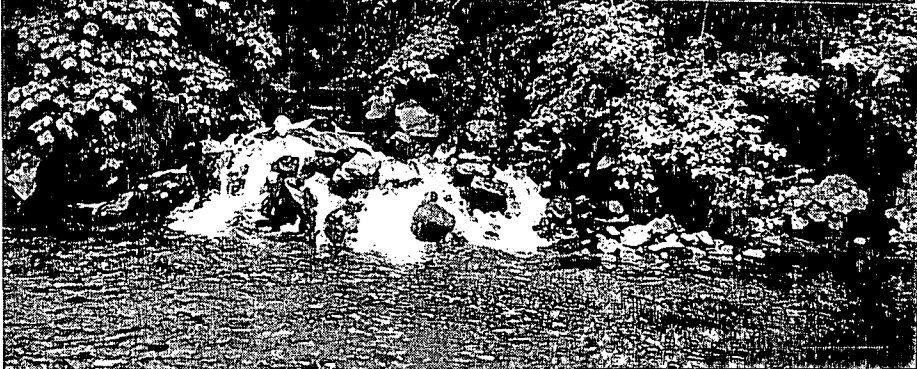


Typical stream section
below Cool Spring Cr.

T6N, R4E, Sec. 36 (SW 1/4)



Typical boulder section
above Noisy Creek showing
slide on right bank.



Mouth of Noisy Cr.