

Memorandum

To: Department of Fish and Game
Warden Tom Riley

Date: February 19, 1999

From: Department of Fish and Game
Scott Harris

Subject: Doyle Creek, Mendocino County

Dear Warden Riley,

On January 21, 1999, at your request I accompanied you to the Caspar Beach Campground owned by Joseph Cocek. Several days earlier the owner of the campground had placed many concrete slabs/pieces into Doyle Creek (T17N, R17W, Section 1) in an effort to stabilize 255 feet of eroding streambanks; he was issued a citation for doing so. The purpose of my visit was to assess the damage and make recommendations. On this visit we were also accompanied by the campground owner, Mr. Joseph Cocek, and his wife. I photographed the area in question and have supplied you with those photos and a brief commentary on the importance of what is depicted in those photos. Following are my comments, observations, and recommendations.

Immediately upon arriving at the campground, and while driving through the grounds, it was very obvious to me that the north side streambank was going to have erosion problems. I state this due to the fact that there was virtually NO riparian vegetation on this bank within the campground. Without substantial vegetation the potential for erosion is high, as there is nothing to afford stability.

I have seen this situation (removal of riparian vegetation) at many private campgrounds, and also within State and National Park campgrounds. I understand the rationale but the consequences of the cumulative effects are grave for our aquatic resources. The rationale for removing the riparian vegetation is a simple one: let the visitors view, and have easy access to, the stream. Unfortunately, this removal sets up the beginning of a vicious cycle of resource injury.

The violation at this site was the introduction of concrete slabs and pieces into the active stream channel. First off, the placement of concrete in our State's waters is a violation of Fish and Game Code Sections 1600 (streambed alteration) and 5650 (pollution). Second, concrete is a non-native material and pieces of the size that were placed by Mr. Cocek were much too small to handle the flow velocities that this stream goes through in a typical winter. Also, concrete is considered a much lighter, less dense material, which therefore will be more easily displaced by moving water. The material was also placed at, or just above the stream bottom level.

The campground owner attempted a method known as rip-rapping which is a method of stabilizing stream bank erosion. However, he used both the wrong type and size of material, and did not use the accepted method of placing rip-rap within a salmonid stream. The accepted method, which is the recommended method of the Department of Fish and Game, is to "toe" the material (normally, very large boulders) into the streambed. To "toe" is to dig a trench below the level of the streambed at the bank-bottom interface and place rip-rap within the trench so as to create a footing for the material that is placed above the channel bottom. TO "toe" rip-rap is no different than laying

a foundation for a building to create a platform on which a larger structure may be placed. In Appendix 1 you will find information from the Department's "California Salmonid Stream Habitat Restoration Manual" describing the placement of rip-rap within the stream channel.

I fully expect a large proportion of these small pieces of concrete to be littered along the stream bottom by winter's end. Several events should take place to remedy this situation. Please see the recommendations at the end of this memo.

Brief Biological Setting:

Doyle Creek is a small tributary to the Pacific Ocean with year round flow and is located one watershed south of Caspar Creek (Figure 1). The dominant vegetation in this small watershed (1.5 sq. mi.) is Douglas-fir, coastal redwood, and in the riparian zone, alder. Doyle Creek fish populations consist of coho salmon and steelhead trout, prickly and coastrange sculpin, and threespine stickleback. Both coho salmon and steelhead trout are listed as "Threatened" under the Federal Endangered Species Act. Numerous amphibian species can also be found (theoretically known to occur from habitat distribution data) within this watershed and these include; Pacific treefrog, red-legged frog, tailed frog, Pacific giant salamander, black salamander, arboreal salamander, Ensatina, California slender salamander, red-bellied newt and rough-skinned newt.

Brief Fisheries Background:

Very few fish surveys have been conducted in the Doyle Creek watershed. In 1986, Fish and Game biologists conducted a brief one pass electrofishing survey (purpose unknown) within what is now considered Caspar Beach Campground property. A total of 28 juvenile steelhead trout and one juvenile coho salmon was collected. Also collected during that survey were 23 sculpin (species unidentified), 12 threespine stickleback, and one Pacific giant salamander. In 1997, Department biologists revisited the stream to determine presence or absence of fish, above and below the Highway 1 culvert. Steelhead trout were observed above and below the culvert during that survey, but no coho salmon were observed or collected. However, presence of steelhead "trout" above the culvert does not necessarily mean that adult, ocean going, fish made their way back through the culvert, but may simply mean that a resident population of "trout" exists.

The CalTrans culvert at Highway 1 is considered to be a barrier to, at least, coho salmon. This culvert is approximately 750 feet long and has approximately six dog-legs. This most definitely proves problematic for upstream migrating fish. Retired Fisheries Biologist Weldon Jones has stated that even though coho salmon most likely cannot get through the culvert he has found them in the 0.6 mile section of stream from the mouth to the impassable highway culvert. He also states that he thinks that coho salmon fry, washed out of Caspar Creek during higher flows in late winter and spring, probably move into Doyle Creek after the initial migration out of Caspar Creek. It may not be that the fry necessarily want to migrate out at that particular time but are merely washed out by high energy flows. Although there is no proof of the migration from Caspar Creek to Doyle Creek, it certainly seems plausible considering the short distance (0.1 mi) between the mouths of the two streams and also that both streams empty into a small bay. The effect of the small bay would be to hold stream effluent within close proximity to the mouth of the origin streams for a much longer period of time than what would be expected on the open coast. If these two streams were located on the open coast the fry entering the ocean environment would most likely be immediate victims of longshore currents. Future fisheries surveys and DNA analysis will help to test the theory of movement from Caspar Creek into Doyle Creek.

Please refer to Figures 2a through 2i for a brief look at the site. The photos are in order of upstream (Figure2a) to

downstream (Figure 2i).

General Comments and Recommendations:

The most unfortunate aspect about this incident is the implications of what the landowner(s) had stated when we were reviewing the site. He had stated (actually, I think his wife did) something to the effect that “we own this property, so we thought we could do anything to it”. This is something I hear on almost a daily basis and it’s also one of the reasons California’s wildlife resources are having such a hard time enduring human activities. The big picture here is that the general public is unaware of our resources and the laws protecting them. It’s an uphill battle!

Another unfortunate aspect of this incident is the property owner really thought he was doing a good thing by taking the concrete debris and placing them in a manner that he thought would help arrest the erosion taking place within his property. Yet, he was unaware that it was his activities that had caused the erosion in the first place. It comes back, again, to not knowing about the relationships of the resources right under our noses and not knowing the laws that pertain to them. I thought it was great that you suggested alternative uses for the pieces of concrete.

Upon leaving the incident site, the owner, Joseph Cocek, showed me photos of the previous year’s flows through the campground. They revealed a good sign from a fisheries standpoint. The photos showed the campground under a foot or two of water, which from Mr. Cocek’s view was bad, but it means that the stream channel was using a floodplain. Last year’s flow was considered by many as a 100 or 500 year event. When flows reach that level, the energy or work that can be done by the water is immense. It’s the floodplain that takes the excessive energy away from the flow and quite often the channel can maintain it’s original configuration.

Recommendations:

- 1) Remove the concrete from the stream channel. This incident is also a 5650 violation and the foreign material should be removed. Also, because the stream banks were disturbed at the time of placement, these pieces would be best left in place until summer low flow. The removal of this material will require a Streambed Alteration Agreement. At the time of removal, whatever erosion arresting techniques that will be used, should be employed immediately thereafter to prevent further erosion during any summer freshets.

Reasons for removing the material:

- Foreign material (5650).
- Potential for creating further erosion is high.
- Once the banks fail and material enters the stream bottom it will replace/destroy native habitat used by amphibian larvae and macroinvertebrates which are prey items for fish and amphibian larvae.
- Sends wrong message to public!

- 2) The stream banks should be replanted with trees (ie. alder and willow) and erosion control measures should be put into place using “bioengineering” techniques. All techniques should be consistent with the “California Salmonid Stream Habitat Restoration Manual”. Experts/consultants on stream and riparian restoration should be contacted and their recommendations should be heeded. I have provided a couple of names of consultants that could be contacted - these are the only ones I know of in the area. I’m sure there are others that could be contacted but, these are the only ones I have worked with. Upon review of the site, the consultant should Provide their recommendations to the Department for review.

Possible contacts for consulting:

Teri Jo Barber - Ridge to River
P.O. Box 144
Westport, CA 95488
(707) 964-0171

Evan Engber - Bioengineering Associates
(707) 984-8333

If you have further requests or questions, feel free to contact me. Thank you for letting me participate.

Scott Harris

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APPENDIX 1

California Salmonid Stream Habitat Restoration Manual
Section VII, pages 63-65