May 30, 2013

TO : Warden Steven Crowl, California Department of Fish and Wildlife (CDFW)

FROM : Rick Macedo, CDFW

SUBJECT : Incident Involving Failure of a Water Storage Bladder Affecting an Unnamed Class II Stream and the Eel River Below Lake Pillsbury on the Franklin Property

On May 24, 2013 you and I participated in a site visit scheduled and attended by Stormer Feiler from the North Coast Regional Water Quality Control Board. The purpose of this site visit was to inspect areas affected by the subject incident. Also present were the landowner Daniel Franklin, the landowner's "business partner" (name?) and Dave Longstreth from the California Geological Survey.

Mr. Franklin reported being absent with the bladder failed. Based on reports from various sources including a phone call I received from Phillip Harrison who was working on a neighboring property, the incident occurred between 1700 hours on April 24 and 0630 hours on April 25. This incident was caused by an over-filled water storage bladder located adjacent to a non-fish bearing stream (aka Class II) that discharges directly into the main-stem Eel River. The 25X65 foot bladder is reported designed to hold up to 50K gallons of water. Operator error resulted in a partially open valve filling the bladder to an estimated 80K gallons of water before it burst along a seam and instantaneously emptied its entire contents into the adjacent Class II stream. Water and sediment were subsequently transported downstream, flowing over the M8 Road (aka "Logging Road") and discharging into the Eel River near a location known as "Hippie Rock".

The subject water bladder was used for irrigation and fire protection. The bladder is emptied during the winter period and filled beginning in the late winter/early spring. Two reported water sources are used to fill the bladder. Point of Diversion (POD) #1 is upslope of the bladder site and on the next drainage that lies immediately West of the damaged stream. Water is gravity fed from POD #1 to a 2.5K gallon rigid plastic water tank then to the bladder. POD #1 is used until it dries.

POD #2 is down slope of the water bladder and on a small tributary to the stream that is the source for POD #1. Water from POD #2 is gravity fed to a 1K plastic tank, then

pumped upslope and eventually enters the water bladder after going through the same 2.5K gallon rigid plastic tank that's used for POD #1. While the source for POD #1 goes dry, the source for POD #2 maintains perennial flow and is reportedly used throughout the summer.

The Class II stream affected by the failed bladder has a steep gradient and a well-confined channel over most of its reach. The near-immediate release of an estimated 80K of water resulted in the following observed and/or reported events: a) complete scour down to bedrock or pseudo-bedrock of virtually the entire stream from the point of entry to the M8 road, b) near complete removal of vegetation along the bed and bank, c) complete removal of aquatic invertebrates/vertebrates (insects, amphibians and reptiles), d) damage to an existing culvert-type road crossing on the Franklin property between the entry point and the M8 Road, e) damage to the culvert crossing on the M8 Road, f) discharge of sediment directly into the Eel River and g) increased turbidity for an unknown distance in the Eel River downstream of the entry point (note, CDFW staff working approximately three miles downstream at the Van Arsdale Fisheries Station reported significant turbidity at the facility following this incident).

Figure 1 is a map showing locations for the water bladder, POD #1, POD #2 and where the affected tributary discharged water/sediment into the Eel River. Figure 2 is a photo of the collapsed water bladder. Figure 3 is a photo of the impacted channel. Figure 4 is a photo near POD #1. Figure 5 is a photo of POD #2. Figure 6 is a photo where the impacted stream discharged water/sediment into the Eel River.

Following are the GPS coordinates for various points of interest (NAD 83):

POD #1:	39° 21' 56.8"N/123° 03' 47.1"W
POD #2:	39° 22' 06.6"N/123° 04' 02.5"W
Water Bladder:	39° 22' 05.6"N/123° 03' 52.9"W
1K Tank Near POD #2:	39° 22' 08.1"N/123° 04' 03.2"W
Eel River Entry Point:	39° 22' 17.9"N/123° 04' 12.9"W
Affected M8 Road Xing:	39° 22' 17.1"N/123° 04' 11.6"W

In my opinion, site preparation and operation of the water storage bladder should have required a lake/streambed alteration agreement (LSAA) pursuant to section 1602 of the Fish and Game Code. Construction of the pad and berm used to support the bladder has "substantially changed" the natural "bank" of the affected stream. In addition, water diversions at PODs #1 and #2 likely resulted in an activity that "substantially diverts" the natural flow of the affected streams. In addition, failure of the water bladder and the resulting discharge of sediment into the Eel River were, in my opinion, a violation of

section 5650 of the Fish and Game Code. Sediment, when released during this period and in the quantity released into the Eel River, was likely “deleterious to fish” [5650(a)(6)]. Issuance of an LSAA allows CDFW the opportunity to review projects and propose conditions that serve protect important plant, fish and wildlife resources.

After completing the site visit, I conclude that this incident resulted in notable adverse impacts to plant, fish and wildlife resources in the affected stream and in the Eel River. In addition, water diversion at PODs #1 and #2 are likely causing additional impacts by depleting stream flows to a level that is adversely affecting aquatic species. To mitigate for these impacts, I recommend that the landowner address erosion sources on the affected property and obtain an LSAA prior to conducting work in/near streams and/or diverting water from streams.

With the exception of road crossing work at the M8 Road and the damaged private road crossing upslope of the M8 Road on the Franklin property, I did not observe areas within the affected stream channel that would notably benefit from habitat restoration work. However, I did observe numerous erosion sources along the access road on the Franklin property. To mitigate for impacts caused by the subject incident, I recommend that the landowner be required to complete the following:

1) Obtain a LSAA from CDFW prior to diverting water from streams or other conducting other activities that may substantially alter the bed, bank or channel of any stream.
2) Retain a licensed engineer or other appropriate licensed professional to develop a comprehensive erosion control plan for the property. This plan will focus on various erosion and sediment delivery issues caused by roads, trails, modified stream channels and other observable features.
3) In consultation with CDFW and other interested agencies, implement projects that were developed by the comprehensive erosion control plan.

This concludes my report. If needed, I have numerous additional photos on file. Please contact me if you have questions or need my assistance involving your investigation and planned course of action.

ec: Stormer Feiler (NCRWQCB)
Dave Longstreth (CGS)

Wes Stokes, Tony LaBanca, Scott Harris, Scott Koller, Terra Fuller,
Scott Bauer (CDFW)

Figure 1. Locations for water bladder, point of diversion (POD) #1, POD #2, and sediment discharge point at the Eel River.

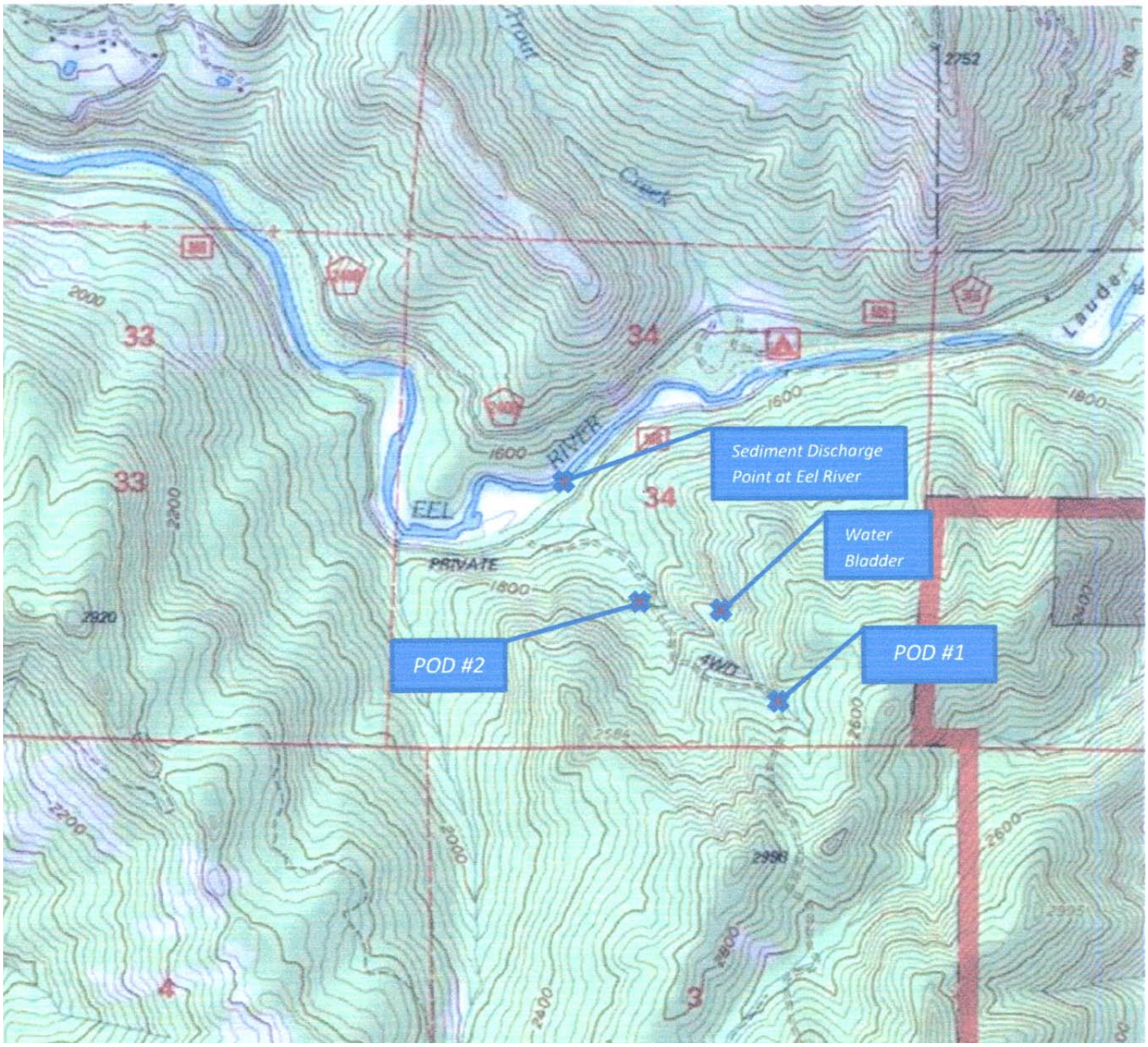

Figure 2. Collapsed water bladder.

Figure 3. Impacted channel.

Figure 4. Near point of diversion (POD) #1.

Figure 5. Near point of diversion (POD) #2.

Figure 6. Area where the impacted stream discharged water/sediment into the Eel River.