

Field Inspection Report

Name and Location of Facility Inspected McDonough Property Humboldt County APN 211-374-014-000 510 Brown Road Myers Flat, CA	Inspection Date May 17, 2016	Inspection Time 08:40
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Names & Titles of Property Owner ¹	Contact Information	Notified of Inspection?
Joel Terry McDonough	Address: 1842 O Street Eureka, CA 95501-3070 Home Phone: (707) 943-1687 Cellular: (707) 223-0075	<input checked="" type="checkbox"/> NO Consent Provided? Criminal Warrant

Names & Titles of Tenants ¹	Contact Information	Notified of Inspection?
Dennis Allen Chase, Jr.	Address: 510 Brown Road Myers Flat, CA 95554 Cellular: (707) 572-8544	<input checked="" type="checkbox"/> NO Consent Provided? Search Warrant

Inspector Name & Title²
 Erin Mustain, Senior Water Resource Control Engineer, State Water Resources Control Board (SWRCB) Office of Enforcement (OE)

Attending Agency Representatives
 Skyler Anderson, Environmental Scientist (ES), SWRCB Division of Water Rights (DIV)
 Samuel Cole, Water Resource Control Engineer (WRCE), DIV
 Adona White, WRCE, North Coast Regional Water Quality Control Board
 Scott Bauer, Staff ES, California Department of Fish and Wildlife (CDFW)
 CDFW Wardens (Brendan Lynch, DeWayne Little, Paul Cardoza and Steve Crawl)
 Law enforcement personnel from the Humboldt County Sheriff's Office

Weather Conditions at the Time of the Inspection: Sunny and clear. No signs of recent precipitation. Temperature was approximately 80°F.	Facility Receiving Water Names: Unnamed tributaries to Elk Creek
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Prepared By: Erin Mustain, P.E. on June 2, 2016



Reviewed By: Jim Barton, P.G. on 07/27/2016 and Diana Henriouille de Gonzalez, P.E. on 07/28/2016

- Foot Notes:**
1. The inspection was conducted under a criminal warrant obtained by CDFW in the presence of the tenant and in the absence of the property owner.
 2. All photographs were taken by Erin Mustain and are compressed to 150 pixels per inch (PPI).

I. Background

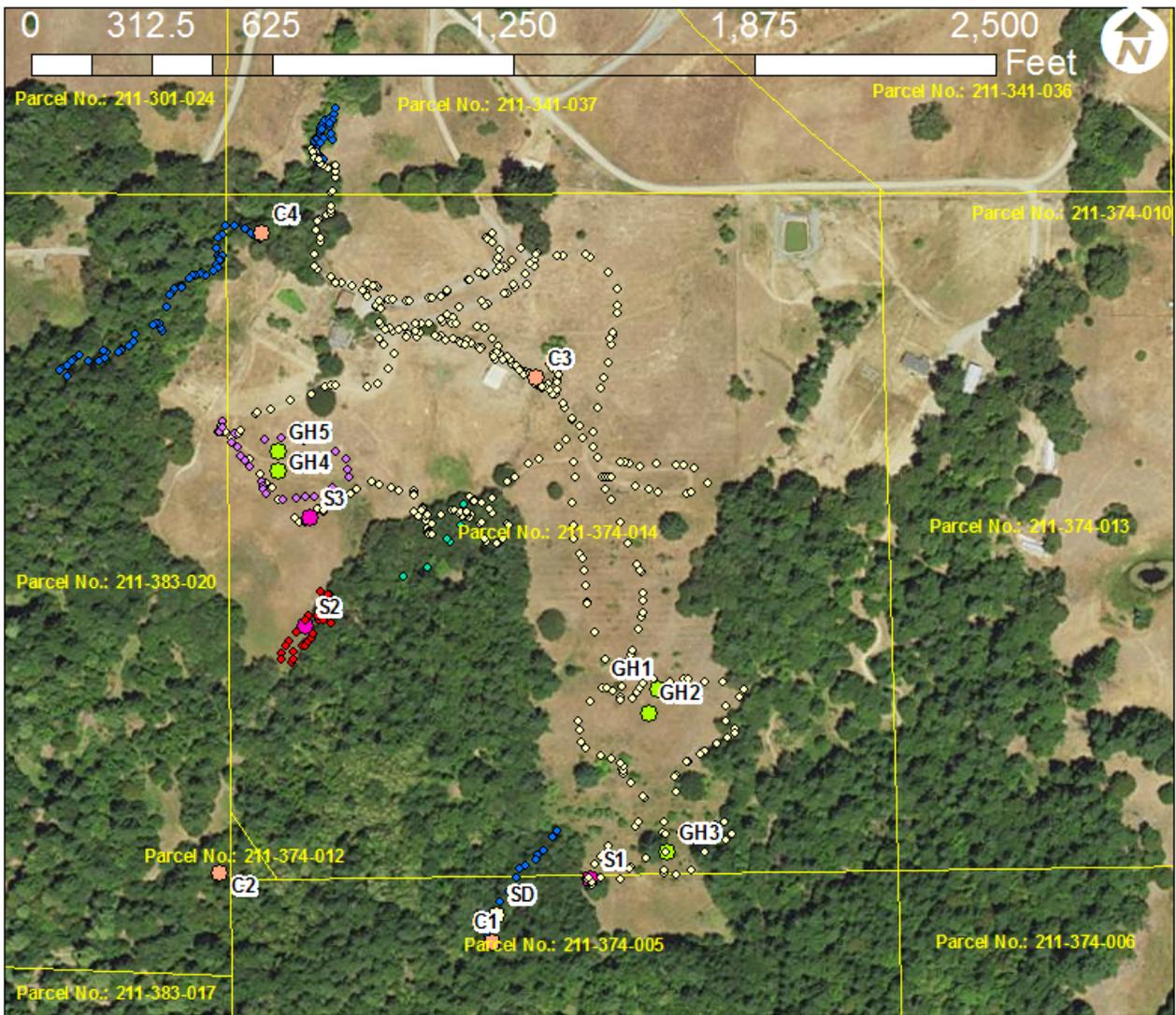
The property identified as Humboldt County Assessor's Parcel No. 211-374-014-000 is located in the Elk Creek watershed in the Weott Hydrologic Subarea of the South Fork Eel River Hydrologic Area, in Myers Flat, California. The South Fork Eel River Hydrologic Area is listed as impaired due to sediment and temperature pursuant to Clean Water Act section 303(d). On December 16, 1999, the United States Environmental Protection Agency approved a Total Maximum Daily Load (TMDL) for sediment and temperature impairments in the South Fork Eel River, indicating that "the cold water fishery is the most sensitive of beneficial uses in the watershed. As such, protection of these beneficial uses is presumed to protect any of the other beneficial uses that might be harmed by sedimentation or increased temperature." The TMDL also indicated that major sources of sediment impairment in the South Fork Eel watershed are road-related and acknowledges the connection between anthropogenic sediment inputs and increases in stream temperatures.

The North Coast Regional Water Quality Control Board (Regional Water Board) received a complaint about heavy equipment operation occurring on the subject parcel. Consistent with the *Strategy [for] Regulation and Enforcement of Unauthorized Diversions; Discharges of Water to Surface and Groundwater Caused by Marijuana Cultivation*, staff of the Regional Water Board contacted staff of partner agency, the California Department of Fish and Game (CDFW). CDFW staff investigated and obtained a search warrant that included language allowing staff of the State and Regional Water Boards to inspect the parcel.

Inspection objectives for the water quality team members (Regional Water Board and Office of Enforcement staff) were to identify and inspect receiving waters and to review site characteristics, developed site features, cannabis cultivation sites and associated facilities, materials, equipment, structures, drainage features, and management practices in order to assess impacts or potential impacts to water quality and beneficial uses. In addition, water quality team members considered the applicability of and compliance with Order R1-2015-0023 *Waiver of Waste Discharge Requirements and General Water Quality Certification for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects in the North Coast Region*.

II. Site information

The subject parcel is located at 510 Brown Road in Myers Flat. Elk Creek is located approximately 0.3 miles southwest of the parcel. The parcel is approximately square-shaped and encompasses approximately 40 acres. The parcel boundaries presented in Figure 1 are based on available Humboldt County's Parcel Layer 2012 GIS data. These parcel boundary locations are approximate and are not intended to be relied upon for any future site development or project design use. The actual parcel boundary may actually be located up to several hundred feet west and up to approximately two hundred feet south of the location shown. The parcel is roughly 65 percent vegetated with trees, 20 percent is a wet meadow, and the remaining 15 percent has clearings for the cannabis cultivation areas, roads, and residence. Private roads run throughout the property. The parcel generally slopes towards Elk Creek. Site terrain slopes upward from the southwest to the northeast at elevations ranging from 640 feet above sea level in the southwestern corner of the parcel to 960 feet above sea level in the northeastern corner.



McDonough Property
 APN 211-374-014-000

Created by: Erin Mustain, P.E.
 Senior Water Resource Control Engineer
 Office of Enforcement
 June 5, 2016

- ◆ Watercourse fill
- ◆ Graded area in wetland
- ◆ Perimeter of spoils from reservoir
- ◆ Watercourses
- ◇ Graded roads and terraces
- Named creek
- Crossing
- ▭ parcels
- Greenhouse
- ▭ Watershed Boundary
- Sediment Deposition
- Spoils Pile

All GPS Points were collected by staff at the State Water Resources Control Board and North Coast Regional Water Quality Control Board.

Parcel boundaries are approximate.

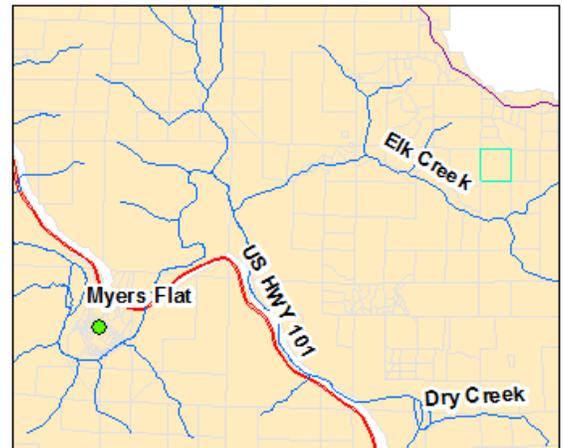


Figure 1 – Site Diagram
 Image Source: United State Department of Agriculture, 2014 NAIP Imagery

III. Inspection Observations

At approximately 8:40 a.m., Water Board staff began the inspection, looking for any conditions or features causing or threatening to impact water quality. This report focuses on water quality issues. We began the inspection in the northern portion of the parcel and walked east along one of the roads. We came across a large wooden shed (located just to the west of inspection point C3) and I observed a bottle of Triazicide Insect Killer (Photo 1). I picked up the bottle and confirmed there was liquid inside it. The active ingredient in Triazicide is gamma-cyhalothrin, a pyrethroid. Pyrethroids present a serious threat to water quality and are illegal for use on cannabis. As insecticides, they target aquatic invertebrates, which serve as a food source for larger aquatic organisms. They are also toxic to fish. Pyrethroids are the synthetic versions of pyrethrins and are often very persistent in the environment. While outside of the Water Boards' purview, it must be noted that the use of Trazicide on cannabis has not been evaluated for safety or human health effects.

Staff then walked south to a greenhouse, which is denoted GH1 on Figure 1. Inside the greenhouse, the ground was muddy throughout, indicative of over-irrigation. I also observed sidecast spoils from grading associated with the development of the clearing. Just south, staff observed a greenhouse that was currently in use. This is denoted GH2 on Figure 1. I observed more sidecast spoils from grading associated with the development of the clearing. The spoils appeared to be silty gravel with approximately 10% larger, angular cobbles. We walked farther south to the greenhouse denoted GH3 on Figure 1. I observed a large pile of soil to the west, denoted S3 on Figure 1. In that same area, I observed a bathtub filled with a dark brown liquid, possibly compost tea¹. Both the soil and the bathtub were less than 200 feet from a watercourse, which is shown in Figure 1.

I observed a disturbed area with waterlogged soil (Photo 3) and the watercourse appeared to flow southwesterly from there. We walked along the watercourse and came to a pool, identified as SD on Figure 1 (Photo 4), with approximately 12 inches of sediment deposition. The sediment appeared to be predominantly (80% - 90%) sand. In another pool, with an approximately 1.5 foot diameter, I noted 1 inch of sediment deposition. Where the watercourse met the property line, I observed a culvert, which is denoted C1 on Figure 1. The culvert was an 18-inch corrugated metal pipe and appeared to be old. However, there were signs of more recent grading on the road. Staff traveled west along this road, following the property line and came to a stream crossing, roughly 2 feet wide, with no culvert (Photo 5). This is denoted C2 on Figure 1.

North of C1, we came to a meadow with muddy vehicle tracks cut through the wet, vegetated surface. Farther north, staff came across a large pile of spoils lying in the meadow. Its centroid is denoted as S2 on Figure 1 (Photo 6). The spoils were deposited when a manmade reservoir (Photo 7) that was upslope failed. I walked the perimeter of the spoils, which was roughly 0.1 acre. As I walked the perimeter of the pile, I collected a GPS track using a Garmin Rino 655t GPS unit. This is denoted as "Perimeter of spoils from reservoir" on Figure 1 and marked by a series of red dots. We continued north and upslope, to continue evaluating the meadow. Scott Bauer, a biologist from CDFW, noted that there was mint, sedge, and *Juncus* throughout the area. He pointed to each and I photographed these plants. Returning to the office, I asked a biologist with the State Water Board, Stephance Ponce look at the photos and identify the species so I could attempt to identify their wetland status. She determined that the mint is likely the obligate *Mentha pulegium*; the sedge is likely *Carex nudata* or naked sedge, also an obligate; and she confirmed my suspicion that the

¹ Compost tea is made by "brewing" or "steeping" compost in water. Brewing is accomplished by pumping air into the mixture of compost, water, and a catalyst. Steeping is accomplished by mixing with water, exposing it to air, and keeping it mixed.

Juncus is *Juncus patens* or California grey rush, which is a facultative wetland plant. Photo 8 shows the Juncus embedded in the spoils.

Additional excavation and grading has occurred in the wetland in order to construct an earthen pad for two greenhouses, denoted GH4 and GH5 on Figure 1 (Photo 9). The entire graded area was 0.5 acres. Around the perimeter of the clearing, I observed sidecast spoils consisting of sandy gravel. I observed water pooling outside of the entrance of greenhouse GH4, indicative of over-irrigation. Farther downslope and south of the spoils, I saw a pile of potting soil and what appeared to be a burn pile with remnants of partially burned wooden planks. This is denoted as S3. In this same area, I observed a well that was installed in the wetland/meadow.

Northeast of S2, I observed an existing on-stream reservoir (Photo 7) that had been excavated, with the spoils push up at its sides to form the berm. Staff observed that there was no outlet or spillway. Staff also observed that the berm had been hydroseeded with hydrostraw. Hydrostraw consists of heat and mechanically treated wheat straw and moisture and has a greenish hue. This mixture of hydroseed and soil is consistent with the spoils located at S2, evidence that S2 was deposited after a previously construction in this same location failed.

State Water Board Division of Water Rights staff estimated the total capacity (top of the dam, since there was no spillway) of the reservoir to be 422,000 gallons of water. To dig out the reservoir and to reconstruct what had failed, a large volume of soil would have been excavated from the stream channel and surrounding meadow. The water in the reservoir was turbid, as evidenced from the tan color (Photo 7). Staff believes that similar stagnant, stratified, muddy water, with low dissolved oxygen and above ambient temperature discharged downstream and into the wetland when the reservoir failed.

Immediately to the east of the reservoir, I observed a severely altered portion of the watercourse, which is denoted as "Watercourse fill" on Figure 1, the length of which is approximate 208 ft. I observed vehicle tracks consistent with the use of heavy equipment within the watercourse itself. In some locations there were pools of brown water, in others there were piles of soil. Photos 10 and 11 show portions of the impacted watercourse and fill that had been placed directly in the watercourse. To quantify the area of impact, staff took waypoints, measurements, and photographs along the "Watercourse fill" path. Table 1 shows measurements at each waypoint and the averages of these measurements to determine the discharge volume.

Staff walked back to the wooden shed to evaluate what appeared to be a stream crossing there. The culvert is denoted as C3 on Figure 1 and was made of corrugated black plastic pipe, and near the middle of the road, the surface of the road had eroded away, exposing a hole in the pipe (Photo 12). There was no water present at the time of the inspection. Below the culvert, there was grading. Photo 13 shows the grading and what appears to be a widening of the channel south of the culvert.

Staff then went to investigate another reservoir in the northwest part of the property. Staff noted that there were waterlogged trees in the reservoir (indicating that the reservoir was probably constructed without a design/plan) and its banks were steep (70 to 80% slopes) and unvegetated (Photo 14). I first walked upstream, tracking it using the Garmin; this is noted in blue on Figure 1 (Photo 15). I saw water striders, mayflies, and a beetle in the class II watercourse. The watercourse was flowing, had low hanging vegetation, significant vegetative coverage and shade, good cobble in its streambed, and still had organic topsoil on its banks.

Staff investigated a path that cut across the watercourse, downstream of the reservoir, without a culvert (Photo 16). The crossing measured approximately 36 feet long, 12 feet wide, and was 2 feet deep; 864 cubic feet of fill. This is denoted as C4 in Figure 1.

I then walked downstream all the way to the western property line. I observed sediment deposition throughout the length of the watercourse and took several photographs as evidence (Photos 17 and 18). The channel was approximately 3 feet wide in general, wider in some places, and the sediment deposition was at least 1.5 inches throughout; this is a very conservative estimate as in many places the cobble was completely buried and pools were filled with sediment.

I then completed the inspection by walking the entire length of the road system, tracking it geospatially using a Garmin Rino 655t GPS unit and walking around the perimeter of the lower cultivation pads where inspection locations GH1, GH2, and GH3 reside. Staff calculated graded areas to comprise approximately 4.75 acres through the parcel. This is well over the 1 acre disturbance threshold for coverage under the statewide general national pollutant discharge elimination system (NPDES) stormwater permit for construction activities.

Table 2 below, titled "Fill Volumes" shows the areas and volumes of impact throughout the parcel. I calculated 1,060,184 gallons of fill and discharge throughout the parcel.

Table 1. – Lower fill from reservoir, denoted Watercourse fill in Figure 1 (Photos 10 and 11)

Waypoint	Description	Height	Average Height	Width	Average Width
210	Sediment fill next to pond	2 -6 feet	4	22 - 36 Feet	29
211	Next set of fill	4 - 10 feet	7	10 - 20 feet	15
212	Pond overflow/piled fill	5 Feet	5	50 feet	50
213	Base of pond fill	3 Feet	3	50 feet	50
214	point where brim is 3-5 ft high	3-5 feet	4	50 feet	50
215	top of brim	5 feet	5	50 feet	50
Average Height over length of fill			4.7	Average Width over length of fill	41

Table 2. – Fill Volumes

Site	Average Depth (feet)	Area (acres)	Average Width (feet)	Length (feet)	Diameter (feet)	Total Volume (cubic feet)	Total Volume (Gallons)
Pools in Watercourse 1*	1	N/A	N/A	N/A	1.5	41	306
Wetland fill from pond failure (S2 on Figure 1)	1.5	0.1	N/A	N/A	N/A	6,207	46432
Wetland fill from development of grow pads (Graded area in wetland on Figure 1)	4	0.5	N/A	N/A	N/A	87,120	651703
Watercourse 2 – upper channel (from C3 to the reservoir)	4	N/A	50	250	N/A	8,000	59844
Watercourse 2 - Lower fill from reservoir (see Table 1 above)	4.7	N/A	41	208	N/A	40081	299827
Watercourse 3 (starting at point C4 and continuing to the southwest property boundary)	0.125	N/A	3	740	N/A	277	2072
Total				1198		141726	1,060,184

*Staff measured Pool 1 in Watercourse 1. Staff observed 5 similar such pools along the length of the watercourse. Staff calculated the area as a cylinder (8.25 ft³) and multiplied by 5.

IV. Photos



Photo 1

This photo is unchanged (aside from being compressed to 150 pixels per inch) and the bottle, near C2, is where staff found it. Zooming in allows the viewer to read the label on the bottle.



Photo 2

This photo shows empty fertilizer containers by GH3.



Photo 3

This photo was taken facing northeast and upstream, where the stream seemed to originate. Note the meadow in the background.



Photo 4

Pool within the watercourse. Staff dug into the sediment to determine the depth of deposition.



Photo 5 (White)

This photo shows a road cutting through a watercourse with no crossing and was taken facing east.



Photo 6

This photo was taken at roughly the centroid of the spoils pile (S2) facing south.



Photo 7

This photo shows the reconstructed onstream reservoir and was taken facing northeast.



Photo 8

This photo was taken while facing southeast and shows the Juncus that was caught in the spoils from the failed reservoir.



Photo 9

This photo shows the graded area with inspection points GH4 and GH5. The photo was taken on the west side of the greenhouses facing northeast.



Photo 10

This photo shows more of the earthen fill burying the watercourse and is facing downstream and southeast.



Photo 11 (White)

This photo shows the impacted stream channel and was taken facing northeast.



Photo 12

This photo shows the exposed and torn culvert in the road and the road's northern side slopes consisting of sidecast spoils.



Photo 13 (White)

This photo was taken facing south, downstream of the culvert shown in Photo 11. It shows evidence of heavy equipment operation and grading in the watercourse.



Photo 14

This photo was taken facing northwest and shows the on-stream reservoir. The stream is located between the two trees in the center of the photo.



Photo 15

This photo was taken upstream of the reservoir, facing north and upstream.



Photo 16

This photo shows C4 (bottom right) and was taken facing southwest downstream of the reservoir.



Photo 17

This photo shows the sediment filling up the watercourse. The top right corner is downstream and southwest.



Photo 18

This photo was taken facing southwest and downstream and shows more turbid, sediment-choked water.

V. Discussion reviewing site conditions and threats to water quality by category

1. General Site Characteristics

The site had several significant water quality issues including actual discharge of 1,060,184 gallons of soil and sediment and up to 422,000 gallons of turbid, stagnant water into waters of the United States.

2. Specific Features

a. Roads and Developed Areas

Staff observed approximately 6715 feet of recently graded roads. The average width was 10 feet. In Figure 1, looking at the light yellow dots that represent the "Graded roads and terraces," there is a parallel road system. Additionally, the road between inspection points C1 and C2, while not a new road, appears to have been freshly graded.

The developed areas on the property are confined to the clearings. The clearing with inspection locations GH4 and GH5 is in a wetland and constitutes dredge and fill. The graded clearings make up 3.2 acres, well over the 1 acre threshold to be permitted under the statewide general NPDES permit for construction activities.

b. Stream Crossings

Staff observed 4 stream crossings onsite: C1 had what appeared to be a legacy culvert. C2 and C4 did not have culverts and staff observed signs of discharge of sediment into a watercourse during the inspection. Inspection location C3 has a culvert with a hole near its center. However, there was no flow during the time of inspection.

c. Spoils Storage

There were several large spoils piles on the property including soils associated with site development and reservoir failure, and potting soils spoils associated with cannabis cultivation. Inspection point S1 denotes an uncovered pile of potting soil, placed within 120 feet of a watercourse. Inspection point S2 denotes the spoils from the failed reservoir and inspection point S3 denotes a pile of uncovered potting soil in the wetland. In addition to these piles, staff observed unstable sidecast earthen spoils around the clearing for GH1 and GH2 and the clearing for GH4 and GH5.

d. Stream and Riparian Buffer

This parcel is predominantly watercourse headwaters and wetland and the greenhouses have been placed directly in the wetland (GH4 and GH5). Other greenhouses (GH1, GH2, and GH3) are located at least 200 feet from a watercourse and runoff from those greenhouses could impact water quality. The intervening areas, if restored and/or protected could provide adequate and functional stream and riparian buffer. However, staff observed vehicle tracks west of GH3 in waterlogged soils and a spoils pile less than 150 feet from a watercourse.

e. Irrigation Runoff

Staff observed runoff from the entrance of two of the greenhouses (inspection locations GH1 and GH4), evidence of over-irrigation.

f. Fertilizers/Pesticides/Petroleum/Other Chemicals

Staff observed 2 bottles of pesticides. The partly full bottle of Triazicide was sitting upright on a wooden deck and the bottle of Garden Safe Fungicide 3 was empty and lying on the ground. Staff observed empty fertilizer and soil amendment containers (Earth Juice Rainbow Mix Bloom (fertilizer), Earth Juice Catalyst, Cal-Mag Plus, and FloraBloom 0-5-4). Staff observed empty and partially full containers of automotive fluids (Liquid Butter, Tractor Hydraulic and Transmission Fluid) without any containment, potentially threatening surface or groundwater.

g. Refuse/Garbage

There was a pile of debris near inspection location GH3. During rain events, garbage and other debris may be carried offsite with the stormwater runoff.

h. Human Waste

Staff did not observe water quality concerns associated with human waste disposal.

VI. Violations

Clean Water Act, Water Code, and Basin Plan prohibition violations associated with fill placed and sediment discharged into wetlands and watercourses.

VII. Recommendations

1. Staff recommends directing the responsible parties to address direct and unauthorized fill of a wetland and discharge to unnamed tributaries to Elk Creek, to restore all impacted surface waters, and to alleviate the threat of further discharges.
2. Staff recommends that if any individual wishes to cultivate cannabis on this property in an area that conforms to the standard condition for riparian and wetland protection and management, that individual should apply for coverage under the Regional Water Board Order No. R1-2015-0023 *Waiver of Waste Discharge Requirement and General Water Quality Certification for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operation with Similar Environmental Effects*. As noted above, much of this site is comprised of wetland and watercourses. Development on this site must avoid disturbance of surface waters or, where avoidance is not possible, must be demonstrably kept to a minimum and any unavoidable impacts should be mitigated at a minimum ratio of 3:1 to compensate for the lost linear feet, acres, and wetland functions, including temporal loss.