North Coast Regional Water Quality Control Board

Inspection Memo

To: Ryan Bey, Senior Environmental Scientist, Northern Non-point Source and 401 Certification Unit
Gil Falcone, Senior Environmental Scientist, Southern Non-point Source and 401 Certification Unit

From: Scott A. Gergus, Engineering Geologist, Non-point Source and 401 Certification Unit

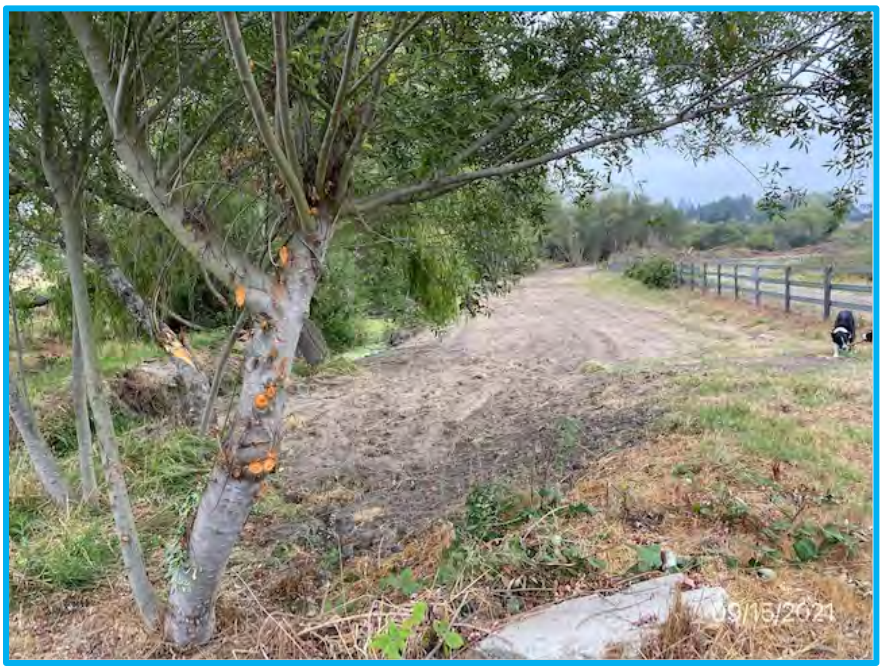
Date: December 16, 2021

Subject: October 22, 2021 inspection of riparian clearing at 2950 Canfield Road, Sebastopol.

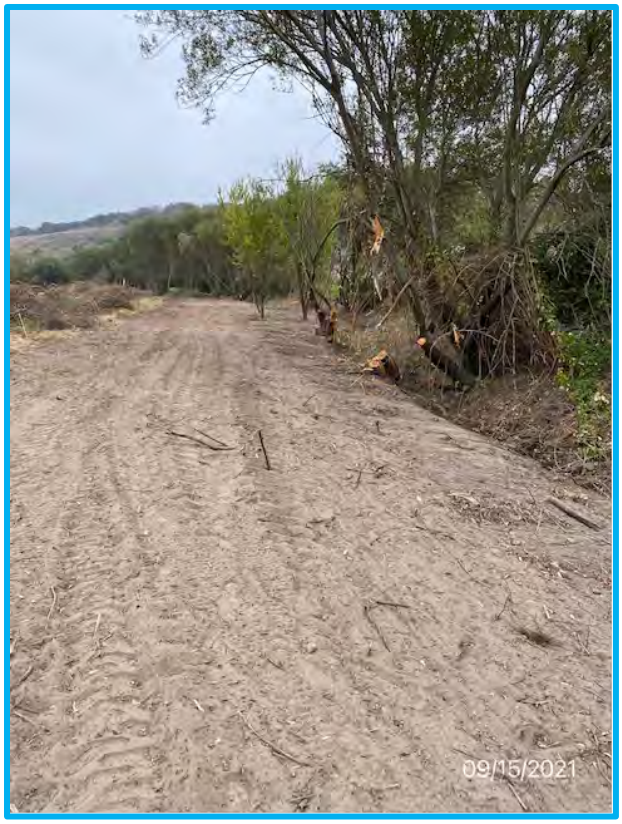
File: Oscar and Lorri Duckworth, 2950 Canfield Road, Sebastopol, Sonoma County, APN 025-060-002-000

Background

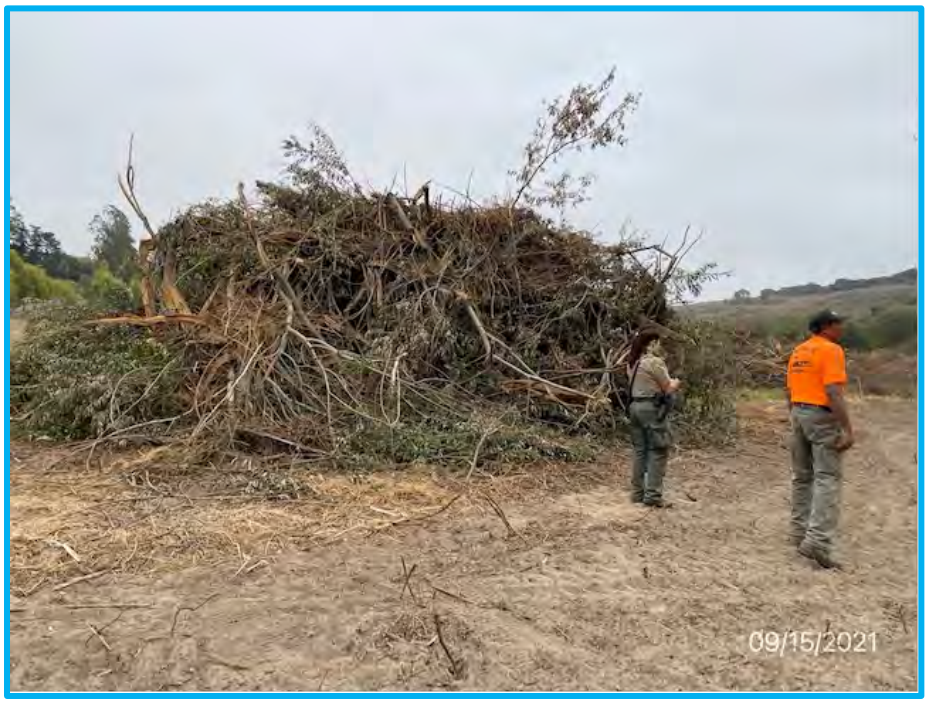
On September 17, 2021, Jackie Crawford, Code Enforcement inspector with Permit Sonoma contacted our office about a scheduled complaint inspection at 2950 Canfield Road in Sebastopol regarding riparian clearing. Approximately 1,000 feet of riparian corridor had been cleared along the right-bank of Canfield Creek. Ms. Crawford attached several photographs taken September 15, 2021, of the clearing along an unnamed perennial stream tributary to Blucher Creek (Photographs 1 through 4). The unnamed creek is locally referred to as Canfield Creek. A second inspection was scheduled for October 22, 2021, to provide a site visit and information gathering purposes for Harold Appleton and Mike Jenson with Prunuske and Chatham who will be developing a restoration plan for Canfield Creek.



Photograph 1. Taken September 15, 2021 by Jackie Crawford looking north down Canfield Creek. Riparian clearing occurred on the east bank (right-bank) of the creek.



Photograph 2. Taken September 15, 2021 by Jackie Crawford looking south up Canfield Creek. Riparian clearing occurred on the east bank of the creek.



Photograph 3. Taken September 15, 2021 by Jackie Crawford showing a brush pile of cleared riparian vegetation with CDFW Warden Wolvek and Oscar Duckworth standing in front of the brush pile.

Photograph 4. Taken September 15, 2021 by Jackie Crawford showing Canfield Creek cleared of vegetation, earthwork within the wetted channel, and remaining Himalayan blackberry vines.

Pre-Inspection Meeting

On October 22, 2021, I participated in an inspection of the Duckworth Family Farm located at 2950 Canfield Road in southeast Sebastopol. The purpose of the inspection was to provide a site visit and information gathering for Harold Appleton and Mike Jenson with Prunuske and Chatham who will be developing a restoration plan. Several people participated in the inspection including the following:

1. Harold Appleton, Prunuske and Chatham, Inc., 103 Morris Street, Suite A-5, Sebastopol, CA, 95472, (707) 824-4600, harold@pcz.com - Registered Professional Forester and Certified Professional Soil Erosion and Sediment Control Specialist

2. Mike Jensen, Prunuske and Chatham, Inc., 103 Morris Street, Suite A-5, Sebastopol, CA, 95472, (707) 824-4600 xct. 107, mike@pcz.com - Landscape Architect

3. Jacob Newell, Sonoma County Agriculture and Open Space, 747 Mendocino Avenue, Suite 100, Santa Rosa, CA, 95401, (707) 565-7357, Jacob.Newell@sonoma-county.org - Stewardship Supervisor

4. Lorri Duckworth, Duckworth Family Farm, 2950 Canfield Road, Sebastopol, CA, 95472, (707) 829-7999, lkd@sonic.net - property owner

5. Oscar Duckworth, Duckworth Family Farm, 2950 Canfield Road, Sebastopol, CA, 95472, (707) 829-7999 and (415) 378-8178, siroscar@sonic.net or oduckworth@netscape.net - property owner

6. Several other people attended the inspection, but I did not record their names.

Ms. Duckworth provided a history of the site. The site was occupied by the Bernard Nahmens family for an undisclosed amount of time and they operated a dairy on the property. I understand Blucher Creek and its tributaries including the locally known Canfield Creek were inventoried in 1990 by Robert Coey with the California Department of Fish and Wildlife (CDFW). Blucher and Canfield Creeks were also extensively surveyed for California freshwater shrimp *(Syncaris pacifica*) and northwestern pond turtle (*Actinemys marmorata*) and significant populations of both species were documented, and both are species of concern. In the early 1990's the Nahmens entered into an agreement with Sonoma County Agriculture and Open Space (SCAOS) and sold an open space easement to the property. Ms. Duckworth explained the Nahmens had to comply with three contingencies:

1. Preserve and enhance the oak forest on the western property line and ridge line bordering Jackson Family Vineyard.

2. Preserve and enhance agriculture on the property.

3. Preserve and enhance Blucher and Canfield Creeks in addition to California freshwater shrimp and northwestern pond turtle populations.

SCAOS worked with CDFW who contracted Marco Waaland with Golden Bear Biostudies to develop and implement a riparian revegetation plan for Blucher and Canfield Creeks. Ms. Duckworth said the revegetation plan was implemented in the 1990's with plantings of red and arroyo willows. The Duckworths purchased the property in early 2002 and Ms. Duckworth said she requested assistance from SCAOS and CDFW to develop a riparian vegetation management and implementation plan 19 years ago to thin willows and remove invasive Himalayan blackberry, but did not receive a response. Ms. Duckworth speculated that the willow and blackberry thickets caused the creek to backup, flood, and divert across her hay fields. Ms. Duckworth speculated during late summer, excessive vegetation caused the creek to go dry and caused the creek to entrench developing vertical banks. Ms. Duckworth speculated the excessive vegetation was a leading cause for California freshwater shrimp and northwestern pond turtle populations to decrease and are no longer in Canfield Creek. Ms. Duckworth said that after 19 years of requesting assistance to manage riparian vegetation and re-establish California freshwater shrimp and northwestern pond turtle populations in Canfield Creek, they decided an excavator should be used to remove dead, dying, and unhealthy willows and dense invasive Himalayan blackberry brambles. Ms. Duckworth acknowledged the work was performed without agency notification or permits. Ms. Duckworth stated several times she cleared the riparian vegetation to force a response from SCAOS and CDFW and planned to clear the other side of Canfield Creek of excess riparian vegetation next year.

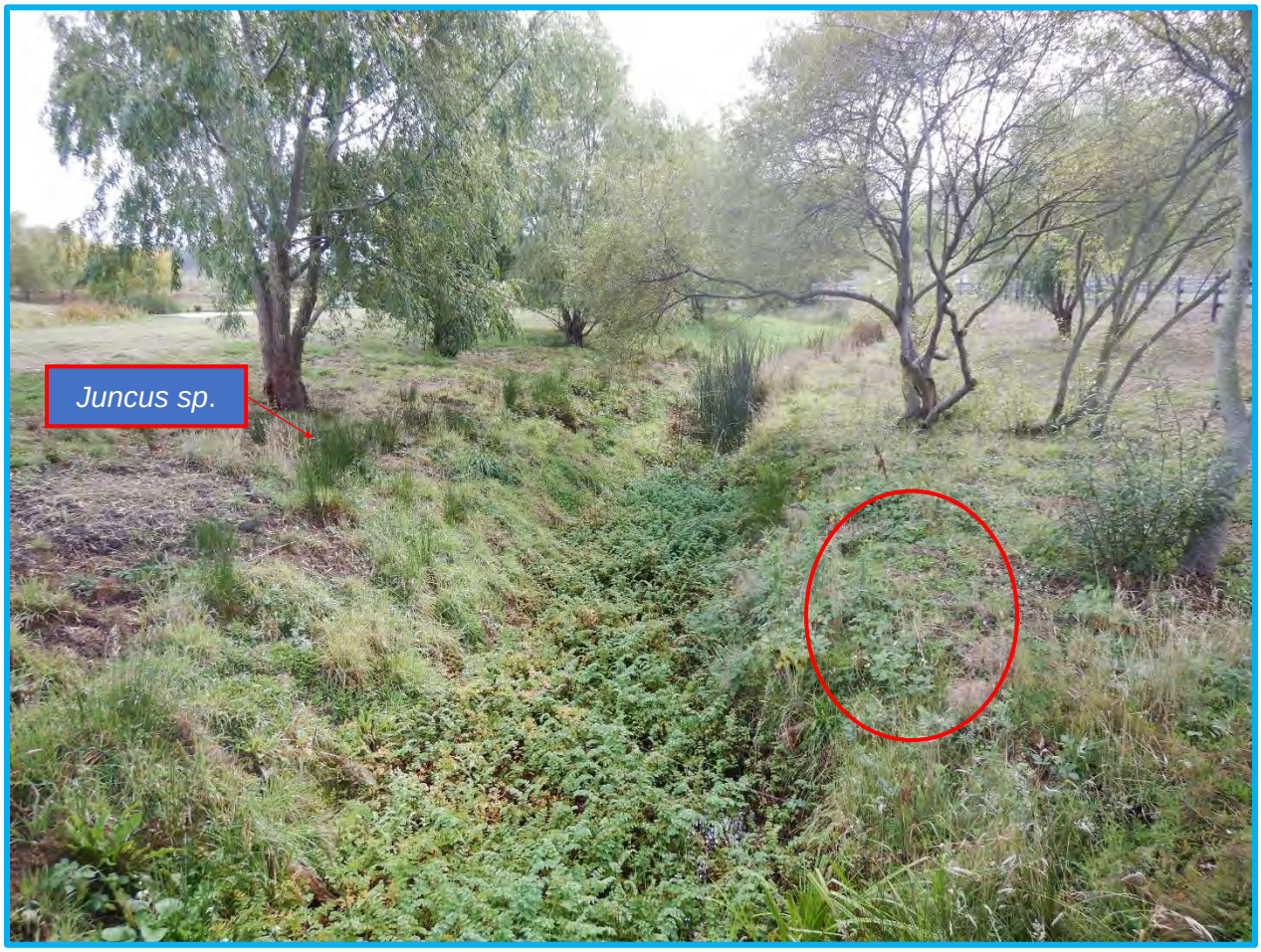
Inspection

The inspection team met at the Duckworth Family Farm barn and proceeded down to the railcar bridge over Canfield Creek. Upstream of the bridge, riparian corridor vegetation had been removed from both riparian banks leaving an estimated 50 feet between willow trees allowing sunlight to reach the stream bed and bank (Photograph 5). Ms. Duckworth said the riparian corridor was removed two years ago. Ms. Duckworth referred to the removal of riparian corridor vegetation as "daylighting". Ms. Duckworth stated she intended to continue the riparian corridor vegetation clearing by opening the tree canopy to allow more sunlight and remove invasive Himalayan blackberry.

The stream bed was thickly vegetated with an unidentified plant resembling a fern and growing an estimated one-foot high (Photograph 5). Small patches of what appeared to be freshwater tules were seen growing in the stream. Native rushes (*Juncus sp*.) were seen growing on the stream bank and along the top of bank (Photograph 5). Ms. Duckworth said she wanted to restore stream back to its original "pre-agricultural" conditions. Mr. Jensen and Mr. Newall pointed out no "pre-agriculture" photographs, paintings, or descriptions exist of this part of Sonoma County showing stream riparian corridors. It was suggested lower Salmon Creek or upper Blucher Creek might be the closest example of an existing pre-agriculture riparian corridor similar to historic Canfield Creek. Streams in Sonoma County have changed dramatically since the

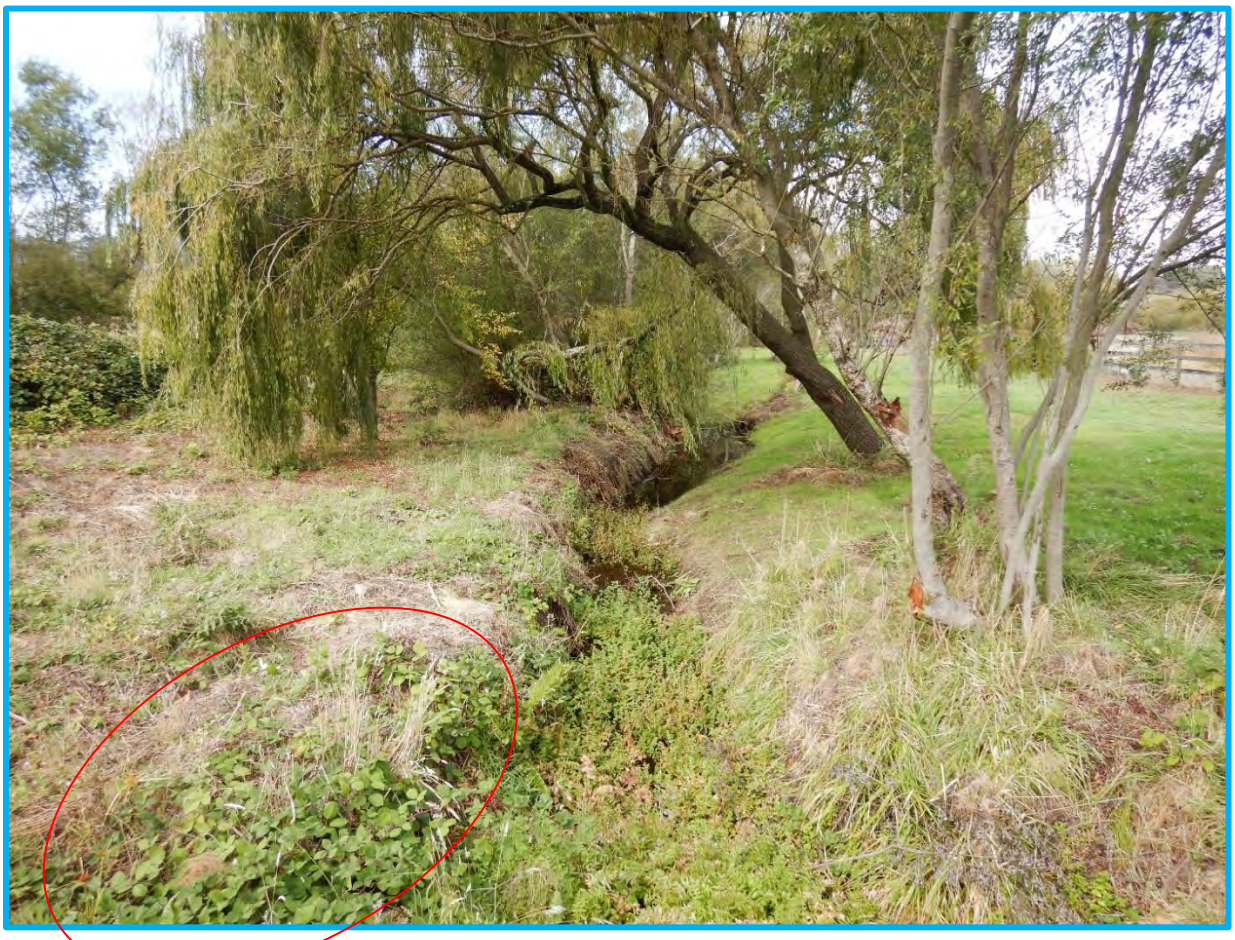
arrival of non-native immigrants due to clearing of vegetation for agriculture; stream banks broken down by grazing cattle seeking green grass and willow shoots, drinking water, and cooler summer temperatures; and entrenched because of increased runoff due to changing land use and vegetation. Mr. Jensen and Mr. Newall suggested alder, bay laurel, black walnut, Oregon ash, and potentially oaks and sycamores might have grown along the creek. Ms. Duckworth reported well drillers on her property encountered redwood logs buried an estimated 30 to 40 feet deep when drilling a well.

Ms. Duckworth speculated that Canfield Creek has gone dry during the late summer because of dense willow thickets and blackberries taking up large amounts of water. The ongoing severe drought and increased groundwater pumping for local residences and crops were not mentioned and could be possible reasons for dewatering of the stream. Ms. Duckworth reported the riparian corridor was “daylighted” late summer 2021 and within 72 hours after riparian vegetation removal the stream was flowing again. Stream flow was observed flowing several gallons a minute under the railcar bridge.



Photograph 5. Looking upstream from the railcar bridge showing the Duckworth’s vegetation clearing of Canfield Creek. Invasive Himalayan blackberry vines can be seen sprouting along the left-bank circled in red.

Standing on the downstream side of the railcar bridge, Ms. Duckworth explained a thumbed excavator was used on the right-bank to thin out willows and remove invasive Himalayan blackberries (Photograph 6). Vegetation removal was described as using a thumbed excavator to grip and pull the vegetation out of the ground or breaking off multiple stemmed willows, shaking off the soil, and placing the vegetation in burn piles an estimated 50 feet away from the top-of-bank. The estimated length of riparian corridor clearing measured on Google Earth satellite imagery is approximately 900 feet. The average width of the right-bank riparian corridor was estimated to be 30 to 40 feet as measured on Google Earth satellite imagery. Google Earth satellite imagery was used to determine the length of the riparian clearing because it was too long to accurately pace. Width of the riparian corridor clearing was measured using Google Earth because it had been completely removed. In many areas riparian corridor clearing extended well into the left-bank riparian corridor as well. Left-bank clearing measurements were not made.



Photograph 6. Looking downstream from the railcar bridge, recent clearing occurred on the right-bank and clearing last year occurred on the left-bank. Invasive Himalayan blackberry vines can be seen sprouting along the left-bank (circled in red). Mr. Duckworth indicated blackberry vines continue to re-sprout and he is continually removing them. Chemical controls were not considered because the Duckworth Family Farm is certified organic.

The inspection memo is organized by describing five categories of impact to the riparian corridor and channel conditions flowed by photographs.

Vegetation Removal

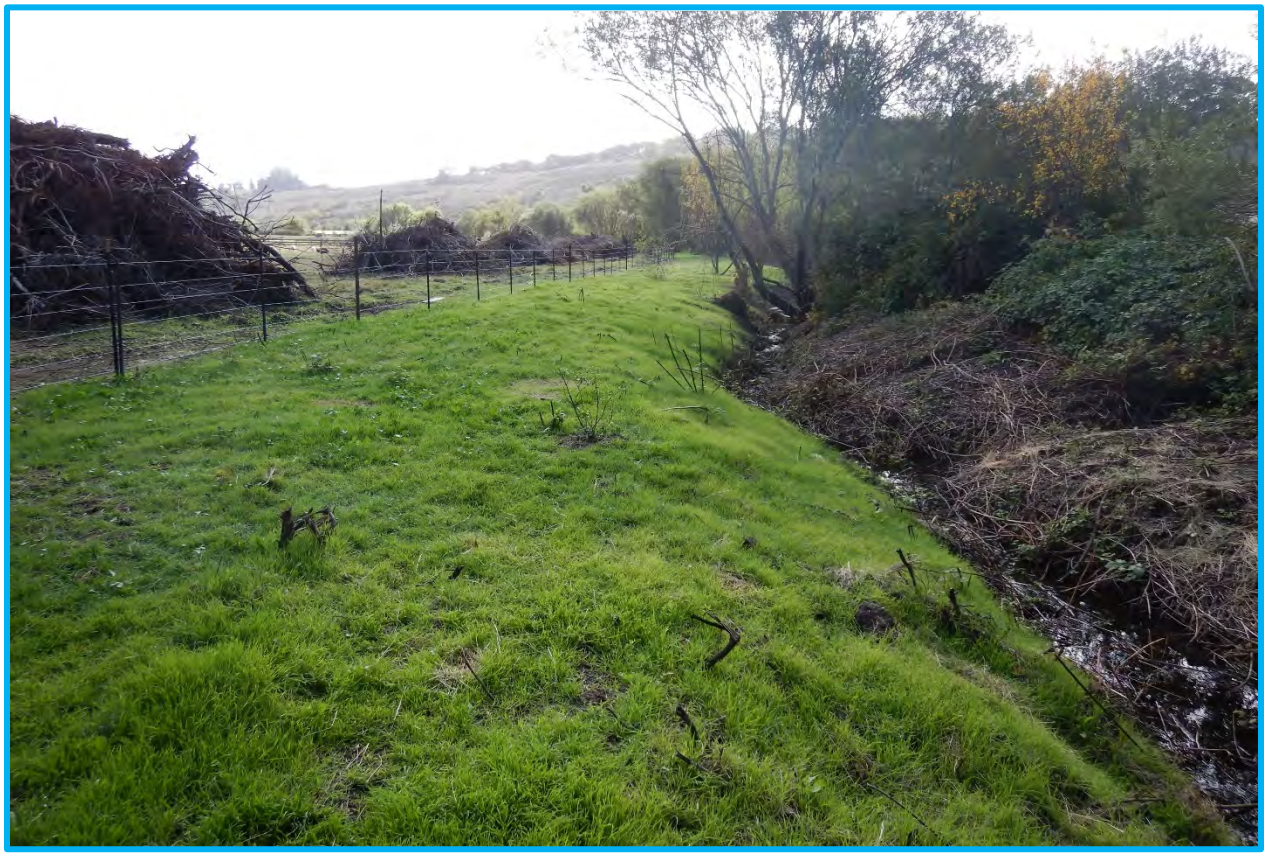
Ms. Duckworth described daylighting of the riparian corridor involving the use of a thumbed excavator to grab vegetation and pull it out of the ground, shaking off soil, and placing it in large burn piles. Multi-stemmed willows were removed in the same fashion or breaking the trunks off and placing the willows in large burn piles (Photograph 7). Dead, dying, scrawny, and fallen willows were removed and in some cases healthy groups of trees were removed including the roots to provide daylight to the stream.

Photograph 7. Photograph of a willow removed by breaking off the trunk (circled in red) using a thumbed excavator. Removal of invasive Himalayan blackberries have occurred on the left-bank leaving native equisetum.

Vegetation Removal also Included the Left Bank

In several areas riparian corridor removal extended into the flowing stream and often included the opposite side of the stream to the extent of the excavator's reach

(Photographs 7, 8, 10, and 11). Ms. Duckworth reported in some areas invasive Himalayan blackberry vines were up to 12 feet tall and impassable. Ms. Duckworth stated invasive Himalayan blackberry vines had been removed from a few locations in the riparian corridor sometime in the past to determine how fast they would grow back and how the stream would benefit from their removal (Photograph 9). She said sun exposure causes them to grow much faster. Ms. Duckworth explained the right-bank of the creek had been laid-back in several locations to allow turtles to climb up the bank to sun themselves. In these locations it appeared earthwork had occurred within the wetted channel (Photographs 7, 8, 10, 11, and 12). Disturbed soils had been treated with covercrop seed and straw mulch. In most areas the covercrop appeared to be thick and averaged about 4 inches in height. However, in areas adjacent to Canfield Creek where the bank was laid-back, the covercrop was sparse and poorly developed representing a threatened discharge of sediment to the stream. Additionally, areas cleared of vegetation on the left bank were exposed without erosion control, representing a threatened discharge of sediment to the stream.

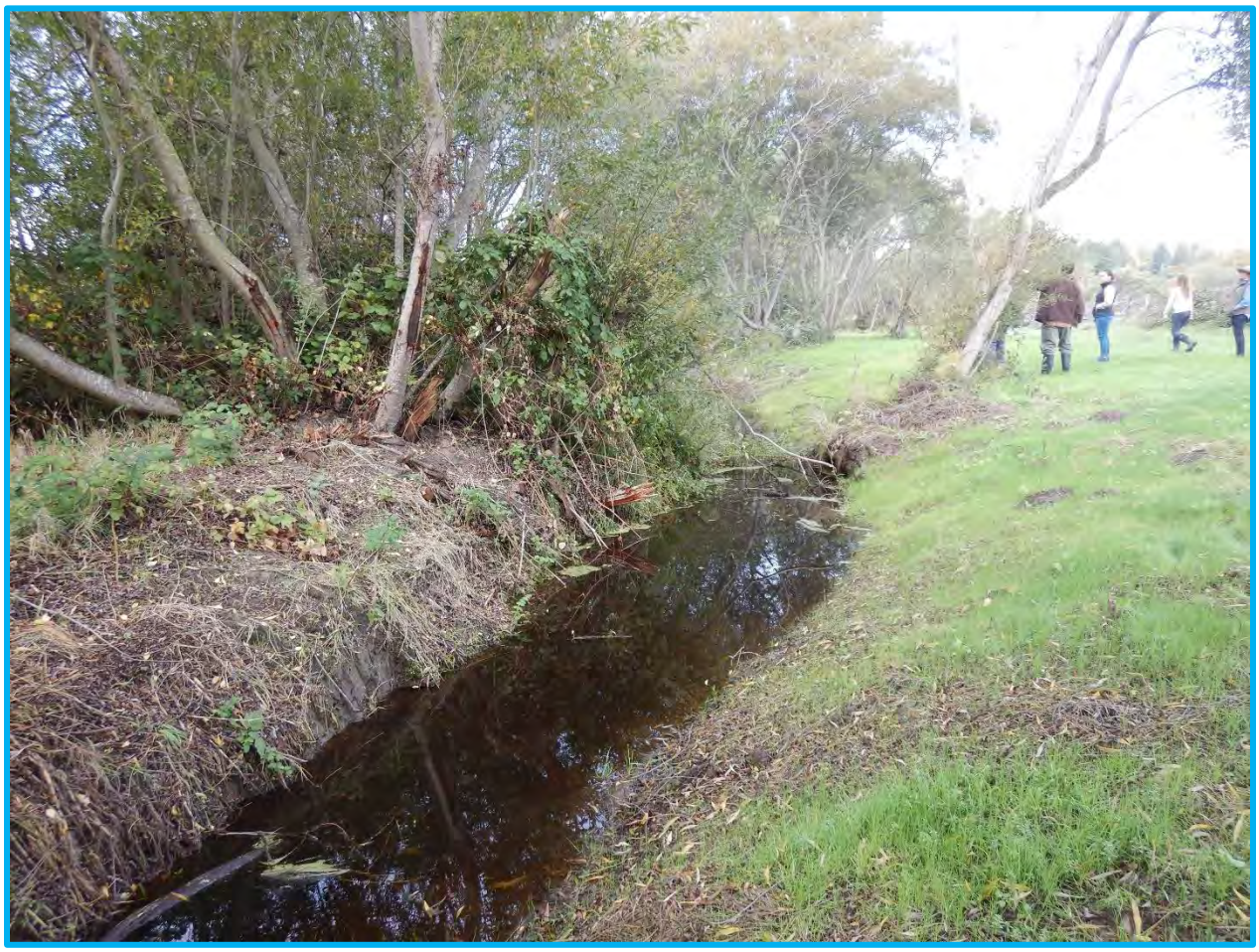


Photograph 8. The photographer is looking upstream Canfield Creek or to the south and shows the right-bank of the cleared riparian corridor. In addition, the right-bank has been laid-back and it appeared earthwork had occurred within the wetted channel. After the riparian corridor was “daylighted”, covercrop seed and mulch was applied to the riparian corridor. Clearing had also occurred on the left-bank with the removal of invasive Himalayan blackberries. Four large burn piles of riparian vegetation can be seen on the other side of the livestock exclusion fence.

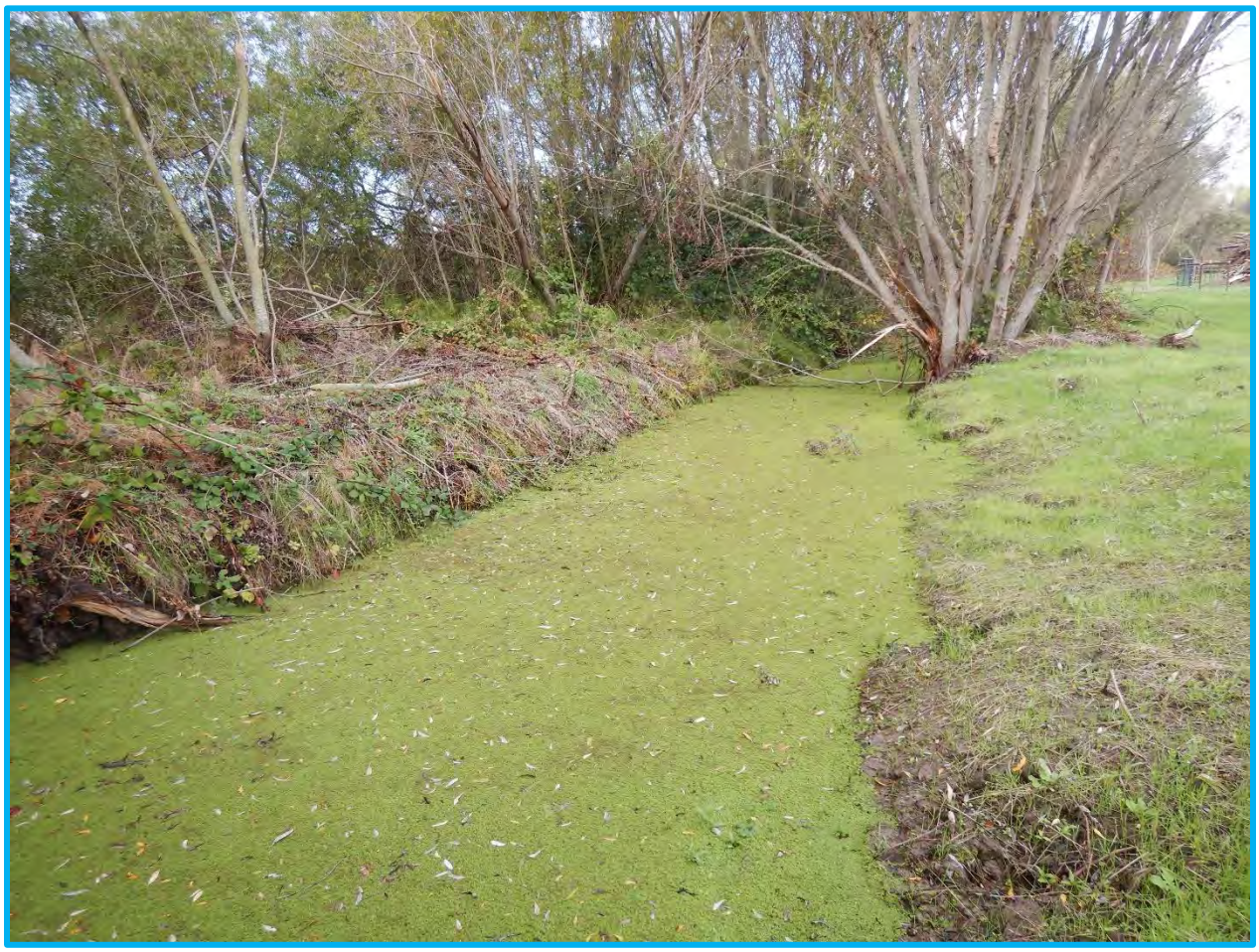
Photograph 9. Ms. Duckworth stated invasive Himalayan blackberry vines had been removed from a few locations in the riparian corridor in the recent past including this location on the left-bank. Ms. Duckworth said the blackberries grew back rapidly.

Canfield Creek Pools

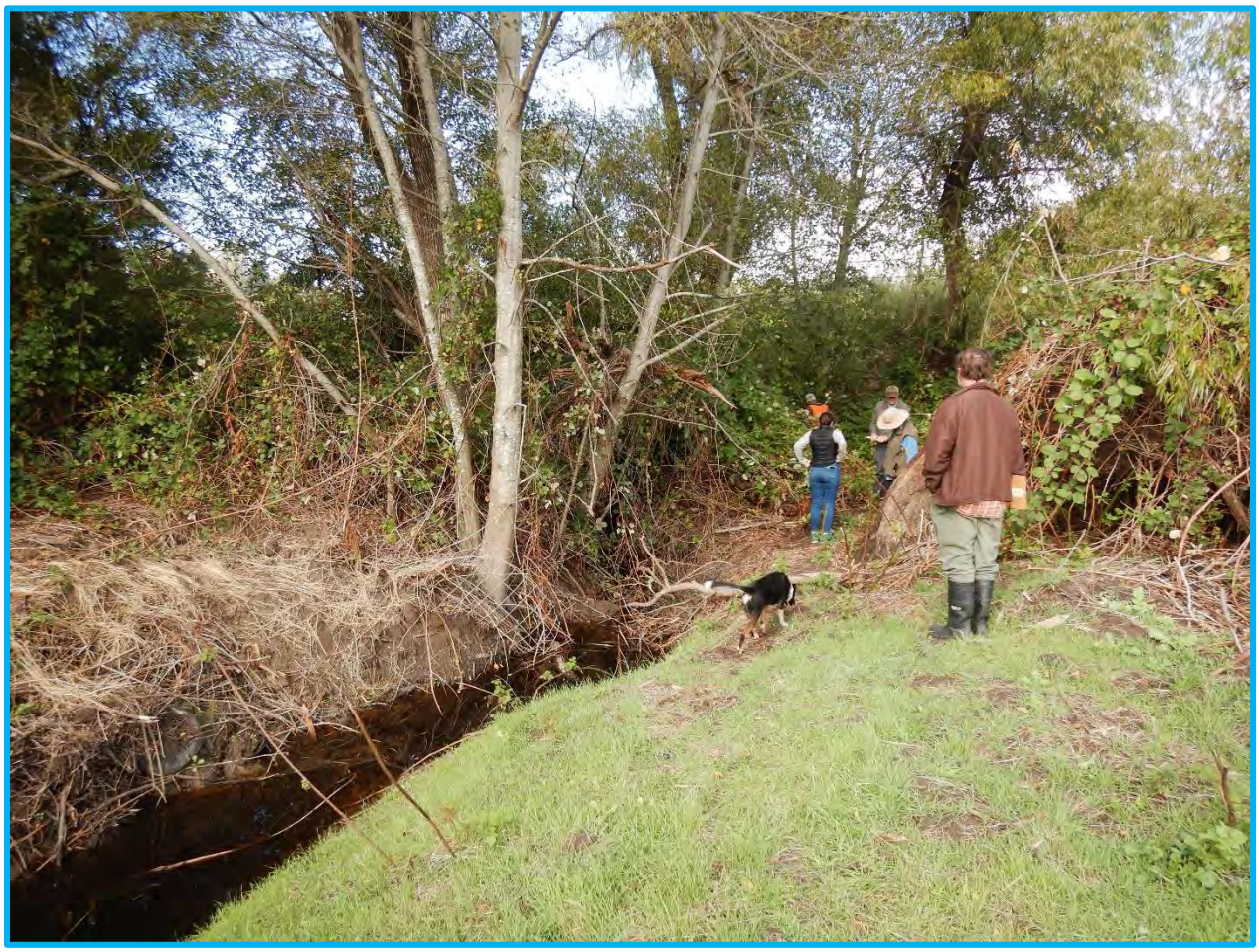
Ms. Duckworth speculated that large deep pools in Canfield Creek have filled with fine sediment over the years because thick riparian vegetation has slowed high velocity winter flows, allowing the sediment load to settle out and fill pools. Ms. Duckworth stated in other areas the creek has entrenched with vertical sides, no longer allowing northwestern pond turtles to climb out of the creek to sun themselves. Ms. Duckworth said historically, a few of the deeper pools were deep enough to swim in but have since filled in with sediment. She said these large deep pools contained populations of California freshwater shrimp and northwestern pond turtles, but they are no longer present in the Duckworth's reach of Canfield Creek. During the inspection we passed several segments of the creek that had ponded water (Photographs 6, 7, 10, 11, and 12).



Photograph 10. This photograph shows ponded water in Canfield Creek. Ms. Duckworth stated this pool and others have filled with sediment, shallowed, and entrenched with vertical sides. Additionally, this photograph shows clearing on the right-bank riparian corridor as well as some blackberry vine removal on the left-bank. Ms. Duckworth said the right-bank had been laid-back, and it appeared earthwork had occurred within the wetted channel. The Duckworths have applied erosion control BMPs.



Photograph 11. This photograph shows a relatively large pool in Canfield Creek that was covered in water fern (*Ceratopteris sp.)*. Ms. Duckworth stated this pool is one of the largest remaining pools on the Duckworth Family Farm. Additionally, this photograph shows riparian corridor clearing on the right-bank as well as some blackberry vine removal on the left-bank. In addition, Ms. Duckworth said the right-bank had been laid-back allowing turtles to climb up the bank to sun themselves and it appeared earthwork had occurred within the wetted channel. The Duckworths have applied erosion control BMPs.



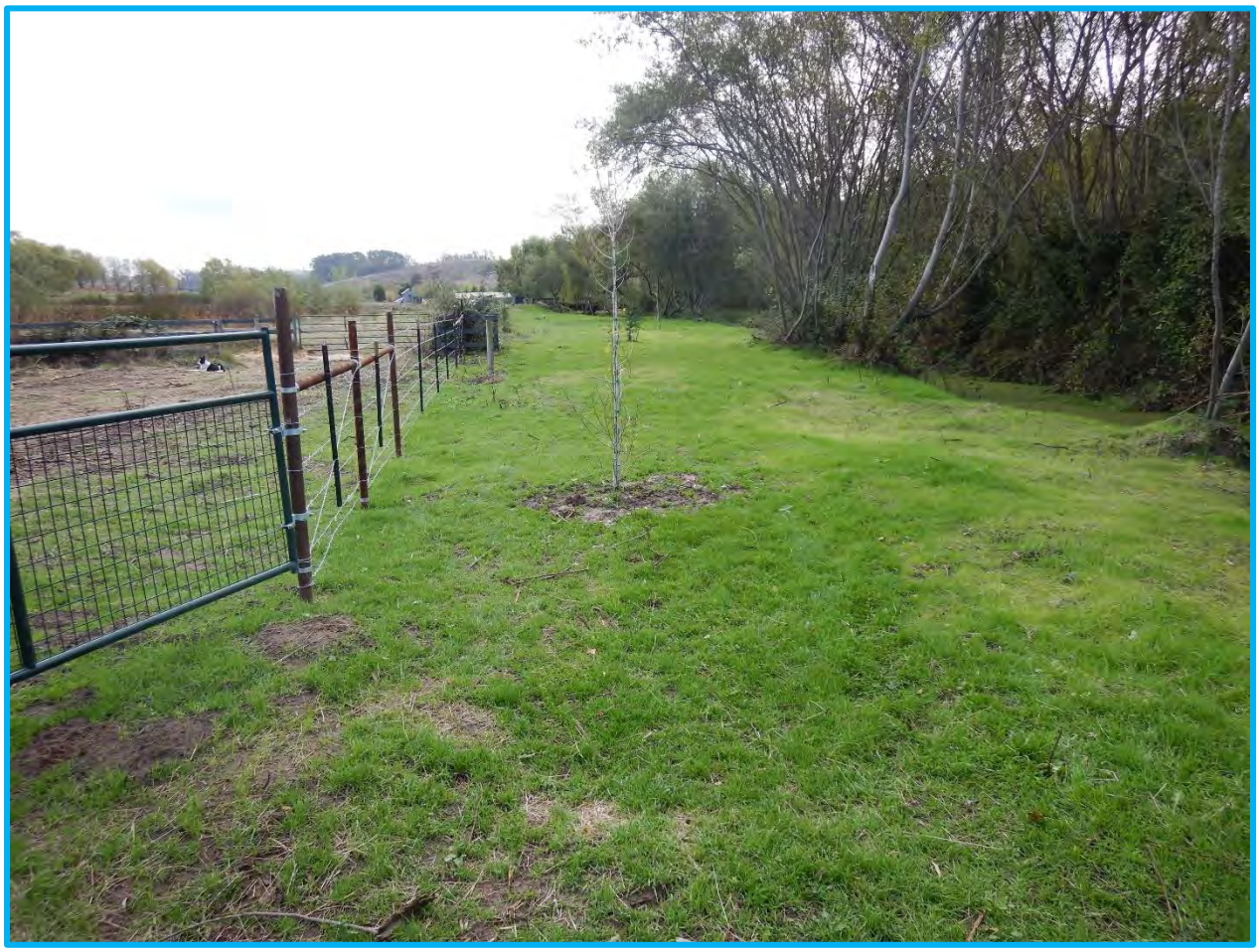
Photograph 12. This photograph was taken near the confluence of Blucher and Canfield Creeks and shows ponded water in Canfield Creek. Ms. Duckworth stated this pool and others have filled with sediment, shallowed, and entrenched with vertical sides. Additionally, this photograph shows riparian clearing on the right-bank as well as some invasive Himalayan blackberry vine removal on the left-bank. Ms. Duckworth said the right-bank was laid-back and it appeared earthwork had occurred within the wetted channel. The Duckworths have applied erosion control BMPs. The entire undergrowth is invasive Himalayan blackberry growing 10 to 12 feet high.

Slash Piles

Ms. Duckworth explained the removal of vegetation from the riparian corridor had generated a tremendous amount of slash that was placed in several large burn piles in an adjacent pasture (Photographs 13 and 14). The slash piles were an estimated 10 feet high separated by an estimated 75 to 100 feet to avoid igniting adjacent slash piles. Water Board staff recommended the Duckworths contact the local fire district to obtain a burn permit and ensure the piles were configured correctly. A third recommendation was made to back the slash piles away from the wooden fence posts to prevent the posts from igniting.

Photograph 13. This photograph shows several slash piles consisting of cleared willows and blackberry vines placed on an adjacent pasture. The fence has wooden posts, so staff recommended backing the slash pile away from the fence to prevent the wooden fence posts from igniting.

Photograph 14. This photograph shows several slash piles indicated by the red arrows consisting of cleared willows and blackberry vines placed on an adjacent pasture. Several more slash piles are farther down the fence line out of view.



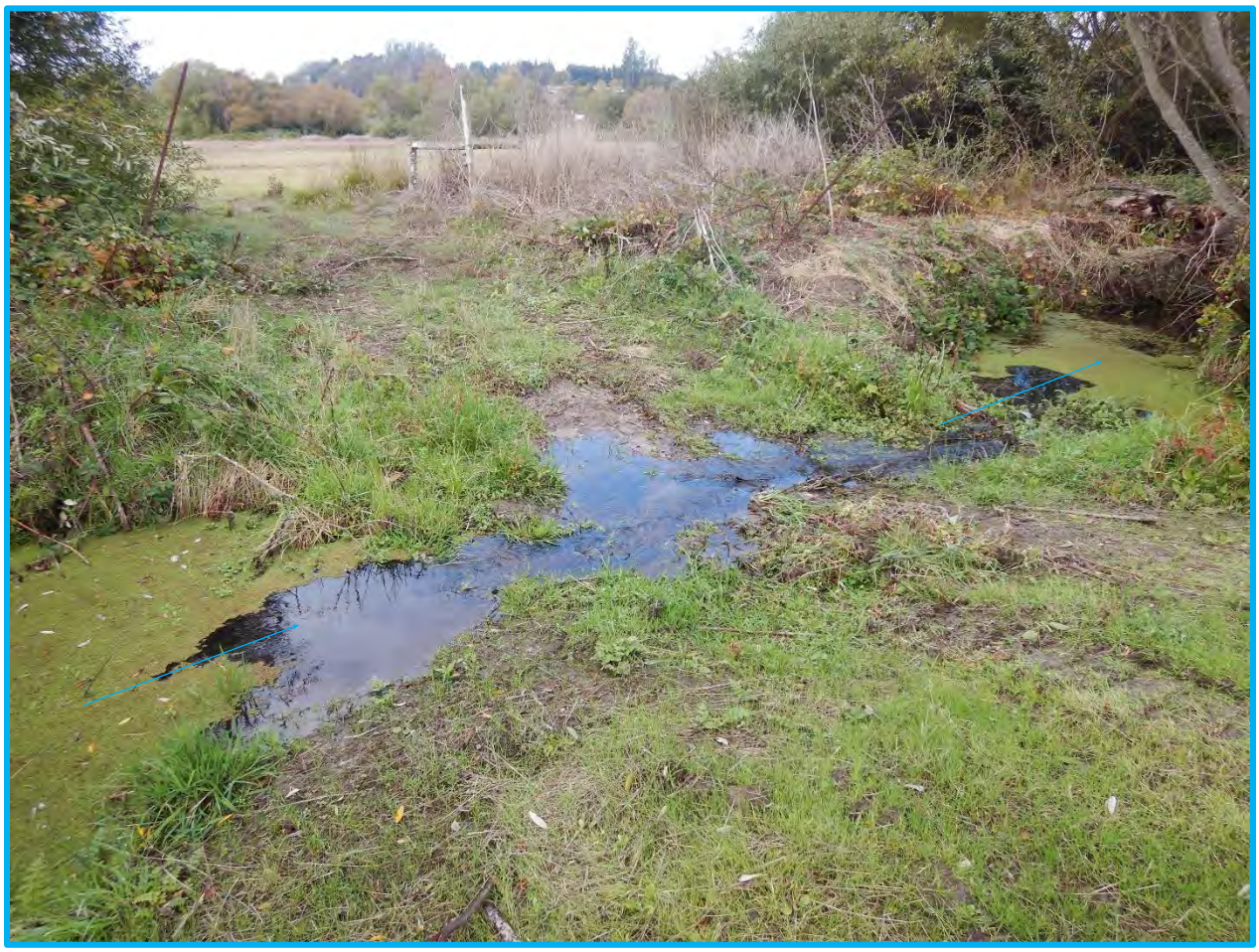
Photograph 15. Photographer is looking up Canfield Creek and to the south. The photograph shows the cleared riparian corridor and sprouted covercrop in the former riparian corridor. Several of the young trees shown in the center of the photograph were planted by the Duckworths. Mr. Jensen told Ms. Duckworth the newly planted trees were not native to the area.

Wet Crossing

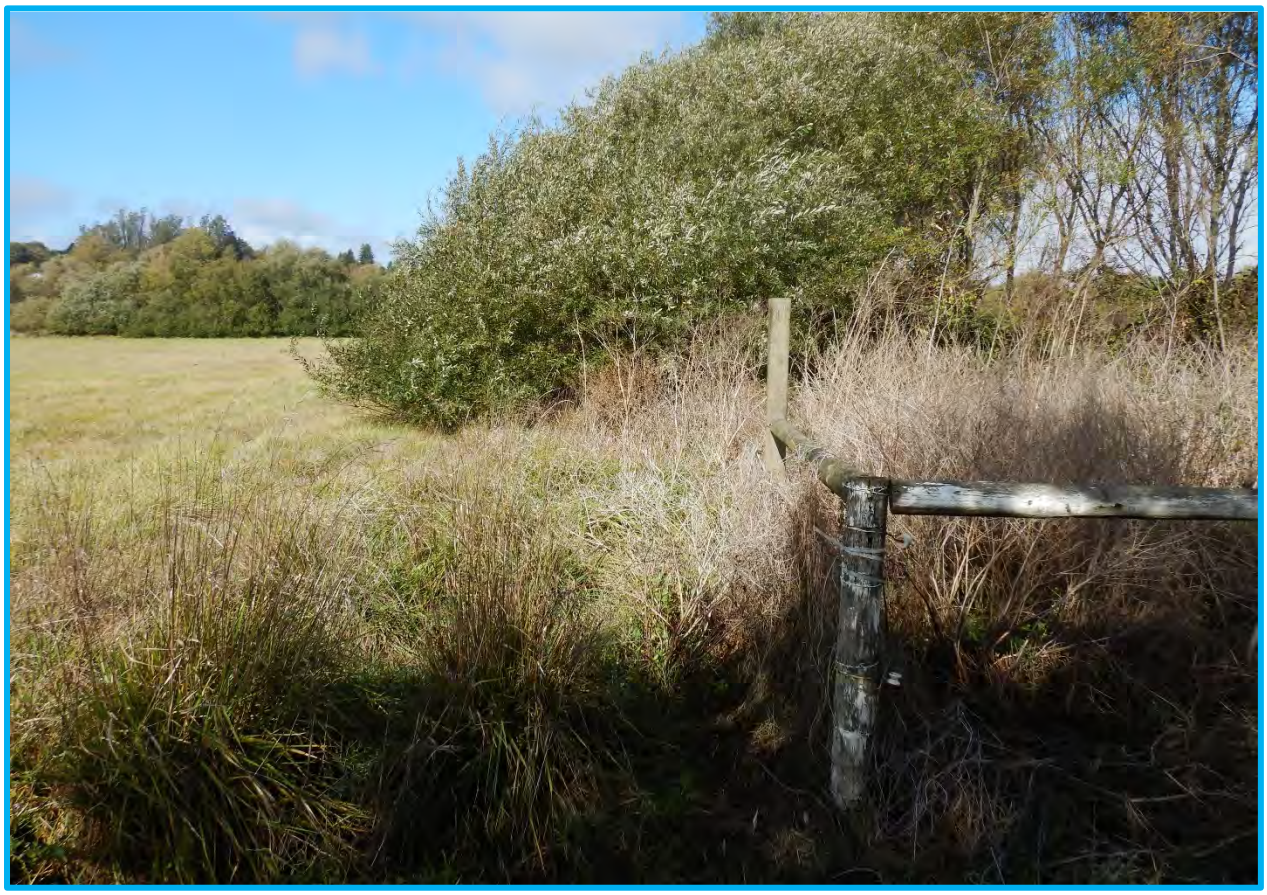
Approximately 400 feet downstream from the railcar bridge, the Duckworths use a historical wet crossing to cross Canfield Creek to access their western hay pasture and a smaller hay pasture on the west side of Blucher Creek. The wet crossing of Canfield Creek appeared stable and was well vegetated with grasses and aquatic plants (Photograph 16). Mr. Duckworth said the wet crossing is rarely used because the railcar bridge located upstream is used most of the time. Mr. Duckworth speculated the willow canopy was removed at this location to allow grasses to grow and stabilize the crossing as well as allow vehicle access.

After the group crossed Canfield Creek, Ms. Duckworth explained the willows and invasive Himalayan blackberry vines along the left-bank of Canfield Creek had grown to become a dense thicket that had entirely overgrown and obscured the cattle exclusion

fence (Photograph 17). Ms. Duckworth reported the riparian corridor had become so dense and choked with vegetation, high flows were now diverted through the wet crossing clearing, flowed across their hay pasture, and entered Blucher Creek at another wet crossing. Ms. Duckworth said she intended to “daylight” the left-bank of Canfield Creek next year.



Photograph 16. This photograph shows the historical wet crossing on Canfield Creek used to access the western hay pasture and a smaller hay pasture on the west side of Blucher Creek. The wet crossing of Canfield Creek appeared stable and was well vegetated with grasses and aquatic plants. The short blue arrows show the creek’s flow direction from left to right. Ms. Duckworth stated winter high flows backup and divert through the wet crossing clearing and flow through their hay pasture seen in the distance.



Photograph 17. The willows and blackberry vines along the left-bank of Canfield Creek have grown to become a dense thicket that had entirely overgrown and obscured the cattle exclusion fence. Ms. Duckworth said the riparian corridor had become so dense and choked with vegetation, high flows were now diverted through the wet crossing clearing, flowing across their hay pasture, to enter Blucher Creek at another wet crossing.

The group walked across the western hay pasture to view the riparian corridor growing along Blucher Creek. Ms. Duckworth speculated Blucher Creek is experiencing the same problem with dense willows and invasive Himalayan blackberry vines obstructing flood waters, reducing summer flows, and diverting flood waters into pastures and commercial vegetable farms. Ms. Duckworth said flood waters also jump the congested Blucher Creek channel at the wet crossing and flow through neighboring commercial vegetable farms. Ms. Duckworth stated Blucher Creek riparian corridor would be “day lighted” at a later date. The group walked back to the Duckworth’s barn for a post inspection meeting.

Post Inspection Meeting

Post inspection meeting discussions included potential environmental violations and information needed to restore Canfield Creek to “pre-agricultural” conditions.

1. It was agreed to that the Duckworth's lack of notification and permit application represented a violation.

2. The laid-back right-bank, instream earthwork, and pulling out vegetation within the riparian corridor represented work in the stream and required a Water Quality Certification and/or Waste Discharge Requirements (dredge/fill projects).

3. Discussions included the possibility the project could be permitted using Small Habitat Restoration Water Quality Certification. However, the project must impact less than 5 acres and 500 linear feet of stream. An estimated 900 feet of riparian corridor had been cleared along Canfield Creek. The right-bank riparian corridor width averaged 30 to 40 feet. In many areas riparian clearing extended well into the left-bank. Riparian corridor clearing of the right-bank is estimated to be 1.0 acre. Due to the exceedance of 500 linear feet project length, Small Habitat Restoration Water Quality Certification will not apply.

4. The North Coast Regional Water Quality Control Board could possibly issue a Notice of Violation to the Duckworths requiring the stream and riparian corridor be restored and submittal of a Water Quality Certification and/or Waste Discharge Requirements (dredge/fill projects) as well as supporting documents.

5. Ms. Duckworth was made aware the valley bottom was relatively flat with relatively no slope and was an environment of sediment deposition. This was the reason for the fine sediments and fine soils found in their pastures.

6. Mr. Newell with the SCAOS said the Duckworths needed to properly restore the riparian corridor and channel and needed to develop a Riparian Corridor and Channel Restoration and Management Plan. He also indicated SCAOS will be issuing a procedural violation letter to the Duckworths and requirement to submit a Riparian Corridor and Channel Restoration and Management Plan.
7. Mr. Newell did not speak for CDFW, but he speculated a Lake and Streambed Alteration Agreement would be required including a Riparian Corridor and Channel Restoration and Management Plan.