Livestock and Water Quality Site Visit

Site Visit Information	☒ First Visit	☐ Follow-up Visit
Prepared by: Chris Luerkens	Arrival Time: 3:45 pm	Departure Time: 4:20 pm
Date: 11/14/2013	Current Weather Conditions: Dry (recent rain)	

Owner/Operator Information	
Name: Philip & Gwynne Top	Street: 9508 Axling Rd
City: Lynden	Zip Code: 98264
Phone: 510-3963	Email:

Site Information	
County: Whatcom	Watershed: Lower Nooksack (Bertrand)

General site description: On 11/14/2013, I met with you and fellow Ecology Water Quality inspector, Jessica Kirkpatrick, and conducted a livestock inspection of your farm. This inspection was requested in support of efforts to identify sources of pollution in the Bertrand Creek watershed. The purpose of this site visit was to review your livestock management practices and discuss any potential sources of surface water pollution associated with the keeping of your animals. This inspection report reviews what was observed and discussed while onsite.

Bertrand Creek runs along the eastern edge of your property. A CREP buffer has been installed, and fencing excludes animals greater than 35 feet, much further in many places. An old manure lagoon has been decommissioned. Animals are confined over the winter and pastured during the dry season.

At time of visit you had three horses and five cows. These animals were all confined near the barn for the winter season. The eastern portion of this confinement area is near Bertrand Creek (approximately 35 feet). During our visit you explained that surface water in your confinement area flows toward the barn and that you did not believe that water flowed into Bertrand Creek.

The confinement area is mostly bare ground and contains manure. Surface water that comes into contact with this area would become contaminated by manure. Because of the close proximity to Bertrand Creek, it is important to monitor this area during rain events to ensure that manure contaminated surface water does not flow to the Creek. In the "additional comments" section below, I have listed several actions that you could take to manage the confinement area in a way that would reduce the risk that contaminated surface would water discharge from your property.

There are other technical and financial resources available:

- The Whatcom Conservation District is also available to provide technical assistance and can provide a confidential, free risk assessment.
- We have a cost share program available to help make changes on your property needed to prevent pollution. I would be happy to discuss this further.

The information below summarized my observations.

Site Evaluation

Stream Corridor and Areas Near Surface Water	☒ Evaluated	☐ Not Evaluated
☐ Bare, exposed, eroding soils	☐ Absence of woody vegetation	
☐ Contaminated run-off (active or potential)	☐ Manure accumulations	
☐ Slumping stream banks and erosion	☐ Animal access to surface water	
☐ Overgrazing of grasses	☐ Livestock paths and trails along riparian areas	
Comments: Bertrand Creek runs through property. The Top's are enrolled in CREP. Fences are installed a minimum of 35 feet from the stream edge. A good young growth has been established along the stream and is maintained as part of CREP.		

Confinement Areas	☒ Evaluated	☐ Not Evaluated
☒ Distance to surface water (35 ft)	☐ Polluted run-off reaching surface water	
☒ Presence of mud and manure	☒ Roof runoff water flows to confinement areas	
☐ Signs of previous runoff reaching surface water	☒ Adjacent land slopes toward surface water	
Comments: Animals are kept in a confinement area located a minimum of 35 and greater from Bertrand Creek. Most of the confinement area actually slopes away from Bertrand and when surface water is present it remains contained within the confinement area. We discussed that it appears that the eastern edge of the confinement does drain to Bertrand. Little vegetation remains in the confinement area. Bare ground and mud cover most of this area. Some of the barn gutters empty onto the confinement area. I suggested that redirecting the downspouts so that clean water is not directed to manure and mud would help reduce the risk that rain events would result in contaminated surface water flowing from the confinement area. Gwynne said that she has not seen runoff leave the field. Because this area does slope to Bertrand and horses do have access, I explained that this area should be looked at during rain events to ensure that surface water is not discharging from the confinement area, down the slope and into Bertrand Creek.		

Stock Water	☒ Evaluated	☐ Not Evaluated
☒ Distance to surface water (200 ft)	☐ Mud and standing water at tanks	
☐ Overflow from tanks on to the ground	☐ Animals accesses stream for stock water	
Comments: Stock for both cows and horses are far from surface water and located inside confinement area.		

Upland Pasture Areas	☒ Evaluated	☐ Not Evaluated

☐ Animal access to stream corridors ☐ Distance to surface water (>500 ft)	☐ Signs of overgrazing and erosion ☐ Manure accumulations and bare ground
Comments: Animals are not kept on pasture during the rainy season. Pasture was not examined but looked to but contained a vigorous growth of grass and unlikely to cause pollution through the winter.	

Manure Management	☒ Evaluated	☐ Not Evaluated
Current manure management plan? Manure collected and stored? Yes Manure storage properly sized? Yes Manure storage covered? No Manure being collected often? Yes, from confinement area	Manure stored on covered, impervious surface? Impervious, but not covered. Applied during growing season? Yes Manure applied during non-growing season? No Vegetated buffer when manure is applied? Yes Manure applied or stored off site? no	
Comments: Manure is collected from confinement areas and stored on cement several hundred feet from surface water. Manure is applied during summer months. The property has a decommissioned manure lagoon. Covering the manure storage pile would help reduce the quantity of rain that comes into contact with is contaminated by manure.		

Other Areas of Concern
Comments:

Corrective Actions

☐ Install livestock exclusion fencing to keep animals at least ft from surface waters (35ft minimum)

☐ Install off-stream stock water watering facilities and locate them at least ft from surface to prevent risk of water quality impacts (minimum of 75ft)

☐ Collect manure frequently and store it in a dry, covered area with an impervious floor or deck

☐ Apply manure during the growing season at proper rates and times (minimum of 100ft setback from surface water, or the use of a 35ft vegetative buffer)

☐ Site and design confinement and manure storage areas to prevent pollution of surface and ground water

☐ Provide heavy use protection in confinement areas and at stock tanks to prevent run-off

☐ Construct stream-crossings and emergency water locations in ways that protect the stream ☐ Other Actions:

Photos Taken: ☐ Yes ☒ No	Sample Taken: ☐ Yes ☒ No

Additional Comments
Comments: During our visit you explained that surface water in your confinement area flows toward the barn and that you did not believe that water flowed into Bertrand Creek. We agreed to continue to monitor this area during the rainy season to ensure polluted surface water is not discharging. Below are a few steps that you could take to help reduce the risk that this will happen: - Route barn gutters and downspouts so that roof runoff does not drain into areas where animals are kept. This would reduce the quantity of water filling the confinement area and reduce the risk that the area would fill and discharge. - Install heavy use area protection in the confinement area. This infrastructure will reduce the amount of mud and allow for manure to be collected. - Install fencing to exclude animals from the eastern portion of the confinement area. This would keep manure out of the portion of the confinement area that drains toward the creek. A program that offers financial assistance is available to help install these types of improvements.

Ecology Contact Information	
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Inspector Signature: Chris Luerkens

Date: 11/27/2013