

## Livestock and Water Quality Site Visit

<b>Site Visit Information</b>	<input type="checkbox"/> First Visit	<input checked="" type="checkbox"/> Follow-up Visit
Prepared by: Jessica Kirkpatrick	Arrival Time: 1:00 PM	Departure Time: 2:30 PM
Date: June 18, 2013	Current Weather Conditions: Dry and sunny.	

<b>Owner/Operator Information</b>	
Name: Jim Shelton	Street: 9411 Axlund Road
City: Lynden	Zip Code: 98264-9705
Phone: 360-354-4298	Email:

<b>Site Information</b>	
County: Whatcom	Watershed: Bertrand, Lower Nooksack
General site description: This follow-up inspection of the Shelton farm was requested because water quality monitoring results indicated high concentrations (11,000 cfu/100ml of water) in water flowing off of the pasture west of Mr. Shelton's barn.	

### Site Evaluation

<b>Stream Corridor and Areas Near Surface Water</b>	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<input type="checkbox"/> Bare, exposed, eroding soils <input checked="" type="checkbox"/> Contaminated run-off (active or potential) <input type="checkbox"/> Slumping stream banks and erosion <input type="checkbox"/> Overgrazing of grasses	<input type="checkbox"/> Absence of woody vegetation <input type="checkbox"/> Manure accumulations <input type="checkbox"/> Animal access to surface water <input type="checkbox"/> Livestock paths and trails along riparian areas	
Comments: McClellan Creek flows through the west side of the property. The riparian area around the creek was put into the CREP program some time ago. Livestock are excluded from a buffer that is an average of 70 feet wide. The area has been replanted in native vegetation and is in good condition. A water quality sample has demonstrated high levels of fecal coliform bacteria in the water flowing off of the pasture to the west of the barn, through the corner of the riparian buffer, and discharging into a tributary of McClellan Creek.		

<b>Confinement Areas</b>	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<input type="checkbox"/> Distance to surface water (      ft) <input type="checkbox"/> Presence of mud and manure <input type="checkbox"/> Signs of previous runoff reaching surface water	<input type="checkbox"/> Polluted run-off reaching surface water <input type="checkbox"/> Roof runoff water flows to confinement areas <input type="checkbox"/> Adjacent land slopes toward surface water	
Comments: There is a very small confinement area adjacent to the barn that is seldom used. At the time of the inspection, this did not appear to present any risk of discharging polluted runoff.		

<b>Stock Water</b>	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<input type="checkbox"/> Distance to surface water (      ft) <input checked="" type="checkbox"/> Overflow from tanks on to the ground	<input type="checkbox"/> Mud and standing water at tanks <input type="checkbox"/> Animals accesses stream for stock water	
Comments: The large stock water tank installed in the slope of the west pasture is fed by a spring that has been piped. This spring flows continually, and as a result, the tank overflows slowly onto the ground. This is not a large volume of flow and the tank is located in excess of 200 feet from surface waters, however, it adds to the overall volume of water that is discharged onto the slope of the west pasture that is discharging off of the west side of the property.		

<b>Upland Pasture Areas</b>	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<input type="checkbox"/> Animal access to stream corridors <input type="checkbox"/> Distance to surface water (      ft)	<input type="checkbox"/> Signs of overgrazing and erosion <input type="checkbox"/> Manure accumulations and bare ground	
Comments: a) A combination of surfacing groundwater and storm water that has been diverted onto the sloped pasture west of the barn flows off of lower part of the pasture and discharges across a corner of wetland area and into a tributary of McClellan Creek. This water was flowing off through the corner of this wetland area/riparian buffer at the time the sample was taken and during the inspection today. Cattle have had access to this saturated pasture and manure was present at the time of the inspection. It is likely that manure-contaminated water is discharging from this part of the pasture.  b) The area of the west pasture near the barn has been denuded of vegetation and has accumulations of manure. Because this area slopes towards the wet area in the west pasture that drains across the wetland area and into the tributary of McClellan Creek, it is likely contributing manure-related contaminants including bacteria to the storm water discharging off this part of the property.  c) Stormwater from two different sources has been diverted onto the wet and saturated portion of the west pasture that slopes towards the wetland and discharges off the property into a tributary of McClellan Creek: 1. The French drains around the footing of the Shelton residence. 2. A swale that carries both rainwater from the upper pasture, the area around the work shop, and the roof runoff from the work shop itself. This additional storm water adds volume to the groundwater that is surfacing on that slope. This exacerbates the runoff problem from this slope and likely lengthens the period of time that cattle must be excluded from this area.		

<b>Manure Management</b>	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
Current manure management plan? No.	Manure stored on covered, impervious surface? No.	
Manure collected and stored? No.	Applied during growing season? N/A	

Manure storage properly sized? N/A	Manure applied during non-growing season? N/A
Manure storage covered? N/A	Vegetated buffer when manure is applied? N/A
Manure being collected often? N/A	Manure applied or stored off site? N/A
Comments: Cattle are kept on pasture during the summer and removed from the farm during the winter. Manure is not collected and stored.	

<b>Other Areas of Concern</b>

Corrective Actions
<input type="checkbox"/> Install livestock exclusion fencing to keep animals at least                ft from surface waters (35ft minimum) Permanent buffers function most effectively to protect water quality and prevent invasion by weeds when planted and maintained with native shrubs and trees suited to the soils and hydrology of the site.
<input type="checkbox"/> 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)
<input type="checkbox"/> Collect manure frequently and store it in a dry, covered area with an impervious floor or deck
<input type="checkbox"/> 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)
<input type="checkbox"/> Site and design confinement and manure storage areas to prevent pollution of surface and ground water
<input type="checkbox"/> Provide heavy use protection in confinement areas and at stock tanks to prevent run-off
<input type="checkbox"/> Construct stream-crossings and emergency water locations in ways that protect the stream
<input checked="" type="checkbox"/> Other Actions: 1. Install a temporary fence to keep cattle out of the saturated area that slopes towards the fence west of the barn. Cattle should be excluded from this area at all times when the ground is saturated and when water is standing or flowing off of this slope towards the wetland area bordering McClellan Creek to the west. During the fall, animals should be excluded from this area far enough ahead of predicted rains so that the bacteria contained in manure has time to die. The destruction of bacteria could be speeded by harrowing this part of the field to break up manure and expose it to sunlight. As discussed in the "Upland Pasture" section above, the length of time that this area remains wet (and therefore cattle must be excluded) might be reduced by re-routing the two pipes that discharge storm water runoff onto this slope from the upper pasture and the house footing to another location. This would reduce the amount of water that comes into contact with livestock manure and discharges off the slope.
2. Provide heavy-use area protection for the muddy, manure contaminated area behind the red barn at the top of the slope of the west pasture. This may include grading the area so that it does not drain to the sloped, wet

pasture area. Manure that accumulates on this area should be removed and placed in a location where it will not run off the pasture.

Photos Taken: ☐ Yes ☒ No

Sample Taken: ☐ Yes ☒ No

**Additional Comments**

Comments:

**Ecology Contact Information**

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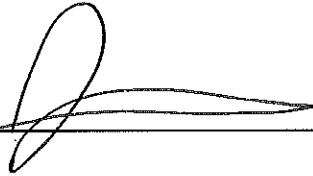
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Inspector Signature: \_\_\_\_\_



Date: June 28, 2013