

## Livestock and Water Quality Site Visit

<b>Site Visit Information</b>	<input checked="" type="checkbox"/> First Visit	<input type="checkbox"/> Follow-up Visit
Prepared by: Chris Luerkens	Arrival Time: 1:20 pm	Departure Time: 1:50 pm
Date: March 17, 2014	Current Weather Conditions: Partly sunny, dry	

<b>Owner/Operator Information</b>	
Name: Courtney Imhof (CB Acres LLC)	Street: 2242 Timon Road
City: Everson, WA	Zip Code: 98247
Phone: 360-306-5547	Email:

<b>Site Information</b>	
County: Whatcom	Watershed: Lower Nooksack (Kamm Creek)
<p>General site description: On March 17, 2014, Ecology inspectors, Jessica Kirkpatrick and I requested to conduct a site visit with Courtney Imhof. This inspection was requested as part of a comprehensive effort to reduce surface water pollution in the Nooksack watershed.</p> <p>Beef cattle and some other livestock are raised at the facility. During the wet months animals are kept off pasture and confined. Some of the confinement area has a cement floor and is covered. Liquid manure drains to an underground tank that is pumped to a lagoon on the north side of the property. Solid manure is stored on the northern edge of the confinement area, perched above a seasonal drainage.</p> <p>It was evident that manure contaminated water does discharge into the drainage from the manure pile as well other places in the confinement area. This drainage course enters a culvert which appears to discharge into a ditch located on Timon Road. Water quality samples collected on 3/5/14 show extremely high levels of fecal coliform discharging from this culvert (&gt;6,000 fecal coliform units/100mL). Additionally, a sample of field runoff flowing into the ditch from the south west corner of the property also showed elevated fecal coliform concentrations.</p> <p>While pastured, it does not appear that animals are excluded from drainages that at least seasonally have flowing surface water.</p> <p>During our visit we discussed some steps management and infrastructure improvements needed to help ensure manure contaminated water is not discharging from your farm into surface waters. You also expressed interest in working with the Whatcom Conservation District to address these issues. Below is a summary of the conditions I observed on your site. The "Corrective Actions" section includes recommended actions you can take to help eliminate contaminated runoff.</p> <p>Also note that the visit only included inspection of the confinement area. The pasture was only generally evaluated based on what can be seen from the confinement area and road.</p>	

### 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 type="checkbox"/> Absence of woody vegetation	

<input checked="" type="checkbox"/> Contaminated run-off (active or potential) <input type="checkbox"/> Slumping stream banks and erosion <input checked="" type="checkbox"/> Overgrazing of grasses	<input type="checkbox"/> Manure accumulations <input type="checkbox"/> Animal access to surface water <input type="checkbox"/> Livestock paths and trails along riparian areas
Comments: During the dry season animals are kept in pastures that have at least seasonal drainages. Several low areas are present in the pastures that at least seasonally flow from the subject property.	

<b>Confinement Areas</b>	<input type="checkbox"/> Evaluated	<input checked="" type="checkbox"/> Not Evaluated
<input checked="" type="checkbox"/> Distance to surface water (<50 ft) <input checked="" type="checkbox"/> Presence of mud and manure <input checked="" type="checkbox"/> Signs of previous runoff reaching surface water	<input checked="" type="checkbox"/> Polluted run-off reaching surface water <input type="checkbox"/> Roof runoff water flows to confinement areas <input checked="" type="checkbox"/> Adjacent land slopes toward surface water	
Comments: Animals are confined during the winter months near the barns. Confinement area has several significant improvements including concrete pads, an underground liquid manure holding tank, and barns. Animals also currently have access to a run that is covered with wood chips (or hog fuel). Portions of these areas where animals are confined and manure solids are stored slope steeply towards surface water which drains offsite. During our visit it was evident that polluted surface water was discharging from the confinement area into the swale that flows from the site.		

<b>Stock Water</b>	<input type="checkbox"/> Evaluated	<input checked="" type="checkbox"/> Not Evaluated
<input type="checkbox"/> Distance to surface water (500 ft) <input 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: Not evaluated.		

<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 checked="" type="checkbox"/> Signs of overgrazing and erosion <input type="checkbox"/> Manure accumulations and bare ground	
Comments: Livestock currently are not kept on pastures and the pastures were not specifically evaluated during our meeting. However, it appears that portions of pasture are overgrazed during the summer months. The pasture contains swales that at least seasonally contain surface water drainages. It does not appear that animals are excluded from these drainages. If manure is present near these drainages during rain events that produce field runoff, then it is likely that manure contaminated surface water will flow from the farm.		

<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? Yes.	Applied during growing season?
Manure storage properly sized? Not evaluated.	Manure applied during non-growing season?
Manure storage covered? No.	Vegetated buffer when manure is applied?
Manure being collected often?	Manure applied or stored off site?
<p>Comments: Liquid manure in the confinement area drains to an underground tank that is pumped to a lagoon. Solid manure is collected from the confinement area and stored on the north side of the barn. The pile is located adjacent to a slope that drains into surface water that is directed offsite by a culvert. The pile is uncovered and on a gravel and dirt surface. During the visit, it was evident that manure contaminated water was flowing from the manure pile into surface water. Analysis of a water sample collected from the downstream end of this culvert on 3/5/2014 showed very high concentrations of fecal coliform.</p> <p>Immediate action is needed to stop manure contamination from discharging into surface water.</p> <p>The manure lagoon was not evaluated during the visit.</p>	

<b>Other Areas of Concern</b>
Comments:

<b>Corrective Actions</b>
<p><input checked="" type="checkbox"/> Install livestock exclusion fencing to keep animals at least 35 ft from surface waters (35ft minimum)</p> <p><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)</p> <p><input checked="" type="checkbox"/> Collect manure frequently and store it in a dry, covered area with an impervious floor or deck. <b>Manure from the confinement area should be collected and stored on an impervious surface and covered. Additional structural improvements may be needed to keep polluted water from leaching from the pile. <u>Immediate action should be taken to prevent runoff from the manure pile into the drainage below.</u> Covering the pile and preventing surface water run on area two actions that may work as temporary measures more permanent improvements can be made.</b></p> <p><input checked="" 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).</p> <p><input checked="" type="checkbox"/> Site and design confinement and manure storage areas to prevent pollution of surface and ground water</p> <p><input type="checkbox"/> Provide heavy use protection in confinement areas and at stock tanks to prevent run-off</p> <p><input type="checkbox"/> Construct stream-crossings and emergency water locations in ways that protect the stream</p> <p><input type="checkbox"/> Other Actions:</p>

a) **Develop a manure management plan that addresses application rates and identifies appropriate areas for application.**

Photos Taken:  Yes  No

Sample Taken:  Yes  No

**Additional Comments**

Comments:

Samples of water flowing from the property into the road ditch were collected on 3/5/2014. Both samples show elevated fecal coliform concentrations.

**Because of the high density of animals on this site, I strongly recommend that you seek additional technical support to develop a comprehensive plan to address issues discussed in this report. The Whatcom Conservation District (WCD) is one such technical resource that is available free of charge. The WCD can be reached at 360-354-2035, extension 3.**

Please also realize that a generous **financial assistance program** is available to help pay for up to 75% of the cost of the Best Management Practices described in the recommended corrective actions listed above. Please contact me if you would like additional information about this resource. Other financial assistance may also be available from Whatcom Conservation District.

**Ecology Contact Information**

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Inspector Signature: Chris Luukens

Date: 3/26/2014