

## Livestock and Water Quality Site Visit



<b>Site Visit Information</b>	<input type="checkbox"/> First Visit	<input type="checkbox"/> Follow-up Visit
Prepared by: Chris Luerkens (Jessica Kirkpatrick also attended visit)	Arrival Time: 1:00 pm	Departure Time: 1:55 pm
Date: 6/7/13	Current Weather Conditions: Sunny	

<b>Owner/Operator Information</b>	
Name: Rick Feddema	Street: 9592 Axlund Rd
City: Lynden	Zip Code: 98264
Phone: 360-815-8202	Email: rafeddema@hotmail.com

<b>Site Information</b>	
County: Whatcom	Watershed: Bertrand, Nooksack, WRIA 1

General site description (include information about nearby waterbodies and description of farm conditions): The property is owned by Rick Feddema. The property includes two separate livestock operations: 1) a calf calf operation on the western portion of the property adjacent to Axlund Road, and 2) the eastern two-thirds of the property is part of the Storm Haaven Dairy and used as pasture and for manure application.

Rick operates a calf rearing operation on the west portion of the property. These animals are almost entirely confined indoors spread between several structures including a large barn and a few smaller covered buildings. Liquid waste from inside these structures is stored in a cement tank and applied to during the growing season. Solid manure is stored near the barn on a cement pad surrounded by ecology blocks. The manure storage is an uncovered dry stack. The cement pad drains to a catch basin located on the northeast corner of the pad, as does rainwater contaminated by the manure pile. This catch basin and another located in the driveway are tightlined to the upper portion of the pasture.

The catch basin outlet is located near the top of a slope that drains steeply toward the base of the hill. Downstream of the outlet, a small berm has been built on the southern property edge parallel to a ditch that drains to the Axling roadside ditch. The berm is intended to protect against contaminated surface water from entering the ditch. Rick explained that surface water ponds in this section of the pasture during the wet season. During the visit a very small amount of water was trickling from the outlet but quickly infiltrated.

The eastern two-thirds of the property is pasture and currently used by the Storm Haaven Dairy and included in its nutrient management plan (DNP). Dairy cows are periodically pastured in this field starting in the spring and the pasture also receives liquid manure applications. The manure discharged onto the pasture from the calf operation adds to these inputs associated with the DNP.

Rick currently has three goats pastured near the barn. These goats are well away from any surface water and do not appear to pose any surface water concerns.

Overall, Mr. Feddema's property appears fairly clean and well managed. However, there are risks of surface water pollution associated with the catch basins that drain onto the pasture, adequacy of the berm to prevent discharges to the ditch, and minimal fencing setbacks from the ditch.

It is important to note that this inspection report is primarily intended to provide recommendations related to the calf operation because the pasture area is covered by the DNP and overseen by the Department of Agriculture. This inspection did not determine compliance with the DNP. However, both the DNP and calf

operation do contribute manure contamination to the pasture. So if it is determined that manure contaminated water discharges from the pasture into surface water (adjacent ditches), then enforcement action could be taken against both operations. Reducing discharges of manure contaminated water from your calf operation onto the pasture would help reduce move this uncertainty.

**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"/> 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	
<p>Comments: Cows have access to the top of the ditch while they are pastured. These areas are under the DNP.</p>		

<b>Confinement Areas</b>	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<input checked="" type="checkbox"/> Distance to surface water (300 ft) <input type="checkbox"/> Presence of mud and manure <input 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	
<p>Comments: Confined animals associated with the calf operation are approximately 300 feet upslope of ditch along southern property line. This water discharges onto a steep slope and water ponds at the base of the slope near the ditch. Runoff from the confinement area reaches the ponded area. A berm is in place to prevent field runoff from entering the ditch. Water was not ponded at time of visit and it was not possible to determine if the berm was effective.</p>		

<b>Stock Water</b>	<input type="checkbox"/> Evaluated	<input checked="" type="checkbox"/> Not Evaluated
<input type="checkbox"/> Distance to surface water (      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	
<p>Comments: No stock water was noted during the inspection of the pasture. This area is covered under DNP.</p>		

<b>Upland Pasture Areas</b>	<input type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<input type="checkbox"/> Animal access to stream corridors <input checked="" type="checkbox"/> Distance to surface water (<5 ft)	<input type="checkbox"/> Signs of overgrazing and erosion <input type="checkbox"/> Manure accumulations and bare ground	

Comments: Setback fences in the pasture are immediately adjacent to the ditch. This pasture is part of DNP.

Manure Management	<input type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<p>Current manure management plan? There is an existing Dairy Nutrient Plan (DNP) for the pasture portion of the property. The compliance status of the DNP was not determined.</p> <p>Manure collected and stored? Yes. Liquids from the calf operation are stored in a cement tank. Solids are stored in a dry stack.</p> <p>Manure storage properly sized? Yes, it appears so.</p> <p>Manure storage covered? Solids are not covered.</p> <p>Manure being collected often? Yes.</p>		<p>Manure stored on covered, impervious surface? Not covered. The floor of the dry stack is cement, but drains to a catch basin that discharges onto pasture covered under the DNP.</p> <p>Applied during growing season? Yes</p> <p>Manure applied during non-growing season? No</p> <p>Vegetated buffer when manure is applied? Per DNP</p> <p>Manure applied or stored off site? Sometime applied to the property located to the south.</p>
<p>Comments:</p> <p>Calf operation: Liquid manure is collected in a cement storage tank. Solid manure is stored in a dry stack. It is on a solid cement pad but is uncovered. The pad has a catch basin which surface water drains to. This allows</p> <p>Pasture: Pasture is part of Storm Haaven DNP. Manure associated with the DNP is applied to the pasture. Cattle from the dairy are periodically pastured here.</p>		

Other Areas of Concern
<p>Comments: The base of the hill is located in the pasture that is saturated or ponded during the wet season. This ponded area receives polluted runoff from the outfall of the two catch basins located near the calf operation. Additional pollution inputs to the ponded area include manure applications and/or animals pastured in this field (as part of DNP). During the visit Rick showed us a berm that was built along the southern property edge to prevent field runoff from entering the ditch that runs parallel to the property line. It was not possible to determine if the berm is effectively preventing runoff from reaching the ditch.</p>

Corrective Actions
<p><input type="checkbox"/> Install livestock exclusion fencing to keep animals at least 35 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.</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 type="checkbox"/> Collect manure frequently and store it in a dry, covered area with an impervious floor or deck</p> <p><input checked="" type="checkbox"/> Apply manure during the growing season at proper rates and times (minimum of 100ft setback from surface</p>

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:

- **Install roof and gutter over the manure pile dry stack to prevent contamination of rainwater. Roof should be appropriately sized to ensure rainwater and manure pile seepage does not reach the catch basin. This roof should be installed by September 30, 2013.**
- **Ensure that contaminated surface water that accumulates behind the berm on the southern portion of your pasture does not discharge to the adjacent ditch. If this berm does not fully protect against discharges into state waters, then the berm height or length or width may need to be increased to prevent polluted discharges.**

Photos Taken:  Yes  No

Sample Taken:  Yes  No

**Additional Comments**

Comments:

**Ecology Contact Information**

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Inspector Signature: Chris Luerkens

Date: July 23, 2013