

Livestock and Water Quality Site Visit

Site Visit Information	<input type="checkbox"/> First Visit	<input checked="" type="checkbox"/> Follow-up Visit
Prepared by: Jessica Kirkpatrick	Arrival Time: 10:18 AM	Departure Time: 11:15 AM
Date: 3/26/2013	Current Weather Conditions: Sunny and dry.	

Owner/Operator Information	
Name: Tom Crabtree	Street: 9331 Hammer Road
City: Lynden, WA	Zip Code: 98264
Phone: (360) 722-2604	Email: thomcrabt@aol.com

Site Information	
County: Whatcom	Watershed: Squaw Creek, tributary of Johnson Creek which flows into the Sumas River
<p>General site description (include information about nearby waterbodies and description of farm conditions): In response to a citizens water pollution complaint (ERTS # 638468) water quality inspector Chris Luerkens and I conducted a complaine inspection of Mr. Tom Crabtree's property to evaluate complaine with Washington State's Water Pollution Control Law (RCW 90.48). Mr. Crabtree met us onsite and was very cooperative. Mr. Crabtree's property is approximately a 10 acre parcel that is bisected from northwest to southeast by Squaw Creek. During a previous inspection conducted on November 1, 2012 water quality inspector Mak Kaufman identified several areas of this farm where animal management practices caused or had the potential to cause pollution to enter Squaw Creek.</p> <p>Mr. Crabtree has implemented BMPs that were recommended by inspector Kaufman as a result of conditions observed during the November 1st inspection. However, he has moved several horses to the South pasture over the winter causing it to be severly overgrazed and manure to accumulate in large piles. This pasture slopes steeply toward a culvert that drains to Squaw Creek (see photo 6) and the low end of the pasture is saturated with standing water during the winter months (see photos 2 and 3). Additionally, runoff from the Pangborn roadside ditch drains across the southeast corner of the pasture and into Squaw Creek during the winter months (see photo 2). Approximately five cows have recenlty been brought to a half-acre enclosure on the North side of Squaw Creek (see photo 10) and Mr. Crabtee stated that he had plans to bring five more cows to that pasture in the near future.</p>	

Site Evaluation

Stream Corridor and Areas Near Surface Water		<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<input checked="" type="checkbox"/> Bare, exposed, eroding soils	<input checked="" type="checkbox"/> Absence of woody vegetation		
<input checked="" type="checkbox"/> Contaminated run-off (active or potential)	<input checked="" type="checkbox"/> Manure accumulations		
<input type="checkbox"/> Slumping stream banks and erosion	<input type="checkbox"/> Animal access to surface water		
<input checked="" type="checkbox"/> Overgrazing of grasses	<input checked="" type="checkbox"/> Livestock paths and trails along riparian areas		
Comments: Animals have been fenced out of the riparian corridor along Squaw Creek that bisects his property (See photo 8). However, surface water is flowing across the southeast corner of the south pasture where horses were pastured through the winter months (see photos 1, 2, and 3). This water drains into a culvert at the			

edge of the property that discharges into Squaw Creek (see photo 6). The area around this surface water is severely overgrazed and trampled, and manure has accumulated in large piles. Mr. Crabtree has recently installed a temporary fence to keep the animals on the north half of this pasture, away from the surface water draining into the culvert (can be seen in photo 3).

Confinement Areas	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<input checked="" type="checkbox"/> Distance to surface water <input checked="" type="checkbox"/> Presence of mud and manure <input checked="" 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 checked="" type="checkbox"/> Adjacent land slopes toward surface water	
<p>Comments: Animals have now been restricted from areas that flow toward Squaw Creek and straw mulch has been spread in the disturbed area near the creek(See photo 8). A fence has recently been installed to confine horses to the north half of the south pasture. The area that the horses are now confined in is completely denuded of vegetation and has deep accumulations of mud and manure (see photos 3-5). This area slopes towards the low end of the south pasture, which has standing water that flows to the culvert and discharges towards Squaw Creek during rain events. Mr. Crabtree was advised that additional manure management BMPs such as heavy use area protection and a manure storage structure may be necessary to prevent contamination from discharging from this area.</p>		

Stock Water	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<input checked="" type="checkbox"/> Distance to surface water (80 ft) <input type="checkbox"/> Overflow from tanks on to the ground	<input checked="" type="checkbox"/> Mud and standing water at tanks <input type="checkbox"/> Animals accesses stream for stock water	
<p>Comments: Off stream watering facilities have been installed for both the cattle in the north pasture and the horses in the south pasture.</p>		

Upland Pasture Areas	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<input type="checkbox"/> Animal access to stream corridors <input checked="" type="checkbox"/> Distance to surface water (50-80 feet on land that slopes toward surface waters. ft)	<input checked="" type="checkbox"/> Signs of overgrazing and erosion <input checked="" type="checkbox"/> Manure accumulations and bare ground	
<p>Comments: The south pasture where Mr. Crabtree pastured horses through the winter is severely overgrazed and has heavy accumulations of manure (see photo 1). Mr. Crabtree agreed to prevent this overgrazing in the future by keeping his animals out of the south half of the south pasture during the winter rainy months (approximately October through late June), harrowing in any manure that has accumulated at the end of summer before the winter rains start, and reducing stocking rates as necessary.</p> <p>The north pasture where five cattle have recently been confined to a half-acre area is not overgrazed. However, Mr. Crabtree has plans to add an additional five cattle (total 10) to this area in the near future. It is unlikely that the grass on the approximately half-acre north pasture can support the ten cattle that Mr. Crabtree has planned for it. This could pose the potential for pollution if mud and manure accumulations are allowed to develop on this confinement area</p>		

Manure Management	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
Current manure management plan? No	Manure stored on covered, impervious surface? N/A year-round pasturing	
Manure collected and stored? No	Applied during growing season? Yes, year-round pasturing	
Manure storage properly sized? N/A year-round pasturing	Manure applied during non-growing season? Yes, year-round pasturing	
Manure storage covered? N/A year-round pasturing	Vegetated buffer when manure is applied? No	
Manure being collected often? No	Manure applied or stored off site? No	
Comments: Mr. Crabtree stated that the large piles of manure in the South pasture are the result of two winters accumulation in the barns and that he plans to spread this manure on his pastures this summer (see photo 7).		

Other Areas of Concern
Comments:

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 75 ft from surface to prevent risk of water quality impacts (minimum of 75ft)
<input checked="" type="checkbox"/> Collect manure frequently and store it in a dry, covered area with an impervious floor or deck
<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)
<input checked="" type="checkbox"/> Site and design confinement and manure storage areas to prevent pollution of surface and ground water
<input checked="" 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: It is unlikely that the approximately half-acre north pasture can support the ten cattle that Mr. Crabtree has planned for it. Closely monitor the north pasture where cattle are confined for signs of overgrazing and runoff. Reduce the stocking rate or provide heavy use area protection in this area if grasses become overgrazed, manure accumulates, and/or it appears that runoff from this area could reach Squaw Creek.

Photos Taken: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Taken: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Additional Comments
Comments: Mr. Crabtree was advised that cost-share may be available for BMPs on his farm such as heavy use area protection, fencing, and manure storage. He was very cooperative and interested in reducing water quality impacts of his operations. He expressed interest in the cost sharing program for several BMPs when it becomes available.

Ecology Contact Information	
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Conservation District Referral: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Whatcom Conservation District 6975 Hannegan Road Lynden, WA 98264 (360) 354-2035 ccheever@whatcomcd.org

Inspector Signature:



Date: 4/2/2013