

Livestock and Water Quality Site Visit

Site Visit Information	<input checked="" type="checkbox"/> First Visit	<input type="checkbox"/> Follow-up Visit
Prepared by: Jessica Kirkpatrick	Arrival Time: 6:00 p.m.	Departure Time: 7:30 p.m.
Date: 8/1/2013	Current Weather Conditions:	

Owner/Operator Information	
Name: Lee Mobley	Street: 1731 N. Tara Court
City: Lynden	Zip Code: 98264
Phone: 360-303-1434	Email: MobleyLee@ymail.com

Site Information	
County: Whatcom	Watershed: Lower Nooksack (Bertrand)
<p>General site description: Ms. Mobley operates a small farm with 3 cattle and 2 horses on property she owns at 9191 Weidkamp Road in Lynden. The farm has a barn, a concrete slab, and approximately 2 acres of pasture. Because Ms. Mobley's property has only two grazable acres to support 3 cows and 2 horses, her farming operation is classified as a medium to high impact farm. This means she will likely need to institute several complementary best management practices and manage her farm much more intensely to prevent discharges or potential discharges to state waters.</p> <p>An unnamed tributary to McClellan Creek runs along the north side of the north pasture and through the property east of the barn. A field drainage ditch that receives flow only from the Mobley property runs through the middle of the property from west to east and flows into the tributary to McClellan Creek before it discharges from the property. A small pond that is filled by groundwater flows and a drainage ditch to the south of the property is located in the southeast pasture. This pond periodically discharges to the tributary of McClellan Creek during significant rain events in the winter. Ms. Mobley met us on site for this inspection and was very cooperative and stated her intention of working with Ecology to fix the pollution problems on her farm as soon as possible. Mak Kaufman and Chris Luerkens, water quality specialists with Ecology, were also present during the inspection.</p>	

Site Evaluation

Stream Corridor and Areas Near Surface Water	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<div><input checked="" type="checkbox"/> Bare, exposed, eroding soils</div> <div><input checked="" type="checkbox"/> Contaminated run-off (active or potential)</div> <div><input checked="" type="checkbox"/> Slumping stream banks and erosion</div> <div><input checked="" type="checkbox"/> Overgrazing of grasses</div>	<div><input checked="" type="checkbox"/> Absence of woody vegetation</div> <div><input checked="" type="checkbox"/> Manure accumulations</div> <div><input checked="" type="checkbox"/> Animal access to surface water</div> <div><input checked="" type="checkbox"/> Livestock paths and trails along riparian areas</div>	
<div>Comments:</div> <div>1. An unnamed tributary to McClellan Creek runs along the north edge of northwest pasture, and the concrete slab on the north side of the barn before turning south and running along the eastern edge of the barnyard and the southeast pasture (Photos 3, 9, 13, and 14). There is evidence of previous discharges of manure-contaminated water into this stream from the concrete slab (Photos 2, 3, and 4). There are no buffers implemented to prevent manure-contaminated water from discharging from either the northwest pasture or</div>		

the southeast pasture. In one location in the southeast pasture the livestock have access to this tributary (Photo 13). A round corral used for working horses is immediately adjacent to this tributary (Photo 7).

2. A field drainage ditch runs between the northwest and southwest pastures, past the confinement area south of the barn, and discharges into the tributary to McClellan Creek immediately north of the round horse corral (Photos 5, 6, and 8). Livestock have access to this ditch in the southeast pasture (Photos 6 and 13). Livestock are separated from this ditch in the southwest pasture by an electric fence set at the top of the bank. The muddy, manure contaminated confinement area south of the barn extends to the top of the bank of this ditch (Photos 5 and 6).

3. A pond located in the southeast pasture is fed by groundwater and a drainage ditch to the south of the property (Photo 10). The pond discharges via a drainage ditch along the south east corner of the property into the tributary of McClellan Creek (Photo 12). Livestock have full access to this pond when they are in the southeast pasture.

It is evident that operations on this farm have and continue to contribute pollution to all surface waters on and adjacent to the property.

Confinement Areas	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<input checked="" type="checkbox"/> Distance to surface water (0 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: 1. A concrete slab on the north side of the barn extends to within 3 feet of the tributary to McClellan Creek. This slab slopes towards the stream, and has accumulations of manure and a large pile of manure on the west edge. Erosion is visible between the edge of the slab and the stream, indicating that storm water has discharged from the manure-contaminated slab during past rain events. (Photos 1, 2, 3, and 4). This condition has caused the discharge of manure-contaminated water into state waters during previous rain events and continues to pose the risk to do so during future rain events. 2. A winter confinement area used for horses is located on the south side of the barn, between the barn and the field drainage ditch (Photos 5 and 6). The confinement area is muddy and contaminated with manure extends to the top of the bank of the ditch. This condition poses a substantial risk for discharging manure contaminated water into this ditch during rain events. 3. A round corral used for working horses is located immediately adjacent to the tributary to McClellan Creek. The fence of this corral is at the top of the bank of the tributary (Photo 7).		

Stock Water	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
<input checked="" type="checkbox"/> Distance to surface water (30 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: 1. One stock tank is located on the concrete slab to the north of the barn (Photo 2). Because this concrete slab is contaminated with manure and flows directly into the tributary to McClellan Creek, the overflow and drips from animals watering at this tank pose a direct risk of discharging manure-contaminated water into the stream. 2. One stock tank is located between the round horse corral and the winter horse confinement area, directly above a culvert that conveys the field drainage ditch. The drainage ditch outlets less than 20 feet from the stock tank. The ground around the stock tank did not appear to be excessively trampled, and did not appear to overflow, however this stock tank is located too close to the ditch (photo 8) to be protective of water quality.		

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 (3 ft)	<input checked="" type="checkbox"/> Signs of overgrazing and erosion <input checked="" type="checkbox"/> Manure accumulations and bare ground	
<p>Comments: The pasture areas appear to be overgrazed (vegetation is less than 1 inch in height in most places) and heavily trampled and there are visible accumulations of manure in the pastures (Photos 8, 9, 10, and 13). Animals have been pastured to within 0 feet of surface water in multiple locations (Photos 5, 6, and 9). The southwest and northwest pastures are sloped towards the field drainage ditch. When animals are pastured in the southeast pasture they have direct access to the field drainage ditch, the pond, and the tributary to McClellan Creek (Photos 6, 10, and 13). This condition poses the substantial risk of discharging manure contaminated water into state waters during rain events.</p>		

Manure Management	<input checked="" type="checkbox"/> Evaluated	<input type="checkbox"/> Not Evaluated
Current manure management plan? no Manure collected and stored? Some of it. Manure storage properly sized? No. Manure storage covered? no Manure being collected often? Not often enough.	Manure stored on covered, impervious surface? no Applied during growing season? Yes. Manure applied during non-growing season? No. Vegetated buffer when manure is applied? No. Manure applied or stored off site? No.	
<p>Comments:</p> <ol style="list-style-type: none"> Ms. Mobley collects manure from the barn and concrete slab on the north side of the barn during the winter and scrapes it into a large pile located on the western edge of the concrete slab (Photos 2, 3, and 4). The pile is uncontained and is less than 10 feet from the unnamed tributary to McClellan Creek. This condition has caused contaminated discharges to the tributary to McClellan Creek during past rain events, and continues to pose that risk during subsequent rain events. Manure is not collected often from the horse confinement area on the south side of the barn. This condition poses a substantial risk for discharging manure contaminated water into this ditch during rain events (Photos 5 and 6). Manure has been spread over the pasture areas to within 10 feet or less of the unnamed tributary of McClellan Creek and the field drainage ditch (Photos 9 and 12). This condition poses a substantial risk for discharging manure contaminated water into state waters during rain events. 		

Other Areas of Concern
<p>Comments: The barn only has roof gutters on one side, and this gutter is in disrepair. This is contributing runoff water to manure-contaminated areas around the barn.</p>

Corrective Actions

Below are both immediate actions I recommend you take to reduce the ongoing threat of discharges and long term recommendations to ensure your farm does not discharge manure-contaminated water to state waters during the coming rainy season.

IMMEDIATE RECOMMENDED ACTIONS: To remove the immediate threat of contaminated runoff discharging from your operation, Ecology strongly recommends that you take the following actions immediately:

1. Install livestock exclusion fencing to keep animals at least 35 ft from all surface waters.
2. Install off-stream stock water watering facilities and locate them at least 75 ft from surface waters to prevent risk of water quality impacts.
3. As a temporary measure, move the pile of manure north of the barn to a location at least 75 feet from surface waters and cover it with an impervious cover such as a tarp to prevent rain water from coming into contact with it.
4. Remove all manure and manure residues from the concrete slab north of the barn. Do not allow any wash-water used in cleaning this slab to discharge into the stream or other surface waters. Appropriate BMPs should be implemented to prevent all water used in cleaning this slab from discharging into the stream adjacent to it. As discussed during the inspection, an appropriate combination of BMPs could be to install a temporary impervious berm, such as sand bags or sand wattles along the downstream edge of the concrete slab and pump the contaminated water into the middle of a pasture while pressure washing. Observe the pump out point to make sure this water doesn't run towards streams. Dispose of this process waste water properly either by land-applying it at agronomic rates in a level, vegetated field at least 35 feet from all surface waters, or by disposing of it at an appropriate waste water facility.
5. Exclude animals, manure, and all potential sources of manure from the concrete slab on the north side of the barn until a permanent measures have been taken (at a minimum including a permanent, impervious physical barrier to prevent storm water from flowing over the pad and, and provide for drainage that will prevent contaminated water from discharging into the stream and an appropriate manure storage structure to handle manure throughout the winter).
6. Remove the manure and contaminated soil from the confinement area south of the barn and apply this to fields at agronomic rates using a 35 foot vegetated buffer. Reseed this area with a heavy application of grass seed to stabilize the soils. Exclude animals from this area until more permanent measures can be installed to prevent discharges of water into the ditch.

To ensure that your farm is able to operate throughout the winter rainy season without discharging manure-contaminated water, Ecology strongly recommends that you take the following actions before the fall rainy season begins. (Fall rains present the risk of runoff. Western Washington's fall and winter rains generally commence in October):

7. Develop **and fully implement** a farm plan that addresses manure management, and nutrient management and meets at least the following minimum recommendations. I recommend that you contact a technical service

provider to develop this plan. The Whatcom Conservation District is a good source of this assistance. If your technical service provider provides recommendations that do not meet the minimum recommendations below, Ecology will consider those BMPs as alternatives. If the minimum recommendations below are not adopted, Ecology will need to return to the property during a winter rain event to verify that they are effectively preventing discharges of pollutants to state waters. The recommended minimum practices are as follows:

8. Site and design confinement and manure storage areas to prevent pollution of surface and ground water. If these areas are less than 100 feet from surface waters, they should be built with a permanent, impervious curb or berm that will provide total containment of all manure and storm water that falls onto the confinement area.

9. If the concrete slab to the north of the barn will be used for animals or manure storage or transfer it should have an impervious, permanent containment wall or curb that prevents water from discharging into the stream. This will result in contaminated rainwater ponding on the concrete slab and so provisions should be made in the manure management or farm plan to remove this water and direct it to storage. *Alternatively*, reducing the size of the slab used for animals and their wastes and installing a roof over the slab would eliminate the need to deal with contaminated storm water runoff, but a permanent, impervious wall or curb would still be needed to prevent manure from flowing into the stream.

10. Heavy use area protection should be installed for the confinement area to the south of the barn. If the field drainage ditch is not put into an impervious culvert, it should have concrete heavy use area protection and an impervious, permanent containment wall or curb that prevents water from discharging into that ditch.

11. Heavy use area protection should be installed for the round corral used to work horses and animals should not be kept in this corral when they are not being worked. A permanent berm should be installed between the corral and the tributary to McClellan Creek to prevent water from discharging from this corral into the creek. Manure should be collected daily from this corral. Given the close proximity to surface water, manure should be collected from the corral after each use to ensure discharges do not occur.

12. A covered manure storage structure with an impervious floor or deck capable of containing all animal wastes and soiled bedding generated on the farm from October 1 to April 1 of each year (plus any contaminated storm water that will be allowed to fall on impervious confinement areas) should be installed.

13. Collect manure frequently from animal confinement areas and store it in the manure storage structure.

14. Apply manure during the growing season at proper rates and times and use of a 35ft vegetative buffer.

15. This plan should demonstrate either that the amount of manure generated on the farm each winter can be spread at agronomic rates to pastures on-site (not including the minimum 35 ft vegetative buffer) during the summer. If this is not possible, the plan should make provisions for exporting manure off-site.

16. Heavy use area protection should be provided in confinement areas and at stock tanks to prevent run-off.


17. Locate stock tanks at least 75 feet away from surface water.

18. Install permanent fencing to exclude all animals at least 35 feet away from all surface water within and adjacent to the property where the adjacent pasture is flat or slopes towards the stream.

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 <p>Comments: I strongly encourage Ms. Mobley to contact a qualified technical service provider as soon as possible to assist her in developing and implementing a plan that meets the recommendations above. The Whatcom Conservation District ((360) 354-2035, 6975 Hannegan Road) is a good source of technical assistance. If the above recommendations are not fully implemented, Ecology cannot presume the Mobley farm to be in compliance with the Washington State Water Pollution Control Act (RCW 90.48) and will need to return to the property during a winter rain event to verify that any alternative practices are at least as effective as those recommended. I encourage Ms. Mobley to contact me to discuss this plan as it is developed to ensure that it is protective of water quality.</p> <p>Financial assistance may be available to Ms. Mobley for installing these practices. Ms. Mobley should contact Dave Timmer at A Rocha at (360) 961-4061 as soon as possible if she wishes to take advantage of this program.</p>
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Ecology Contact Information	
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Inspector Signature:  _____

Date: August 2, 2013