



Friends of Toppenish Creek

July 29, 2016

Governor Jay Inslee
Office of the Governor
PO Box 40002
Olympia, WA 98504-0002

Honorable Governor Inslee:

This is a letter of concern and request for action addressed to both the executive and legislative branches of state government regarding neglect of the eastern half of Washington State with respect to agricultural pollution. The Washington State Department of Agriculture (WSDA) Dairy Nutrient Management Program (DNMP) fails to adequately address problems in eastern communities. The WSDA DNMP has mis-spent monies that the legislature provided in 2015 and has neglected the areas at highest risk.

We are the Friends of Toppenish Creek, a 501 (C) 3 environmental group with a mission to address the abuses of industrial agriculture. Confined animal feeding operations (CAFOs) seriously damage the land, air and water in Yakima County. We write to you regarding the recently released WSDA report, *Implementation of Nutrient Management Training Program for Farmers*, which is attached.

This document clearly shows that state resources are not directed to areas at highest risk. Approximately 60% of Washington milk cows are located east of the Cascade Mountains and 37% are located in Yakima County but only 8% of the attendees who completed the first round of DNMP training operate on the eastside. Only one out of twelve presentations was made on the east side. Adams, Franklin and Grant Counties with 23% of Washington milk cows received no training. Since this trend is ongoing and long-lasting we must ask if it is intentional.

Background

Dairy products are the second largest agricultural commodity in Washington State. Data from 2013 puts the annual value of Milk at \$1.2 billion, second only to apples which were valued at \$2.18 billion per year. (WSDA, 2016)

There are significant externalities associated with the dairy industry including problems with public health, air and water pollution due to the large amounts of manure produced. A Washington dairy cow typically produces 60 pounds of milk a day and 120 pounds of manure. It is not economically feasible to transport that manure more than 50 miles from a dairy.

Because this is a major disposal problem Washington State funds a Dairy Nutrient Management Program (DNMP) within WSDA at a cost of over \$1.2 million per year. Local Conservation Districts, especially the Whatcom Conservation District and the South Yakima Conservation Districts allocate a major part of their work towards helping dairymen develop nutrient (manure) management plans. Whatcom County Conservation District has an annual budget of ~ \$2 million. South Yakima has an annual budget of ~ \$200,000. For the past five years the WA State Department of Ecology has assigned two permit writers the job of developing a permitting policy to address water pollution related to CAFOs. The South Yakima Conservation District has applied for a \$1.5 million conservation grant to implement soil testing and further education of dairymen. Ecology has spent millions of dollars studying the problem in Whatcom County. The legislature has provided \$2.3 million to the Lower Yakima Valley Groundwater Management Area simply to develop a plan to mitigate agricultural pollution in this area. Implementation of the plan remains to be funded. We face pollution and costs very similar to those in California's Central Valley.

Additional externalities include:

1. Costs to individual families to purchase bottled water. A poverty level family of four can easily spend 5% of their annual income just for water.
2. Costs for well water testing are born entirely by homeowners.
3. Costs for reverse osmosis units. (In 2013 Yakima County returned \$150,000 of state monies designated for this type of assistance to the public in Yakima County. It appears that the county does not have the necessary infrastructure to implement such an outreach program.)
4. Costs for drilling new, deeper wells at around \$70 per foot.
5. Costs for new wells for the Outlook Schools

6. Costs for new wells for the City of Mabton
7. Costs for extra testing and blending of municipal water in the City of Grandview in order to meet state standards.
8. Costs for cleanup of manure spills on Yakima County Roads. This work is done by the county at tax payer expense.
9. Impact on the Lower Yakima River, a stretch of the river that has been classified as a 303(d) impaired body of water for over 20 years.
10. Loss of esthetic and recreational opportunities in the Lower Yakima River where there is major eutrophication.
11. Impact on shellfish harvest in the Puget Sound Area.
12. Impact on salmon runs in the Puget Sound Area.
13. Pollution related health impacts for the 85,000 people who live in the Lower Yakima Valley. Dairy CAFOs are significant contributors to fine particulate matter in the air. This type of pollution is directly associated with increases in heart and lung disease and pre-term births. Among large counties Yakima County has the highest rate of asthma hospitalization, highest rate of hospitalizations due to myocardial infarction and the highest percentage of pre-term births.
14. Impact of eating contaminated fish.
15. Thousands of dollars and personal time spent by private individuals and organizations who attend monthly meetings, provide testimony and data and plead with officials to protect the public.

2015 Legislative Response

Implementation of Nutrient Management Training Program for Farmers

In 2015 the Washington State Legislature appropriated \$575,000 for the purpose of further educating farmers about agronomic application of manures to cropland. Agronomic means that farmers only apply the amount of manures and fertilizers that the crops can use during the growing season. The intent is to prevent excess nutrients (nitrogen and phosphorous) from reaching the ground and surface waters. Funds were dedicated toward:

1. *Develop an accreditation process to track completion of training by individuals who apply manure.*

2. *Upon request from farmers, review land application records (including when, where, and how much manure to apply) to ensure that applications will meet crop nutrient requirements and to protect waters of the state.*
3. *The funds may also be used to increase inspection activities in watersheds, including those areas with impaired surface or ground water.*
4. *Report to the governor and legislature the level of participation and results of the training program. Also, identify gaps in the manure management program, including existing rules and statutory language, and report on a strategy to address those gaps. The final report is due June 30, 2017 and will include a full review of those aspects. The first report was submitted to the legislature on December 31, 2015 and is available on our website.*

As a result of this funding the DNMP increased the number of inspectors in Eastern Washington (60% of milk cows) from one to two. Meanwhile there are three inspectors located in Whatcom County. Whatcom and Skagit Counties are home to 22% of the state's milk cows. The Whatcom Conservation District has twelve people on staff including a doctoral prepared expert in dairy nutrient management. We understand that the South Yakima Conservation District has two people on staff and we are unaware of any advanced education.

Washington State Dairy Statistics

The most recently available (2012) statistics from the United States Department of Agriculture (USDA) National Agricultural Statistics Service (NASS) state that the leading dairy counties in Washington State are:

Yakima County - 99,532 cows (37% of state total)

Whatcom County - 45,562 cows (17%)

Grant County - 28,103 cows (11%)

Franklin County - 24,504 cows (9%)

Skagit County - 13,284 cows (5%)

Snohomish County - 11,181 cows (4%)

(Please note that WSDA numbers for Yakima County are higher. The number of cows here increases by several thousand every year.)

DNMP Workshops

The workshops presented at the time this report was submitted are:

Whatcom County – 1 presentation, 81 participants (27% of total participants)

King County – 1 presentation, 51 participants (17%)

Mason County – 2 presentations, 49 participants (17%)

Snohomish County – 1 presentation, 47 participants (16%)

Pierce County – 4 presentations, 45 participants (15%)

Yakima County – 1 presentation, 23 participants (8%)

What is wrong with this picture?

Soil Testing Results

RCW 90.64 and WAC require dairies to perform soil tests in order to apply manures at agronomic rates. Those test results are kept on the facilities and are not generally available to the public. The Conservation Districts and the WSDA DNMP see the data and provide analyses. It is difficult, if not impossible, for the public to access this data and verify accurate record keeping. To be blunt, environmentalists do not believe that producers are following their nutrient management plans and we question the transparency of the WSDA DNMP.

Table 5 on page 9 of the report, *Implementation of Nutrient Management Training Program for Farmers*, compares data from Whatcom County and Yakima County.

TABLE 5 - Soil test levels (from inspection data)

	# Dairies	# Acres	Soil N Acres Acceptable	Soil N Acres Need Attention
STATEWIDE				
2014	416	168,073	96.8%	3.2%
2016	396	176,610	96.9%	3.1%
YAKIMA COUNTY				
2014	69	28,743	88.1%	11.9%
2016	62	28,878	93.4%	6.6%
WHATCOM COUNTY				
2014	107	32,807	95.3%	4.7%
2016	98	29,007	97.1%	2.9%

Please look closely. The WSDA DNMP studied approximately the same number of acres in both counties – 28,000+ in Yakima and 29,000 in Whatcom. However, Yakima County has over twice as many milk cows. The 2012 NASS data estimated 99,532 milk cows in Yakima County and 45,562 milk cows in Whatcom County. In Whatcom County there are about 1.6 cows per dairy owned acre. In Yakima County there are about 3.5 cows per dairy owned acre. This is too high a concentration. Where are the Yakima producers applying all that extra manure? Who is monitoring it?

In addition, corn acres where manures are most likely to be applied are much higher in Yakima County – 46,182 acres in Yakima County and 15,304 acres in Whatcom County. The WSDA DNMP only assessed 28,878 acres in Yakima County in 2016 but there are 46,182 acres in corn alone, a large potential source of nitrate pollution to groundwater comes from third party applicators. The report simply ignores this issue.

Identifying Gaps

On page 9, the report states:

Director Sandison has established a Dairy Nutrient Advisory Committee that will include members representing a diversity of ideas from a broad cross-section of stakeholder groups, including environmental interests, tribal interests, regulatory and non-regulatory agencies, dairy operators and the shellfish industry. The committee's primary purpose will be to help WSDA identify potential operational improvements to the DNMP and provide recommendations to ensure the program is operating at peak efficiency. This committee is similar to the former Livestock Nutrient Management Program Oversight Committee that completed work in 2006.

This statement worries the Friends of Toppenish Creek because WSDA has not contacted us regarding the committee and we have a vital interest in the outcomes. In 2015 something similar happened. Ginny Prest, Director of the DNMP, told a work group in the Lower Yakima Valley GWMA that

The department in consultation with interested stakeholders shall identify gaps in the manure management program, including existing rules and statutory language, and report on a strategy to address those gaps. The department will develop and begin a process to discuss gaps. To be included:

- o WSCC – Jan 2016 meeting?*
- o Ag & Water Quality Committee – September 29 Yakima ?*
- o WADF Annual Meeting Nov 9-11 Wenatchee*

- o Farm Bureau (prefers to engage in already established committees like Ag & WQ)*
- o Far West Agribusiness*
- o Whatcom Clean Water/Portage Bay Shellfish*
- o Lower Yakima GWMA*
- o WACD, Whatcom, Skagit, Snohomish, Yakima, Othello, and Franklin County Conservation Districts*
- o Commodity groups – Wheat Growers, Wine Grape Growers, Tree Fruit Growers, Hop Growers, Vegetable Growers, Berry Growers*
- o Tribes: Lummi, Nooksack, Yakima, Samish, NWIFC*
- o Environmental stakeholders: Shellfish Coordination group, PSP, Puget Sound Keepers, People for Puget Sound, WA Environmental Council, CARE, **Friends of Toppenish Creek***

This is a persuasive presentation. The problem is that the WSDA DNMP did not include the Friends of Toppenish Creek as Ms. Prest stated. We interact with her on a monthly basis through the Lower Yakima Valley Groundwater Management Area Advisory Committee. She has never discussed this topic with us. We were unaware that the *Dairy Nutrient Advisory Committee* had been established until we read this June 2016 report.

It is difficult to watch from the sidelines as powerful interests craft policy that benefits only small groups and makes life more difficult for the general population. It is unconscionable for state agencies to tell the world that they consult with local people when in fact they do not.

Sincerely,

Friends of Toppenish Creek

The Friends of Toppenish Creek

3142 Signal Peak Road
White Swan, WA 98952

cc.
Yakima Officials
Governor's Interagency Council on Health Disparities
Washington State Department of Agriculture
Washington State Department of Ecology
Legislators

References:

National Agricultural Statistics Service (2012) 2012 Census Volume 1, Chapter 2: County Level Data – Washington State. Retrieved from https://agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/Washington/

Washington State Department of Agriculture (2016) Agriculture: A Cornerstone of Washington's Economy. Retrieved from <http://agr.wa.gov/AgInWA/>

Washington State Department of Agriculture (2016) *Implementation of Nutrient Management Training Program for Farmers* (Attached)

Washington State Department of Agriculture (2015) *Dairy Nutrient Management Program Regulatory Framework Workgroup August 12, 2015* (Attached)

2012 Data from the National Agricultural Statistical Service

County	Farm Acres	% of Farm		Total Cattle	Milk Cows	% of Milk Cows
		Acreage	Corn Acreage			
Adams	1,036,975	7%	15,862	46,445	6,972	3%
Clark	74,758	1%	2,181	16,169	3,574	1%
Franklin	625,047	4%	29,420	93,038	24,504	9%
Grant	963,784	7%	59,467	159,552	28,103	11%
King	46,717	0%	1,945	22,274	8,048	3%
Lewis	132,839	1%	915	26,669	6,215	2%
Skagit	106,538	1%	7,117	30,783	13,284	5%
Snohomish	70,863	0%	4,192	23,888	11,181	4%
Thurston	76,638	1%	0	16,631	5,274	2%
Whatcom	115,831	1%	15,304	87,756	45,562	17%
Yakima	1,780,498	12%	46,182	258,663	99,532	37%
Washington	14,748,107	100%	207,755	1,162,792	266,989	100%

Sources:

USDA National Agricultural Statistics Service 2012 County Data for Washington State.

Available

at https://agcensus.usda.gov/Publications/2012/Full_Report/Volume_1_Chapter_2_County_Level/Washington/st53_2_011_011.pdf

USDA National Agricultural Statistics Service County Summary Highlights: 2012.

Available

at https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1_Chapter_2_County_Level/Washington/st53_2_001_001.pdf

Dairy Nutrient Management Program Regulatory Framework Workgroup August 12, 2015

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Study of the Existing Regulatory Infrastructure Within the Ground Water Management Area

Regulations applicable within the Lower Yakima Valley Ground Water Management Area are identified in the Ground Water Advisory Committee Applicable Regulation Spreadsheet. Representatives of the regulatory agencies responsible for administration of those regulations will be invited to a study session conducted by the Regulatory Framework Work Group of the GWAC in order to learn more about how the existing regulations address potential sources of nitrates to groundwater: what is working, what isn't working and how the regulations or implementation might be improved. The term "regulation" should be understood to mean "statute, regulation, or ordinance," as well as advisory guidance such as "best management practices." It is, of course, legally correct to distinguish between legislation, agency promulgated regulations, and agency-produced recommended behaviors. The more generic "regulations" is used here, however, so as to encourage consideration of the effectiveness of all the governmental management relevant to the groundwater contamination problem.

The following questions are intended to inform and stimulate the thinking of invited representatives in preparation for the study session. While we do not intend to go question by question with each presenter, we ask that presenters review the questions and be as prepared as possible to address them if asked.

1. Which specific regulation are you addressing? Provide the citation where it may be found. Identify the responsible agency personnel.

[RCW 90.64](#), the dairy nutrient management act (DNMA), with cross-over to [RCW 90.48](#), the water pollution control act.

[WAC 16-611](#), nutrient management (rule)

[RCW 43.05](#) Technical Assistance

WSDA DNMP Staff:

Virginia Prest, Program Manager;

Chery Sullivan, Compliance and Technical Specialist;

Dan McCarty, Eastern WA Region Inspector

2. What issue or problem is the regulation designed to solve? What activity does the regulation limit, regulate or control? How is that activity related to the potential for nitrate to be discharged to groundwater? Does the activity contribute to the increase or decline of groundwater contamination?

DNMA addresses water quality issues associated with dairy nutrient management. At the time that RCW 90.64 was enacted (1998) the primary issue of concern was surface water.

The program was transferred by the legislature in 2003 from Ecology to WSDA. At that time, the agencies were directed to work on two things:

- 1) delegating WSDA to provide oversight of the CAFO permit, and
- 2) WSDA authority to provide regulatory oversight for all confined animal feeding operations, not just dairies.

While agencies and stakeholders discussed this for several years, a decision to not continue in this direction was made when the 2006 CAFO permit required only facilities that discharged (to surface water) to obtain and retain a CAFO permit. The 2006 CAFO decision resulted in a greatly reduced number of permitted facilities.

RCW 90.64 was updated in 2009 to require records to demonstrate agronomic application, and the law was updated again in 2010 to provide for penalties for lack of recordkeeping.

All dairies with a grade “A” license are required to develop a nutrient management plan (NMP) that is approved and certified by local conservation district. The elements contained in the NMP are developed by the WA State Conservation Commission.

The primary elements required in a nutrient management plan include a suite of best management practices that meet NRCS practice standards regarding:

- 1) Collection, conveyance and storage of dairy nutrients and process waste water (nutrients) (i.e. milk house, silage, etc), and
- 2) Land applications of all nutrients to prevent discharge to waters of the state including timing, locations and amount (agronomic applications).
- 3) The agronomic application of nutrients decreases the potential for pollutants (nutrients and pathogens) move to surface and ground water.

3. How does the regulation work, i.e., through licensing, registration, standard setting, recommendation of best management practices, reporting, technology, performance monitoring, planning, funding, other approach?

All grade “A” licensed dairies must:

- a. register with DNMP (\$100 penalty for failure to register)
- b. develop a Nutrient Management Plan (NMP) that is approved and certified by the local conservation district (penalties assessed at \$100 per month to a maximum of \$5000)
- c. not discharge to waters of the state (penalties assessed up to \$10,000 per violation per day, matrix in WAC 16-611)
- d. maintain the last five years-worth of required records to demonstrate agronomic application of nutrients (penalties assessed up to \$5000 annually, matrix in WAC 16-611)

NMP standards are set by WA State Conservation Commission

Local conservation districts approve and certify NMP; most of the plans are also developed by local district as well.

WSDA’s DNMP must:

- a. Inspect dairies – Currently we conduct routine inspections every 18 to 22 months in addition to focused inspections (lagoon assessments, in-depth recordkeeping, follow ups) which results in most dairies inspected annually (this does not include investigations).
- b. Monitor development of NMP
- c. Investigate WQ complaints and violations
- d. Maintain a database
- e. Maintain a penalty grant account to be used for education and research to help dairies

4. What metrics does the agency use to measure whether the regulation is effective in reducing nitrate concentrations in groundwater? What means are used to apply those metrics, e.g. inspection programs, monitoring reports, field samples? What data is available reflecting the application of those metrics?

- a. Routine inspections and investigations review required records to determine if nutrients were applied at agronomic levels. Nutrients applied at agronomic rates should be protective of groundwater. DNMP does not have a groundwater monitoring component.
- b. Three of the last five years-worth of soil sample results must show soil nitrate levels below 45 ppm. If above 45 ppm, DNMP will initiate a compliance action.
- c. Records of inspection reports and compliance actions demonstrate the application of 90.64 RCW and 16-611 WAC.

5. What does the agency do to inform the regulated community or the public of the existence of the regulation? What is the agency doing to make it easier for the public to contact the agency (ensure that it is accessible) in order to learn what to do about groundwater contamination? How much has education of the regulated community improved regulatory effectiveness? How is this measured?
- When notified by Food Safety of a new dairy, DNMP notifies dairy of requirement to register, to develop NMP, and of recordkeeping requirements.
 - Maintain a public website, attend public meetings, participate in stakeholder groups, respond to public requests for information
 - Program Effectiveness - Statewide
 - Report quarterly to OFM - Percent of licensed dairy farms and permitted concentrated animal feeding operations (CAFO's) in compliance with their Nutrient Management Plan – Target is 90% for state based Enforcement actions and inspections

<i>Statewide QTR End Date</i>	<i>Target 90% Actual</i>	<i>Percent of dairies and permitted CAFOs in compliance with NMP. (24 month rolling average= Compliance/RT Inspections) Compliance actions/RT Inspections (penalties, notices, orders)</i>	
6/30/2015	94%	394 RT Inspections	
3/31/2015	89%	461 RT Inspections	
12/31/2014	86%	409 RT Inspections	
9/30/2014	87%	447 RT Inspections	
6/30/2014	87%	436 RT Inspections	
3/31/2014	95%	431 RT Inspections	
12/31/2013	91%	551 RT Inspections	
9/30/2013	88%	422 RT Inspections	

- Effectiveness of Agronomy and Recordkeeping
 - Steady increase in compliance. In 2004 approximately 45% maintained **any** records.
 - Recordkeeping required in statute beginning July 2009 but recordkeeping requirements not specified in WAC (rule) until Oct 2012
 - Recent review of inspection report data show an **increase to 92% compliance meeting soil test levels lower than 45 ppm**. Producers have asked for us to develop some recordkeeping forms and to provide training in topics that range from agronomic rate calculation, irrigation water management, how to interpret a soil sample, etc...
 - Two well attended workshops were conducted in January 2015, largely paid for by DNMP Penalty grant funds. Attendees (mostly dairy producers) asked for more training.

	<i>NMP Acres</i>	<i>Actual Acres</i>	<i>Soil N >45ppm</i>	<i>Acres need attention</i>	<i>Comments</i>
2014/15	18,604	21,561(↑16%)	1616	7.5%	
2012/13	19,420	25,596(↑31%)	3143	12.3%	Acreage acquisition, some with elevated soil nitrate levels
2010/11	15,693	14,637(↓7%)	445	3%	Records required as of 2009

6. Is the regulatory activity coordinated or integrated with that of other agencies? Does it conflict with any other agency's requirements? Where coordination, integration or assistance from other agencies' programs are important, has that been forthcoming? Was it helpful? If not, why not?
- WSDA works with its sister agencies, Ecology, WSCC, and DOH, to develop strategies to and identify gaps in authorities. While DNMP implements the DNMA, we coordinate with Ecology through guidance of MOU.
 - WSDA also coordinates with EPA to conduct inspections, primarily in north Puget Sound counties.
 - WSDA's implementation of the DNMA does not conflict with Ecology's requirements.
 - Ecology reviews recommendations for enforcement in case involving a discharge to surface waters.
 - Relationships with Ecology are generally good, particularly in the regional offices.
 - DNMP has assisted ECY in work with non-dairy producers, primarily in North Puget Sound counties.
7. Does the general authorizing statute of the agency provide any overarching or guiding principles or purposes that are incorporated within the regulatory approach taken by those responsible for administering the regulations? If so, what are they?
- a. RCW 43.23 does not clearly address the regulation of water quality issues.
8. Would the regulation be more effective if administered by a different agency?
- a. No
- WSDA has the expertise to assist dairy producers and non-dairy producers to meet the water quality regulatory requirements. DNMP can not only point out what the issue is but also provide teach the why and the how to fix.
- DNMP has consistently taken a proactive approach with the dairy industry and progress has continued as is evident by compliance data.
- In the last 5 years, markets have increased the use of manure to meet nutrient needs and improve soil health in many cropping systems including tree fruit, grape and organic crop production. Manure and manure products provide N,P,K nutrients and trace/micro nutrients. Manure and manure products build organic matter, increase soil and water holding capacities, decrease water input needs and increase water conservation.
9. How much voluntary compliance with the regulation occurs? If the regulation is advisory, as with recommendation of best management practices, how is voluntary compliance measured or monitored?
- a. Although it is required for everyone to protect surface and ground water, the majority of compliance with water quality regulations is voluntary.
 - b. Dairy operations are the only industry that is required by statute to develop a nutrient management plan and maintain records to demonstrate agronomic applications.
 - c. The regulation is both advisory, requiring dairies to adhere to best management practices, and directive, requiring dairies to prevent discharges to waters of the state, and to have a certified and updated nutrient management plan that provides best management practice (NRCS practice standards) to meet the requirements of RCW 90.64.

10. What reasons are given by those who do not comply? Standard set too high/unachievable? Regulation too complex/not understandable? Rapidly changing regulatory environment? Time needed to realize compliance? Necessary technology not available? Economic infeasibility? Money management/availability (grants/funding)? Opposition to governmental interference? Opportunism/assessment of risk of enforcement? Regulatory aggressiveness?
- a. Accidental, unintentional, equipment failure, ignorance of the laws, rules, and BMPs, economics, opportunities missed, aging infrastructure, shrinking land application acreage
11. Are you aware of examples of enforcement actions taken within the GWMA that have reduced nitrate levels in groundwater? Which agency was involved and when did they occur? Is it possible to quantify those reductions?
- a. Enforcement actions taken within the GWMA include:
 - i. Warning letter for nutrient balance
 - ii. Notice of Correction for nutrient balance
 - iii. Notice of Correction for recordkeeping
 - iv. Notice of Penalty for recordkeeping

See tables with Yakima County data towards end of document
 - b. WSDA issues compliance actions and provides copies to Ecology, EPA, and the local conservation districts.
 - c. The program's goal is to reduce the source of pollution by requiring nitrate losses below the root zone to be minimized and prevented. **Additional data is provided in the table under Question 5 that shows an increase in acreage overall and a reduction in acreage that have soil test levels in excess of 45 ppm (~160#/A) (less than 8% in the last two years, down from 12% the previous two years).** As this trend continues, the potential for negative impacts from land application of dairy nutrients to groundwater will continue to decline.
 - i. Changes to RCW 90.64 in 2009 to require recordkeeping to demonstrate agronomic applications were a major step taken by the dairy industry and the legislature toward our goal to reduce nitrate levels in groundwater.
 - ii. Recordkeeping requirements were finalized in rule (WAC 16-611) in Oct 2012.
12. Are you aware of examples where education, outreach or enforcement actions within the GWMA have had positive or persuasive influence on other members of the regulated community resulting in greater voluntary compliance? Is it possible to quantify that greater voluntary compliance? Which approach has the most positive results?
- a. In January, 2015, education was provided to approximately 50 people, including dairy producers and their key staff, regarding agronomy and recordkeeping.
 - b. Recently dairy producers asked for additional information regarding their recordkeeping requirements.
 - c. Dairy producers are participating in DSSP through GWMA.
 - d. The 2015 budget includes additional money to DNMP for the next biennium to increase inspections, provide additional educational opportunities for all farmers and evaluate existing regulatory requires to identify gaps. See additional information in the section regarding the 2015 Proviso.

13. Does compliance differ in different subareas or different subgroups within the GWMA? If so, why?
 - a. Yes. Most producers are complying with the requirements of the DNMA and following their NMP, however a small percentage does not. This percentage continues to shrink. In many cases, they tell us they did not know that their actions were negatively impacting water quality, so DNMP has had to do a much better job of using the tools we have available including education, technical assistance, and taking consistent and timely enforcement actions.
14. Were existing practices or facilities permitted to continue when the regulation was adopted? If so, do the continuing facilities or practices represent a significant potential source of nitrates?
 - a. Some NRCS practices are “grandfathered” in which may not be as protective of the groundwater as current practices.
 - b. Generally, I don’t believe the continued practices represent a significant potential source of nitrates.
15. Does the regulation establish penalties for non-performance?
 - a. Yes, for discharge to waters of the state (generally surface water) and lack of recordkeeping
16. What is the litigative exposure of parties that do not comply with the regulation?
 - a. It depends...litigation happens.
17. Does the regulation use any complaint or notice process to cause the agency to take action?
 - a. Yes, complaints via public to DNMP are one way to trigger an investigation, as are complaints received through Ecology’s Environmental Report Tracking System.
18. What course of action does the agency take when made aware of cases where the regulation is not being followed?
 - a. DNMP conducts inspections and investigations. If an issue is identified, our path is as follows:
 - i. Regulatory technical assistance
 - ii. Warning Letter
 - iii. Notice of Correction
 - iv. Notice of Penalty (Administrative Order is also possible, but infrequently used)
19. Does the regulation identify a method to prioritize agency actions in responding to cases where the regulation is not being followed? How does the agency prioritize its response if the regulation does not identify a method?
 - a. Yes, see compliance path above. If a discharge occurs, WSDA *could* go straight to formal enforcement (Penalty or Order) if it meets the criteria as outlined in [RCW 43.05](#).
20. How far is it between the agency or its personnel and the GWMA? Does the physical distance affect the ability of personnel within the agency to be “in the field,” to be aware of public concern within the area, to know the regulated community, to understand the difficulty of compliance with the statute or regulation?
 - a. DNMP has a field inspector located in Yakima.

21. What level of education, training or special knowledge is necessary to implement the agency's regulatory authority?
 - a. Bachelor's Degree involving a major study in environmental, physical or one of the other natural sciences, environmental planning or other allied field, and two years of professional level experience in environmental analysis. Understand and be able to clearly communicate the rules and regulations associated with the position. Collect, analyze, evaluate, and interpret data.
22. Is the current organization or management of the agency structured to enhance administration of the regulation?
 - a. Generally yes.
23. How is the regulatory activity funded? Is it certain and predictable (e.g., tax revenue) or unpredictable (e.g., legislative appropriation)?
 - a. General fund
 - b. It is predictable
24. Is the agency fully capable, due to availability of personnel, training or funding, to respond in cases when the regulation is implicated? If not, what additional personnel, training or funding are needed? If additional personnel or funding were available what would the agency do that it is not now doing?
 - a. The DNMP has 5 FTEs including 1 program manager and 4 inspectors. 1 FTE is assigned to conduct inspections and investigations east of the Cascades. The program can and does respond to discharges to surface waters.
 - b. Issues around agronomic application of nutrients are generally identified during routine inspections and record reviews. When adequate records are not available, it is difficult to determine if the applications are at or below crop needs. **It is a slow process, but good progress has been made in keeping records from less than 45% in 2004 to its current level of 82%.** The biggest increases have come after the program identified what records are required to determine agronomic applications in WAC 16-611 in late 2012.
 - c. Agricultural producers who apply nutrients would benefit from a better understanding of how nutrients impact water quality; this could be provided by additional education or they could work with professionals with agronomy expertise.
 - d. Agricultural producers could benefit from online recordkeeping tools and programs to track and calculate agronomic applications.
 - e. Additional DNMP staff could increase oversight and provide additional regulatory technical assistance to dairies. The agency would benefit from additional funding for database development to track information.
25. Does the regulation provide incentives or disincentives to induce preferred performance?
 - a. It depends on your point of view. A penalty is a negative incentive, but sometimes effective at inducing preferred performance.
26. Has the regulation caused opposition or dissatisfaction within the regulated community?
 - a. Yes, some in the regulated community have expressed their frustration about being singled out as an industry. It is well accepted that a molecule of nitrogen is a molecule of

- nitrogen, regardless of source (out of the back end of a cow or a bag of commercial fertilizer), but dairy producers continue to be the only agricultural producers that are required to be accountable for their nutrient applications.
27. Does the regulation cause economic dislocation in the GWMA community? To the regulated parties? To others?
 - a. Not as it currently stands.
 28. Does the agency currently contemplate any alterations to the regulation?
 - a. Yes, several strategies are being evaluated:
 - i. Improvements to RCW 90.64 to include requirements to follow NMP, specifically regarding lagoon operation and maintenance, requirements to apply all nutrient at the right time, in the right place, and in the right amount to prevent discharges to surface water and to minimize impacts to ground water with penalty for lack of compliance.
 - ii. Improvements to WAC 16-611 to include additional requirements including deeper soil sampling, additional soil testing parameters, and extended weather recordkeeping requirements.
 - iii. Providing additional education opportunities and tools to help producers make more informed decisions regarding land applications of nutrients to ensure they do not exceed crop needs.
 29. Is the regulation current? Is it adequate to address the problem it was designed to solve? If not, do you have any ideas on how it could be changed to be more effective or to improve compliance, e.g. modification of standard, modification of penalty, etc.?
 - a. The regulation could be improved to address all nutrient applications on all fertilized crop land.
 30. Are you aware of regulatory or non-regulatory approaches utilized in other areas with similar problems that could be utilized in this GWMA?
 - a. There are many states looking at a wide variety of strategies to reduce the negative impacts of over-applications of nutrients.
 31. Are you aware of proponents for alternative regulatory or non-regulatory approaches, including the development of public infrastructure, that would address the same problem or the same regulated community? Who are they? What alternatives do they recommend? Do you agree with the recommendations, or do you have other ideas for alternative regulatory or non-regulatory approaches to achieve better results?

Inspection/Compliance Yakima County

Path to Compliance

Potential to Pollute Warning Letter→Notices→Penalty for recordkeeping only
 Discharge, Surface Notices→Penalty for discharge

Last 5 years (July 1, 2010 through June 30, 2015) Yakima County Data

Inspections	Routine	167	
	Follow-up	10	
	Investigations	50	
	Focused (lagoon, etc)	47	
	Total	274	
Compliance	Penalties	4	1 AMM 3 LARK
	Notices	19	1 AMM 7 LARK 7 LAFC/NB 3 LS/CS 1 MT
	Warning Letters	45	1 AMM 26 LARK, 16 LAFC/NB 2 LS/CS
	Total	65	35 producers, primarily regarding recordkeeping 15 producers with more than 1 compliance actions

AA: Animal Access	0
AD: Access Denied	0
AMM: Animal Mortality Management	3
LS: Lagoon Storage/CS: Collection System	5
LAFC: Land Application: Field Conditions/Nutrient Balance	23
LARK: Land Application: Recordkeeping	36
MT: Manure Transport Issues	1

Budget Update – Proviso 2015 Budget

The proviso made it through the budget process. Below is the language with **tasks highlighted**
My notes and dates are in red.

- **\$575,000** of the state toxics control account—state appropriation is provided **solely to implement a nutrient management training program for farmers that provides training in agronomic application of dairy nutrients**, as defined in RCW 90.64.010. The department shall **develop an accreditation process to track completion of training by individuals who apply manure**. The department shall also **offer to willing farms to review agronomic application of dairy nutrients**, as defined in RCW 90.64.010, used in crop production, including **when, where, and how much manure to apply to meet crop nutrient requirements and to protect waters of the state**.
 - These funds may also be used to **increase inspection activities in watersheds, including those areas with impaired surface or ground water impairment**. *DNMP plans to fill the two temporary positions, one to be housed in Lynden and one will be housed in Yakima. Expect to be completed by September 15, 2015*
- **The department in consultation with interested stakeholders shall identify gaps** in the manure management program, including existing rules and statutory language, and report on a strategy to address those gaps. *The department will develop and begin a process to discuss gaps. To be included in discussion. To be included:*
 - WSCC – Jan 2016 meeting?
 - Ag & Water Quality Committee – September 29 Yakima ?
 - WADF Annual Meeting Nov 9-11 Wenatchee
 - Farm Bureau (prefers to engage in already established committees like Ag & WQ)
 - Far West Agribusiness
 - Whatcom Clean Water/Portage Bay Shellfish
 - Lower Yakima GWMA
 - WACD, Whatcom, Skagit, Snohomish, Yakima, Othello, and Franklin County Conservation Districts
 - Commodity groups – Wheat Growers, Wine Grape Growers, Tree Fruit Growers, Hop Growers, Vegetable Growers, Berry Growers
 - Tribes: Lummi, Nooksack, Yakima, Samish, NWIFC
 - Environmental stakeholders: Shellfish Coordination group, PSP, PugetSoud Keepers, People for Puget Sound, WA Environmental Council, CARE, Friends of Toppenish Creek

Expected start date: October 2015
Completion date: December 2016
Report to Legislators: June 2017
- This program shall be a two-year pilot and the **department shall report to the governor and the legislature** by December 31, 2015, June 30, 2016, and on June 30, 2017, on the level of participation and results of the program.

Report to Legislators: Formally Dec 2015, June 2016 and June 2017
Will report quarterly to Senate and House AG committees, Governors policy office
- **In developing the curriculum for agronomic education and certification programs, the department will provide opportunity for input from interested parties** including: Washington State University, state conservation commission, department of ecology, conservation district staff, representatives from agricultural, livestock, and crop organizations, environmental organizations, tribal government representatives, and certified crop advisers. *There is approximately \$75K per fiscal year. Initial suggestions for curriculum below. Input will be sought from*
 - WSU: Joe Harrison, Troy Peters✓, others

- Technical assistance providers: Commission, local conservation districts✓, private consultants
- Manure brokers and 3rd party land applicators
- Farm Bureau, Far West Agribusiness✓
- Commodity groups – WA Dairy Federation✓, Cattlemans, CattleFeeders, Wheat Growers, Wine Grape Growers, Tree Fruit Growers, Hop Growers, Vegetable Growers
- Tribes: Lummi, Nooksack, Yakima, Samish, NWIFC
- Environmental stakeholders: Shellfish Coordination group, PSP, PugetSound Keepers, People for Puget Sound, WA Environmental Council, CARE, Friends of Toppenish Creek

Expected start date: Discussions regarding curriculum July 2015; Solicit grant proposals Oct 2015 and again Oct 2016, First year of training sessions Jan – April 2016, Second year training sessions Jan – April 2017

Curriculum

1. *Agronomic rate - What do I need to calculate? Crop needs? What is available in the soil? How much is available in the manure? How do you calculate?*
2. *Agronomic rate - Equipment calibration*
3. *Agronomic rate - Soil testing protocols, manure testing protocols*
4. *Irrigation - scheduling methods, irrigation system calibrations, nozzles, eT/soil water measurements, scheduling, records*
5. *Weather – forecast*
6. *Setbacks –*
7. *Risk analysis*
8. *Recordkeeping*
9. *? Feed Management*
10. *Manure separation strategies*
11. *CAFO Permit*

DNMP – Implementation Progression (Timelines)

1998

Act establishing program requiring nutrient management plans to be developed, approved and certified, establishing NRCS practice standards as the default technical standards and requiring inspections. Compliance is performance based so field enforcement is tied to having a discharge.

1998-99

Conservation Commission established 20 minimum elements required for the plans to be approved. Elements included both infrastructure and management elements to protect both surface and groundwater.

1999- July 2002 CD and NRCS: Plan development and approval required

- Infrastructure investment by state and NRCS: State funding provided to conservation districts to develop the plans and for cost share to dairies to implement the plans. Implementation included construction or improvements of infrastructure for manure collection and storage in lagoons, concrete pads and curbing to contain contaminated water, gutters and downspouts to keep clean water clean, pumps and irrigation equipment.
- Planning and various calculations were done to balance and properly manage nutrient storage capacity and proper applications on land managed by the dairies. Generally, implementation of agronomic management practices was postponed while focus was on getting infrastructure in place.

1998-July 2002 Ecology inspections, compliance and CAFO permit

- Up to 7 inspectors located in Yakima, Lacey, Bellevue and Bellingham spent some part of their time on systematic inspections of dairies, identifying and documenting surface water quality issues from facilities and fields.
- Close to 100 dairies had documented discharges and were put under the Dairy General CAFO permit which required full implementation of their dairy nutrient management plan.
- As infrastructure improvements were constructed and most plans were completed.

July 2002-Dec. 2003 Plan certification (implementation) required

- Implementation requires ongoing facility management and agronomic applications. Districts and NRCS continued with infrastructure improvements and worked to some extent with operators on soil and manure testing, cropping, application methods and timing to ensure agronomic applications.
- Compliance continued to focus on surface water impacts.
- Ecology tracked plan approvals and certification.

July 2003

- Program shifted to WSDA with half the inspection resources (2 ½ inspectors).
- Initial program organization was slow but in place by spring 2004 and fully functional by July 2004.
 - WSDA led meetings and discussions of the Development and Oversight Committee (DOC) and sub-committees on state livestock and CAFO program elements, including compliance with water quality standards surface and ground, technical standards and regulatory requirements to meet EPA delegation requirements.

2004 WSDA implementation

- WSDA staff looked closely at records and discussed with operators the need to keep and use them. Inspectors identified need for operators to have good direction on soil and manure testing. They noted informally that maybe only 15% were keeping and using records to manage agronomic applications.

- Program determined that 2 ½ inspectors was insufficient to cover all of Puget Sound and Whatcom. Consequently staff coordinated with industry leaders and other stakeholders in order to get funding for additional Puget Sound inspector.
 - Ecology begins new CAFO permit development and includes groundwater monitoring, Ecology negotiated with stakeholders to drop monitoring wells from the permit, to include an element focused on lagoons for potential leaking and to increase emphasis on records under the permit. Ecology agreed to put more emphasis on groundwater in Whatcom and Yakima.
 - DOC meetings continued and draft legislation was developed expanding dairy act to all livestock Animal Feeding Operations, outlining CAFO program to be consistent with federal program and incorporating necessary authority for WSDA.

2005 WSDA program development

- Developed fact sheet for operators on soil and manure testing in cooperation with other technical staff from WSU, Ecology, NRCS and CDs.
- Program implementation issues raised by inspectors:
 1. Some plans were not very detailed, difficult for operators to use or did not seem to adequately address WQ issues at operations. Discussions with operators and CD planners did result in some improvements.
 2. Identified state limitation to require ongoing DNMP implementation once certification was achieved, and need to update plans as operations changed. Determined state did not have authority to write rules to improve situation.
 3. Lagoon management issues resulted in ‘emergency’ need for winter applications to protect integrity of lagoons.
 4. 3rd party applicators noted as not getting the same message on agronomic applications and field conditions. Did some communication with them on a case by case basis.
 5. Lack of authority to gain access to a dairy site if access was denied
- Fall 2005 – Lagoon sweeps started this and every fall to check lagoon management and capacity going into winter, primarily in North Puget Sound counties.
- Groundwater nitrate issues in Lower Yakima were raised through complaints on condition of some private wells. WSDA organized some meetings among Ecology, WSDA and local Health with minimal outcomes for homeowner involved.
 - DOC legislative compromise negotiated out but smaller targeted bill was passed
 - EPA CAFO rule court decision limited permits to facilities with actual discharges

2006 Expanded technical assistance role

- Initiated ‘Inter-agency Livestock Technical Assistance Committee’ with cross agency representation. Over two years group assisted Ecology in identifying process to evaluate CAFO lagoons for possible leakage, developed a Technical Assistance Referral process and form for WSDA to use with Conservation Districts and further discussed soil and manure testing and use of data to make management decisions on crop applications.
- Soil test data use: Due to variability in soil testing results, determination was to look at data from at least 3 years to get sense of trend. Soil test trigger numbers were set at: 45ppm N as needing attention to reduce levels, used 30 ppm as a level of concern; 100 ppm P for Eastern WA and 120ppm P for Western WA as the level requiring attention. These levels became regular part of inspection discussions when records were reviewed.

- Expanded DOC discussed state livestock program and WSDA delegation in terms of the federal court decision. After starting all over with a new statute, decision was made to go forward with a split state program that had Ecology responsible for the permit and non-dairy AFOs and WSDA responsible for the dairy program

2007

- Staff noted seeing soil N and P levels dropping at some sites, comments made by some dairy operators that they realized they did not need to buy any or as much fertilizer

2008

- After a series of compliance actions related to poor management of silage, staff worked with other partners to develop a fact sheet on the WQ impacts of silage leachate and better management.
- Discussed with dairy industry the need for record keeping in order to ensure operators have the tools to make agronomic applications.
- WSDA began discussions with Ecology on updating the MOU
 - Oct 2008 Yakima Herald series on groundwater prompted new discussions with dairy industry on groundwater protection and importance of records and agronomic applications
 - DOC sunset

2009

- Legislation passed amending statute to establish warrant authority to access dairies and all records and making it a violation of the statute to not keep records required to show agronomic applications.
- Fact sheet on new records requirement developed and mailed to all dairies.
- WSDA held livestock stakeholder meeting with some discussion regarding implementation of the split livestock program.
- New MOU with Ecology was finally completed and signed
- WSDA began developing records rule to define required records and establish a penalty matrix and worked with local state and federal technical staff on language and approach.
 - Meetings among state and local agencies and public held discussing the groundwater issues in Lower Yakima Valley.
 - WSDA volunteered to pull together initial overview of what was then known about the valley ground water and uses.
 - 3 years of annual reports from permitted CAFOs confirmed there were high nitrate levels at some dairy facilities
 - Ecology initiated effort to move dairy program back to Ecology (Natural Resource Reset)
- Changed program name from 'Livestock Nutrient' to 'Dairy Nutrient' to reflect statutory program focus on dairies
- Range rules to be used during public disclosure process were finalized and adopted as required by RCWs 43.17, 42.56, and 34.05.

2010 Program constraints, compliance issues and best management practices

- A summary of statutory constraints on program effectiveness was developed in preparation for legislative discussions
- Legislation amended statute to establish penalty for records violation and the Natural Resources Reset effort to move the program was dropped

- As a part of cross agency discussions regarding the dairy program and possible improvements, program enforcement actions were analyzed. Nine main categories of compliance issues were identified. Four related to field applications three related to facility infrastructure, one for animal access to surface water and one for problems with nutrient management plan. Applications made with improper field conditions were the single most common problem.
- After a series of compliance actions related to improperly managed filter strips, staff worked with other agency technical staff to develop a fact sheet on proper conditions and use to be effective for both surface and ground water protection.
- Worked with Ecology and NRCS on Bartelheimer lagoon failure in Snohomish Co.
- Worked with stakeholders on Samish River Watershed bacteria issues.
- Participated in various discussions regarding Best Management Practices to protect water quality triggered in part by Ecology's riparian manual
 - Ecology issued compliance order to several permitted dairies with high nitrates
 - Puget Sound funding by EPA to address nutrients and bacteria among other items – discussion among agencies on nutrient management
 - EPA carried out extensive groundwater and source sampling as part of effort to better inform groundwater protection efforts in Lower Yakima Valley

2011

- Expanded activity in Samish Watershed to include some non-dairy work to support Ecology and County in response to Governor's directive to make better progress.
- WSDA coordinated with Ecology on review of NRCS lagoon assessment tool developed partly in response to Bartelheimer failure and partly due to aging of early lagoons. Later signed a grant contract with NRCS to use the tool to do lagoon assessments in Puget Sound. Assessment discussions included concerns over difficulty to evaluate groundwater impact of existing structures.
- Completed draft records and penalty rule revised after input from technical and dairy stakeholders but held back to resolve certain issues with Ecology regarding the penalty matrix
 - 3DT talks rise out of BMP discussions, coordination opportunities regarding Samish work, MOA development between Skagit CD and Ecology and communication issues around the [Ecology and WSDA MOU](#)

2012 Lagoon assessment focus

- Mar- Dec – Lagoon assessments conducted in North Puget Sound counties to field test lagoon assessment process for NRCS
- Sep-Dec - 3DT committee work to evaluate the technical and policy gaps to prevent negative impacts from land applications of manure (WSCC, ECY, WSDA)
- Oct – [WAC 16-611 Nutrient Management](#) finalized

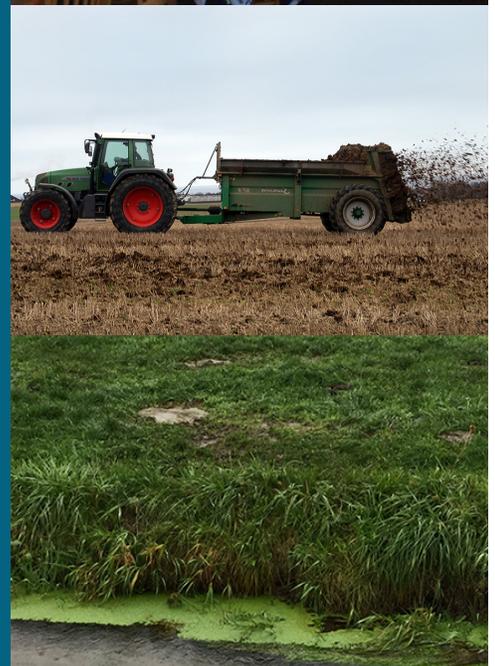


Washington
State Department of
Agriculture

Implementation of nutrient management training program for farmers

Report to the Legislature and
other Stakeholders - June 2016

ESSB 6052 Senate Bill
Section 309(3) (page 120-1)



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AGR PUB 713-533 (N/6/16)

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INTRODUCTION

During the 2015 legislative session, a state appropriation of \$575,000 was included in the FY2015-17 budget to fund additional work to implement a nutrient management training program for farmers that would provide training in agronomic application of dairy nutrients (manure). This work was assigned to the Washington State Department of Agriculture (WSDA). *See Entire text of proviso language*

WSDA assigned responsibility for this project to the agency's Dairy Nutrient Management Program (DNMP). An analysis of the language finds the following requirements to be met:

1. Develop an accreditation process to track completion of training by individuals who apply manure. *See "Training and Accreditation" Page 4*
2. Upon request from farmers, review land application records (including when, where, and how much manure to apply) to ensure that applications will meet crop nutrient requirements and to protect waters of the state. *See "New Inspectors Add Capacity" Page 7*
3. The funds may also be used to increase inspection activities in watersheds, including those areas with impaired surface or ground water. *See "New Inspectors Add Capacity" Page 7*
4. Report to the governor and legislature the level of participation and results of the training program. Also, identify gaps in the manure management program, including existing rules and statutory language, and report on a strategy to address those gaps. The final report is due June 30, 2017 and will include a full review of those aspects. The first report was submitted to the legislature on December 31, 2015 and is available on our website. *See "Identify Gaps" Page 8*
See "Reporting" Page 9

If you need additional information or have questions, please contact:

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TRAINING AND ACCREDITATION - Agronomic application training

From proviso language:

.. The department shall develop an accreditation process to track completion of training by individuals who apply manure. The department shall also offer to willing farms to review agronomic application of dairy nutrients, as defined in RCW 90.64.010, used in crop production, including when, where, and how much manure to apply to meet crop nutrient requirements and to protect waters of the state.

.. In developing the curriculum for agronomic education and certification programs, the department will provide opportunity for input from interested parties including: Washington State University, state conservation commission, department of ecology, conservation district staff, and representatives from agricultural, livestock, and crop organizations, environmental organizations, tribal government representatives, and certified crop advisers. There is \$75K minimum per fiscal year.

TRAINING PROGRAMS

Initially training programs were developed and conducted by the Whatcom and South Yakima Conservation Districts in January 2015 with funding support from penalty accounts established in the Dairy Nutrient Management Act, [RCW 90.64.150](#). The pilot education events, one held in Lynden and one in Sunnyside, were attended by approximately 100 dairy producers and custom applicators.

In July 2015, ESSB 6052 Senate Bill Section 309(3) (page 120-1) provided funding for additional training programs for farmers who apply manure across Washington State. WSDA issued the first request for proposals on September 15, 2015 for agronomic education and outreach. In addition, the agency issued a news release announcing the request for proposals.



Whatcom County: Dairy operators in four-hour manure-nutrient management session hear experts describe best management practices, rules and regulatory updates and required recordkeeping for water quality protection.

Seven proposals were received from conservation districts, Washington State University, and one private organization. Although all of the training events have not been completed at the time this report was compiled, 296 agricultural producers have attended one of the 10 training events completed by local conservation districts; two additional events are planned for late June 2016. Washington State University is planning six additional events by June 2017. A total of \$92,195 is budgeted for these training events. (Table 1.)

In March 2016, a second call for proposals was issued for additional educational workshops and tools that will help farmers to apply manure and protect both surface and ground waters. WSDA has received three proposals from Washington State University and two proposals from local conservation districts to provide 10 additional training events across Washington State.

The training will be offered to agricultural producers who use manure and other sources to provide nutrients in their cropping systems, as well as custom applicators and crop consultants. In addition, WSU will develop a web-based tool to help farmers develop nutrient budgets to meet crop needs while protecting groundwater, and an education program that will inform livestock producers about how feed management can be adjusted to reduce the amount of nutrients in the manure. The total anticipated cost of the second round of proposals is \$104,671.

TABLE 1 - 2016 Training Events Funded to Date

Contract ID	Session Name	Session Sponsor	Session Date	No. of Attendees
K1838	Implementation of a Nutrient Management Training Curriculum for Manure Users	Whatom CD	Jan 27, 2016	81
K1839	Manure Application Training Series - Changing Rein Farm Tour	Pierce CD	Feb 6, 2016	13
K1838	Implementation of a Nutrient Management Training Curriculum for Manure Users	King CD	Feb 10, 2016	51
K1838	Implementation of a Nutrient Management Training Curriculum for Manure Users	Snohomish CD	Feb 11, 2016	47
K1839	Manure Application Training Series - Applicator Training	Pierce CD	Feb 23, 2016	11
K1840	Manure Exchange Education Program - Blueberry Workshop	Mason CD	Feb 27, 2016	32
K1840	Manure Exchange Education Program - Mud & Manure Workshop	Mason CD	Mar 13, 2016	17
K1890	Manure Nutrient Application Workshop for Agricultural Producers	South Yakima CD	Mar 16, 2016	23
K1839	Manure Application Training Series - Pasture Workshop, Ruff Farm	Pierce CD	Apr 20, 2016	12
K1839	Manure Application Training Series - Manure Spreader Demonstration	Pierce CD	May 15, 2016	9
K1896	Managing Manure and Water Quality Concerns on Farms in Southwest	Thurston CD	Jun 24, 2016	
K1896	Managing Manure and Water Quality Concerns on Farms in Southwest	Grays Harbor CD	Jun 28, 2016	
K1937	Developing a Computer Tool and a Field Demonstration for Agronomic and Environmental Friendly Land Application of Manure	WSU-Pullman	By June 2017	
K1892	Tools for Actively Adopting Your Nutrient Management Plan	WSU-Pullman	By June 2017	
TOTAL ATTENDANCE TO DATE:				296

Participants in all the training events included dairy operators, non-dairy livestock producers, crop consultants, custom applicators, berry and other crop producers. Participation by berry growers increased from two participants in 2015 to 48 participants in 2016.

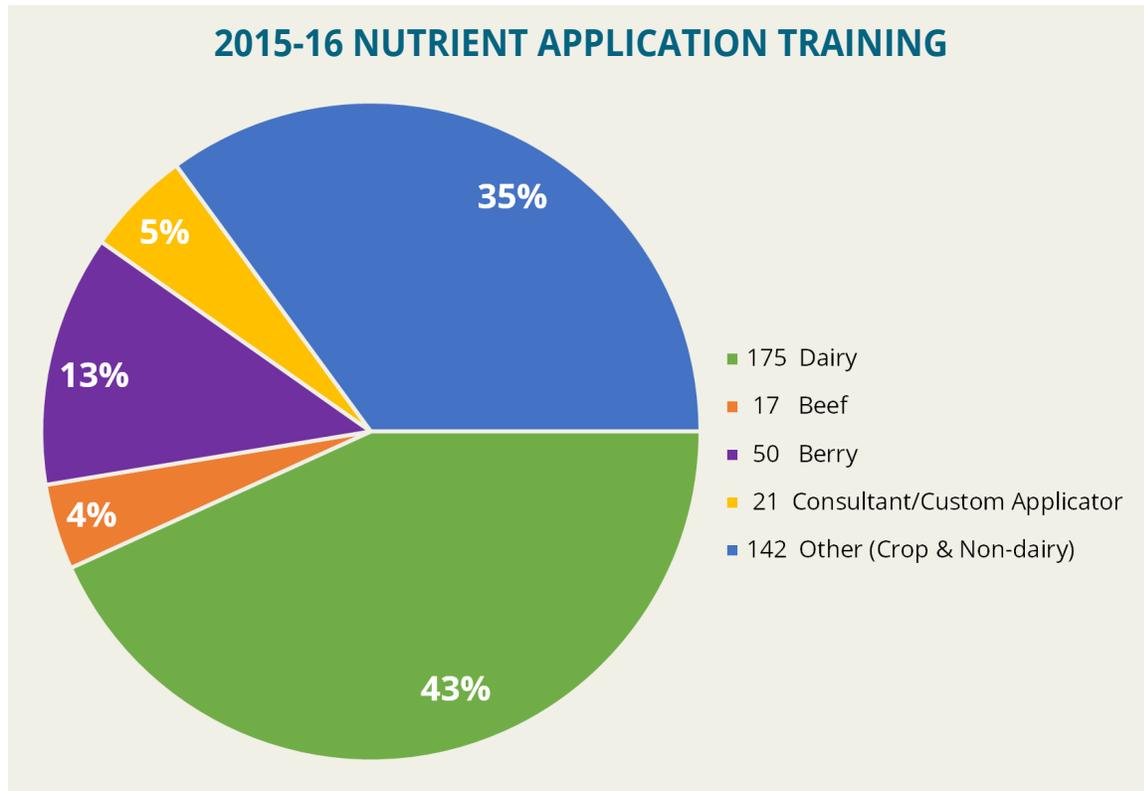


Figure 1 - Participants in Nutrient Management Training by Industry Type

Additional project proposals regarding land application recordkeeping systems, irrigation management, and alternative practices to develop exportable, high-quality nutrient products are expected.

ACCREDITATION (AND TRACKING)

Participants who complete training received a Certificate of Training from the training entity. As a part of each individual grant, the training entity must provide a list of participants to WSDA. WSDA is working with a database contractor to create a module to track participation by individuals and anticipates completion of the database before the final report is due in June 2017. This information will include the participant lists from the initial training sessions in January 2015.

Agronomic Application – the application of nutrients, regardless of source, to maximize plant growth and protect water quality. Applying at the right rate, at the right time, and in the right place are components of agronomic application of nutrients.

NEW INSPECTORS ADD CAPACITY

From proviso language:

.. These funds may also be used to increase inspection activities in watersheds, including those areas with impaired surface or ground water impairment.

DNMP hired two additional inspectors in September 2015 to add capacity to meet the additional work. One inspector was added to the Northwest Region office and one to Eastern Region office. These new inspectors have completed the basic training and are conducting routine and follow up inspections, responding to complaints, and conducting investigations. The new staff are working with dairy producers primarily, but have also worked with other users of manure such as berry producers in Whatcom County and hop producers in Yakima County.

All DNMP staff have participated in local training events to provide information and are committed to doing so at future events.

In addition, the two new inspectors have allowed the DNMP to respond to additional requests from agricultural producers, including:

- Requests for GIS mapping to track and visually display lagoon inspections, land application of manure tracking and water quality sampling activities.
- Requests from producers and stakeholders to share results from water quality sampling as close to real-time as possible. The on-line maps have been available since January 2016 and provide the water quality results within a few days of sampling. The information allows producers to evaluate how the practices they are implementing could be affecting water quality. See on-line map.
- Requests for field walks so producers can talk with our inspectors about preferential pathways existing in individual fields and management practices that could be used by the land applicators of manure to protect surface water quality.



Figure 2- Training new inspectors about water quality sampling.

QUARTERLY REPORTS TO OFM ON COMPLIANCE RATES

WSDA reports quarterly to the Office of Financial Management on the “percent of dairy farms and permitted Concentrated Animal Feeding Operations (CAFOs) in compliance with their Nutrient Management Plan,” as shown in Table 2. Compliance percentage is a rolling average that is calculated using the number of routine inspections (RT) conducted in the previous two-year cycle as compared to enforcement actions for actual discharges to surface water and potential to pollute.

WSDA enforcement actions include:

- Notice of Correction (carries no fine)
- Civil penalty (includes a fine)
- Order (No fine. Orders specific action to stop, clean or prevent a discharge)

TABLE 2 - Quarterly reporting to Office of Financial Management

Quarter	OFM reporting includes 24 months of routine inspections and enforcement actions		
Reporting Date	Routine Inspections	Enforcement Actions	% of dairies and CAFOs in compliance with their nutrient management plan
03/31/16	443	4 Penalties, 31 Notice of Corrections	92%
12/31/15	422	1 Order, 9 Penalties, 33 Notice of Corrections	90%
09/30/15	382	1 Order, 9 Penalties, 32 Notice of Corrections	89%
06/30/15	394	1 Order, 7 Penalties, 29 Notice of Corrections	94%
03/31/15	461	1 Order, 9 Penalties, 43 Notice of Corrections	89%
12/31/14	409	1 Order, 11 Penalties, 44 Notice of Corrections	86%
09/30/14	447	1 Order, 11 Penalties, 48 Notice of Corrections	87%
06/30/14	436	1 Order, 10 Penalties, 47 Notice of Corrections	87%

From the data in Table 2, those cases where the enforcement action involved actual discharges to surface water are highlighted and shown in Table 3. This is information that is not reported to OFM. The table includes the percent of licensed dairy farms in compliance with the state’s Dairy Nutrient Management Act by not having a discharge to waters of the state. The target is a 95% compliance rate, calculated by taking the number of dairies without a documented discharge and dividing by the number of licensed dairies.

For historical perspective, the last four years of enforcement actions includes 44 documented discharges to surface water. Table 4 shows surface water discharges categorized into broad categories of causes. Land applications during unfavorable field conditions leads the group and could include applications on saturated soils, inadequate setbacks from preferential pathways (swales, tile drains, etc.), or the weather.

The other concern from land applications of manure is the potential to apply nitrogen at rates above crop needs and the potential for nitrates to leach to ground water. Inspections between April 1, 2013 and March 31, 2016 include a review of soil tests for land application fields to measure application rates of nitrogen, as well as other nutrients. Results of soil tests reviews are listed in Table 5.

TABLE 3 - Enforcement actions for discharges to surface water

Reporting date	Enforcement actions for discharges to waters of the state	Compliance rate
03/31/16	23	95%
12/31/15	20	95%
09/30/15	15	96%
06/30/15	20	95%
03/31/15	22	95%
12/31/14	26	94%
09/30/14	26	94%
06/30/14	24	94%

TABLE 4 - Discharges to Surface Water (from enforcement data)

Compliance Category	# of discharges to surface water
Land Application: Field Conditions	22
Equipment Malfunction	6
Collection/Conveyance & Storage	14
Animal Access	2

TABLE 5 - Soil test levels (from inspection data)

	# Dairies	# Acres	Soil N Acres Acceptable	Soil N Acres Need Attention
STATEWIDE				
2014	416	168,073	96.8%	3.2%
2016	396	176,610	96.9%	3.1%
YAKIMA COUNTY				
2014	69	28,743	88.1%	11.9%
2016	62	28,878	93.4%	6.6%
WHATCOM COUNTY				
2014	107	32,807	95.3%	4.7%
2016	98	29,007	97.1%	2.9%

IDENTIFYING GAPS

From proviso language:

.. The department in consultation with interested stakeholders shall identify gaps in the manure management program, including existing rules and statutory language, and report on a strategy to address those gaps.

WSDA has begun a process to discuss gaps and strategies to address any identified gaps. Two developments are driving this strategy that the agency will explore over the next six months:

- 1. Adjustments to rules and policies** – The Washington Department of Ecology currently drafting a Concentrated Animal Feeding Operation (CAFO) permit that will provide a starting point for this important work. In addition, WSDA and Ecology have recently updated the Shellfish Closure Response Memorandum of Understanding. WSDA has also enhanced its coordination with partner agencies to ensure consistent communication and coordination around DNMP activities.
- 2. A new advisory committee** - Director Sandison has established a Dairy Nutrient Advisory Committee that will include members representing a diversity of ideas from a broad cross-section of stakeholder groups, including environmental interests, tribal interests, regulatory and non-regulatory agencies, dairy operators and the shellfish industry. The committee’s primary purpose will be to help WSDA identify potential operational improvements to the DNMP and provide recommendations to ensure the program is operating at peak efficiency. This committee is similar to the former Livestock Nutrient Management Program Oversight Committee that completed work in 2006.

REPORTING

From proviso language:

.. This program shall be a two-year pilot and the department shall report to the governor and the legislature by December 31, 2015, June 30, 2016, and on June 30, 2017, on the level of participation and results of the program.

Reporting to:

- Governor
- Legislature
- House Agriculture and Natural Resources Committee
- Senate Agriculture, Water and Rural Economic Development Committee
- Office of Financial Management

With copies to:

- Agriculture
- Ecology
- Washington State Conservation Commission
- Washington Dairy Federation
- Washington Farm Bureau
- Washington Association of Conservation Districts

PROVISO LANGUAGE

\$575,000 of the state toxics control account—state appropriation is provided solely to implement a nutrient management training program for farmers that provides training in agronomic application of dairy nutrients, as defined in RCW 90.64.010. **The department shall develop an accreditation process to track completion of training by individuals who apply manure. The department shall also offer to willing farms to review agronomic application of dairy nutrients**, as defined in RCW 90.64.010, used in crop production, including when, where, and how much manure to apply to meet crop nutrient requirements and to protect waters of the state. These funds may also be used to **increase inspection activities in watersheds, including those areas with impaired surface or ground water impairment**. The department in consultation with interested stakeholders shall **identify gaps in the manure management program**, including existing rules and statutory language, and report on a strategy to address those gaps. This program shall be a two-year pilot and the department shall **report to the governor and the legislature** by December 31, 2015, June 30, 2016, and on June 30, 2017, on the level of participation and results of the program. In developing the curriculum for agronomic education and certification programs, the department will provide opportunity for input from interested parties including: Washington State University, state conservation commission, department of ecology, conservation district staff, and representatives from agricultural, livestock, and crop organizations, environmental organizations, tribal government representatives, and certified crop advisers.



The Dairy Nutrient Management Program (DNMP) was appropriated funding by the legislature in the FY15-17 budget ***“to implement a nutrient application training program for farmers that provides training in agronomic application of dairy nutrients.”*** In developing the curriculum for agronomic education and certification programs, the department (WSDA) will provide opportunity for input from interested parties. The budget will be utilized for agronomic education curriculum grants and tools to help agricultural producers and land applicators of manure make good decisions about when, where and how much to apply.

Application Window: The application period for this program will **open March 1, 2016, and close on June 1, 2016.**

Call for Proposals: The proposed educational opportunity **will provide land applicators of manure with tools and information to make good decisions that include the right amount of nutrients applied in the right place and at the right time.** Educational opportunities could consist of classroom training, field days, or development of tools as a decision aid or a combination to be completed between January 1, 2016, and June 1, 2017. The following subjects related to land application of manure were emphasized during FY15-16 grant cycle:

Agronomic Nutrient Applications – Right Amount, Right Time, and Right Place

- How to calculate? Crop Need? Accounting for all sources
- Soil Testing and Manure Testing Protocols
- Application Risk Management – Weather Forecasting, Setbacks, V-Ditch management and Maintenance Practices
- Application Equipment Calibrations
- Nutrient Application Recordkeeping

Irrigation Water Management

- Soil Water Measurements
- Irrigation Scheduling
- Efficiency/Uniformity
- Irrigation Equipment Calibrations/Maintenance
- Irrigation Application Records

Match Requirement: No match required, but encouraged

Cooperative Projects: Not required, but **strongly** encouraged

Application Criteria: A successful grant application will clearly identify how the proposal helps the agricultural producer and land applicator of manure apply nutrients at the right amount, at the right

place and at right time to achieve compliance with state and federal water quality laws. The proposal should:

- ✓ Describe whether this project is part of a larger or long term project, and if so, how this project fits into the larger project;
- ✓ Describe whether this is a local project or has statewide applicability;
- ✓ Detail any partners that are involved in the project and what their participation is;
- ✓ Clearly define the targeted audience and learning objective;
- ✓ Describe the product; such as educational materials and tools, and how the materials/tools will be delivered.

Application Evaluation: Applications will be evaluated by considering:

- ✓ Quality and clarity of the proposal
- ✓ Education will help the agricultural producer and land applicators of manure achieve compliance with state and federal water quality laws
- ✓ Education will help land applicators of manure protect drinking water sources
- ✓ Education will help land applicators of manure protect shellfish beds

Grant Reimbursement rates: For the purposes of this grant application an agricultural producer means any livestock operator, manager or employee, any crop producer who uses manure in their cropping system, and any custom applicator of livestock manure.

Eligibility: Conservation districts, Land Grant University, or other organizations that can show expertise in agronomic application of manure or irrigation water management.

Application Review: Applications received, will be reviewed and ranked by Dairy Nutrient Management Program staff. Recommendations will be forwarded to the Assistant Director for the Pesticide Management Division who will make the final selection

Restrictions: Grant funds cannot be used to purchase equipment.

Overhead: Not to exceed Federal Overhead 17.7%

Statewide Vendor Registration: The Washington State Office of Financial Management (OFM) maintains a central contractor registration file for Washington State agencies to use for processing contractor payments. This allows many contractors to receive payments by direct deposit. Contractors are required to be registered in the Statewide Vendor Payment system, <http://www.ofm.wa.gov/accounting/vendors.asp>, prior to submitting a request for payment under this Contract. No payment shall be made until the registration is completed.

Applications must **be received in the DNMP office by June 1, 2016**. If you have any questions, you may call Ginny Prest, 360 902-2894 or by email vprest@agr.wa.gov. Applications will be reviewed and selected proposals will be offered grant contract(s) no later than August 1, 2016.

