Dairy Nutrient Management Program

Report of Program Activities

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Acronyms used in this report:

AFO	Animal Feeding Operation
CAFO	Concentrated Animal Feeding Operation
EPA	Environmental Protection Agency
MOU	Memorandum of Understanding
NMP	Nutrient Management Plan
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service (a branch of the US Department of Agriculture)
RCW	Revised Code of Washington
TMDL	Total Maximum Daily Load
WSDA	Washington State Department of Agriculture
WSU	Washington State University

Definitions of Key Terms

Source: Concentrated Animal Feeding Operation (CAFO) National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit, effective 7/21/06, issued by the Department of Ecology.

"**Animal feeding operation**" or **"AFO**" means a lot, or facility that meets both of the following conditions:

(a) It has animals (other than aquatic animals) that have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period; and

(b) Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility where animals are confined.

"**Concentrated animal feeding operation**" or **"CAFO"** means an AFO that meets the size threshold of a Large CAFO or that is determined by Ecology to be a significant contributor of pollutants to waters of the state. A large CAFO dairy stables or confines 700 or more mature dairy cows, whether milked or dry.

"**Manure**" is defined to include manure, bedding, compost, and raw materials, or other materials commingled with manure or set aside for disposal or process wastewater.

"**Process Wastewater**" means water directly or indirectly used in the operation of the CAFO for any or all of the following: Spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other CAFO facilities; direct contact swimming, washing, or spray cooling of animals; or dust control. Process wastewater also includes any water which comes into contact with any raw materials, products, or byproducts including manure, litter, feed, milk, eggs, or bedding.

Executive Summary

WSDA's Dairy Nutrient Management Program implements the state's dairy water quality program and coordinates with the Department of Ecology (Ecology) on the regulation of those dairies and other Concentrated Animal Feeding Operations (CAFOs) that hold a National Pollutant Discharge Elimination System (NPDES) permit.

This report summarizes the inspection and enforcement activities of the Dairy Nutrient Management Program in 2009. It also summarizes significant activities and issues the program was involved with during the year.

There were 448 dairies registered with the Dairy Nutrient Management Program at the end of 2009, a net decline of 17 dairies (4%) from the start of the year. WSDA inspectors conducted 250 routine dairy inspections during 2009, with 73% of these inspections conducted within 22 months of the previous routine inspection, the program's inspection interval goal. Most of the 70 late inspections exceeded the goal by only one month. Inspectors have had to make choices periodically to spend time on higher risk facilities or watershed areas rather than meet the interval goal.

In 2009, inspectors found that 273 (93%) of the 294 dairies they inspected through routine or other inspections had no discharges and were in compliance with their nutrient management plans. Twenty-one facilities had site or management problems that required formal enforcement. Of the 273 compliant dairies, 48 (18%) had less serious issues that resulted in a warning letter from their inspector.

WSDA responded to 30 complaints about dairies in 2009, down from 46 in 2008. These resulted in issuing a total 11 enforcement actions or warning letters. Most water quality complaints related to manure applications to fields. Other complaints involved storage of manure or silage, or animals with access to surface water. WSDA also responded to 26 non-dairy livestock complaints. During the year, enforcement was taken on twelve discharges to waters of the state. This compares to nine discharges in 2008 and 11 in 2007. As in 2008, most of the discharges occurred in Whatcom County.

A total of 22 environmental enforcement actions and 55 warning letters were issued. WSDA tracked administrative compliance with registration and certification requirements more closely than in previous years. Notices of correction were issued to 45 dairies and penalties were issued to 20. As a result, certification compliance improved from 89% in 2008 to 93% in 2009.

The Department of Ecology administers the Concentrated Animal Feeding Operation (CAFO) permits. WSDA provides technical assistance to Ecology by reviewing permit documents and annual reports and by inspecting facilities operating under the permit. The number of operations covered by either the CAFO general or individual permits declined from 31 operations in 2008 to 22 at the end of 2009.

Coordination between the two agencies on CAFOs and other livestock-related water quality issues is guided by a memorandum of understanding (MOU). An updated MOU was signed in October, 2009. The two agencies worked closely during the year on the report on high nitrate levels in groundwater found in the Lower Yakima Valley and in developing and implementing the Clean Samish Initiative to reduce bacteria in surface waters.

Another significant program activitiy in 2009 included work to implement two bills passed during the 2009 legislative session. One was related to anaerobic digesters connected with dairy operations and the other established a new violation of Chapter 90.64 RCW for failing to keep records necessary to show agronomic applications.

The WSDA Dairy Nutrient Management Program has a biennial budget for 2009-20011 of $1,217,600. The program's two funding sources are the State General Fund and the Water Quality Permit Account. In addition, the program was appropriated an additional $25,000 from the Solid Waste Handling account for the biennium to help in implement the dairy elements of the solid waste permit exemption for digesters.

Dairy Nutrient Management Program and Performance Measures

The mission of the Dairy Nutrient Management Program is to protect water quality from dairy discharges and to help maintain a healthy dairy business climate. We do this through clear guidance, technical assistance, equitable enforcement of state and federal water quality laws, and good communication with industry, Department of Ecology (Ecology) and other related agencies and stakeholders.

The program has four key strategies:

- Carry out the regulatory and inspection program for dairies under the Dairy Nutrient Management Act.
- Coordinate with the Department of Ecology on technical issues and field inspections of dairies and other livestock facilities required to hold a CAFO permit.
- Coordinate with the Department of Ecology on livestock-related water quality complaints.
- Coordinate with technical and educational agencies and the industry to assist dairy producers to better protect the state's water quality.

Current performance measures for the program are:

Table 1: Program Performance Measures

Measure	Target	2007	2008	2009
Percent of routine dairy inspections conducted within 22 months of the previous inspection	95%	86% 241 of 281 inspections	73% 188 of 257 inspections	73% 182 of 250 inspections
Percent of inspected dairies with no enforcement action as a result of any inspection	90%	96% 351 of 366 facilities	96% 325 of 340 facilities	93% 273 of 294 facilities
Percent of formal enforcement actions issued within 30 days of final field recommendation	85%	69% 23 actions 25-day average	71% 15 actions 36-day average	23% 22 actions 43-day average

Dairy Nutrient Management Program Update

The Washington State Department of Agriculture (WSDA) established the Livestock Nutrient Management Program in 2003 when it assumed the responsibility to carry out the Dairy Nutrient Management Act, Chapter 90.64 RCW. Expansion of WSDA's authority to include non-dairy livestock operations envisioned in 2003 has not occurred. Consequently, the program's name was changed during 2009 from the 'Livestock' to the 'Dairy' Nutrient Management Program.

Ecology continues to be responsible for administering the CAFO Permit and addressing non-dairy livestock operations and manure applications. WSDA staff provides field and technical assistance to Ecology on permitted CAFO facilities, both dairy and non-dairy, and the two agencies coordinate on non-dairy livestock complaints.

Both agencies operate under the same federal and state water quality laws and have the same basic objective: to protect the waters of the state from dairy and other livestock-related pollutants. Coordination between the two agencies is guided by a memorandum of understanding (MOU). The MOU was re-written in 2009 so that roles and coordination better reflect their respective statutory authorities.

The number of cow dairies declined by 17 during 2009, ending the year with 448 cow dairies. A total of 38 dairies went out of business during the year and 21 new cow dairies were started. Four of the newly licensed dairies had closed earlier in the year and then returned to business.

Dairies range in size from one milking cow to 6,000 milking and dry cows. Small dairies with less than 200 cows make up 29% of the dairies. Those between 200 and 699 cows, medium size, are 38%. Large dairies with 700 or more animals make up 33%. The average size of dairies going out of business was 232, while the average size of new dairies was 293.

Dairy Nutrient Management Requirements

The Dairy Nutrient Management Act requires all licensed dairy farms to develop and implement nutrient management plans and to be subject to inspection by WSDA. The intent of the state program is to prevent the discharge of pollutants from dairies to surface and ground water. Nutrient management plans address both structural and site issues to contain and store manure and contaminated water. Plans also address managing nutrients, primarily nitrogen and phosphorus, so that they don't result in a discharge to surface or ground water. In general, management practices that maximize the efficient use of nutrients for crop production also control bacteria and sediment, other major pollutants associated with dairy and livestock operations.

Under the inspection program, inspectors evaluate the facility and site conditions, nutrient management practices and record keeping to identify any actual discharge or any risk of

discharge of pollutants to surface or ground water. WSDA's goal has been to inspect each dairy at least once every 22 months and not let any get past 24 months.

Dairy farms that have a discharge will most likely be considered a Concentrated Animal Feeding Operation (CAFO) and be required by Ecology to apply for the NPDES CAFO permit. For those dairies operating under a CAFO permit, WSDA inspectors evaluate compliance with both dairy program and permit requirements and coordinate with Ecology on any compliance issues related to the operation.

Dairy Nutrient Management Plans

The Dairy Nutrient Management Act requirements are triggered when a dairy receives their dairy Grade A license to ship milk. The license is issued following an inspection by the Food Safety Program at WSDA after the facility has begun to milk cows on site. Nutrient management plans address site and facility management to protect surface water quality, as well as how to maintain agronomic applications for good crop growth without over-applying nitrogen or phosphorus.

Newly licensed dairies have six months to develop a plan and an additional 18 months to implement the plan. The program tracks compliance with these deadlines and is authorized to issue penalties when the initial plan is not approved or implemented when required. Large, newly constructed dairies typically have their plan developed before construction begins.

The minimum requirements for dairy plans were established by the Conservation Commission in 1998 and have not been revised since. Plans are developed using the Natural Resources Conservation Service (NRCS) planning process to assess resource concerns at the operation and use the NRCS practice standards for structural and management practices. Plans are required to be consistent with the site conditions, management practices, fields and maximum intended herd size of the dairy. When plans are out of date and no longer reflect the operation, plans need to be evaluated and updated to ensure they are still protective of water quality. If proper implementation of a plan still results in a discharge to waters of the state, the plan needs to be updated.

The dairy program was set up to make use of the technical assistance and planning capabilities of local Conservation Districts. Dairies may also work with federal NRCS staff or hire consultants to help with planning or plan implementation. Regardless of who develops a plan, it must meet all of the minimum plan requirements and be approved by the local Conservation District. The District and the producer must individually certify that the plan is fully implemented. Plan implementation includes having all facility elements in place, as well as carrying out all identified management activities, including maintenance and record keeping.

State and federal cost-share programs have provided substantial assistance to dairy operators since 1998 to develop and implement plans. While emphasis for technical assistance has broadened in recent years to cover more of the other types of livestock operations, assistance continues to be used by the dairies. Over time, those districts with many dairies have maintained and further developed staff expertise in dairy planning issues. Other districts may focus staff resources on other local resource and conservation priorities. Consequently, expertise is sometimes shared between districts to address dairy planning or implementation needs. NRCS

staff is still involved in some dairy work when local dairy activities overlap with available federal Farm Bill programs.

At the end of December, 2009, 93% of active dairies had certified plans compared to 89% in 2008. This improvement can be attributed to better administrative procedures implemented near the end of 2008 and throughout 2009. In addition, the field inspectors worked closely with producers and planners, and the program backed that work with administrative compliance when needed. Of the 29 dairies that are not yet certified, 22 are newer dairies still in the two-year statutory planning and implementation process. Seven dairies were under enforcement for lack of certification at the end of the year. Two dairies without certified plans have reached the $5,000 maximum for penalties that can be issued for lack of meeting NMP dates. Both facilities have paid the penalties and both are being managed appropriately and have no current environmental issues requiring enforcement.

The Act does not address getting updated plans certified as implemented, it only requires initial plans to be certified. However, WSDA inspectors routinely review key elements of plans and evaluate plan implementation as part of their inspections. Staff takes action on implementation issues in those instances when not following the plan can create a potential to pollute. The program issued Notices of Correction to 8 facilities in 2009 for not implementing their plans properly. Where operational changes may be needed to address an issue, some operators will successfully address the issue without getting the plan updated.

Inspection Activity

Routine inspections are the backbone of the program. These are conducted on a regular basis throughout the year. WSDA inspectors respond to all complaints related to dairies and, when time allows, may respond to non-dairy animal feeding operation complaints as well. They also conduct lagoon assessments in the fall and provide technical assistance inspections on request. During 2009, WSDA inspectors conducted 250 routine dairy inspections, responded to 57 complaints, covered 122 facilities during the fall lagoon assessment, and provided 14 technical assistance inspections.

Regardless of the reason for being on site, inspectors will record any issues they identify, document any needed actions and timelines, and discuss these with the operator. The inspection notes are important, not only for the operator after the inspection, but for future site reviews to ensure progress is made and, when necessary, to support future enforcement actions. Inspectors work with the operator to help identify and better understand the reasons behind compliance issues and to aid in identifying solutions or preventive measures in the future.

Working with operators to ensure that manure and commercial fertilizer applications are made at agronomic rates and under proper conditions has been a particular focus during 2009 and will continue in 2010.

Routine Inspections

The routine inspection interval target has been 22 months, with a maximum interval of 24 months. This is a program performance measure. Using the shorter interval means that over time, a facility will be inspected in different seasons of the year. In 2009, staff was able to get 73% of routine inspections completed in the 22-month interval. This was the same percentage as 2008. Fortunately, of the 70 that were past 22 months, most were only past by one month. A total of 23 facilities exceeded the 24 month interval.

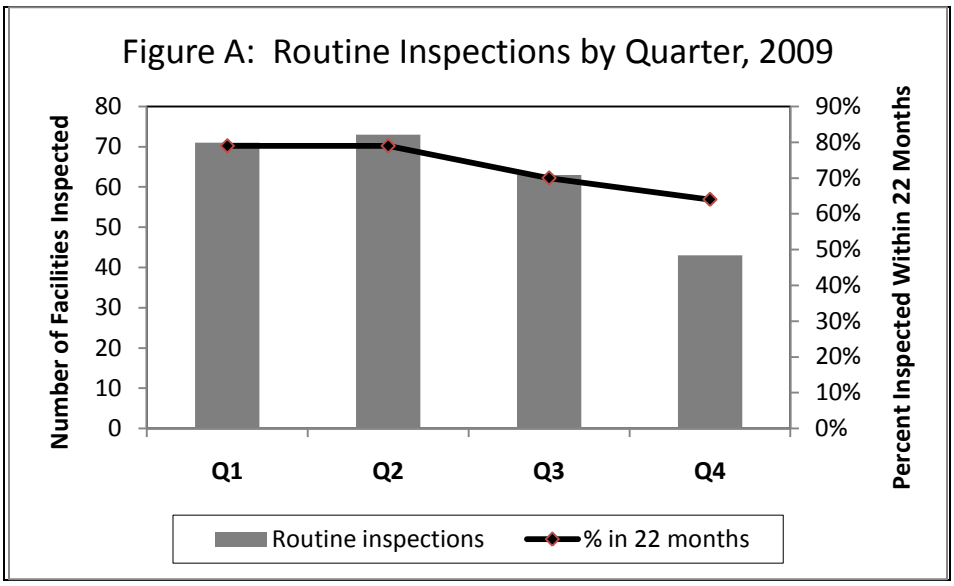
Targeting a specific inspection interval for facilities is important to keep addressing all facilities in a methodical manner. However, our experience over the last two years shows that there are clear differences in the resource risk levels between some operations and others. We must give additional attention to certain facilities with higher risks and periodic issues, and those in watershed areas with increasing water quality issues. Therefore, priorities for s at some operations and in some watersheds have affected our ability to meet the 22-month interval.

This does not mean that the program has ignored the need to meet 22 months as closely as possible. However, some facilities with a good history of compliance or lower resource risks had their inspections delayed. Occasionally, a facility with a recent inspection or lagoon assessment had their routine inspection delayed to coincide with an additional inspection. In a few cases, a delay of a month or two allowed the inspector to make a wet weather inspection rather than repeat another site evaluation under dry conditions.

Figure A shows the number of routine inspections conducted by quarter and the percent of facilities whose inspections were completed within the goal of a 22-month interval in 2009.

There are two primary elements of every inspection. The first is to look for any evidence of a surface discharge or a site condition with the potential to discharge to surface or ground water. The second is to evaluate implementation of the dairy's nutrient management plan. By keeping the plan current with facility size and operations and by properly following the plan practices, operations should not pose a risk to water quality. Proper site and field management activities prevent surface water runoff. Making manure applications at agronomic rates and under proper conditions should prevent both nutrients leaching below the crop root-zone to ground water and nutrients and bacteria from running off the fields. Keeping records of manure applications and proper soil and manure testing are key management tools to ensure agronomic applications from year to year. Inspectors spend at least half of the inspection time reviewing records with operators and discussing their meaning and use.

Inspectors document any conditions that create a risk of discharge on the inspection form, and when needed will send warning letters or recommend Notices of Correction in order to reduce the risk. To ensure timely follow-through by the operator, inspectors schedule inspections. In addition, inspectors may refer the operator to the local Conservation District for technical assistance to address implementation or plan issues.



Lagoon Assessments

Assessing lagoons across the state has been a regular fall activity for the program. The purpose of the assessments is to check whether operators have managed their lagoons so they are ready for the fall and winter rains, snow and frozen ground. This includes reviewing the general condition of the lagoon dike, the extent of solids left and how much capacity will be available for winter. Doing the assessments early in the fall gives an operator time to address any identified problems and to make additional, agronomic applications or remove solids to further lower lagoon levels. These assessments are also a yearly reminder to operators of the importance of planning ahead and having good year-round lagoon management.

WSDA inspectors select specific facilities that require additional oversight as well as random facilities in targeted areas. A notification letter is sent that provides a date or dates on which the inspector might show up and explains that not all operators notified will be visited. Lagoon letters were sent to all dairies in 2009 in order to also provide them with a fact sheet on 2009 legislation related to their record keeping. In addition, a silage factsheet was included, with a summary of the lagoon assessment results for 2008.

In 2009, west side facilities were selected for lagoon assessment in Clark, Grays Harbor, Pacific, Skagit, Snohomish, Wahkiakum and Whatcom counties. On the east side, lagoons were assessed in Adams, Franklin, Grant, Spokane, Stevens and Yakima counties. WSDA assessed a total of 125 facilities and 237 lagoons which is similar to work done in 2008.

Of the 125 facilities visited, there were seven (6%) that required inspections compared to 2% in 2008. However, 67% of facilities (64% of lagoons) had no issues noted and another 24% of facilities had only one issue. Lagoons needing additional pump down in 2009 (16%) were half the number identified in 2008 (33%). Solids management was slightly better, but dike issues were slightly more common at 16% in 2009 compared to 14% in 2008.

Forty-three of the facilities, (34%) were targeted due to past or current performance issues. Of those, eight facilities had issues noted and three required a follow-up inspection. Fourteen (11%) were selected to coincide with inspecting new or out of business facilities; coordination with the dam safety program at Ecology; or dairies involved with a digesters.

Inspection Findings

Requirement: Field applications need to be made at agronomic rates (the rate at which nutrients will not leach below the root zone of the crop and will be fully taken up by the plants) and need to comply with timing restrictions and field conditions. Not following the plan identified for each field and crop may lead to over-application of Nitrogen and Phosphorus. This puts water quality, particularly groundwater at risk. Keeping accurate records is a key tool in achieving agronomic applications. The failure to keep records to show agronomic applications became a violation in July of 2009.

- Problem: Applications have been made too heavily on some fields resulting in elevated levels of Nitrogen and in some cases, Phosphorus. Record keeping problems have decreased over time as operators have become more familiar with testing and record keeping procedures. Some operators are not making the best use of the resulting information to adjust field applications, or to determine that they have an excess of nutrients for their available land base. In some cases, the reason may be outside of the operators control such as, reduced crop yields due to unusual weather patterns.

- WSDA Action: Inspectors review manure and soil test records, cropping and application records. Missing records are documented during inspections and follow-ups are made by the inspector to ensure that needed records are being collected. Where N or P levels have risen from the previous year, or not dropped as needed, time is spent with the operator to identify the reason(s). Facilities with a history of application issues are targeted for annual records review in the fall. Warning letters are issued the next time an operator misses records or is slow to change applications. Further lack of response results in an NOC. ***In 2009 one NOC was issued for lack of records. Eighteen warning letters were issued for lack of records and six letters issued for elevated nutrient levels.***

Requirement: Manure applications require careful consideration of field conditions and weather. Maps in the nutrient management plan identify where and what type of filter strip or setbacks from surface water need to be observed. Plans should also explain conditions when the setback should be increased to ensure no runoff. Filter strips need to have sufficient vegetative growth to provide their filtering function. Except in certain limited circumstances, applications should not be made when fields are saturated, frozen or covered with snow. Applications should not be made when heavy rain is anticipated. Applications must observe appropriate setbacks from surface waters and drain tiles. Filter strips and buffer areas need to be maintained and managed in order to function as intended.

- Problem: Applications are made during the 'window' established in a plan, but without considering poor weather or field conditions. Application setbacks have been reduced, or not expanded in response to conditions. Filter strip areas may be used for vehicle traffic,

resulting in soil compaction and ruts that direct runoff to surface waters. Vegetation is not managed to retain the vigor and density needed to be effective.

- WSDA Action: When talking with operators, inspectors emphasize the importance of the timing of applications, the conditions of fields, and paying attention to weather conditions. The location and conditions of field buffers and setbacks are reviewed. During appropriate times of the year, inspectors may drive by operations or through a particular area where potential application issues have been identified***. In 2009, one penalty and five NOC's were issued for application-related discharges. Two NOC was issued for creating a potential to pollute related to field applications. The first time application schedules and conditions are not followed, but the risk to water quality appears low, warning letters are sent. In 2009 ten letters were sent.***

Requirement: Proper lagoon management requires maintaining the integrity of the lagoon dike and retaining full lagoon capacity. Capacity is maintained through proper solids management and emptying the lagoon during the year.

- Problem: Dike conditions have been degraded due to mechanical action from solids removal, from overgrazing, and from not controlling burrowing rodents. In addition, if vegetation is not controlled, seepage areas can be difficult to detect until the problem is more serious. The lagoon's capacity can be significantly reduced by letting solids accumulate or not pumping out liquids properly.

- WSDA Action: Inspectors stress the importance of year-round management of the lagoon structure and solids content. They also discuss the capacity of the storage system compared to the number of animals on the facility and the area of impervious surface that drains to the lagoon. Operators may be referred to their Conservation District for assistance in addressing structural issues or for storage and management review. Follow-up inspections are made where needed and may include both late fall and spring visits. ***No penalties were issued for lagoon discharges in 2009. One NOC was issued for a discharge due to lagoon management. Notices of Correction were issued to two facilities for lagoon conditions that created a potential to pollute. Fourteen letters of warning were issued. The fall lagoon assessments were developed to proactively address lagoon management issues.***

Requirement: NMPs must be current with the current conditions on the dairy, including number of animals, acreage available for applications and the amount of manure transported to other users.

- Problem: Operations change over time. Plans become out of date or the nutrient balance becomes uncertain. Sometimes operational changes in manure management affect the form or concentration of nutrients. The result can be excess nutrients compared to acres available for application. Agreements to transfer nutrients to other users may be inadequate or uncertain.

- WSDA Action: Inspectors compare the current operation to the nutrient management plan. They may refer the operator to their Conservation District to get the NMP reviewed and updated, and to better document the transfers that take place. Inspectors perform follow-up inspections to verify specific issues have been addressed during the interim the plan is being updated. Where serious issues exist, inspectors discuss the issues with the local Conservation District, or when applicable, with the operator's consultant. When inspectors find that the requested review and update has not been started, completed or did not adequately address necessary issues, they will issue a warning letter. ***Four letters were issued regarding facilities in need of plan updates in 2009.***

Complaint Response

Dairy Complaints
WSDA inspectors respond to all dairy-related water quality complaints. Most complaints come from the general public but some come from local health departments or other agencies. In some cases dairies have identified and self-reported a problem. The complaints may be received directly by WSDA staff or may be referred from Ecology to WSDA through Ecology's complaint tracking system. When received directly, WSDA staff forward the information to the Ecology complaint system for tracking.

WSDA staff investigates complaints primarily by conducting on-site inspections. If the complaint indicates a possible discharge, a field investigation is always initiated. Particularly when the site is at a distance, staff may first check with the local Conservation District or other local contacts for information and initial assistance. When problems are documented inspectors conduct inspections and may proceed with enforcement actions. Depending on the problem, the operator may be referred to the local Conservation District for technical assistance. Complaints that relate to air quality, odor or flies are referred to the local air authority or health department. The facility is often referred to the local Conservation District for assistance on these areas as well.

Non-Dairy Complaints
Depending on county ordinances, some non-dairy, non-CAFO complaints can be handled by a local county compliance program. Typically however, when a complaint involves a non-dairy AFO or appears to involve manure management, WSDA is sent the complaint referral through Ecology's complaint tracking system. When time is available, WSDA may proceed with the initial response. If time is not available, the complaint is referred to staff in the appropriate Ecology regional office as set out in the newly signed Memorandum of Understanding. Availability of field staff for livestock complaints at Ecology regional offices is variable. Depending on circumstances, there are occasions when no agency is able to respond.

WSDA staff does not have any legal authority over non-dairy facilities but, when access is granted, WSDA has provided technical assistance regarding compliance with water quality laws. Staff can refer the facility to a Conservation District for technical assistance and may write a warning letter. If further enforcement action appears necessary, the problem must be referred to Ecology for potential follow-up.

Complaint Data Summary
In 2009, WSDA received and responded to 30 complaints about dairies. This compares to 46 complaints in 2008 and 45 in 2007. Of these complaints, 12 were discovered to have valid water quality-related issues and resulted in 11 compliance actions. The most common water quality complaint continued to be related to manure applications to fields.

In 2009, there were 26 non-dairy complaints handled by WSDA. Of these, 20 were found to have a verified issue. One facility was referred to the local Conservation District for assistance and 19 were referred to Ecology or the local county. WSDA issued one warning letter to a non-dairy operation. In 2008, WSDA inspectors responded to 23 complaints about non-dairy sites.

Compliance Activity

There are four enforcement tools used by the program when a violation of RCW 90.64 occurs or there is an impact or risk to water quality under RCW 90.48. WSDA uses enforcement tools from Chapter 90.48 RCW, Water Pollution Control, and also complies with Chapter 43.05 RCW, Technical Assistance Programs, to insure the proper process is followed when taking enforcement actions and to encourage voluntary compliance when possible.

Minor and first time problems are noted on inspection reports. More important, or repeated, problems are handled with a warning letter, a Notice of Correction, a Penalty or an Administrative Order as appropriate. Inspectors usually send their own warning letters to operators while the program issues Notices of Correction and administrative penalties. Environmental penalties and Orders are issued by the Director or Deputy Director. The Penalty and Order are appealable to the Pollution Control Hearings Board (PCHB). (See description of enforcement tools in Appendix A.)

When a discharge is confirmed, or a significant or recurring potential to pollute is identified, the inspector prepares a ‘recommendation for enforcement’ and sends the recommendation and applicable documentation to the Olympia office for final decisions and actions.

The amount of an environmental penalty for violating Chapter 90.48 RCW is based on the severity of impacts, the cause, action taken by the operator, and history of the facility. The statute allows for a penalty of up to $10,000 a day per violation. The program uses a matrix to aid in setting an appropriate penalty. These penalties can be appealed to the PCHB. The producer may also request relief from the department for the penalty prior to appealing to the PCHB. Where a discharge is relatively small, Chapter 90.64 RCW allows a penalty for first-time offenders to be waived.

Civil penalties were also established under RCW 90.64.030 for operators that fail to register or miss the deadlines for getting nutrient management plans approved or certified. For these administrative violations, the statute sets a one-time penalty of $100 for failure to register and a penalty of $100 per month (with a cumulative maximum penalty of $5,000) for failure to meet plan deadlines.

Enforcement Actions Taken
During 2009, formal enforcement actions were taken against 21 dairies for environmental problems. Two penalties, one for a facility-related discharge ($5,000) and one for a field application discharge ($4,000) were issued. Twelve Notices of Correction were issued to facilities for discharges to waters of the state. There were eight NOCs issued for creating the potential to pollute. Warning letters were issued in 55 situations that posed a risk to water quality. In 2008, 15 dairies received environmental enforcement actions with nine triggered by a discharge.

Table 2: Enforcement Actions Taken on Dairies, 2009

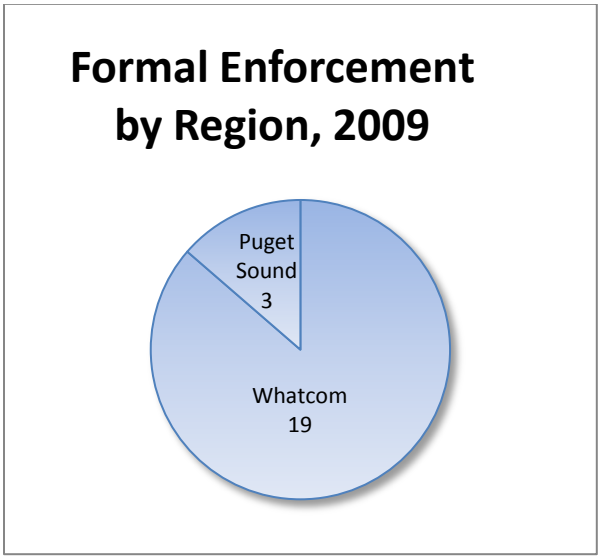
Enforcement Action	Number Issued
Warning Letter	55
Notice of Correction	20
Administrative Order	0
Civil Penalty, Environmental	2
Notice of Correction for Certified Plan or Registration	45
Civil Penalty, Administrative	80 penalties/ 20 facilities

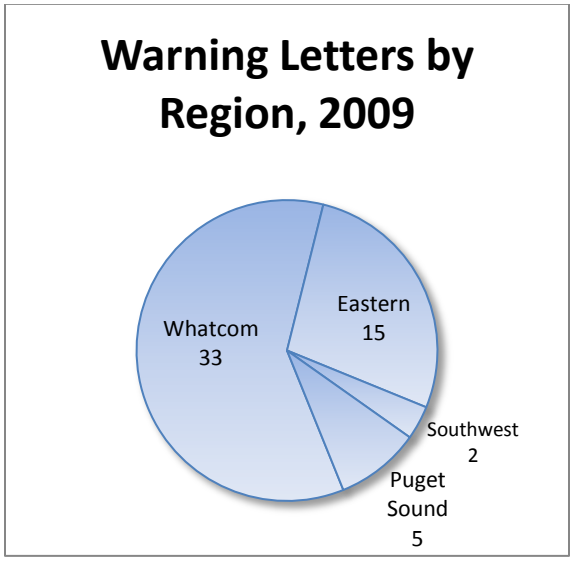
Environmental and administrative civil penalties issued during 2009 totaled $16,800. Of that, $2,700 has been paid, $500 is not due until November 2010 and the $4,000 penalty is in the application for relief process. In early 2010, program staff will be working through the agency's process to collect outstanding payments.

In 2009, Ecology raised concerns to WSDA in several cases about not issuing a penalty when a discharge occurred. Chapter 43.05 RCW, Technical Assistance Programs, requires that WSDA issue an NOC prior to a penalty - unless there is 'more than minor' environmental harm. There have been some discussions since to identify a consistent approach to determining what 'more than minor' environmental harm means. Ecology also was concerned that some penalties seemed smaller than they thought appropriate. Discussions are continuing between the agencies regarding these issues.

Whatcom County Compliance Issues
As noted last year, Whatcom County has a several unique characteristics which make the dairy industry particularly visible The county has the highest concentration of dairies of any county with 126 active operations and 66,022 cows, heifers and calves. It also has multiple commercial shellfish growing areas and a bacteria clean-up plan for the Nooksack River. There was one discharge identified from a dairy in 2008 that caused the Department of Health to close shellfish harvest. The closure lasted five days and some harvested product was recalled. There were no dairy- caused closures in 2009.

Because of the workload related to compliance in Whatcom, an intern was employed in 2009 from February through April. This proved to be a successful strategy to cover response to complaints and assist in researching and documenting investigations. This strategy may be used again in the future, but it will not be repeated for the winter of 2010. The program will have a new inspector for Whatcom starting in February of 2010. Instead of hiring an intern to help the new staff, our other inspectors will take turns spending a week at a time in Whatcom. This arrangement will provide hand-on training to the new staff and ensure that experienced staff is regularly in the county.





Technical Assistance Referrals

Inspectors continue to refer producers to their local Conservation District for technical assistance when needed. Copies of the referrals are sent to the Conservation District and starting in 2009, also to the Conservation Commission in order to track potential work load. This information has been useful to districts and the Commission in planning future budget needs. It has also proved helpful for improving communication between WSDA and district staff regarding technical assistance and planning issues.

It is the producer's responsibility to contact the district. Inspectors generally specify a time frame for the operator to meet requirements and make follow-up contacts or site visits to track progress. Seven dairies received letters of warning for a delay in getting their plans updated.

Of the 294 dairies and permitted CAFOs that were inspected or investigated in 2009, 68 (23%) were referred for some kind of technical assistance. Of those, there were 27 (9%) that were referred for plan updates due to significant changes in the number of animals or acres, or a change in their manure handling systems. Referrals in 2008 numbered 61 with 27 of those referred for plan updates. At the end of the 2009, approximately 74 referrals were still outstanding with most at some stage of discussion or development.

Livestock Nutrient Management Account

Civil penalties from violations of Chapter 90.64 RCW are deposited in the Livestock Nutrient Management Account. Funds in the account can only be used to provide grants for research or education activities that assist livestock operations to achieve compliance with state and federal water quality laws (RCW 90.64.150). Because WSDA can only penalize dairies, the grant funding has continued to target dairy-related projects.

In 2007, WSDA provided partial funding to WSU for an additional 2 years of an existing cooperative research project with Ecology. The project has followed the cycling of nitrogen from crop to animals and back to dairy fields as well as monitoring nitrate levels in soils and groundwater. A report on the first four years was prepared at the end of the WSDA grant in the spring of 2009.

In 2009 WSU, Ecology and the WA Dairy Federation extended this project on the 'fate of nitrogen' for an additional two years and added evaluation of two different methods used to re-establish productivity of the grass field. WSDA has granted $10,600 to Ecology to cover the well sampling costs in order to continue the groundwater portion of the study through 2011. The balance in the account as of December 31, 2009, was $61,219.

Significant Activities and Issues in 2009

New Memo of Understanding Signed with Ecology

Ecology and WSDA signed a new Memo of Understanding (MOU) in October that clearly defines the current roles and responsibilities of each agency. The previous MOU had been developed based on the state dairy program being administered by WSDA, which continues to be the case. But it also anticipated that the responsibilities for the NPDES CAFO permit and other Animal Feeding Operations would be moving from Ecology to WSDA. As discussed in previous annual reports, this has not happened and is not currently anticipated. The two agencies have worked over the last two years on how best to proceed as partners and utilize our existing resources to effectively address livestock-related water quality issues.

The MOU clearly sets out the responsibilities of each agency for their respective programs. WSDA continues to be responsible for the state dairy water quality program. Ecology continues to be responsible for administering the NPDES CAFO permit program, for water quality enforcement actions for non-dairy animal feeding operations (AFOs) and all other non-point livestock and manure-related issues.

The MOU lays out how the agencies will coordinate compliance on dairies that also have an NPDES permit, on NPDES permit administration, on livestock facilities identified as needing to apply for the CAFO permit, and on complaint response. A copy of the MOU can be found in Appendix B or at http://agr.wa.gov/FoodAnimal/Livestock-Nutrient.

Completion of the MOU between the two agencies provided timely clarification to stakeholders in the Lower Yakima Valley regarding livestock responsibilities and ground water. It also helped to address questions raised regarding agency authorities that were identified during the Natural Resource Reset process for streamlining government.

Name Change

As mentioned at the beginning of this report, the program name was changed in 2009 from 'Livestock' to 'Dairy' Nutrient Management Program. This more accurately characterizes the fact that the program at WSDA is limited to licensed dairies with no authority or responsibility for other types of livestock. Use of the term 'Livestock' has created confusion for the public and some stakeholders who reasonably assumed that WSDA had responsibility for all types of livestock-related water quality issues.

2009 Legislation

Two pieces of legislation adopted in 2009 affected the dairy program.

SB 5677 - The first was legislation introduced by the dairy industry to provide WSDA with specific authority to seek search warrants for access to dairies that deny access for inspections and for access to dairy records related to their nutrient management. WSDA does not have this

type of authority as a component of the agency as a whole. Instead, it must be established for each program. The program has not been prevented from doing their work up to this point. However, clearly having the capability now will eliminate the need to request assistance from Ecology should access be denied in the future.

In addition, this bill defined the failure to keep records needed to document agronomic applications, as a violation of the Dairy Nutrient Management Act. Initially, records must be kept for three years, the time frame common in most dairy plans. But starting in July of 2011, records must be kept for five years. While the failure to keep records was established as a violation, the structure of the Act precluded use of penalties for the violation. Legislative interest was raised in late 2009 for getting a penalty established for the records violation during the 2010 legislative session. Discussions at the end of the year resulted in legislation being introduced.

The program developed a fact sheet on the statutory changes to the Act related to site access and record keeping. This was sent it to all the dairies in September. Inspectors have reminded operators during inspections or other opportunities to discuss the changes.

***SSB* 5797** - The second bill established an exemption from local health departments' solid waste permitting for certain digester operations. This affects digesters located on or off dairies that co-digest up to 30% pre-consumer organic waste-derived material in addition to manure. The exempt digesters are subject to oversight from Ecology's Waste2Resources Program and the local health departments. The bill has been codified in RCW 70.95.330.

One key impact to WSDA the dairy program is that digester liquid and solids returned to dairies and managed under a properly updated nutrient management plan are not considered 'solid waste'. In addition, the exempt status of the digesters relies, in part, on the dairies getting their nutrient management plans updated and implemented to reflect their participation with the digester.

WSDA staff worked with the Waste2Resouces Program staff and Department of Health staff to develop guidelines required by the bill for digesters and diaries to follow in order to obtain and maintain the solid waste permit exemption. The guidelines were issued in August 2009 and can be found at http://ecy.wa.gov/pubs/0907029.pdf.

Since the guidelines were issued, Waste2Resources staff has evaluated the three existing digesters that have claimed the solid waste exemption. DNMP inspectors are working with the dairies and their planners to address the issues and changes related to the digesters. Changes in the type and quantity of organic waste material imported by the digester will have an impact to the nutrient balance for a dairy. Consequently, additional attention will be needed to follow how implementation is carried out. Inspectors will work with the Waste2Resources staff to get full compliance with the exemption requirements by the dairies and digesters.

Waste2Resources and program staff coordinated presentations to the dairy industry annual meeting in October on the digester exemption, significance for dairy nutrient plans and

implementation steps. A workshop is planned in early March, 2010 for technicians and planners to discuss adapting nutrient management plans in order to address dairy participation with a digester. Other workshops for operators and interested dairies will follow.

Rulemaking Completed - Disclosure of Information in Ranges

Legislation in 2005 required WSDA to adopt a rule establishing ranges for the release of certain numeric information from some livestock operations. This rule change amended Chapter 16-06-010 WAC and became effective on February 12, 2009. Since that date, WSDA's responses to all public requests on specific dairies or other animal feeding operations have redacted actual numbers, and replaced them with the appropriate ranges. The ranges do not apply to information for facilities currently under the CAFO permit.

There were a total of 37 public disclosure requests in 2009. Twelve included information that had to be replaced with ranges following the rule adoption in February. There were 22 public disclosure requests in 2008. The rule language can be found at http://apps.leg.wa.gov/WAC/default.aspx?cite=16-06-210.

Public Disclosure Requests

The number of public disclosure requests increased in 2009 with 37 requests compared to 22 in 2008. Many requests related to increased interest in groundwater and dairies in the Lower Yakima Valley. Some were related to how EPA's final CAFO rule in 2008 was being implemented. Some were quite complicated.

With adoption of the rule regarding disclosure of certain information in ranges, additional time was necessary to prepare many of the requests. Mid-way through the year, staff began tracking the amount of time spent on disclosure requests. An estimated one fifth of one full-time equivalent staff member was necessary to gather and provide requested information.

Program Enforcement Challenges

Nutrient Management Plan Updates

When the Act was passed in 1998, emphasis was placed on getting plans developed and implemented on the 780 dairies that existed at the time. There were no provisions regarding the process of getting a plan revised to accommodate operational changes or new issues over time. Consequently, there is no direct agency authority to require plan updates or improvements for a dairy that has not yet had a discharge or is not already covered by the CAFO permit.

Chapter 90.64.RCW does not require updated plans to be approved or certified by the Conservation District again. Most districts have chosen to approve updated plans they have prepared in addition to any new plans. However, plan updates handled by private consultants typically are not submitted for approval.

Dairies that are under the CAFO general permit are required by the permit to be in compliance with their plan and to update the plan to be consistent with their operation. Consequently,

Ecology can use permit compliance to get plans updated or changed for those dairies under permit.

Nutrient Management Plan Implementation

The Dairy Nutrient Management Act narrowly defines what violations can result in penalties. Consequently, while a dairy is required to get a plan approved and implemented, there is no specific requirement to continue implementing the plan. The Act was structured to be performance-based and a documented water quality violation from a discharge is required before a penalty can be issued to a dairy without a CAFO permit.

Unfortunately, this approach is not always effective in ensuring that proactive measures to avoid discharges are being carried out as designed in the nutrient management plan. In addition, operators who do not properly implement their plan can have an economic advantage over a producer who is more conscientious.

Failure to follow the plan properly can lead to creating a potential to pollute under Chapter 90.48 RCW and WSDA has issued Notices of Correction to operators where a potential to pollute was identified. Where a discharge has occurred, enforcement actions will be affected by how well the operator was implementing their plan.

Stakeholders, including some dairies, raised the issues of plan updates and implementation in late 2009. Their concerns included ensuring that plans are adequately protective of water quality and the importance of maintaining a fair economic playing field for producers. Discussions with stakeholders are anticipated during 2010 to consider alternatives to address these issues.

Balancing Resources While Addressing Expanding Technical and Water Quality Issues

TMDLs and Protecting Shellfish Beds

WSDA field inspectors work with Ecology staff and local stakeholders on bacteria water clean-up efforts where dairy and other livestock activities may be involved. The two inspectors in the Nooksack, Drayton Harbor and Samish water sheds have responded to water quality sampling data with high bacteria counts by checking dairy activity and conditions in the area. Lagoon assessments are consistently targeted in those watersheds. The inspectors have spent time with each of the producers, showing them watershed maps and water quality data at the different locations and talking about how or when their operation may become one of the sources. In addition, staff participates in local coordinating meetings in order to work cooperatively with partners as new questions or concerns arise.

This additional surveillance work and technical assistance targeting a specific area or group of operators means that less time is available for working in the other areas of their regions.

Groundwater and Nitrates

WSDA staff, both field and headquarters, have been closely involved with the current effort by Yakima County, the Departments of Ecology and Health and the Environmental Protection Agency to address the high nitrate levels in the Lower Yakima Valley. In addition, staff have provided information and discussed the issues with both dairy producers and other agriculture-related producer or service groups.

Program time and resources will continue to be dedicated to our responsibilities with the dairies in the valley, as well as looking at potential issues around agronomic applications or manure and fertilizers.

Program Priorities

While there continues to be a slow reduction in the number of dairies, there are increasing demands to focus on priority areas and technical issues. Follow-up inspections to ensure compliance or verify conditions to protect water quality have been a priority use of inspector time.

The program has started to reevaluate the interval scheduling for routine inspections. In Chapter 90.64.023(4), criteria are identified to use in prioritizing inspections. The criteria include nutrient management plan implementation and proximity to impaired or other waters of the state. In order to make best use of available resources, the program has begun to identify lower risk dairies where a longer inspection interval may be appropriate. These operations would have sites with few resource concerns and consistently good management. Program discussions in 2010 will continue to look at inspection intervals and the best use of inspector time.

Program Funding and Staffing

Program Funding

The WSDA Dairy Nutrient Management Program has a biennial budget for 2009-11 of $1,217,600. The program has two primary funding sources:

- $1,137,000 from the General Fund; and
- $55,600 from the Water Quality Permit Account.

In addition, the program was appropriated $25,000 from the Solid Waste Handling account to cover additional costs created by implementing the digester solid waste exemption. The program also has authority to expend up to $59,000 during the biennium from the Livestock Nutrient Management Account to provide grants for research or education activities. Funds in the account are from penalties levied by WSDA under the Dairy Nutrient Management Act.

Program Staffing

Program funding supports six staff: a program manager, one program assistant and four field inspectors. One of the inspectors is also the program's lead inspector. This position is responsible for some inspections, for preparing compliance documents, and providing support and guidance to the other field staff. The lead inspector also works closely with Ecology permit staff on permit coordination and technical issues. All staff work together to identify and address field and technical issues that arise and ensure consistency on common issues across the state.

In May of 2009, our program assistant was transferred to a position with the Food Safety Program. With a hiring freeze in place, we were fortunate to be able to transfer an existing temporary employee into the position. We were finally able to fill the position on a permanent basis in September.

Our field staff has been stable for the last three years. However, the Whatcom area inspector left the program at the end of January in 2010. A position announcement was posted in early December and was open through the month. Interviews were held in mid January and the new inspector started the first of February. Given the time of year and high profile of the Whatcom position, other inspectors will spend alternating weeks in Whatcom training the new inspector and responding to any dairy-related water quality problems that come up.

We used funds during the winter and early spring of 2009 to hire a part-time college intern to assist the Whatcom inspector. This arrangement worked very well, allowing us to more quickly respond to complaints and serious water quality issues. Due to the training needed for the new Whatcom inspector, we chose not to hire an intern in that office for 2010. Instead, the program hired a part-time college intern in the Olympia office starting in mid-January. The intern will assist the program to accomplish a number of specific projects as well as general support.

Technical Expertise

The program has supported staff training to obtain and maintain expertise related to nutrient management and water quality. Building and retaining expertise is important because it enables staff to better anticipate, identify and address issues related to nutrient management and water quality. It is also invaluable when working with operators during inspections and with partners on technical issues. Two inspectors continue to maintain their Certified Crop Advisor status. Inspectors also have expertise in water quality sampling protocols and are developing increasing knowledge regarding use of digester effluent.

Supporting and developing personal communication skills are also important to success. This is important for program staff to function effectively together as well as improving skills to work with producers and in partnership with other stakeholders.

Due to current budget constraints, training is prioritized for the new inspector, but staff is looking for low cost opportunities that may be available.

WSDA Role with the Federal and State CAFO Permit

The majority of facilities covered under the Washington CAFO permit has been, and continue to be, dairies. Consequently, it is necessary to closely follow any actions on the federal level regarding CAFOs and the CAFO permit. Likewise, the program works closely with Ecology staff on implementation of the CAFO permit. This is important in order to include permit-related requirements for dairies in inspections, coordinate on compliance actions, and to assist Ecology with overlapping technical issues as needed.

Under the MOU with Ecology, WSDA staff inspects the non-dairy permitted facilities as well as the dairies, for both routine and complaint inspections. A total of six non-dairy permitted facilities, all in Eastern Washington, received routine inspections during 2009. One feedlot self-reported a possible discharge which prompted an investigation. No discharge was documented and necessary site repairs were completed.

Federal Final CAFO Rule Issued

Changes to the federal CAFO rule, initially issued by EPA in 2003, were finalized October 31, 2008 and became effective on December 4, 2008. EPA has recently requested Ecology to review the current state law and rules relating to federal CAFO regulations. In addition, EPA has requested that Ecology describe the roles of Ecology and WSDA as they relate to the state dairy program, NPDES permit implementation and complaint response. WSDA staff will assist Ecology as needed to address EPA's request.

Current permits have not been affected by the final CAFO rule. Many of the key elements in the rule were already incorporated in the Washington CAFO general permit when it was issued in 2006. However, the Washington CAFO general permit is scheduled to be updated and reissued in 2011. This means that work on the updated permit to fully comply with the 2008 federal rule will begin in the summer of 2010. Program staff plan to work with Ecology as they did in 2004 and 2005 when the 2006 permit was developed.

Washington CAFO General Permit

After it was issued by the Department of Ecology in 2006, the Washington CAFO general permit was appealed to the Pollution Control Hearings Board (PCHB) as not meeting the requirements of state and federal law. The PCHB decision in 2007 was appealed to the Washington State Appeals Court and arguments were heard on January 12, 2009. The Appeals Court upheld the decision of the PCHB. The permit issues noted in the PCHB decision may need to be addressed when the 2011 CAFO permit is developed.

WSDA staff continues to provide review and comments to Ecology for NMPs submitted with permit applications. During 2009, WSDA inspectors reviewed and commented on plans for three dairies and two non-dairy facilities (both poultry operations). Staff also worked with Ecology

staff in preparation for review of the annual reports submitted by Large permitted CAFOs in December, 2009

Facilities covered by the current General CAFO permit will need to reapply for their permits 180 days prior to the permit expiration on July 21, 2011.

WSDA coordinates closely with Ecology when taking enforcement actions on permitted dairies. WSDA inspectors also work with Ecology permit staff on verifying needed information on currently-permitted facilities. In addition, WSDA provides information to Ecology on non-permitted dairies that have a confirmed discharge and are subject to the duty to apply for the permit.

At the end of 2008, there were 21 dairies and 10 feedlots under permit. By the end of 2009, there were 12 dairies and 10 feedlots covered under CAFO permits. The application process to bring two poultry operations and two dairy operations under the general permit continues. Two additional dairies with discharges in 2009 have been notified by WSDA that they meet the definition of a CAFO and are required to apply for the permit.

APPENDIX A

Enforcement Tools

- Warning Letter
  A warning letter is a letter issued by an inspector to inform a facility that it poses a risk to water quality. Problems that may prompt a letter include: needing an updated plan to better address current activities, lack of required soil tests or other records, and not following other elements of the Nutrient Management Plan, such as suspected over application of nutrients or using buffers too narrow for conditions. A warning letter is an informal action providing documentation for both the operator and WSDA that there are problems that need to be addressed.

- Notice of Correction (NOC)
  A Notice of Correction is issued under Chapter 43.05 RCW, Technical Assistance Programs. An NOC notifies the operator that they have a violation of some type and sets out steps and a time frame in which to fix the problem. It provides the same notification process step as a Notice of Violation (NOV) under Chapter 90.48 RCW. As with the NOV, this compliance action is not appealable. However, if corrections are not made, depending on the violation, either an order or a penalty may be issued, and these are both appealable actions. An NOC may be issued when a minor discharge occurs, or when circumstances pose a continuing or significant potential to discharge to waters of the state. A Notice of Correction may also be issued when operators have not complied with administrative requirements under Chapter 90.64 RCW to keep necessary records or for plan approval, plan certification or registration.

- Administrative Order
  An Administrative Order can be issued after an NOC or a penalty to ensure that necessary compliance action is taken. It may be used when issues identified by an NOC or a penalty are not fully addressed or are repeated. The Administrative Order requires specific actions in specified timelines by the producer to regain compliance, stop a discharge, or prevent future discharges. A variety of requirements, depending on circumstances, may be included.

- Civil Penalties
  WSDA can issue a civil penalty for a discharge of pollutants under Chapter 90.64 RCW and Chapter 90.48 RCW. A penalty may also be issued for lack of compliance with an Administrative Order related to a previous discharge. Where a discharge is causing or may cause significant harm to the environment or public safety, a penalty may be issued under Chapter 43.05 RCW without any prior notification. If the discharge is not ‘more than minor’, then an NOC must be issued. A penalty can be issued after the NOC for a continuing discharge or for not adequately eliminating the cause of the discharge.