Quarterly Report 4 - Covering the fourth quarter of calendar 2005 (October through December)

I. Achievement of Milestones – the following table covers tasks, milestones, or major deliverables scheduled through December 31 *in the original workplan*, although some grouping was done to shorten the list. Open or ongoing tasks from preceding quarters are separated by double bold lines.

TASK	ORIGINAL COMPLETION DATE	ACTUAL COMPLETION DATE	MILESTONES/ DELIVERABLES	COMMENTS
Periodic check-in with Feedlot Management Team	Monthly	Quarterly		As necessary
Communication with Governor's Livestock Task Force	Informal	Thru MPCA Ag Liaison		Communicate with Ag Liaison for now – with Task Force after significant findings
Revise and finalize full project workplan	2/28/05	Open		May revise workplan significantly – see discussion below
Quality Assurance for Facility Universe	3/28/05	Open		We're using a Student Worker to resolve disparities between MPCA, county, and MDA databases
Present at MN Association of County Feedlot Officers conference	10/28/05	10/27/05		Attended, but no presentation
Informational item for MPCA Citizens Board	10/25/05	Open		Awaits significant findings
Quarterly Report 2, Year 1	7/29/05	11/7/05	Quarterly report to partners	Sent with Qtr3 report
Quarterly Report 3, Year 1	10/30/05	11/7/05	Quarterly report to partners	Sent with Qtr2 report
Fall meeting offered for all stakeholders, including non-participants	10/28/05	Open		Seek opportunities this winter

First round of volunteer assessments and forms from accompanying inspectors	10/28/05	12/10/05	Stearns County: 27 of 29 assessments complete (2 no-responses) – 12 accompanying inspection forms – waiting to see if county inspectors generated forms for the other 15 sites Winona County: 10 of 11 assessments complete (1 no-response) – no accompanying inspection forms were generated – we are comparing the assessed sites to the most recent available inspection form	Working through the county feedlot officers has been challenging because of their workload and competing priorities. So we haven't stuck to designed scheduling and conduct of accompanying and control group inspections. We will need to analyze possibilities for correcting these problems, or may switch to new groups involving self-assessment and non-delegated counties (no 3rd parties). See discussion below.

TASK	ORIGINAL COMPLETION DATE	ACTUAL COMPLETION DATE	MILESTONES/ DELIVERABLES	COMMENTS
First round of control group inspections	10/28/05	12/10/05	Stearns: 29 control inspections complete Winona: none completed – we have collected the most recent available inspection form for the selected control group sample	Will have to decide if remaining control group inspections can be completed in spring (after snow) and if they are statistically worthwhile
Data entry and quality assurance	10/17/05		Stearns: 29 of 35 control group inspections entered Winona: no inspection forms for control group sites have been entered yet.	Expect data entry and QA to be complete by end of February
Post-baseline follow-up and analysis	11/15/05	Ongoing	Expect by end of February	Analysis will inform possible workplan revision – see discussion below
Get QAPP Approval from EPA	6/14/05	Open	EPA comments have been received by MPCA	May revise workplan and QAPP significantly – see discussion below
Develop facility workshops	10/21/05	Open	Final package and workshop syllabus	Had been discarded since shift to 3rd -party (assisted) certification – may shift to some new self-certification sites, requiring workshops – see discussion below
Prepare and mail certification packages	9/5/05	Open	Certification mailing coinciding with end of baseline inspections	
Annual Report 1 (Year 1)	9/30/05 (changed to 1/31/06 since CA began 1/1/05)	Open	Annual report	Raw data from baselines being tabulated – will submit to EPA ASAP
Technician/MPCA assistance	3/7/06	Open (under development)	On-farm and phone assistance	Level of effort and relative roles of MPCA and MMPA being discussed – see possible workplan revision and discussion below.

II. Discussion

A. Results and analysis to-date

1. Positive results the EQA technicians documented:

- Only 2 of 12 sites analyzed in this way so far disagreed with the Stearns county feedlot officer's assessment of compliance. In Winona, it was 1 of 10.
- Soil quality: All sites used conservation cropping techniques which enhance soil quality and reduce runoff and pollutants, and most sites received highest ratings for practices which prevent erosion of gullies, streambanks, and pastures.
- Ground water: Only 3 sites had unused wells requiring proper abandonment; in each of the categories of well conditions, backflow prevention, and water testing, only one farm required correction. All farms scored highly in positioning and separation distance in relationship to pollution sources. Of only six sites with underground storage tanks, EQA techs rated one well-maintained and recommended removal of the others.
- Hazardous waste and above-ground storage – Only 5 of the 37 sites received recommendations for improvements in hazardous waste management, and all above-ground storage tanks were compliant and well-managed.
- Odor and air quality – This is a sketchy area in terms of compliance, with an exceedingly difficult-to-document hydrogen sulfide standard being the only compliance requirement. Odor issues, which may relate to H2S and ammonia, have not been defined in terms of enforceable standards, so they remain a subjective issue with neighbors. However, the EQA program takes a more proactive approach to this than inspections, combining manure management on open lots and barns, runoff from manure storage piles, the condition of anaerobic or aerobic lagoons, land application methods, and mortality management as factors which require management to prevent odor complaints. There were never more than 4 farms requiring some correction in any of these categories.
- Manure application – Few of these small farms are required to develop Nutrient Management Plans, and indeed the EQA technicians and county inspectors recommended that, depending on the practice, 16 to 43% of the farms develop plans or improve their recordkeeping, soil and manure testing, spreader calibration, or application rate practices. This relative weakness was offset by strength in the reported manure application practices, which mostly relate to keeping applied manure a prescribed distance away from and/or quickly incorporating (plowing) it near surface water or intakes, sensitive features and soils, or wells and wellhead areas. This demonstrates knowledge of standards.

2. Negatives:
   - Nutrient management documentation (mentioned above under Manure application).
   - EQA technicians gave 13 of 37 sites a "needs correction" rating on their open lots. Much of this appears to relate to deficiencies in preventing clean water from running across open lots. We're not certain yet how this relates to the county feedlot officers rate of advice for correction (not necessarily equivalent to a finding of compliance or noncompliance). The EQA technicians also rated buffers surrounding receiving waters highly, so this would lead us to conclude that under most conditions, runoff is not reaching surface water. However, state and county inspectors are frequently concerned with the condition of filtering vegetation adjacent to the open lots (which is frequently remote from receiving waters) and whether that vegetation will continue to filter in higher-rainfall or more steeply-sloping conditions. MPCA has recommended that the EQA program look at this as an additional area for assessment.
   - Although fewer than half the sites stored pesticides on site, half of those who did had not completed a pesticide spill plan.

B. Barriers/lessons learned

1. Attempting to act through third parties (county feedlot officers and EQA technicians) has led to inconsistent data collection. This is understandable because of their workload and competing priorities, plus MPCA project staff were unable to fully describe upfront the amount of work we were asking of them.
2. One consequence of #1 was that the counties were unable to conduct all control group inspections or to accompany the EQA technicians at 100% of their sites. For our existing volunteer and control groups, our options are to accept the delay and complete them this spring (after snow cover is gone) or use the most recent inspection data for those sites (this may be over a year old).

3. Data collected by the regulators and by the EQA program has few overlaps and both sets have gaps. This suggests corrections may be in order on both sides. Implications to the project are that it makes comparison of data collected at the same site by the EQA technician and the inspector difficult.
4. Only about half of the farms expected based on MPCA's database appear to be actively producing and selling milk. MDA data shows an attrition rate of around 10% per year in recent years. This unfortunate trend suggests that delegated counties should be able to inspect their small dairies at least every 2-3 years.

C. Options – Given the initial results and lessons learned, project staff are discussing mid-project adjustments. Options identified so far include:
1. Follow up on 2005 farms as intended, doing as much as possible to correct data uncertainties. This seems almost certain to happen, although this on its own would make if difficult to rest major program adjustments on findings based only on these groups.
2. Add some new third-party-assessed dairies, perhaps in non-delegated counties. This would allow us to adjust the main measures we would be using and make the assessment and inspection data more comparable. Going into non-delegated counties would allow (and require) MPCA to train and deploy its own staff, making it more likely we would get the amount and quality of data we need. However, we would need to find the program staff necessary to conduct another 40-50 inspections.
3. Recruit volunteers for a dairy self-certification pilot in non-delegated counties, to be run starting this summer. We would have both the upside of data control and the downside of finding program staff, but project staff would also have create a workbook, self-certification materials, and data management capacity in short order. MPCA's experience with the project so far would make these tasks easier, but the workload still needs to be managed. Any dairy self-certification would be designed to act as an "on-ramp" to the MMPA's EQA certification.
4. Move to self-certification in non-delegated counties *with a different sector*. Since small dairies are disappearing, one wonders ultimately how many small dairies the state or counties will have to cover through their regulatory program (there will be continuing regulatory scrutiny of larger dairies through the NPDES permit program). On the other hand, the beef cattle sector continues to have large numbers of small operators, without the attrition rate or statewide herd size reduction dairy is experiencing. There is operator crossover between dairy and beef, and some of the aspects of the EQA program could be adapted to cattle. Most other animal sectors (poultry, eggs, swine) have few small operators; growth is in the larger, permitted facilities where state attention is required.

Options 2 through 4 raise questions of different treatment, equivalence, and consistency between delegated and non-delegated counties. However, piloting in non-delegated counties would give MPCA direct experience in resource demand, and would be closest to the end game we might seek: a tool to promote compliance and improvement in counties where the state has trouble reaching significant numbers of small operators.

Self-certification also seems like the more promising approach to pilot. It would be more sustainable in the long run, since it is unclear whether the MMPA or other sectors' associations could afford to assess, certify, and monitor a growing number of association-assessed participants.

For all options, we're likely to continue with a voluntary approach for purposes of the pilot. The self-certification approach is more likely to be one we could take to mandatory after the pilot phase because of the capacity question surrounding MMPA and the legal complexity (including liability) of placing decision-making equivalent to the state/counties' compliance determinations with a third party (MMPA).

Therefore, Option 2 seems least likely since MPCA would be investing more effort in replicating the 2005 effort which now seems unlikely to result in a widely-usable surrogate for the regulatory program.

Option 1 will in all likelihood take place, since the participants will be pursuing their EQA certification anyway. The main issue would be timing of the follow-up assessments and whether those could be synchronized with the final certification assessment. It appears that, although sample sizes will be small and data uncertainty greater than hoped for, MPCA will still get enough information to support a greatly-enhanced partnership with the EQA program.

As suggested before, Options 3 and 4 – while perhaps the better match in the long run – will require a commitment of MPCA resources in the pilot phase and a general commitment to wide-scale implementation after the pilot. Project staff will pursue discussion with the program with the goal of reaching a decision on the course of the project within the first quarter of calendar 2006.

We would therefore propose that workplan and QAPP revision be delayed until that program decision is made. Project staff will keep EPA stakeholders informed as the progress of the discussion.

III. Level of Expenditures

Federal money expended in this reporting period is on the Minnesota Milk Producers Association (the grantee/contractor) invoice for October through December in the amount of $1,350.

All personnel work by MPCA staff and county feedlot officers back to June 1, 2005 have been allocated to state match.

To supplement project staff supported by state funding, we continue to work on establishing a temporary position paid out of the cooperative agreement to take on some of the project work plus to develop an important assistance tool for small feedlots: a guidance document on functional but less-expensive and maintainable "fixes" to runoff compliance issues. While not to the "gold" standard of NRCS corrections, these fixes would improve performance more quickly and on a more widespread basis than the more expensive projects for which small farmers must seek limited state and federal cost-share. In addition, we will have continuing student worker assistance available.

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