

**CITIZEN ADVISORY COMMITTEE for the
GENERIC ENVIRONMENTAL IMPACT
STATEMENT (GEIS) on ANIMAL AGRICULTURE
Meeting Notes
March 13 &14, 2001
Holiday Inn, Arden Hills**

CAC members or alternates in attendance: Gary Allen, Pat Bloomgren, Fraser Hart, Gretchen Sabel, Jim Sullivan, Andy Steensma, Pat Henderson, Harold Stanislawski, Tim Tracy, David Preisler, Galen Lisell, Troy Gilchrist, George Raab, Paul Christ, Kristin Sigford, Tina Rosenstein, Helen Palmer, Dennis Bottem, Jim Ische, Larry Schultz, Ken Albrecht, Tom Dunnwald, Chris Radatz and Ed Hegland

CAC members not represented: Mark Schultz

EQB staff present: George Johnson, Gregg Downing and Angela McGovern

Facilitator: Virginia Pierce and Charlie Peterson, Management Analysis Division

Guests: Matt Drewitz, MDA, Beverly Durgan, Project Manager, U of MN, David Mulla, U of MN, John Moncreif, U of MN, Jean Coleman, Biko Assoc.

The meeting came to order at 7:45 a.m.

Please note that these minutes are only an extract and summary of the discussion, which took, place over two full days. These minutes do NOT include every remark made by every person. The minutes try to capture some of the major ideas. An audio-tape of the entire meeting is available to any interested party to review.

The March 2001 meeting minutes are somewhat abbreviated due to technical problems with the audio recording equipment. All the tapes have a great deal of static and are barely comprehensible. Much of the discussion is unintelligible.

In order to make the minutes more useful, I will occasionally insert my own thoughts or bridging observations into the text without attributing these to myself. Sometimes I will add material or opinion based on my readings or meetings attended , which I feel helps explain the topic under discussion more completely to an outside reader. To help reduce confusion, where it is not obvious that these remarks are coming from George Johnson, I will italicize the material to remind you that this text is my thought , not due to any member of CAC. I apologize if this was unclear to anyone or they felt I was misquoting them. I take full responsibility for my editorial license.

Welcome, overview, and introductions

The meeting opened with remarks by George Johnson. He informed the CAC members of the contents of the mailing sent and pointed out additional materials at their place. EarthTech had sent in the final TWP on Air Quality and Odor. There were also copies of Charlie and Virginia's minutes of the February CAC meeting focusing on the policy recommendation process for Air Quality and Human Health. Draft policy sheets on Air Quality and Human Health with space for ranking and comments were also distributed.

The Feedlot Inventory/Census project is nearly complete with the data gathering in the non-inventory counties. Mr. Scott Freburg of LMIC staff will present an update to CAC in the April 2001 meeting. He will also discuss some of the potential for spatial analysis of the collected feedlot data. This portion of the project is a bit behind deadlines due to some complications working with the National Agricultural Statistics Service (NASS). Agricultural census data used in the non-inventory counties is subject to some the same restrictions that you find on US Census data. Individual farmers or operations cannot be identified. Only statistical aggregates of data are available in some areas. To accelerate the spatial analysis process, a task force of interested CAC members and others with special expertise is being assembled. A copy of the first meeting minutes for this Task Force is included in the April CAC mailing. This group will meet twice monthly until July 1, 2001 to guide the spatial analysis of feedlot data for the GEIS.

The first major activity of Tuesday was a presentation by Mr. Steve Jann of USEPA, Region 5 on the Federal initiative on large feedlots or concentrated animal feeding operations (CAFO). Region 5 of EPA encompasses the north central Great Lakes states of Minnesota, Wisconsin, Illinois, Indiana, Michigan and Ohio. These states all have similar water quality and operational problems with CAFO's. The Federal approach has been focused primarily on water quality protection, particularly surface water. Mr. Jann explained the development of the Federal CAFO approach and presented data on sources of water pollution to illustrate his points.

Ms. Rosenstein asked Mr. Jann about the ability of EPA to delegate programs and responsibilities to the level of counties and townships. He stated that federal enabling legislation does not permit the EPA to delegate responsibility below the level of states. The major driver for the revisions in CAFO standards was a lawsuit filed against EPA by several citizen activist groups, claiming EPA was not adequately enforcing the Clean Water Act. Part of the settlement was revisions to the CAFO rules and a pledge of stricter enforcement of existing laws by the EPA.

Members of CAC commented on the inequity of all the regulatory emphasis being placed on manures, when a large fraction of the nutrients in run-off come from commercial fertilizer. There was also some discussion over the wisdom of focusing regulation just on the very large CAFO's. The CAC has consistently pointed out that the quality of facility management is more important than size in determining potential environmental problems. When asked on how EPA would staff it's increased CAFO program,

Mr. Jann indicated EPA would focus on a few major polluters and rely heavily on State environmental authorities. He emphasized the importance of Federal/State cooperation and said EPA was very pleased with Minnesota's overall program and performance.

Ms. Palmer asked for some detail on how Federal funding was passed along to state programs. He gave some figures on the funds provided to Minnesota through EPA. Ms. Sabel indicated that this money was certainly useful, but actually funded only a portion of Minnesota's Water Quality program needs. It appears that while there is substantial agreement on policies and programs between EPA and PCA, there is still enough disagreement on details to generate potential controversies on enforcement priorities in the future. Mr. Jann had to stop at 10:00 to permit the next speaker to begin. He provided his address and phone number for CAC members who wish to contact him further.

Water Quality Draft TWP Presentation – David Mulla and team, U of MN

Dr. Mulla appeared to present his draft TWP on Water Quality. He had previously been the Team Leader for the Water Quality section of the CAC Literature review. Copies of this document had been mailed out to all CAC members in advance. Dr. Mulla's presentation and TWP were densely packed with data on water quality by county, by species and by feedlot facility size and type. His work was closely aligned with the activities of the Soils group and there was a great of synergy between the efforts of these two TWP teams. Dr. Durgan as University's Project Manager has been instrumental in fostering close communication and cooperation among the project teams.

Dr. Mulla's work involved detailed analysis of water quality data from several major sources including MPCA, USGS, DNR, BSWR, University of Minnesota Experiment Stations and the Feedlot Inventory/Census data collected by LMIC. He was able to identify four major regions in the state of Minnesota where the data was comprehensive and detailed enough to be analyzed on the minor watershed unit basis. The areas he focused on included southeastern, south central, southwestern and central Minnesota. The eighteen counties covered by his analysis have approximately 30 to 40 % of the animals in the state, a variety of facility types, soils and hydrologic conditions. His study indicates that the major water quality problems are due to the small to medium size beef, dairy and swine facilities.

Dr. Mulla also stressed the importance of proper land application of manure in controlling water pollution from phosphorus and nitrogen. Feedlot rules focus so much on facilities, barns and manure storage that these de-emphasize the importance of proper manure management in controlling feedlot pollution hazards. He did calculations of animal unit per acre to compare some of Minnesota's facilities with those in Europe. Many of our feedlots are much more dense than European recommended standards.

In examining Minnesota's three major rivers in the Mississippi drainage system, The Minnesota, the Mississippi and the Saint Croix, he discovered the vast majority of the nitrogen and phosphorus is being carried by the Minnesota River. Dr. Mulla's work also looked at the contribution of commercial fertilizer to excess nutrients in surface waters. His research shows that commercial fertilizer is a larger contributor to environmental problems than manure in portions of some watersheds. His report provides a great deal of additional detail on this question regarding nitrogen and phosphorus. Any approach dealing with surface water pollution must address all nutrient sources in the watershed, not just manure.

For the last fifty years farmers have been applying excess nitrogen to crops as cheap yield insurance. Any applied nitrogen that is not used by the crop, volatilizes as ammonia, leaches down as nitrate or runs off as organic nitrogen. Nitrogen can contaminate surface or groundwater. Phosphorus only moves as organic P attached to soil particles. Its very limited solubility restricts movement into groundwater. Except in very unusual circumstances Phosphorus from manure can only contaminate surface water. Dr. Mulla showed diagrams illustrating the Nitrogen and Phosphorus cycles in the environment.

Due to time constraints Dr. Mulla did not prepare policy recommendation on Water Quality as part of the draft TWP. He will include these as part of the Interim Final TWP and will focus on these in his presentation in April. On the basis of his March presentation the CAC did brainstorm on issues of concern and preliminary policy ideas. These are included below and were used to help craft draft Water Quality policy recommendations that will be discussed at the April CAC meeting.

Issue Identification and Policy Recommendations on Water Quality

Group brainstorm -- Important Ideas, First Impressions from Dr. Mulla's work

Best management practices (BMP) for land application of manure by watershed

- Relationship between size of operation and pollution
Beef accounts for 47 percent out-of-compliance. Beef operations are tiny, very small and small, usually a grain farmer with 20 – 30 cows in old barns and pasture. Regulations would eliminate these small single-family operations. (Ed Hegland)
- BMP adoption rate
- Animal density correlated with available land for manure application
Density of animals and availability of land – need to balance. Could this be a method to target a regulatory approach? (Pat B.)
- Put emphasis on all problem areas

Emphasis on all problems to water quality, for example, Dr. Mulla's presentation discussed the problems for Minnesota River nitrate (N) and phosphorus (P) loading being more related to commercial fertilizer than manure; also wastewater treatment plants, deposition, etc. all have an impact on water quality

- There is no cost share funding focused on land application
- Education about commercial fertilizer and manure application
- Overlay of EAP Clean Water Act with the impaired watershed (TMDL) in the technical work paper
- Ability to comply – cost of compliance and soil testing for farms with under 100 animal units
- Excess application – calibrating equipment and on-farm testing
- Research based on proven yield averages
- Consider varying terrain and soil types
Must consider varying soil terrain and types throughout the state; ground and surface water pollution potential is very different between Karst soils in Southeast vs. silt, clay, loam soils in South Central, Southwest vs. sandy soils in central Minnesota (Ed Hegland)
- 70/20 rule implementation and local water plans
- Look at commercial fertilizers regarding N and P loading

Moderate and small-sized producers

- How can the problem of moderate and small-sized producers be solved?
- Require nutrient management planning for all facilities of 100 animal units (AU) or more
- Nutrient management plan must incorporate commercial fertilizer and manure application, 100 AU and above

Manure application

- Can manure application practices be varied with land management practices?
- Incorporation of manure on no-till ground

- Nutrient management plan must incorporate commercial fertilizer and manure application, 100 AU and above

Suggestions for recommendations

- Is the issue a continuing problem?
Clearly state if policy recommendation addresses old problems (for example, open feedlots without runoff control – no longer legal to site) or ongoing and continuing issues such as winter application of manure (Kris)
- Workability of recommendations
Consider the workability of recommendations (tens of thousands of small facilities; hundreds of thousands of land application parcels) and method or resources for oversight and implementation (Kris)
- Shouldn't use current rules and laws as models for new recommendations

WATER QUALITY RECOMMENDATIONS

Submitted by CAC members on cards

- Controls and effective *local* programs: the size range of feedlots of greatest impact is within county jurisdiction – as are septic systems; fertilizer is regulated by MDA, no local role; links to farmers through GMPs and other voluntary things could be fostered through county extension (Gretchen Sabel)
- Fully utilize manure – use commercial fertilizer only as a supplement where animal units and/or manure aren't available or transportation of manure is a problem (Pat H.)
- Establish standards for calibrating manure application equipment, then calibrate equipment use on farms (Pat H.)
- Fund development of an expedient means for farmers to analyze N and P on farm. (Pat H.)
- Fund an agency such as BWSR at levels sufficient to collect data on land and acreage available for manure application – this is specifically to ensure adequate acreage for land application of manure (Pat H.)
- All size operations above 100 AU must file nutrient management plans – incorporate incentives to avoid producer disregard of nutrient plans (Pat H.)
- Mandate application rates of manure and commercial fertilizers near surface water and tile intakes to avoid excess application resulting in run-off (Pat H.)

- Correlate animal density numbers in a county and in the state with available land for manure application – balance animal numbers and/or density as per the data; look at density numbers as a whole system. (Pat H.)
- Reduce NO₃ and P₂O₅ problem. Policy: Reduce amount used, reduce erosion, and establish buffers. Also adopt P index (Pat B.)
- Counties each do an analysis like Dr. Mulla's in the context of local water planning and TMLD by watershed and determine appropriate balance for that county to protect water quality; would need to include all sources (first pies shown) goal – identify and address cumulative impacts through appropriate land use (Gretchen Sabel)
- Counties do analysis like Dr. Mulla's analysis in context of LWP and determine appropriate nutrient balance for the county to protect water quality

As part of the check-in procedure, George Johnson explained his rationale in the preparation of detailed meeting minutes. He also advised the CAC that due to funding constraints it was uncertain if CAC would be able to continue after July 1, 2001. In light of this uncertainty he would be pushing CAC to focus on policy recommendations and strive to reach consensus where possible. The funding is such that all TWP's and the GIS spatial analysis work would be completed. The areas to be cut would be additional CAC meetings and the public participation process envisioned as part of the draft GEIS. The austerity budget gives CAC little time to reflect and debate and EQB little time to prepare the GEIS.

Ms. Pierce and Mr. Peterson went over the ground rules on consensus and the policy recommendation process. They handed out materials on various decision-making models and talked about how these might apply to CAC's current situation.

Soils and Manure Draft TWP Presentation --- Paul Bloom and team, U of MN

Dr. Paul Bloom, Dr. John Moncreif and Dr. Neil Hansen made a joint presentation on this topic. Dr. Bloom began with a discussion of the potential impact of manure microorganisms on human health when applied to farmland using normal field application practices. There is extensive research that indicates pathogenic microorganisms present a very small risk to human health when land applied in manure. Environmental conditions in agricultural soils do not favor microbial survival or growth. While it is theoretically possible to be infected by manure microorganisms the practical risk to most people is vanishingly small.

Dr. Moncreif discussed his field experiences with manure application technology used in actual farming operations. He mentioned experiments done at University of Minnesota

Experiment Stations and cooperating farms on maximizing manure nutrient utilization in Minnesota cropping systems. He also discussed some technology transfer work he had been involved with regarding control water pollution at agricultural tile inlets.

Dr. Hansen presented the initial work the University of Minnesota had been doing on the Phosphorus index. Phosphorus limitations on manure applications are something being driven at the federal level. Minnesota's approach is taking advantage of the earlier work of other states. The work on the Minnesota Phosphorus index is just beginning, but it is showing a great deal of potential utility for farmers. The ultimate tool developed may be the single most valuable practical tool evolving from the Animal Agriculture GEIS.

Issue Identification and Policy Recommendations on Soils and Manure

SOIL ISSUES --- Group brainstorm

Phosphorus index

- Connect into basin management approach (TMDL)
- User friendliness of P index (Pat, U of M)
- How to decide tolerance level for P index
- Tool to support to completion, testing and, implementation of P index
P index will be a tool to help producers manage excess application. We need to support its completion, testing, and implementation (Pat B.)
- How will P index be used and be made available to the public?
- Communicate or broadcast the fact that we have this index
- Regional agreement with border states
- Record keeping (for P index) – not enough “good” data? – if people do not provide appropriate data, default on the high side?
- Economic impact P index can have on current and future livestock growth
- Grid sampling – high build-up of pH

Manure application

- Hauling during extreme weather or conditions – variables

- Applying manure – timing, when crops need it
- Manure handling process that utilizes nutrients – environmentally friendly

Financial support

- Buffer strip – government funding to aid in controlling P index run-off
- “Should the financial burden of upgrading be shared by the public?”

Other soil issues

- Benchmark to water quality
- Consider various soil types, cropping and conservation practices, and livestock types throughout the state; one size does not fit all!! (Ed Hegland)
- Soil erosion and soil loss
- Agronomic BMP
- Pathogens, heavy metals, and transportation of N in groundwater
- Use of phytase in hog area; nutrients in feed

SOIL RECOMMENDATIONS --- Submitted by CAC members on cards

- Impact of P index on expansion and growth of animal agriculture in the state (Harold)
- Pursue regional University agreements with border states concerning P index (Point is to try to “temper” wide differences in adoption)
- System to benchmark a difference in water quality with P index (Harold S.)
- How successfully are BMPs being adopted and what could be put in place to further their adoption? (Harold S.)
- Reduce risk of P transfer through improved management practices and awareness building (Pat H.)
- Develop means to assess nitrogen availability and to characterize nitrogen
- Seek means to decrease levels of N and P in animal feeds

- Cost share the upgrading of manure management equipment with producers (Pat H.)

Policy Recommendations on Air Quality

The policy recommendation process is an important part of CAC's work. We are developing and refining this process as we go along. CAC discussed the draft Air Quality policy recommendations developed by Jim Sullivan and Pat Bloomgren. These individuals were recognized by CAC as having special expertise and were delegated the job of helping George Johnson prepare draft policies for CAC to evaluate more closely. These policies were transposed onto a checklist form. CAC was polled as to which items they could agree to without discussion, which they could not support at all, and which items needed to be revised or have further discussion. Charlie Peterson and Virginia Pierce facilitated the ranking process and detailed discussion of individual policy recommendations. For the individual policies CAC's more formal process of recognizing speakers with raised name cards was set aside. Raised hands were recognized and questions and rebuttal permitted. This informality facilitated a greater opportunity for spontaneous interaction among group members.

On the basis of previous CAC comments, it was made extremely clear to the group that we were looking for policy recommendations where CAC could reach consensus. After finishing detailed discussion of each item a vote of consensus was taken. These are recorded in the draft Air Quality Policy recommendations included as part of the April CAC mailing packet.

Due to his particular knowledge of the subject of Air Quality, Jim Sullivan was permitted to comment or answer questions more frequently than anyone else. This expertise seemed to be important and useful to CAC. The negative side of reliance Mr. Sullivan's expertise was that CAC was largely unwilling to agree to anything new once Mr. Sullivan had to leave the meeting. The Air Quality Policy item in your packet has two categories of policies; 1. Those CAC agreed to by consensus. 2. Those items that were introduced but could not be adequately completed by CAC in the time permitted. The CAC Air Quality policy discussion and consensus process was quite protracted. It took CAC between five and six hours of time to complete eight recommendations.

Policy Recommendations on Human Health

The Human Health policies were developed by Pat Bloomgren, in consultation with George Johnson. These were also sent out in draft with the March CAC packet. Due to the short time left to discuss Human Health policies at the end of the second day, Pat Bloomgren took the lead in facilitating a somewhat expedited discussion process. She asked for a quick vote on the items sent out in the checklist. This first draft is in your packet identified as Human Health Draft Policy Recommendations – Checklist version.

CAC was exhausted and it was getting late so this topic was given little time for discussion. We will discuss items to the extent the group requires however it will probably result in extra or extended meetings.

On the basis of comments made by CAC, Angela McGovern typed up at the meeting what is known as Human Health Draft Policy Recommendations – Angela’s draft. Pat took the feedback for CAC and went back to her office to revise and improve the draft recommendations. She sent her second draft to me. This is in your packet as Human Health Draft Policy Recommendations – Pat B’s Draft. All the previous versions were combined and the language grouped to give you a final draft policy version that I refer to as the Human Health Draft Policy Recommendations – Hybrid version. This is the document we will be using to facilitate our Human Health policy discussion. This document is designed to show the evolution of the policy recommendations during the CAC discussion.

PARKING LOT ISSUES THAT APPLY TO MANY TWP AREAS

In the ongoing policy discussions certain meta-issues or concerns that many parts of the system keep surfacing. Rather than ignore these recurring concerns they have been put into the “parking lot” for continual reconsideration. In general these concerns include money, information or issues that can not be easily assigned to just one area. Several have been suggested as best dealt with in the role of government TWP. Some of these considerations include:

- One-stop shop for producers regarding permitting, etc.; role of government
- Role of government – operational practices, setbacks distances, and odor levels (air quality recommendation and orange sheet)
- Discussion on funding requests for recommendations and areas for further research
- Cumulative impacts of air, water and other environmental, public health, economic and social effects
- Make a greater effort to inform the public regarding feedlot issues, public education
- The need to continuously or periodically update GEIS information in light of new issues emerging

From human health recommendations

- State, federal, and international trans-boundary issues – environment, economic, social
- Role of government

Additional issues

- Necessity for bad actor laws, role of government
- Administration of the permitting program
Permit data base needs work – needs regular updating; needs “ground” truth; needs annual revision of land on which they apply (Pat B.)
- Why are guidelines for commercial fertilizer different than organic fertilizer?
- Overlay findings with the Safe Drinking Water Act
Who should pay for the degradation of drinking water? (Pat B.)

4:45 Summary/Check-in

5:00 Meeting Adjourned