



Minnesota Board of Water and Soil Resources.
Minutes.

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**BOARD OF WATER AND SOIL RESOURCES
ROOM 112, STATE CAPITOL
ST. PAUL, MINNESOTA
OCTOBER 27, 1993**

Appointed Members Present: Jim Nielsen, Ted Lovdahl, Howard Peterson, Sharon Clark, Dwain Otte, John Boulton, Barbara Uppgaard, Kathy Roer, Barbara Cobb, Jim Rossman, Don Ogaard, Warren Rodning.

Agency Members Present:

Fred Bergsrud, U of M/Extension Service (MES)
Wayne Anderson, Pollution Control Agency (PCA)
Paul Burns, Department of Agriculture (MDA)
Ron Nargang, Department of Natural Resources (DNR)
Kim Benson-Johnson, Department of Health (MDH)

Others Present:

D'Wayne DeZiel, Minnesota Association of Soil and Water Conservation Districts (MASWCD)
Gary Nordstrom, Soil Conservation Service (SCS)
Susan Schmidt, Legislative Water Commission (LWC)
Don Jakes and Rita O'Connell, Kathy Svanda, PCA

Staff:

Ron Harnack, Wayne Zellmer, Marybeth Block, Jim Birkholz, Brad Matlack, Eric Mohring, Chris Hofstede, Al Kean, Greg Larson, and Mary Jo Anderson

Meeting Called to Order - Chairman Nielsen called the meeting to order at 9:05 a.m.

93-59 **Adopt Agenda** - Moved by Ted Lovdahl, seconded by Boulton, to adopt the agenda as presented. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Roer, Rossman, Uppgaard, and Nielsen. Opposed: None. Carried.

93-60 **Minutes of September 23, 1993** - Howard Peterson stated that a correction is needed on page seven regarding his MAWD comments. It should state, "Howard hears much about watershed management, ..." rather than Howard heard watershed management ... Moved by Howard Peterson, seconded by Jim Rossman, to approve the minutes of September 23, 1993 as corrected. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Roer, Rossman, Uppgaard, and Nielsen. Opposed: None. Carried.

John Boulton introduced Kerry Netzke, Study Area II coordinator.

Chairman's Report - Chairman Nielsen stated that he has been busy but does not have a formal report this month.

Executive Director's Report - Ron Harnack, introduced Ron Nargang, Deputy Commissioner of the Department of Natural Resources. Ron introduced Wayne Zellmer, the BWSR's new Grants Coordinator, replacing Chuck Niska. Wayne is from the Dakota County SWCD. Dwain Otte said Dakota County SWCD wasn't happy to have Wayne leave but they were glad he came to BWSR.

Ron Harnack reported that he has received a copy of the draft legislative audit report and he will be commenting to them by November 1. Ron said that the BWSR records looks good although, they questioned some procedural issues. He said the report he received is an internal report at this time, a final external report will be available to BWSR members by the December BWSR meeting.

Ron stated that a three-day staff retreat was held October 11-13, 1993, at the Arrowwood Conference Center in Alexandria. Ron reported that he was unable to attend the staff retreat as he attended the Legislative Bonding Committee tour of southwestern Minnesota. Study Area II and SWCDs did an excellent job in setting up sites.

Ron reported that several local meetings have been held regarding the Wetland Conservation Act (WCA).

Warren Rodning entered the meeting at 9:20 a.m.

Barbara Uppgaard commented that wetlands are assigned to the Agriculture and Transportation Committee of the Association of Minnesota Counties (AMC) rather than the Environment and Natural Resources Committee. They need more ^{efforts} effects on coordination between committees. Rossman asked how the local governmental units (LGUs) are

trained? Ron stated that a series of ten training sessions are scheduled in November and county commissioners and SWCD supervisors have been invited to attend. Ron said that some counties are looking to integrate WCA into existing programs and some are delegating to SWCDs. Ron stated that options are laid out for them, it's up to LGUs to choose what works best for them. Greater coordination is needed among the agencies, federal and state, there is a need for mitigation and banking - close to having a memo of understanding signed said Ron. A draft U.S. Army Corps of Engineers (COE) public notice will hopefully be sent out the end of this year that will move one step closer to one-stop shopping. Barb Cobb asked about the block grant issue. Ron said the three separate programs, as bases are established, grants will be augmented into one block grant. Discussion followed. Ron said that administrative issues will be a significant element in training sessions. Chairman asked that staff report and identify common problems to BWSR at December meeting. Ron said very few supervisors and county commissioners are attending training sessions. Jim Rossman believes BWSR needs to promote small cities delegating to counties. Chairman Nielsen asked staff to provide information on the fee structure local governments are using for various elements of the WCA.

Ron reported that Dave Peterson fell and cracked a vertebrae in his neck and is disabled the next few months. Everyone is trying to cover the gaps and also wish Dave a speedy recovery.

Committee Reports

Dispute Resolution Committee (DRC) - Kathy Roer reported that Doug Thomas and Howard Peterson went to Dellwood to meet with landowners, watershed district staff and SWCD staff. All parties may be able to resolve this issue on their own. Ron commented on a situation with a tenant in southwestern Minnesota who wants a decision from BWSR to open a culvert. The mediation does not appear to have worked.

Education Committee - Sharon Clark reported that the education committee will meet on November 16. Sharon announced that Susan Tsakakis had a baby girl on October 3.

Chairman Nielsen would like to reschedule the December 8 meeting to Thursday, December 9. He has a conflict on the 8th, he asked members to think about changing this date, a decision will be made later today.

Comprehensive State Ground Water Protection Program - Eric Mohring introduced Don Jakes from PCA and Susan Schmidt, Executive Director, Legislative Water Commission (LWC). Don Jakes introduced Rita O'Connell, who has spent much time putting the assessment together. Don Jakes reported that the draft assessment of the Comprehensive State Ground Water Protection Program (CSGWPP) is designed to be an evaluation of current ground water protection efforts in the state of Minnesota. It's meant to include all levels of effort: government (federal, state, and local), the private sector, and the public. Otte suggested moving the education efforts to a higher priority. Susan explained that the LWC was created in 1989 as part of the Ground Water Protection Act (GWPA). The LWC

set priorities for 1994 - one being to look at the GWPA and are they doing what they set out to do. The LWC requested Susan to gather information on GWPA: 1) requested Larry Morandi, staff of National Council on State Legislators in Denver, Colorado, to conduct outside analysis of the GWPA; 2) PCA's lead in responding to EPA; 3) scheduled hearings on November 29-30 on GWPA. Susan suggested that BWSR request to participate in hearings, work with Don, submit comments and letters to legislators. Eric explained that BWSR and LGUs are involved in the well program, land use program, wellhead protection. Eric encourages members to look at this draft assessment and decide how BWSR may want to provide input. Chairman Nielsen requested that staff come back at December meeting with overview, how the impacts effect our clients, and asked members to get Eric their input. Sharon Clark commented that she was disappointed that the education was ^{not} given more emphasis in BWSR comments.

Senator Lessard was introduced by Chairman Nielsen. He briefly commented on the WCA 2:1, he stressed the point that this was not done in his committee, he worked hard to get 1:1. He pointed out that he is aware of the funding process. He respects BWSR and it's crucial that BWSR maintains its strength and identity. Senator Lessard stated that all reorganization decisions come before the Environment and Natural Resources Committee, which he chairs. His door is always open, call or stop.

Senator Charlie Berg was introduced.

Chairman Nielsen called for a recess in the meeting at 10:35 a.m. The meeting reconvened at 10:45 a.m.

Ron Harnack commented on the ground water issue - the draft information provides an initial point of discussion, more drafts to follow. Individual copies will be sent to members.

RIM Contract Amendment - Marybeth Block reported that Mr. Dodd in Pope County is requesting that RIM boundaries be amended to remove 2.2 acres for an access road and a one acre plot adjacent to the lake shore. Marybeth felt that this is a sincere request for limited acres, and the SWCD has endorsed it as well as the area wildlife manager. Ron Nargang asked why there were 7.1 acres previously not included? Marybeth stated that 7.1 acres are native prairie and did not meet RIM eligibility requirements. However, typically donated acres have not been required to meet eligibility criteria. Nargang encouraged BWSR to clarify the 9.1 acres discrepancy in DNR letter. Marybeth clarified that staff recommendation is to approve 4.9 acres (7.1 minus 2.2 acres) of donated land containing native prairie in lieu of releasing the 2.2 acres. Ron Harnack said we don't want small parcels with buildings on the parcels, we don't want to set a precedent here. Ron said that we need to look at zoning, local regulations. Moved by Sharon Clark, seconded by Howard Peterson, to table the action of this issue until the December meeting so final determinations and clarifications are made. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Rodning, Roer, Rossman, Uppgaard, and Nielsen. Opposed: None. Carried.

Issues Relating to Reauthorization of the Federal Farm Bill - Jim Birkholz led a discussion on issues related to the next farm bill and the BWSR's position on them. There are many related issues that BWSR should consider: 1995 farm bill; USDA reorganization; Clinton administration wetland plan; reauthorization of the Clean Water Act; Clinton/Gore reinventing government; development of state and local government programs and capability; some say this is all a done deal.

Jim overviewed some concepts that BWSR should be thinking about:

- indicators of a healthy agricultural environment;
- local focus for national implementation of farm policies
 - acknowledge development of local government;
 - bring all parties to table;
 - consider local government role in land use regulation;
- Conservation farm plans should develop into total farmland resource plans for producers who participate in agricultural subsidy programs;
- Cropland retirement programs should emphasize long term easements
- USDA research funds should be redirected from commodity production towards research that supports a healthy agricultural landscape;
- Parallel delivery mechanisms of federal, state and local government which deliver similar programs such as cost-sharing or land retirement should be coordinated or consolidated
- New ways to organize

Jim identified the following examples of similar programs which could be consolidated or streamlined:

- Implementation of land retirement and set aside programs
 - federal: conservation reserve program, wetlands reserve program, annual and multi-year set aside.
 - state and local: RIM, PWP
- Cost-Sharing Incentive Programs
 - federal: ACP
 - state: State cost-sharing programs
- Reauthorization of the Clean Water Act
 - 319 approach to nonpoint source pollution
 - Coastal Zone Management approach to NPS

Jim said the timing is right for BWSR to take a position. A policy position should be in place by the end of the year. Jim asked members if they feel that local governments should be a more active implementor of the farm bill? Chairman Nielsen asked for Jim's suggestion ~~for an~~ ^{for an} end product. Jim suggested that BWSR approve a one or two page position statement which could be used to promote the BWSR position on the farm program to Minnesota's congressional delegation and others. Don Ogaard appreciates the initiative, it's important to the agricultural community. Discussion followed. Sharon Clark commented on the need to involve commodity groups more in policy development. Nargang suggested showing the video, "Reforming Farm Policy" by D. Ford Runge to the BWSR. Ron Harnack

said it's important to formulate a state's position to bring all agencies together for one position on the farm bill. Chairman Nielsen said the 1995 Farm Bill is going to be very important and the BWSR needs to take a position, particularly as it affects local government. Chairman Nielsen appointed a committee to look at this and come back at the December meeting with recommendations. Rodning suggested bringing all representatives and/or outside constituents, into a one-day or half-day meeting. Dwain Otte volunteered. Chairman Nielsen suggested discussing this at the January meeting to enable us to spend more time on it. Ron Nargang volunteered Wayne Edgerton to use as staff advisor or formal member of the group. Fred Bergsrud volunteered. Howard Peterson volunteered. D'Wayne DeZiel, MASWCD; and Gary Nordstrom, SCS, and Chairman Nielsen volunteered. Warren Rodning volunteered. Sharon Clark volunteered. Chairman Nielsen said Ron and/or Mary Jo will tell us where and when the group will meet.

Biological Indicators - Ron Harnack asked Ron Nargang to comment. Ron Nargang distributed a draft handout that explains the Minnesota Environmental Indicators Initiative. The Environmental Quality Board (EQB) recommended the creation of an environmental indicator task force with the following charge: 1) create a process or developing environmental indicators that monitor the health of Minnesota's resources, its ecosystems, and its environment; 2) create a Legislative Commission on Minnesota Resources (LCMR) project proposal on environmental indicators; 3) Identify criteria the LCMR can use in evaluating future indicator proposals. Nargang stated that EQB passed a resolution to move forward with implementation. An interim design team and advisory team is being formed. Ron Nargang offered representation of BWSR at the meeting. Nargang stated that initial meetings have produced a set of refined objectives and draft principles: 1) research and design a framework for cooperative planning and information exchange among organizations having active environmental monitoring programs; 2) research and design a framework that provides for direct integration of existing environmental monitoring data and enables supplementing existing networks to fill data gaps; 3) research and design a framework that provides for effective distribution of environmental indicator information to citizens and decision makers.

Ron Harnack said that the BWSR has talked about a January meeting and also a retreat to assess our plan and priorities and to assist staff in direction, relationships with LGU's and future issues before the BWSR. Ron suggested a two-day retreat. He asked for BWSR perspective on this. Ron said possibly not a January meeting but rather focus on the retreat. Kathy Roer stated skipping a meeting means issues being missed. January 25, 26, 27 - details left up to staff. Agenda will be brought before full BWSR in December. Barb Cobb and Kathy Roer will assist Ron with agenda.

Chairman Nielsen adjourned the meeting for lunch at 12:05 p.m. The meeting reconvened at 1:00 p.m.

Feedlot Management Initiative - Al Kean updated members on the feedlot management initiative. Al introduced Kathy Svanda, PCA. Kathy briefly described the permitting and

enforcement program. She said that the state has never funded this program, the five positions they have are federally funded. The program is based on an investment permitting program; change of ownership, expanding, and buying or new feedlot. PCA called together MDA, BWSR, DNR, and MES, to come up with an interagency proposal that could be taken to the agricultural community, legislature, and the Governor's office. A final draft of the document explaining the program, summary sheet explaining each agency's role and cost involved is being put together. She will bring that to the BWSR when that is available. Al presented the technical and financial assistance strategy. State Feedlot Program:

- Estimated 40,000 - 50,000 feedlots in Minnesota
- Approximately 16,000 feedlots have been permitted since 1972
- Estimated 20% high priority = \$8000
- Existing Technical and Financial Assistance
- Current federal ACP funding approximately \$1,000,000/year
- Current state cost-share program funding approximately \$350,000/year

Strategy

- Assume 10-year timeframe
- Focus on high priority feedlots (6800 estimated)
- Build SWCD capability to design and construct an average of 680 systems per year over 10 years. Estimated \$2,380,000/year
- Assume one BWSR position for tech training to SWCDs estimated \$50,000/year
- Provide one engineer per MASWCD area (7) for technical review and sign-off estimate \$350,000/year
- Total technical assistance cost estimate \$2,780,000/year
- Estimated average cost of \$30,000 per runoff control system
- Estimated total construction cost \$20,400/year

Funding Options

- Cost-Share Program
- State Revolving Loan Program

Chairman Nielsen asked agencies how they can contribute to the feedlot management initiative. Paul Burns stated MDA can contribute in the area of information and education; manure best management practices; customer research and design; model farms program; additional on-farm demonstrations; revolving loan mechanisms; local capabilities; technical assistance in design; and resources for comprehensive zoning/land uses.

Fred said MES's role is an educational system to get consistency in application and priorities of feedlot issues. Possible certification program; working to develop demonstration, and models in the future. Fred said there's a need to be innovative for creation of ideas. MES is working with PCA to do on-farm planning, manure management, and 319 proposals - need for funding.

Ron Nargang stated that DNR's role is enforcement, six positions - specialist public

information positions.

Harnack said that LGUs incentive to take on the feedlot program and long-term monitoring is an issue, who should monitor? State capability is also an issue said Ron. Should there be a cost-share program and loan program? Possible revolving loan program. Positive things happening on enforcement. The likelihood of funding is remote said Ron, we need to do with what we've got. Chairman Nielsen is disappointed, he said that if the Gophers can beat Wisconsin, we can get \$20,000,000 every year. Go for the bucks, if the funding isn't there - five years from now you're still going to be studying and nothing is going to get done, said Chairman Nielsen. Discussion followed. Al asked, "why can't we go for a pilot project and promote that to the legislature"? Rossman agreed with that, but also, counties need to have some solid, reliable feedlot numbers. Consolidated legislative initiative is the next step, which will be available at December BWSR meeting said Al. Chairman Nielsen said to show legislature the projects we have, don't pilot and waste time studying, be more optimistic, the legislature will come up with money.

Area II Project Funding Criteria - Ron said Area II has supported the Lac Qui Parle River Floodway Project. The question is its eligibility for cost-share funding under the state's policy? Chairman Nielsen asked Nargang where is DNR on this? Ron Nargang said DNR has major disagreements on this issue of downstream flooding, public pressure to deny this, drainage issues. Huge public opposition to this project said Nargang. Does the BWSR endorse the state's policy on channelization. Does the BWSR support this federal flood control project, to authorize cost-share funds? If it's channelization, it's ineligible said Ron. Moved by John Boulton, seconded by Sharon Clark, to support staff's recommendation to adopt the definition of channelization as defined by DNR, meaning that this project is not channelization. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Rodning, Roer, Rossman, and Uppgaard. Opposed: Nielsen. Carried. Chairman Nielsen opposed this action because he said he doesn't feel the BWSR should be involved in taking action on definitions. The BWSR will need to address the definition of retention or retarding if projects are requested for funding. Sharon Clark asked for Area II's side on this, bring people in before BWSR.

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93-62

Minnesota River Cost-Share Initiative - Greg Larson stated that Jeff Nielsen has been meeting with SWCDs, SCS, PCA staff, others. Greg gave an overview of the cost-share allocation proposals and the process of developing a comprehensive plan for the Blue Earth River Basin Initiative (BERBI). Paul Burns, said that funds should be targeted, can MRAP help prioritize? Dwain Otte agreed. Greg will come back with recommendation at December meeting.

Wetland Conservation Act/Percent of Wetlands in County - Chairman Nielsen said whatever action we take today we are going to set some precedent. Greg Larson explained the WCA request received from Clearwater County to move from a less than 80 percent county to a greater than 80 percent county. He said that five other requests (Anoka, Sherburne, Morrison, Wadena, and Clearwater Counties) that are within ten percent of 80 percent and

they are potential candidates for future consideration. Greg has discussed with other agencies the type of criteria the BWSR should consider in making a decision to change a county from lessor to a greater than 80 percent county. Staff recommends that the methodology used by Clearwater SWCD be the standard by which other counties should use to seek a shift in wetland percentage. Greg recommended approval of criteria. Moved by Warren Rodning, seconded by Don Ogaard, to endorse the criteria recommend by staff. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Rodning, Roer, Rossman, Uppgaard, and Nielsen. Carried.

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93-63

Moved by Don Ogaard, seconded by Sharon Clark, to approve Clearwater County's request to become a greater than 80 percent county. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Rodning, Roer, Rossman, Uppgaard, and Nielsen. Opposed: None. Carried.

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93-64

Southern Education Specialist - Ron Harnack recommended establishing a southern education specialist. This position will function similarly to Barbara Liukkonen's position. If endorsed the BWSR education committee and MES would formalize. Moved by Ted Lovdahl, seconded by Dwain Otte, to approve the BWSR/MES southern education position. Affirmative: Boulton, Clark, Lovdahl, Peterson, Ogaard, Otte, Rodning, Roer, Rossman, Uppgaard, and Nielsen. Opposed: None. Carried. Sharon Clark asked when the position would be available to start, and are we looking at a certain individual. Ron said that it's preferred that to have an MES employee rather than BWSR employee, more of an advantage of getting services through MES. A particular individual has not necessarily be chosen. All agreements regarding this position need to be completed in a few months. The education committee needs to be comfortable with individual. Fred said a financial commitment has been received from Pat Borich. Fred asked if next year start date is January or July? Ron said that January could work if the package is put together, but at least by spring. Sharon Clark feels the position needs to be filled.

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93-65

Warren commented on WCA training beginning next week. He asked if administrative issues will be discussed at these sessions. Greg said the first of nine sessions will be on November 1-2, in Duluth and Alexandria, aimed at elected local officials and policymakers.

Chairman Nielsen announced that the December BWSR meeting will be held Thursday, December 9.

Ron said the Wetland Heritage Advisory Committee (WHAC) meets November 3; BWSR wetland committee members are encouraged to attend.

Don Ogaard reported that his last BWSR meeting will be December 9. He will be leaving the watershed district; and effective January 1, 1994, he will be administrator of the Red River Water Management Board. He requests any assistance from BWSR, this is a massive Red River impoundment initiative; he intends to devote his time on this initiative.

Advisor Comments

-Minnesota Association of Watershed Districts (MAWD): Howard Peterson reported that he represented MAWD at the Minnesota Lakes Association conference. He was going over MAWD budget and recognized how BWSR supported MAWD financially and with staff support, he thanked BWSR for their assistance.

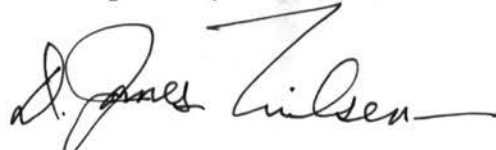
-Soil Conservation Service (SCS): Gary Nordstrom briefly commented on USDA reorganization. He encouraged members to send letters of support to the congressional delegation. Gary mentioned that SCS is converting to a new computer system.

-Minnesota Association of Conservation District Employees (MACDE): Dan Livdahl, Nobles SWCD, reported that MACDE met on October 25. He thanked BWSR for the \$5,000 grant they received for an environmental education fair that 1800 students attended in September.

-Minnesota Association of Soil and Water Conservation Districts (MASWCD): D'Wayne DeZiel reported that he attended an AMC meeting with follow-up meetings to be held. He invited everyone to attend the MASWCD convention, December 5-7, 1993, in St. Cloud.

Chairman Nielsen adjourned the meeting at 3:20 p.m.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "D. James Nielsen", with a long horizontal flourish extending to the right.

D. James Nielsen
Chairman

DRAFT

a:oct.min

DRAFT

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5: oct.min

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John Boulton introduced Kerry Netzke, Study Area II coordinator, effective ~~August 23, 1993.~~

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^{local} Ron reported that several meetings have been held regarding the Wetland Conservation Act (WCA). ~~Draft policies are coming out of the Association of Minnesota Counties (AMC).~~ Ron suggested that counties not adopt that policy - issue of 100% funding; ~~AMC county commissioners are not all of the same thinking.~~ Ron said that AMC will be having roundtable discussions at their convention, BWSR will host a table and he asked for members to assist with this.

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USCE
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~~out to SWCD's by BWSR, it's the LGUs choice to provide service.~~ Discussion followed.

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that staff report and identify common problems to BWSR at December meeting. Ron said

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sessions, ~~very little participation from them.~~ Rossman would like to see direction to county

on how the BWSR sees the best way to administer funding. *Jim R. Salmer BWSR needs*
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~~and get to members in December~~ - letting small LGUs get assistance in the program.

information on the fee structure local grants are using for
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Education Committee - Sharon Clark ^{reported} that the education committee will meet on November 16. Sharon announced that Susan Tsakakis had a baby girl on October 3.

Chairman Nielsen would like to rescheduled the December 8 meeting to Thursday, December 9. He has a conflict on the 8th, he asked members to think about changing this date, a decision will be made later today.

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education efforts to a higher priority. Don asked ~~what level of interest the BSWR has in~~

~~the assessment.~~ Susan explained that the LWC was created in 1989 as part of the Ground

Water Protection Act (GWPA). The LWC set priorities for 1994 - one being to look at the

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~~can get a handle on this and what we want to participate in.~~ Sharon Clark commented that

she was disappointed in ~~Eric~~ that the education committee was not included in this and

~~would like to see that done.~~

*added pt
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Senator Lessard was introduced by Chairman Nielsen. He briefly commented on the WCA

2:1, he stressed the point that this was not done in his committee, he worked hard to get 1:1.

He pointed out that he is aware of the funding process. He respects BWSR and it's crucial

that BWSR maintains its strength and identity. Senator Lessard stated that all ~~decisions~~

come before the Environment and Natural Resources Committee, which he chairs. His door

delegation

is always open, call or stop by ~~with questions.~~

Senator Charlie Berg was introduced.

Chairman Nielsen called for a recess in the meeting at 10:35 a.m. The meeting reconvened at 10:45 a.m.

Ron Harnack commented on the ground water issue - the draft information provides an initial point of discussion, more drafts to follow ~~as EQB addresses that~~. Individual copies will be sent to members.

RIM Contract Amendment - ~~Ron Harnack said landowners don't think about policies and easement exchanges until the point of sale.~~ Marybeth Block reported that Mr. Dodd in Polk County is requesting that RIM boundaries be amended to remove 2.2 acres for an access road and a one acre plot adjacent to the lake shore. Marybeth felt that this is a sincere request, the SWCD has endorsed it as well as the area wildlife manager. Ron Nargang asked why there were 7.1 acres previously? ^{not included} Marybeth stated that 7.1 acres are native prairie and did not meet ^{RIM eligibility} requirements, these are ^{typically} donated acres that could be put into the program. Nargang encouraged BWSR to clarify the 9.1 acres discrepancy in DNR letter. Marybeth clarified that staff recommendation is to approve 4.9 acres (7.1 minus 2.2 acres) of donated land containing native prairie. Ron Harnack said we don't want small parcels with buildings on the parcels, we don't want to set a precedent here. ~~The valid issues have been discussed, specific descriptions of prescribed area.~~ Ron said that we need to look at

zoning, local regulations. Moved by Sharon Clark, seconded by Howard Peterson, to table the action of this issue until the December meeting so final determinations and clarifications are made. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Rodning, Roer, Rossman, Uppgaard, and Nielsen. Opposed: None. Carried.

Issues Relating to Reauthorization of the Federal Farm Bill - Jim Birkholz explained that BWSR needs a strong voice in the farm bill and decisions need to be made on the BWSR's position on the bill. Following are related issues that BWSR needs to take a position on: 1995 farm bill; USDA reorganization; Clinton administration wetland plan; reauthorization of the Clean Water Act; Clinton/Gore reinventing government; development of state and local government programs and capability; some say this is all a done deal.

Jim overviewed some concepts that BWSR should be thinking about:

- indicators of a healthy agricultural environment;
- local focus for national implementation of farm policies
 - acknowledge development of local government;
 - bring all parties to table;
 - consider local government role in land use regulation;
- Conservation farm plans should develop into total farmland resource plans for producers who participate in agricultural subsidy programs;
- Cropland retirement programs should emphasize long term easements
- USDA research funds should be redirected from commodity production towards research that supports a healthy agricultural landscape;

- Parallel delivery mechanisms of federal, state and local government which deliver similar programs such as cost-sharing or land retirement should be coordinated or consolidated
- New ways to organize

Jim proposed the following specifics for BWSR to consider:

- Implementation of land retirement and set aside programs
 - federal, conservation reserve program, wetlands reserve program, annual and multi year set aside.
 - state and local - RIM, PWP
- Cost-Sharing Incentive Programs
 - federal : ACP
 - state: State cost-sharing programs
- Reauthorization of the Clean Water Act
 - 319 approach to nonpoint source pollution
 - Coastal Zone Management approach to NPS

Jim said the timing is right for BWSR to take a position. ~~DNR has taken the lead to get~~
~~agencies involved and willingness to work together.~~ A policy position should be in place by the end of the year. Jim asked members if they feel that local governments should be a more active implementor? Chairman Nielsen asked for Jim's proposal as an end product? Jim said that BWSR give staff a one or two page position to push and promote the farm program to congressional delegation so staff is directed on ~~what~~ the BWSR's position ~~is~~. Chairman asked Jim what if those roles are reversed? Jim said they would do as directed.

Don Ogaard appreciates the initiative, it's important to the agricultural community. Discussion followed. Sharon Clark commented on the commodity groups, the opportunity should be given to farm organizations as well, as they are not the same. Nargang suggested showing the video, "Reforming Farm Policy" by D. Ford Runge to the BWSR. Ron Harnack said it's important to formulate a state's position to bring all agencies together for one position on the farm bill. Chairman Nielsen said the 1995 Farm Bill is going to be very important and the BWSR needs to take a position and particularly as they affect the local units. Jim Birkholz said he would like to have this in place by the end of the year. Chairman Nielsen suggested that as much commonality as possible is needed.

Chairman Nielsen appointed a committee to look at this and come back at the meeting with recommendations. Rodning suggested bringing all representatives outside constituents, with one day or half day meeting. Dwain Otte volunteered in County. Nielsen suggested discussing this at the January meeting to enable us to speak on. Ron Nargang volunteered Wayne Edgerton to use as staff advisor or for the group. Fred Bergsrud volunteered. Howard Peterson and someone volunteered. D'Wayne DeZiel, MASWCD; and Gary Nordstrom, SCS, Nielsen volunteered. Warren Rodning volunteered. Sharon Clark volunteered. Nielsen said the committee will look at what's needed to protect what's sponsoring and go forward with that. Chairman Nielsen said Ron and/or Mary Jo will tell us where and when.

FARM PROGRAM
RODNING
4072 DINK
CLARK
OTTE
EDGERTON
BURNS.
PETERSON
BERGSRUD
DEZIEL
NORDSTROM
NIELSEN

Biological Indicators - Ron Harnack asked Ron Nargang to comment on this. Ron Nargang distributed a draft handout that explains the Minnesota Environmental Indicators Initiative.

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Biological Indicators - Ron Harnack asked Ron Nargang to comment ~~on this~~. Ron Nargang distributed a draft handout that explains the Minnesota Environmental Indicators Initiative.

The Environmental Quality Board (EQB) recommended the creation of an environmental indicator task force with the following charge: 1) create a process or developing environmental indicators that monitor the health of Minnesota's resources, its ecosystems, and its environment; 2) create a Legislative Commission on Minnesota Resources (LCMR) project proposal on environmental indicators; 3) Identify criteria the LCMR can use in evaluating future indicator proposals. Nargang stated that EQB passed a resolution to move forward with implementation. An interim design team and advisory team is being formed. Ron Nargang offered representation of BWSR at the meeting. Nargang stated that initial meetings have produced a set of refined objectives and draft principles: 1) research and design a framework for cooperative planning and information exchange among organizations having active environmental monitoring programs; 2) research and design a framework that provides for direct integration of existing environmental monitoring data and enables supplementing existing networks to fill data gaps; 3) research and design a framework that provides for effective distribution of environmental indicator information to citizens and decision makers.

Ron Harnack said that the BWSR has talked about a January meeting and also a retreat to assess our plan and priorities and to assist staff in direction, relationships with LGU's and future issues before the BWSR. Ron suggested a two-day retreat. He asked for BWSR perspective on this. Ron said possibly not a January meeting but rather focus on the retreat.

Kathy Roer stated skipping a meeting means issues being missed. ~~Ron said staff support is an issue - we can only do so many things.~~ January 25, 26, 27 - details left up to staff. Agenda will be brought before full BWSR in December. Barb Cobb and Kathy Roer will

assist Ron with agenda.

Chairman Nielsen adjourned the meeting for lunch at 12:05 p.m. The meeting reconvened at 1:00 p.m.

Feedlot Management Initiative - Al Kean updated members on the feedlot management initiative. Al introduced Kathy Svanda, PCA. Kathy briefly described the permitting and enforcement program, with technical assistance on education. She said that the state has never funded this program, the five positions they have are federally funded. The program is based on an investment permitting program; change of ownership, expanding, and buying or new feedlot. PCA called together MDA, BWSR, DNR, and MES, to come up with an interagency proposal that could be taken to the agricultural community, legislature, and the Governor's office. A final draft of the document explaining the program, summary sheet explaining each agency's role and cost involved is being put together. She will bring that to the BWSR when that is available. Al presented the technical and financial assistance strategy. State Feedlot Program:

- Estimated 40,000 - 50,000 feedlots in Minnesota
- Approximately 16,000 feedlots have been permitted since 1972
- Estimated 20% high priority = ~~800~~

- Existing Technical and Financial Assistance

Cecilia
- Federal ACP funding approximately \$1,000,000/year

Cecilia
- State cost-share program funding approximately \$350,000/year
1

Strategy

- Assume 10-year timeframe
- Focus on high priority feedlots (6800 estimated)
- Build SWCD capability to design and construct an average of 680 systems per year over 10 years. Estimated \$2,380,000/year
- Assume one BWSR position for tech training to SWCDs estimated \$50,000/year
- Provide one engineer per MASWCD area⁽⁷⁾ for technical review and sign-off estimate \$350,000/year
- Total technical assistance cost estimate \$2,780,000/year
- Estimated average cost of \$30,000 per runoff control system
- Estimated total construction cost \$20,400/year

Funding Options

- Cost-Share Program
- State Revolving Loan Program

Chairman Nielsen asked agencies how they can contribute to the feedlot management initiative. Paul Burns stated MDA can contribute in the area of information and education; manure best management practices; customer research and design; model farms program; additional on-farm demonstrations; ¹⁰involving loan mechanisms; local capabilities; technical assistance in design; and resources for comprehensive zoning/land uses.

Fred said MES's role is an educational system to get consistency in application and priorities

of feedlot issues. Possible certification program; working to develop demonstration, and models in the future. Fred said there's a need to be innovative for creation of ideas. MES is working with PCA to do on-farm planning, manure management, and 319 proposals - need for funding.

Ron Nargang stated that DNR's role is enforcement, six positions - specialist public information positions.

Harnack said that LGUs incentive to take on the feedlot program and long-term monitoring is an issue, who should monitor? State capability is also an issue said Ron. Should there be a cost-share program and loan program? Possible revolving loan program. Positive things happening on enforcement. The likelihood of funding is remote said Ron, we need to do with what we've got. Chairman Nielsen is disappointed, he said that if the Gophers can beat Wisconsin, we can get \$20,000,000 every year. Go for the bucks, if the funding isn't there - five years from now you're still going to be studying and nothing is going to get done, said Chairman Nielsen. Discussion followed. Al asked, "why can't we go for a pilot project and promote that to the legislature"? Rossman agreed with that, but also, counties need to have some solid, reliable ^{feedlot} numbers. Consolidated legislative initiative is the next step, which will be available at December BWSR meeting said Al. Chairman Nielsen said if show ~~somebody a result, they will allow more.~~ Chairman Nielsen said to show legislature the projects we have, don't pilot and waste time studying, be more optimistic, the legislature will come up with money.

the LQP was flooding
Area II Project Funding Criteria - Ron said Area II has supported this project, *is it eligible*
for cost-share funding under the state's policy? *The question is* Ron would like BWSR's support,

~~traditionally not flood water retarding or retention project.~~ Chairman Nielsen asked Nargang where is DNR on this? Ron Nargang said DNR has major disagreements on this issue of downstream *floodway* permitting, channelization, public pressure to deny this, drainage issues.

Huge public opposition to this project said Nargang. Does the BWSR endorse the state's policy on channelization, ~~through DNR's permitting policy.~~ Does the BWSR support this

federal flood control project, to authorize cost-share funds? If it's channelization, it's ineligible said Ron. Moved by John Boulton, seconded by Sharon Clark, to support staff's

recommendation to adopt the definition of channelization as defined by DNR, meaning that this project is not channelization ~~and adopt the position that the project does not retard~~

~~flooding and is an eligible activity for funding.~~ Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Rodning, Roer, Rossman, and Uppgaard. Opposed: Nielsen.

Carried. Chairman Nielsen opposed this action because he said he doesn't feel the BWSR should be involved in taking action on definitions. Ogaard asked for streamline analysis

which should be available now. ~~Harnack said findings of the hearing examiner will be on~~ *???*

~~retention/retarding/reducing flooding structure. Policy of definition of retarding is the issue~~

The BWSR will need to address the
~~said Harnack.~~

definition of retention or retarding if projects is requested for funding

Sharon Clark asked for Area II's side on this, bring people in before BWSR.

Minnesota River Cost-Share Initiative - Greg Larson stated that Jeff Nielsen has been meeting with SWCDs, SCS, PCA staff, others. Greg gave an overview of the cost-share

allocation proposal^s and the process of developing a comprehensive plan for the Blue Earth River Basin Initiative (BERBI). Paul Burns, said that funds should be targeted, can MRAP ^{help} be prioritized? Dwain Otte agreed. Greg will come back with recommendation at December meeting.

Wetland Conservation Act/Percent of Wetlands in County - Chairman Nielsen said whatever

action we take today we are going to set some precedent. Greg Larson explained the WCA

~~the request received from Clearwater County to shift~~ ^{move} from a less than 80 percent county to a greater than 80 percent county. He said that five other requests (Anoka, Sherburne,

Morrison, Wadena, and Clearwater Counties) that are within ten percent of 80 percent and they are ^{potential candidates for future consideration} ~~likely all eligible to shift to the greater than 80 percent category~~. Greg has

discussed with other agencies the type of criteria the BWSR should consider in making a decision to change a county from lessor to a greater than 80 percent county. Staff

recommends that the methodology used by Clearwater SWCD be the standard by which

other counties should use to seek a shift in wetland percentage. ~~The method was unbiased~~

~~and built upon the Anderson and Craig study.~~ ^{approval of criteria} Greg recommended ~~that we try this and~~

~~come back in December or January and wrap it up.~~ Ron said we need BWSR endorsement

~~today for criteria.~~ Moved by Warren Rodning, seconded by Don Ogaard, to endorse the

criteria recommend by staff. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard,

Otte, Rodning, Roer, Rossman, Uppgaard, and Nielsen. Carried.

Moved by Don Ogaard, seconded by Sharon Clark, to approve Clearwater County's request

to become a greater than 80 percent county. Affirmative: Boulton, Clark, Cobb, Lovdahl,

Peterson, Ogaard, Otte, Rodning, Roer, Rossman, Uppgaard, and Nielsen. Opposed: None. Carried.

second established a
Southern Education Specialist - Ron Harnack ~~reported on the southern education specialist,~~
~~in meeting with MES, is was decided to house the position in the New Ulm office.~~ This
position will function similarly to Barbara Liukkonen's position *if endorsed the*
~~in working with the BWSR~~
education committee and MES *would* ~~to formulate and become a reality.~~ Moved by Ted Lovdahl,
seconded by Dwain Otte, to approve the BWSR/MES southern education position.
Affirmative: Boulton, Clark, Lovdahl, Peterson, Ogaard, Otte, Rodning, Roer, Rossman,
Uppgaard, and Nielsen. Opposed: None. Carried. Sharon Clark asked when the position
would be available to start, and are we looking at a certain individual. Ron said that it's
preferred that to have an MES employee rather than BWSR employee, more of an
advantage of getting services through MES. A particular individual has not necessarily be
chosen. All agreements regarding this position need to be completed in a few months. The
education committee needs to be comfortable with individual. Fred said a financial
commitment has been received from Pat Borich. Fred asked if next year start date is
January or July? Ron said that January could work if the package is put together, *but at least*
~~need to~~
by spring,
~~work within system we have to make partnership work thoroughly.~~ Sharon Clark feels the
position needs to be filled, ~~Barbara has done a tremendous job.~~

Warren commented on WCA training beginning next week. He asked if administrative
issues will be discussed at these sessions. Greg said the first of nine sessions will be held
in Duluth and Alexandria, *the first day is*
~~aimed at local officials and policymakers, and emphasis on small~~
Nov. 1-2
elects

~~cities, delegate to counties or SWCDs.~~

Chairman Nielsen announced that the December BWSR meeting will be held Thursday, December 9.

Ron said the Wetland Heritage Advisory Committee (WHAC) meets November 3; BWSR *will be* members are encouraged to attend.

Don Ogaard reported that his last BWSR meeting will be December 9. He will be leaving the watershed district; and effective January 1, 1994, he will be *administrator* ~~chair~~ of the Red River Water Management Board. He requests any assistance from BWSR this is a massive initiative; he intends to devote his time on this initiative.

Advisor Comments

-Minnesota Association of Watershed Districts (MAWD): Howard Peterson reported that he represented MAWD at the Minnesota Lakes Association conference. He was going over MAWD budget and recognized how BWSR supported MAWD financially and with staff support, he thanked BWSR for their assistance.

-Soil Conservation Service (SCS): Gary Nordstrom briefly commented on USDA reorganization. He encouraged members to send letters of support to the congressional delegation. Gary mentioned that SCS is converting to a new computer system.

-Minnesota Association of Conservation District Employees (MACDE): Dan Livdahl, Nobles SWCD, reported that MACDE met on October 25. He thanked BWSR for the \$5,000 grant they received for an environmental education fair that 1800 students attended in September.

-Minnesota Association of Soil and Water Conservation Districts (MASWCD): D'Wayne DeZiel reported that he attended an AMC meeting with follow-up meetings to be held. He invited everyone to attend the MASWCD convention, December 5-7, 1993, in St. Cloud.

Chairman Nielsen adjourned the meeting at 3:20 p.m.

Respectfully submitted,

D. James Nielsen

Chairman

RIM Contract Amendment - Marybeth Block reported that Mr. Dodd in ^{POPE} Polk County is requesting that RIM boundaries be amended to remove 2.2 acres for an access road and a one acre plot adjacent to the lake shore. Marybeth felt that this is a sincere request, the SWCD has endorsed it as well as the area wildlife manager. Ron Nargang asked why there were 7.1 acres previously not included? Marybeth stated that 7.1 acres are native prairie and did not meet RIM eligibility requirements. ^{However,} ~~these are~~ typically donated acres ^{that have not} ~~that could~~ ^{be put into the program.} ~~be put into the program.~~ Nargang encouraged BWSR to clarify the 9.1 acres discrepancy in DNR letter. Marybeth clarified that staff recommendation is to approve 4.9 acres (7.1 minus 2.2 acres) ^{accepting} of donated land containing native prairie. ^{In lieu of releasing the 2.2 acres} Ron Harnack said we don't want small parcels with buildings on the parcels, we don't want to set a precedent here. Ron said that we need to look at zoning, local regulations. Moved by Sharon Clark, seconded by Howard Peterson, to table the action of this issue until the December meeting so final determinations and clarifications are made. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Rodning, Roer, Rossman, Uppgaard, and Nielsen. Opposed: None. Carried.

Issues Relating to Reauthorization of the Federal Farm Bill - Jim Birkholz explained that BWSR needs a strong voice in the farm bill and decisions need to be made on the BWSR's position on the bill. Following are related issues that BWSR needs to take a position on: 1995 farm bill; USDA reorganization; Clinton administration wetland plan; reauthorization of the Clean Water Act; Clinton/Gore reinventing government; development of state and local government programs and capability; some say this is all a done deal.

Mary Jo - see editing

**BOARD OF WATER AND SOIL RESOURCES
ROOM 112, STATE CAPITOL
ST. PAUL, MINNESOTA
OCTOBER 27, 1993**

JB

Appointed Members Present: Jim Nielsen, Ted Lovdahl, Howard Peterson, Sharon Clark, Dwain Otte, John Boulton, Barbara Uppgaard, Kathy Roer, Barbara Cobb, Jim Rossman, Don Ogaard, Warren Rodning.

Agency Members Present:

Fred Bergsrud, U of M/Extension Service (MES)
Wayne Anderson, Pollution Control Agency (PCA)
Paul Burns, Department of Agriculture (MDA)
Ron Nargang, Department of Natural Resources (DNR)
Kim Benson-Johnson, Department of Health (MDH)

Others Present:

D'Wayne DeZiel, Minnesota Association of Soil and Water Conservation Districts (MASWCD)
Gary Nordstrom, Soil Conservation Service (SCS)
Susan Schmidt, Legislative Water Commission (LWC)
Don Jakes and Rita O'Connell, Kathy Svanda, PCA

Staff:

Ron Harnack, Wayne Zellmer, Marybeth Block, Jim Birkholz, Brad Matlack, Eric Mohring, Chris Hofstede, Al Kean, Greg Larson, and Mary Jo Anderson

Meeting Called to Order - Chairman Nielsen called the meeting to order at 9:05 a.m.

Adopt Agenda - Moved by Ted Lovdahl, seconded by Boulton, to adopt the agenda as presented. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Roer, Rossman, Uppgaard, and Nielsen. Opposed: None. Carried.

Minutes of September 23, 1993 - Howard Peterson stated that a correction is needed on page seven regarding his MAWD comments. It should state, "Howard hears much about watershed management, ..." rather than Howard heard watershed management ... Moved by Howard Peterson, seconded by Jim Rossman, to approve the minutes of September 23, 1993 as corrected. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Roer, Rossman, Uppgaard, and Nielsen. Opposed: None. Carried.

John Boulton introduced Kerry Netzke, Study Area II coordinator.

Chairman's Report - Chairman Nielsen stated that he has been busy but does not have a formal report this month.

Executive Director's Report - Ron Harnack, introduced Ron Nargang, Deputy Commissioner of the Department of Natural Resources. Ron introduced Wayne Zellmer, the BWSR's new Grants Coordinator, replacing Chuck Niska. Wayne is from the Dakota County SWCD. Dwain Otte said Dakota County SWCD wasn't happy to have Wayne leave but they were glad he came to BWSR.

Ron Harnack reported that he has received a copy of the draft legislative audit report and he will be commenting to them by November 1. Ron said that the BWSR records looks good although, they questioned some procedural issues. He said the report he received is an internal report at this time, a final external report will be available to BWSR members by the December BWSR meeting.

Ron stated that a three-day staff retreat was held October 11-13, 1993, at the Arrowwood Conference Center in Alexandria. Ron reported that he was unable to attend the staff retreat as he attended the Legislative Bonding Committee tour of southwestern Minnesota. Study Area II and SWCDs did an excellent job in setting up sites.

Ron reported that several local meetings have been held regarding the Wetland Conservation Act (WCA).

Warren Rodning entered the meeting at 9:20 a.m.

Barbara Uppgaard commented that wetlands are assigned to the Agriculture and Transportation Committee of the Association of Minnesota Counties (AMC) rather than the Environment and Natural Resources Committee. They need more effects on coordination between committees. Rossman asked how the local governmental units (LGUs) are trained? Ron stated that a series of ten training sessions are scheduled in November and county commissioners and SWCD supervisors have been invited to attend. Ron said that some counties are looking to integrate WCA into existing programs and some are delegating to SWCDs. Ron stated that options are

laid out for them, it's up to LGUs to choose what works best for them. Greater coordination is needed among the agencies, federal and state, there is a need for mitigation and banking - close to having a memo of understanding signed said Ron. A draft U.S. Army Corps of Engineers (COE) public notice will hopefully be sent out the end of this year that will move one step closer to one-stop shopping. Barb Cobb asked about the block grant issue. Ron said the three separate programs, as bases are established, grants will be augmented into one block grant. Discussion followed. Ron said that administrative issues will be a significant element in training sessions. Chairman asked that staff report and identify common problems to BWSR at December meeting. Ron said very few supervisors and county commissioners are attending training sessions. Jim Rossman believes BWSR needs to promote small cities delegating to counties. Chairman Nielsen asked staff to provide information on the fee structure local governments are using for various elements of the WCA. Ron reported that Dave Peterson fell and cracked a vertebrae in his neck and is disabled the next few months. Everyone is trying to cover the gaps and also wish Dave a speedy recovery.

Committee Reports

Dispute Resolution Committee (DRC) - Kathy Roer reported that Doug Thomas and Howard Peterson went to Dellwood to meet with landowners, watershed district staff and SWCD staff. All parties may be able to resolve this issue on their own. Ron commented on a situation with a tenant in southwestern Minnesota who wants a decision from BWSR to open a culvert. The mediation does not appear to have worked.

Education Committee - Sharon Clark reported that the education committee will meet on

November 16. Sharon announced that Susan Tsakakis had a baby girl on October 3.

Chairman Nielsen would like to reschedule the December 8 meeting to Thursday, December 9. He has a conflict on the 8th, he asked members to think about changing this date, a decision will be made later today.

Comprehensive State Ground Water Protection Program - Eric Mohring introduced Don Jakes from PCA and Susan Schmidt, Executive Director, Legislative Water Commission (LWC). Don Jakes introduced Rita O'Connell, who has spent much time putting the assessment together. Don Jakes reported that the draft assessment of the Comprehensive State Ground Water Protection Program (CSGWPP) is designed to be an evaluation of current ground water protection efforts in the state of Minnesota. It's meant to include all levels of effort: government (federal, state, and local), the private sector, and the public. Otte suggested moving the education efforts to a higher priority. Susan explained that the LWC was created in 1989 as part of the Ground Water Protection Act (GWPA). The LWC set priorities for 1994 - one being to look at the GWPA and are they doing what they set out to do. The LWC requested Susan to gather information on GWPA: 1) requested Larry Morandi, staff of National Council on State Legislators in Denver, Colorado, to conduct outside analysis of the GWPA; 2) PCA's lead in responding to EPA; 3) scheduled hearings on November 29-30 on GWPA. Susan suggested that BWSR request to participate in hearings, work with Don, submit comments and letters to legislators. Eric explained that BWSR and LGUs are involved in the well program, land use program, wellhead protection. Eric encourages members to look at this draft assessment and decide how BWSR may want to provide input. Chairman Nielsen requested that staff come back

at December meeting with overview, how the impacts effect our clients, and asked members to get Eric their input. Sharon Clark commented that she was disappointed that the education was given more emphasis in BWSR comments.

Senator Lessard was introduced by Chairman Nielsen. He briefly commented on the WCA 2:1, he stressed the point that this was not done in his committee, he worked hard to get 1:1. He pointed out that he is aware of the funding process. He respects BWSR and it's crucial that BWSR maintains its strength and identity. Senator Lessard stated that all reorganization decisions come before the Environment and Natural Resources Committee, which he chairs. His door is always open, call or stop.

Senator Charlie Berg was introduced.

Chairman Nielsen called for a recess in the meeting at 10:35 a.m. The meeting reconvened at 10:45 a.m.

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-Reauthorization of the Clean Water Act

- 319 approach to nonpoint source pollution

- Coastal Zone Management approach to NPS

Jim said the timing is right for BWSR to take a position. A policy position should be in place

by the end of the year. Jim asked members if they feel that local governments should be a more

active implementor? ^{of the farm bill?} Chairman Nielsen asked for Jim's ^{suggestion for} proposal as an end product? Jim ^{suggested} said

that BWSR ^{approve} give staff a one or two page position ^{statement which could be used} to ~~push and~~ promote the farm program to ^{Minnesota's}

congressional delegation, ^{and others} so staff is directed on the BWSR's position. ^{BWSR position on the} Chairman asked Jim what

~~if those roles are reversed?~~ Jim said they would do as directed. Don Ogaard appreciates the

initiative, it's important to the agricultural community. Discussion followed. Sharon Clark

^{need to involve more in policy development.} commented on the commodity groups, ~~the opportunity should be given to farm organizations as~~

~~well, as they are not the same.~~ Nargang suggested showing the video, "Reforming Farm Policy"

by D. Ford Runge to the BWSR. Ron Harnack said it's important to formulate a state's position

to bring all agencies together for one position on the farm bill. Chairman Nielsen said the 1995

Farm Bill is going to be very important and the BWSR needs to take a position, ~~and~~ particularly

as ~~they~~ ^{government.} affect ~~the~~ local units. ~~Jim Birkholz said he would like to have this in place by the end~~

~~of the year. Chairman Nielsen suggested that as much commonality as possible is needed.~~

Chairman Nielsen appointed a committee to look at this and come back at the December meeting

with recommendations. Rodning suggested bringing all representatives and/or outside

constituents, ^{into a} ~~with~~ one day or half day meeting. Dwain Otte volunteered. Chairman Nielsen

suggested discussing this at the January meeting to enable us to spend more time on ^{it} Ron

Nargang volunteered Wayne Edgerton to use as staff advisor or formal member of the group.

Fred Bergsrud volunteered. Howard Peterson and ~~someone from MAWD~~ ² volunteered. D'Wayne

DeZiel, MASWCD; and Gary Nordstrom, SCS, and Chairman Nielsen volunteered. Warren

Rodning volunteered. Sharon Clark volunteered. ~~Chairman Nielsen said the committee will~~

~~look at what's needed to protect what we've been sponsoring and go forward with that.~~

Chairman Nielsen said Ron and/or Mary Jo will tell us where and when *the group will meet.*

Biological Indicators - Ron Harnack asked Ron Nargang to comment. Ron Nargang distributed a draft handout that explains the Minnesota Environmental Indicators Initiative. The Environmental Quality Board (EQB) recommended the creation of an environmental indicator task force with the following charge: 1) create a process or developing environmental indicators that monitor the health of Minnesota's resources, its ecosystems, and its environment; 2) create a Legislative Commission on Minnesota Resources (LCMR) project proposal on environmental indicators; 3) Identify criteria the LCMR can use in evaluating future indicator proposals. Nargang stated that EQB passed a resolution to move forward with implementation. An interim design team and advisory team is being formed. Ron Nargang offered representation of BWSR at the meeting. Nargang stated that initial meetings have produced a set of refined objectives and draft principles: 1) research and design a framework for cooperative planning and information exchange among organizations having active environmental monitoring programs; 2) research and design a framework that provides for direct integration of existing environmental monitoring data and enables supplementing existing networks to fill data gaps; 3) research and design a framework that provides for effective distribution of environmental indicator information to citizens and decision makers.

Ron Harnack said that the BWSR has talked about a January meeting and also a retreat to assess our plan and priorities and to assist staff in direction, relationships with LGU's and future issues before the BWSR. Ron suggested a two-day retreat. He asked for BWSR perspective on this. Ron said possibly not a January meeting but rather focus on the retreat. Kathy Roer stated

skipping a meeting means issues being missed. January 25, 26, 27 - details left up to staff. Agenda will be brought before full BWSR in December. Barb Cobb and Kathy Roer will assist Ron with agenda.

Chairman Nielsen adjourned the meeting for lunch at 12:05 p.m. The meeting reconvened at 1:00 p.m.

Feedlot Management Initiative - Al Kean updated members on the feedlot management initiative. Al introduced Kathy Svanda, PCA. Kathy briefly described the permitting and enforcement program. She said that the state has never funded this program, the five positions they have are federally funded. The program is based on an investment permitting program; change of ownership, expanding, and buying or new feedlot. PCA called together MDA, BWSR, DNR, and MES, to come up with an interagency proposal that could be taken to the agricultural community, legislature, and the Governor's office. A final draft of the document explaining the program, summary sheet explaining each agency's role and cost involved is being put together. She will bring that to the BWSR when that is available. Al presented the technical and financial assistance strategy. State Feedlot Program:

- Estimated 40,000 - 50,000 feedlots in Minnesota
- Approximately 16,000 feedlots have been permitted since 1972
- Estimated 20% high priority = \$800
- Existing Technical and Financial Assistance
- Current federal ACP funding approximately \$1,000,000/year
- Current state cost-share program funding approximately \$350,000/year

Strategy

- Assume 10-year timeframe
- Focus on high priority feedlots (6800 estimated)
- Build SWCD capability to design and construct an average of 680 systems per year over 10 years. Estimated \$2,380,000/year
- Assume one BWSR position for tech training to SWCDs estimated \$50,000/year
- Provide one engineer per MASWCD area (7) for technical review and sign-off estimate \$350,000/year
- Total technical assistance cost estimate \$2,780,000/year
- Estimated average cost of \$30,000 per runoff control system
- Estimated total construction cost \$20,400/year

Funding Options

- Cost-Share Program
- State Revolving Loan Program

Chairman Nielsen asked agencies how they can contribute to the feedlot management initiative. Paul Burns stated MDA can contribute in the area of information and education; manure best management practices; customer research and design; model farms program; additional on-farm demonstrations; revolving loan mechanisms; local capabilities; technical assistance in design; and resources for comprehensive zoning/land uses.

Fred said MES's role is an educational system to get consistency in application and priorities

of feedlot issues. Possible certification program; working to develop demonstration, and models in the future. Fred said there's a need to be innovative for creation of ideas. MES is working with PCA to do on-farm planning, manure management, and 319 proposals - need for funding.

Ron Nargang stated that DNR's role is enforcement, six positions - specialist public information positions.

Harnack said that LGUs incentive to take on the feedlot program and long-term monitoring is an issue, who should monitor? State capability is also an issue said Ron. Should there be a cost-share program and loan program? Possible revolving loan program. Positive things happening on enforcement. The likelihood of funding is remote said Ron, we need to do with what we've got. Chairman Nielsen is disappointed, he said that if the Gophers can beat Wisconsin, we can get \$20,000,000 every year. Go for the bucks, if the funding isn't there - five years from now you're still going to be studying and nothing is going to get done, said Chairman Nielsen. Discussion followed. Al asked, "why can't we go for a pilot project and promote that to the legislature"? Rossman agreed with that, but also, counties need to have some solid, reliable feedlot numbers. Consolidated legislative initiative is the next step, which will be available at December BWSR meeting said Al. Chairman Nielsen said to show legislature the projects we have, don't pilot and waste time studying, be more optimistic, the legislature will come up with money.

Area II Project Funding Criteria - Ron said Area II has supported the Lac Qui Parle River Floodway Project. The question is its eligibility for cost-share funding under the state's policy?

Chairman Nielsen asked Nargang where is DNR on this? Ron Nargang said DNR has major disagreements on this issue of downstream flooding, public pressure to deny this, drainage issues. Huge public opposition to this project said Nargang. Does the BWSR endorse the state's policy on channelization. Does the BWSR support this federal flood control project, to authorize cost-share funds? If it's channelization, it's ineligible said Ron. Moved by John Boulton, seconded by Sharon Clark, to support staff's recommendation to adopt the definition of channelization as defined by DNR, meaning that this project is not channelization. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Rodning, Roer, Rossman, and Uppgaard. Opposed: Nielsen. Carried. Chairman Nielsen opposed this action because he said he doesn't feel the BWSR should be involved in taking action on definitions. The BWSR will need to address the definition of retention or retarding if projects are requested for funding. Sharon Clark asked for Area II's side on this, bring people in before BWSR.

Minnesota River Cost-Share Initiative - Greg Larson stated that Jeff Nielsen has been meeting with SWCDs, SCS, PCA staff, others. Greg gave an overview of the cost-share allocation proposals and the process of developing a comprehensive plan for the Blue Earth River Basin Initiative (BERBI). Paul Burns, said that funds should be targeted, can MRAP help prioritize? Dwain Otte agreed. Greg will come back with recommendation at December meeting.

Wetland Conservation Act/Percent of Wetlands in County - Chairman Nielsen said whatever action we take today we are going to set some precedent. Greg Larson explained the WCA request received from Clearwater County to move from a less than 80 percent county to a greater than 80 percent county. He said that five other requests (Anoka, Sherburne, Morrison,

Wadena, and Clearwater Counties) that are within ten percent of 80 percent and they are potential candidates for future consideration. Greg has discussed with other agencies the type of criteria the BWSR should consider in making a decision to change a county from lessor to a greater than 80 percent county. Staff recommends that the methodology used by Clearwater SWCD be the standard by which other counties should use to seek a shift in wetland percentage. Greg recommended approval of criteria. Moved by Warren Rodning, seconded by Don Ogaard, to endorse the criteria recommend by staff. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Rodning, Roer, Rossman, Uppgaard, and Nielsen. Carried.

Moved by Don Ogaard, seconded by Sharon Clark, to approve Clearwater County's request to become a greater than 80 percent county. Affirmative: Boulton, Clark, Cobb, Lovdahl, Peterson, Ogaard, Otte, Rodning, Roer, Rossman, Uppgaard, and Nielsen. Opposed: None. Carried.

Southern Education Specialist - Ron Harnack recommended establishing a southern education specialist. This position will function similarly to Barbara Liukkonen's position. If endorsed the BWSR education committee and MES would formalize. Moved by Ted Lovdahl, seconded by Dwain Otte, to approve the BWSR/MES southern education position. Affirmative: Boulton, Clark, Lovdahl, Peterson, Ogaard, Otte, Rodning, Roer, Rossman, Uppgaard, and Nielsen. Opposed: None. Carried. Sharon Clark asked when the position would be available to start, and are we looking at a certain individual. Ron said that it's preferred that to have an MES employee rather than BWSR employee, more of an advantage of getting services through MES. A particular individual has not necessarily be chosen. All agreements regarding this position

need to be completed in a few months. The education committee needs to be comfortable with individual. Fred said a financial commitment has been received from Pat Borich. Fred asked if next year start date is January or July? Ron said that January could work if the package is put together, but at least by spring. Sharon Clark feels the position needs to be filled.

Warren commented on WCA training beginning next week. He asked if administrative issues will be discussed at these sessions. Greg said the first of nine sessions will be on November 1-2, in Duluth and Alexandria, aimed at elected local officials and policymakers.

Chairman Nielsen announced that the December BWSR meeting will be held Thursday, December 9.

Ron said the Wetland Heritage Advisory Committee (WHAC) meets November 3; BWSR wetland committee members are encouraged to attend.

Don Ogaard reported that his last BWSR meeting will be December 9. He will be leaving the watershed district; and effective January 1, 1994, he will be administrator of the Red River Water Management Board. He requests any assistance from BWSR, this is a massive Red River impoundment initiative; he intends to devote his time on this initiative.

Advisor Comments

-Minnesota Association of Watershed Districts (MAWD): Howard Peterson reported that he represented MAWD at the Minnesota Lakes Association conference. He was going over

MAWD budget and recognized how BWSR supported MAWD financially and with staff support, he thanked BWSR for their assistance.

-Soil Conservation Service (SCS): Gary Nordstrom briefly commented on USDA reorganization. He encouraged members to send letters of support to the congressional delegation. Gary mentioned that SCS is converting to a new computer system.

-Minnesota Association of Conservation District Employees (MACDE): Dan Livdahl, Nobles SWCD, reported that MACDE met on October 25. He thanked BWSR for the \$5,000 grant they received for an environmental education fair that 1800 students attended in September.

-Minnesota Association of Soil and Water Conservation Districts (MASWCD): D'Wayne DeZiel reported that he attended an AMC meeting with follow-up meetings to be held. He invited everyone to attend the MASWCD convention, December 5-7, 1993, in St. Cloud.

Chairman Nielsen adjourned the meeting at 3:20 p.m.

Respectfully submitted,

D. James Nielsen

Chairman

**BOARD OF WATER AND SOIL RESOURCES
ATTENDANCE ROSTER**

	NAME	AFFILIATION	PHONE #
1.	Kerry Netzke	Area II Coordinator	(507) 537-6369
2.	Don Jakes	Minn. Pollution Control Agency	612-296-7786
3.	Rita O'Connell	MPCA	612-296-8568
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MINNESOTA ENVIRONMENTAL INDICATORS INITIATIVE

Update 10/26/93

I. EQB CHARGE

Based on Commissioner Sando's recommendation, the EQB recommended the creation of an environmental indicator task force with the following charge:

- Create a process for developing environmental indicators that monitor the health of Minnesota's resources, its ecosystems, and its environment.
- Create an LCMR project proposal on environmental indicators.
- Identify criteria the LCMR can use in evaluating future indicator proposals.

II. TASK FORCE MEMBERSHIP

An interim design team and advisory team is being formed.

Design Team: The Design Team is responsible for designing a framework to select environmental indicators. The team will conduct forums to receive public input and expertise from a larger Advisory Team. The Design Team is currently composed of six members; the team is open to any organization that has active monitoring efforts in place and is willing to commit to weekly meetings and weekly work assignments.

MN Department of Natural Resources (Co-Chair)
MN Pollution Control Agency (Co-Chair)
MN Department of Health
U.S. Fish and Wildlife Service
The Nature Conservancy
Natural Resources Research Institute

Advisory Team: The Advisory Team meets on an ad hoc basis to provide expertise to the Design Team in the development and review of a framework to select environmental indicators.

EQB Member agencies
EQB staff
Legislative Commission on Minnesota Resources staff
U.S. Environmental Protection Agency
U.S. Forest Service
University of Minnesota
U.S. Fish and Wildlife Service
The Nature Conservancy
Natural Resources Research Institute

III. DESIGN TEAM -- PROGRESS TO DATE

Initial meetings have produced a set of refined objectives and draft principles.

Objectives:

- Research and design a framework for cooperative planning and information exchange among organizations having active environmental monitoring programs.
- Research and design a framework that provides for direct integration of existing environmental monitoring data and enables supplementing existing networks to fill data gaps.
- Research and design a framework that provides for effective distribution of environmental indicator information to citizens and decision makers.

Principles:

To design a framework to select indicators, the Design Team has developed a set of guiding principles (see attachment).

- Warning: these are meant to be idealistic. They provide a vision out on the horizon that we would like to reach. Some are rather pie-in-the-sky and cannot be realized now or in the foreseeable future, but they give us a target.
- Using an ecosystem approach is a general theme embodied in the principles. The initiative will focus on the health of whole ecological systems, not solely on the discrete resources that ecosystems produce. As ecosystems transcend administrative boundaries and integrate a wide variety of resources, they give us a framework for integration and collaboration.

With guiding principles in place the Design Team is defining the necessary steps to building a framework for selecting indicators. Each of the members' organizations represented on the Design Team has strategies and procedures for developing specific indicators. The Design Team will be reviewing these approaches and building a framework that finds common ground.

IV. EQB RESOLUTION

The EQB passed a resolution on Oct. 21, 1993 to support the task force in completing its objectives (see attachment).

V. PARTICIPATION

If you would like to participate on the Design Team or on to Advisory Team please contact Paul Schmiechen, MPCA (tel: 296-7795) or Keith Wendt, DNR (tel: 297-7879).

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Principles for Developing an Environmental Indicator Initiative

Environmental Indicator Design Team

Draft 4 - 10/8/93

An integrated and comprehensive set of environmental indicators is needed to measure the health of Minnesota's major ecosystems. Indicators are needed to assess the status of ecological systems and their ability to provide resource goods and services, to understand and forecast system response to human use, and to monitor progress in maintaining and restoring ecosystems. These indicators need to be directly tied to the development of results-oriented environmental planning and management. An environmental indicator initiative will allow state organizations to obtain a better picture of environmental conditions, allow them to set more accurate environmental goals, improve decision making and, most importantly, better protect and manage Minnesota's environment. General principles for a successful environmental indicator initiative include the following:

1. Initiative results must enable resource managers and policy makers to adopt and/or improve ecosystem-based management strategies to protect the environment.
2. Initiative must establish a framework that enables the monitoring and integration of chemical, physical and biological indicators of ecosystem health. Initiative must recognize relationship between ecosystem health and human health.
3. Indicators must be understandable to the public. Indicators must help to characterize the benefits people receive from ecosystems.
4. Indicators must serve as a general measure of ecosystem quality and also possess diagnostic capabilities for determining specific causes of ecosystem degradation.
5. Indicators must be practical, meaningful and easily collected and measured using standard methods.
6. Initiative must have a commitment to longevity in monitoring indicators.

7. Initiative must foster cooperation and information exchange among many actors and institutions involved in developing indicators. Initiative must review existing information and databases on indicators, and identify and prescribe strategies to fill gaps.
8. Indicators must be tied to strategic planning activities allowing for effective evaluation of long-term environmental protection goals.
9. Initiative must provide a process for the annual compilation, production, and dissemination of environmental indicator reports. Information on indicators must be readily accessible through databases.
10. Initiative must be practical and scientifically sound; initiative must not underestimate or oversimplify the complexity of ecosystems and the difficulty in measuring ecosystem health or integrity.

RESOLUTION

Minnesota Environmental Quality Board Minnesota Environmental Indicators Project

WHEREAS, the Environmental Quality Board has requested development of a proposal for an environmental indicators project that will measure the health of Minnesota's resources, its ecosystems, and its environment;

WHEREAS, the Legislative Commission on Minnesota Resources has requested the development of a proposal that would outline a comprehensive, coordinated plan for developing indicators;

WHEREAS, a charge has been given to the Environmental Quality Board member agencies staff to develop specific proposals for an indicator project;

WHEREAS, an interim design team has developed draft proposals for task force organization and membership, and a draft set of general principles for an indicators project;

NOW, THEREFORE, BE IT RESOLVED, that the Minnesota Environmental Quality Board supports the efforts to date, accepts the organization and membership recommendations of Environmental Quality Board member agencies staff, and directs the Environmental Quality Board member agencies staff to formally assemble the task force to complete the indicators project charge.

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ASSESSMENT OF MINNESOTA ACTIVITIES NEEDED TO ACHIEVE A COMPREHENSIVE STATE GROUND WATER PROTECTION PROGRAM (CSGWPP)

Compiled by Minnesota Pollution Control Agency - Ground Water Unit

This draft Assessment is designed to be an evaluation of current ground water protection efforts in the state of Minnesota. It is meant to include all levels of effort: government (federal, state, and local), the private sector, and the public.

This Assessment is not in final form. This draft is a working document. It was compiled by Minnesota Pollution Control Agency staff from contributions from a number of sources, primarily at the state agency level, including the MPCA, DNR, MDH, MDA, BWSR, OWM, MnTAP, Met Council, MN Planning, EQB, and LMIC. Although the six visions and the left column are from the already approved CSGWPP Framework (approved by the Environmental Quality Board on March 18, 1993), the remaining columns are not intended to be final. In its current form, this draft is intended to serve as a basis for discussion of what the state needs to do to improve its ground water protection efforts.

The Framework components (the six vision statements and the first column in the Assessment) describe Minnesota's overall vision of what a Comprehensive State Ground Water Protection Program should include. The Framework consists of vision statements corresponding to six Strategic Activity areas, together with detailed elements of each. The goal of this Assessment is to compare Minnesota's existing ground water protection efforts, element by element, with the Framework, and identify opportunities for improvements.

When completed, the Assessment can be used as a tool to guide improvements in state ground water quality and quantity protection efforts.

<u>TABLE OF CONTENTS</u>	<u>Page</u>
KEY OPPORTUNITIES FOR IMPROVEMENT	1
STRATEGIC ACTIVITY I. PROTECTION GOAL	I - 1
STRATEGIC ACTIVITY II. PRIORITIES FOR PROTECTION ACTIVITIES	II - 1
STRATEGIC ACTIVITY III. AUTHORITIES, ROLES, RESPONSIBILITIES AND RESOURCES	III - 1
STRATEGIC ACTIVITY IV. IMPLEMENTATION	IV - 1
STRATEGIC ACTIVITY V. RESEARCH AND DATA MANAGEMENT/APPLICATION	V - 1
STRATEGIC ACTIVITY VI. PUBLIC EDUCATION EFFORTS	VI - 1
APPENDIX - NOTES AND ABBREVIATIONS	A - 1

Key Opportunities for Improvement

NOTE: This list may change significantly with each revision, and also should not be considered to include all important opportunities. Many others are included in the table.

The following recommendations consist of those "Opportunities for Improvement" which can be considered to be of particular importance because they 1) appeared more than once in the table and/or 2) received significant emphasis by contributing commenters. The order of listing in this table is **not** a priority ranking, the order corresponds to that in which they first appear in the Assessment. Each key opportunity is followed by a listing of where those opportunities appear in the table.

- 1. INCLUDE ECOSYSTEM PROTECTION:** Environmental protection, expressed as protection of ecosystem health and/or the environment from impacts caused by human activities, needs to be specifically stated in statutory goal and in rules for all ground water related state agencies.

Strategic Activity I - A.1.a.i.B, B.2.a

- 2. EXPAND LOCAL GOVERNMENT'S ROLE:** In law and in practice, local government should have a more central role in shaping and carrying out ground water protection programs and priorities. Promote local governments' unique opportunities to address sources which the state and federal government can't (such as small storage tanks, septic systems outside of shorelands, etc.). Improve local authorities and technical capabilities to apply ground water protection priorities in planning, decision-making, and program implementation.

Strategic Activity I - A.1.c.ii.B

Strategic Activity II - B.3

Strategic Activity III - A.3.b, A.5.a, A.5.b

Strategic Activity IV - A.10, B.2.b

- 3. IMPROVE LAND USE PLANNING:** Land use planning authorities need to recognize the importance this authority in protection of ground water. Strong front-end land use planning efforts are needed with environmental consideration included. Base zoning and development restrictions on the degree of environmental risk. Improve priority of ground water in land use decisions by consolidating administration of planning and zoning as much as possible and requiring increased consideration of environmental impacts of land use planning - this could be achieved in a variety of ways, perhaps including enacting state-wide consolidated land use planning and zoning.

Strategic Activity I - A.1.c.ii.B

Strategic Activity III - A.3.b, B.2

Strategic Activity IV - A.3, B.6

- 4. STRENGTHEN THE ENVIRONMENTAL QUALITY BOARD:** Expand and strengthen the role of the EQB and its WRC in coordinating and overseeing ground water program prioritization, implementation, and development. Provide additional staff support, both directly for the EQB and WRC, and for EQB support in individual agencies. Expand planning role and implement funding planning role. Reassign many of the EQB studies to individual agencies, with EQB serving as overall reviewer of study results and implementation of recommendations. Expand EQB-WRC role in influencing the directions of research.

Strategic Activity II - A.1

Strategic Activity III - A.2.b, B.3, B.5.a, B.5.b, B.6

Strategic Activity IV - A.5

Strategic Activity V - A.3

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- 5. DIRECT RESOURCES TO EFFECTIVE PROGRAMS:** Evaluate ground water protection efficiency of all ground water protection programs. Redirect resources to the programs which provide the most protection for the cost.

Strategic Activity II - A.2
Strategic Activity IV - A.4, A.5

- 6. COMPLETE COUNTY GEOLOGIC ATLASES:** Accelerate completion of county geologic atlases. Complete all within 10 years.

Strategic Activity II - A.6.a, A.7
Strategic Activity V - A.1.d, B.1.a, B.1.b

- 7. PROVIDE ADEQUATE MONITORING:** Provide long-term, stable, and adequate funding for and coordinate statewide programs to monitor ground water quality and quantity baselines and trends, including MPCA's GWMAP ambient monitoring, MDA's pesticide and nutrient monitoring, MDH's public well supply and dump monitoring, and DNR's water quantity monitoring programs. Fully fund through the Environmental Trust Fund. Expand programs in order to adequately monitor trends both geographically and over time. Carry out EQB Monitoring Plan recommendations.

Strategic Activity II - A.6.c, A.8
Strategic Activity IV - A.5, A.6, B.1
Strategic Activity V - A.1.a, A.1.a.i, A.1.a.iii, A.1.a.v, A.1.d, B.1.c.

- 8. REVISE METRO AREA WATER MANAGEMENT:** The Twin Cities Metropolitan Area framework for ground water and surface water management needs revision, including possibly setting protection priorities which are different from the rest of the state.

Strategic Activity II - A.6.e, B.2
Strategic Activity III - A.3.b

- 9. INCREASE EMPHASIS ON PREVENTION:** The state should place much greater program emphasis on preventing ground water impacts before they occur. Include prevention as a primary tool in all protection programs, including in remediation programs in order to prevent continuing additional contamination.

Strategic Activity II - A.6.g
Strategic Activity IV - A.3, A.9, A.10, B.2.a, B.2.b, B.2.c
Strategic Activity VI - B.3

- 10. IMPROVE DATA MANAGEMENT:** Increase and improve management and interchange of data, as well as provide increased interpretation of data for decision-making purposes. Computerize and centralize data management, including requiring prompt data input. Make electronic data from all ground water protection programs as accessible as possible, including via electronic access. Make data available in a variety of raw and interpreted forms.

Strategic Activity II - A.10, B.6
Strategic Activity III - A.5.a, A.5.b
Strategic Activity V - A.1.b, A.1.c, A.1.e, A.1.g, A.3
Strategic Activity VI - A.4

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- 11. EVALUATE PROGRAM SUCCESS:** Begin to systematically document overall progress toward ground water protection goals. Programs need to include monitoring of program success or failure, including quality and quantity trends. Monitor resource protection, not just regulatory compliance. Use and improve Minnesota Milestones, state agency budget indicators, and other indicators of resource protection. Monitoring is needed for both regulatory and nonregulatory efforts (such as Best Management Practices), including assessment of both adoption and effectiveness.
- Strategic Activity II - B.1
Strategic Activity III - A.1
Strategic Activity IV - A.6, A.7
Strategic Activity V - B.7, B.8
- 12. PREVENT CONTAMINATION TRANSFER:** Prevent cross-media transfer of contamination in all prevention, control, and remediation programs, including during program prioritization. Minimize transfer of contamination to other sites.
- Strategic Activity II - B.2
Strategic Activity IV - A.9, B.11
- 13. FORM ADVISORY COUNCIL:** Develop a ground water advisory council with membership composed of involved parties (private sector and all levels of government). The council could advise the EQB, WRC, and/or other decision-makers on an as-needed basis.
- Strategic Activity III - A.2.a, A.3.a, A.9.a, B.3
- 14. IMPROVE STATE GOVERNMENT PROGRAMS:** Address duplications and gaps in state programs. Combine or better coordinate similar protection efforts.
- Strategic Activity III - A.5.a, B.1
Strategic Activity IV - A.1
- 15. INCREASE STATE ASSISTANCE TO LOCAL EFFORTS:** The state needs to improve assistance and delivery of services to local government. Improve assistance, technology transfer, and interpreted data, and make sure state programs consistently provide these. Provide water quality data management & interpretation assistance.
- Strategic Activity III - A.5.b, A.5.d, B.4
Strategic Activity IV - B.2.a, B.10.a
Strategic Activity V - A.1.a, A.1.f, A.1.g, B.4, B.6, B.8
Strategic Activity VI - B.2, B.6
- 16. ACCELERATE AGRICULTURAL CHEMICAL CONTROLS:** The state needs to greatly increase its emphasis and rate of progress on preventing impacts from agricultural chemicals. Complete and implement MDA's Pesticide Management Plan (PMP) and Fertilizer Management Plan (FMP). Regularly review and revise the PMP and FMP as necessary - make sure that sufficient resources are available for full implementation.
- Strategic Activity III - B.1
Strategic Activity IV - B.2.c, B.9
- 17. RESOLVE WELLHEAD PROTECTION JURISDICTION ISSUES:** Means must be developed to protect wellhead protection area when well owners have no jurisdiction or if there are multijurisdictional conflicts or a perceived lack of jurisdiction. The state must take a leadership role.
- Strategic Activity III - B.2
Strategic Activity IV - B.8

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- 18. IMPLEMENT PUBLIC EDUCATION PLANS:** Implement the Environmental Education Advisory Board's environmental education plan. Develop and fully implement the EQB ground water education plan mandated by the 1989 GWPA (MS 103B.151). Ensure sufficient oversight and resources for full implementation.

Strategic Activity III - B.5.b

Strategic Activity VI - A.1, A.2, A.3, B.2, B.6

- 19. DEVELOP PERFORMANCE STANDARDS:** Expand use of performance-based requirements (e.g., reduce runoff from feedlot, farm field, solid waste disposal site, etc., by 40%) rather than stipulating specific practices which must be undertaken.

Strategic Activity IV - A.3, A.4

- 20. PROVIDE TRAINING:** Provide continually updated, repeatedly available, easily accessible training opportunities and information sources for decision-makers, ground water managers and the public.

Strategic Activity IV - A.4, B.10.e

Strategic Activity VI - A.4, B.6

- 21. IMPROVE ON-SITE SEPTIC SYSTEM COMPLIANCE:** Legislation is needed to make state standards and certifications mandatory statewide and to fund effective local programs to improve enforcement and training. Provide cost-sharing grants or other incentives for system upgrades.

Strategic Activity IV - A.4, B.10.d

- 22. USE EDUCATION/OUTREACH AS PROTECTION TOOLS:** More outreach is needed. Provide information on environmental effects resulting from various practices so people understand the need for voluntary change. Ensure that dissemination of information is a component of research projects (include specifically identified and funded means to reach appropriate audiences via development, printing, and distribution of guidebooks, etc.).

Strategic Activity IV - A.4

Strategic Activity V - B.8

Strategic Activity VI - A.2, A.3, B.1.a, B.1.b, B.1.c, B.3, B.6

- 23. IDENTIFY SENSITIVE AREAS:** Resolve roadblock in Ground Water Protection Act's provisions on mapping of sensitive areas. Either eliminate provisions for formal designation of sensitive areas or accelerate identification and mapping of sensitive areas of the state.

Strategic Activity IV - B.3.a, B.3.b

- 24. STANDARDIZE DATA:** Develop, implement, and regularly update a mandatory statewide set of data elements for ground water information. Make element compatible with federal standards.

Strategic Activity V - A.1.a, A.1.g, A.2, B.5

- 25. EXPAND GROUND WATER CLEARINGHOUSE:** Expand capabilities and provide adequate long-term support. The Clearinghouse needs to be the up-front user-friendly access point. The Clearinghouse database needs to include or be electronically interfaced to all water quality and quantity databases so there is a single access point for obtaining all data. Include access to data from all levels of government.

Strategic Activity V - A.1.a, A.1.a.iii, A.1.e, A.1.g, B.3

- 26. COORDINATE PUBLIC EDUCATION:** Provide a single, long-term home for state coordination of environmental education. Facilitate information distribution by building partnerships between information sources and education suppliers.

Strategic Activity VI - A.2, B.2

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STRATEGIC ACTIVITY I. PROTECTION GOAL

VISION: All Minnesota ground water protection programs are guided by an overall state ground water protection goal designed to sustain both ground water quality and quantity in order to meet the needs of the environment and current and future generations. This goal requires that ground water programs (1) protect and manage ground water quality and quantity by minimizing and correcting degradation and (2) address the impacts of the interconnections ground water resources have with human activities and other environmental resources.

Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
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A. PRIMARY ELEMENTS:

1. SUSTAINABLE QUALITY AND

QUANTITY: The state's ground water protection goal includes the following:

a. QUALITY MAINTAINED: including:

i. Minimize contamination so that the quality of Minnesota's ground water is preserved and restored; (modified from existing statute - 103H, new)

MS 103H - Degradation Prevention Goal
MS 115.061 - Duty of Notify and Avoid Water Pollution
MPCA - MS 115, MS 115A-E, MS 116, MS 116, 116D, other statutes and rules for many programs (ISTS, sludge management, hazardous waste management and Superfund cleanups, solid waste, tanks, etc.) have ground water protection components
MDA - MS 18D.103 Duty to Report Incidents, MS 18B.09, MS 18B.04
MDH - MS 103I - well boring/sealing requirements, multi-aquifer interconnect prohibition, well construction requirements
MS 116B

largely

No comprehensive or consistent standards or cleanup objectives for state ground water programs
103H Degradation Prevention Goal is disconnected from other mechanisms in GWPA (BMPs, WRPRs, HRLs), is difficult to implement, and is geared toward prevention of common detections
Statutory language does not state clear ground water protection objectives for remediation activities

Unify goals into single statutory language
Ensure goal includes remediation

ii. Provide maximum protection to all underground waters; (existing state rule - 7060, new)

MS 103H - Ground Water Protection
MR 7060 - Underground Waters

in part

MS 103H requires prevention of degradation unless it cannot be "practicably achieved"
MR 7060 establishes nondegradation policy and standard, but is difficult to enforce and not widely applied

MR 7060 needs to be revised, updated, and applied to all ground water programs at the MPCA; similar rule language is needed for all agencies

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
iii. Reflect that high-quality ground water is vital to				
A. Public health and safety, (GWPS, MWP)	MS 103A.201 - Water Resource Protection Policy MS 115.063 - Potable Water Protection Policy MDA - MS 18B.04	yes	Reflected in statutes, rules, and/or case-by-case actions of various programs	No action needed
B. Ecosystem health, and (MWP)	MS 103B.3355 - Wetlands protection rules MS 116D - Environmental Policy MR 7050	in part	Not often stated in statute, but is reflected in rules and/or case-by-case actions of various programs MR 7050 contains both antidegradation and other provisions which apply surface waters standards to ground water entering surface water	Key Opportunity 1 - Include ecosystem protection
C. Economic growth and development; and (GWPS, new)	MS 115.063 - Potable Water Protection Policy MS 473 - Metropolitan Council Water Authority MR 7060.0500 - Nondegradation Policy	yes	Stated in statute as "economic well-being", reflected in rules and/or case-by-case actions of various programs; MR 7060 allows for economic or social development	No action needed
iv. Improve ground water quality where it is already impacted, where feasible. (new)	GWPA (MS 103H) MPCA rules and polices for remediation/contingency action portions of ground water programs: Superfund, Voluntary cleanups, Landfill contingency actions, Underground Tank cleanups, Hazardous Waste Program cleanups MDA - PMP, FMP, Nitrogen FMP, incident response (MS 18D-E)	in part	Different programs can apply priorities differently - e.g., GWPA's progression of ground water protection activities from voluntary BMPs to WRPRs applies to common detection pollutants; Superfund and Voluntary program cleanup policies; cleanup standards differ between programs Current remediation cleanup standards are usually set at standards which are usually higher than normal background levels - this could result in gradually increasing levels of overall contamination. However, cleanup to very low levels can be very expensive with resulting benefits in a limited geographical area - raises the question of what is the best use of limited dollars? How does this impact the previous issue of increasing overall contamination?	Priorities must consider need to prevent incremental degradation in background water quality Prioritization must include consideration of tradeoffs of high cleanup costs for limited benefits

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
b. *QUANTITY PROTECTION: Because the ground water supply is limited, conserve, preserve, and manage it for support of valuable ecological systems and other beneficial uses. Use does not exceed sustainable levels. (GWPS, CSGWPP - SA1/AF1, new)	DNR - water appropriations program (MS 103A-I), Mount Simon-Hinckley Aquifer restrictions MS 103B.265 - Conservation & contingency planning required for public water supplies	in part	Water rights entitle appropriators to limited ground water appropriations unless interference results or if the supply is inadequate; current appropriations system may be managing permits and not managing water use Authority is available to manage water quantity, but current knowledge is insufficient to adequately implement (For clarity, "beneficial uses" include all human uses as well as water for other uses.)	Determine if statutory language limits aquifer use to sustainable levels - this is already critical in some areas where aquifers may already be overused. Revise statute if current language is not adequate. Implement remaining recommendations of EQB's "Assessment of Water Availability" Promote regional conservation efforts
c. INTERCONNECTIONS: Address the intimate relationships which ground water quality and quantity have to each other and to the following:				
i. Environmental resources:				
A. Ground water as a component of the hydrologic cycle, closely related to precipitation, surface water, and the geological materials (MWP, new) and	MPCA - on occasion in SDS permits, landfill permits, Superfund, other remediation programs; CWP projects (MS 103F.715) ; toxics standards MS 103H GWPA - BMPs, ground water sensitivity determination requirements, etc. (MS 103H and others)	in part	Surface water currently considered only in some cases, on a case-by-case basis Surface water toxics standards apply surface water standards at the ground water-surface water interface, this addresses impacts of ground water entering surface water	Needs more research and further emphasis in programs
B. Ground water and ecosystems. (MWP)	MR 7050 - surface water standards apply to ground water at the ground water-surface water boundary MPCA & DNR - in cases where ground water may affect surface waters classified as Outstanding Resource Waters MPCA - Superfund program developing ecological risk assessment component	in part	Beginning to be addressed, but on a cases-by-case basis only	Needs more research into ground water-supported ecosystems

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
ii. Human activities:				
A. Multiple activities affecting individual aquifers (MWP) and	Mille Lacs Sole Source Aquifer DNR - obwell program and special studies to monitor impacts of development County LWPs (MS 103B.311) & GWPs (MS 103B.255) MDH & Municipal - WHP programs	in part	Beginning to be addressed, primarily in individual programs	Needs expanded and systematic inclusion as cross-program goals
B. Ground water and land use practices. (new)	GWPA MS 103H - sensitive areas, BMPs, WRPRs (MS 103H.101), WHP DNR Shoreland Management (MS 103) MDH - WHP program Counties, municipalities, & townships have zoning authorities	in part	Land use practices are primarily regulated by locally-based planning and zoning authorities, but these are very fragmented and rarely address ground water protection	Key Opportunities: 2 - Expand local government's role 3 - Improve land use planning Need to incorporate ground water concerns and management into prioritization in basin-wide planning efforts by the MPCA and others
2. ** APPLICATION: The overall ground water protection goal applies to all federal, state, and local ground water related programs in the state which address potential sources of contamination, including sources not federally regulated. (GWPS, CSGWPP - SA1/AC3, new)	DNR - Shoreland Management (MS 103) MS 103H & 115.063	in part	Existing goals primarily apply to programs at the state level or below; federal programs are required to observe state goals only in some cases (especially for remediation, where it's very questionable whether MS 103H, MS 115.063, and perhaps even MR 7060 would be considered as ARARs for Superfund)	Federal agencies need to be formally included in activities to implement the goal via agreements with the state Significant efforts needed ensure that goal elements are applied consistently between and within individual programs
3. TIME FRAME: The goal provides a long-term state framework that is flexible and can also respond to short-term state needs. It is designed to meet the needs of the environment and current and future generations. (new)		yes	Can be more a function of interpretation and available funds than of specific language	No specific action needed unless goals become combined into a single statute

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
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B. SECONDARY ELEMENTS:

1. ** PUBLIC PARTICIPATION: The overall goal is established with adequate public participation. (CSGWPP - SA1/AC1, new)	MS 14 - Administrative Procedures Act MS 103B - LWP's & GWP's MS 116B - Environmental Rights Act	yes - for current statutory goal	Required by statute; laws get hearings with opportunity for public testimony; rules development also requires significant public input MS 116B - citizen action authority is considered, but too little regard is given by state and local agencies to the continual vigilance required by this Act	No additional action needed for existing goal components, increase public's role in any future revisions of the goal. An up-front role is critical for best design and acceptance.
2. ** GOAL STRINGENCY AND CONSISTENCY: The overall goal is (CSGWPP - SA1/AC2, new)				
a. No less protective than EPA's goal of "preventing adverse effects to human health and the environment and protecting the environmental integrity of the nation's ground water resources" and, "in determining appropriate prevention and protection strategies, the EPA will also consider the availability, use, value and vulnerability of the resource, as well as social and economic values"; and	MS 103H - Degradation Prevention Goal MS 115.063 - Potable Water Protection Goal MS 116D & policy preamble - Environmental Policy Act MR 7060 - Nondegradation Policy	in part	Environmental protection is specifically included only in MS 116D	Key Opportunity 1 - Include ecosystem protection
b. Integrated with other state water quality, quantity, and environmental goals.	MR 7050 - Nondegradation of surface waters	in part	No specific statutory language Cross-media issues are of concern - such as surface water impoundments contaminating ground water, etc.	Statutory language required. All decisions need to be made in a holistic framework - all media need to enter into all decisions

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
3. NUMERIC STANDARDS: Numeric ground water quality standards are developed to serve as (1) the upper bound for setting facility performance standards and water resources protection requirements for ongoing practices, if some degradation cannot be avoided, and (2) reference levels to be considered in setting ground water cleanup goals. (modified GWPS, new)	MPCA - MR 7060, Superfund cleanup policy MDH - HRLs (MS 103H.201), RALs, MCLs Federal Standards - MCLs, MCLGs	in part	MPCA's ground water remediation guidance & MDA's PMP development will further define how the goal is implemented, however, MR 7060 revision, covering prevention and remediation has been put on hold Cleanup reference levels are addressed more on a case-by-case basis, using HRLs, RALs, and federal standards, or applying surface water standards to ground water situations	Develop comprehensive and consistent standards and/or cleanup objectives for ground water protection programs

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STRATEGIC ACTIVITY II. PRIORITIES FOR PROTECTION ACTIVITIES

VISION: Due to financial and staffing limitations and natural and demographic differences across the state, state and local ground water protection programs cannot give the same attention to all ground waters and contamination sources. Minnesota's comprehensive protection program establishes priorities to guide all ground water quality and quantity protection activities in the state. Those priorities must (1) be based on overall state ground water protection goal priorities; (2) correspond to the general level of risk; (3) be long-term; (4) protect drinking water supplies as a priority; and (5) be based on consideration of ground water uses, benefits, vulnerability, and other characteristics. These priorities are used consistently by all ground water protection programs in the state.

Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
A. PRIMARY ELEMENTS:				
1. ** BASIC PROCESS: Basic priority-setting process definitions and approaches are coherent and are consistently applied across all federal, state, and local ground water-related programs in the state. (CSGWPP - SA2/AC1)	MS 103H - Protection of Sensitive Areas (for "common detections") MPCA - Superfund ranking, Clean Water Partnership Program, 319 Nonpoint Source Management Program (MS 103F.701) MDA - Superfund ranking, targeting for Atrazine & nitrogen BMPs DNR - aquifer sensitivity criteria (MS 103H) MDH - HRLs (MS 103H.201) used for standards EQB - MS 103B.151	in part	Most are program-specific only Statutes and regulations contain conflicting definitions which make consistent application difficult Current prioritization focus is so exclusively intra-program that changing to consistent cross-program priorities may be difficult Priorities are often budget-driven - based on funding available for or limited to expenditures for specific activities only	Key Opportunity 4 - Strengthen the EQB Programs as well as resources need to be prioritized (determine which programs provide the best environmental protection and provide the strongest support for these programs) Standardize legal definitions (i.e., ground water, best management practices, etc.) Apply sensitivity criteria consistently across all programs Obtain federal agencies' agreements to abide by state priorities in grants funding.
2. ADDRESS OVERALL PROTECTION GOAL: Priorities address all of the quality and quantity elements described in Strategic Activity I, above. (MWP, new)	MPCA, DNR, MDA, MDH, BWSR, etc. - regulatory, remediation, and assistance programs	in part	Goal does not seem connected with current priority-setting by ground water programs Priorities within individual programs are currently established based on program-specific criteria or funding capability Funding for various programs is often a reflection of legislative prioritization decisions Quantity/Quality interactions and impacts are not currently addressed State overemphasizes remediation and regulation of selected facility types, out of proportion to their comparative risk	Key Opportunity 5 - Direct resources to effective programs Need consistency across all ground water programs Specifically consider cross-impacts of quality and quantity on each other when setting priorities Include prevention as a key component when prioritizing

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
3. RISK-BASED: Priorities are commensurate with the level of environmental and health risk posed by impacts. (GWPS)	MPCA, DNR, MDA, MDH, BWSR - regulatory, remediation, and assistance programs MPCA - Superfund program is beginning to address ecological as well as human health risks	in part	Many of current program priorities are based on programmatic needs and so are not based on the sensitivity of the ground water resource and risks posed to that resource. Program-specific and often only case-by-case, usually in remediation efforts. Environmental risk is addressed in only a very limited number of cases - human health risk is more commonly applied Program- and case-specific cases result in too narrow a perspective - broader view of overall may be ignored	Need consistent application across all ground water programs and expansion use of ecological risk evaluations in prioritizing efforts Use scientifically based hazard ranking to assess ecological and human risk
4.* LONG-TERM: For stability, priorities are long-term and change only because of compelling new information or needs. (CSGWPP - SA2/AF1)	MPCA, DNR, MDA, MDH, BWSR - regulatory, remediation, and assistance programs	in part	Current program-by-program basis fluctuates greatly, due to internal and external changes in perceptions and politics	Need consistent approach with maximum scientific basis
5.** WELLHEAD PROTECTION AND DRINKING WATER SUPPLIES: Minnesota places high priority on protecting public water supplies and controlling contaminant sources in Wellhead Protection Areas, basins of drinking water aquifers, and their recharge areas. (CSGWPP - SA2/AC8, new)	MS 103G.261 - first priority for water use is domestic water supply MDH - WHP program (proposed MR 4722 to be finalized in 1994), including developing interagency agreements with MPCA and MDA, etc., as to how those agencies will implement WHP within their programs MR 7050 - Water quality standards MPCA - CWP choices, use RALs as cleanup standards in many programs Mille Lacs Sole Source Aquifer Counties & BWSR - LWPs and GWPs (MS 103B) DNR - Mount Simon-Hinckley Aquifer prohibition on withdrawal MDA - FMP rules require additional monitoring in WHP areas	in part	WHP program is under development - but its efforts and resultant effects on prioritization activities will be directed toward public drinking supplies, little effort will be directed to protecting private drinking water supplies. At the state level, little is being done to protect drinking water aquifer basins and recharge areas - some local governments are considering aquifer-wide protection instead of solely based on individual well locations Much of Minnesota is geologically sensitive to contamination, so there is a concern that identification of the particularly vulnerable areas will lead to neglect of other less vulnerable areas.	Expand prioritization considerations to include private, nonpublic water supplies - especially to new or existing wells in areas of dense development or where contamination is already known or is suspected Prioritization needs to address special needs in WHP areas (e.g., authority to require additional restrictions for otherwise permitted activities, etc.) Expand prioritization to include sensitive and sole source aquifers outside of WHP areas

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
6. ** PRIORITY RESOURCE DETERMINATION FACTORS: The ground water protection priority-setting process includes a sound scientific understanding and consideration of varying ground water characteristics such as, but not limited to, the following: (CSGWPP - SA2/AC2 & Fig 2-1, new)				
a. Hydrogeological characteristics such as intrinsic sensitivity to contamination, hydrogeologic regimes and flow patterns (recharge/discharge areas), geologic/hydraulic parameters, and local hydrogeologic setting;	DNR - hydrogeologic & intrinsic sensitivity criteria & mapping, special studies MPCA - ground water sensitivity map, CWP choices (MS 103F.715), many permitted facilities are required to do hydrogeologic studies before siting is approved MPCA, MDH, MDA, DNR - remediation cleanups require hydrogeological studies MDA - pesticide management practices (MS 18B.045) based partially on geological sensitivity characteristics MGS - Quaternary geology, bedrock maps, special studies USGS - regional studies, hydrologic investigations, etc. Counties, DNR, MGS - geologic atlases MDH - confining unit protection, overburden maps	in part	Primarily program-based or localized to specific areas, may have a broader application if areas are being designated as subject to WRPR requirements which will protect them under a hierarchy of voluntary through mandatory measures Mount Simon-Hinckley Aquifer protection - use of this aquifer for most uses, including drinking and cooling water, is prohibited County geologic atlases are critical for development of adequate ground water protection efforts by all levels of government - progress was too slow previously and now funding has been cut for new atlases Lack of Quaternary geology mapping limits aquifer protection efforts The results of some hydrogeological studies and assessments have not been as useful to decision-makers as they could have been because they covered only portions of a jurisdiction (e.g., a study of part of a county does not give county-wide information which can be used for equitable planning purposes)	Key Opportunity 6 - Complete county geologic atlases Develop sensitivity maps for the state, based on DNR sensitivity criteria, to be used consistently by all ground water protection programs Planning and hydrogeologic assessments must consider the boundaries of governmental units so that the resulting information is as useful as possible to governmental units for protection activities Complete soil surveys for all counties; resume digitizing and updating of existing surveys Determine recharge rates for aquifers in order to develop sustainable yield levels Determine and map age of water in all public water supplies (to use as an indication of contaminant sensitivity) Geological mapping, including Quaternary geology, needs to be available for areas of specific local interest
b. Quantity and sustainable yield;	DNR - water appropriations program (MR 6115), obwells program, surface water monitoring, climate data collection MDH - compilation of aquifer yield characteristics	in part	Rates have been determined for only a few aquifers based on specific needs	Determine sustainable yield rates for all aquifers Implement remaining recommendations of EQB's "Assessment of Water Availability"

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
c. Ground water availability and ambient and/or background ground water quality as determined by monitoring, including baseline trends;	MPCA - GWMAP program, some CWP projects (MS 103F.715), remediation programs monitoring USGS - Water Resources Investigation series on various aquifers, special studies DNR - chemistry used to verify baseline sensitivity for county and regional assessments, obwell data for water levels for regional/local water level trends MDA - surface water and ground water monitoring programs MDH - tritium and chemistry of public water supply wells	beginning	More data needed; MPCA's GWMAP ambient ground water quality monitoring program was recently redesigned to determine overall state baseline and trend information in limited areas, but funding is very unstable and usually insufficient. DNR's quantity monitoring program has been in effect since the 1940s. Most current monitoring programs are designed to monitor permit compliance only, not trends.	Key Opportunity 7 - Provide adequate monitoring Develop/expand monitoring programs to better provide data which are suitable for monitoring quantity and quality trends (temporal and geographical) Add regional ground water flow, age, and residence time to the regional hydrogeologic atlases
d. Potential for remediation where contamination already exists;	MPCA, MDA - remediation programs	in part	Priorities for remediation are set based mainly on actual or potential risk. MPCA guidance is being developed to define treatability and technical practicability	Develop a database of remediation technologies and economic costs Increase consideration of ecosystem protection and restoration Holistic approach needed - address impacts to all media
e. Current use;	DNR - appropriations (MS 103G.255-297; MR 6115.062), annual water use by appropriation permit holders is available through LMIC Sole source aquifer MDA - Chemigation (MR 1505.2000) Met Council - Metro region use projections DNR/USGS - State Water Use Data System for private, nonpermitted wells	largely	Appropriation permittees must measure water use and report annually - totals are good, but still approximate Use from private, unpermitted wells is estimated	Key Opportunity 8 - Revise Metro Area Water Management Improve accuracy and completeness of available data, including more accurate metering and various breakdowns in categories of use

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
f. Reasonably expected future use based on demographics, land use, remoteness, quality, and availability of alternative water supplies;	County LWP/GWPs (MS 103B) MN Planning - Growth Study Met Council - planning efforts Cities/Individual utilities - limited efforts EQB - Sustainable Development project	beginning	No or very little current consideration of this in priority planning, future implications are often ignored - perhaps due in large part to a lack of data Research is just beginning in this area; MN Planning's Growth Management Study is looking at this issue Water availability is not being considered as a major topic in EQB's sustainable development project, which means that it is not recognized as a major priority	Additional research needed in this area Develop a model for nonMetro growth areas on a regional (not city) basis Fully develop Metro area model as tool for predicting future use and supplies Make sure water availability and water quality are considered in future use planning
g. Current and future ground water uses and benefits;	MR 7050 re: drinking water standards ground water classification in MR 7060 & 7050 MS 103H, and MS 115.063 protects drinking water as a water source COE - Dredge & Fill/wetlands programs DNR - appropriations program, water use priorities (MS 103G)	yes	Aquifers are classified as drinking water, there are limitations on some (sole source, Mount Simon-Hinckley aquifer in Metro area)	Key Opportunity 9 - Increase emphasis on prevention Continue current programs with emphasis on protecting all aquifers as current or potential drinking water supplies
h. The state's priorities for protecting lakes, streams, and watersheds;	MPCA - Toxics rules for surface waters; additional protection for Outstanding Resource Waters; CWP programs (MS 103F.715), nonpoint source programs, special protection efforts (MRIP); Clean Lakes program, Lake Assessment program DNR - Appropriations permitting, wetlands protections, protected waters program COE - wetlands, dredge & fill programs BWSR, local governments - LWPs MDA - NPS & special protection efforts (e.g., manure management near Minnesota R.)	in part	Usually case-by-case, such as impacts on Outstanding Resource Waters Not watershed-based, based on individual sites	Needs to be more consistently applied in all ground water programs
i. Multiple jurisdiction impacts; and	MPCA, DNR, MDA, MDH, BWSR, etc. - public notice requirements of various levels, e.g., MPCA notices NPDES/SDS in adjoining states Multi-agency efforts - special projects	largely	Unclear if priority setting consistently considers multiple jurisdiction impacts (i.e., impacts from sources not under the jurisdiction of the manager, such as sources in other counties, etc.)	Needs to enter into evaluations on a consistent basis

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
j. Technical feasibility. (new)	MPCA - Superfund evaluation of innovative technologies, variances from established technologies MS. 103H encourages development of prevention methods and technology	beginning	Case-by-case; can be difficult to determine site-specific applicability - e.g. vertical permeability measurements are important to determine wellhead vulnerability, and are needed for evaluating site-specific usability of various technologies	Proactive approach needed, including research into forecasting changes
7. RESOURCE-BASED: Program priorities are based on sound scientific data as well as adequate monitoring of the ground water resources, including a sound understanding of baseline trends, vulnerability, quality, quantity, and other factors. (new)	MPCA, DNR, MDA - ground water level & water quality monitoring programs MGS, USGS - county and regional hydrogeologic and other special studies, etc. SCS, U of M - soil surveys MPCA - CWP, special projects	in part	Data are not as comprehensive and/or as available as they should be, and program decisions are not well-linked to the data/monitoring County geologic atlases are being completed too slowly. The data are essential for adequate planning	Key Opportunities: 6 - Complete county geologic atlases 7 - Provide adequate monitoring Soil Surveys need to be completed for all counties, as well as provisions made for updating and digitizing of data Risk-based approach needs to help match resources with priorities
8. RESOLUTION OF CONFLICTING PRIORITIES: Means of addressing conflicting priorities are established. (new)	EQB MPCA Citizen Board Formal dispute resolution programs in many agencies Legislative commission and committee hearings	in part	EQB provides a forum for interagency discussion and resolution of disputes, individual agencies have formal dispute resolution procedures Varying authorities can have conflicting views of appropriate resource use - e.g., increasing wetland protection conflicts with their proposed use for receiving increased stormwater runoff	Consistent dispute resolution across all ground water programs needs to be available and applied
9.* MAPPING AND CONTAMINATION SUSCEPTIBILITY DETERMINATIONS: Efforts include detailed mapping and assessment to address highest priority needs at an appropriate scale determined by coordinated state effort. (CSGWPP-SA2/AF2)	USGS/DNR/local - hydrogeological mapping and modeling DNR - sensitivity mapping, county and regional hydrogeological mapping MGS/DNR - county & regional hydrogeological studies & mapping MPCA - Clean Water Partnership (MS 103F.715) MDA, U of M - sensitive area determination	in part	Mapping and sensitivity assessment efforts at state, regional, and county levels; not yet comprehensive coverage MDA & U of M are combining soil and geological sensitivities to define sensitive areas for agricultural practices	Need continued effort in this area, but progress of mapping is slowed by funding cuts

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
10.* WELL INVENTORY: A comprehensive well inventory is maintained that includes private and municipal production wells, monitoring and test wells, and injection wells. (CSGWPP - SA2/AF2)	MDH - property transfer well disclosure, well permits, well construction code, inventory of public water supply wells Counties (some) - well inventories (active and/or abandoned) MGS - County Well Index DNR - inventory & prioritize wells on state-owned land for sealing MS 103B - Local inventory efforts	in part	Extensive efforts to inventory well locations at times of property transfer at state level, some counties are doing comprehensive inventories of all wells - however, data are kept in a variety formats and are not necessarily accessible &/or useful Inventory of state-owned wells is projected to be completed by 1997	Key Opportunity 10 - Improve data management Accelerate completion of an entire state well inventory by expanding on existing county efforts through increased funding or other means House data in GW Clearinghouse or other easily accessible databases
11.* TECHNOLOGY DEVELOPMENT: Deployment of new and alternative technologies for improved pollution prevention and water conservation are considered as a priority. (CSGWPP - SA2/AF4, new)	Pollution prevention efforts by many agencies MPCA, MDA - BMP development MS 103H encourages development of prevention methods and technology LCMR - grant program MDA - incident response program, IPM, variable application rate program, sustainable agriculture program	in part	Fostering of efforts to evaluate new technologies occurs in limited cases & on a program-by-program basis Transfer of information is often limited, resulting in an increasing technology gap between the state and local levels, especially in rural areas New BMPs need developing Under MS 103H, MDA is restricted to developing WRPRs only if there are established HRLs Ground water impacts on surface water quality are not addressed. LCMR priorities continually change	Need to work with colleges and universities on determining directions of needed research Increase data/technology transfer - research projects need to include formally recognized and fully funded methods of distributing results to appropriate audiences Technology transfer needs to include making available computer hardware and software components, including those tying databases together (such as enabling users to tie land use databases into hydrogeological sensitivity databases) Expand BMP development efforts - e.g., BMPs for WHP, urban areas, & phosphorus, manure, and specific pesticide management Revise MS 106 to allow MDA to develop voluntary BMPs which apply to MR 7050 and 7060
B. SECONDARY ELEMENTS:				
1.** CONTINUOUS IMPROVEMENT: Priorities incorporate and support a process of ongoing review and continuous improvement in Minnesota's ground water protection program. (CSGWPP - SA2/AC8)	EQB's WRC Interagency task forces & work groups Multi-party advisory groups	largely	Not formal, but informally accepted as standard operating procedure; often more reactive than proactive	Key Opportunities: 10 - Improve data management 11 - Evaluate program success Needs to become a formal process, needs to be much more proactive Tie into SCS's county monitoring program (state would need to cost-share with SCS)

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
2. ** PRIORITY COORDINATION: Ground water protection priorities are coordinated with surface water and other environmental priorities. (CSGWPP - SA2/AC7)	MR 7050 MPCA - some surface water quality programs/permits include ground water protection regulations & vice versa, Clean Lakes Program, CWP projects, special programs (MRAP/MRIP, St. Louis River RAP, etc.) DNR - DOW regulates both surface and ground water consistently	in part	Usually case-by-case, such as impacts on Outstanding Resource Waters or specially targeted resources Some counties and municipalities, especially in the Metro Area, are having great difficulty in coordination because of jurisdictional conflicts between counties, cities, and watershed districts or watershed management organizations Needs linking with NPS protection efforts - many goals are the same, but some NPS efforts may improve surface waters at the expense of ground water quality - goals, priorities, and efforts need to be coordinated	Key Opportunities: 8 - Revise Metro Area Water Management 12 - Prevent Contamination Transfer Improve coordination between ground water programs and NPS programs
3. ** TECHNICAL CAPABILITIES: Minnesota's technical capabilities support the priority-setting process and determinations. (CSGWPP - SA2/AC4)	MGS, USGS - various hydrogeological studies & mapping Interagency - special studies MPCA, MDA, MDH, DNR, BWSR, etc. - regulatory, monitoring, and supporting programs U of M - hydrological studies	largely	Usually sufficient technical capability at state although it is often limited by lack of resources Additional technical capability is needed at the local level One gap is the lack of cost-effective analytical method development & implementation - e.g. immunoassay techniques.	Key Opportunity 2 - Expand local government's role Need increased and stable funding source to continue technological capabilities Make soil leachability modeling specific to Minnesota soils Develop cost-effective analytical methods for chemicals in ground water, including more affordable techniques for some categories of pesticides and EPA validation of immunoassay methods
4. CONSERVATION PRIORITIES: Ground water conservation measures are given high priority for development and enforcement, including options to allow the reuse of water and the treatment and use of contaminated water. (GWPS, new)	DNR - once-through cooling appropriations prohibited after 2010, Mount Simon-Hinckley Aquifer prohibition on withdrawals, conservation plans required of public water supply appropriation permit holders (MS 103I.103) ; large scale ground water augmentation of lake levels is now prohibited; requirement to manage water supplies for long-term use (MS 103G.265); priority use categories (MS 103B.261) MPCA - pumping to remove contaminated ground water at remediation sites results in available water which can be treated and used	beginning	Currently case-by-case and program-by-program basis There is no tie-together on who needs water and where usable water is being discharged as waste Conservation efforts need to be especially targeted to large volume users	State wastewater discharge permits (NPDES/SDS) need to require that permittees investigate opportunities for water reuse - especially for discharges consisting of noncontact cooling water, dewatering, etc. Provide statewide information source on water available for reuse and water demands - at a minimum, require that applicants for water appropriation permits investigate alternate water supplies Revise any state standards or rules which prohibit reuse of waters Target large users especially

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
5. MINING DISALLOWED: Ground water is not "mined". Aquifers are not depleted at more than sustainable rates. (GWPS, new)	DNR - water appropriations (MR 6115), Metro-area restrictions on use of Mount Simon-Hinckley Aquifer	beginning	Sustainable rates are unknown for most state aquifers	Additional research needed: need to know what sustainable rates are for each aquifer and then use those rates for both state appropriation permitting as well as local water management efforts Develop region-based conservation plans
6. ** INVENTORIES AND ASSESSMENT: Contamination source inventories and assessments identify all significant potential sources of contamination (including federally-unregulated sources) and are used in conjunction with vulnerability and use information to determine ground water protection priorities. The state also conducts inventories and assessments as new types of potential contaminant sources are identified. (CSGWPP - SA2/AC3, new)	Counties - LWPs/GWPs (MS 103B) BWSR - inventory guidance development and assistance Local government inventories MPCA, MDA, MDH, DNR, BWSR, etc. - various special inventories EPA - Underground Injection Control inventories MDH, Municipalities - WHP program (MR 4722 proposed) inventories, PCSI software development MDA -agricultural chemical facilities assessments, farm nutrient management assessments, pesticide use surveys, and assessments.	in part	Extensive inventorying efforts are being conducted, especially by local levels of government, but may not be compatible with state records, or resources are not available to incorporate information into state-wide databases No existing requirements to conduct inventories	Key Opportunity 10 - Improve data management Coordinate state local efforts to get efficient use of inventory dollars, inventories should be encouraged and coordinated as part of LWP and/or WHP programs Expand inventory efforts at state and local levels
7. ** PROTECTION MEASURES: Minnesota has formally adopted measures of ground water protection (performance standards, water quality and conservation standards, reference points, appropriation permits, etc.) which support consistent program priority setting and progress measurement, and are consistently applied. (CSGWPP - SA2/AC5, new)	MPCA - facility design/siting criteria for permitted facilities (SDS/NPDES, landfills, etc.); performance standards, compliance boundaries, target levels, intervention limits, etc. MDH - drinking water standards, HRLs DNR - water appropriations (MR 6115); geologic sensitivity area delineation MDA - agricultural chemical facility regulations, chemigation requirements	in part	HRLs rules need to be adopted, then promptly revised and expanded to include more commonly-found contaminants. MDA PMP and MPCA cleanup guidances are under development to define applicability of HRLs and other standards	Need to address proactively, need to have consistent standards set for all GW programs, need consistent application of standards Revise 103H if necessary to clarify MDH authority to adopt HRLs for commonly-occurring contaminants not currently listed on EPA's IRIS database.

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STRATEGIC ACTIVITY III. AUTHORITIES, ROLES, RESPONSIBILITIES AND RESOURCES

VISION: In order to provide adequate and truly comprehensive protection of our ground water quality and quantity, Minnesota's overall ground water protection program (1) is accountable; (2) coordinates individual protection efforts; (3) includes federal, state, tribal, and local levels of government; and (4) recognizes and supports the major role of local government, non-governmental groups, and the public in comprehensive ground water protection planning and implementation efforts.

Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
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A. PRIMARY ELEMENTS:

1. ACCOUNTABLE GOVERNMENT: Government programs are understandable, adaptable to changing conditions and changing needs, and accountable. Program administrators are accountable for program results. (MWP, new)	Minnesota Milestones and ties to state agency budget requests Need to improve implementation of some state policies across multiple agencies and all levels within agencies	largely	New performance-based state budgeting with progress measured against indicators of success - predefined indicators improves accountability, but could limit ability to adapt to changing conditions/needs	Key Opportunity 11 - Evaluate program success Need to encourage local cooperation (between counties, etc.) Ground water policies should be consistent within and between agencies
2. ** PROGRAM COORDINATION:				
a. PARTNERSHIPS: Coordination and ground water protection partnerships are fostered, among all levels of government, university, nonprofit sector, interest groups, industry, and business. (MWP, GWPS, new)	MPCA - regional GW monitoring cooperatives, CWP MPCA, DNR, MDA, MDH, BWSR, MGS, OWM, U of M, USGS - interagency special studies, interagency task forces, advisory committees, etc. LCMR - efforts to mesh proposals together MDA - works with CWP's, SWCDs, etc. in developing FMP, nutrient management, and pesticide/nutrient monitoring Trade & industry associations	yes	Done on program-by-program basis, especially as nonregulatory activities are encouraged	Key Opportunity 13 - Form advisory council Improve regulator-regulatee partnerships, including having state staff work more closely with waste facility operators Develop an annual ground water conference - could be tied in with trade/professional group conferences as partners Expand state/local/tribal partnerships in developing BMPs and monitoring efforts Determine if consistent public noticing requirements apply - if not, procedures need to be established for all ground water programs Increase joint activities between regulators and trade/industry associations Establish a computerized bulletin board for distribution of information on updates on topics of concern

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
b. OVERALL COORDINATION MECHANISM: A coordinating mechanism is operating which includes all state ground water protection agencies and programs and all programs' expertise is brought to bear on the state's ground water protection priorities. (CSGWPP - SA3/AC2)	EQB & WRC	in part	Role could be stronger - structure is sound, but coordination role is weakened in recent years, due in part to loss of staff assigned to EQB support Member agencies are also less able to support EQB services within their agencies Need responsiveness to state goals by state agencies EQB is so busy preparing new reports required by statutes that it is losing ability to oversee implementation of report recommendations	Key Opportunity 4 - Strengthen EQB
3.** LOCAL GOVERNMENT ROLE: Planning and Implementation:				
a. Local governments are included in developing and implementing the state CSGWPP, through comprehensive local water planning by counties and other efforts. (CSGWPP - SA3/AC7, new)	BWSR/counties - LWPs/GWPs (MS 103B) MDH - locally implemented WHP programs, well code programs (MR 4725) delegated to counties or cities MPCA - delegated programs - feedlot, septic tanks, etc. DNR, Met Council, local government - required water supply conservation/contingency planning requirements for public water supplies	largely	Local government needs a formal substantial role in developing and implementing ground water protection programs	Key Opportunity 13 - Form advisory council Require county LWPs and GWPs to be consistent with CSGWPP goals - this is probably achievable through existing statute, but the state needs to be sure to review the county plans in light of the CSGWPP

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
b. Local governments have a crucial role: ground water programs are developed and conducted at the most local level appropriate. (GWPS, new)	Counties - LWPs/GWPs, development and enforcement of state delegated programs (feedlot, well code, septic tanks, pesticide regulation, etc.), underground disposal control programs; application of geologic sensitivity information; inventorying and sealing wells; inventorying contaminant sources	in part	Local government is becoming more involved; as LWP and GWP activities proceed the counties are recognizing how important protection is Local government controls land use through planning and zoning efforts, these have major impacts on natural resources, including ground water Some portions of the Metro Area are having water resource management difficulties, primarily because of multiple authorities Counties have ground water planning and implementation responsibilities as described in their LWPs/GWPs, but many don't have land use zoning authority so enforcement power is limited Connection between LWP/GWPs and city responsibilities as related to county roles is often weak Legal liabilities can be major incentives for ground water protection efforts Decision-makers needs to recognize that contamination of surficial aquifers may not impact centralized public water supplies, but can substantially impact local government by restricting land value and future land uses (i.e., limiting tax base and property use) Local government can administer and enforce some state programs, including authority to charge fees	Key Opportunities: 2 - Expand local government's role 3 - Improve land use planning 8 - Revise Metro Area water management 17 - Resolve WHP jurisdiction issues Importance of local role needs continual re-emphasis to state agencies, perhaps identification of a formal role Be sure that local government is aware of implications of ground water protection decisions (or lack thereof) - provide training in environmental law to local officials staff - to provide basic information and provide basis for future funding and policy decisions Encourage counties to use LWPs/GWPs effectively as planning tools by having more state assistance programs provide funding or technical for only those activities which are identified as priorities in the counties' LWPs/GWPs (e.g., increase scores for identified goals) Provide larger county/township role in water use management, including irrigation use Provide incentives for counties to adopt and actively administer delegated programs (e.g.; feedlots)
c. County Water Resource Management Plans and Ground Water Plans are consistent with the state ground water framework and state law. (new)	BWSR - LWP/GWP (MS 103B) approval MPCA, DNR, MDA, MDH, Met Council - LWP/GWP review	in part		Address in next update of LWP/GWP statute and/or rules

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
4. COORDINATION WITH OTHER EFFORTS: Local government coordinates all of its ground water protection efforts, such as Wellhead Protection activities, with other efforts. (new)	Counties - LWPs/GWPs (MS 103B), often as multi-county groups	in part	County protection efforts are often overseen by a small group of staff who are active in a number of related programs and so are aware of interactions Many resource issues are similar in a multicounty regions and could be addressed jointly	Reemphasize LWP/GWP efforts as rules and/or statutes change Expand regional, intercounty cooperation to address common issues - including joint powers authorities Revise LWP/GWP authorities to more clearly encourage multi-county action and coordination
5.** STATE SUPPORT OF LOCAL PROGRAMS: Where local governments are given or have authority to address ground water related objectives and priorities, those local government activities are supported by state programs, including the following:				
a. LOCAL CAPABILITY: Resources and technical expertise are available at the local level. (GWPS)	MPCA, DNR, MDA, MDH, BWSR, etc. - main offices and regional offices Counties and county joint powers boards - for LWPs, etc. SWCDs, WMOs, U of M Extension, etc. Federal agencies - SCS, USGS, USDA, etc.	in part	Some resources are local, some are state agency staff as advisors	Key Opportunities: 2 - Expand local government's role 10 - Improve data management Needs continual strengthening, especially as mix on controls becomes increasingly nonregulatory Need to improve computer hardware/software interconnection capabilities so that local governments can access state and other local databases and sources of information

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
b. STATE ASSISTANCE: The state provides guidelines, technical and financial assistance, and regulations to local government to assist it in its efforts. (GWPS, new)	BWSR - oversight and financial & technical support for LWPs, well sealing, etc. MDA, MPCA, DNR, MDA, BWSR, etc. - provide data and technical support for LWP/GWP plans and implementation MGS - county geologic atlases prepared with partial state funding, technical support MDA - partnerships with SWCDs & local government in implementing the FMP MPCA - CWP, feedlot program, specialized newsletters, training programs, etc.	largely	Current level needs to be improved, despite decreasing resources Some state agencies have found pass-through grant programs to be valuable awareness-raising tool (e.g. well-sealing grants) Much assistance is specific to state-required programs only, state resources are too limited to provide broader input Requiring counties to have approved LWPs/GWPs in order to apply for many state grant programs has raised environmental awareness of many counties	Key Opportunities: 2 - Expand local government's role 10 - Improve data management 15 - Increase state assistance Continue to decentralize state agency regulatory and technical staff to local offices in order to be more available to local governments BWSR's and/or other state agencies' roles could be strengthened to provide additional coordination between programs State needs to provide additional support to local efforts to control land use impacts; State needs to be an active participant with the local land use planning and implementation efforts - especially in identifying conflicts between "rights" (i.e., "right" to use land for a specific activity does not include "right" to pollute) Evaluate value of cost-sharing and other grants as a tool for expanding ground water protection Expand number of state grant programs which require counties to have approved LWPs/GWPs Expand MnTAP assistance to include cities, counties, and townships which need education assistance Develop statewide guidance for local planning efforts to help link land use and ground water protection Provide training to local government staff on management methods (e.g. manure management training for SWCD staff)
c. STATE OVERSIGHT: The state is implementing coordination, guidance, or oversight mechanisms for local government efforts. (CSGWPP - SA3/AC7)	BWSR - county LWP/GWP oversight MDH - locally implemented WHP, delegated well code programs MPCA - delegated programs - feedlot, septic tanks, etc.; GWMAP	largely	Most oversight is program-specific; BWSR provides overall oversight	Expand assistance for LWP/GWP development, including additional guidebooks and facilitating networks for sharing experiences/problems/solutions for LWP implementation efforts Emphasize flexibility in oversight Emphasize pollution prevention

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
d. STATE COOPERATION: The state supports and enhances local efforts, including providing a field management presence for ground water of priority concern, either by supporting local government efforts to protect ground water or establishing special districts, boards, or similar institutional arrangements. (GWPS, CSGWPP - SA3/AF2)	MPCA, DNR, MDA, MDH, BWSR, etc.- main offices and regional offices Counties and county joint powers boards - for LWPs, etc. SWCDs, WMOs, U of M Extension, etc. Federal agencies - SCS, USGS, USDA, etc.	largely	Improvements needed	Key Opportunity 15 - Increase state assistance to local efforts Establish combined regional offices for improved service
6.** FEDERAL ROLE: Relevant federal agencies which operate within Minnesota are consulted in development and implementation of the state CSGWPP. (CSGWPP - SA3/AC4)	USGS USDA - SCS, ASCS EPA USFWS	in part	Inclusion so far is through EPA's region 5 office efforts	Federal government should have a formal role in developing means of addressing deficiencies and implementing the program; formal procedures need to be developed
7.** NEIGHBORING STATE AND TRIBAL ROLES: Minnesota and officials of neighboring states and tribes consult with each other in development and implementation of their joint or independent CSGWPPs. (CSGWPP - SA3/AC5)	Tribal lands - 12 tribes with reservation lands Canada - Manitoba, Ontario States - Wisconsin, Iowa, North Dakota, South Dakota MDA - assistance to White Earth Tribe to implement FIFRA DNR - worked with Mille Lacs band on sole source aquifer delineation USGS - water resources assessments on each major reservation Coordination of other water issues occurs through International Joint Commission, Minnesota-Wisconsin Boundary Area Commission, etc.	in part	No formal inclusion to date Need to expand both development of CSGWPP and specific programs of mutual interest	Formal routes of communication need to be established; formal procedures need to be developed Expand efforts such as MDA's to assist tribes to implement federal and local ground water programs

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
8.** INTERSTATE COORDINATION: Minnesota has capabilities and mechanisms for interstate coordination of ground water protection issues. (CSGWPP - SA3/AC6)	MPCA - NPDES program Upper Mississippi River Basin Association The International Coalition (Red River of the North) and Great Lakes Initiative all have some consideration of ground water MDA & DNR - working with Wisconsin on St. Croix endangered species issues (including potential ground water contributions) MDA - reciprocity with some states for pesticide applicator certification Minnesota-Wisconsin Border Area Commission International Joint Commission Great Lakes Governors and Provinces	in part	Most are program-based or case-by-case Public noticing of permits affecting neighboring states are required by some programs Reciprocity issues	Formal procedures need to be developed for overall coordination
9.** PUBLIC ROLE:				
a. GROUND WATER PROGRAM DEVELOPMENT: The public participates in development of ground water policies and protection efforts, including the overall CSGWPP. (CSGWPP - SA6/AC1, MWP)	LWPs/GWPs (MS 103B) include citizen ranking of issues and participation in development MPCA - public notice of permits soliciting public input, citizen board State agencies - citizens on various advisory groups and task forces for rule or program development EQB & WRC - citizen members, public input included in various planning efforts (e.g., Minnesota Water Plan) DNR - appropriation permit notices to SWCDs, WSDs, cities, and counties	in part	Were included as result of major public input into documents serving as basis of framework (MWP, etc.), but further input is needed Role needs to be expanded, especially in implementation	Key Opportunity 13 - form advisory council Role will need to be expanded to help identify means of filling deficiencies as they are identified
b. IMPLEMENTATION: The public participates in implementation of all phases of activities, including monitoring and ground water protection efforts, and implementation of the CSGWPP. (CSGWPP - SA6/AC1, MWP, new)	State agencies - advisory groups to develop or revise rules or programs often include citizens MPCA - citizen board, CWP projects often include citizen groups, Citizen Lake Monitoring Program EQB & WRC - citizen members MS 116A - Environmental Rights Act DNR - volunteers measure precipitation, ground water levels, and lake levels (some programs are coordinated by SWCDs)	in part	Limited role already, but role needs to be expanded - comprehensive protection will fail if the public does not "buy in" to their role as well as provide input into what government roles need to be	Involvement needs to be improved, including role in monitoring

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
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B. SECONDARY ELEMENTS:

1. ** RESPONSIBLE AGENCIES:
Agencies/programs responsible for addressing priorities are identified. (CSGWPP - SA3/AC1)

See citations elsewhere in this table
EQB-WRC- coordinates state agency activities
MPCA - general environmental quality protection and pollutant remediation (except agrichemicals), feedlots, septic systems; GW Unit is the EPA point-of-contact for CSGWPP activities
DNR - water appropriations, aquifer sensitivity criteria & mapping
DNR/MGS - geologic and hydrogeological mapping
MDA - agrichemical monitoring, regulation & contamination remediation
MDH - drinking water protection, WHP, well code, well sealing program
MGS - information collection, mapping, special studies, water well log database
BWSR - coordination between state & local governments
Local government - land use planning/zoning/water management plans, some state-delegated programs
LMIC - data coordination
Various agencies - EPA grant work & state primacy in nearly all EPA programs
LCMR - Environmental trust fund grants for research, university research
LWC - legislative water issues review
U of M Extension - research, technology transfer, targeted education
OWM - Toxic Pollution Prevention Act, waste management assistance
MnTAP - nonregulatory pollution prevention & waste management technical assistance
Various multiparty groups & authorities

largely

No current formal mechanisms to coordinate with tribal, federal, and local government
Not clear who regulates agricultural chemicals in surface waters (which may be significantly impacted by or impact ground water)
Overlap in feedlot regulation - MPCA regulates feedlot waste disposal, MDA's role is in nutrient management (including manure)
MDA resources for preventing agricultural chemical impacts are not in proportion to the size and scale of those impacts

Key opportunities:
16 - Accelerate agricultural chemical controls
14 - Improve state government programs
Implement appropriate recommendations from OWM's Toxic Pollution Prevention Evaluation Report

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
2. ** LEGAL AUTHORITIES/ RESOURCES: Legal authorities and resources are available to address ground water protection and conservation needs, requirements, and priorities under its comprehensive ground water protection program. (CSGWPP - SA3/AC3, new)	Legal authorities - see citations elsewhere in this table Resources - fees, state general fund, EPA grants, dedicated funds (Petrofund, Superfund), fines, reimbursements Met Council - Land & water use in metro area (MS 473.204)	in part	Legal authority is usually sufficient at the state level MDH - state would prefer local control to extent possible WHP requirements may require restrictions well owners do not have the authority to impose (e.g., multijurisdictional, private party developments, etc.) Local authorities are often conflicting - e.g., LWPs/GWPs are county responsibility, but implementation will likely require land use restrictions - which some counties do not have authority to impose	Key Opportunities: 3 - Improve land use planning 17 - Resolve WHP jurisdiction issues Funding is often insufficient, especially for addressing large geographic areas with widespread contamination
3. * COORDINATION OF EFFORTS: The Minnesota coordinating mechanism is able to influence movement of human and financial resources to target joint efforts valuable to more than one state program. (CSGWPP - SA3/AF1)	EQB-WRC	in part	EQB-WRC sometimes endorses funding proposals and provides an arena for discussing performance of existing programs, but rarely influences except indirectly	Key Opportunities: 4 - Strengthen EQB 13 - Form advisory council
4. COORDINATION MECHANISMS: Coordination mechanisms, such as interagency agreements, work groups, etc., are used to the maximum extent possible. (GWPS)	MPCA - citizen board many interagency advisory groups - WHP, SWIM ground water committee, state GIS/LIS consortium, nitrate data advisory task force, etc.	largely	Many exist, permanently, ad hoc, or for special purposes	Key Opportunity 15 - Increase state assistance to local efforts No strengthening needed for state level, improvement needed at other levels (state-local, federal-state, etc.)
5. ENVIRONMENTAL QUALITY BOARD (EQB) ROLE:				
a. The EQB continues its strong coordination role. (GWPS)	MS 18B.045, subd.2 - coordination of PMP MS 103A.43 - ground water trends	in part	No plans to weaken current role; some uncertainty about the role of the WRC; dramatic reduction in staff time available to support EQB & WRC activities Most decisions are currently made by individual agencies and programs or through inter-agency agreements	Key Opportunities: 4 - Strengthen EQB 14 - Improve state government programs

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
b. The EQB extends its role to aid communication between state programs and local government. (GWPS)		in part	Currently does little, primarily accomplished through BWSR	Key Opportunities: 4 - Strengthen EQB 18 - Implement public education plans - use plan as tool to improve communication Re-establish OLUA (Office of Local & Urban Affairs) or provide other mechanism for multilevel communication Enlist BWSR to provide feedback on county issues & perspectives when EQB is setting priorities, etc.
6.** EPA CONTACT POINT: A primary point of contact (e.g., lead agency, coordinating committee, governor's staff, etc.) with the EPA is established for CSGWPP development and implementation across all involved agencies. (CSGWPP - SA3/AC1, new)	MPCA - GW Unit (for current planning phase only)	in part	Currently defined for planning phase only EQB-WRC and governor approved	Key Opportunity 4 - Strengthen EQB Determine who should have overall coordinating role for implementation: EQB & its WRC, the MPCA, or another
7.* FINANCIAL RESOURCES: Minnesota considers assessing fees for various activities that pose potential threats to ground water to augment funds for prevention of ground water contamination as well as for remediation activities. (CSGWPP - SA3/AF3)	MDH - well management fees DNR - pumping permits and water use fees MPCA - usually fees are used to maintain regulatory programs (NPDES/SDS, solid waste, etc.); specifically targeted funds include Superfund, Petrofund, Metro Landfill Contingency Action trust, etc.	in part	Currently fees are targeted primarily to funding regulatory programs or remediation (not prevention), prevention needs to become a major component of all programs Funds are limiting at federal, state, and local level Many activities which impact ground water do not require government permits, therefore fees cannot be collected through permitting Inter-program transfer of funds may not be allowed Some state fees go to general fund and do not directly support ground water protection efforts Fee-based funding, by limiting the uses of the funding, tends to compartmentalize state thinking about ground water protection and skew priority-setting Small-volume well users do not pay for use of the resource	Expand the role of fees to provide preventative activities which may or may not be directly related to the activities for which the fees are paid - be sure legal authorization is clear about cross-program transfers of funds Increase water rates to reflect true importance of the resource - use increase to fund local and/or statewide ground water protection efforts of all sorts Develop other fees as necessary to adequately protect the resource Fully fund ambient quantity and quality monitoring programs through the Environmental Trust Fund in order to provide stable, adequate funding Assess fee from all ground water users (private as well as public supply wells) to fund protection efforts

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STRATEGIC ACTIVITY IV. IMPLEMENTATION

VISION: Ground water quality and quantity protection efforts (1) are comprehensive and integrated, (2) are based on hydrologic units, (3) stress pollution prevention and encourage conservation and water reuse, (4) include regulatory and nonregulatory programs, (5) are proactive and long-term, (6) have objectives which can be measured, (7) include cleanup of existing contamination, (8) prevent cross-media contamination, (9) address all contamination sources, and (10) are based on sound scientific data and information.

Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
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A. PRIMARY ELEMENTS:

1. COMPREHENSIVE IMPLEMENTATION: Minnesota has a comprehensive and integrated strategy for ground water protection programs. (GWPS, new)	MDH - WHP MOA development with other agencies MDA - PMP & FMP interagency committees MPCA - GW standards advisory group multi-agencies - SWIM committee EQB & WRC - some coordination Other federal, state, local agencies - have review & comment responsibilities (e.g. draft permit review role)	in part	Coordination is currently achieved primarily through interagency task forces, MOAs, etc. Authorities are too widely separated with some overlapping responsibilities Many programs involved through review responsibilities Authorities/programs are at times assigned with inadequate consideration of how final services can be delivered (e.g., counties are responsible for LWP/GWP implementation, but may lack land use planning authority) Lack of comprehensive goals between different programs (e.g. wastewater treatment facilities may promote conservation to minimize need for new facilities, but water supply pricing encourages suppliers to promote high use) Protection efforts for currently high quality ground water should emphasize education first, regulation second, and remediation as a last resort. Program efforts need to be shifted toward education and outreach	Key Opportunity 14 - Improve state government programs Tie together drinking water treatment and wastewater treatment objectives - conservation is needed at both ends: tie together common goals, including adjusting pricing structure for water, if necessary Cross-train operators in various water use programs in order to familiarize with impacts of various actions (e.g. drinking water treatment operators and wastewater treatment operators) Implement remaining recommendations of EQB's "Assessment of Water Availability" Develop programs for protection of currently high-quality ground water in a hierarchy of education first, regulation second, and remediation last.
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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
2. HYDROLOGIC UNIT MANAGEMENT: Because actions at one site can affect an entire aquifer, aquifers and their recharge areas are managed as a hydrologic unit. (MWP, new)	Mount Simon-Hinckley Aquifer prohibition on withdrawals DNR - appropriations program Interagency - special studies EQB - Minnesota Water Plan Mille Lacs Sole Source Aquifer designation	beginning	Little being done at this time, some case-by-case restrictions - e.g., some pumping restrictions in southwestern Minnesota A Metro area model would be a beginning and could be used as a prototype for use elsewhere in the state Some work being done in delimiting ground water basins	Legislation is needed to allow establishment of special protection districts (SPDs) Select and implement a Metro area ground water model to analyze water supply issues and contamination sites - funding and interagency cooperation are needed Implement EQB's state water plan recommendations
3. POLLUTION PREVENTION: Minnesota has a strong, prevention-based program for control of potential sources of ground water contamination, including reducing or eliminating potential environmental releases that may adversely impact ground water quality. (GWPS, MWP)	MPCA - special projects (MRIP, Lake Superior partnership inspection program), HWD programs, CWP Toxic Pollution Prevention Act - requires 560 industries to submit plans for pollutant reduction at the source OWM - pollution prevention demonstration grants and awards MnTAP - pollution prevention & waste management technical assistance MDA - Sustainable Agriculture (MS 3.887) program, demonstration projects, PMP, FMP, special projects, pesticide container and waste pesticide disposal Emergency Response Commission - manages Toxic Release Inventory (TRI) Counties, Municipalities, Townships - planning and zoning efforts, WHP programs, LWP/GWP implementation	in part	Efforts are increasing in the state, usually on a program basis or agency basis; an example is current Governor's initiative to reduce pollutants in the printing industry Most of these efforts are not mainstreamed and are underfunded and low profile	Key Opportunities: 3 - Improve land use planning 9 - Increase emphasis on prevention 19 - Develop performance standards Need to find way to focus on smaller quantities of highly toxic materials, like mercury Need staff to enforce reporting requirements and review plans Need to recognize and publicize effective pollution prevention programs Identify and promote efforts in geographic areas where specific pollutants or contaminant sources pose a current or future problem and can be particularly targeted Target specific industrial or other high volume sources for prevention actions

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
4. REGULATORY AND NONREGULATORY PROGRAMS: A balance exists between regulatory and nonregulatory approaches, including controlling contamination sources through permitting authorities, performance standards, enforcement and compliance activities, land-use regulations, facility siting, promotion of Best Management Practices, incentives, educational programs, promotion of conservation, and other regulatory and nonregulatory activities. (GWPS, new)	MPCA, MDA, MDH, DNR, BWSR, etc. - regulatory, grant, and assistance programs, BMP use, special studies Counties - LWP/GWP (MS 103B) MPCA - voluntary property cleanups, Pollution Prevention Program OWM - pollution prevention & waste management assistance to counties MnTAP - pollution prevention & waste management technical assistance MDA - waste pesticide & pesticide container disposal program	in part	State falls far short on promotion, follow-through, on-going information/training, and advertising - results are severely limited as a result Current programs are primarily regulation driven, particularly in light of decreasing available governmental resources There is an increasing shift from solely regulatory programs to include a larger number of nonregulatory efforts Proper waste management needs to be recognized to be as critical as pollution prevention BWSR found great benefit in raised awareness from even small grants - can be a useful tool for promoting voluntary actions Technical assistance programs are currently focused primarily on surface water impacts Flexibility needs to be maintained in defining what are acceptable management practices for various land uses (i.e., define desired results, not the technology needed to meet the desired results)	Key Opportunities: 5 - Direct resources to effective programs 9 - Increase emphasis on prevention 20 - Provide training 21 - Improve on-site septic system compliance 22 - Use education/outreach as protection tools State needs to do for ground water protection and BMPs what OWM has achieved for waste reduction and recycling Nonregulatory efforts need more "selling" and reinforcement - target audiences need to receive information from various sources and in varying formats Develop a public award program to recognize "good actors" in ground water protection, in either regulated or non-regulated community or both, could also specifically recognize persons/facilities which have gone from bad actors to good actors Promote business water conservation practices Promote education on impacts of procurement/purchase decisions (impacts of packaging, waste produced, etc.) - especially to local government Develop more cost-sharing grants Address procedures for progressing from BMPs to WRPRs for fertilizers in rule development in late 1993-1994. Devote more state and federal resources to compiling already existing research information (e.g., BMPs) and translating and promoting it to get it into use. Shift emphasis of technical assistance from addressing primarily surface water impacts to include ground water impacts Implement recommendations from OWM's Toxic Pollution Prevention Evaluation Report: amend state law (MS 299K) to require certain non-manufacturing & governmental facilities to report toxic chemicals release & transfers; amend 115D language; consider additional resources for pollution prevention assistance to government agencies & implementing integration into higher educational institutions; require additional SIC codes to report TRI (as in Massachusetts)

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
5. PROACTIVE AND LONG-TERM MANAGEMENT: Management efforts are proactive and long-term; based on long-term costs and benefits, not short-term demands and crises. Management anticipates and addresses problems before widespread degradation occurs. (MWPP, new)	Minnesota Milestones - sets specific goals & indicators in key areas, including GW MPCA, DNR, MDA, MDH, BWSR, etc. - individual and interagency program policy development efforts; many agencies are also going through strategic planning efforts (MPCA's is in progress, DNR - Waters' and MDH-Environmental Health's are completed) EQB - Strategic Development Initiative	in part	Milestones may allow agencies to show degree of progress in ground water protection for limited indicators EQB's SDI should serve as a good predictive tool, but inadequately treats water issues New chemicals and land use practices are being developed quickly, state needs to be aware of their consequences and plan for BMPs or necessary regulations before impacts occur	Key Opportunities: 4 - Strengthen the EQB 7 - provide adequate monitoring Monitoring could be bolstered to serve as an advance warning tool for ground water management Complete EQB's SDI, improve the water component, and implement recommendations Expand planning efforts all agencies EQB should have a major directing role in this area EPA needs to act decisively to prevent registration of new agricultural chemicals which have the potential to adversely affect ground water, and enact meaningful restrictions on others More emphasis needs to be given to advance planning efforts
6.** MEASURABLE OBJECTIVES: Programs with measurable objectives aimed at prevention, control, and remediation of contamination are being implemented to attain the state's ground water protection goal and for addressing the priorities of the state's CSGWPP. These objectives are based on sound scientific data and information. (CSGWPP - SA4/AC1, new)	Minnesota Milestones - sets specific goals/indicators in key areas, including ground water Toxic Pollution Prevention Act MPCA, MDA, MDH, DNR, etc. - control regulations, performance standards, facility siting & land use regulations, remediation programs; implementation & use of indicators developed as part of agency strategic planning efforts MDH - RALs, HRLs as human health-based standards federal - MCLs, MCLGs	in part	Most regulatory programs are based on measurable design and/or performance standards, often with monitoring requirements with trigger levels for contingency responses Many program standards measure program compliance only, they do not measure actual resource impacts	Key Opportunities: 7 - Provide adequate monitoring 11 - Evaluate program success Begin to systematically document overall progress toward goals. Monitoring data needed to evaluate the success of BMPs (both rates of adoption and water quality impacts) Implement measurable objectives tied to overall CSGWPP goals in state programs and rules

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
7.* DIRECT AND INDIRECT GROUND WATER PROTECTION MEASURES: Minnesota's formally adopted measures of ground water protection include an integrated set of direct measures (facility standards; ground water protection standards; Health Risk Limits and, where public water supplies are potentially affected, MCLs; Water Resource Protection Requirements; water quality standards; etc.) and indirect measures (BMPs, technology standards, conservation, siting criteria construction standards, etc.). (CSGWPP - SA2/AF3, new)	MPCA - surface and ground water quality standards, effluent standards, siting criteria, BMPs, technology standards MDH - RALs, HRLs, MCLs DNR - BMPs MDA - pesticide/fertilizer BMPs, technology standards EQB - MS 103A.403 Nitrates standards Federal - MCLs, MCLGs, RCRA facility standards	largely	The number of direct measures is increasing There is little documentation of adoption and effectiveness of indirect measures	Key Objectives 11 - Evaluate program success Continue to develop and improve protection measures, including indirect measures such as voluntary BMPs More stringent standards may need to be applied in sensitive areas
8. CLEANUP: Existing ground water contamination is remediated where feasible, and any ground water removed for cleanup is reused if possible. (GWPS, new)	MPCA, MDA, DNR - mandatory and voluntary remediation programs	in part	Not all cleanup is feasible, but should be rigorously pursued when appropriate; use of cleaned up water is not currently a priority, reinjection is prohibited	Specific requirements to consider reuse are needed Need to establish cleanup goals which are consistent between programs Need to establish guidance for developing alternate goals for situations where meeting the established goals is not feasible
9.** CROSS-MEDIA CONTAMINATION PREVENTION: Provisions are in place and are being implemented across all programs to avoid cross-media contamination during remediation activities, to the maximum extent possible. (CSGWPP - SA4/AC7, new)	MPCA - mandatory and voluntary remediation programs Interagency runoff task force being developed to address joint issues	beginning	Not addressed to the extent possible (e.g. storm water basins and drainage wells impacting GW)	Key Opportunities 9 - Increase emphasis on prevention 12- Prevent contamination transfer Potential for cross-media contamination needs to be addressed before treatment methods are changed (e.g., pretreatment of wastewater can impact sludges which will later be land applied) Require additional ecosystem protection and restoration

DRAFT

Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
10.* CURRENTLY UNDER-ADDRESSED SOURCES: Other efforts are developed to control sources of ground water contamination which are not addressed by federal statute or regulations. (CSGWPP - SA4/AF1)	MPCA - Waste Tires program (MR 9220), NPS, CWP, feedlots, septic systems, MR 7060, underground injection ban, etc. BWSR - local ground water protect efforts as part of LWPs (e.g., illegal dump efforts) MDA - waste pesticides & pesticide container disposal program MDH, MPCA, MDA, BWSR, local government - identify & seal agricultural drainage wells	yes	Still more reactive than proactive, primarily due to limited resources for program development or implementation (for either educational or regulatory efforts) Some sources are not addressed by state government because of limited authorities	Key Opportunities: 2 - Expand local government's role 9 - Increase emphasis on prevention Use Resource monitoring is used to show areas impacted & identify under-addressed sources Develop and implement methods of back-tracing contaminants to sources, then targeting sources for control/prevention education and/or regulatory efforts. Targets for back-tracing efforts can be selected either geographically or by category of pollutant. Better fund pesticide waste collection Develop means to assess impacts of new land uses before they become widespread Collect more information on practices (such as feedlots and manure management) in order to better assess impacts and protection efforts which should be implemented
B. SECONDARY ELEMENTS:				
1. ENVIRONMENTALLY SOUND PRACTICES: Implementation efforts ensure that handling and disposal practices by industrial, commercial, agricultural, domestic, and municipal sources are environmentally sound, and economically and socially sustainable. (MWP, new)	MPCA, DNR, MDA, MDH, BWSR, OWM - regulatory, remediation, and assistance programs	in part	Case-by-case and program based; compromises sometimes affect final solutions	Key Opportunity 7 - provide adequate monitoring Use trend monitoring and forecasting to provide better balancing of needs Develop and promote appropriate BMPs for all pollutant-producing activities as part of all regulatory and nonregulatory protection efforts (e.g., BMPs for abandoned feedlots and manure composting) Ensure that BMPs do not cause cross-media contamination (e.g. do not promote eliminating contaminants from ground water by putting them into surface water or air) Need additional research in how multiple land use activities affect ground water and subsequent development of voluntary and/or mandatory prevention and management programs Provide assistance in determining when and where prohibition or relocation of polluting activities is the best alternative (e.g., prohibiting the siting of new feedlots or moving of existing feedlots out of particularly sensitive areas)

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
2.** PREVENTION PROGRAMS: Minnesota is carrying out across all programs an integrated strategy to achieve the following: (CSGWPP - SA4/AC4, new)				
a. IN ABSENCE OF CONTAMINATION: Minnesota implements a variety of prevention and conservation measures in the absence of actual detection of ground water contamination.	MPCA, MDA, MDH, DNR, BWSR, etc. - BMP development and promotion, licensing & certification programs MDA - sustainable agriculture education, grants & loans, FMP, PMP MPCA - many regulatory construction/operation standards - feedlots, sludge management, solid waste, hazardous waste, tanks, UDCP, etc. MnTAP - nonregulatory pollution prevention & waste management technical assistance OWM - pollution prevention & waste management assistance	in part	Decisions are primarily program-based BMPs are designed to begin being implemented at this stage	Key Opportunities: 9 - Increase emphasis on prevention 15 - Increase state assistance to local efforts Develop and implement phosphorus management plan Provide funds for small grants or cost-share programs - programs such as well sealing grants generally trigger much larger local efforts and could be used to address many other ground water quality problems Increase emphasis on ground water in existing prevention efforts (such as BMPs for nonpoint source contamination) Increase education for local government on land use impacts on ground water
b. IF CONTAMINATION IS DETECTED: Minnesota implements additional preventive measures if contamination is detected or is increasing towards a concentration considered as a reference point for the state's ground water protection goal.	MPCA/MDA - activities required for common detections MPCA - permit programs with required intervention limits and contingency planning GWPA - common detection requirements, WRPRs	in part	Primarily program-based decisions Although GWPA provided requirements for addressing common detections of contaminants, no resources were provided	Key Opportunity 9 - Increase emphasis on prevention Improve and fully implement common detections component of GWPA, including means for determining and implementing WRPRs
c. IF CONTAMINATION EXCEEDS REFERENCE POINTS: Minnesota takes immediate action if contamination has reached or exceeded a concentration considered as a reference point for the state's ground water protection goal.	MPCA - permit programs intervention limits and contingency actions MDH - HRLs, WHP, drinking water advisories, well construction/sealing advisories MPCA, MDA - WRPR actions (MS 103H.275), cleanup actions DNR - can suspend/restrict appropriation permits	in part	Primarily program-based decisions Widespread nitrate exceedances are still not being satisfactorily addressed	Key Opportunity 9 - increase emphasis on prevention Develop means to address impacts caused by facilities specifically designed to impact ground water (such as spray fields, rapid infiltration basins, etc.) Key Opportunity - Accelerate control of agricultural chemicals Implement more of the recommendations in the Nitrogen in Minnesota Ground Water report and in the FMP

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
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3.** MEASURES FOR

PROTECTION, CONTROL AND REMEDIATION:

Characterization and assessment of the ground water resource's vulnerability and, where appropriate, the ground water's use and benefits, support rational decision-making for site-specific or area-specific ground water quantity and quality protection activities, including prevention, control, and remediation measures and facility siting. The vulnerability characterization and assessments include the following: (CSGWPP - SA4/AC2 & AC6, new)

a. Consideration of intrinsic sensitivity to contamination, geologic/hydraulic parameters and local hydrogeologic settings, and potential sources of contamination, and, as necessary, other ground water characteristics such as the priority resource determination factors described in Strategic Activity II, above.

MPCA - CWP, permit facility siting requirements
MDH - WHP (MR 4722 proposed)
DNR - geologic sensitivity criteria development, geologic sensitivity mapping
Local programs

in part

Not consistently considered, usually program-based decisions

Key Opportunity 23 - Identify sensitive areas

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
b. Definitions and approaches for ground water characterization and vulnerability assessment are applied in a consistent manner. Minnesota's technical capabilities support its decision-making.	MGS - determine geological stratigraphy through CWI records - data used by agencies and consultants; geologic mapping DNR - sensitivity guideline includes time of travel (TOT) & 3 basic models, TOT to be used by DNR as consistently as possible for level 1 assessments, county geologic atlases, & regional assessments with MGS; geologic sensitivity determination as part of geologic atlas mapping program MPCA, DNR, MDA, MDH, BWSR - regulatory, remediation & assistance programs	no	Some are program-based - e.g., DNR criteria and progress in mapping don't adequately support MDA's PMP & FMP development, so MDA has adapted it to its own system for statewide classification on county/township basis; MDH's public water supply well vulnerability assessments also go beyond DNR methods DNR has not made much progress on mapping and identifying sensitive areas of state - concerns of DNR and others are that such designations will be misused (i.e., protection will occur only within identified sensitive areas, and not outside of them)	Key Opportunity 23 - Identify sensitive areas Ensure adequate resources to retain and expand state's technical expertise
4. ENSURE ENFORCEMENT: Environmental regulations are consistently and effectively enforced. (broadening of MWP)	MPCA, DNR, MDA, MDH, BWSR, etc.- regulatory, remediation & assistance programs	in part	Insufficient resources and program priorities can interfere; there are many existing statutes, regulations, ordinances, etc. which are not adequately enforced	Expand enforcement efforts at all levels of government, make enforcement efforts easier to implement (revise legal procedures as necessary). Clarify mandatory versus optional enforcement opportunities for local government
5. MISUSE LIABILITY: Protection/Management programs fairly assign consequences and liability for resource misuse. (MWP)	MPCA, MDA - Superfund/remediation liability, landfill liability DNR - wildlife damage assessments MS 103H liability exemption MS 103I liability exemption for future pollution after wells are properly sealed Land Recycling Act - liability reduction Municipality/Local Government - liability caps MDA - pesticide use regulations	in part	Program-based; many liability exemptions or limitations have been established in recent years or are under consideration (e.g., Superfund/remediation liability is under review by Legislature, landfill liability is also a major issue)	Complete MWP recommendation to study cross-program liabilities Continue to periodically evaluate penalty and liability levels, revise as necessary
6. GROWTH LIMITATIONS: Growth limits and/or conservation are accepted where necessary to manage development at sustainable levels; vulnerability and availability of ground water limit growth when environmental quality cannot otherwise be sustained. (MWP, new)	MN Planning - EPA 319-funded study of Growth Management Issues in several locations Met Council - land use planning and contingency/conservation planning for public water supplies	beginning	Beginning to be studied; difficulty in tying cause to effect	Key Opportunity 3 - Improve land use planning Provide authorities to implement necessary limitations Complete MN Planning study and implement its recommendations Expand research into past experiences and future projections

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
7. FISCAL RESPONSIBILITY: Protection costs are paid by those who benefit; the public bears the costs which benefit society as a whole, but individuals who benefit also bear costs. (MWP)	MPCA - municipality landfill liability caps MPCA/MDA - Superfund/remediation liability MPCA, MDA, DNR, MDH, BWSR, etc. - regulatory requirements	in part	Increasing reliance on fees versus state general funding; program-based Beneficiaries of often not those who pay	Continue to revise funding sources Where appropriate, transfer costs from the general public to specific benefiting parties via users' fees
8. ** WELLHEAD PROTECTION: The state is implementing a Wellhead Protection Program. (CSGWPP - SA4/AC3)	MDH - with interagency and municipality input and enforcement Local government - includes counties, cities, townships - both as water suppliers and as jurisdictional authorities Counties - as part of LWP/GWP planning	in part	WHP will require defined multi-agency roles WHP jurisdictional difficulties are likely - e.g., where jurisdictions conflict or are nonexistent (e.g., private developments) Extent of MDH's authority for enforcing WHP is unclear from statute - state does not want to impose another level of government WHP program is under development - but its efforts will be directed toward public drinking supplies, little effort will be directed to protecting private drinking water supplies - will continue current neglect of protecting private water supplies (e.g., what to do for contaminated private well if there are no alternate sources or economical methods of treatment?) Well monitoring costs are too high for some small systems WHP is required by federal Safe Drinking Water Act, but cannot be funded by it Stringent WHP requirements may drive private developers to choose individual private wells - which could result in increasing water quality problems in residential &/or industrial developments Likely locations of future wells need to be considered (i.e., planning for future water needs can impact what areas should be protected in the present)	Key Opportunity 17 - Resolve WHP jurisdiction issues WHP program needs commitment from all ground water-related programs to be effective Expand WHP to private, nonpublic water supplies - especially to new or existing wells in areas of dense development or where contamination is already known or is suspected: this could require protection of entire recharge areas Need requirement (statutory authority) to protect ground water quality differentially in WHP areas MDH and BWSR should develop new WHP guidance for LWPs/GWPs for second generation plans (beginning in 1995); push for incorporation of WHP measures in LWP revisions; include training for counties MDH will need to develop more MOA-type agreements for enforcement of WHP requirements by other state agencies (e.g., DNR, BWSR, Fire Marshal, etc.) Facilitate statewide testing of all public water supply wells for vulnerability, based on DNR criteria &/or conduct WHP contaminant source inventories (wells identified to be nonvulnerable have a shorter and less costly list of monitoring requirements) Provide adequate federal funding of WHP - revise SDWA to include funding Require WHP management to include a planning component so that future potential well locations are protected from contamination Expand protection of sensitive and sole source aquifers outside of WHP areas - e.g., using designated aquifer protection areas or recharge zone protection areas.

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
9. PESTICIDE MANAGEMENT: The state is implementing a Pesticide Management Plan. (new)	MDA - interagency advisory committee & and program development EQB - MS 18B.045 - PMP coordination role	in part	Final EPA guidance not yet available so PMP is not yet submitted to EPA	Key Opportunity 16 - Accelerate agricultural chemical controls
10.* POTENTIAL CONTAMINANT SOURCE CONTROL: Minnesota addresses potential sources of ground water contamination which are not federally regulated, including, but not limited to, the following:				
a. PROBLEM WELL ISSUES: There is a plan for addressing abandoned and poorly constructed wells that is consistent with state ground water priorities and objectives. (CSGWPP - SA4/AF1)	BWSR - grant program for well sealing, abandoned well inventories through LWP efforts (MS 103B) MDH - well code enforcement, well disclosure/sealing program DNR - well inventory (MS 103I.311) Counties - well tests, sealing, well code enforcement by some	in part	Even well-constructed wells can pose problems in otherwise well protected aquifers - wells provide easy access for contaminant directly into the ground water Limited availability of resources Usually county-based initiatives Grant programs can provide a large benefit in increasing overall awareness (BWSR found this happened with the well sealing program) Some counties not technically capable of ranking which wells need sealing the most Wells (location, depth, construction, withdrawal rate, etc.) are a land use and impact other land uses State's authority to require sealing of multi-aquifer wells is unclear unless interaquifer contamination is known to be occurring	Key Opportunity 15 - Increase state assistance Continue cost-sharing efforts Local government needs to consider existing and future wells as part of land use planning and zoning Provide a clear statutory requirement to seal all multi-aquifer wells Implement applicable recommendations of EQB's water availability study Resume funding of well-sealing grants which catalyze far more in privately funded well sealing by building awareness of the issue by the public and local government
b. WELL-RELATED CERTIFICATION REQUIREMENTS: There is a certification program for drillers, pump installers, and test samplers. (CSGWPP - SA4/AF1)	MDH - well code-required certifications, driller licensing and continuing education	in part	Certification for test samplers applies only to initial post-construction samplers; drillers and pump installers are certified	Continue and expand certification requirements

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
c. WELL DRILLING REQUIREMENTS: There are legally enforceable standards for well construction, abandonment, and testing, and a compliance program to ensure that the driller community is complying (Note: for disposal wells, these standards are consistent with the regulatory requirements under the U.S. Safe Drinking Water Act's Underground Injection Control Program). (CSGWPP - SA4/AF1)	MDH - well code requirements and inspection/enforcement program MPCA - underground disposal control program (UDCP is the non-primacy equivalent to EPA's UIC program)	largely	For water wells, standards exist for construction and sealing; a compliance program exists; sampling standards apply for initial post-construction sampling For disposal/drainage wells - program is growing and developing	For water wells - preserve funding or prioritize compliance efforts For disposal wells - begin implementation of control programs for existing facilities Further develop and implement state UDCP program
d. ON-SITE SEWAGE DISPOSAL CONTROL: There are regulatory and nonregulatory approaches to address on-site sewage disposal as a ground water contamination concern. (CSGWPP - SA4/AF1)	MPCA - septic system rules, training, and permitting of large systems; remediation programs; UDCP Counties - enforce septic system ordinances in shoreland areas and county-wide if county has adopted a sewage ordinance DNR - shoreland program requires system inspections and replacement MDH - reviews new septic systems serving MDH-licensed facilities State construction regulations U of M - provides training workshops and technical assistance to on-site professionals and local regulators	in part	Mandatory only in shoreland and where adopted as ordinance by counties (approximately 47 counties have passed ordinances) Failing septic systems can be major problems - it is estimated that only 30 percent of systems comply with state standards Many septic system owner/operators do not know what wastes can and cannot be treated by their systems Septic systems do not effectively treat nitrogen, and so can cause or contribute to ground water nitrate contamination	Key Opportunities 21 - Improve on-site system compliance Expand use of MnTAP program to on-site system operations, such as community drainfields, which have business/industrial contributors: e.g., conduct educational efforts to control improper discharges to the systems; do the same with other pollution prevention programs Provide incentives for upgrading non-conforming systems, especially those which use dry wells instead of septic tanks &/or leachfields - require immediate upgrades, don't wait until the property is sold; authorize counties to require owners to provide certification of compliance Conduct research on improving code-complying system performance to treat nitrogen and organic chemicals and to develop lower cost systems on marginal soils. Assess ground water impacts from high-density unsewered subdivisions and large drainfields

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
e. OTHER CERTIFICATIONS: Minnesota ensures proper contaminant management and waste disposal by requiring certification of individuals conducting waste disposal operations, including wastewater treatment facility operators, waste applicators, landfill operators, pesticide applicators, etc. (new)	MPCA - facility operator certifications (wastewater, landfills, etc.) MDA - pesticide applicators	yes	Many certification programs	Key Opportunity 20 - Provide training Continue and expand certification programs
11.** REMEDIATION OBJECTIVES: Programs (including permitting, performance standards, enforcement and compliance activities, land use regulations, facility siting, and other regulatory and nonregulatory activities) with measurable objectives aimed at remediating ground water contamination are being implemented to attain the state's ground water protection goal and addressing the priorities of the CSGWPP. (CSGWPP - SA4/AC5)	MPCA - RCRA, tanks, landfill contingency actions, spills, Superfund related Property Transfer/Voluntary Cleanup Assistance program, landfill contingency actions MDA - Agricultural chemical incident response program (MS 18D.103 & 18D.105) MPCA, MDA - Superfund, WRPR actions from voluntary to mandatory use of BMPs)	in part	Remediation is usually location-specific, areas of broader contamination are usually addressed in a manner to prevent additional contamination rather than remediating contamination	Tie remediation cleanup levels to future land use at the site - with the caveat of addressing possibilities of future changes in land use Require true remediation of hazardous waste sites, not just transfer of the contamination to another site Expand a more holistic approach which addresses impacts to all media

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STRATEGIC ACTIVITY V. RESEARCH AND DATA MANAGEMENT/APPLICATION

VISION: Ground water quality and quantity data and information are collected, coordinated, managed, interpreted, and evaluated in a manner that supports (1) measuring progress in protection programs and redirecting those programs as needed, (2) information sharing between programs, and (3) providing useful information to the public and decision-makers in all ground water protection programs in the state. Data and information are based on sound scientific methods. Ground water research is a priority, and needs are coordinated with other state ground water protection efforts.

Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
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A. PRIMARY ELEMENTS:

1.** DATA USEFULNESS:

a. DATA MANAGEMENT: The state and local governments collect, coordinate, and manage information, including record-keeping, monitoring, and other necessary information, within and across all programs. Information is used for the following purposes: (CSGWPP - SA5/AC1, new)	MPCA - GWMAP, IGWIS, MES, Project Delta, data management strategic planning (GWSWD) LMIC - GW Clearinghouse to include data from state and local government (MS 103H.275), SWIM data committee, Nitrate Data Advisory Task Force DNR - Obwells program, water use data, climate data, surface water levels MDH - Public Water Supply Program (MS 473.845 subd. 2), PCSI, WHP, strategic planning (Environmental Health Division) MGS - County Well Index MDA - monitoring for pesticides	in part	More high quality, easily accessible data are vital to ground water protection	Key Opportunities: 7 - Provide adequate monitoring 15 - Increase state assistance to local efforts 24 - Standardize data 25 - Expand Ground Water Clearinghouse EPA's LDP needs to be promoted to all groups whenever possible Develop an electronic data dictionary regarding standardized ground water data elements and house it as LMIC (metadata) If not already being done, tag wells with metal tags showing the MUWN.
i. Measure progress toward meeting the state ground water protection goal and priorities,	EQB - WRC - trends report (MS 103A.43), MS 103B.151 GW monitoring data to LMIC MPCA - biennial 305b report	in part	Data collected in the past have been of too limited distribution and time duration to adequately answer these questions. Current monitoring is too program-specific. There is no synthesis of results - and no tying of data back to ground water protection goals	Key Opportunity 7 - Provide adequate monitoring Use monitoring results as indicators in individual programs, as part of regular reviews of program's progress

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
ii. Re-evaluate priorities and redirect programs as necessary,	EQB-WRC - state water plan revisions	in part	Current data are insufficient for adequate evaluation Some state and local government programs may do this	Increase program monitoring and use results in planning efforts More information needed on evaluating success of BMPs (both rates of adoption and water quality impacts)
iii. Support all related program activities,	MPCA - when completed, IGWIS & Project Delta will provide this for MPCA LMIC - when completed, GW Clearinghouse should help meet this requirement Emergency Response Commission - study of hazardous chemical databases	in part	The GW Clearinghouse cannot fully support all programs Data on hazardous chemicals needed to plan for remediation and spills cleanup	Key Opportunities: 7 - Provide adequate monitoring 25 - Expand GW Clearinghouse More information needed on evaluating success of BMPs (both rates of adoption and water quality impacts) Develop statewide database of hazardous chemical storage
iv. Identify additional program needs, and	EQB-WRC - state water plan revisions MPCA, DNR, MDA, MDH, BWSR, etc.- program-based revisions Counties - LWP/GWP revisions	in part	Too reactive, proactive research is needed - e.g., the high Minnesota background levels of some natural substances in ground water could pose health risks, and/or future federal standards could significantly increase drinking water treatment requirements for substances which should not be considered a health risk	Assess whether high natural levels of some substances are found at levels which could cause health problems or be impacted by future federal drinking water standards (e.g., sulfates, manganese, arsenic, radon) - need more study to determine what levels are and where they occur Expand program development activities in order to improve proactive planning
v. Design new programs to collect needed information.	MPCA, DNR, MDH, MDA - monitoring program revisions MPCA, DNR, MDA, MDH, BWSR, etc.- program development and revisions Counties - LWP/GWP program revisions	in part	Very limited, due to resources being committed to implementation of existing programs	Key Opportunity 7 - Provide adequate monitoring More information needed on evaluating success of BMPs (both rates of adoption and water quality impacts)

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
b. COMPUTERIZATION: The state computerizes its databases and uses geographic information management (GIS) technology to integrate data to support comprehensive ground water decision-making. (CSGWPP - SA5/AF1, new)	MPCA - IGWIS & other databases, GIS & GPS development, MES, Project Delta, StratiFact, digitizing standards LMIC - GW Clearinghouse (GIS interface) LMIC/BWSR - Water Resources Interface for use on various computer systems MGS/DNR - digitize hydrogeologic maps for GIS, county well code software development DNR - obwells, lakes, & climate data management MDH - contaminant source software development, GPS base station MPCA, DNR, MDA, MDH, BWSR, etc.- interagency group to address data quality standard needs; GPS Base Station Task Force	in part	Capability is increasing steadily - e.g., MPCA's proposed agency-wide compliance monitoring computer system received almost full funding for FY 94-95 GIS capability is extremely limited in availability and use in ground water programs; its use becomes critical for effective program management as the various protection programs coordinate their efforts (e.g., ground water and surface water programs need to know problem areas, contaminant sources, etc. which impact either or both) Need to be sure that computerization meets the needs identified to prioritize ground water protection (section II of the state Framework)	Key Opportunity 10 - Improve data management All locational data should be visually verified (plotted & reviewed) as a standard practice. Need long-term support for all efforts to gather and store basic data (such as GPS base stations needed to accurately determine locations) Develop & implement conventions for GPS statewide.
c. INFORMED DECISION-MAKING: Information based on sound scientific data and research is used to support sound decision-making. (MWP, new)	MPCA, DNR, MDA, MDH, BWSR, etc.- all ground water programs use all available/accessible data Local government - level varies from data-rich to very data-poor; technical capabilities also vary	in part	Currently very limited	Key Opportunity 10 - Improve data management Increase local technical capabilities through education, in order to improve local data interpretation skills
d. MONITOR CURRENT CONDITIONS AND TRENDS: Information and research are used to evaluate current conditions and predict future changes. (MWP, new)	MPCA - GWMAP will be doing trend monitoring in limited areas, monitoring baseline conditions statewide on one-time basis DNR - obwells program, including trends EQB-WRC - planning efforts, including trends MDA - pesticide monitoring, including trends DNR - quantity use, water level trends Counties - limited to widespread programs, especially for private wells DNR, Met Council - public water supply conservation & contingency planning requirements	in part	Most programs are not monitoring trends - the need is recognized, but resources are extremely limited County efforts are good, but more site-specific and of limited value (many programs provide drinking water quality for users and little or no information is available regarding specific aquifer quality) Nitrate study found difficulties in using data collected for other purposes - monitoring designed for determining program compliance is usually inadequate for other assessments County geologic atlases are being completed too slowly - the information from these atlases is essential for planning protection efforts.	Key Opportunities: 6 - Complete county geologic atlases 7 - Provide adequate monitoring Expand DNR's quantity monitoring to provide enough data to develop sustainable yield rates for all state aquifers Develop trends/projections assessments based on broad data - include climate information as well as water quality/quantity data Quantity and conservation issues need to be addressed Expand number of regional ground water assessments

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
e. DATA ACCESSIBILITY: Data are easily accessible, interconnected, and collected and distributed in a form useful to the public, decision-makers, regulators, and regulated community. (MWP, GWPS)	LMIC - GW Clearinghouse is working to provide this in the future MPCA - IGWIS is close to providing this for MPCA GW programs, MES, Project Delta LMIC/BWSR - Water Resources Interface MGS - Atlas Services, CWI DNR - obwells program	beginning	Accessibility and assessments still limited MDH & MGS are working on a common database of well location, stratigraphy, & construction for all wells in state Many data collecting agencies do not have electronic accessibility outside of their own offices GW Clearinghouse currently does not house water quality data - data sources are indicated, but cannot be accessed through the Clearinghouse system, each database must be individually contacted There is often a lag in how quickly data are entered into existing databases - which can limit short-term usefulness Data are not readily accessible to the public and local government and when available are often not in an interpreted form (raw data are not usually very helpful to decision-makers and the public) Remote access to information is impacted by limitations of current phone systems	Key Opportunities: 10 - Improve data management 25 - Expand GW Clearinghouse Training must be provided on how to access databases Real-time data entry and interfacing between systems would help minimize missing recent data Provide well-publicized, wide-spread access points for information (data and interpretations) - e.g., more water centers such as those at Mankato State University, broader use of existing distribution networks (BWSR, Extension, etc.), development of electronic databases, cooperative distribution networks, etc. Support and promote development of electronic "super highways" to speed phone line transfer of electronic data
f. PROGRAM DESIGN: Individual ground water quality and quantity protection programs are designed to ensure that data collected as part of the programs are as broadly useful as possible. (new)	BWSR - contaminant source inventory guidebooks for counties and other data collection guidelines MDH - contaminant source inventory software development and training Interagency task forces - SWIM ground water group, nitrate data advisory task force MPCA - GWSWD strategic planning requires a structured planning approach for new data collection efforts MGS/BWSR - training to counties using CWI software LCMR & GWPA - data compatibility requirements	in part	Interagency task forces are trying to address this need for standardization of data collection/management methods	Key Opportunity 15 - Improve state assistance to local efforts Develop an interagency electronic bulletin board re new data collection efforts Ground Water monitoring data collection guidelines need to be developed Develop training/cooperatives with local government doing more sampling and inventories Develop more guidelines for consistent inventory/monitoring protocols for all levels of government Make sure existing guidelines are used and are used properly.

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
g.* MULTI-AGENCY DATA INTEGRATION AND SHARING: Minnesota has a system for integrating and sharing among local, state, and federal levels of government. (USGS, USDA-SCS, USEPA, MPCA, MDH, DNR, MDA, MGS, counties, etc.) ground water quality and quantity data, assessments, and mapping information. (CSGWPP - SA2/AF2, new)	Interagency groups - informal & formal committees, such as 319 PCT (NPS), GIS, SWIM ground water group, GIS/LIS hydrology committee, GIS/LIS consortium for GIS standards development, GPS task force, Nitrate Data Task Force, etc. LMIC - GW Clearinghouse, stream & watershed information system MDH - PCSI software MGS - County Well Index software EQB - interagency coordination & studies DNR - Obwell program, climate	in part	GW Clearinghouse has not fulfilled its statutory expectations Much more needed Of IGWIS's 1280 wells, only 339 are in the state database Clean Water Partnership projects have asked for local water quality data management assistance Development and regular updating of guidance is needed to ensure consistency	Key Opportunities: 10 - Improve data management 15 - Increase state assistance to local efforts 24 - Standardize data 25 - Expand GW Clearinghouse House PCSI and MES data in one place for everyone's access. Get GW Clearinghouse "flags" working. (These "flags" identify agencies that have additional information about a particular well.) All state and local agencies need to routinely transfer well and water quality and quantity monitoring records into the GW Clearinghouse Ground Water monitoring inventory and data collection protocols guidelines need to be developed and regularly updated for use by all levels of government Develop training/cooperatives with local government doing more sampling and inventories Make sure guidelines are used properly
2.** MINIMUM DATA REQUIREMENTS: A set of data elements is defined and used by all ground water-related programs within the state to facilitate efficient data sharing and cross-media analyses and provide users with consistent and comparable data. (CSGWPP - SA5/AC3)	Interagency task forces - , GIS/LIS, SWIM, etc.; Nitrate Data Advisory Task Force, PCSI software task force Promoting EPA minimum set of data elements for GW Ground Water Clearinghouse Standards LMIC - Draft Data Compatibility Guidelines for Water-Related Data Collection and Automation LCMR - minimum reporting requirements for grant recipients EQB - 103B.151	in part	Being addressed by interagency groups	Key Opportunity 24 - Standardize data Finish BWSR Ground Water Quality Monitoring Guidebook

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
3. RESEARCH COORDINATION: Research needs are identified in coordination with other state ground water protection efforts. (GWPS, new)	EQB-WRC - research recommendations report U of M - WRRRC LCMR - grants program MPCA - GWSWD strategic planning requires a structured planning approach for new data collection efforts DNR/USGS - joint funding agreements	beginning	Need is recognized, but has been a lower priority than some of the other above needs	Key Opportunity 4 - Strengthen EQB Develop an interagency research electronic bulletin board
B. SECONDARY ELEMENTS:				
1. GROUND WATER				
INFORMATION NEEDS: Basic ground water information needs are consistently met, including:				
a. Geologic assessments, (GWPS, new)	MGS, DNR - county geologic atlases, special studies, sensitivity, mapping MPCA - hydrogeologic investigations for facility siting in permit programs, remediation, etc.	beginning	Resources are limited	Key Opportunity 6 - Complete county geologic atlases Improve resources for regional assessments
b. Hydrogeologic assessments and information on hydrological and hydrochemical properties of aquifer systems, (GWPS, new)	MGS, DNR - county hydrogeologic assessments, special studies, sensitivity mapping MPCA - hydrogeologic investigations for facility siting in permit programs, remediation, etc. MDH - confining unit & overburden maps, aquifer characteristics database	beginning	Limited resources Sustainable yield determinations require addition information on state's quaternary geology and aquifer water age and residence time	Key Opportunity 6 - Complete county geologic atlases Expand capabilities Map state's quaternary geology Map and assess all state aquifers Determine age and residence times of ground water in the state's aquifers
c. Water quality and quantity assessments to monitor trends, regulatory progress and (GWPS, new)	MPCA - GWMAP will monitor trends in limited areas LMIC - GW Clearinghouse	beginning	Limited resources	Key Opportunity 7 - Provide adequate monitoring Develop regular evaluations and trend assessments

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
d. Water appropriation assessments. (new)	DNR - water appropriations program EQB - Assessment of Water Availability in Minnesota	beginning	Insufficient data are available to do adequate planning Current system is more reactive than proactive, more information is needed on individual aquifers, especially in areas of heavy withdrawals Current permitting process requires wells to be constructed before permits are filed - this can make limiting a permit more difficult than if the well was not yet constructed Permission to appropriate water cannot be withheld under current water law	Change water appropriations permitting process to require permit applications be submitted and evaluated before large-volume producing wells can be installed Determine sustainable yield rates for all aquifers, beginning with those which already have large withdrawals Need to develop and make more use of information on ground water availability in permitting decisions, including ability to refuse appropriation requests in some cases (this would require a revision of existing water law) Tie into water quality databases during assessment (need to tie water quality and quantity together in appropriation permitting decisions) in order to begin to assess how changes in water quality and quantity impact each other Determine recharge rates for aquifers Determine age of water in all public water supplies Implement appropriate recommendations of EQB's Assessment of Water Availability
2. GROUND WATER MODELING NEEDS: Modeling methods and permanent, continuously upgraded models adequately support evaluation of ground water quality and quantity data, and are effectively used to determine where additional field data are needed. Modeling is improved to include data graphics, interpretive models which assess impacts, and sharing of models and results among users and decision-makers. (new)	Multi-agency coordination on model selection process	beginning	There is a lack of consensus on what is best model to use, but state agency staff agree on need for a model Limited resources and limited data, agencies are currently considering what model to use to model conditions in the Metro area. Funds are not yet available for this project. Results could be used for water quality and quantity management in Metro area. Could serve as prototype for a later statewide model Not enough of appropriate data is available for model - the amount of data fed into the model significantly impacts quality of results (or data needs to be used to verify models with built-in estimations)	Resolve ground water modeling issues (e.g., consistent application of one or more models as needed; determine model needs) and develop Metro area model - validate models by using existing data from state GIS databases After model is developed, make it available to all interested parties

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
3. ** INTERGOVERNMENTAL DATA USE: State is using relevant data from local governments and other state and federal programs (i.e., Wellhead Protection, Public Water Supply, etc.). (CSGWPP - SA5/AC2)	MPCA - nitrate study used local data MGS - gets information from counties in CWI LMIC - GW Clearinghouse, Stream Information System MDH - PCSI software	beginning	Lots of room for improvement, need to address hardware/software compatibility, QA/QC, data privacy, etc.	Key Opportunity 24 - Expand Ground Water Clearinghouse Improve input of locally obtained data into state databases
4. ** DATA QUALITY ASSURANCE: The state monitoring program scope and design reflect the state's ground water priorities, and contain quality assurance/quality control plans for data acquisition and analysis based on sound scientific protocols. (CSGWPP - SA5/AC4)	EQB-WRC - state water monitoring plan Multiagency - nitrate data advisory task force working on guidelines BWSR - interagency guidebooks GWPA - data standardization	in part	Interagency task force addressing this BWSR ground water monitoring guidebook was never completed	Key Opportunity 15 - Increase state assistance to local efforts General ground water monitoring guidebook needs to be developed and regularly updated so that local data collection results in quality data
5. * EPA DATA ELEMENTS USE: Minnesota uses EPA's Minimum Set of Data Elements for Ground Water Quality, which EPA programs are required to use for new ground water information systems or when modernizing old ones. (CSGWPP - SA5/AF2)	Nitrate Data Advisory Task Force MPCA - IGWIS	in part	Working on ensuring consistent use by all	Key Opportunity 24 - Standardize data IGWIS needs to incorporate any EPA MSDEs not already in IGWIS. Encourage cross-program implementation of MSDEs

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
6.* LOCATIONAL DATA QUALITY: The state uses EPA's locational policy to assign latitude/longitude positions of public water supplies and sources of ground water contamination in its ground water-related information systems. (CSGWPP - SA5/AF3)	Multiagency - GIS/LIS consortium is developing GIS standards MDH, MPCA, MDA - expanding use of GPS in programs	in part	More consistency at state level, less so at local level Working on ensuring consistent use by all - e.g., Spatial Data Standards Policy development MPCA - GWSWD has worked on developing standards & conventions for the use of the LDP within the division. These will also be recommended for agency-wide implementation. GPS information invaluable in remediation DNR has adopted GIS data coding standards	Key Opportunity 15 - Increase state assistance to local efforts IGWIS & MES need to incorporate the LDP. Project Delta needs to promote and enforce the LDP within the MPCA. EPA goals (GPS-level accuracy) are not possible for some state/local inventory programs without further education and funding Require local government to use locational requirements as part of LWP/GWP implementation and state grant qualification Expand GPS use by all levels of government Encourage cross-program implementation of MSDEs
7.* ENVIRONMENTAL INDICATORS: The state establishes and tracks environmental indicators to measure progress in protecting its ground water resources. The state cooperates with EPA in the development of national environmental indicators and the use of any national indicators to measure Minnesota's progress and needs. (CSGWPP - SA5/AF4, new)	Minnesota Milestones MPCA - has worked with EPA to develop national indicators; agency initiatives and strategic planning efforts to develop indicators EQB - Minnesota Water Plan	yes	Working to develop these indicators beginning to be reflected in budget documents	Key Opportunity 11 - Evaluate program success MPCA strategic indicators should address ground water protection Implement EQB's state water plan recommendations
8. TECHNOLOGY AND BEST MANAGEMENT PRACTICES (BMPs): In addition to increasing knowledge of the resource, continuing and expanded research is needed to assess, develop, and continually upgrade prevention, control, conservation, and remediation technology and Best Management Practices. (new)	MPCA - BMP development for nonpoint sources DNR - Agriculture BMP development	in part	Further research needed, including monitoring in order to evaluate the success or failure of using BMPs - this includes audits of both the water quality/quantity impacts and degree of use by the target audience Research projects do not include the means to distribute results - technology/information transfer is critical or the research is pointless	Key Opportunities: 15 - Increase state assistance to local efforts 22 - Use education/outreach as protection tools State needs to improve partnership with local government Establish program to monitor both BMP use and water quality &/or quantity impacts - e.g., tie into SCS's county monitoring program (state would need to cost-share with SCS) Pollution prevention needs additional research Needs additional research in how multiple land use activities affect ground water and subsequent development of control & prevention programs

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STRATEGIC ACTIVITY VI. PUBLIC EDUCATION EFFORTS

VISION: Minnesota's citizens are vital to effective ground water protection and management efforts. Public education efforts (1) encourage citizen support of all levels of ground water protection efforts, (2) enhance results of other programs by increasing citizen involvement in protection efforts, and (3) provide information to ground water users.

Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
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A. PRIMARY ELEMENTS:

1. CITIZENS' ROLE: Citizens are involved in and support ground water protection and conservation efforts. Citizens are aware of ground water protection issues. They understand how individual activities affect ground water resources and what their role is, as well as the role of government. (GWPS, MWP, modified NPSIES)	EEAB's environmental education plan development Counties - LWP/GWP efforts (MS 103B) MPCA, DNR, MDA, MDH, BWSR, etc.- increased public involvement efforts, including inclusion in advisory groups, publications, newsletters, etc. EQB-WRC - public involvement in state water plan development and other planning efforts	in part	Further involvement is needed EQB has not developed the GW information and education plan EEAB has developed state environmental education plan	Key Opportunity 18 - Implement public education plans
2. IMPACTS OF BEHAVIOR: Citizens are provided the information necessary for them to understand the environmental impacts of their practices and activities. This information is based on actual data, is consistent with the state ground water framework, and includes means for citizens to assess their own impacts (such as self-monitoring). (GWPS, modified NPSIES, new)	EEAB - environmental education plan U of M Extension - outreach programs Counties - LWP/GWP programs(MS 103B) MPCA, DNR, MDA, MDH, BWSR, OWM, etc.- fact sheets, newsletters, promotion of BMPs (MS 103H.151), etc. EQB - state water plan and other reports, 1989 GWPA required EQB to develop an information and education plan	in part	There is currently no method of ensuring as much consistency as possible between messages being presented to the public EQB has not developed the ground water information and education plan required in the 1989 GWPA EEAB has developed state environmental education plan	Key opportunities: 18 - Implement public education plans 22 - Use education/outreach as protection tools 26 - Coordinate public education Develop means of improving the consistency of ground water protection messages presented by various sources

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
3. SUPPLEMENT GOVERNMENT EFFORTS: To enhance regulatory and nonregulatory programs, citizens are educated in ways to minimize/alleviate impacts. (GWPS)	EEAB's environmental education U of M Extension programs Counties - LWP/GWP programs(MS 103B) MPCA, DNR MDA, MDH, BWSR, etc.- BMP development and promotion also fact sheets, newsletters, answering written and phone questions, public speaking, etc. MPCA - NPS information and education strategy, county solid waste planning, household hazardous waste program EQB-WRC - state water plan and other reports OWM - educational efforts MnTAP - nonregulatory pollution prevention & waste management technical assistance for businesses EQB - GWPA required EQB to develop an information and education plan	in part	Shifting from reliance solely on regulatory programs to including an increasing degree of nonregulatory efforts EQB has not developed the GW information and education plan EEAB has developed state environmental education plan	Key Opportunities: 18 - Implement Public Education Plans 22 - Use Education/Outreach as protection tools 26 - Coordinate public education Make education a primary component of government efforts- regulation and remediation should be of last resort Develop coordination mechanisms to prevent duplication of effort and ensure consistency of messages
4. ** ADEQUATE INFORMATION FOR GROUND WATER MANAGERS AND POLICY MAKERS: Minnesota provides information to all those responsible for managing ground water. (CSGWPP - SA6/AC3, new)	Regional & state agency newsletters - DNR "Volunteer" and "Watertalk", BWSR "BillBoard", Metro Monitor, MPCA regulator newsletters, MDA "Update" MDA - sustainable agriculture education, grants & loans LMIC - when completed, the GW Clearing house will provide data MPCA - MES and GWMAP data available; when IGWIS is completed, more data will be easily available (current data are project-limited) MDH - State Training Coalition (coordinates training activities for drinking water & wastewater operators, officials)	in part	Efforts are growing at the various agencies More effort needs to be undertaken - there is a widening technology/information gap between state and local government, especially in rural areas BWSR's "Water BillBoard" newsletter has been a useful tool, recognized even in the state water plan developed by the EQB - multi-agency funding cuts have eliminated regular printing of this newsletter Decision-makers include everyone from local planning and zoning officials to state legislators Training is too often a single event	Key Opportunities: 8 - Revise data management 20 - Provide training Fully fund "Water BillBoard" or other ground water newsletter for regular publication Work with colleges and universities on determining directions of needed research Research projects need to include formally recognized and fully funded methods of results dissemination to appropriate audiences Technology transfer needs to be increased Establish a computerized bulletin board for distribution of information on updates on topics of concern Make better use of existing distribution networks (e.g., BWSR, Extension, etc.) Increase distribution of interpreted data

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
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B. SECONDARY ELEMENTS

1. ** PROMOTING PROTECTION:

Minnesota is implementing a public education program to: (CSGWPP - SA6/AC4, new)

a. Enable citizens to better manage common practices and activities that contribute to ground water contamination (e.g., private well construction, septic systems, etc.) that are not now regulated,	MPCA - fact sheets, BMPs, septic system workshops, manure management guidance MDA - BMPs, sustainable agriculture information BWSR - educational programs, fact sheets, technical training, and assistance; cooperative programs with Extension Extension - fact sheets, publications, technical assistance, water quality education, Farm*A*Syst program Local efforts - SWCDs, county LWP/GWP, etc. MDH - well construction/sealing publications	in part	This is receiving more and more emphasis, but the messages being provided to the public are not always consistent Michigan's Ground water Education Program (GEM) is a good example (this is a Kellogg grant funded program)	Key Opportunity 22 - Use Education/Outreach as protection tool
b. Promote methods for protecting the ground water quality and quantity supplying individuals' private wells, and	MGS/MDH - well construction plate in geologic atlases MDH - well driller continuing education program & certification Counties - LWP/GWP efforts (MS 103B) MDH, municipalities - WHP program efforts	in part	More information needs to be provided, especially on economical alternatives	Key Opportunity 22 - Use education/outreach as protection tools Provide information both on protection and treatment for home wells, including quality, health impacts, and economics
c. Promote the efficient use of water.	DNR - water appropriations program Counties - LWP/GWP efforts (MS 103B) DNR, Met Council, public water supplies - public water supply conservation & contingency planning	in part	More reactive than proactive, although this may be changing due to response to recent drought period Current statutes address only part of usage issues	Key Opportunity 22 - Use education/outreach as protection tools Needs more proactive efforts Develop and use regional conservation plans as tools Statutory changes needed in order to allow truly comprehensive conservation

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
2. COORDINATED EDUCATION EFFORTS: Coordination and cooperation is fostered between governmental, private, and other organizations in order to optimize information and education efforts. (modified NPSIES)	MPCA - NPS information and education strategy being developed EEAB's draft environmental educational plan (MS 103B.151) EQB - GWPA required EQB to develop an information and education plan AG - educational efforts for small business	beginning	Need is recognized and action is beginning; needs include better coordination of content of the message, as well as being sure it is designed to be consistent with protection goals and priorities Efforts have become fragmented in part because of loss of overall state coordination of environmental education efforts Education efforts are becoming more and more difficult for state agencies because of increasing focus on mandated programs - training is being limited to specific programs and presentations of overall protection needs are being restricted - necessary information is being lost	Key Opportunities 15 - Increase state assistance to local efforts 18 - Implement public education plans 26 - Coordinate public education Adapt GEM model (Michigan's program) to Minnesota as an excellent starting point for ground water education Improve cooperation and coordination of messages Build partnerships between information sources (state, etc.) and education suppliers (e.g., Freshwater Foundation's Ground Water Information System, proposed ground water hotline, local government staff and officials, etc.) Provide training not only on specific programs, but on overall ground water protection goals, priorities, and needs, both current and projected
3. TARGETED EDUCATION PROGRAMS: Specialized training is provided for target groups. Stewardship and active citizen involvement is promoted by focusing information and education efforts on the resources in which local audiences have a stake. Targeted programs include activities such as the Farm*A*Syst program, and training programs for hazardous waste generators and other specific groups. (GWPS, CSGWPP - SA6/AF1, NPSIES)	MPCA - targeted educational materials; applicator/facility operator training and certification; annual conferences on landfills, wastewater treatment, hazardous waste programs for businesses and households, etc. OWM - pollution prevention & waste management assistance MnTAP - nonregulatory pollution prevention & waste management technical assistance U of M Extension - Farm*A*Syst MDH - annual well conference, well driller certification & continuing education, water & wastewater operator training SWCD - education committee Counties - some LWP/GWPs DNR - Lake Advocate Program (training & coordination - GW issues)	yes	More programs would always be useful, but need is recognized and many groups are currently targeted for specialized training Many polluting practices are currently unaddressed or underaddressed in existing programs and could be effectively addressed by developing educational efforts (e.g., auto salvage yards, drainage wells, lawn & garden chemical use)	Key Opportunities: 9 - Increase emphasis on prevention 22 - Use education/outreach as protection tools Expand existing educational efforts by protection programs and design new ones, particularly for addressing sources which currently unaddressed or underaddressed Provide additional resources for MnTAP to increase activities, including on-site visits & student interns assisting business; publish newsletter focused solely on pollution prevention; increase funding (e.g., grants, demonstration projects, etc.) Expand MnTAP assistance to cities, counties, and townships with special needs (e.g., addressing practices needed in Karst topography) Train retailers in order to be able to provide information at the places where products are sold (such as nurseries, pesticide dealers, and automotive, hardware, home improvement, grocery stores)

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
4. EDUCATION PROGRAM METHODS: Educational programs are innovative, include training and technical assistance, and actively involve the public. (new)	EEAB's draft plan with extensive public input	beginning	Emphasis on new methods is being recognized	Promote more innovative means, develop electronic and multimedia options
5. ** PUBLIC EDUCATION ON STATE PROTECTION EFFORTS: Education keeps the public informed about key issues and decisions regarding the goal, objectives, priorities, and progress of state ground water protection and management efforts. (CSGWPP - SA6/AC2, new)	Newsletter publicity - Minnesota Ground Water Association feature article (March 1993), Agency newsletters, etc.	beginning	Public education portion just beginning to be implemented; will need further publicity, information meetings, formal advisory meetings, etc.	Improve and expand coordinated efforts
6. ** PUBLIC INFORMATION AVAILABILITY: An outreach process exists to make ground water monitoring data and information available to the public. (CSGWPP - SA6/AC3)	BWSR - LWP/GWP activities (MS 103B) MGS - water well information line & county geologic atlases services office Mankato State U - Water Resources Center EEAB MPCA - lakes electronic bulletin board U of M Extension	beginning	No single process is available, there are currently multiple and sometimes competing processes	Key Opportunities: 15 - Increase state assistance to local efforts 18 - Implement public education plans 20 - Provide training 22 - Use education/outreach as protection tools Develop coordination mechanisms to prevent duplication of effort and ensure consistency of messages Develop better mechanisms for distribution of information which is already available - better marketing is needed Increase partnerships with other environmental education efforts (Freshwater Foundation's Ground Water Information System project, proposed Ground Water Hotline, EEAB's Environmental Education Plan) Provide more "train the trainer" education - training for those who will be able to further distribute the knowledge (SWCDs, local government officials & staff, cross-agency training, etc.) Provide more information and speakers for specialized training (i.e., a source for local-level trainers to obtain help in setting up specific training sessions)

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Activities and Primary/Secondary Elements	Description of Statutory Authorities, Programs, Activities, etc.	Does Minnesota Fully Attain?	Remarks	Opportunities for Improvement
7. EARLY EDUCATION GOAL: Education in ground water quantity and quality protection responsibilities begins at an early age for all users. (NPSIES)	EEAB's draft Environmental Educational Plan MPCA - volunteer speaker's program, educational materials geared to age groups, displays at State Fair and other events, free audiovisual loans OWM - waste education unit's curriculum development DNR - GW flow models and support	beginning	Students need to learn importance of ground water - but in context of broad, interconnected environmental perspective	A more comprehensive effort is needed, but not addressing ground water alone - needs to address broad environmental perspectives Develop a teacher training program with support materials and personnel

APPENDIX - NOTES & ABBREVIATIONS

NOTES

- ** - This is criterion, or part of this criterion, is a mandatory EPA requirement for a fully-comprehensive CSGWPP
- * - This criterion, or part of this criterion, is recommended by EPA for a fully-comprehensive CSGWPP
- New - This is a new criterion suggested by plan drafters and reviewers.

ABBREVIATIONS

AC - Adequacy Criteria (from EPA's Final CSGWPP Guidance)	LCMR - Legislative Commission on Minnesota Resources	PCT - Project Coordination Team
AF - Additional Factor (from EPA's Final CSGWPP Guidance)	LDP - Location Data Policy	PMP - Pesticide Management Plan
Ag - Agriculture	LIS - Land Information System	QA/QC - Quality Assurance/Quality Control
AG - Attorney General's Office	LMIC - Land Management Information Center	R - River
ARAR - Applicable or Relevant and Appropriate Requirements	LWC - Legislative Water Commission	RAL - Recommended Allowable Limit
ASCS - Agricultural Stabilization and Conservation Service	LWP - Local Water Plan (Comprehensive Water Resources Management Plans)	RAP - Remedial Action Plan
BMPs - Best Management Practices	MCL - Maximum Contaminant Level	RCRA - Resource Conservation & Recovery Act
BWSR - Board of Water and Soil Resources	MCLG - Maximum Contaminant Level Goal	SA - Strategic Activity (from EPA's Final CSGWPP Guidance)
COE - Corps of Engineers (Army)	MDA - Minnesota Department of Agriculture	SCS - Soil Conservation Service
CSGWPP - Comprehensive State Ground Water Protection Plan	MDH - Minnesota Department of Health	SDI - Strategic Development Initiative
CWI - County Well Index	MEPA - Minnesota Environmental Protection Act	SDS - State Disposal System
CWP - Clean Water Partnership	MERLA - Minnesota Environmental Response and Liability Act	SDWA - US Safe Drinking Water Act
DNR - Minnesota Department of Natural Resources	MES - Master Entity System	SIC - Standard Industrial Classification
DNR-DOW - Minnesota Department of Natural Resources - Division of Waters	MGS - Minnesota Geological Survey	SMP - State Management Plan (EPA's version of PMP)
EEAB - Minnesota Environmental Education Advisory Board	MN - Minnesota	SPD - Special Protection Districts
EPA - US Environmental Protection Agency	MnTAP - Minnesota Technical Assistance Program	SW - Surface Water
EQB - Environmental Quality Board	MOA - Memorandum of Agreement	SWCD - Soil and Water Conservation District
FIFRA - Federal Insecticide, Fungicide & Rodenticide Act	MPCA - Minnesota Pollution Control Agency	SWIM - State Water Information Management
FMP - Fertilizer Management Plan	MR - Minnesota Rules	TOT - Time of Travel
FY - Fiscal Year	MRAP - Minnesota River Assessment Plan	TRI - Toxic Release Inventory
GEM - Ground Water Education Michigan	MRIP - Minnesota River Implementation Plan	U - University
GIS - Geographic Information System	MS - Minnesota Statutes	UDCP - Underground Disposal Control Program
GPS - Global Positioning System	MSDE - Minimum Set of Data Elements	UIC - Underground Injection Control
GW - Ground water	MUWN - Minnesota Unique Well Number	U of M - University of Minnesota
GWMAP - Ground Water Monitoring and Assessment Program	MWP - Minnesota Water Plan	USDA - US Department of Agriculture
GWP - Ground Water Plan	N - Nitrogen	USFWS - US Fish and Wildlife Service
GWPA - Ground Water Protection Act (1989)	NA - Not applicable	USGS - US Geological Survey
GWPS - Ground Water Protection Strategy	NPDES - National Pollutant Discharge Elimination System	WHP - Wellhead Protection
GWSWD - Ground Water and Solid Waste Division	NPS - Nonpoint Source	WMO - Watershed Management Organization
HRL - Health Risk Limit	NPSIES - 1993-1997 Nonpoint Source "Information and Education Strategy" (draft)	WRC - Water Resources Committee (EQB)
HWD - Hazardous Waste Division	Obwell - Observation Well Program (DNR)	WRPR - Water Resource Protection Requirement
IGWIS - Integrated Ground Water Information System	OWM - Office of Waste Management	WRRRC - Water Resources Research Center (U of M)
IPM - Integrated Pest Management	PCSI - Potential Contaminant Source Inventory	WSD - Watershed District
ISTS - Individual Sewage Treatment Systems		

ASSESSMENT OF MINNESOTA ACTIVITIES NEEDED TO ACHIEVE A COMPREHENSIVE STATE GROUND WATER PROTECTION PROGRAM (CSGWPP)

STRATEGIC ACTIVITY I. PROTECTION GOAL

VISION: All Minnesota ground water protection programs are guided by an overall state ground water protection goal designed to sustain both ground water quality and quantity in order to meet the needs of the environment and current and future generations. This goal requires that ground water programs (1) protect and manage ground water quality and quantity by minimizing and correcting degradation and (2) address the impacts of the interconnections ground water resources have with human activities and other environmental resources.

STRATEGIC ACTIVITY II. PRIORITIES FOR PROTECTION ACTIVITIES

VISION: Due to financial and staffing limitations and natural and demographic differences across the state, state and local ground water protection programs cannot give the same attention to all ground waters and contamination sources. Minnesota's comprehensive protection program establishes priorities to guide all ground water quality and quantity protection activities in the state. Those priorities must (1) be based on overall state ground water protection goal priorities; (2) correspond to the general level of risk; (3) be long-term; (4) protect drinking water supplies as a priority; and (5) be based on consideration of ground water uses, benefits, vulnerability, and other characteristics. These priorities are used consistently by all ground water protection programs in the state.

STRATEGIC ACTIVITY III. AUTHORITIES, ROLES, RESPONSIBILITIES AND RESOURCES

VISION: In order to provide adequate and truly comprehensive protection of our ground water quality and quantity, Minnesota's overall ground water protection program (1) is accountable; (2) coordinates individual protection efforts; (3) includes federal, state, tribal, and local levels of government; and (4) recognizes and supports the major role of local government, non-governmental groups, and the public in comprehensive ground water protection planning and implementation efforts.

STRATEGIC ACTIVITY IV. IMPLEMENTATION

VISION: Ground water quality and quantity protection efforts (1) are comprehensive and integrated, (2) are based on hydrologic units, (3) stress pollution prevention and encourage conservation and water reuse, (4) include regulatory and nonregulatory programs, (5) are proactive and long-term, (6) have objectives which can be measured, (7) include cleanup of existing contamination, (8) prevent cross-media contamination, (9) address all contamination sources, and (10) are based on sound scientific data and information.

STRATEGIC ACTIVITY V. RESEARCH AND DATA MANAGEMENT AND APPLICATION

VISION: Ground water quality and quantity data and information are collected, coordinated, managed, interpreted, and evaluated in a manner that supports (1) measuring progress in protection programs and redirecting those programs as needed, (2) information sharing between programs, and (3) providing useful information to the public and decision-makers in all ground water protection programs in the state. Data and information are based on sound scientific methods. Ground water research is a priority, and needs are coordinated with other state ground water protection efforts.

STRATEGIC ACTIVITY VI. PUBLIC EDUCATION EFFORTS

VISION: Minnesota's citizens are vital to effective ground water protection and management efforts. Public education efforts (1) encourage citizen support of all levels of ground water protection efforts, (2) enhance results of other programs by increasing citizen involvement in protection efforts, and (3) provide information to ground water users.



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MEMORANDUM

October 19, 1993

TO: Ron Harnack
Jim Birkholz
Greg Larson
Al Kean
Marybeth Block

FROM: Dave Behm

RE: **Executive Summary for "White Paper":**
An Alternative Approach to Administer Federal Land Retirement Programs in Minnesota

For your information, discussion, and debate, I am providing you with a copy of an 8-page "executive summary" of a 23-page "white paper" I prepared on this topic.

While I had intended to prepare a "white paper" solely devoted to "why/how" ASCS should pass-through all future WRP funding to BWSR through RIM Reserve, Ron requested that I prepare this broader perspective so that he could send it to Washington, D.C. to represent BWSR's viewpoints in this national discussion. He directed me to include CRP in this paper, given that I was preparing a manuscript on the conversion of selected CRP lands to RIM Reserve easements for consideration of possibly having it published in a future issue of the *Journal of Soil and Water Conservation* (based on the paper I presented in Ft. Worth this past August at the annual Soil & Water Conservation Society meeting).

Now that I have prepared this, I have but one question for all of you: Will this white paper (or some revised version, if necessary) represent BWSR's "official position" on this topic? I hope so, for I believe strongly that we have an unprecedented opportunity to influence the future delivery of two federal land retirement programs in Minnesota, **IF WE CHOOSE TO PURSUE THIS AVENUE**. I, for one, believe we **MUST** do so!

If you agree with my assessment and proposal, and my assertion in the previous paragraph, I would then ask for your support and direction to pursue this as an initiative of BWSR. As such, I would suggest the following actions be taken in the immediate future (in no particular chronological or priority order):

- get the Board to endorse this as an "official position" of the BWSR;
- engage the appropriate federal agencies (at the Minnesota state office level as well as in Washington, D.C.) in a discussion of this proposal for their responses (specific examples of where one might start would be with the Minnesota ASCS State Conservation Review Group and perhaps the Minnesota Steering Committee of the North American Waterfowl Management Plan);
- engage the appropriate state agencies in a similar discussion of this proposal for their responses (MDA Commissioner Redalen has already verbally given me his support of such a concept at a meeting last April);
- engage the appropriate conservation organizations in a similar discussion of this proposal for their responses;
- approach the appropriate Minnesota state legislators as well as our Congressional delegation with this proposal and solicit their responses, especially regarding funding commitments; and
- submit an abstract of this paper for consideration as a presentation at the upcoming national conference (February 10-11, 1994), "When Conservation Reserve Program Contracts Expire ..." in Arlington, Virginia (call for papers will be announced later this fall).

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An Alternative Approach to Administer
Federal Land Retirement Programs in Minnesota

EXECUTIVE SUMMARY

David H. Behm

Programs & Policy Analyst

Minnesota Board of Water & Soil Resources

NOTE: A more detailed analysis of this proposal is available from the author upon request.

BACKGROUND

Federal Land Retirement Program Activity in Minnesota

- Nearly two million cropland acres have been idled under the federal Conservation Reserve Program (CRP).
- Approximately 136,000 acres of CRP contracts will expire in 1996; expiring contract acreage leaps to nearly one million acres in 1997 (2). Nearly 300,000 acres of expiring CRP contracts in 1996 and 1997 are comprised of class IV or VI soils (2).
- Board of Water and Soil Resources (BWSR) indicates that nearly 100,000 acres of CRP contracts expiring in 1996 and 1997 need to remain in long-term, if not permanent, retirement so as to avoid revisiting the significant erosion and subsequent off-site impacts associated with crop production on these lands (3).
- Minnesota was one of nine states selected to participate in the pilot Wetland Reserve Program (WRP). Nearly 50,000 acres were accepted for enrollment in the pilot states, yet only 706 acres were accepted in Minnesota (4). Nevertheless, the purposes of WRP fit well with Minnesota's desire and need to protect its remaining wetlands heritage, as well as to restore many of its drained wetland acres.

Minnesota's Conservation Easement Programs

- RIM Reserve was established in 1986 to keep certain marginal agricultural land out of crop production to protect soil and water quality and enhance fish and wildlife habitat. More recent legislation has broadened RIM Reserve to enroll drained restorable wetlands, sensitive ground water areas, and riparian lands, among others. In 1991, another conservation easement program -- Permanent Wetlands Preserve (PWP) -- was established to acquire perpetual easements on existing types 1, 2, and 3 wetlands.
- Landowner response to RIM Reserve and PWP has been overwhelming. For example, interest in the RIM Reserve program has historically exceeded available funds by a margin of 2-to-1 (Figure 1).

"Reinventing Government"

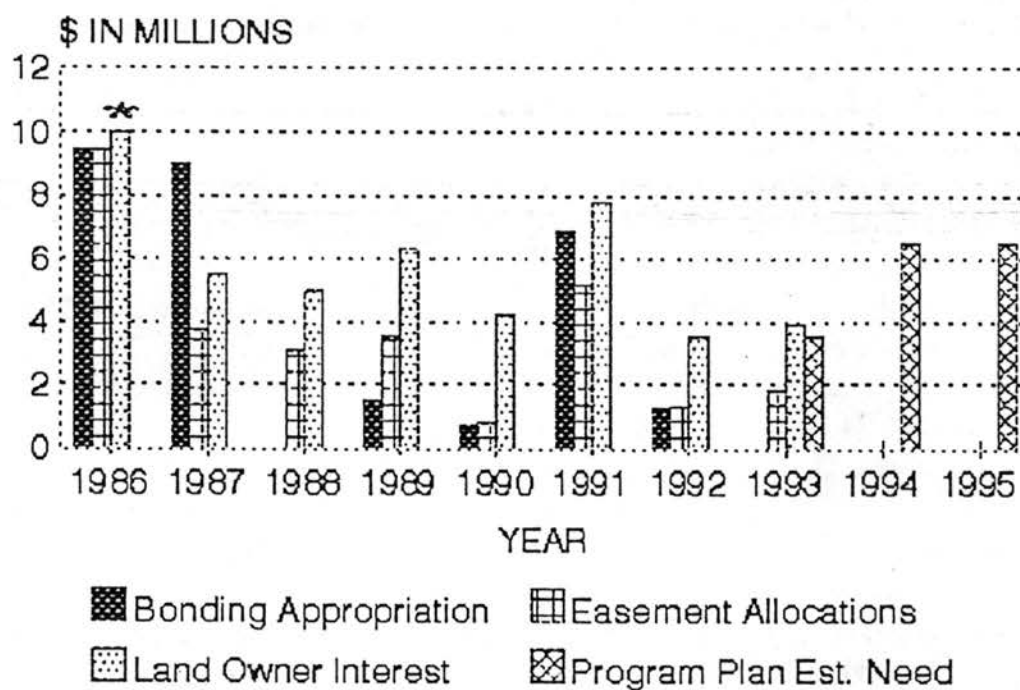
- There has been a public outcry to make "government" more accountable, more accessible, more "user-friendly", more efficient -- in short, to "reinvent government." I will discuss how this proposal addresses each of these four issues.

A MINNESOTA PROPOSAL: PHILOSOPHY

- First, the landowner's perspective of land use management options must be evaluated and incorporated into program implementation. In other words, the duration of easement and specific land rights to be acquired need to be fully discussed with the landowner and, where possible and appropriate, modifications made to the provisions of the easements that will be acquired.
- Second, program administration must be delegated locally through SWCDs. Delegation must include adequate financial and technical assistance as well as administrative discretion on how best to procedurally acquire the conservation easement.

FIGURE 1:
LANDOWNER INTEREST AND PROGRAM APPROPRIATIONS

RIM-RESERVE BONDING 1986-95



*1986 LANDOWNER INTEREST - 25.5

- Third, interagency (federal/state/local) coordination and cooperation must be a high priority commitment of each participating agency's management staff.
- Fourth, a stable base level of program funding for easement acquisition and conservation practice establishment must be assured. This obligation lies with Minnesota's state legislature regarding adequate BWSR easement program acquisition and administrative funding as well as with Congressional appropriations for CRP and WRP.
- Fifth, coordination and cooperation with a broader base of natural resource interest groups and organizations must be institutionalized (i.e., ASCS must embrace the BWSR approach regarding the participation of local screening committees comprised of a widely diverse group of program supporters and natural resource management expertise).
- Lastly, additional opportunities must be explored to further enhance program implementation by seeking policies which complement those initiated by other federal programs, particularly those of the FWS.

A MINNESOTA PROPOSAL: RATIONALE

Reason #1: Converging Purposes

- RIM Reserve and PWP programs could collectively accomplish the purposes espoused for WRP and the proposed "new" CRP.
- Several recent policy discussion documents (5, 6, 7, 8, 9, 10, 11, 12) have suggested that a future CRP should be targeted to the most environmentally sensitive lands; RIM Reserve has always done so. Some of these documents have also suggested that perhaps easements should be used to enroll such lands (5, 6, 8, 10, 11, 12); again, both RIM Reserve and PWP have always done so.
- The National Wetlands Policy Forum referenced the RIM Reserve program in its call for a national agricultural wetland reserve program in 1988 (13).
- Considering these perspectives and the fact that the new Wetland Reserve Program was, in large part, designed in the mold of RIM Reserve, I am suggesting that the continuation of WRP and any continuation of CRP in Minnesota be administered cooperatively through BWSR's established easement programs.

Reason #2: Targeting of Environmentally-Sensitive Lands

- RIM Reserve enrolls those lands which are environmentally sensitive or highly erodible, as documented in five-year program plan (3) prepared by BWSR in 1992. BWSR has also designated the Minnesota River watershed as its priority area for 1992 and 1993, where at least 50% of enrolled acres must be located. This watershed has received priority attention by the state's water quality agency as well as Governor Arne Carlson.
- Any land containing type 1, 2, or 3 wetlands may be enrolled into PWP. Consequently, expiring CRP

contract lands which surround a natural eligible wetland or which contain eligible wetlands restored by the U.S. Fish and Wildlife Service (FWS) would be ideal for enrollment under perpetual conservation easements.

Reason #3: Easement Provisions

- BWSR easement programs (a) acquire cropping, grazing and drainage land rights, (b) prohibit alteration of wildlife habitat and other natural features, (c) prohibit spraying with chemicals or mowing unless necessary to comply with noxious weed control laws or emergency control of pests, and (d) prohibit the placement of any structures on the easement area.
- These provisions, at least in part, were identified as highly desirable before the creation of WRP by the National Wetlands Policy Forum (13).

Reason #4: Cooperative Partnerships

- Cooperating agencies and conservation organizations often contribute technical or financial assistance to landowners participating in BWSR easement programs.
- Examples of significant and ongoing contributions include: (a) FWS staff providing financial and technical assistance for wetland restorations; (b) Pheasants Forever, Incorporated, providing free native grass seed or wildlife food plot seed or weed maintenance cost-sharing for wildlife plantings; and (c) Ducks Unlimited, through its MARSH Program, contributing substantial cost-sharing for wetland restoration practices.
- The extent and degree of commitment by cooperating agencies and organizations is a hallmark of BWSR's easement programs. Largely due to combined commitment of BWSR and local SWCDs to include these agencies and organizations on local screening committees (for targeting, application review, and prioritizing considerations, among others) and to solicit professional input and review of conservation practice standards and specifications.

A MINNESOTA PROPOSAL: COMPONENTS

Component #1: An Innovative Policy Already Established

- Until recently in Minnesota, the administrative rules for CRP only allowed a contract holder to be released from a contract upon repayment of all annual payments and often with a penalty as well. However, a new ASCS policy has significantly improved opportunities for landowners who, seeing firsthand the value of having retired the enrolled lands into CRP, desire to provide long-term retirement of these lands through enrollment into a BWSR easement program.
- The new policy waives all repayment and any potential penalty obligations on the part of the landowner if the lands under CRP or federal Waterbank contract were terminated and enrolled under a perpetual BWSR conservation easement.

Component #2: Enhance the Existing Administrative Infrastructure

- Local SWCDs and BWSR have acquired nearly 2,000 RIM Reserve easements since 1986 and an additional

128 PWP easements since 1991. The existing administrative infrastructure includes experienced staff whom are locally responsive to landowners' inquiries and needs, and, collectively, are fiscally efficient. Administrative costs for acquiring conservation easements have historically been less than 20%, and recently have been approaching 15%, of the total costs necessary to enroll parcels as well as to establish required conservation practices.

- The existing infrastructure should simply be enhanced and fully used with any continuation of CRP and WRP in Minnesota; there is no need for USDA to attempt to develop a parallel infrastructure to administer easement programs. Instead, USDA should administer any "new" CRP and the continuation of WRP largely as "pass through" funding to BWSR and SWCDs, while also fully participating on local (and state level) screening committees to ensure that federal goals and objectives are adequately addressed and accomplished. Under this arrangement, FWS could continue its highly desirable technical assistance role.

Component #3: Local Administration and Implementation

- Proposal is fully consistent with the Clinton Administration's commitment "to increasing State, Tribal, and local government roles in Federal wetlands protection and restoration efforts." (15) RIM Reserve and PWP are locally administered; any "new" CRP and the continuation of WRP should be similarly administered.
- Local SWCDs administer BWSR easement programs with the assistance of BWSR easement program staff; they include a coordinator, an engineer, a realty specialist, an accountant, and additional support such as clerical and contractual engineering services.
- BWSR easement programs allow for a continuous signup in participating SWCDs with two application deadlines per year. Doing so allows the greatest degree of administrative flexibility for participating SWCDs to identify high priority parcels and to approach interested landowners.
- Local screening committees review applications, prioritize them and select parcels based on available funds. Each screening committee is chaired by the SWCD. Other agencies on the committee may include the Minnesota Department of Natural Resources, the U.S. Soil Conservation Service, the FWS, the ASCS, the Minnesota Pollution Control Agency; and other representatives of private, local and state conservation, farm and environmental organizations.
- Prioritized applications are then submitted to the BWSR for funding consideration. Again, an appropriate degree of federal oversight through participation on local screening committees and in the final funding decisionmaking process should accommodate the proposed "pass-through" of CRP and WRP program funds.

Component #4: Joint Federal/State Funding and Oversight

- There are two fundamental needs of any land retirement program, be it CRP or WRP or a BWSR easement program. The two needs are (a) funding for administrative and professional services (e.g., necessary program staff and local administrative staff), and (b) funding for easements (e.g., easement payments).

- The State of Minnesota has made a substantial funding commitment to BWSR easement programs, as illustrated in figure 1. Given the funding commitment of the State of Minnesota and the federal government (for CRP and WRP) to date, a shared financial commitment is required and feasible. This arrangement will require a federal funding commitment of at least 50% of total easement acquisition costs.
- As component #1 is implemented, ASCS should reimburse BWSR for a portion (depending upon the "balance of payments" remaining for the CRP or federal WBP contract to be terminated) of the total easement acquisition costs upon termination of the selected federal contracts. Any "excess" balance of payment (i.e., that amount greater than 50% of the total easement acquisition costs) for each terminated federal contract should be held in escrow by the Minnesota ASCS State Office and used for reimbursing other similar BWSR conservation easements of mutually selected CRP or WBP contract terminations.

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WETLAND REGULATORY SIMPLIFICATION

Minnesota has a number of wetland regulatory programs all of which play a part in preserving the state's valuable water resources. However, the various regulations have led to confusion and frustration on the part of landowners and project sponsors who are willing to comply with the regulations if only they could understand them. Local government unit (LGU) administration of the recently developed state Wetland Conservation Act (WCA) provides several opportunities for wetland regulatory simplification through intergovernmental coordination without changes to existing regulations. The benefits of regulatory simplification are better service to the public AND increased government efficiency. Specific steps toward this objective are described below.

I. Combined Project Notification (CPN) form

In use for over a year, the CPN has recently been revised so that it can be accepted as a permit by all agencies that may have regulatory jurisdiction on a project proposal.

II. Wetland Banking Agreement

All the federal and state regulatory and oversight agencies have tentatively agreed (through the deliberations of the Inter-Agency Wetlands Group) to allow project sponsors that cannot avoid wetland impacts to seek compensatory mitigation via the state wetland bank established by the WCA Rule. The benefits and terms of the agreement are spelled out in the attached final draft. The target effective date is mid-January 1994.

III. State Programmatic General Permit (GP)

The Inter-Agency Wetlands group is also seeking to develop a GP agreement between the U.S. Corps of Engineers (Corps) and the State of MN that would eliminate the need for Corps Sec. 404 review and approval for a substantial number of projects already approved by the LGUs via WCA authority. Specifically:

1. For projects statewide impacting less than 1/2 acre of wetland, landowners who have obtained a LGU-approved WCA replacement plan would not need approvals from the Corps.
2. On a pilot basis, for projects in several LGUs, the acreage limit would be increased to 3 acres in item (1).
3. Landowners who obtain a Certificate of Exemption from the LGU would have the option of self-certifying a Corps Nationwide Permit (NWP) for their project according to the NWP guidelines and Regional Conditions as last issued on September 17, 1993.

Issues yet to be resolved:

- Will items (1) and (2) apply to all projects or will certain wetlands near special resource waters (e.g. trout streams, trout lakes, wild and scenic rivers, Scientific and Natural Areas) still require MPCA 401 certification?
- Who receives notice/copies of projects and when?
- Which LGUs will participate in item (2)?

For more information contact John Jaschke at the MN Board of Water and Soil Resources at (612)297-3432.

DRAFT

LOCAL - STATE - FEDERAL WATER RESOURCE PROJECT NOTIFICATION / APPLICATION FORM

Use this form to notify/apply to the U.S. Army Corps of Engineers, the Minnesota Department of Natural Resources, and your Local Government Unit of a proposed water/wetland project or work which may fall within their jurisdiction. These agencies should advise you of their jurisdiction or permit requirements within 45 days. Some LGU's may also require submission of their own application forms. Fill out this form completely and mail a copy, with plans, maps, etc. to each of the agencies listed on the reverse of the form. Keep a copy for your records. **YOU MUST OBTAIN ALL REQUIRED AUTHORIZATIONS BEFORE BEGINNING WORK.**

AGENCY USE ONLY: LGU NUMBER: _____ MDNR NUMBER: _____ CORPS NUMBER: _____

I. Applicant's Name (Last, First, M.I.)	Authorized Agent, if any	Area Code, Telephone
Address (Street, RFD, Box Number, City, State, Zip Code)		
II. Location of proposed project (<u>attach drawing</u> showing how to get to site)		
COUNTY	QUARTER SECTION(s)	SECTIONS(s) No. TOWNSHIP(s) No. RANGE(s) No. Lot, Block, Subdivision
FIRE No., BOX No., OR PROJECT ADDRESS		NAME OF WATERBODY AFFECTED and NUMBER (IF KNOWN)
III. ESTIMATED PROJECT COST: \$		LENGTH OF SHORE AFFECTED (in feet):
IV. VOLUME OF FILL OR EXCAVATION (Cubic Yards):		(NOTE: You may substitute dimensions)
V. TYPE OF WORK AND AREA (CHECK ALL THAT APPLY): ☐ CONSTRUCT ☐ DRAIN ☐ EXCAVATE ☐ ACCESS PATH ☐ BRIDGE ☐ CULVERT ☐ DAM ☐ FILL ☐ REMOVE ☐ REPAIR ☐ DOCK ☐ RIPRAP ☐ SANDBLANKET ☐ LAKE ☐ SHORELINE ☐ WATERWAY ☐ WETLAND		
OTHER (DESCRIBE): _____		
WETLAND TYPE(S) AND ACREAGE(S) PROPOSED TO BE FILLED/DRAINED: _____ Attach applicable drawings, plans, and ASCS crop photos. Include a description of any proposed compensatory mitigation. <u>Important: Identify</u>		
VI. PROJECT PURPOSE (why is this project needed--what benefits will it provide?):		
VII. ALTERNATIVES (describe any other sites or methods that could be used to achieve the purpose of your project while avoiding or minimizing wetland/water impacts: Attach additional sheets, if needed).		
VIII. DATES: Proposed start of activity:		Proposed completion:
IX. ADJOINING PROPERTY OWNERS (Attach list if more than two)		
Name	Address	City State Zip
X. PERMITS have been received (enter an <u>R</u>) or already applied for (enter an <u>A</u>) from: _____ DNR _____ ARMY CORPS OF ENGINEERS _____ COUNTY		

I hereby notify the recipients of this form of the project proposed herein and request that I be advised of any permits or other determinations concerning this project that I must obtain. I understand that proceeding with work before all required authorizations are obtained may subject me to Federal, State, and/or local administrative, civil and/or criminal penalties.

Signature of Person Proposing Project or Agent

DATE: _____

INSTRUCTIONS--PLEASE READ CAREFULLY

A copy of this form, with copies of all plans, drawings, etc., should be sent to each agency indicated below. Please check the appropriate spaces below to show everywhere you are sending this form. *Remember to keep a copy for your records.*

____ **LOCAL GOVERNMENT UNIT (LGU):** city, county, or watershed management organization.
Specify the LGU to which you are sending the form: _____

____ The local **SOIL AND WATER CONSERVATION DISTRICT (SWCD)** for the project.
Specify the county SWCD: _____

____ **WATERSHED DISTRICT** (if one exists for the project area).
Specify the Watershed District: _____

____ **MINNESOTA DEPARTMENT OF NATURAL RESOURCES (MDNR)** regional office

____ **U.S. ARMY CORPS OF ENGINEERS (ACOE).** Send the ACOE copy to:

Department of the Army, Corps of Engineers, St. Paul District,
ATTN: CO-R, 190 Fifth Street East, St. Paul, MN 55101-1638

Note: The above agencies may provide a copy of your completed form to the Minnesota Pollution Control Agency (MPCA). MPCA water quality rules may apply to your proposed project.

ATTENTION (FROM USDA): Any activity including drainage, dredging, filling, leveling or other manipulations, including maintenance, may affect a landuser's eligibility for USDA benefits under the 1985 Food Security Act as amended. Check with your local USDA office to request and complete Form AD-1026 prior to initiating activity.

IMPORTANT: Some agencies, including the Corps of Engineers and the MDNR accept this form as a permit application form. If you wish this form to constitute an application to the Corps and/or MDNR for any necessary permits for your project please carefully read the following information and sign where indicated.

XX

Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities or I am acting as the duly authorized agent of the applicant.

_____ Signature of Applicant	_____ Date	/	_____ Signature of Agent	_____ Date
---------------------------------	---------------	---	-----------------------------	---------------

Note: The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the information requested below is provided.

Agent's Name and title: _____

Agent's address: _____

Agent's telephone: (____) _____

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of The United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years, or both.

SEE ATTACHMENT ABOUT MDNR PERMIT FEES

Minnesota Interagency WETLAND BANKING AGREEMENT

WHEREAS; landowners that have received wetland project approvals (as required by state and federal laws, rules and agency regulations) should have access to all replacement options; and,

WHEREAS; the State Wetland Bank established by the Wetland Conservation Act Rule (MN Rule Chapter 8420) provides a sound option for wetland replacement; and,

WHEREAS; other benefits to use of a wetland banking program include:

1. Appropriate and perpetual mitigation is assured as wetland replacement credits will meet the principals and procedures for review, deposit, auditing and monitoring as provided for in the Wetland Conservation Act Rule.
2. More efficient and cost-effective mitigation will be realized as landowners will be able to seek replacement that meets all of the agencies requirements for compensatory mitigation.
3. A positive balance of wetland acres will be realized as wetland restoration and creation projects must be completed and deposited *before* credits can be withdrawn.

WHEREAS; the approval agency retains control over the compensatory mitigation requirements through their respective approval processes. Wetland bank credits could only be used if credits exist in the state wetland bank that meet the agency compensatory mitigation requirements (e.g. size, type and location).

THEREFORE; the parties to this agreement concur that state wetland bank credits are a viable compensatory mitigation option for projects that are subject to their respective authorities and require wetland mitigation, and hence, will allow landowners to seek mitigation therein.

THEREFORE; be it resolved by the signatures of the persons below, under their respective agency's authorities, that this agreement is effective on the date all signatures are affixed.

Signature	Date
Signature	Date
Signature	Date
Signature	Date
Signature	Date
Signature	Date
Signature	Date
Signature	Date

Ronald D. Harnack, Executive Director, BWSR
James T. Scott, Colonel, Corps of Engineers, District Engineer
Chuck Williams, Commissioner, MPCA
Lynn Lewis, MN Field Operations Supervisor, USFWS
Rod Sando, Commissioner, MDNR
Gary Nordstrom, SCS State Conservationist, USDA
James Denn, Commissioner, MNDOT
Doug Ehorn, Chief, Wetlands and Watersheds, Region 5 - USEPA

DRAFT

FOR YOUR INFORMATION

- AMC Policy Relating to Wetland Protection and Drainage
- Wetland Heritage Advisory Committee Meeting (11/3/93)
- Review of 1989 Ground Water Protection Act

TRANSPORTATION AND AGRICULTURE

The Transportation and Agriculture Policy Committee recommends the following changes to the platform.

T.A. 12 COMMODITY PRICING

The Association of Minnesota Counties recognizes the difficult economic situation facing rural Minnesota due to the current low farm prices and supports ~~and encourages~~ farm prices that are adjusted for inflation equal to the rest of the food industry.

T.A. 14 WETLAND PROTECTION AND DRAINAGE

The Association of Minnesota Counties supports the elimination of the regional and Clean Water Act Section 401 conditions placed by the Minnesota Pollution Control Agency on the Clean Water Act Section 404 Permit Program administered by the United States Army Corps of Engineers. The Association of Minnesota Counties supports requiring state agencies to comply with the rulemaking requirements of the Administrative Procedures Act in all reviews of federal permitting programs.

The Association of Minnesota Counties does not support compliance with wetland regulations imposed by agencies of the State of Minnesota - particularly the Department of Natural Resources, Board of Water and Soil Resources, and the Pollution Control Agency - which have rulemaking authority, but are not financially responsible for the impacts of their regulations, thereby burdening counties with unfunded mandates.

T.A. WETLAND PROPERTY RIGHTS COMPENSATION

The Association of Minnesota Counties supports enacting legislation that recognizes the public's responsibility to fairly and equitably compensate private landowners for the loss of property rights resulting from environmental regulation of wetlands and public waters wetlands.

F&E

Excerpts from proposed Amc
platform to be considered at their
1993 annual mtg

GL



Ron Harnack
BWSR

Board Packet

(TENTATIVE)
AGENDA
WETLAND HERITAGE ADVISORY COMMITTEE
NOVEMBER 3, 1993

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Southbridge Office Building
155 S. Wabasha Street
Suite 104
St. Paul, MN 55107
(612) 296-3767
Fax (612) 297-5615

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Metro Region:

Southbridge Office Building
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St. Paul, MN 55107
(612) 296-3767
Fax (612) 297-5615

- 9 AM : Update on implementation of WCA
-administrative training re. permanent rule
-natural resource block grants to counties
-efforts to streamline wetland regulation
-perspectives of committee members
- 10 : Representatives of the Soil Conservation
Service and Corps of Engineers
-review of Clinton wetland initiative and
its effect on swampbuster and 404
-new views on excavation and ditch
maintenance
- 12 : Lunch -buffet
- 1 : State Wetland Plan
- 1:30 : Chapter 175 report
- 3 : Adjourn

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1989 Ground Water Protection Act
Key Features for BWSR, Local Governments

A. Local Water Resources Protection & Management

- 1) Local Water Resources grants
 plan development grants
 plan implementation grants
- 2) Well Sealing Grants
- 3) Metropolitan Local Water Management Task Force

B. Environmental Agriculturalist Contracts

C. conservation easements

identifies ag. land in a sensitive groundwater area or adjacent to a sinkhole as "marginal agricultural land" for the purpose of the RIM reserve

D. local water planning

the 1989 act adds the requirement that sensitive areas and wellhead protection areas be considered in the plans

E. Consultations, peripheral involvements

BWSR is cited in several places as an agency "to be consulted" as part of a program managed by another agency - for instance the Nitrogen Compounds in Ground Water Study to be prepared by MDA and MPCA.

From: The MN Ground-water Protection Act of 1989
(A summary, August 1989, state planning)

Advisory Committee Provided Guidance

Environmental Quality Board (EQB) appointed the Advisory Committee on Ground Water Protection in January 1988 to help develop the strategies and legislation.

Members included farmers, environmentalists, researchers, and representatives from business and local government.

Their unanimous recommendations called for preventing degradation and protecting all ground water. They urged a balanced effort, including education, research, incentives, and regulation.

Nutrients. Both were developed with extensive public input.

The recommendations made in them provided the framework for the Ground Water Protection Act.

Legislation Developed and Passed

The Governor prepared legislation to protect ground water as a key part of his environmental package for 1989.

In addition, before the 1989 Legislative Session ever began, the Senate formed an Ad Hoc Water Committee to analyze issues and recommend legislation to protect ground water. This led to the Senate ground water bill authored by Senator Steve Morse.

In the House, Representative Willard Munger collaborated with four coauthors to produce the House ground water bill.

These approaches were instrumental in building the coalition of interests needed to pass the bill.

In fact, leading farm organizations as well as numerous other groups, provided resolutions of support for new water legislation.

The result was a single bill that passed both bodies overwhelmingly with only three opposing votes.

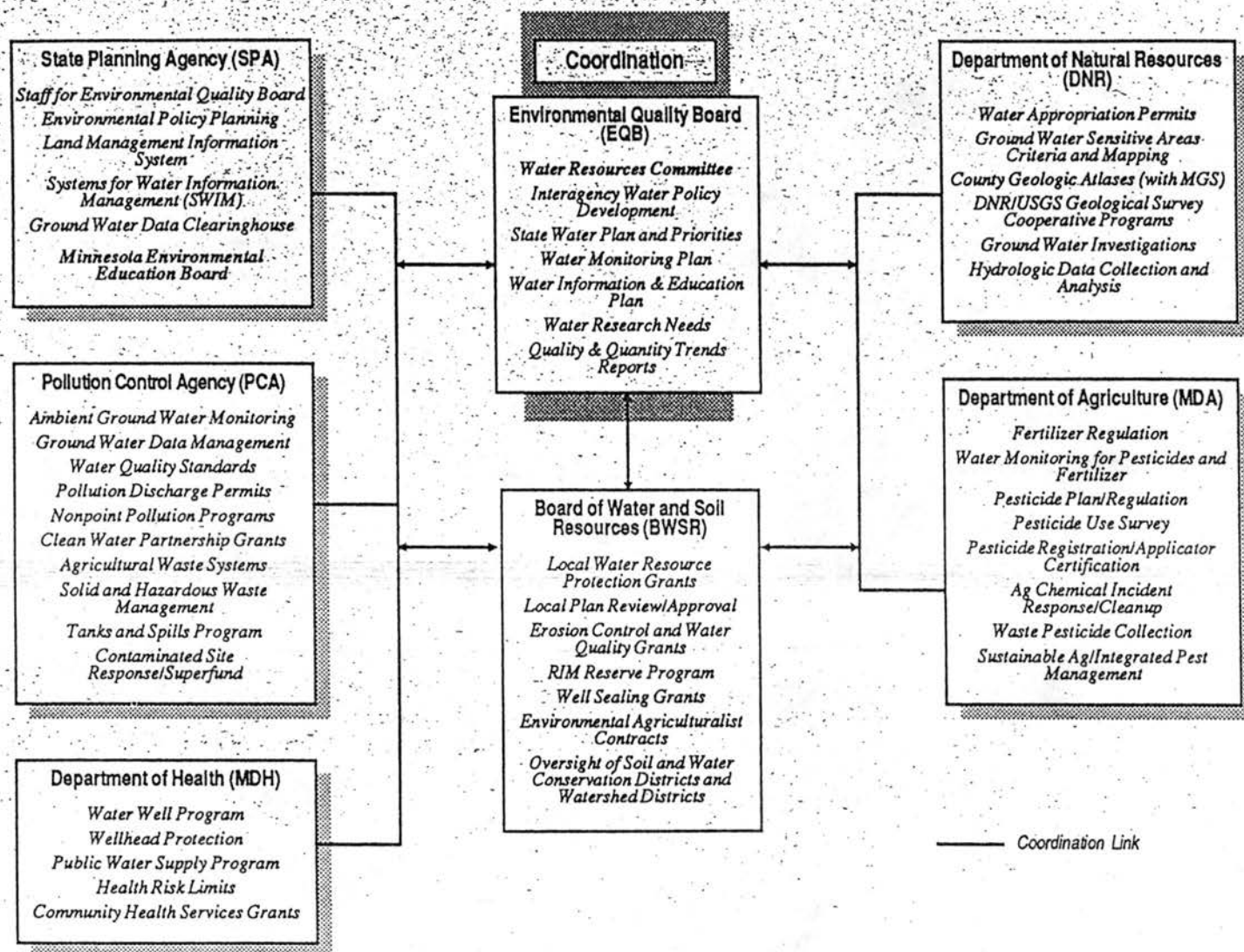
Local Government Got Involved

In the spring of 1989, after legislation was drafted and introduced, the Board of Water and Soil Resources (BWSR) organized a series of forums around the state to discuss the ground water bill.

BWSR also organized a "Water Day at the Capitol" for local government officials to hear about the bill.



State Agency Ground Water Responsibilities



Health Risk Limits

The Minnesota Department of Health (MDH) will adopt health risk limits for substances degrading ground water. These are the highest levels of pollutants that are unlikely to be harmful to people, even if the water is consumed for a long period of time.

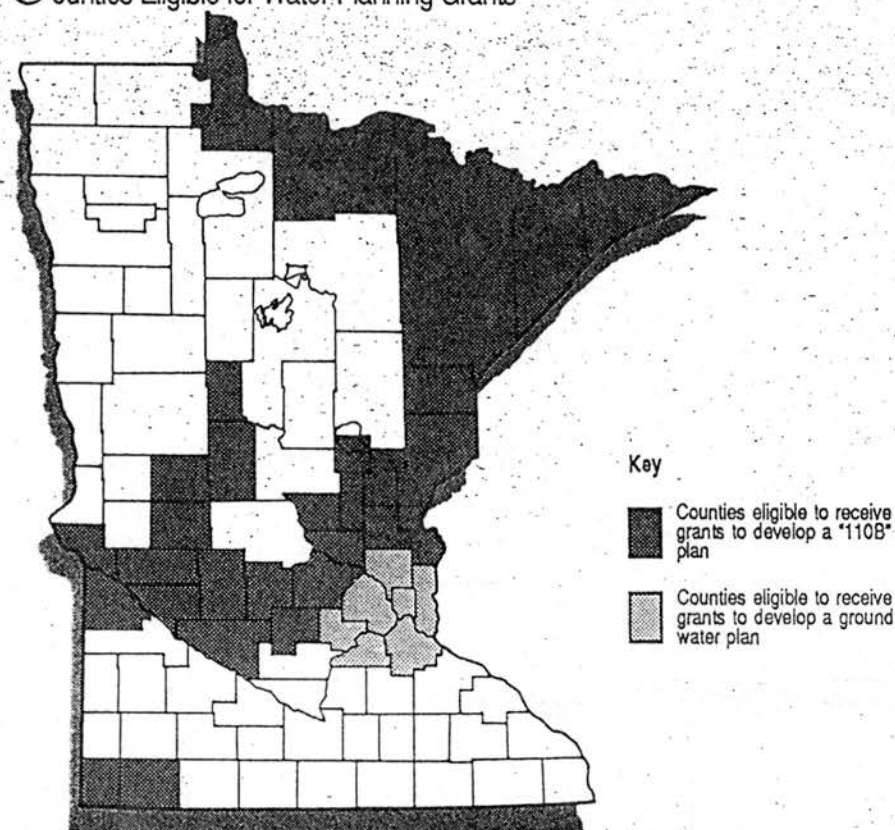
Limits are adopted by rule, except in situa-

tions such as spills where limits are needed quickly. These emergency limits would be effective for one year. Existing risk numbers may be adopted as health risk limits.

Legislative Water Commission

A new Legislative Water Commission will review state water policy and programs. It will

Counties Eligible for Water Planning Grants



Water Use Fee

Fees are charged for water use under DNR permits. Substantially higher fees apply to once-through cooling systems.

Local Government Aid and Actions

Comprehensive local water plans are a key part of Minnesota's water program. These plans tap ideas of local government and citizens to address water-related issues.

Plans are being developed in the metropolitan area. Fifty-two counties outside the metropolitan area are currently producing com-

Local Water Resources Protection and Management

Grants to develop water plans available to counties from BWSR after July 1, 1989. \$535,000 is set aside for this.

Grants to implement water plans available to counties from BWSR after July 1, 1990. \$2.5 million is set aside for this.

Water Use Fees

GENERAL FEES:

.05 cents per 1,000 gallons for the first 50 million gallons .1 cents per 1,000 gallons for the amount greater than 50 million gallons per year (Maximum Fee - \$2,000)

ONCE-THROUGH COOLING WATER FEES:

5 cents per 1,000 gallons until 12/31/91

10 cents per 1,000 gallons from 1/1/92 until 12/31/96

15 cents per 1,000 gallons after 1/1/97

prehensive local water plans through an LCMR-funded pilot program. Other counties have started without state funding.

The new law builds on these efforts by providing grants to local governments for planning and plan implementation. Clearly local water planning is here to stay. It is a big part of ground water protection.

Key Features

Local Water Resources Grants

The local water resources protection and management program is set up within BWSR. Grants will be made to counties and other units of government through counties. They can be

used to hire people, and to obtain and use information needed to develop or implement a comprehensive local water plan.

Plan Development - Grants will be available to counties after July 1, 1989, to develop comprehensive local water plans, or, in the metropolitan area, county ground water plans. About \$535,000 is available to the 35 counties not part of the pilot program. This equals about \$15,300 per county, the same level received in the pilot program.

Plan Implementation - BWSR will develop rules for plan implementation grants. A work group of local governments and agency representatives will assist them.

After July 1, 1990, about \$2.5 million will be available to counties to carry out priority items in approved plans. A portion of these funds will be distributed on a noncompetitive basis.

Well-sealing cost-share grants will be made by BWSR to selected counties after July 1, 1990.

Well-sealing Grants

BWSR will provide grants to selected counties for sealing priority wells under this new program. A county may contract with another local unit of government for administration of this program.

BWSR will develop guidelines for determining well-sealing priorities and selecting participating counties. About \$400,000 will be available for cost-share grants between July 1, 1990 and June 30, 1991. This is enough money to seal a few hundred wells. The program will end on June 30, 1995.

Financial Assistance Options - Landowners who need financial help to seal an abandoned well have two options.

1. They may request cost-sharing from the county. Cost-sharing is limited to 75 percent of the total cost, not to exceed \$2,000 per well. (option available in selected counties)
2. In cases of immediate need, they may request funding directly from BWSR. If BWSR provides well-sealing funds directly to a landowner, 100 percent of the cost must be paid back to the state. This will be done either by a lien on the property where the well is located, or by assessment on property taxes.

Local Authority Over Water Wells and Borings

All or part of the inspection, reporting and en-

Well owners must have unused wells sealed or obtain a maintenance permit. Lack of well-sealing cost-share grants cannot be used as a defense to avoid sealing a well.

forcement duties related to water wells may be delegated to local governments at their request. Requests must be approved by MDH.

Metropolitan Local Water Management Task Force

This task force is created to study metropolitan local water management issues. It will report to the Governor and Legislature by December 15, 1989.

■ Funding

The Legislature authorized \$17.1 million for the new law. The money comes from fees on specific activities (\$8.8 million) and appropriations from the state's general revenues (\$8.3 million).

Where programs directly benefit all Minnesotans, general revenues are relied upon. For example, the grants to counties for water planning and plan implementation fit in this category.

In cases where people benefit from the uses they make of water, or use products that cause pollution, fees provide the program funding needed. For example, fees are used to support regulation of the use of pesticides.

Key Features Fees

Support for ground water protection comes from fees on those who use water and fees on products and activities.

Water Well Fees - Fees for well construction and monitoring are expected to raise \$2.0 million. These fees go to the state general revenue fund to offset costs of administering the water well program.

Water Use Fees - Increased fees for water use under DNR water use permits, and much higher fees for once-through cooling, are expected to raise \$2.7 million. These fees go to the General Fund to offset DNR costs for resource evaluations.

Pesticide and Fertilizer Fees - Fee increases in this area are estimated to raise \$4.1 million, all of which go to dedicated accounts.

Fertilizer Fees - go to the Fertilizer Inspection Account (\$480,000) for use by MDA in carrying out regulations covering fertilizers, soil amendments, and plant amendments.

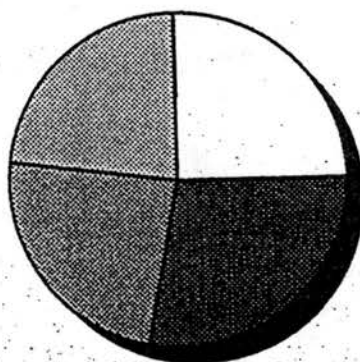
Pesticide Fees - go to the Pesticide Regulatory Account (\$1,900,000) for use by MDA in carrying out the pesticide parts of the bill. After July 1, 1990, an additional \$600,000 per year from registration fees goes to the Waste Pesticide Account for collecting waste pesticides.

Fertilizer and Pesticide Fee Surcharges - go to the Agricultural Chemical Response and Reimbursement Account (\$1,120,000). This account will be used by the MDA and the Agricultural Chemical Response Compensation Board to cover the costs of responding to spills and other incidents.

Spending and Funding

Ground Water Protection Act Spending

Control of Pollution Sources	- 25%	
Local Government Aid & Action	- 23%	
Education, Research, Monitoring and Information Management	- 24%	
Drinking Water Protection	- 28%	



Ground Water Protection Act Funding Sources

Pesticide and Fertilizer Fees	- 23%	
General Revenues	- 49%	
Water Well Fees	- 12%	
Water Use Fees	- 16%	

How the Funds Are to be Spent

A balanced combination of education, research, monitoring, regulation and coordination activities is funded.

Education, Research, Monitoring and Information Management - 24 percent of the funding will be spent in this area, with efforts for:

- MDA coordination and promotion of Sustainable Agriculture
- Minnesota Extension Service education in urban and rural Integrated Pest Management
- BWSR contracts for Environmental Agricultural Education
- UM Experiment Stations for Research on Impacts of Agriculture on Ground Water
- MDA Water Quality Monitoring and Laboratory Support
- DNR development of County Hydrogeological Atlases with the Minnesota Geological Survey and Ground Water Investigations and Monitoring
- State Planning Agency maintenance of an Integrated, Computerized Ground Water Monitoring Data Base
- PCA development of an Integrated Ground Water Information System

Control of Pollution Sources - 25 percent of the funds will go to control of pollution sources. The money will be used for:

- MDA Regulation of Fertilizers and Pesticides including development and implementation of Best Management Practices, Collection of Waste Pesticides and Containers, and Agricultural Chemical Response and Reimbursement
- PCA development and implementation of Best Management Practices

Drinking Water Protection - 28 percent of the funds go to improving the state's ability to protect drinking water supplies. This includes funding for:

- MDH development of Health Risk Limits, enforcement of the Water Well Management Program, and Monitoring of Public Drinking Water Supplies under the Safe Drinking Water Act

Local Government Aid and Actions - 23 percent of the funds are ear-marked for local government water resource protection efforts. This includes money for:

- Comprehensive Local Water Management under the Local Water Resources Protection and Management Program of the BWSR
- Well Sealing Cost-Share Grants by the BWSR
- The Metropolitan Local Water Management Task Force

