Minnesota
Five-Year Floodplain Management Work Plan

Purpose/Background

The purpose of this plan is to identify current and future strategies and practices that will ensure effective and efficient floodplain management in the State of Minnesota. This plan includes the efforts funded through our partnership with the Department of Homeland Security's Federal Emergency Management Agency (FEMA) and through the State of Minnesota to administer the state floodplain management program. This plan assumes a continuation of past levels of state funding and the National Flood Insurance Program's (NFIP) Community Assistance Program – State Support Services Element (CAP-SSSE) grant.

I. State Authorities

The enabling state statute - State Floodplain Management Act of 1969 (See Chapters 103F.101 to 103F.155, and 103F.165) – was adopted soon after the National Flood Insurance Act of 1968 became law. State Floodplain Management Rules (See Parts 6120.5000-6120.6200) were initially adopted in 1970. The state's Flood Damage Reduction grant program was authorized in 1987 by Minnesota Statutes, Chapter 103F.161 (flood hazard mitigation grants). Minnesota Statues, Chapter 103G and Minnesota Rules, Part 6115 regulate changes to the course, current or cross-section of public waters in the state, which includes the types of projects (bridge, culvert, dam projects, etc.) that have the greatest impact on the floodplain. Portions of these regulations have existed since 1933, while the bulk of the laws currently in force were developed in the 1970's and 1980's, with the most recent update in 2002. Zoning authorities for the counties is found in Minnesota Statutes, Chapter 394, and for municipalities is found in Minnesota Statutes, Chapter 462. State Building Code (SBC) requirements, including which communities are required to adopt and enforce the SBC, are in Minnesota Statutes, Chapter 16B.60 and following.

The Statewide Standards for Management of Shoreland Areas (see Minnesota Rules, Part 6120.2500 to 6120.3900) were last updated in 1989 and are based on authority in Minnesota Statutes, Chapter 103F.201 to 103F.221. State Statutes originally called for regulation of shoreland areas in counties (for lakes greater than 25 acres and streams draining greater than 2 miles^2) in 1972 and in municipalities (for lakes greater than 10 acres and streams draining greater than 2 miles^2) in 1973. The shoreland district is the area within 1,000 feet of lake and within 300 feet of a stream (or the landward extent of floodplain designated by ordinance, whichever is greater). These rules require that the low floors on buildings in the shoreland district either meet the floodplain regulations, or if no flood elevation has been determined, that the minimum elevation for the lowest floor is three (3) feet above the ordinary high water (OHW) elevation or the highest known water level (HKWL), whichever is greater.

There are many areas where the state regulations are more stringent than the federal standards:

- Regulatory Flood Protection Elevation (RFPE) – The minimum elevation for the low floor / basement is the base flood elevation plus any stage increase due to designation of a floodway plus minimum freeboard of one (1) foot.
- Fill must extend out 15 feet at the BFE (plus the floodway stage increase) for foundation protection.

- The maximum stage increase allowed due to designation of a floodway is ½ foot, or less if damages would increase.
- All structural additions / alterations must be protected to the RFPE (not just substantial improvements).
- Primary roads are required to be raised to the RFPE.
- Only open space uses with minimum flood damage potential are allowed in the floodway.
- Elevating methods other than fill require a conditional use permit/public hearing process.
- State model ordinances include: dry land access requirement for all principal structures, cumulative language for substantial improvements and conditional use permit/hearing process for filling more than 1,000 cubic yards not associated with elevating a structure (and many watersheds require compensatory storage).

II. Five Year Vision for Floodplain Management

Background

In the first half of the 20th Century, there was relatively little flooding in Minnesota. However, there have been many significant flooding events throughout the state over the past 50 years. In particular, spring flooding was significant along the Mississippi/Minnesota River in 1952, 1965, 1969, 1997 and 2001, and the Red River of the North in 1969, 1979, 1989, 1997 and 2001. There were 15 federal disaster declarations (10 of them for flooding) in the ten-year period between 1993 and 2002, covering much of the state. Intensive storms have also led to significant flooding, including the 1987 "superstorm" in the Twin Cities and the more recent extensive flooding in the Roseau area of the Red River Valley in 2002. Climate trends suggest these flash floods could become more frequent.

Current Efforts

The Minnesota Department of Natural Resources (DNR Waters) has been designated as Minnesota's National Flood Insurance Program (NFIP) Coordinator. For many years, DNR Waters was short-staffed and had only 2 staff in the central office in St. Paul providing program oversight and carrying out most of the CAP-SSSE funded tasks. In 2001 two additional staff were added to the Floodplain Unit. One of those staff is a professional engineer who focuses on review of new and amended hydrology & hydraulics, and the FEMA map updates / modernization effort, and the other focuses on the Community Assistance Visit (CAV) / Community Assistance Contact (CAC) / training CAP-SSSE tasks. One additional floodplain management related staff person in the central office is the coordinator for the Flood Damage Reduction Program. This program provides matching funds for flood mitigation projects and technical studies. Approximately $139 million in state funds have been allocated for FDR projects through state fiscal year 2003.

Beginning in the 1970's DNR Waters' local offices (regional and smaller area offices) began to be established with DNR Waters' Area Hydrologists as the main contacts for all DNR Waters' programs, including floodplain management, for a smaller geographic portion of the state. Currently, day-to-day technical assistance to communities on floodplain management is provided mainly through the 29 Area Hydrologists and 4 Regional Hydrologists in 21 offices strategically located throughout the state.

There are currently 524 Minnesota communities enrolled in the NFIP, including all 85 counties with zoning authority, 424 cities, 9 townships and the Upper Sioux Indian Community. A summary of the communities with zoning authority in the state includes: 85 counties, 854 cities, 13 townships (that oversee floodplain management) and one Indian community, for a total of 954 communities. While only about half the cities in the state participate in the NFIP, those cities and the unincorporated portions of the 85 counties contain 92.6% of the state's population. Of the remaining 430 cities in the state, only 93 cities (plus 1 defunct city and 3 townships) - with 1.8% of the state's population – currently have flood hazard areas identified by FEMA and are classified as non-participating. The other 337 cities (with 5.6% of the state's population) do not currently have flood hazard areas identified.

In the 2004 CAP-SSSE Work Plan, DNR Waters proposed the following tasks: 20 community assistant visits (CAVs), 50 community assistance contacts (CACs), 50-60 Ordinance Assists, 3 one-day trainings for local officials, 1-2 special trainings, updates to the DNR Waters' web site, holding 5 – 8 final mapping meetings, enrolling 3-5 non-participating communities, preparation of this 5-year floodplain management work plan, many coordination meetings, and general technical assistance. We have completed similar levels of tasks since the central office floodplain staff were brought up to the existing complement in early 2002 (2nd quarter of federal FY 2002).

Strengths and Weaknesses

Minnesota has relatively few structures in the floodplain in comparison to other states in FEMA Region 5 and nationally. This is in part due to adherence to a long history of zoning restrictions (including floodplain management and shoreland management overlay districts) and, in part, in response to the community efforts to keep the river and lakefronts accessible to the public by putting a priority on open space and public parks/trail systems. This is exemplified in the park plans laid out by long-time "City of Lakes" Minneapolis Parks' Superintendent Theodore Wirth over a century ago.

In addition, Minnesota has been very pro-active with mitigation projects. As noted above, approximately $138 million has been paid through state fiscal year 2003 in cost-sharing through the state's FDR grant program, and DNR Waters' staff have worked cooperatively with local communities, and state and federal agencies to remove floodprone structures from the floodplain and protect formally floodprone structures with flood control projects.

The DNR Waters' field staff (Area & Regional Hydrologists), in 21 locations around the state, know the local areas, the water resources, and community & watershed/regional officials, which allows assistance and oversight for the floodplain management program to be given on a frequent and personal basis. Also, since the Area Hydrologists are involved in a variety of water resource issues and regulations, they often become aware of projects that could affect the floodplain in a timely manner and they can help direct the communities to the expertise needed for complicated situations, or advise that projects will need to be changed to meet floodplain regulations. The central office floodplain staff provide policy guidance and technical assistance to the field staff, work with communities (in coordination with field staff) on complicated / controversial floodplain management administration issues, provide training & educational materials / sample forms, and coordinate with FEMA.

The weaknesses in the current Minnesota floodplain management program center on poor mapping / data availability and the uncertainty of retaining the current level of state funding for staff and mitigation projects. The current map modernization effort should help address the concern with the maps. However, currently the poor quality of the FEMA maps, and the huge area covered by approximate study A zones, is the biggest challenge / complaint from local officials and DNR Waters' staff. Local officials and DNR Waters' staff do not have the funding, time, and/or technical expertise to calculate base flood elevations and obtain survey data more detailed than the existing 10-foot USGS map contours for the A zones. The lack of high-resolution Digital Elevation Model (DEM) data for most of the state means that the day-to-day interpretations of current flood mapping are less efficient. Also, if the maps are updated to a digital format without this good-quality topographic information, the new maps will be less effective than needed in many parts of the state. The current poor maps, and updated digital maps based on poor topographic data and/or lack of base flood elevations, also lead to costly delays in property transactions, delays in issuing permits for development, and anguish for many landowners.

In regards to maintaining our high quality staff both in the central office and in the field offices, the past and anticipated shortfalls in the state budget continues to be a challenge. The $4 billion shortfall in the last biennium led to a nearly 10% reduction in DNR Waters' staff full-time equivalents (FTEs), including a net loss of four field hydrologists. We anticipate that reductions in the number of staff will continue. The other challenge is that with the loss of the entry-level field hydrologist positions, and over 40% of DNR Waters' staff being eligible for retirement within five years, it will mean a great loss of institutional knowledge and experience in the floodplain management (and other DNR Waters') programs. The new Area Hydrologists in the next five years will need more extensive floodplain management training.

Vision/Priorities

It is the State of Minnesota's vision to continue to emphasize sound floodplain management practices: for the safety of occupants in the floodplain, to minimize property damage in the floodplain, and to retain the natural character of the floodplain for purposes of making open spaces available to the public and to retain / enhance the habitat.

We see two key areas for an effective floodplain management program: (1) trained / knowledgeable local officials, and (2) good maps. Knowledgeable local officials ensure that only development meeting the ordinance standards occur, and that existing non-conformities will be eventually removed. Local officials can only do their job efficiently if their community has good maps. Our vision of good maps would have only detailed or limited detail studies (BFEs shown to the nearest foot and zero stage increase/natural floodways) for all mapped flood hazard areas. These maps would show the floodplain delineations based on more detailed topographic information, such as 2-foot contours (or 1-foot contours in flat areas like the Red River Valley), produced from a high resolution digital elevation model (DEM). The maps would be easily accessible and readable to the local officials and the general public by utilizing current technology, including the internet.

III. **Strategy to Improve Floodplain Management**

Summary of Fundable CAP-SSSE Activities

A. Developing the 5-Year Floodplain Management Plan and Annual/Quarterly Reports

The 5-Year Floodplain Management Plan covering federal fiscal years 2005 to 2009 is being developed at the end of FY 2004. Since this document is based on assumptions that may change over time, and current FEMA priorities, it is considered a living document. We anticipate that there will be annual updates/adjustments to the later years in the plan.

Milestones: Three quarterly reports and an annual report will continue to be done each year. The 5-Year plan will be reviewed and updated as necessary at the time the annual report is done.

B. Mapping Assistance

Most of the mapping assistance efforts are expected to be covered by the Map Modernization Management Support (MMMS) grant program. The level of effort necessary, or possible, for many of the CAP-SSSE tasks is dependent on the pace of the map modernization effort in the state. For this plan, the current anticipated schedule for preliminary maps to be completed for all the state's counties is shown in Table 1 and Figure 1 (see pages 6 - 8).

C. Ordinance Assistance

As noted above, Table 1 shows the currently anticipated timeline for preliminary maps to be ready for each county. We assumed that after the preliminary maps are ready, a typical timeline would be that the public meeting and 90-day appeals period would take about 6 months, and then the Letters of Final Determination (LFD) would be sent to the communities. Therefore, for planning purposes, we assumed ordinances would need to be amended/adopted within about one-year of the preliminary maps being ready.

In Table 1, we also showed the total number of communities in each county, and broke those communities out based on whether they currently participate in the NFIP and whether they have a FEMA map. See Figure 2 for the anticipated timeline for ordinance assistance and total number of communities per county. Those figures are also summarized by fiscal year in Table 2 (below). The total estimated ordinance updates for each fiscal year was calculated by taking 100% of the mapped communities (both participating and non-participating) and the unmapped participating communities, and then adding 20% of the unmapped, non-participating communities.

We don't have exact numbers of the number of currently unmapped communities that will have flood hazard areas identified during the map modernization process, but based on our experience with the initial county-wide studies, we are estimating that about 20% for planning purposes. The approximately 197 unmapped, non-participating communities in counties that will be adopting new maps during the 5-year plan period will be contacted during the county-wide preliminary map reviews, and will be given an opportunity to participate. However, it will not be a priority of DNR Waters to strongly encourage the unmapped communities to participate.

Table 1: 5-Year Plan - Summary by County of Community Map Status

County	Prelim Maps Completed (Month-Year)	Ordinances Adopted (Month-Year)	Total Communities in County	Mapped total	Mapped (P)*	Mapped (N or O)*	Unmapped total	Unmapped (P)*	Unmapped (O)*
BIG STONE	Oct-04	Aug-05	9	2	2	0	7	3	4
LAC QUI PARLE	Jul-04	May-05	8	3	2	1	5	2	3
LYON	Oct-04	Aug-05	12	7	6	1	5	3	2
SWIFT	Jul-04	May-05	9	4	2	2	5	3	2
YELLOW MEDICINE	Aug-04	Jun-05	10	5	4	1	5	1	4
WASHINGTON	Oct-04	Aug-05	25	18	15	3	7	5	2
		FY 2005	**73**	**39**	**31**	**8**	**34**	**17**	**17**
BROWN	Feb-05	Feb-06	8	5	4	1	3	0	3
NICOLLET	Apr-05	Apr-06	6	4	4	0	2	0	2
REDWOOD	Apr-05	Apr-06	15	6	2	4	9	1	8
RENVILLE	Apr-05	Apr-06	11	2	2	0	9	1	8
CLAY	Jul-05	Jul-06	12	7	7	0	5	2	3
MURRAY	Sep-05	Sep-06	10	5	2	3	5	1	4
CHIPPEWA	Sep-05	Sep-06	7	5	3	2	2	1	1
DAKOTA	Sep-05	Sep-06	21	12	12	0	9	4	5
HENNEPIN	Sep-05	Sep-06	45	41	41	0	4	3	1
ISANTI	Sep-05	Sep-06	4	3	3	0	1	0	1
RAMSEY	Sep-05	Sep-06	16	11	11	0	5	2	3
STEELE	Sep-05	Sep-06	5	3	3	0	2	0	2
		FY 2006	**160**	**104**	**94**	**10**	**56**	**15**	**41**
GOODHUE	Mar-06	Mar-07	10	8	7	1	2	0	2
OLMSTED	Mar-06	Mar-07	7	6	6	0	1	0	1
SCOTT	Mar-06	Mar-07	9	7	7	0	2	0	2
SHERBURNE	Mar-06	Mar-07	6	5	4	1	1	1	0
MEEKER	Jun-06	Jun-07	10	5	3	2	5	0	5
ANOKA	Sep-06	Sep-07	18	14	13	1	4	2	2
CROW WING	Sep-06	Sep-07	19	8	7	1	11	2	9
GRANT	Sep-06	Sep-07	8	2	1	1	6	2	4
KANDIYOHI	Sep-06	Sep-07	13	4	2	2	9	1	8
LINCOLN	Sep-06	Sep-07	6	3	1	2	3	3	0
NOBLES	Sep-06	Sep-07	12	3	3	0	9	0	9
RED LAKE	Sep-06	Sep-07	6	2	1	1	4	2	2
RICE	Sep-06	Sep-07	8	6	5	1	2	1	1
		FY 2007	**132**	**73**	**60**	**13**	**59**	**14**	**45**
CARVER	Mar-07	Mar-08	12	8	7	1	4	2	2
BECKER	Sep-07	Sep-08	8	2	1	1	6	1	5
CARLTON	Sep-07	Sep-08	11	7	5	2	4	2	2
CHISAGO	Sep-07	Sep-08	12	8	6	2	4	2	2
DODGE	Sep-07	Sep-08	7	4	4	0	3	0	3
DOUGLAS	Sep-07	Sep-08	12	1	1	0	11	0	11
FILLMORE	Sep-07	Sep-08	15	10	10	0	5	0	5
FREEBORN	Sep-07	Sep-08	15	5	5	0	10	1	9
MAHNOMEN	Sep-07	Sep-08	4	1	1	0	3	2	1
MARTIN	Sep-07	Sep-08	11	3	1	2	8	0	8
MILLE LACS	Sep-07	Sep-08	11	8	6	2	3	0	3
NORMAN	Sep-07	Sep-08	9	5	5	0	4	1	3
OTTER TAIL	Sep-07	Sep-08	22	1	0	1	21	6	15
TRAVERSE	Sep-07	Sep-08	5	4	4	0	1	1	0
WASECA	Sep-07	Sep-08	5	1	1	0	4	1	3
WATONWAN	Sep-07	Sep-08	8	4	3	1	4	0	4
WILKIN	Sep-07	Sep-08	9	4	2	2	5	1	4
		FY 2008	**176**	**76**	**62**	**14**	**100**	**20**	**80**

* P – participating in NFIP N – not participating in NFIP O – Other; not shown in status book

Table 1 (continued): 5-Year Plan - Summary by County of Community Map Status

County	Prelim Maps Completed (Month-Year)	Ordinances Adopted (Month-Year)	Total Communities in County	Mapped total	Mapped (P)*	Mapped (N or O)*	Unmapped total	Unmapped (P)*	Unmapped (O)*
WINONA	Mar-08	Mar-09	12	8	8	0	4	1	3
BELTRAMI	Sep-08	Sep-09	9	3	1	2	6	1	5
CLEARWATER	Sep-08	Sep-09	6	0	0	0	6	2	4
COTTONWOOD	Sep-08	Sep-09	7	2	2	0	5	0	5
FARIBAULT	Sep-08	Sep-09	12	3	2	1	9	2	7
HUBBARD	Sep-08	Sep-09	5	0	0	0	5	2	3
ITASCA	Sep-08	Sep-09	17	8	5	3	9	1	8
KANABEC	Sep-08	Sep-09	6	6	4	2	0	0	0
KITTSON	Sep-08	Sep-09	10	4	4	0	6	2	4
LAKE OF THE WOODS	Sep-08	Sep-09	4	4	2	2	0	0	0
MOWER	Sep-08	Sep-09	15	7	7	0	8	1	7
PENNINGTON	Sep-08	Sep-09	4	3	3	0	1	0	1
PIPESTONE	Sep-08	Sep-09	10	6	3	3	4	1	3
POPE	Sep-08	Sep-09	11	1	1	0	10	3	7
ROCK	Sep-08	Sep-09	8	2	2	0	6	2	4
STEARNS	Sep-08	Sep-09	27	13	7	6	14	2	12
STEVENS	Sep-08	Sep-09	6	1	1	0	5	2	3
WADENA	Sep-08	Sep-09	7	7	4	3	0	0	0
		FY 2009	**176**	**78**	**56**	**22**	**98**	**22**	**76**
AITKIN	Sep-09	Sep-10	7	4	4	0	3	1	2
CASS	Sep-09	Sep-10	16	4	1	3	12	2	10
HOUSTON	Sep-09	Sep-10	8	6	6	0	2	0	2
MARSHALL	Sep-09	Sep-10	12	8	8	0	4	1	3
PINE	Sep-09	Sep-10	16	9	5	4	7	1	6
ROSEAU	Sep-09	Sep-10	6	3	3	0	3	1	2
SIBLEY	Sep-09	Sep-10	8	3	3	0	5	3	2
WABASHA	Sep-09	Sep-10	11	10	7	3	1	0	1
		FY 2010	**84**	**47**	**37**	**10**	**37**	**9**	**28**
BENTON	Sep-10	Sep-11	8	7	5	2	1	0	1
BLUE EARTH	Sep-10	Sep-11	12	5	3	2	7	2	5
COOK	Sep-10	Sep-11	2	0	0	0	2	2	0
JACKSON	Sep-10	Sep-11	7	3	2	1	4	0	4
KOOCHICHING	Sep-10	Sep-11	7	3	2	1	4	2	2
LAKE	Sep-10	Sep-11	4	0	0	0	4	4	0
LE SUEUR	Sep-10	Sep-11	10	7	5	2	3	0	3
MC LEOD	Sep-10	Sep-11	10	8	7	1	2	0	2
MORRISON	Sep-10	Sep-11	16	8	7	1	8	1	7
POLK	Sep-10	Sep-11	16	10	8	2	6	0	6
ST. LOUIS	Sep-10	Sep-11	35	22	15	7	13	4	9
TODD	Sep-10	Sep-11	11	7	6	1	4	1	3
WRIGHT	Sep-10	Sep-11	15	10	9	1	5	0	5
		FY 2011	**153**	**90**	**69**	**21**	**63**	**16**	**47**
Sub-Totals					**409**	**98**		**113**	**334**
TOTALS			**954**	**506**			**447**		

* P - Participating in NFIP

* N - Not Participating in NFIP (shown in Community Status Book)

* O - Other; Not Participating in NFIP & Not Shown in Community Status Book

Figure 1: Anticipated Preliminary Map Dates (as of 9/2004)

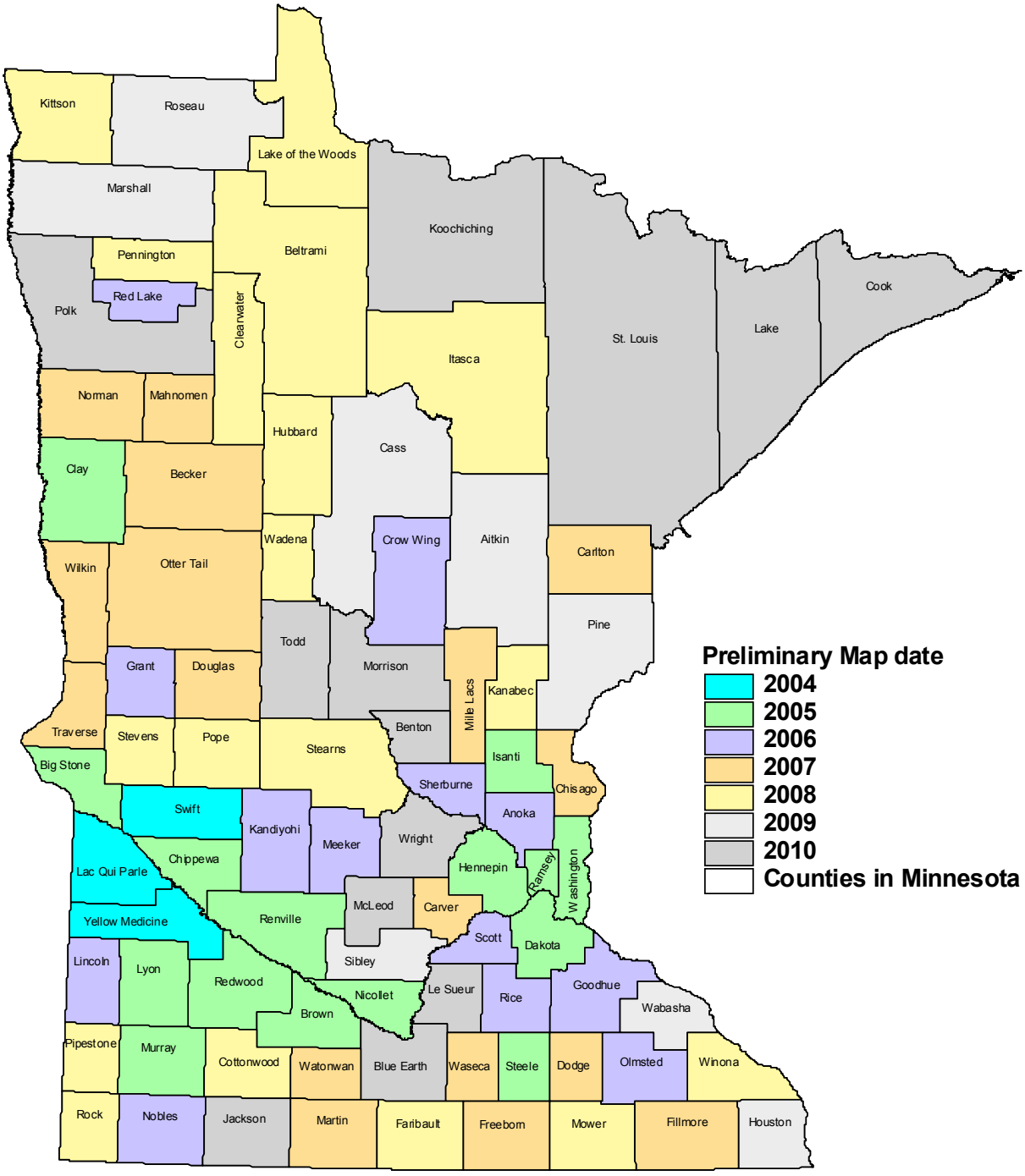
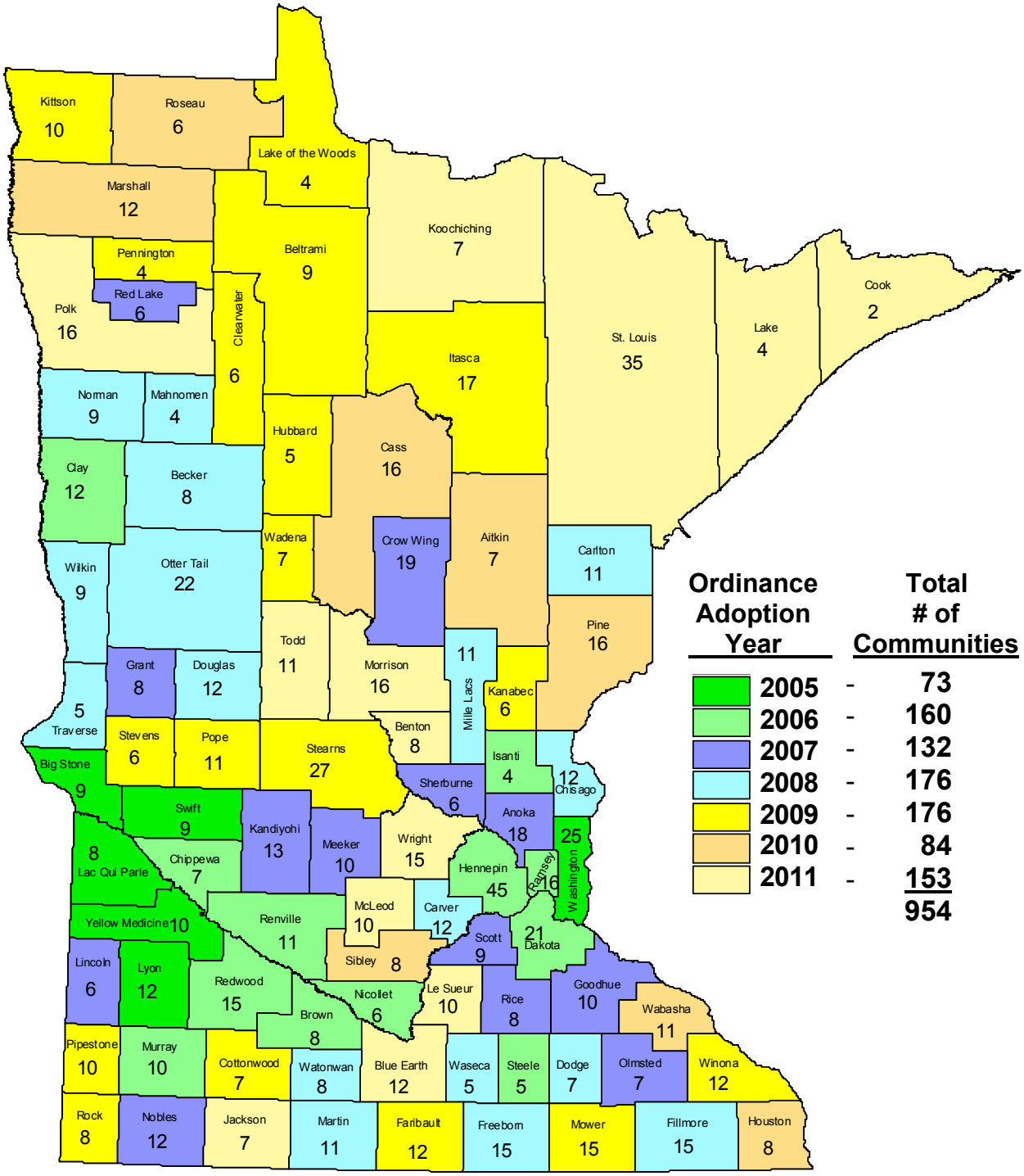


Figure 2: Anticipated Timeline for Ordinance Adoption & Total Number of Communities (9/2004)



One central office Floodplain Unit staff person (currently Tom Lutgen) would be devoting up to 70% of his time (and working with the Area Hydrologists) on ordinance adoptions, and preserving the remaining 30% or his time for other policy, technical assistance, coordination, and training tasks. In the years when 70% of this person's time will not be adequate, which includes fiscal years 2006, 2007, 2008 and 2009, the "CAP" Hydrologist (currently Ceil Strauss) would have her priorities shifted to cover much of the remaining ordinance assistance needs.

Milestones: Table 2 (below) shows the number of anticipated amendments due to map updates and routine ordinance assistance for each fiscal year.

Table 2: Summary by Federal Fiscal Year of the Communities in Counties with New Maps that Would Need to Amend/Adopt an Ordinance

Federal FY	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Totals
Total Communities	73	150	132	176	176	707
Mapped Participating (100%)	31	94	60	62	56	303
Mapped Non-Participating (100%)	8	10	13	14	22	67
Unmapped Participating (100%)	17	15	14	20	22	88
Unmapped & Not Participating (20%)	17	41	45	80	76	259
Total Estimated Ordinance Updates	59	127	96	112	115	510
Staff Time Estimate (20 hrs @)	1,180	2,540	1,920	2,240	2,300	10,180
Routine Ordinance Assistance (10 hrs @ for 20)	200	200	200	200	200	1000
Total Staff Time Estimate (hours)	1,380	2,740	2,120	2,440	2,500	11,680
Total Staff Time as FTEs	0.8	1.5	1.2	1.4	1.4	

D. Community Assistance Visits (CAVs) & Community Assistance Contacts (CACs)

In recent years, DNR Waters has shown 20 CAVs & 50 CACs per year in the annual work plans, and has met or exceeded the work plan numbers. In 2002, all the NFIP participating communities in the state were prioritized as high, medium or low priority communities by the Area Hydrologists, based on the level of flood risk, amount of development in the floodplain and development pressure. At that time, it was DNR Waters' intent to have a CAV for all the high priority communities on a 5-7 year cycle and a CAC for all the medium priorities on a 5-7 year cycle. However, in recent years the priority communities for CAVs shifted to those with a relatively high number of repetitive loss properties, in addition to those where there were concerns about the administration of the community's floodplain ordinance or there were new, inexperienced staff.

With the map modernization effort, all communities are being contacted as the county preliminary maps are presented, and the communities adopt the maps. Therefore, as part of the map modernization effort, all communities in the state will be contacted during the approximately 7 years it will take for the new preliminary county-wide maps to become available (under the currently anticipated funding timeline). DNR Waters believes that it makes sense to ask the few additional questions that would be covered during a CAC while going over the map updates and needed ordinance changes with communities involved in the county-wide map updates.

Minnesota's goal is to do 20 CAVs in the fiscal years with relatively low numbers of ordinance amendments/adoptions, and to cut back the number of CAVs and increase the number of CACs during the years when many communities will need ordinance assistance. The staff person doing the CAVs/CACs will need to devote 50% to 70% of the year to ordinance assistance in fiscal years 2006, 2007, 2008 and 2009, and even in fiscal year 2005 a second central office staff person will need to devote 20-25% of the year to ordinance assistance. The priority communities for a CAV will continue to be those with repetitive loss properties, administrative concerns, challenging floodplain issues, heavy development pressures, or new / inexperienced staff.

Milestones: Table 3 (below) shows the anticipated number of CAVs and CACs by federal fiscal year.

Table 3: Number of CAVs & CACs Proposed by Federal Fiscal Year

Federal Fiscal Year	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Number of CAVs Proposed	15	5	10	5	5
Number of CACs Proposed	60	80	70	80	80
Staff Time Estimate: CAVs (45 hrs @)	675	225	450	225	225
CACs (3 hrs @)	180	240	210	240	240
Total hours for CAVs & CACs	855	465	660	465	465

E. CIS Data Entry

DNR Waters has access to CIS and has successfully been entering the basics for CAVs and CACs in FY 2004, and has begun to enter the ordinance adoption information. Since the database has become more dependable and utilized by FEMA (especially FEMA headquarters), it will be more important in fiscal years 2005 to 2009 to enter basic data in order to document the tasks completed. FEMA expects to update the ordinance screen in CIS, and to create screens to enter training and other CAP-SSSE tasks. It is anticipated that most of Minnesota's entry will continue to be done by one staff person in the central office. However, FEMA is also anticipating entry of technical assistance information in the future. Depending on the types of technical assistance to be entered, the staff time devoted to this task may need to be adjusted in updates to this plan. Also, the contact information is not current for most communities, so more staff time is expected to be necessary in FY 2005 if this contact information is updated.

Depending on how some of the screens are set up and guidance from FEMA, historical CAVs, CACs, ordinance adoption/revision dates, etc., may need to be entered, which would mean more staff time. While the FEMA guidance anticipates less time compiling quarterly/annual reports, since it will be possible to summarize many tasks with CIS reports, we anticipate much more staff time will be necessary since we already had streamlined systems to track numbers of CAP-SSSE tasks.

Milestones: CAVs and CACs will continue to be entered in CIS each year. Ordinance assistance, training and other information to be determined based on guidance from FEMA will be entered as screens in CIS are ready.

F. State Model Ordinance Research

The FY 2004 CAP-SSSE plan guidance required that states research whether or not it is legal to have a provision in local ordinances that allows for map revisions to be automatically adopted. This research has already been done in Minnesota, and these automatic adoptions are not legal. There must be a public meeting to allow due process before maps affecting allowable uses can be adopted. DNR Waters' staff did check with several sources in FY 2004 to verify past decisions, and the legal community's response was consistent with the previous determination.

In FY 2005, research in cooperation with the Attorney General's Office will need to be done to ascertain whether digital maps can be adopted in lieu of paper maps.

Milestones: FY 2005 – research completed.

G. Workshops and Other Training

In recent years, DNR Waters has offered 2 to 3 one-day trainings targeted at local officials and other interested parties (i.e., engineering/surveying firms, realtors & lenders) at locations around the state, and several shorter special interest trainings in response to requests or identified needs. As noted in our vision/priorities section, training will continue to be one of the main focuses of the floodplain management program. Therefore, the one-day trainings will continue to be offered in varying locations around the state, although the staff time for preparation will be reduced as less time is needed to update the training Power Point presentation and related materials.

The Minnesota Association of Floodplain Managers (MnAFPM) was established in 2003 and held its first annual conference in November 2003. Considerable DNR Waters' staff time was contributed to the efforts to form the Association and plan/set-up the first annual conference, but the Association is now functioning well independently. We anticipate a strong continued partnership with the MnAFPM, and believe training will be one area of focus for the Association. In November 2004, the Minnesota Association of Floodplain Managers' annual conference will offer two half-day floodplain workshops the first day. DNR Waters staff will present or co-present "Floodplain 101" and "Floodplain 201." A current topic workshop (currently CTP training) will also be offered at the conference. In addition, the MnAFPM held a spring luncheon this year where the guest speaker talked about the State's Flood Damage Reduction (FDR) program, and similar training opportunities are expected to be offered through a partnership with the MnAFPM.

The staff time for the preparation/presentation of trainings proposed in FY 2005-2009 is a total of 250 hours to 420 hours per year, broken out as:

One-day trainings for local officials - 2 to 3 @ 80 hours = 160 to 240 hours
Half-day trainings at MnAFPM conference – 2 to 3 @ 30 hours = 60 to 90 hours
Special interest trainings – 1 to 3 @ 30 hours = 30 to 90 hours

In the 5-year plan estimates, we show 3 one-day trainings and 5 of the half day and special interest trainings per year, for a total of 390 hours.

H. DNR Website/Education

In addition to the formal training sessions (see G above), DNR Waters sees the internet as an invaluable tool for distributing information and guidance in a timely and efficient manner. In the past 2-3 years, DNR Waters has greatly improved the format of the information available on the Floodplain Unit section of the division's web site. The many sections that have been created will continue to be updated, as needed, including the links to state rules and statutes, links to FEMA forms and technical bulletins, links to sample state floodplain ordinances, & links to various state sample administrative forms and guidance documents for local officials. An interactive section that shows a summary of contacts for possible permits/approvals will be ready by early FY 2005.

Emphasis will then shift to a series of information/fact sheets that cover all aspects of floodplain management. Some information sheets will be targeted at the general public, while others would be for local floodplain administrators. The existing 1993 "Floodplain Management – A Handbook for Local Officials" would be replaced with a series of updated information sheets within the FY 2005 to FY 2009 time period. Local officials would also have more information / fact sheets targeted at the general public that they could hand out or direct the public to obtain on the DNR Waters' web site. The order of production will be based on perceived urgency and numbers of technical assistance calls for particular topics. Appendix 1 shows the draft list of topics.

Milestones: Completing updates for the existing information on the DNR Waters' web site in a timely manner every year. Completing the permit contacts section on the web site in FY 2005. Steady progress on creation of information / fact sheets, with the 1993 local officials' handbook being replaced by FY 2009.

I. General Technical Assistance

DNR Waters' staff will continue to provide technical assistance to communities and individuals through our central office staff and our field staff (29 Area Hydrologists & 4 Regional Hydrologists, plus a couple specialized field staff and our very capable clerical staff) in 21 offices located strategically throughout the state. The educational materials and links on the DNR Waters' web site are anticipated to increasingly aid DNR Waters' staff in getting technical assistance to both local officials and the general public.

The amount of time that central office staff spend on general technical assistance was estimated at 10% of the time for Suzanne Jiwani and Ceil Strauss, and 25% of the time for Tom Lutgen, which is based on a work year of 1,800 hours* (180 hours for Ceil + 180 hours for Suzanne + 450 hours for Tom = 810 hours), plus the 60 hours estimated for enrolling 3 communities in the NFIP, equals 870 hours. The 850 hours shown in each year for technical assistance by central office staff rounds off the 870 hours estimate, partly because the time spent enrolling new communities is most likely to dovetail with the ordinance assistance time associated with updated maps. We speculate that the better maps, better educational materials available on the web site, and better-trained local officials will reduce the time spent on technical assistance in future years, but we don't know by how much.

J. Coordination with Other State Programs

Past CAP-SSSE plans have included the FEMA coordination / training meetings that are critical for maintaining good lines of communication and staying current on policies and technical information. In recent years, these meetings / trainings have included: two (2) Region V coordination meetings (one in Chicago in fall and one in a state in the spring), the annual Association of State Floodplain Managers' conference, the NFIP Coordinator meeting at the Emergency Management Institute (EMI), and staff trainings at EMI. In the FY 2004 CAP-SSSE plan, these meetings / trainings represented 320 hours.

We anticipate these coordination meetings and trainings to continue to be essential for state staff to properly administer the NFIP at the state level. In addition, in FY 2005 the ASFPM's meeting will be relatively nearby in Madison, Wisconsin. Since the travel cost/time would be less onerous, we anticipate sending 4-5 staff rather than our usual 1-2 staff.

Milestones: The past estimates of 320 hours are expected to continue for each fiscal year, except that another 200 hours are estimated to be necessary in FY 2005 for the additional staff expected to work with and attend the ASFPM conference.

K. Post Disaster Assistance

When there are disasters, staff will re-prioritize time spent on other tasks to provide whatever level of post-disaster assistance is needed. During past disasters, field staff have spent considerable time assisting communities with general technical assistance, aiding with substantial damage determinations, and coordinating with FEMA and the state personnel in DNR Waters, the Department of Public Safety's Division of Homeland Security and Emergency Management (DHSEM), and other state, federal and regional agencies. Division of Waters' central office staff, including management, typically gets involved in the post-disaster recovery efforts through the Minnesota Recovers Disaster Task Force. This task force has been a very effective tool after past disasters to get together the approximately 20 state, federal, and regional agencies with technical expertise and/or grants/loans (including DNR Waters, DHSEM, U.S. Army Corps of Engineers, NRCS, Department of Agriculture, Small Business Administration, and others) to determine the most effective, cost-efficient ways to package potential aid for the affected communities.

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* Work year of 1,800 hours based on: Full work year = 52 weeks x 40 hours/week = 2,080 hours; Effective work year = 2,080 hours - ~280 hours (for holidays & vacation/sick time).

Estimated Percentages of Time Spent on Each Activity

Table 4 (next page) shows the estimated percentage of time on each activity for 2 FTEs (Strauss and Lutgen) in the central office. One additional staff person (DNR Waters' mapping engineer Suzanne Jiwani) will be predominately working on MMMS tasks. In addition, field staff spend a considerable amount of time working specifically on CAP-SSSE activities. The supervisor of the Floodplain Unit is involved in the coordination efforts and related projects that help floodplain management in the long run, such as getting the MnAFPM started and advising task forces and committees involved in hydrology/hydraulics efforts to find cost-efficient ways to obtain adequate topographic data.

The time spent by field staff on CAP-SSSE activities in recent years has been documented as the equivalent in hours to 1.5 to 2 FTE, however, we believe it would take 3 to 4 separate Central Office staff to accomplish the same assistance if it was not being done by field staff. Since the field staff are strategically located around the state, travel hours and costs are relatively small compared to if just 3 or 4 non-area staff were doing the same work. Also, the holistic approach to water resources management that is possible with Area Hydrologists covering all the water-related programs in a smaller geographic area of the state allows for better relations & coordination with local communities and regional / local agencies. This leads to more efficient working relationships since the area staff knows which communities need more assistance. Area staff are also more likely to hear about proposals affecting the floodplain before the project planning and / or construction gets too far and a problem is discovered that is much more difficult and time consuming to address after-the-fact.

Notes for Table 4

* FTE = 1,800 hours

** Hours for FY 2004 show what was in FY 2004 CAP-SSSE plan only and do not include any central office technical assistance. The technical assistance hours shown are for the "enroll communities in NFIP assistance" task that will be included in technical assistance in the FY 2005-2009 plans.

*** Field Staff time based on times from federal FY 2003 final report for technical assistance, CAVs and training/etc activities, plus estimate of ordinance assistance time based on FY 2004 experience.

IV. Needs Analysis and Gap Assessments

The DNR Waters' staff involved in floodplain management activities includes: the equivalence of 2 FTE in field staff time, Obi Sium, Tom Lutgen, Suzanne Jiwani, Ceil Strauss and Ed Fick, for a total of 7 FTE. Fiscal year 2004 grants from CAP-SSSE ($127,003) and MMMS ($30,000) funds covered the cost of approximately 2 FTE staff, plus related travel and supply expenses. (The full MMMS grant was $100,000, with the other $70,000 going to the DNR GIS Unit to provide web site access to more floodplain data.) State funds covered the costs of the remaining 5 FTE of staff. For the state's FY 2005 (July 1, 2004 to June 30, 2005), it appears that the state will continue to fund personnel at the current level. However, as noted in the "Strengths and Weaknesses" section, there continue to be severe state budget shortfalls. It is virtually certain that the state will not be able to continue funding the 5 FTE of staff time, and we expect that at least one (1), and probably more, state-funded positions will be lost in the next 1 to 5 years.

Table 4: Estimated Percentage of Time on Each Activity

		Time (estimated hours & FTE*) on Each Activity					
Activity		FY 2004**	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
5-Year Plan/Reports	Hours	80	40	40	40	40	40
	FTE	0.04	0.02	0.02	0.02	0.02	0.02
Mapping Assistance	Hours	150	NA	NA	NA	NA	NA
	FTE	0.08					
Ordinance Assistance (central & field)	Hours	750	1,380	2,740	2,120	2,440	2,500
	FTE	0.42	0.77	1.52	1.18	1.36	1.39
CAVs (40 hrs central + 5 field)	Hours	900	675	225	450	225	225
	FTE	0.50	0.38	0.13	0.25	0.13	0.13
CACs	Hours	150	180	240	210	240	240
	FTE	0.08	0.10	0.13	0.12	0.13	0.13
CIS Entry	Hours	0	80	40	40	40	40
	FTE	0.00	0.04	0.02	0.02	0.02	0.02
State Model Ordinance Research	Hours	0	40	NA	NA	NA	NA
	FTE	0.00	0.02				
Workshops / Training	Hours	390	390	390	390	390	390
	FTE	0.22	0.22	0.22	0.22	0.22	0.22
Web Site / Education	Hours	240	240	120	120	120	120
	FTE	0.13	0.13	0.07	0.07	0.07	0.07
Coordination	Hours	320	520	320	320	320	310
	FTE	0.18	0.29	0.18	0.18	0.18	0.17
Tech Assist (& enroll in NFIP)	Hours	60	850	850	850	850	850
	FTE	0.03	0.47	0.47	0.47	0.47	0.47
Disaster Assistance	Hours	0	?	?	?	?	?
Central Office Total	Hours	3040	4,395	4,965	4,540	4,665	4,715
Central Office Total	FTE	1.69	2.44	2.76	2.52	2.59	2.62
Mapping Meetings / Trainings / etc.	Hours	260	100	100	100	100	100
	FTE	0.14	0.06	0.06	0.06	0.06	0.06
Technical Assistance	Hours	2,225	2,225	2,225	2,225	2,225	2,225
	FTE	1.24	1.24	1.24	1.24	1.24	1.24
Ordinance Assistance	Hours	300	400	750	600	650	650
	FTE	0.17	0.22	0.42	0.33	0.36	0.36
Field Total***	Hours	2,785	2,725	3,075	2,925	2,975	2,975
Field Total***	FTE	1.55	1.51	1.71	1.63	1.65	1.65
Total FTE		3.2	4.0	4.5	4.2	4.2	4.3

(*, **, *** Explanation of notes on previous page)

The details above and the Minnesota Map Modernization Business Plan assume approximately 3.5 FTE of staff effort in addition to the FY 2004 CAP-SSSE plan: 1.5 FTE for the increased ordinance assistance and coordination with communities necessary to get the new maps and updated ordinances (with additional ordinance revision language required by FEMA) adopted, 1 FTE for a professional engineer to oversee the state's cooperating technical partners program and coordinate map modernization activities, and 1 FTE for a hydraulic engineer to do hydrology/hydraulics analysis. The FY 2004 MMMS appropriation is currently helping to fund a portion of the personnel needed for the map modernization effort, and a shift in the responsibilities of approximately 2 FTE of existing staff has been/will be necessary for the rest.

In Table 5 (below), the hours calculated for the basic CAP-SSSE tasks in the preceding sections, and summarized in Table 4, are shown in dollars. Note that the gap between the CAP-SSSE activity costs and the CAP-SSSE grant/state 25% match combination is approximately $89,000 (or the cost of approximately1.2 FTE) in FY 2004, and increases to approximately $220,000 (and the cost of approximately 2.5 FTE) by FY 2009.

Table 5: Gap Analysis for CAP-SSSE Activities Costs versus CAP-SSSE Grant Combined with State 25% Cost-Share

Activity	FY 2004**	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Cost of central staff @ $42/hour	$127,680	$184,590	$208,530	$190,680	$195,930	$198,030
Cost of field staff @ $40/hour	$111,400	$109,000	$123,000	$117,000	$119,000	$119,000
Total cost of staff	$239,080	$293,590	$331,530	$307,680	$314,930	$317,030
Travel costs	$15,200	$15,200	$15,200	$15,200	$15,200	$15,200
Supplies	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600
Total cost for CAP-SSSE activities	$257,880	$312,390	$350,330	$326,480	$333,730	$335,830
Inflation adjustment of 3% per year	1.000	1.030	1.061	1.093	1.126	1.159
Inflation adjustment of total costs for CAP-SSSE activities	$257,880	$321,762	$371,665	$356,754	$375,616	$389,319
CAP-SSSE grant	$127,003	$127,003	$127,003	$127,003	$127,003	$127,003
State 25% cost-share commitment	$42,334	$42,334	$42,334	$42,334	$42,334	$42,334
CAP-SSSE grant + state 25% cost-share	$169,337	$169,337	$169,337	$169,337	$169,337	$169,337
Gap - Total cost of CAP-SSSE activities minus CAP-SSSE grant + state 25% cost-share	$88,543 (1.2 FTE @ $75K)	$152,424 (2.0 FTE @ $77.5K)	$202,328 (2.5 FTE @ $80K)	$187,416 (2.3 FTE @ $82.5K)	$206,279 (2.4 FTE @ $85K)	$219,982 (2.5 FTE @ $87.5K)

** Explanation on page 15

Effective State Program Analysis

A preliminary evaluation of Minnesota's floodplain program was done, using the 2003 Interim Draft of "Effective State Floodplain Management Programs" produced by the Association of State Floodplain Mangers, Inc. This preliminary evaluation assessed the activities currently performed by the state and the activities that would be done for a fully staffed/funded effective state floodplain management program. In this discussion, we focus on the positions/activities directly focused on floodplain management. However, Minnesota has effective state programs addressing all the programs listed as "Related State Programs and Functions" and "Respect for Floodplain Functions & Resources" sections in the ASFPM document.

CAVs/CACs – Total FTE for effective program = 1.0 FTE

In 2002, the NFIP participating communities in Minnesota were divided into high priority, medium priority and low priority floodplain communities based on the level of past and anticipated development in/near the floodplain. At that time, 140 communities (including the 85 counties with unincorporated areas) were identified as high priority, 400 cities were identified as medium priority and 70 cities were identified as low priority. CAVs would be done on a 5-year cycle for the high priority communities, representing about 30 CAVs / year. CACs would be done on the medium and lower priority communities on a 5-year cycle, representing nearly 100 CACs / year. This equates to 1800 hours yearly: 30 CAVs x 45 hours + 100 CACs x 4.5 hours.

Ordinance Assistance & NFIP Enrollment – Total FTE for effective program = 0.5 FTE

During recent years, there have been about 25-30 ordinance assists a year for various reasons, including annexations, new maps/LOMRs, and need for corrections/clarifications. New enrollments have been on an as-requested basis, and involved 2-3 communities / year. Traditionally, this has represented about 0.3 FTE of staff time, but an overall effective program would add more of an effort to encourage communities to join the NFIP, representing a minimum of 0.5 FTE of staff time. While map modernization is in progress, an additional 1.5 FTE is needed for ordinance assistance, as documented earlier. During years when there are not multiple county map updates, there would continue to be need for ordinance assistance. While new countywide Digital Flood Insurance Rate Maps (DFIRMs) would mean that fewer amendments would be needed due to annexations, however, we expect continued updates of maps panels that would need to be adopted.

Training/Education – Total FTE for effective program = 1.0 FTE

The trainings/education discussed in the current efforts represents about 0.4 FTE of staff time. In a desired effective state program, more targeted trainings would be developed and presented to other interest groups such as surveyors, building officials, consulting engineers, real estate agents, lenders, realtors, etc. The DNR Waters' quarterly newsletter, "WaterTalk," could be re-introduced. Fact sheets and local officials handbook updates could be done in a more timely manner.

General Technical Assistance – Total FTE for effective program = 3.0 FTE

Current general technical assistance efforts are approximately 2.6 FTE. General technical assistance is the backbone of our current floodplain management program and would continue to be essential in an effective program. Current efforts are mainly responsive to the assistance requested from community officials and the general public. An additional significant portion of

time is represented by efforts that come in response to discovering floodplain management issues while reviewing DNR Waters' permit applications for work in beds of public waters, or review of subdivisions, environmental reviews, etc., being done through other programs with oversight / involvement of DNR Waters. With a fully effective program, some of the current assistance could go a step further if staff were available.

Coordination & MnAFPM – Total FTE for effective program = 1.0 FTE
The current reimbursable CAP-SSSE activities represent about 0.2 FTE of staff. Staff has been devoting an additional 0.3 FTE of time, at a minimum, to working with the relatively new Minnesota Association of Floodplain Managers, for an existing effort of approximately 0.5 FTE. An effective program would continue this level of effort, and possibly increase the efforts in cooperation with this state association. Also, more coordination with other state and federal agencies would build stronger overall floodplain management in the state, particularly with the DHSEM, U.S. Army Corps of Engineers, the state associations for county zoning officials & watershed districts, and the League of Minnesota Cities.

State Flood Damage Reduction (FDR) Grant Administration – Total FTE for effective program = 1.0 FTE
One staff person currently administers the state's Flood Damage Reduction (FDR) grant program. As noted above, approximately $138 million has been approved in cost-share grants to communities to date. In an effective state program, this grant source will continue to receive appropriations from the state legislature.

Planning, Policy & Record-Keeping – Total FTE for effective program = 1.5 FTE
The current CAP-SSSE plan involves about 0.1 FTE of staff effort in planning and report writing. The current state efforts involve another approximately 0.4 FTE of staff time (or 0.5 FTE total) for following legislative actions, entering data in CIS and other data management systems, general policy evaluation/assistance, etc. In an effective program, much more effort would be put into developing clearer policy guidelines/direction, collating past and current policy documents into a an electronic database, and reviewing current state statutes / rules and working to get these existing state laws/rules updated/clarified. There are also new laws that would be needed for a fully effective program. Considerable staff time would be necessary to evaluate these needs and to work with stakeholders to draft language and work through the legislative process. The existing Floodplain Unit filing system also needs cleaning / updating, both physically and in an effort to get the key information and scanned copies of documents into an electronic system. At least an additional 1.0 FTE of staff time would be required for these activities.

Database of BFEs, DNR Waters' Permits & Inventoried Structures – Total FTE for effective program = 1.0 FTE
Current base flood elevation (BFE, or 1% chance flood elevation) data is available through many sources, including FEMA Letters of Map Changes, Minnesota Department of Transportation, watershed authorities, etc. This existing data should be gathered into one comprehensive database that can be used in a Geographic Information System (GIS) format. These data need to be gathered on a county-wide basis as maps are updated and as they are necessary for routine ordinance administration. One big category of useful data is associated with the state-issued

permits for changes to the course, current, or cross-section of public waters. In particular, state permits for projects likely to affect the floodplain include dams, culvert crossings, bridges, lake outlets, and other flood control projects. An impressive pilot project involving an Access database and ArcView was done with these types of permits in the northeast part of the state in coordination with coastal management (of the Great Lakes) efforts. Also, some limited inventories of structures in the floodplain have been done in the past (primarily in cities), but a comprehensive statewide inventory could be done with current GIS and orthophoto technology and data.

Data Review/Mapping Technical Assistance – Total FTE for effective program = 1.0 FTE
New bridge/culvert crossings, flood control projects, and updated studies in developing areas often require updated hydrology or hydraulics that need to be reviewed by the state. Our mapping engineer has been spending about 0.3 FTE of staff time on these types of reviews, and spent more time before the map modernization oversight/coordination time increased. There is usually a backlog of reviews, and we know that in the long-term FEMA will be trying to shift a portion of the Letter of Map Change reviews to the states. If a more comprehensive shifting of the LOMC reviews is ever considered, more than 1.0 FTE of staff effort would be necessary, and a more extensive evaluation of staffing / equipment / space needs would be necessary.

New Map Data – Total FTE for effective program = 1.5 FTE
There are very many areas of the state with A Zones where detailed or limited detail studies are needed to determine the base flood elevations. As noted in the "Minnesota Map Modernization Business Plan," it is Minnesota's goal to have at least a limited study for any mapped flood hazard area in the state. In the Map Modernization plan, we show 1.0 FTE working on determining BFEs with limited studies in coordination with the current map modernization schedule. This level of effort is based on the currently anticipated funding levels for map modernization. In an effective program, we would have at least 1.5 FTE working on new data, but any additional staff effort could be directed to the high priority areas.

Gap Analysis Conclusion for Effective State program
In Table 6 (next page), the first column of FTE summaries shows the 2.5 FTE of staff time required to perform the activities in the FY 2004 CAP-SSSE plan. The second column shows the 4.5 FTE of staff time currently devoted to effective floodplain management beyond the CAP-SSSE grant activities. The 3rd column sums the existing FTE (total of 1st & 2nd columns). The 4th column shows the additional state staffing required to perform the tasks in the Minnesota Map Modernization Business Plan dated 1/2004. Note that 0.6 FTE of the staffing discussed in the Map Modernization Business Plan is already shown in the existing FTE efforts as a result of shifting staff efforts.

The 5th column shows additional staff needed to fully perform the tasks discussed above that are needed to have an effective overall state floodplain management program. The existing FTE column and the columns of additional staff needed for map modernization and the total effective program are added to together to determine the "Total Desired" FTE figures. The final column shows the 9.0 FTE gap between the existing 7.0 FTE and the 16.0 total desired FTE.

Table 6: Comparison of Staff FTEs Existing and Required for FY 2004 CAP-SSSE Activities, Additional Tasks to Complete Map Modernization Plan, and Additional Tasks for an Effective Overall State Floodplain Management Program

Activity	FY 2004 CAP Plan	Existing Effective State Program	Existing FTE	Add'l Map Mod	Add'l Effective State Program	Total Desired	GAP Between Existing & Desired
CAVs/CACs	0.6	0.0	0.6	0.0	0.4	**1.0**	0.4
Ordinance Assistance & NFIP Enrollment	0.5	0.0	0.5	1.0	0.0	**1.5**	1.0
Training/Education – workshops, web site, newsletter, etc.	0.4	0.0	0.4	0.0	0.6	**1.0**	0.6
General Technical Assistance	0.6	1.9	2.5	0.0	0.5	**3.0**	0.5
Coordination & MnAFPM	0.2	0.3	0.5	0.0	0.5	**1.0**	0.5
State Flood Damage Reduction (FDR) Grant Administration	0.0	1.0	1.0	0.0	0.0	**1.0**	0
Planning, Policy & Program Management - reports, plans, CIS entry, update state laws, etc.	0.1	0.4	0.5	0.1	1.0	**1.6**	1.1
Database of BFEs, Permits in FP & Structure Inventory	0.0	0.0	0.0	0.0	1.0	**1.0**	1.0
Map Mod Coordination – CTP oversight, coordination with FEMA & communities, etc.	0.1	0.5	0.6	0.5	0.0	**1.1**	0.5
Data Review/Mapping Technical Assistance	0.0	0.3	0.3	0.3	0.7	**1.3**	1.0
New Map Data	0.0	0.1	0.1	1.0	1.4	**2.5**	2.4
Total FTEs	2.5	4.5	7.0	2.9	6.1	**16**	9.0

Note: Post-disaster assistance / coordination is not included and could be a very time consuming function depending on the magnitude of the disaster. Priorities would have to be adjusted accordingly.

If the map modernization effort continues to be funded, and no additional staff are added, the existing staff would shift efforts to work almost exclusively with ordinance amendment / adoption and general technical assistance. Monitoring (CAVs or CACs), training, educational development, policy & program management, and extra data development would be dramatically scaled back. FEMA staff / consultant efforts may be able to make up some of the gap, but just as central office staff are not as efficient as field staff for many of the activities, FEMA personnel would be less cost-effective than DNR Waters' staff for these activities.

IV. Map Modernization Activities

See the Minnesota Map Modernization Business Plan prepared in January 2004 (available at http://files.dnr.state.mn.us/waters/watermgmt_section/floodplain/FEMAMapModPlan2004.pdf). The current anticipated schedule for map updates follows the basic priorities and guidelines laid out in the Minnesota Map Modernization Business Plan, but has been adjusted based on the latest information on anticipated funding levels. The priorities are: (1) completion of existing remapping projects, (2) Cooperating Technical Partner (CTP) counties, (3) major watercourses and the adjacent counties, and (4) remapping repetitive loss areas in non-CTP counties. Table 1, which was referred to in the ordinance assistance discussion earlier in this plan, summarizes the latest anticipated schedule. In addition the GIS-Mapping Support software development has been funded and is in progress.

V. Performance Measures for Five-Year Floodplain Management Work Plan for Minnesota

Outcome/Output	Method of Measurement
Community Enrollment	
Maintain or increase the number of flood prone communities enrolled in the NFIP, with goal of 95% of population in participating communities	Compare to number of communities enrolled in baseline year (FY 2004) and current population coverage, i.e., 524 communities and 92.6% of state's population
Maintain or increase the number of communities participating in the Community Rating System (CRS)	Compare to number of communities participating in baseline year (FY 2004), i.e. 3
Digital Map & Amended/New Ordinance Adoption	
Maintain or improve the percentage of communities that adopt new maps by the FIRM effective date*	Compare to percentage of communities that adopt new maps by the FIRM effective date in FY 2004, i.e., 70% (86% w/moratoriums)
Increase the percentage of communities that adopt new maps prior to the 30 day letter being sent by FEMA**	Compare to percentage of communities that adopt new maps prior to 30 day letter in FY 2004, i.e., 23%
Increase the number of communities that have adopted the mandatory updates in the 1/1/2004 state model ordinance, with a goal of 100% of currently mapped and participating communities with updated ordinances when all county maps in the state have been updated with DFIRMs	Compare to number of mapped and participating communities with updated ordinances at end of FY 2004
Local Official Training & Public Education	
Maintain the number of documented technical assistance contacts (CAVs & CACs) to communities	Compare to baseline of 70 in FY 2004 plan (20 CAVs + 50 CACs)

* Required performance measurement

** Strongly encouraged performance measurement