

THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES

WILDLIFE MANAGEMENT AREA INVENTORY

FUNDED BY THE

LEGISLATIVE COMMISSION ON MINNESOTA RESOURCES

JUNE, 1980-JULY, 1983

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DAVE SCHAD MDNR SECTION OF WILDLIFE JULY,1983

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SUMMARY

The Wildlife Management Area Inventory, initiated in June, 1980 by the Department of Natural Resources, Section of Wildlife, was funded by the Legislative Commission on Minnesota Resources through July, 1983. Its purpose is to quantify and map the physical, biological, and cultural features of Minnesota's small Wildlife Management Areas (WMA's). Maps (8" = 1 mile) and computer summaries were produced for 950 WMA's covering over 350,000 acres. County, region, and statewide summaries were produced.

Fifty percent of the total acreage in the wildlife areas was classified as wetland. More than 2,870 basins were identified, of which 80% were found to be type 3, 4, or 5 wetlands. Active cropland accounted for 3% of the total acreage while grasslands comprised 15% of the total. Of the grassland total, almost 10,000 acres was found to be natural prairie. Deciduous forest cover types amounted to 28% of the total with more than half being aspen. See attachment for statewide summaries of cover types and wetlands.

The Inventory maps will help wildlife managers to plan projects such as wetland development, and management activities such as prescribed burns, weed control, and initiation of cooperative farming agreements. As well as aiding the planning and evaluating of management activities, the maps and printouts will be useful in identifying acquisition needs, preparing area and statewide summaries and reports, and in the identification of rare or unusual physical and biological features deserving of special management considerations.

Related studies being considered to make the Inventory more useful include the incorporation of the 9 major WMA's into the data base (originally studied under the Outdoor Recreation Act), a WMA dam and facilities inventory, the development of WMA long-range management plans, the use of wildlife-value and hunter-use models, and the updating of the Inventory data base and results.

	acrés	%
AQUATIC BED EMERGENT WETLAND LOWLAND SHRUBS MOSS/LICHEN BOG MUD FLAT OPEN WATER	600 104,494 49,818 13 219	<1 30 14 <1 <1 5
TOTAL WETLANDS	<u>17,252</u> 172,396	50
GRASSLANDS NATURAL PRAIRIE PLANTED PRAIRIE	42,183 9,959 61	12 3 <1
TOTAL GRASSLANDS	52,203	15
ASH ASPEN BIRCH BOX ELDER COTTONWOOD LOWLAND DECIDUOUS MAPLE BASSWOOD NORTHERN HARDWOOD OAK OTHER DECIDUOUS OAK SAVANNA UPLAND SHRUBS CONIFER-DECIDUOUS LOWLAND MIXED	1,442 57,809 1,229 543 599 9,726 639 4,866 4,915 9,207 27 3,255 3,060 233	<pre><1 16 <1 <1 <1 <1 3 <1 1 3 <1 1 1 3 <1 1 1 3 <1 1 20</pre>
TOTAL DECIDUOUS	97,550	28
JACK PINE LOWLAND CONIFER OTHER CONIFER RED PINE WHITE PINE WHITE SPRUCE	1,454 11,107 718 555 6 144	<1 3 <1 <1 <1 <1 <1
TOTAL CONIFER	13,984	4
CROPLAND	12,136	3
TOTAL CROPLAND	12,136	3
BEDROCK COVER PLANTING DEAD TREES SAND-GRAVEL	2 1,560 2,510 104	<1 ≺1 1 <1
TOTAL MISCELLANEOUS	4,176	11
TOTAL	352,445	100

STATEWIDE BASIN TOTALS

	BASINS	%	ACRES	_%
TYPE 2	551	19	7,476	7
TYPE 3	1,365	48	43,625	38
TYPE 4	685	24	45,841	40
TYPE 5	238	8	16,617	14
TYPE 6	32	1	1,292	1
TOTAL	2,871	100	114,851	100

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INTRODUCTION

The Wildlife Management Area Inventory was initiated by the Minnesota Department of Natural Resources (MDNR) Section of Wildlife, Division of Fish and Wildlife in June 1980, and was funded by the Legislative Commission on Minnesota Resources (LCMR) through the end of Fiscal Year 1983. The Inventory's basic purpose was to map and quantify the physical, vegetative, biological, geological, and cultural features of Minnesota's small Wildlife Management Areas (WMA's)¹. Approximately 950 WMA's comprising more than 350,000 acres have been mapped and field checked with the results entered into a computer data base management system. The final products of the Inventory are maps for each WMA (8" = 1 mile) and a computer printout describing acreages and plant species composition of each cover type and wetland type. County, regional, and statewide totals are summarized.

The Inventory data and results should be of great value in planning and evaluating management activities and habitat alterations. Viewed as baseline information, the maps and printouts should have many applications for both field managers and St. Paul staff.

This report summarizes the history and development of the WMA Inventory and describes the procedures used in the Inventory process. Summaries on a county, region, and statewide basis are presented and discussed. Uses of the Inventory data and future needs are also outlined.

¹Only the small WMA's without resident managers were part of this inventory. The 9 major units with resident managers were inventoried and mapped under the Outdoor Recreation Act.

DEVELOPMENT

The WMA Inventory was funded by the LCMR from June 1980 through July 1983 with a total appropriation of \$205,600 (\$58,600 for the 1980-81 biennium and \$147,000 for the 1982-83 biennium). Additionally, some operating expenses were paid for out of the Game and Fish Fund. Most of the Inventory budget went to salaries and travel expenses for the Inventory Coordinator and thirteen field crew members, and to data processing and programming costs.

The cover type system used in the WMA Inventory parallels the MDNR Division of Forestry cover types and the United States Fish and Wildlife Service classification of wetlands as defined in Circular 39, Wetlands of the United States, 1971 Edition, U.S. Department of Interior. Whenever possible, Public Waters and Forestry Phase II Inventories were used.

The smallest location identified on the computer printout is the managed property within one section of land. The mapping identifies smaller areas (down to 1 acre in size) within a section.

Lands that were inventoried include:

- 1. Acquired wildlife lands (except major units);
- Cooperatively managed lands (agreements with Forestry or the county);
- 3. Easements (except flowage easements on private land);
- 4. Lands licensed by the DNR from the United States Government.

Meandered basins within WMA's were mapped, but meandered acreage was not included in the computer summaries. The same is true of Trust Fund and Consolidated Conservation lands within project boundaries for which there are no agreements. Fish barriers and dam site easements were not inventoried.

The computer data base management system used was SYSTEM 2000 (INTEL) with FORTRAN and COBOL interfaces. All programs were written and designed under contract by the University of Minnesota. Computer work was done on the University's Cyber 172 computer system.

PROCEDURES

In order to better understand the Inventory data and results, a clear understanding of the methods and procedures used in the inventory process is required. A simple, rigid set of procedures was developed in an effort to make the results as accurate and consistent as possible. However, some variation exists in the data as a result of differences in the quality of air photo coverage, in the expertise of field crews, in the difficulty of inventorying different areas of the state due to terrain, and the crews interpretation of the procedures. In general, photo coverage was better, cover types and wetlands were more distinct, and access was not as limited in the southern and western areas of the state compared to the northern, forested areas.

The Inventory consisted of 4 steps: 1-Mapping; 2-Cover Typing; 3-Data Entry; 4-Data Analysis. Each step is described in detail below.

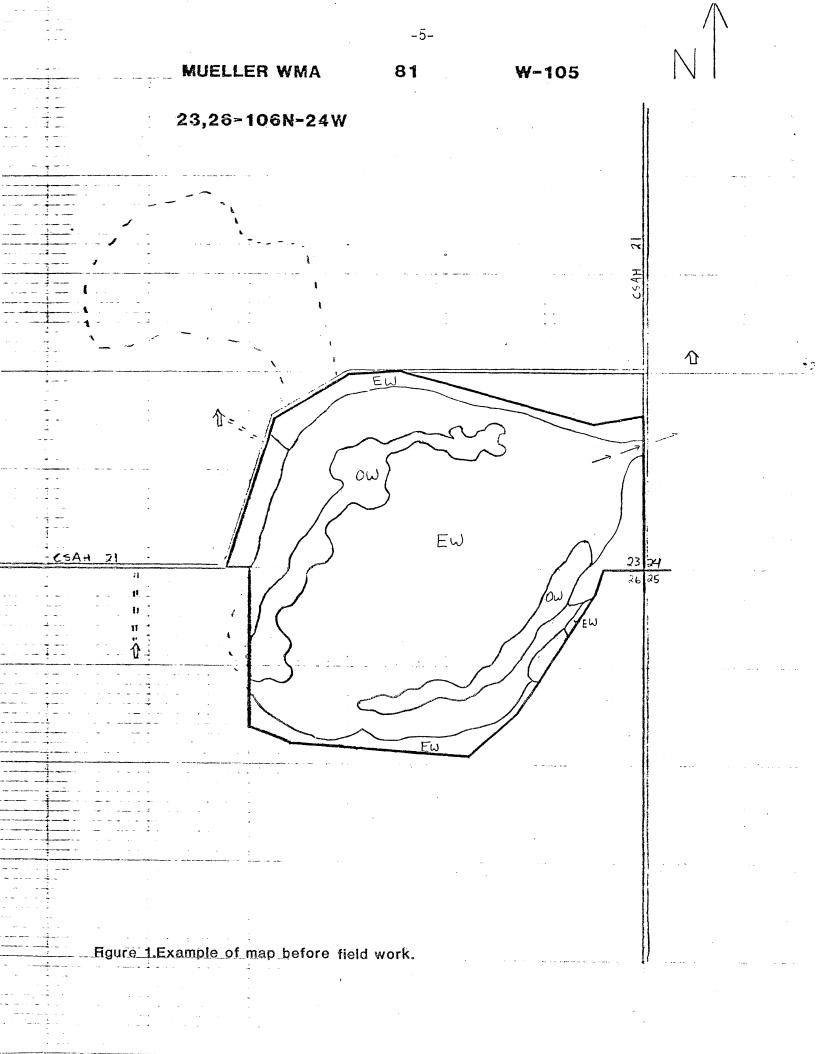
1. Mapping

Deeds, agreements, plats, project proposals, and project unit maps were first collected for each unit. Acreages were tallied and compared to acreage figures from land records and differences were corrected. Aerial photos were then obtained for each unit. Originally, it was planned to fly and photograph all of the units as part of the Inventory, but this proved too costly. Instead, whenever they were available, color slides covering 1 section of land were purchased from the county Agricultural Stabilization and Conservation Service (ASCS). These slides were generally current and of good quality. Where ASCS photos were not available, Forestry Phase II Inventory maps were sometimes used to get preliminary cover type boundaries and identifications. Also, black and white Forestry photos and slides of blueline print screen-positives were used.

Maps were then drawn on semi-transparent film at a scale of 8" = 1 mile except for some of the very large units which were drawn at 4" = 1 mile. Cover type boundaries, roads, section corners, ownership lines, and physical features such as rivers, dugouts, and ditches were included on the maps. Standard map symbols were used (Appendix 1). Each map was identified by the WMA name, county code (see Appendix 2), WMA number, and legal description. Figure 1 shows an example of a map before cover typing.

2. Cover typing

Each WMA was checked by a 2-person crew during the months of May-September. Crews worked on one county at a time. Figure 2 shows the progress of the field work during the course of the Inventory.



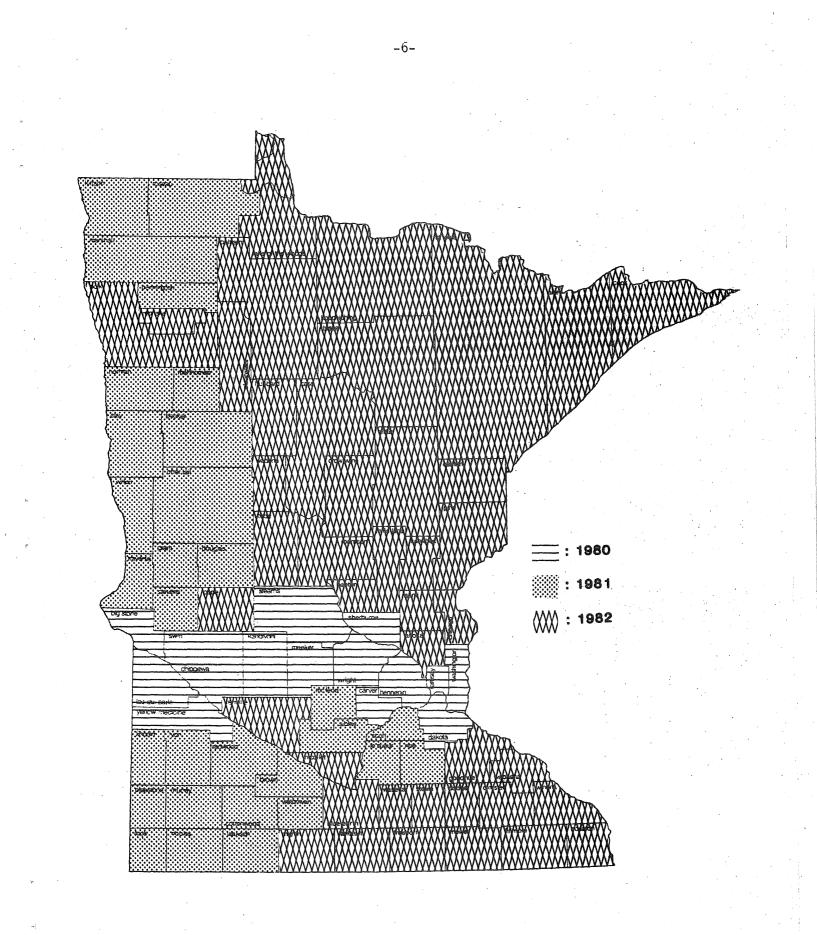


Figure 2. Progress of the WMA Inventory field work.

Field Inventory sheets (Figure 3) were used to record the biological information for each WMA. Separate sheets were filled out for each section of land and for each type of land control. The following information was included on each sheet (refer to Figure 3).

- 1. General data: WMA name, county, WMA number, land control (Acquired, easement, etc.), legal description, date, and field crew names.
- 2. Cover type: A total of 34 different cover types were used to identify plant communities (Table 1). Wooded cover types were named after the primary species if the relative abundance of that species was 50% or greater. Otherwise, the cover type best describing the composition was used. Grasslands and wetlands with greater than 30% shrub coverage were considered shrublands, either Upland Shrub (US) or Lowland Shrub (LS). An area of open water or aquatic bed (floating-leaf or rootless aquatics) was termed an Emergent Wetland (EW) if the emergent plant coverage exceeded 30%. Each cover type was identified by its corresponding cover type symbol followed by a single alpha or numeric character. Thus, the first occurrence of an emergent wetland stand was assigned EW1. A second occurrence of an emergent wetland stand with a different plant species composition was assigned EW2. In this way, there were 36 variations for each cover type (EW1 thru EW0, EWa thru EWz).

3.

Strata: Indicates which layer of vegetation is being inventoried. The following codes were used:

0 - Overstory U - Understory G - Ground

4. Coverage: Indicates the density of the vegetation in the strata being looked at. Codes include:

- L Lush (80–100%)
- M Moderate (40-79%)
- S Scattered (20-39%)
- X Sparce (0-19%)
- B Bare (0%)

0{- 	Mueller Was	eca (81)	WMA County	T	w	105	Land Control RgeS	Acquired ec 23	- Nar	-	7/29 DK BG	/82
Basin Number Wetland Type	Cover Type Strata Coverage	Strata Info Plant Nar	*******	Cound.	HB	Strata Coverage	Strata Info Plant Na		Rel. Abund. Height	DBH	Acres	Notes
2	1991	Green ash Salix sp. Populus deltoides	(SALS)		665	,	Aspen Green ash Prunus gp.	(POTR) (FRPE) (PRUS)	23 43 33		3	13 PF-422
00	EWIGM	Typha latifolia Burreed Cottonwood	(SPAS)	9 0 0		GM	Phalaris an Cane	und. (PHAR) (PHCO)			46	Numerous OW patches PF-61
1 4	EW2 GL	Reed canary Nettle Solidago sp.	(URDI)	8		GL	Sparganium Cane	sp. (SPAS) (PHCO)	0		7	
1 4	οω										10	
	BEIOM	Acer negundo Willow Green ash-	(ACNE) (SALS) (FRPE)	15	366	GL	Solidago sp Reed canary Bromus infern	(PHAR)	3			
	Figure 3.Fig	eld Inventory she	ets used in t	he WM		ventory	Circled items re	fer to numbe	red ite	ms	in text.	
						-8-						

		Notes											•		•		
7/24/82 Du Be		Acres		6		01		38			5		-	•	 -		•
Date Name Name		Isfi Abund. HaQ HBQ															
cquired 26	marion			 						-			 				
Land Control Acquired Rge. 24 Sec 26	Strate Information	Plant Name					-										
106		BJ6172 9261940J	-	 	 												-6-
W Twp		, IsA , brudA , MgisH HBC															
WMA County	Strata Information										•				nued.		
(&1)	Strata In	Plant Name													Figure 3.Continued		
Mueller Waseca		Strata Strata Coverage			 	3					Ewa				Ē		
		Basin Wetland Type Cover Type	8E1			1 4 0W		1 4 Eul	1	ה		Ŋ					

Upla	nds
0G -	Grasslands
NP -	Natural Prairie
PP -	Planted Prairie
CL -	Cropland
CP -	Cover Planting
US -	Upland Shrubs
DT –	Dead Trees
AS -	Aspen
BI -	Birch
FR -	Ash
NH -	Northern Hardwood
WB -	Maple Basswood
0A -	Oak
0S -	Oak Savanna
CO -	Cottonwood
BE -	Boxelder
0D -	Other Deciduous
CD -	Conifer-Deciduous
JP -	Jack Pine
RP -	Red Pine
WP -	White Pine

- WS White Spruce
- OC Other Conifer
- SG Sand-Gravel
- BR Bedrock

Lowlands

OW - Open Water

- AB Aquatic Bed
- EW Emergent Wetland
- MF Mud Flat

ML - Moss/Lichen Bog

LS - Lowland Shrubs

LC - Lowland Conifer

- LD Lowland Deciduous
- LM Lowland Mixed

Table 1.Cover types used in the WMA Inventory.

- 5. Plant name: The scientific or common name for up to three dominant plant species in the strata could be listed. An additional 3 species could be added under the same strata or under a different strata; i.e. 3 overstory and 3 understory, or 6 overstory species could be noted. Once the plant species information was written out for a cover type, it was not repeated for subsequent listings of the same cover type in a WMA. The computer was designed to expand and fill in the plant information for subsequent identical cover types.
- 6. Species code: Each plant specie was assigned a 4-letter code consisting of the first 2 letters of the generic name followed by the first 2 letters of the specific name, i.e. Medicago sativa = MESA. General or generic names were indicated by the first 3 letters of the generic name followed by "s" for spp. (Bromus sp. = BROS). Plant species codes, common names, and scientific names of plants used in the Inventory are shown in Appendix 3 (Note: some exceptions to the above coding rules exist to avoid duplication).
- 7. Relative abundance: To show abundance of a species relative to the total of all species in the strata being looked at, the following codes were used:
- 8. Height: Average height (in feet) for trees and shrubs as follows:
 - 1. 0-2 feet 2. - 3-6 feet 3. - 7-15 feet 4. - 16-30 feet 5. - 30 feet +
- 9. DBH: Average diameter (in inches) at breast height for trees with the following codes:
 - 0-1 inches
 2-3 inches
 4-5 inches
 6-9 inches
 10-15 inches
 15 inches +
- 10. Acres: The total acreage for that cover type within the section was usually calculated by either counting dots on a dot-grid or with the use of a planimeter.
- 11. Basin number: Each wetland basin at least 1 acre in size within a WMA was numbered individually if it contained vegetation and water characteristics of a type 2, 3, 4, 5 or 6 wetland according to "Circular 39" (Appendix 4). Strips of wetland along streams and rivers were not assigned basin numbers unless there was an obvious expansion or widening of the wetland area within the WMA. Often, arbitrary decisions were made as to where one basin

stopped and the next basin started. The inventory paralleled the DNR Protected Waters and Wetlands Inventory whenever possible. When vegetation characteristic of a type 2, 6, 7, or 8 wetland surrounded a basin and this type of vegetation exceeded 30% of the total basin acreage, these vegetative types were not treated as part of the basin. Thus, large expanses of bog or lowland shrubs were not identified as basins. Only burnouts or lakes at least 1 acre in size within these areas were numbered.

- 12. Wetland type: Each numbered basin was given a wetland type consistent with "Circular 39". Other wetland areas (such as rivers and vast expanses of bogs) were typed even though they were not assigned a basin number.
- 13. Notes: Physical and Wildlife features (Table 2) were indicated, as well as other items of importance such as unusual plant species or historical features.

Figure 4 shows an example of a map after field work was completed. Cover type symbols, wetland basin numbers and types, and physical and wildlife features are noted.

3. Data entry

After acreages were determined for each cover type, all of the data from the Field sheets was transferred to Coding sheets (Figure 5). Once again, if plant species information for a cover type was coded in, it was not repeated for subsequent occurrences of that same cover type since the computer was able to expand and combine the data for each unit.

Most of the coded information was taken directly from the Field sheets to the Coding sheets with the following additions:

Data: How the data was collected. Four categories were used:

- 1. Ground Checked
- 2. Photo Checked
- 3. Type Comparison
- 4. Forestry Phase II Inventory

Land Control: The management authority that exists. The following codes were used:

- 1. Acquired
- 2. Easement
- 3. Agreement
- 4. License
- 5. Part Acquired

Part acquired refers to wetlands which extend outside of the WMA boundaries.

Physical Features

<u></u>		
11 12 13		Nat. Hist. Bldg. Nat. Hist. Site Nat. Monument Hist. Building Farmstead
 21	<u> </u>	Archaeol. Site Indian Mounds Cemetery
26 27 30 31 32 33 34 35 36 37 38 40 41 42 43 44 47 48 9		Wild and Scenic R. Lake adjacent WMA (Meandered) Stream or river Bed Rock Granite Outcrop Limestone Outcrop Sandstone Outcrop Esker Drumlin Kame Gravel Pit Spring Dugouts Level Ditching Parking Lot Portage Access Ramp Access Headquarters Residence Building WMA Road
		Public Ditch Private Ditch
$\begin{array}{c} 61\\ 62\\ 63\\ 64\\ 65\\ 66\\ 67\\ 70\\ 71\\ 72\\ 73\\ 74\\ 75\\ 77\\ 78\\ \end{array}$		Dike Culvert Fixed Crest Dam Cul. w/½ riser Cul. w/ctr. riser Type C Dam Metal Dam - 1 bay Metal Dam - 2 bay Metal Dam - Mult bay Cul. w/1 bay Cul. w/2 bay Cul. w/2 bay Cul. w/Mult bay Flap Gate Radial Gate Screw Gate Diversion Sloped Cul. Bar. Fall Barrier Screen Bar. Bridge See map or file

Table 2.Physical and wildlife features used in the WMA Inventory.

-13-

Wildlife Features

10 – Eagle Nest 11 – Osprey Nest

20 - Heron Rookery

21 - Pelican Rookery

22 - Western Grebe

30 - S-T Dance Ground 31 - P-C Dance Ground

50 - Beaver Dam 51 - Elk





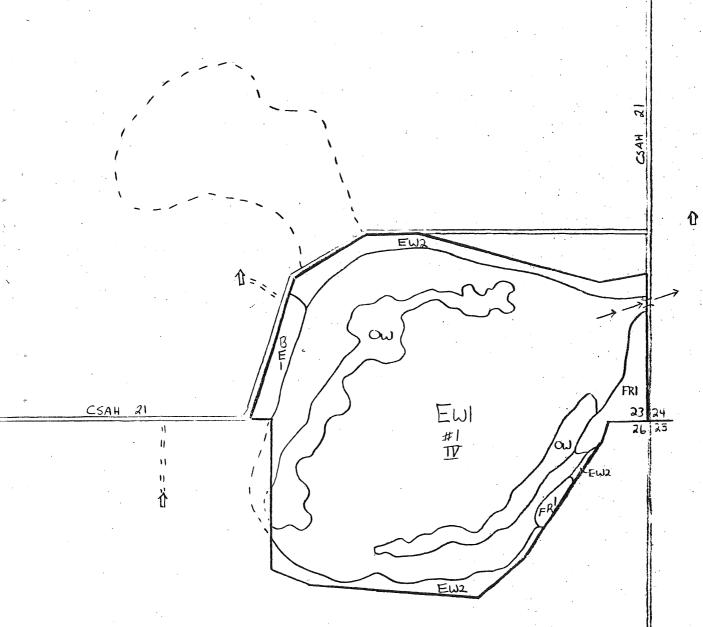


Figure 4.Example of map after field work was completed.

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1 2 3 4	5 . -		8.2	101	1.12	12 14	1 16 1	6 17	18	19 20	212	2-23/24	26 2. 2	7 28	29	30125	30.33	34	15 36				- fi		164	65 61	6 6 7	;68,69	-0	72	73 74	757	6 77	13 79 18
0105	81	4	82	10	86	24	23	3 1	1		: 	=RI	00	30	L	FR	PE	6	56	51			FR	PE	= 4	32	2 P	RU	53	3	24	2		
0105	81	4	82	10	06	24	23	3 1	1	01	4 E	EWI	046	G	M	TY	LA	9		5			/PH	\boldsymbol{c}	o e	9					6	1		
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- PO1 thru PO6 The number of prairie tracts within the section. If there were 3 tracts of NP1 within a section, a PO3 was placed here.
- WO2 thru WO5 If the wetland type observed by the field crews differed from that indicated by the Public Waters Inventory or the area manager, this was noted. If the crew observed a type 3 wetland which should have been a type 4, a WO3 for "observed type 3 wetland" was placed here and the basin was assigned a type 4.

NPA - No public access.

M01 - Acreage discrepancy due to accretion.

The coding sheets were punched onto tape and a computer file of the data was created. Data from 2 or 3 counties was usually coded and entered onto the data base at one time.

4. Data analysis and report

Once the data file was created, a series of computer programs was called up to edit the data, add it into the data base, and create a report. A report summarizing cover type composition, acreages, wetland types and basin information, and total acreage figures for each cover type was produced for each WMA. County, region, and statewide summaries were also generated.

A summary report is shown in Figure 6. The following information is included in each report.

- 1. County, WMA name, and WMA number.
- 2. Non-basin cover types: In figure 6, these would include Ash 1 and Box Elder 1, which would refer to FR1 and BE1, respectively, on the map. The acreage of each cover type in each section, the land control, strata, coverage, plant species, and relative abundance of each species is noted. (For example, FR1 is acquired, consists of 3 acres in Section 23 and 2 acres in Section 26 for a total of 5 acres, has a lush overstory consisting primarily of green ash with brush willows and cottonwood, and a moderate understory consisting of aspen, green ash, and plum-cherry.) A total upland (non-basin) acreage of 7 acres is then shown. Note: Ash is abbreviated FR from Fraxinus.
- 3. Basin cover types and wetland information: The cover types within each basin are shown with all of the same plant species and acreage information as above. A total basin acreage figure as well as the basin wetland type is also given (Basin 1 is 116 acres of type 4 consisting of EW1, EW2, and OW cover types). Note that incomplete land control (Land = 5) exists for EW1 and EW2 in section 26 since these cover types extend outside of the WMA boundary.
- 4. WMA totals: Totals are given for each cover type category (Emergent Wetland = EW1 + EW2 = 96 acres total) in alphabetical order. The number of basins and the total basin acreage for each wetland type are also given.

	REG 4	WMA NO					OUNTY: WASECA COUNTY	•		•	•	
	WILDLIFE AREA COVER TYPE		ACRES	LOCATION	· - ·		COMMON NAME	Leund	COMMON NAME	ABUND	COMMON NAME	AEUND
•	MUELLER WMA ASH	0105 1	3 2 5	106-24-23 106-24-26 ACRES		L	GREEN ASH Quaking Aspen	ô 2	BRUSH WILLOWS GREEN ASH	2	COTTONWCOD PLUM - CHERRY	2 3
	BOX ELDER	1		106-24-23 106-24-26 ACRES ACRES		1 1 1 1	BOXELDER GOLDENROD	8	BRUSH WILLOWS REED CANARY GRASS	1	GREEN ASH Smooth Brome	0 3
	EMERGENT WETLA		38 84 7	106-24-2 3 106-24-26 ACRES 106-24-2 3 106-24-2 3	G - 6 G - 1	1 5 M M 1 5	COMMON CATTAIL Reed Canary Grass	9 0	BURREED CANE	0	RIVER QULRUSH	0
	OPEN WATE R		12 10 10	106-24-28 ACRES 106-24-23 106-24-26 ACRES	G	י ב ו ו	REED CANARY GRASS Burreed	8 0	STINGING NETTLE Cane	0	GOLDENROD	0
	BASIN NO O1		116	ACRES TYP	E 4		· · · · · · · · · · · · · · · · · · ·					
	MUELLER WMA ASH BOX ELDER EMERGENT WETLA OPEN WATER	TOTALS	5 2 96 20	ACRES								
	WETLAND TOTALS BASINS	1 TYPE TOTAL										

Figure 6.Example of a WMA Inventory Summary Report.

Other Inventory results can also be accessed from the data base. The following are examples of some other types of information which can be generated.

- Location of prairie tracts;
- WMA's with dugouts;
- WMA's containing caragana in cover plantings;
- Height and DBH of tree species.

Copies of maps and summary reports will be distributed to Area Wildlife Managers and Regional Wildlife Supervisors. Also, a nearly complete set of air photos for WMA's has been collected and filed at the St. Paul office for use by anyone needing additional information.

RESULTS AND DISCUSSION

County, region, and statewide summaries of cover types and wetlands are shown in Appendix 5. The data is current for land purchased prior to the start of the 1982 summer field season and does not include the 9 major WMA's. New acquisitions will be inventoried and added to the data base yearly. Tables 3 and 4 show cover types broken down into 6 broad categories of habitat (Wetlands, Grasslands, Cropland, Deciduous, Conifer, and Miscellaneous) for use in comparisons.

The Inventory data and results can be viewed as baseline information about Minnesota's small WMA's which will enable the Section of Wildlife to evaluate shortterm and long-range changes in the vegetation features of the areas. The data will be of value in planning management practices and acquisition efforts, and in the day-to-day operations of field managers and the St. Paul staff. Some specific uses of the data include:

- Use of the maps to plan and evaluate management activities such as timber sales, the establishment of food and cover plots, controlled burns, weed control, and the initiation of cooperative farming agreements;
- 2. A tool in the planning of WMA projects such as wetland development or the construction of parking lots, trails, roads, and other facilities;
- 3. An aid for new managers to quickly become acquainted with the WMA's in their work area;
- 4. Identification of acquisition needs and priorities;
- 5. Recognition of rare or unusual plant communities and physical or wildlife features deserving of special management considerations;
- 6. An aid in Environmental Review of proposed power-line crossings, road construction, and other habitat alterations;
- An aid in preparing area or statewide reports and summaries concerning WMA's;
- 8. Assist in the evaluation of the effectiveness and possible utility of other inventory efforts such as the Forestry Phase II Inventory and the National Wetlands Inventory;
- 9. A basis for the development of unit management plans for small WMA's;
- 10. Help in preparing Federal Aid annual work plans and project agreements.

Some related studies should be considered to make more complete use of the Inventory results, to improve the accuracy of the data base, and to further identify management needs and priorities. These include:

- 1. An annual Inventory of new acquisitions and agreements;
- 2. An annual update of Inventory results by managers to identify errors in the data and new developments or habitat alterations;
- 3. A WMA facilities survey;
- 4. Incorporation of 9 major units into the Inventory results;
- 5. Further incorporation of Inventory data with Land Management Information Center (LMIC) data bases and the Public Waters Inventory, Forestry Phase II Inventory, and National Wetlands Inventory results;
- 6. Development of WMA long range management plans;
- 7. Development of models to quantify the value of WMA's for selected wildlife species and to determine actual and potential hunter use of WMA's.

Table 3. Broad cover type acreages broken down by county.

	WET	LANDS	GPA	SSLANDS	CBU	PLAND	DEC	IDUOUS	00	NIFER	MISCE	LLANEOUS	
COUNTY	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	TOTAL
Aitkin	23,459	47%	353	1%	127	<1%	17,000	34%	8,251	17%	631	1%	49,821
Anoka	1,049	68%	77	5%	97	6%	314	20%	2	<1%	1	<1%	1,540
Becker	1,555	48%	915	28%	32	1%	703	22%			6	<1%	3,211
Beltrami	421	39%	69	6%			563	53%	17	2%		-	1,070
Benton	581	59%	83	8%	. 3	< 1%	285	29%	24	2%	15	2%	. 991
Big Stone	1,199	52%	928	40%	27	1%	119	5%	_	-	29	1%	2,302
Blue Earth	1,069	79%	57	4%	68	5%	139	10%	-	-	13	1%	1,346
Brown	1,034	58%	363	20%	178	10%	195	11%	-	-	21	1%	1,791
Carlton	106	24%	18	4%	-	-	196	45%	120	27%	-	-	440
Carver	231	86%	5	2%	1	<1%	31	12%	-		-	-	268
Cass	4,742	35%	256	2%	3	<1%	6,742	49%	1,814	13%	97	1%	13,654
Chippewa	741	40%	724	39%	118	6%	242	13%			33	2%	1,858
Chisago	-	-	-	-	-	-			-	-	-		-
Clay	2,168	. 45%	1,939	40%	362	8%	333	7%	-	-	6	<1%	4,808
Clearwater	1,254	30%	105	5%	51	1%	1,808	52%	181	5%	1	< 1%	3,450
Cook	-	-	-	-	-	-	80	100%		. –	-	-	80
Cottonwood	1,121	50%	821	37%	166	7%	101	5%	-	-	26	1%	2,235
Crow Wing	1,600	44%	112	3%	12	< 1%	1,695	47%	171	5%	6	< 1%	3,596
Dakota	899	37%	86	4%	52	2%	1,386	57%	-	-	26	1%	2,449
Dodge	13	16%	4	5%	3	4%	56	71%	· -	-	3	4%	79
Douglas	2,324	58%	914	23%	111	3%	625	15%	34	1%	31	1%	4,039
Faribault	1,559	69%	232	10%	186	8%	274	12%	-	-	17	1%	2,268
Fillmore	-	-		.	-	-	-	_	-		-	· -	-
Freeborn	379	70%	73	14%	14	3%	73	14%	-				539
Goodhue	2,407	59%	44	1%	-		1,603	40%	-				4,054
Grant	1,994	60%	904	27%	172	5%	231	7%	-		47	1%	3,348
Hennepin	8	16%	-		-		42	84%	-	<u></u>			50
Houston	13	87%	-	-			2	13%				-	15
Hubbard	1,192	30%	233	6%	22	1%	1,855	46%	679	17%	15	< 1%	3,996
Isanti	1,925	54%	126	4%	79	2%	1,258	36%	153	4%		-	3,541 8,028
Itasca	2,837	35%	18	< 1%	-	-	3,769	47%	1,368	17%	36	∠ 1%	
Jackson	1,545	55%	787	28%	262	9%	152	5%	<u> </u>	- 4.0/	68	2%	2,814
Kanabec	1,677	49%	99	3%	.114	3%	1,538	45%	3	<1%			3,431
Kandiyohi	1,866	59%	790	25%	103	3%	361	11%	15	<1%	24		3,159 39,981
Kittson	18,725	47%	1,537	4%	. 990	2%	18,711	47%	17	21%		< 1 % 1 %	39,901
Koochiching	02	20%		- -	-		18	6%	230	74%	<u> </u>		6,737
Lac qui Parle	3,113	46%	2,339	35%	434	6%	799	12%	-		52		601
Lake	275	49%	11	2%			567	94%	23	4%			561
Lake of Woods	1,580	<u> </u>	111		110		260	46%	26	5%	10		2,225
LeSueur Lincoln	2,448	43%		38%	118 562	<u> </u>	406 372	18%	-		121	2%	5,690
	3,825	45%	2,187	38%	788	10%	435	7% 5%			104		8,278
Lyon McLeod	1,257	<u> </u>	3,126		128	7%	435				11		1,777
INCLEUU '	1,207	/ 1 /0	L 290	16%	120	1 /0	91	. 5%			1 11	1 /0	1,///

Table 3. (Continued		· .	· - <i>2</i> -
	· · · · · · · · · · · · · · · · · · ·			
· ·	WETLANDS	GRASSLANDS	CROPLAND	DECIDUOUS
COUNTY	acres porcont	- acros norcont	across noncont	acros porcon

-	WET	LANDS	GRA	SSLANDS	CRC	PLAND	DEC	IDUOUS	CO	NIFER	MISCE	LLANEOUS	
COUNTY	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	TOTAL
Mahnomen	2,779	30%	4,336	47%	236	3%	1,539	17%	-	_	310	3%	9,200
Marshall	21,774	66%	800	2%	610	2%	8,859	27%			1,116	3%	33,159
Martin	1,172	61%	422	22%	174	9%	112	6%			42	.2%	1,922
Meeker	1,018	55%	439	24%	118	6%	260	14%	-		13	1%	1,848
Mille Lacs	1,287	60%	122	6%	251	12%	449	21%	19	1%	25	1%	2,153
Morrison	2,517	61%	225	5%	127	3%	1,046	25%	170	4%	28	1%	4,113
Mower	157	23%	394	58%	22	3%	95	14%	-	-	13	2%	681
Murray	3,800	59%	1,671	26%	419	7%	330	5%	÷	-	203	3%	6,423
Nicollet	100	45%	8	4%	29	13%	84	38%		-	-	-	.221
Nobles	840	53%	398	25%	280	18%	23	1%	-	-	44	3%	1,585
Norman	1,774	30%	3,382	58%	36	1%	663	11%	-	-	5	< 1%	5,860
Olmsted	144	16%	116	13%	417	46%	209	23%	-	. –	14	2%	900
Ottertail	5,482	56%	1,435	15%	157	2%	2,714	28%	.1	< 1%	79	1%	9,868
Pennington	915	37%	659	27%	236	10%	637	26%	-	· •	1	< 1%	2,448
Pine	440	32%	11	1%	7	1%	878	63%	33	2%	20	1%	1,389
Pipestone	360	25%	960	66%	42	3%	13	1%	-	_	75	5%	1,450
Polk	5,821	36%	5,906	37%	802	5%	3,631	22%	3	< 1%	14	< 1%	16,177
Роре	1,613	60%	780	29%	39	1%	218	8%	-		54	2%	2,704
Ramsey	-	-	-	-	-		-	-	-	. -	-	-	-
Red Lake	338	26%	279	22%	42	3%	616	48%	1	< 1%	2	<1%	1,278
Redwood	1,541	49%	857	27%	300	10%	298	10%	52	2%	86	3%	3,134
Renville	290	62%	69	15%	60	13%	34	7%	-	-	15	3%	468
Rice	612	44%	256	19%	304	22%	187	14%	-	-	20	1%	1,379
Rock	-	-	-	-	-	-	-		-	_	-	-	-
Roseau	1,414	42%	226	7%	109	3%	1,606	48%	-	· -	22	1%	3,377
St. Louis	660	32%	21	1%	-		989	48%	151	. 7%	239	12%	2,060
Scott	382	77%	10	2%	4	1%	95	19%	-		2	< 1%	493
Sherburne	155	50%	39	13%		-	112	36%		-	2	1%	308
Sibley	467	67%	92	13%	87	13%	40	6%		<u></u>	6	1%	692
Stearns	1,075	59%	366	20%	80	4%	238	13%	40	2%	25	1%	1,824
Steele	614	55%	163	15%	91	8%	245	22%	-	<u> </u>	10	1%	1,123
Stevens	1,219	55%	663	30%	92	4%	174	8%	-		64	3%	2,212
Swift	2,392	63%	918	24%	152	4%	286	8%		-	48	1%	3,796
Todd	3,663	49%	962	13%	363	5%	2,361	32%	67	1%	26	< 1%	7,442
Traverse	863	81%	68	6%	23	2%	109	10%			<u> </u>	-	1,063
Wabasha	1,470	55%	_ 290	11%	27	1%	888	33%		-	5		2,680
Wadena	582	54%	11	1%	1	< 1%	180	17%	303	28%		-	1,077
Waseca	1,378	78%	101	6%	78	4%	207	12%	-		7	۲1%	1,771
Washington	555	35%	205	13%	443	28%	. 353	22%	16	1%	7	<1%	1,579
Watonwan	414	44%	263	28%	100	11%	136	14%		. –	29	3%	942
Wilkin	1,845	49%	1,824	49%	37	1%	34	1%	<u> </u>	-	2	८ 1%	3,742
		•••••											

Table 3. Continued

	WET	LANDS	GRA	SSLANDS	CRO	PLAND		IDUOUS	CO	NIFER		LLANEOUS	
COUNTY	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	TOTAL
Winona	16	17%	1	. 1%	-	-	78	82%	-	· -	-	-	95
Wright	2,274	.60%	458	12%	137	4%	900	24%		-	. 9	<1%	3,778
Yellow Med.	1,931	54%	1,201	33%	221	6%	196	5%	-		39	1%	3,588
STATE	172,396	49%	52,203	15%	12,136	3%	97,550	28%	13,984	4%	4,176	1%	352,445

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COVER TYPES	REGION 1	REGION 2	REGION 3	REGION 4	REGION 5	REGION 6	STATE
WETLANDS	75,854 (49%)	30,051 (44%)	19,482 (49%)	38,060 (54%)	5,825 (50%)	3,124 (49%)	172,396 (49%)
GRASSLANDS	27,097 (17%)	514 (1%)	2,714 (7%)	20,154 (29%)	1,341 (12%)	383 (6%)	52,203 (15%)
CROPLAND	4,159 (3%)	127 (<1%)	1,177 (3%)	5,198 (7%)	878 (8%)	597 (9%)	12,136 (3%)
DECIDUOUS	46,068 (30%)	25,432 (37%)	14,690 (37%)	5,703 (8%)	3,436 (30%)	2,221 (35%)	97,550 (28%)
CONIFER	971 (1%)	11,491 (17%)	1,437 (4%)	67 (<1%)	0 (0%)	18 (< 1%)	13,984 (4%)
MISCELLANEOUS	1,776 (1%)	909 (1%)	252 (1%)	1,138 (2%)	65 (1%)	36 (1%)	4,176 (1%)
TOTAL	155,925	68,524	39,752	70,320	11,545	6,379	352,445

Table 4. Broad cover type acreage figures broken down by region.

APPENDIX

_____ \mathbf{O} T Λ - T — T- + +-----+ +--1 ----**** F C.P. [P] \mathbb{B} ØΠ 7 ----ATTITUT G X

Roads Unimproved roads Trails Fences, DNR Buildings Channels, Ditches Streams Utility lines Underground lines Power lines Transmittion lines Pipeline Railroads Dams Gate Cover Planting Wind Row Parking lot Access Ramp Dugout Culvert Bridge Embankment Sand or Gravel Pit

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Appendix 1.Map symbols used in the WMA Inventory.

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Aitkin 1. 2. Anoka 3. Becker 4. Beltrami 5. Benton 6. Big Stone 7. Blue Earth 8. Brown 9. Carlton 10. Carver Cass 11. 12. Chippewa 13. Chisago 14. Clay 15. Clearwater 16. Cook Cottonwood 17. 18. Crow Wing 19. Dakota 20. Dodge 21. Douglas 22. Faribault 23. Fillmore 24. Freeborn 25. Goodhue[`] 26. Grant 27. Hennepin 28. Houston 29. Hubbard 30. Isanti Itasca 31. 32. Jackson 33. Kanabec Kandiyohi 34. Kittson 35. Koochiching 36. 37. Lac Qui Parle 38. Lake Lake of the Woods 39. Le Sueur 40. 41. Lincoln 42. Lyon McLeod 43. 44. Mahnomen

45. Marshall 46. Martin 47. Meeker 48. Mille Lacs 49. Morrison 50. Mower 51. Murray 52. Nicollet 53. Nobles 54. Norman 55. 01msted 56. Otter Tail 57. Pennington 58. Pine 59. Pipestone 60. Po1k 61. Pope 62. Ramsey Red Lake 63. Redwood 64. Renville 65. 66. Rice Rock 67. 68. Roseau 69. St. Louis 70. Scott Sherburne 71. Sibley 72. 73. Stearns 74. Steele 75. Stevens 76. Swift 77. Todd 78. Traverse 79. Wabasha 80. Wadena Waseca 81. 82. Washington Watonwan 83. 84. Wilkin 85. Winona Wright 86. 87. Yellow Medicine

Appendix 2.County codes used in the WMA Inventory.

	Balsam Fir
ABBA	
ABTH	Velvet-Leaf
ACAL	White Baneberry
ACCA	Sweet Flag
ACCH	Silver Maple
	Silver Maple
ACGI	Amur Maple
ACMI	Common Yarrow
ACNE	Boxelder
ACRE	Red Baneberry
ACRU	Red Maple
ACSA	Sugar Maple
ACSP	Mountain Maple
ADPE	Maiden Hair Fern
AGAL	Redtop Grass
AGAS	Giant Hyssop
AGGL	Prairie dandelion
AGRE	Quack Grass
AGRS	Wheatgrass
AGSM	Western Wheatgrass
AGSP	Bentgrass
ALAE	Marsh Foxtail
ALLS	Onion
ALNS	Alder
ÁLPL	Water Plantain
ALRU	Speckled Alder
AMAR	Common Ragweed
AMBR	Hog Peanut
AMCA	Lead Plant
AMFR	False Indigo
AMRE	Pigweed
AMSP	Juneberry
AMTR	Giant Ragweed
ANÇA	Windflower
ANC Y	Long Fruited Anemone
ANGE	Big Bluestem
ANGL	Bog Rosemary
ANPA	Pasque Flower
	Fasque i Iowei
ANQU	Wood Anemone
ANSC	Little Bluestem
ANTH	Rue Anemone
APOS	Dogbane
AQCA	Columbine
ARLU	Prairie Sage
ARMI	Burdock
ARNU	Wild Sarsaparilla
ARRA	Spikemaid
ARTR	Jack-in-the-Pulpit
ARTS	•
	Sage Evengneen Reenhenny
ARUV	Evergreen Bearberry
ASCA	Wild Ginger
ASCS	Milkweed
ASER	Heath Aster
ASIN	Swamp Milkweed
ASMA	Large-leaved Aster
ASNO	New England Aster

Abies balsamea Abutilon theophrasti Actea alba Acorus calamus Acer saccharinum Acer Ginnala Achillea millefolium Acer negundo Actea rubra Acer rubrum Acer saccharum Acer spicatum Adiatum pedatum Agrostis alba Agastache sp. Agoseris glauca Agropyron repens Agropyron sp. Agropyron Smithii Agrostis sp. Alopecurus aequalis Allium sp. Alnus sp. Alisma plantago-aquatica Alnus rugosa Ambrosia artemisiifolia Amphicarpa bracteata Amorpha canascens Amorpha fructicosa Amaranthus retroflexus Amelanchier sp. Ambrosia trifida Anemone canadensis Anemone cylindrica Andropogon gerardi Andromeda glaucaphylla Anemone patens Anemone quinquefolia Andropogon scoparius Anemonella thalictroides Apocynum sp. (3) Aquilegia canadensis Artemisia ludoviciana Arctium minus Arailia nudicaulis Arailia racemosa Arisaema triphyllum Artemesia sp. Arctostaphylos uva-ursi Asarum canadense. Asclepias sp. Aster ericoides Asclepias incarnata Aster macrophyllus Aster Novae-Angliae

Appendix 3.Plant specie codes, common names, and scientific names used in the WMA Inventory.

ASSE ASSP ASSY ASTC ASTS ASTU ATFI AVES BELU BENI BEPA BEPU BESY BETH BIDS BOCU BOGR BOHI BOUS BOVI BRAS BRCI BRIN BROS BUDA CAAR CACA CACA CACA CACA CACA CACA CA	Wild Asparagus Silky Aster Milkvetch Common Milkweed Canada Milkvetch Aster Butterflyweed Lady Fern Wild Oats Yellow Birch River Birch Paper Birch Bog Birch Slough Grass Barberry Beggartick Side-Oats Grama Grama Grass Hairy Grama Grama Grass Hairy Grama Grama Rattlesnake Fern Wild Mustard Wood Brome Grass Smooth Brome Brome Grass Buffalo Grass Caragana Blue-Joint Bitternut Hickory Wire Grass Water Arum Reed Grass Bellflower Shagbark Hickory Marsh Marigold Blue Beech Sedge Blue Cohosh New Jersey Tea Sandbur Hackberry Climbing Bittersweet Leatherleaf Goosefoot Princes Pine Canada Thistle
CEOC CESC CHCA CHES CHUM CIAR CIIN	Hackberry Climbing Bittersweet Leatherleaf Goosefoot Princes Pine
CIQU CIRS CLBO CLPA COAL COAM COAR	Enchanter Nightshade Thistle Clintonia Water Arum Alternate-LF Dogwood American Hazelnut Bindweed

Asparagus officinalis Aster sericeus Astragalus sp. Asclepias syriaca Astragalus canadensis Aster sp. Asclepias tuberosa Atherium felix-femina Avena sp. Betula Lutea Betula nigra Betula papyrifera Betula pumila Beckmannia syzigachne Berberis Thunbergii Bidens sp. Bouteloua curtipendula Bouteloua gracilis Bouteloua hirsuta Bouteloua sp. Botrychium virginianum Brassica sp. Bromus ciliatus Bromus inermis Bromus sp. Buchloe dactyloides Caragana sp. Calamagrostis canadensis Carya cordiformis Carex lasiocarpa Calla palustris Calamagrostis sp. Campanula sp. Carva ovata Caltha palustris Carpinus caroliniana Carex sp. Caulophylum thalictroides Ceanothus americana Cenchrus longispinus Celtis occidentalis Celastrus scandens Chamaedaphne calyculata Chenopodium sp. Chimaphila umbellata Cirsium arvense Cichorium intybus Cicuta maculata Circaea quadrisulcata Cirsium sp. Clintonia borealis Calla palustris Cornus alternifolia Corylus americana Convolvulus arvensis

Appendix 3. Continued.

Cornus canadensis Corylus cornuta Coreopsis palmata Cornus racemosa Cornus sp. Cornus rugosa Corylus sp. Cornus stolonifera Commandra umbellata Crataequs sp. Cryptotaenia canadensis Crepis sp. Castilleja coccinea Cystopteris bulbifera Cyperus esculenta Cypripedium calceolus Cyperus sp. Cypripedium reginae Cystopteris sp. Dactylis sp. Danthonia spicata Desmodium canadense Deschampsia cespitosa Desmodium sp. Delphinium virescens Dicentra sp. Diervilla lonicera Dirca palustris Dulichium arundinaceum Echinochloa sp. Echinocystis lobata Echinacea pallida var angustifolia Eleagnus angustifolia Elymus canadensis Eleagnus commutata Eleocharis sp. Equisetum sp. Eraagrostis sp. Erigeron sp. Eriophorum sp. Eupatorium perfoliatum Euphorbia sp. Eupatorium maculatum or purpureum Eupatorium rugosum Festuca sp. Fraxinus americana Fragaria sp. (2) Fraxinus nigra Fraxinus pennsylvanica Gaura coccinea Galium sp. Gaultheria procumbens Geum canadense Geranium maculatum Gentiana sp. Geum triflorum

Appendix 3.Continued.

GEUS GLBO GLES GLGR GLES GLGR GLES GLGR GLES GLE GLTR GLYS GRSQ GUCO HAHY HEAU HEAU HEAU HEAU HEAU HEAU HEAU HEAU		Avens Manna Grass Honey-Locust Reed-Meadow Grass Ground Ivy Licorice Root Honey-Locust Manna Grass Gumplant Scarlet Gaura N. Green Orchis Round-Lobe Liverleaf Sneezeweed Ox-eye Sunflower Maxmilians Sunflower Allum Root Squirrel-Tail Grass Wild Barley Star Grass Bottle Brush Grass Hyssop Virginia Waterleaf Holly Touch-Me-Not Morning Glory Blue Flag Butternut Creeping Cedar Black Walnut Rush Red Cedar Prairie Junegrass Summer Cypress Wood Nettle Wild Lettuce Tamarack Wild Pea Laborador Tea Duckweed Rice Cut Grass Bush Clover Blazing Star Twin Flower Hoary Puccoon Michigan Lily Woodlily Turks Cap Lily Privet
LIBO LICA LIMI LIPH	n an s	Twin Flower Hoary Puccoon Michigan Lily Woodlily
	•	
LONS LYAL LYAM LYCL	•	Honeysuckle Evening Lychnis Water Horehound Ground-Pine
LYJU LYSA	•	Skeleton Weed Purple Loosestrife

Geum sp. Glyceria borealis Gleditsia sp. Glyceria grandis Glecoma hederacea Glycyrrhiza lepidota Gleditsia triacanthos Glyceria sp. Grindelia squarrosa Gaura coccinea Habenaria hyperborea Hepatica americana Helenium autamnale Heliopsis helianthoides Helianthus sp. Helianthus Maximiliani Heuchera Richardsonii Hordeum jubatum Hordeum sp. Hypoxis hirsuta Hystrix patula Hyssopus sp. Hydrophyllum virginianum Ilex sp. Impatiens sp. (2) Ipomoea purpurea Iris versicolor Juglans cinerea Juniperus horizontalis Juglans nigra Juncus sp. Juniperus virginiana Koeleria cristata Kochia scoparia Laportea canadensis Lactuca sp. Larix laricina Lathyrus sp. Ledum groenlandicum Lemna sp. Leersia oryzoides Lespedeza sp. Liatris sp. (4) Linnaea borealis Lithospermum canescens Lilium michiganense Lilium philadelphicum Lilium superbum Ligustrum vulgare Lobelia sp. Lotus corniculatus Lolium sp. Lonicera sp. Lychnis alba Lycopus americana Lycopodium clavatum Lygodesmia juncea Lythrum salicaria

Appendix 3.Continued.

1. 1. 7 1. 1	•	
LYTH		Tufted Loosestrife
MACA		Wild-Lily-of-the-Valley
MALS		Crabapple
MEAR		Wild Mint
MELS		Sweetclover
MELU		Black Medic
MESA		Alfalfa
METR		Buckbean
MOAL		White Mulberry
MOF I		Wild Bergamot
MORU		Mulberry
MUGL		Wild Timothy
MUHS	•	Muhly Grass
MYAS		Sweet Fern
NECA		Catnip
NELS		Nelumbo
NUPS		Yellow Waterlily
NYMS		White Water Lily
OEB I		Evening Primrose
OENU	. •	Evening Primrose Evening Primrose
		Lvening Frimose
OESE		Primrose
ONMO		False Gromwell
ONSE	•	Sensitive Fern
OPUS .		Prickly Pear
OSCL		Interrupted Fern
OSMS		Sweet Cicely
OSVI		Hop Hornbeam
OXAS		Sorrel
OXLA		Lamberts Locoweed
PANS		Panic Grass
PAQU		Ginseng
PARS		Wood Bine
PAVI		Switchgrass
PECA		White Prairie Clover
PEDS		Louchwort
PENS		Beardtongue
PEPU		Purple Prairie Clover
PETS		Prairie Clover
PHAR		Reed Canary Grass
PHCO		Cane
PHLE		
		Lopseed
PHLS		Phlox
рнор		Ninebark
PHPR		Timothy
PHYS		Ground Cherry
PIBA		Jack Pine
PICS		Spruce
PIGL		White Spruce
PIMA		Black Spruce
PINI		Austrian Pine
PIPO		Ponderosa Pine
PIPU		Blue Spruce
PIRE		Red Pine
PIST		White Pine
PISY		Scotch Pine
PLAS		Plantain Silven loaf Aspen

Silver-leaf Aspen

Lythrum thrysiflora Maianthemum canadense Malus sp. Mentha arvensis Melilotus sp. (2) Medicago lupulina Medicago sativa Menyanthes trifoliata Morus alba Monarda fistulosa Morus rubra Muhlenbergia glomerata Muhlenbergia sp. Myrica asplenifolia Nepeta cataria Nelumbo sp. Nuphar sp. Nymphaea sp. Oenothera biennis Oenothera Nuttallii Oenothera serrulata Onosmodium molle Onoclea sensibilis Opuntia sp. Osmunda Claytoniana Osmorrhiza sp. Ostrya virginiana Oxalis sp. Oxytropis Lambertii Panicum sp. Panax guinguefolia Parthenocissus sp. Panicum virgatum Petalostemum candidium Pedicularis sp. Penstemon sp. Petalostemum purpureum Petalostemum sp. Phalaris arundinacea Phragmites communis Phryma Leptostachya Phlox sp. Physocarpus opulifolius Phleum pratense Physalis sp. Pinus Banksiana Picea sp. Picea glauca Picea mariana Pinus nigra Pinus ponderosa Picea pungens Pinus resinosa Pinus strobus Pinus sylvestris Plantago sp. Populus alba

Appendix 3.Continued.

POAL

POAR POAS POBA POBI POCO PODE		
PODO POFR		C S
POGR POLS PONO	•	L S C
POPA POPE		S M
POPR POSE POTA		K S P
POTR POTS		
PRAM PRPE PRSE	<i>.</i>	k P B
PRUS PRVI PRVU		P C H
PSAR PSES		SI
PTAQ PYAS PYRS		E A
PYVI QUAL		M
QUBO QUEL QUES		R N C
QUMA RACO		P
RANS RAPI RHCA		ю С Е
RHGL RHRA RHTY		SP
RIBS ROPS	•	S
ROSS RUH I RUBS		R F
RUMS RUPO		۲ ۲
SAAM SACA SAGS		P C A
CATN		c

POAN

Silverweed Tall Cinguefoil Meadow Grass Balsam Popular Solomons Seal Water Smartweed Cottonwood Clammy Weed Shrubby Cinquefoil _G Toothed Aspen Smartweed Cinquefoil Swamp Fivefinger May-Apple Kentucky Bluegrass Seneca Snakeroot Pondweed Quaking Aspen Cinquefoil Wild Plum Pincherry Black Cherry Plum-Cherry Chokecherry Heath-All Sil LF Scurf Pea Indian Breadroot Bracken Fern Bog Shinleaf Apple Mountain Mint White Oak Red Oak North Pin Oak 0ak Bur Oak Prairie Coneflower Water Buttercup Grayheaded Coneflower Buckthorn Smooth Sumac Poison Ivy Staghorn Sumac Gooseberrys _ocust Wild Rose Black-eyed Susan Raspberries Dock Widgeon Grass Peach-leaved Willow Common Elder Arrowhead Sandbar Willow

Potentilla anserina Potentilla arguta Poa sp. Populus balsamifera Polygonatum biflorum Polygonum coccineum Populus deltoides Polanisia dodecandra Potentilla fruticosa Populus grandidentata Polygonum sp. Potentilla norvegica Potentilla palustris Podophyllum peltatum Poa pratensis Polygala senega Potamogeton sp. Populus tremuloides Potentilla sp. Prunus americana Prunus pensylvanica Prunus serotina Prunus sp. Prunus virginiana Prurella vulgaris Psoralea argophylla Psoralea esculenta Pteridium aquilinum Pyrola asarifolia Pyrus sp. Pycnanthemum virginianum Quercus alba Quercus borealis Quercus ellipsoidalis Quercus sp. Quercus macrocarpa Ratibida columnifera Ranunculus sp. Ratibida Pinnata Rhamnus cathartica Rhus glabra Rhus radicans Rhus typhina Ribes sp. Robinia pseudoacacia Rosa sp. Rudbeckia hirta Rubus sp. Rumex sp. Ruppia occidentalis Salix amygdaloides Sambucus canadensis Sagittaria sp. Salix interior

Appendix 3.Continued.

SAIN

-32-
Russian Thistle Arrowhead Brush Willows Black Snakeroot Black Willow Purple Willow Red-Berried Elder Hardstem Bulrush Threesquare River Bulrush Wool Sedge Bayonet Grass Skullcap Softstem Bulrush Ragwort Foxtail Bur-Cucumber Cup Plant Blue-eyed Grass Water Parsnip Buffaloberry False Solomons Seal Smilax SP Mountain Ash Sow Thistle
European Mountain Ash
Goldenrod Sow Thistle Indian Grass
Meadow Sweet
Burreed Bur-Reed
Prairie Dropseed

Peat Moss

Drop-Seed

Cord Grass

Steeple Bush

Hedge-Nettle

Snowberry

Buckbrush

Wolfberry

Germander

Basswood

Trillium

Meadow Rue

White Cedar

Spiderwort

Starflower

Goatsbeard

Lilac

Twisted Stalk

Common Chickweed

Porcupine Grass

Skunk Cabbage

American Yew

Green Needlegrass

Lady Tresses Orchid

Salsola Kali Sagittaria latifolia Salix sp. Sanicula marilandica Salix nigra Salix purpurea Sambucus pubens Scirpus acutus Scirpus americana Scirpus fluviatilis Scirpus sp. Scirpus paludosus Scutellaria sp. Scirpus validus Senecio sp. Setaria sp. Sicyos sp. Silphium perfoliatum Sisyrinchium sp. Sium suave Sheperdia argenta Smilacina sp. Smilax sp. Sorbus americana Sonchus arvensis Sorbus aucuparia Solidago sp. Sonchus sp. Sorghastrum nutans Spiraea alba Sparganium sp. Sparganium eurycarpum Sporobolus heterolepis Sphagnum sp. Spiranthes sp. Sporobolus sp. Spartina pectinata Spiraea tomentosa Streptopsus sp. Stellaria media Stachys palustris Stipa spartea Stipa virdula Symphoricarpus albus Symplocarpus foetidus Symphoricarpus sp. Symphoricarpus occidentalis Syringa vulgaris Taxus canadensis Teucrium canadense Thalictrum sp. (2) Thuja occidentalis Tilia americana Trillium sp. Tradescantia sp. Trientalis borealis Tragopogon dubius

Appendix 3.Continued.

SAKA

SALA

SALS

SAMA SANI

SAPP

SAPU

SCAC SCAM

SCFL

SCIS

SCPA

SCUS

SCVA SENS

SETS

SICS

SIPE

SISP SISU

SHAR SMIS

SMSP

SOAM SOAR

SOAU

SOLS SONS

SONU

SPAL SPAS

SPEU SPHE

SPHS

SPIS

SPOS

SPPE

SPTO

STAM

STME STPA

STSP

STVI

SYAL SYF0

SYMS

SYOC

SYVU

TACA

TECA

THAS THOC

TIAM

TPSP

TRAS

TRBO TRDU

TRIP TRIS TUFU TYAN TYLA TYPS UIGR UISH ULAM ULMS ULPU ULRU URDI UTRS UVGR VACS VAMA VAOX VERS VETH VEVI VIAM VIBS VICS VILE VIOS VIPE VITR VITS WAFRI XAST ZAAM ZIAQ	Arrow-Grass Clover Coltsfoot Narrowleaf Cattail Common Cattail Cattail Unk Grass Unk Shrub American Elm Siberian Elm Siberian Elm Slippery Elm Stinging Nettle Bladderwort Bellwort Blueberry Large Cranberry Small Cranberry Vervain Mullein Culver's Root Purple Pea Arrowwood Vetch Nannyberry Violet Birdsfoot Violet High-bush Cranberry Wild Grape Barren Strawberry Cocklebur Prickley Ash Wild Rice
ZAAM	Prickley Ash

Triglochin sp. Trifolium sp. Tussilago farfara Typha angustifolia Typha latifolia Typha sp. Unidentified grass Unidentified shrub Ulmus americana Ulmus sp. Ulmus pumila Ulmus rubra Urtica dioica Utricularia sp. Uvularia grandiflora Vaccinium sp. Vaccinium macrocarpon Vaccinium oxycoccos Verbena sp. Verbascum thapsus Veronicastrum virginicum Vicia americana Viburnum sp. Vicia sp. Viburnum lentago Viola sp. Viola pedata Viburnum trilobum Vitis sp. Waldesteinia fragarioides Xanthium strumosus Xanthoxylum americanum Zizania aquatica Zizia sp. Zygadenus elegans

Appendix 3.Continued.

Type 1. Seasonally flooded basins or flats.

The soil is covered with water, or is waterlogged, during seasonal periods but usually is well drained during much of the growing season. Little or no wetland vegetation is developed. This type is found in upland depressions and in overflow bottom lands.

Type 2. Inland fresh meadows.

The soil usually is without standing water during most of the growing season but is waterlogged within at least a few inches of its surface. Typical vegetation includes grasses, sedges, and rushes. Meadows may fill shallow lake basins and sloughs or they may border shallow marshes.

Type 3. Inland shallow fresh marshes.

The soil is usually waterlogged during the growing season and often is covered with as much as 6 inches of water. Vegetation includes bulrushes, cattails, arrowheads, smartweeds, sedges, and burreed. These marshes may nearly fill shallow lake basins or they may border deep marshes.

Type 4. Inland deep fresh marshes.

The soil is covered with 6 inches to 3 feet during the growing season. Vegetation includes cattails, reeds, bulrushes, wild rice, and various submergents. These deep marshes may almost completely fill shallow lake basins and sloughs and may border open water areas.

Type 5. Inland open fresh water.

Shallow ponds and impoundments fringed by emergent vegetation with water less than 10 feet deep are included in this type. Vegetation is limited to water depths of less than 6 feet and includes pondweeds, wild celery, coontails, water lilies, and other submergents and floating leaf species.

Type 6. Shrub swamps.

The soil is usually waterlogged during the growing season and is often covered with up to 6 inches of water. Vegetation includes alders, willows, and dog-woods. Shrub swamps occur along sluggish streams and may border shallow mar-shes.

Type 7. Wooded swamps.

The soil is waterlogged to within a few inches of the surface and is often covered with as much as 1 foot of water. Vegetation often includes tamarack, black spruce, balsam, black ash, and cottonwoods underlain by smartweeds and other herbs. Wooded swamps occur along sluggish streams and in very shallow lake basins.

Type 8. Bogs.

The soil is usually waterlogged and supports a spongy covering of mosses. Vegetation includes leather-leaf, Labrador-tea, and cranberries underlain by spagnum mosses and sedges. Bogs occur mostly in shallow lake basins and along sluggish streams.

Appendix 4. Summary of Circular 39 wetland types.

BECKER					
COUNTY TOTAL AQUATIC BED ASPEN BOX ELDER CONIFER-DECID. COVER PLANTING CROPLAND EMERGENT WETLAN GRASSLANDS LOWLAND DECIDUC LOWLAND MIXED LOWLAND SHRUBS NATURAL PRAIRIE NORTHERN WOOD OAK OPEN WATER OTHER DECIDUOUS SAVANNA	DUS	10 65 1 83 6 32 1082 538 53 237 303 171 226 16 4		-35)- -
UPLAND SHRUBS	TOTALS	5 3211 AC	RES		
BASINS		ACRES ACRES ACRES	305 647 283 263 4 1502		
				•	
	•				
BELTRAMI COUNTY TOTAL					
 ASH ASPEN CONIFER-DECID. EMERGENT WETLAND GRASSLANDS JACK PINE LOWLAND CONIFER LOWLAND SHRUBS OPEN WATER OTHER DECIDUOUS))TALS	16 481 47 150 69 14 3 264 7 19 1070 ACRE	:5		
WETLAND TOTALS BASINS 4 BASINS 2 BASINS 1	TYPE 2 TYPE 3 TYPE 4 TOTAL	ACRES ACRES ACRES ACRES	21 14 104 139		
CASS COUNTY TOTAL- RE ASPEN BIRCH EMERGENT WETL GRASSLANDS LOWLAND SHRUB NORTHERN WOOD OAK OPEN WATER RED PINE	AND	25 53 80 63 18 52 49 11 12 363 A	CRES		
WETLAND TOTAL BASINS BASINS	S 1 TYPE 1 TYPE -OTAL	5 ACRES	2	7	

CLAY COUNTY TOTAL AQUATIC BED ASPEN BOX ELDER COVER PLANTI CROPLAND EMERGENT WET GRASSLANDS LOWLAND DECI LOWLAND DECI LOWLAND SHRU NATURAL PRAI OAK OPEN WATER OTHER DECIDU UPLAND SHRUB WETLAND TOTA BASINS BASINS BASINS	LAND DUOUS BS RIE OUS S TOTALS	17 82 1 6 362 1204 1369 207 626 570 29 321 9 5 4808 ACRES ACRES 166 ACRES 166 ACRES 166 ACRES 166	5 A. J
BASINS BASINS BASINS	4 TYPE 5 1 TYPE 8 TOTAL	ACRES 311 ACRES 12 ACRES 1520	
CLEARWATER COUNTY TOTAL AQUATIC BED ASH ASPEN BIRCH CONIFER-DECI CROPLAND EMERGENT WET GRASSLANDS JACK PINE LOWLAND DECI LOWLAND DECI LOWLAND MIXE LOWLAND SHRL MAPLE-BASSWO NORTHERN WOO OAK OPEN WATER OTHER DECIDL RED PINE SAND-GRAVEL UPLAND SHRUE	TLAND TER DUOUS DD DD JOUS 3S TOTALS	6 6 1034 59 128 51 424 165 75 61 165 55 677 4 108 27 147 214 45 1 8 3460 ACRES	· · · · ·
WETLAND TOTA BASINS BASINS BASINS BASINS BASINS	ALS 9 TYPE 2 10 TYPE 3 9 TYPE 4 19 TYPE 5 1 TYPE 6 TOTAL	ACRES 97 ACRES 246 ACRES 65	7 5 1
DOUGLAS COUNTY TOTAL AQUATIC BED ASH BOX ELDER CONIFER-DECI COVER PLANTI CROPLAND EMERGENT WET GRASSLANDS LOWLAND CONI LOWLAND SHRU NATURAL PRAI OAK OPEN WATER OTHER DECIDU SAND-GRAVEL UPLAND SHRUE	NG LAND FER DUOUS JBS RIE JOUS	2 3 180 9 5 30 111 1374 819 34 112 578 95 95 95 370 218 1 3 4039 ACRES	
WETLAND TOTA BASINS BASINS BASINS BASINS BASINS BASINS BASINS	1 TYPE 1 3 TYPE 2 32 TYPE 3 29 TYPE 4 7 TYPE 5 1 TYPE 5 1 TYPE 5	ACRES 94 ACRES 484 ACRES 758 ACRES 21	1 3 1 7

Appendix 5.WMA Inventory results by county, region, and statewide.

GRANT COUNTY TOTAL AQUATIC BED ASPEN BOX ELDER COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOU LOWLAND SHRUBS MUD FLAT NATURAL PRAIRIE OAK OPEN WATER OTHER DECIDUOUS UPLAND SHRUBS		1 17 51 47 172 1546 848 89 30 12 56 29 405 22 6 3348 AC	RES
WETLAND TOTALS BASINS 2 BASINS 11 BASINS 12 BASINS 6	TYPE 2 TYPE 3 TYPE 4 TYPE 5 TOTAL	ACRES ACRES	2 326 1047 292 1667
HUBBARD COUNTY TOTAL ASH ASPEN BIRCH CONIFER-DECID. CROPLAND DEAD TREES EMERGENT WETLAND GRASSLANDS JACK PINE LOWLAND CONIFER LOWLAND DECIDUOU LOWLAND SHRUBS NORTHERN WOOD OAK OPEN WATER OTHER CONIFER OTHER CONIFER OTHER DECIDUOUS UPLAND SHRUBS		42 729 326 137 22 15 637 233 454 211 23 408 60 137 147 147 293 108 3996 AC	RES
WETLAND TOTALS BASINS 1 BASINS 4 BASINS 4 BASINS 1 BASINS 1	TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 5 TYPE 8 TOTAL	ACRES ACRES ACRES ACRES ACRES ACRES	34 132 202 57 2 427
KITTSON COUNTY TOTAL AQUATIC BED ASPEN CROPLAND ' EMERGENT WETLAND GRASSLANDS LOWLAND CONIFER LOWLAND SHRUBS NATURAL PRAIRIE OAK OPEN WATER OTHER DECIDUOUS SAND-GRAVEL UPLAND SHRUBS	10 8 1	4 5509 990 759 17 8170 778 270 91 15 1 15 1 917 9981 ACRE	S
WETLAND TOTALS BASINS 86 BASINS 45 BASINS 4	TYPE 2 TYPE 3 TYPE 4 TOTAL		1677 2852 2723 7252
Ap	pendix {	5.Contii	nued.

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LOWLAND SHRUBS 1 NATURAL PRAIRIE OAK OPEN WATER OTHER DECIDUOUS SAND-GRAVEL UPLAND SHRUBS TOTALS 3 WETLAND TOTALS BASINS 52 TYPE 2 BASINS 57 TYPE 3 BASINS 6 TYPE 4 TOTAL NORMAN COUNTY TOTAL ASH ASPEN COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS LOWLAND SHRUBS NATURAL PRAIRIE OAK OPEN WATER OTHER DECIDUOUS SAND-GRAVEL UPLAND SHRUBS NATURAL PRAIRIE OAK OPEN WATER OTHER DECIDUOUS SAND-GRAVEL UPLAND SHRUBS NATURAL PRAIRIE OAK OPEN WATER OTHER DECIDUOUS SAND-GRAVEL UPLAND SHRUBS TOTALS WETLAND TOTALS BASINS 22 TYPE 2 BASINS 56 TYPE 3 BASINS 3 TYPE 5 BASINS 5 TYPE 6 TOTAL

LAKE OF THE WOODS COUNTY TOTAL ASPEN EMERGENT WETLAND LOWLAND SHRUBS OPEN WATER OTHER CONIFER TO	260 143 97 35 26 TALS 561 ACRES -
WETLAND TOTALS BASINS 1 BASINS 1 BASINS 1	TYPE 2 ACRES 1 TYPE 3 ACRES 49 TYPE 5 ACRES 128 TOTAL ACRES 178
MAHNOMEN COUNTY TOTAL AQUATIC BED ASPEN COVER PLANTING CROPLAND DEAD TREES EMERGENT WETLAND GRASSLANDS LOWLAND SHRUBS NATURAL PRAIRIE NORTHERN WOOD OAK OPEN WATER OTHER DECIDUOUS UPLAND SHRUBS	39 1034 19 236 291 2372 1670 176 2666 299 133 192 28 45 TALS 9200 ACRES
WETLAND TOTALS BASINS 55 BASINS 190 BASINS 10 BASINS 7 BASINS 2	TYPE 2 ACRES 92 TYPE 3 ACRES 1562 TYPE 4 ACRES 462 TYPE 5 ACRES 80 TYPE 8 ACRES 311 TOTAL ACRES 2507
MARSHALL COUNTY TOTAL ASPEN CROPLAND DEAD TREES EMERGENT WETLAND GRASSLANDS LOWLAND SHRUBS NATURAL PRAIRIE OAK OPEN WATER OTHER DECIDUOUS SAND-GRAVEL UPLAND SHRUBS	8689 610 1091 9194 749 11666 51 20 914 4 25 146 TALS 33159 ACRES
WETLAND TOTALS BASINS 52 BASINS 57 BASINS 6	TYPE 2 ACRES 598 TYPE 3 ACRES 7233 TYPE 4 ACRES 2310 TOTAL ACRES 10141
NORMAN COUNTY TOTAL ASH ASPEN COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOU LOWLAND SHRUBS NATURAL PRAIRIE OAK OPEN WATER OTHER DECIDUOUS SAND-GRAVEL UPLAND SHRUBS	2326

ACRES ACRES ACRES ACRES ACRES ACRES

5860 ACRES

1044

-36-

ÖTTER TAILCOUNTY TOTALAQUATIC BEDASH2ASPEN606-37-BOX ELDER8COTTONWOOD28COVER PLANTING65CROPLAND157DEAD TREES3EMERGENT WETLAND2883GRASSLANDS1421LOWLAND DECIDUOUS102LOWLAND MIXED128LOWLAND SHRUBS1280MAPLE-BASSWODD282MUD FLAT1NATURAL PRAIRIE14	POPECOUNTY TOTALASHSPENBOX ELDERIICOVER PLANTINGCROPLAND39EMERGENT WETLAND1144GRASSLANDS756LOWLAND DECIDUOUS51LOWLAND SHRUBS140NATURAL PRAIRIE19OAK34OPEN WATER329OTHER DECIDUOUS94PLANTED PRAIRIE5UPLAND SHRUBSTOTALS2704 ACRES
NORTHERN WOOD 389 OAK 249 OPEN WATER 1273 OTHER CONIFER 1 OTHER DECIDUOUS 904 SAND-GRAVEL 11 UPLAND SHRUBS 16 TOTALS 9868 ACRES	WETLAND TOTALS BASINS 15 TYPE 3 ACRES 347 BASINS 23 TYPE 4 ACRES 792 BASINS 5 TYPE 5 ACRES 218 TOTAL ACRES 1357 RED LAKE COUNTY TOTAL ASPEN 172
WETLAND TOTALS BASINS 1 TYPE 2 ACRES 1 BASINS 54 TYPE 3 ACRES 1737 BASINS 25 TYPE 4 ACRES 1331 BASINS 9 TYPE 5 ACRES 1189 BASINS 5 TYPE 6 ACRES 189 TOTAL ACRES 4447	COVER PLANTING2CROPLAND42EMERGENT WETLAND271GRASSLANDS259LOWLAND DECIDUDUS90LOWLAND SHRUBS59NATURAL PRAIRIE20OPEN WATER8OTHER DECIDUOUS354RED PINE1
PENNINGTON COUNTY TOTAL ASPEN 215 COTTONWOOD 1 CROPLAND 236 DEAD TREES 1 EMERGENT WETLAND 710 GRASSLANDS 625 LOWLAND SHRUBS 199 NATURAL PRAIRIE 34 OAK 409 OPEN WATER 6 UPLAND SHRUBS 12 UPLAND SHRUBS 12 TOTALS 2448 ACRES	TOTALS1278 ACRESWETLAND TOTALS BASINS1 TYPE 2 ACRES9BASINS10 TYPE 3 ACRES246BASINS10 TYPE 4 ACRES24BASINS1 TYPE 4 ACRES24BASINS1 TYPE 6 ACRES2TOTALACRES281ROSEAUCOUNTY TOTALASPEN1604CROPLAND109
WETLAND TOTALS BASINS 2 TYPE 2 ACRES 3 BASINS 5 TYPE 3 ACRES 728 BASINS 1 TYPE 4 ACRES 60 TOTAL ACRES 791	EMERGENT WETLAND342GRASSLANDS226LOWLAND DECIDUOUS2LOWLAND SHRUBS915OPEN WATER157SAND-GRAVEL22TOTALS3377 ACRES
POLKCOUNTY TOTALAQUATIC BEDASH43ASPEN2765CONIFER-DECID.27COTTONWOOD7COVER PLANTING5	WETLAND TOTALS BASINS 13 TYPE 2 ACRES 55 BASINS 3 TYPE 3 ACRES 63 BASINS 2 TYPE 4 ACRES 411 BASINS 1 TYPE 5 ACRES 69 TOTAL ACRES 598
CROPLAND 802 DEAD TREES 9 EMERGENT WETLAND 3503 GRASSLANDS 4257 LOWLAND CONIFER 3 LOWLAND DECIDUOUS 415 LOWLAND SHRUBS 1761 NATURAL PRAIRIE 1649 NORTHERN WOOD 67 OAK 8 OPEN WATER 530 OTHER DECIDUOUS 122 UPLAND SHRUBS 177 TOTALS 16,177 ACRES WETLAND TOTALS	STEVENSCOUNTY TOTALAQUATIC BED1BOX ELDER1COTTONWOOD34COVER PLANTING64CROPLAND92EMERGENT WETLAND809GRASSLANDS589LOWLAND DECIDUOUS122LOWLAND SHRUBS64NATURAL PRAIRIE74OPEN WATER345OTHER DECIDUOUS17TOTALS2212 ACRES
BASINS 28 TYPE 2 ACRES 304 BASINS 85 TYPE 3 ACRES 1987 BASINS 20 TYPE 4 ACRES 923 BASINS 8 TYPE 5 ACRES 276 Appendix 5. Continued. TOTAL ACRES 3490	WETLAND TOTALS BASINS 1 TYPE 2 ACRES 6 BASINS 17 TYPE 3 ACRES 226 BASINS 16 TYPE 4 ACRES 562 BASINS 5 TYPE 5 ACRES 305 TOTAL ACRES 1099

TRAVERSE COUNTY TOTAL BOX ELDER COTTONWOOD CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS NATURAL PRAIRIE OPEN WATER TOTALS	3 25 23 410 65 81 3 453 1063 ACRES	-38-	WILKIN COUNTY TOTAL ASPEN CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOU LOWLAND SHRUBS NATURAL PRAIRIE OPEN WATER OTHER DECIDUOUS SAND-GRAVEL TO WETLAND TOTALS BASINS 8 BASINS 1	20 37 1779 5 11 62 34 4 3 2 TALS 3742 ACRES TYPE 3 ACRES 1713 TYPE 4 ACRES 13 TOTAL ACRES 1726
	ACRES 77 ACRES 861			
TOTAL	ACRES 938			
		REG. 1 TOTALS AQUATIC BED ASH ASPEN BIRCH BOX ELDER CONIFER-DECID. COTTONWOOD COVER PLANTING CROPLAND DEAD TREES EMERGENT WETLAND GRASSLANDS JACK PINE LOWLAND CONIFER LOWLAND DECIDUOUS LOWLAND DECIDUOUS LOWLAND MIXED LOWLAND MIXED LOWLAND SHRUBS MAPLE-BASSWOOD MUD FLAT NATURAL PRAIRIE NORTHERN WOOD OAK OPEN WATER OTHER CONIFER OTHER CONIFER OTHER DECIDUOUS PALNTED PRAIRIE RED PINE SAND-GRAVEL SAVANNA UPLAND SHRUBS	152 120 35039 438 51 427 157 302 4159 1410 41386 19596 543 329 1550 185 28194 286 13 7496 1278 1704 6109 41 2339 5 58 64 4 2490 155925 ACRES	
		WETLAND TOTALS BASINS 1 TYPE 1 BASINS 304 TYPE 2 BASINS 692 TYPE 3 BASINS 190 TYPE 4 BASINS 82 TYPE 5 BASINS 15 TYPE 5 BASINS 4 TYPE 8 TOTAL	ACRES 1 ACRES 3558 ACRES 21486 ACRES 13140 ACRES 442 ACRES 843 ACRES 325 ACRES 43795	

Appendix 5.Continued.

		DEOLON A	· ·
		REGION 2	COOK
ITKIN			COUNTY TOTAL
COUNTY YOTAL			OTHER DECIDUOUS
AQUATIC BED	38		TOT
ASH	882	-39-	
ASPEN	11015		WETLAND TOTALS
BIRCH	179		
CONIFER-DECID.	546	· · · · · · · · · · · · · · · · · · ·	
CROPLAND	127		
DEAD TREES	631		
EMERGENT WETLAND	12476		ITASCA
GRASSLANDS	353		COUNTY TOTAL
JACK PINE	190		AQUATIC BED
LOWLAND CONIFER	7670		ASH
LOWLAND DECIDUOUS	1123	· · · · · · · · · · · · · · · · · · ·	ASPEN
LOWLAND SHRUBS	10265	• · · · ·	BIRCH
MOSS/LICHEN BOG	10		CONIFER-DECID.
NORTHERN WOOD	2175		DEAD TREES
OAK	67	* 3	EMERGENT WETLAND
VAN			

WHILE SPRUCE			105	
•	TO	TALS	49821 AC	RES
WETLAND TOTA	LS			
BASINS	22	TYPE 2	ACRES	1651
BASINS	40	TYPE 3	ACRES	5389
BASINS	. 21	TYPE 4	ACRES	5479
BASINS	10	TYPE 5	ACRES	99
BASINS	1	TYPE 8	ACRES	2
		TOTAL	ACRES	12620
CARLTON				
COUNTY TOTAL			~ ~	
ASH			50	

AITKIN

COUNTY TOTAL AQUATIC BED ASH ASPEN

OAK OPEN WATER OTHER CONIFER OTHER DECIDUOUS RED PINE UPLAND SHRUBS WHITE SPRUCE

ASPEN			48		
CONIFER-DECID			83		
EMERGENT WETL	AND)	23		
GRASSLANDS			18		
LOWLAND CONIF	ER		63		
LOWLAND MIXED			10		
LOWLAND SHRUB	S		80		
MOSS/LICHEN B	OG		3		
OTHER CONIFER			57		
UPLAND SHRUBS			5		
	TO	TALS	440	ACRES	
WETLAND TOTAL	s				
BASINS	2	TYPE 2	ACRE	S	23,
BASINS	1	TYPE 6	ACRE	ES -	4
		TOTAL	ACRE	ES	27

CASS COUNTY TOTAL-R ASH ASPEN BIRCH CONIFER-DECIL COVER PLANTIN EMERGENT WETL GRASSLANDS LOWLAND CONIF LOWLAND SHRUE OAK OPEN WATER OTHER CONIFEF OTHER CONIFEF OTHER DECIDUC RED PINE UPLAND SHRUES	AND FER SS		51 1699 31 800 1 2413 93 1029 468 54 46 122 175 197 3	
	TO	TALS	7182 AC	RES
WETLAND TOTAL BASINS BASINS BASINS Appendix 5.Con	12 9 2	TYPE 2 TYPE 3 TYPE 4 TOTAL	ACRES	56 76 1741 1873

1

COUNTY TOTAL			
OTHER DECIDUOU	S Totals	BO ACRI	ES
WETLAND TOTALS	TOTAL	ACRES	0
ITASCA COUNTY TOTAL AQUATIC BED ASH ASPEN BIRCH CONIFER-DECID.	•	9 6 3325 10 303	
DEAD TREES EMERGENT WETLA GRASSLANDS JACK PINE LOWLAND CONIFE LOWLAND SHRUBS	R	36 1343 18 4 1271 1235	
NORTHERN WOOD OPEN WATER OTHER CONIFER OTHER DECIDUOU RED PINE UPLAND SHRUBS WHITE SPRUCE		16 250 78 99 6 10 9 8028 ACR	ES
WETLAND TOTALS BASINS BASINS BASINS BASINS BASINS	3 TYPE 2 4 TYPE 3 5 TYPE 4 2 TYPE 5 TOTAL	ACRES ACRES ACRES ACRES ACRES	211 31 508 1124 1874
KOOCHICHING COUNTY TOTAL ASPEN CONIFER-DECID. EMERGENT WETLA LOWLAND CONIFE LOWLAND SHRUBS OPEN WATER SAND-GRAVEL	R	15 3 230 49 11 2 312 ACR	ES
WETLAND TOTALS BASINS	1 TYPE 4 Total	ACRES ACRES	11 11
LAKE COUNTY TOTAL BIRCH CONIFER-DECID. GRASSLANDS UPLAND SHRUBS WHITE SPRUCE	TOTALS	418 110 11 39 23 601 ACR	ES
WETLAND TOTALS	TOTAL	ACRES	0
ST LOUIS COUNTY TOTAL ASPEN BIDCH	•	213	

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AJFEN				≪ I O		
BIRCH				125		
CONIFER-	DECID			616		
DEAD TRE	ES			239		
EMERGENT	WETL	AND		494		
GRASSLAN				21		
LOWLAND		R		147		
LOWLAND			5	16		
LOWLAND			5	166		
NORTHERN				19		
OTHER CO				. 4		· ·
0111211 00		TOT	TALS		ACRES	5
WETLAND	TOTAL	5				
BASINS		1	TYPE 4	ACRE	S	720
BASINS		1	TYPE 5	ACRE	S	3
			TOTAL	ACRE	S	723
					-	-

REG 2 TOTALSAQUATIC BED47ASH989ASPEN16315BIRCH763CONIFER-DECID.2461COVER PLANTING1CROPLAND127	
ASH 989 ASPEN 16315 BIRCH 763 CONIFER-DECID. 2461 COVER PLANTING 1	
ASPEN 16315 BIRCH 763 CONIFER-DECID. 2461 COVER PLANTING 1	
BIRCH 763 CONIFER-DECID. 2461 COVER PLANTING 1	
CONIFER-DECID. 2461 COVER PLANTING 1	
COVER PLANTING 1	
OUTER TERMINA	
CROPLAND 127	
DEAD TREES 906	
EMERGENT WETLAND 16751	
GRASSLANDS 514	
JACK PINE 194	
LOWLAND CONIFER 10410	
LOWLAND DECIDUOUS 1139	
LOWLAND MIXED 10	
LOWLAND SHRUBS 12263	
MOSS/LICHEN BOG 13	
NORTHERN WOOD 2210	
OAK 121	
OPEN WATER 977	
OTHER CONIFER 301	
OTHER DECIDUOUS 1320	
RED PINE 445	
SAND-GRAVEL 2	
UPLAND SHRUBS 104	
WHITE SPRUCE 141	
TOTALS 68524 ACRES	5
WETLAND TOTALS	
BASINS 39 TYPE 2 ACRES	19

BASINS	39	TYPE 2	ACRES	1941
BASINS	53	TYPE 3	ACRES	5496
BASINS	30	TYPE 4	ACRES	8459
BASINS	13	TYPE 5	ACRES	1226
BASINS	1	TYPE 6	ACRES	4
BASINS	Í	TYPE 8	ACRES	2
0.01.00	•	TOTAL	ACRES	17128

		ISANTI	n mar
BENTON County Total	REGION 3	COUNTY TOTAL AQUATIC BED ASH	11 8 572
CROPLAND DEAD TREES EMERGENT WETLAND 2 GRASSLANDS LOWLAND CONIFER LOWLAND DECIDUOUS 1 LOWLAND SHRUBS 2 MAPLE-BASSWOOD DAK OPEN WATER DTHER DECIDUOUS	15 58 3 -41- 28 83 24 00 84 8 62 54 57 91 ACRES	ASPEN BOX ELDER CROPLAND EMERGENT WETLAND GRASSLANDS JACK PINE LOWLAND DECIDUOUS LOWLAND SHRUBS NORTHERN WOOD OAK OPEN WATER OTHER CONIFER OTHER DECIDUOUS RED PINE	1 79 777 126 31 110 806 235 289 331 96 40 17
BASINS 4 TYPE 3 A BASINS 3 TYPE 4 A	CRES 30 CRES 76 CRES 119 CRES 225	UPLAND SHRUBS WHITE PINE WHITE SPRUCE TOTALS	3 6 3 3541 ACRES
ASPEN 340 CONIFER-DECID.	52	BASINS 14 TYPE 3 BASINS 9 TYPE 4 BASINS 3 TYPE 5 BASINS 1 TYPE 6	ACRES 136 ACRES 128 ACRES 522 ACRES 291 ACRES 28 ACRES 1105
CROPLAND DEAD TREES EMERGENT WETLAND GRASSLANDS JACK PINE LOWLAND CONIFER LOWLAND DECIDUOUS OAK OPEN WATER OTHER CONIFER OTHER DECIDUOUS RED PINE UPLAND SHRUBS	14 3 82 10 00 23 54 64 80 21 16 45 11 32 27 09 ACRES	KANABEC COUNTY TOTAL AQUATIC BED ASPEN BIRCH CONIFER-DECID. CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND CONIFER LOWLAND DECIDUOUS LOWLAND SHRUBS MAPLE-BASSWOOD NORTHERN WOOD	107 348 26 2 114 769 99 3 487 576 45
BASINS 10 TYPE 3 AG BASINS 26 TYPE 4 AG BASINS 3 TYPE 5 AG BASINS 2 TYPE 8 AG	CRES 62 CRES 260 CRES 338 CRES 67 CRES 39 CRES 766	OAK OPEN WATER OTHER DECIDUOUS UPLAND SHRUBS TOTALS	104 225 429 81 3431 ACRES
ADII	5 24 06	WETLAND TOTALS BASINS 12 TYPE 3 BASINS 6 TYPE 4 BASINS 3 TYPE 5 BASINS 1 TYPE 7 BASINS 2 TYPE 8 TOTAL	ACRES 63 ACRES 336 ACRES 687 ACRES 6 ACRES 3 ACRES 1095
BOX ELDER CONIFER-DECID. CROPLAND DEAD TREES EMERGENT WETLAND 9 GRASSLANDS 1 JACK PINE 2 LOWLAND CONIFER LOWLAND DECIDUOUS 32 LOWLAND SHRUBS 53 MAPLE-BASSWOOD 76 OAK 9 OPEN WATER 14 OTHER CONIFER 15 OTHER CONIFER 15 OTHER DECIDUOUS 25 SAND-GRAVEL UPLAND SHRUBS	1 1 1 1 1 2 3 1 2 2 3 6 3 6 2 5 0 4 9 6 ACRES	MILLE LACS COUNTY TOTAL AQUATIC BED ASH ASPEN COVER PLANTING CROPLAND DEAD TREES EMERGENT WETLAND GRASSLANDS LOWLAND CONIFER LOWLAND DECIDUOUS LOWLAND SHRUBS MAPLE-BASSWOOD OAK OPEN WATER OTHER CONIFER OTHER DECIDUOUS TOTALS	3 13 47 5 251 20 876 122 3 41 387 32 104 21 16 209 2153 ACRES
BASINS 2 TYPE 2 A BASINS 5 TYPE 3 A BASINS 7 TYPE 4 A BASINS 4 TYPE 5 A	CRES 4 CRES 53 CRES 802 CRES 106 CRES 965 Appendix 5.Co	WETLAND TOTALS BASINS 6 TYPE BASINS 3 TYPE BASINS 1 TYPE TOTAL	4 ACRES 68 5 ACRES 0

Appendix 5. Continued.

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MORRISONCOUNTY TOTALAQUATIC BEDASH14ASPEN213BIRCH2BOX ELDER2COVER PLANTING4CROPLAND127DEAD TREES24EMERGENT WETLAND1708GRASSLANDS218LOWLAND CONIFER170LOWLAND DECIDUOUS23LOWLAND SHRUBS682MAPLE-BASSWODD49MUD FLAT18NORTHERN WOOD305OAK437OPEN WATER107PLANTED PRAIRIE7UPLAND SHRUBS1TOTALS4113 ACRES	-42-
TOTALS 4113 ACRES WETLAND TOTALS BASINS 2 TYPE 2 ACRES 9 BASINS 16 TYPE 3 ACRES 964 BASINS 16 TYPE 4 ACRES 474 BASINS 8 TYPE 4 ACRES 474 BASINS 1 TYPE 5 ACRES 45 TOTAL ACRES 1492	
PINECOUNTY TOTAL17ASH17ASPEN349CONIFER-DECID.19CROPLAND7DEAD TREES20EMERGENT WETLAND228GRASSLANDS11LOWLAND CONIFER16LOWLAND DECIDUOUS61LOWLAND SHRUBS175MAPLE-BASSWODD113NORTHERN WOOD60OAK72OPEN WATER37OTHER CONIFER177OTHER CONIFER177OTHER DECIDUOUS187TOTALS1389 ACRES	
WETLAND TOTALS BASINS 20 TYPE 3 ACRES 187 BASINS 4 TYPE 4 ACRES 55 BASINS 2 TYPE 6 ACRES 75 TOTAL ACRES 317	
SHERBURNECOUNTY TOTAL2GASPEN2GCOVER PLANTING2EMERGENT WETLAND125GRASSLANDS39LOWLAND SHRUBS22OAK37OPEN WATER8OTHER DECIDUOUS47UPLAND SHRUBS2UPLAND SHRUBS2TOTALS308 ACRES	

STEARNS COUNTY TOTAL ASPEN COVER PLANTING CROPLAND DEAD TREES EMERGENT WETLAND GRASSLANDS LOWLAND CONIFER LOWLAND DECIDUOUS LOWLAND SHRUBS NATURAL PRAIRIE OAK OPEN WATER OTHER DECIDUOUS	S TALS	3 20 80 5 592 358 40 78 396 396 8 7 87 150 1824 AC	RES
WETLAND TOTALS BASINS 3 BASINS 12 BASINS 1 BASINS 1 BASINS 1	TYPE 2 TYPE 3 TYPE 4 TYPE 5 TOTAL	ACRES. ACRES	4 332 101 30 467

TODD COUNTY TOTAL ASH ASPEN BOX ELDER CONIFER-DECID. COVER PLANTING CROPLAND DEAD TREES EMERGENT WETLAND GRASSLANDS JACK PINE LOWLAND CONIFER LOWLAND DECIDUOUS LOWLAND MIXED LOWLAND SHRUBS MUD FLAT NATURAL PRAIRIE OAK OPEN WATER OTHER CONIFER OTHER DECIDUOUS SAND-GRAVEL UPLAND SHRUBS	S	23 855 12 1 363 9 2080 961 26 27 152 38 1034 36 1910 513 14 354 16 7442	ACRES
	IALS	7442	ACRES
WETLAND TOTALS BASINS 28 BASINS 29 BASINS 24 BASINS 11 BASINS 1	TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 5 TYPE 6 TOTAL	ACRE ACRE	S 113 S 1426 S 297 S 36

IERBURNE					COUNTY TOTAL				
UNTY TOTAL					ASPEN			122	
ASPEN			26		CONIFER-DECI	D.		15	
COVER PLANT	TNG		2		CROPLAND			1	
EMERGENT WE	TIAND		125		EMERGENT WET	LAND)	232	
GRASSLANDS	1		39		GRASSLANDS			11	
LOWLAND SHR	u R C		22		JACK PINE			302	
	005		37		LOWLAND SHRU	BS		320	
OAK			8		OPEN WATER	00		30	
OPEN WATER	none		47		RED PINE			1	
OTHER DECID	0005		2		UPLAND SHRUB	S		43	
UPLAND SHRU	85 T0	TALS	308 ACR	ES	OF CAND SHROD		TALS	1077 ACF	ES
WETLAND TOT					WETLAND TOTA	LS			
BASINS	7 7	TYPE 3	ACRES	77	BASINS	2	TYPE 2	ACRES	16
BASINS	2	TYPE 4	ACRES	33	BASINS	9	TYPE 3	ACRES	44
	4	TYPE 6	ACRES	2	BASINS	3	TYPE 4	ACRES	156
BASINS	•	TOTAL	ACRES	112	BASINS	3	TYPE 5	ACRES	46
		IVING				-	TOTAL	ACRES	262

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Appendix 5.Continued.

WRIGHT COUNTY TOTAL	• •	3		
ASPEN BOX ELDER COVER PLANTING CROPLAND		19 3 137 6		
DEAD TREES EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS LOWLAND SHRUBS OAK OPEN WATER	5	1374 458 135 352 110 548		
	TALS	483 150 3778	ACRES	
WETLAND TOTALS BASINS 9 BASINS 33 BASINS 13 BASINS 3 BASINS 7	TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 5 TYPE 6 TOTAL	ACRI ACRI ACRI ACRI ACRI	S 669 S 1289 S 68 S 147	

REG. 3 TOTALS AQUATIC BED ASH ASPEN BIRCH BOX ELDER CONIFER-DEC COVER PLANT CROPLAND DEAD TREES EMERGENT WE GRASSLANDS JACK PINE LOWLAND DEC LOWLAND DEC LOWLAND MIX LOWLAND DEC LOWLAND MIX LOWLAND SHR MAPLE-BASSW MUD FLAT NATURAL PRA NORTHERN WO OAK OPEN WATER OTHER CONIF OTHER CONIF OTHER CONIF OTHER DECID PLANTED PRA RED PINE SAND-GRAVEL UPLAND SHRU WHITE PINE WHITE SPRUC	ID. ING TLAND IFER IDUOUS ED UBS OOD IRIE OD ER UOUS IRIE BS E	ALS	143 112 6264 28 35 100 64 1177 186 10609 2698 710 352 1679 38 6450 283 54 9 1378 2203 2226 316 2245 7 50 2325 6 325 39752	ACRES
WETLAND TOTAL BASINS BASINS BASINS BASINS BASINS BASINS BASINS	S 72 177 109 33 12 1 4	TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TYPE 7 TYPE 7 TYPE 8 TOTAL	ACRE ACRE ACRE ACRE ACRE ACRE ACRE	S 3081 S 5719 S 1637 S 288 S 6 S 42

Appendix 5. Continued.

BIG STONE COUNTY TOTAL BOX ELDER COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS LOWLAND SHRUBS NATURAL PRAIRIE OAK OPEN WATER OTHER DECIDUOUS PLANTED PRAIRIE TOTALS WETLAND TOTALS BASINS 3 TYPE 3 BASINS 36 TYPE 4 BASINS 9 TYPE 5	REGION 4 8 16 29 -44- 27 820 659 76 2 2651 11 377 8 8 2302 ACRES ACRES 4 ACRES 16 ACRES 16 ACRES 842 ACRES 335	CHIPPEWA COUNTY TOTAL ASH 6 CONIFER-DECID. 9 COTTONWOOD 6 COVER PLANTING 33 CROPLAND 118 EMERGENT WETLAND 727 GRASSLANDS 698 LOWLAND DECIDUOUS 177 LOWLAND DECIDUOUS 177 LOWLAND SHRUBS 10 NATURAL PRAIRIE 1 OPEN WATER 4 OTHER DECIDUOUS 31 PLANTED PRAIRIE 25 UPLAND SHRUBS 13 TOTALS 1858 ACRES	
TOTAL	ACRES 1197	WETLAND TOTALS BASINS 2 TYPE 2 ACRES 14 BASINS 32 TYPE 3 ACRES 716 BASINS 1 TYPE 5 ACRES 3 TOTAL ACRES 733	
BLUE EARTH COUNTY TOTAL ASH BOX ELDER COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS LOWLAND DECIDUOUS LOWLAND SHRUBS MAPLE - BASSWOOD OAK OPEN WATER OTHER DECIDUOUS UPLAND SHRUBS TOTALS	8 29 4 13 68 868 57 23 8 21 19 193 29 6 1346 ACRES	COTTONWOODCOUNTY TOTALBOX ELDERBOX ELDERGOTTONWOOD1COVER PLANTING26CROPLAND166EMERGENT WETLAND859GRASSLANDS561LOWLAND DECIDUOUS69LOWLAND SHRUBS20MUD FLAT1NATURAL PRAIRIE260OAK15OPEN WATER241OTHER DECIDUOUS10UPLAND SHRUBS3TOTALS2235 ACRES	
WETLAND TOTALS BASINS 3 TYPE 2 BASINS G TYPE 3 BASINS 6 TYPE 4 BASINS 2 TYPE 5 TOTAL	ACRES 210 ACRES 631	WETLAND TOTALS BASINS 3 TYPE 2 ACRES BASINS 10 TYPE 3 ACRES 48 BASINS 2 TYPE 4 ACRES 26 BASINS 7 TYPE 5 ACRES 33 TOTAL ACRES 109	2 7 7
BROWN COUNTY TOTAL ASH BOX ELDER CDTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS LOWLAND SHRUBS MUD FLAT NATURAL PRAIRIE OPEN WATER OTHER DECIDUOUS UPLAND SHRUBS TOTALS WETLAND TOTALS BASINS 6 TYPE 2 BASINS 13 TYPE 2 BASINS 3 TYPE 5 TOTAL		FARIBAULTCOUNTY TOTALASHASPENBOX ELDERBOX ELDERBOX ELDERCOTTONWOOD15COVER PLANTING17CROPLAND186EMERGENT WETLAND1245GRASSLANDSLOWLAND DECIDUOUS162LOWLAND SHRUBS109OAK0AK04040507HER DECIDUOUS11TOTALS2268 ACRESWETLAND TOTALSBASINS8 ASINS8 ASINS8 ASINS9 ASINS107ALACRES143	5

Appendix 5.Continued.

			-45-		
	JACKSON COUNTY TOTAL AQUATIC BED ASH	63 4		LAC QUI PARLE COUNTY TOTAL ASH	
, ⊮*	ASPEN BOX ELDER COTTONWOOD COVER PLANTING	3 39 13 49 262		BOX ELDER COTTONWOOD COVER PLANTING CROPLAND	4
ζų -	DEAD TREES EMERGENT WETLAND 12	5 244 712 33 75			27 21 6 1 2
	OTHER DECIDUOUS SAND-GRAVEL UPLAND SHRUBS	14 205 3 14 5 814 ACRES		OTHER DECIDUOUS UPLAND SHRUBS	67
	WETLAND TOTALS BASINS 20 TYPE 3 / BASINS 21 TYPE 4 / BASINS 5 TYPE 5 /	ACRES 400 ACRES 876 ACRES 197 ACRES 1473		BASINS 17 TYPE 3	AC AC AC AC
	KANDIYOHI County total			LINCOLN County Total Aquatic Bed	
	ASH ASPEN BOX ELDER COVER PLANTING CROPLAND	1 4 24 103		ASH BOX ELDER COTTONWOOD COVER PLANTING CROPLAND DEAD TREES	
8°.	GRASSLANDS JACK PINE LOWLAND DECIDUOUS	545 724 7258 152 66 4		EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS LOWLAND SHRUBS MUD FLAT NATURAL PRAIRIE	-
	OPEN WATER OTHER CONIFER OTHER DECIDUOUS TOTALS 3	169 8 90 159 ACRES		OPEN WATER OTHER DECIDUDUS PLANTED PRAIRIE SAND-GRAVEL UPLAND SHRUBS TOTALS	
	BASINS 14 TYPE 3 BASINS 10 TYPE 4 BASINS 1 TYPE 5	ACRES 11 ACRES 414 ACRES 1198 ACRES 128 ACRES 128 ACRES 1751		WETLAND TOTALS BASINS 11 TYPE 2 BASINS 41 TYPE 2 BASINS 40 TYPE 4 BASINS 6 TYPE 5 TOTAL	3 4
				LYON	
	LE SUEUR COUNTY TOTAL ASH ASPEN BOX SLDER	19 13 43		COUNTY TOTAL AQUATIC BED ASH BOX ELDER	
	EMERGENT WETLAND 12 GRASSLANDS	10 118 226 111		COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS	
÷	LOWLAND SHRUBS OPEN WATER OTHER DECIDUOUS UPLAND SHRUBS	132 143 211 180 19		LOWLAND DECIDUOUS LOWLAND SHRUBS MUD FLAT NATURAL PRAIRIE QAK	
ر ایت	WETLAND TOTALS	ACRES 25		OPEN WATER OTHER DECIDUOUS UPLAND SHRUBS	
< <u>'</u>	BASINS 9 TYPE 3 BASINS 8 TYPE 4 BASINS 2 TYPE 5 BASINS 1 TYPE 6 TOTAL	ACRES 652 ACRES 656 ACRES 104 ACRES 69 ACRES 1506		TOTALS WETLAND TOTALS BASINS 1 TYPE BASINS 12 TYPE 2 BASINS 56 TYPE 2 BASINS 35 TYPE 4 BASINS 6 TYPE 5	2 3 4
Ар	pendix 5.Continued.			TOTAL	

Appendix 5.Continued.

17 6737 ACRES

329

597 2694

ACRES ACRES ACRES ACRES ACRES

5690 ACRES

ACRES ACRES ACRES ACRES

ACRES

1

48

ACRES ACRES ACRES ACRES ACRES ACRES

MCLEOD	
COUNTY	

ACLEOD							
COUNTY TOTAL							
AQUATIC BED				5			
BOX ELDER				1			
COTTONWOOD				1			
COVER PLANTING	3			8			
CROPLAND .				128			
EMERGENT WETLA	٩ND			956			
GRASSLANDS				268			
LOWLAND DECIDU	10'n	S		76			
LOWLAND SHRUBS	S			64			
NATURAL PRAIRI	ΙE			22			
OPEN WATER				232			
OTHER DECIDUOL	JS			13			
SAND-GRAVEL				3			
	TO.	TALS		1777	ACRE	ES .	
WETLAND TOTALS		TYPE	2	ACRE		8	
BASINS BASINS	2 8					. 154	
BASINS		TYPE			-	521	
BASINS	3	TYPE				515	
BASINS	0	TOTAL		ACRE		1198	
		10180	-				

MURRAY COUNTY TOTAL12ASH12BOX ELDER26COTTONWOOD60COVER PLANTING196CROPLAND419EMERGENT WETLAND3039GRASSLANDS1488LOWLAND DECIDUOUS101LOWLAND SHRUBS138MUD FLAT116NATURAL PRAIRIE183OAK29OPEN WATER507OTHER DECIDUOUS71SAND-GRAVEL7UPLAND SHRUBS31TOTALS6423 ACRES	
WETLAND TOTALS BASINS 12 TYPE 2 ACRES 29 BASINS 36 TYPE 3 ACRES 103 BASINS 19 TYPE 4 ACRES 172 BASINS 6 TYPE 5 ACRES 56 BASINS 1 TYPE 8 ACRES TOTAL ACRES 362	B 0 7 4

MARTIN COUNTY TOTAL BOX ELDER COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLA GRASSLANDS LOWLAND DECIDU LOWLAND SHRUBS NATURAL PRAIRI OAK OPEN WATER OTHER DECIDUOU SAND-GRAVEL UPLAND SHRUBS	ND JOUS E	2 6 41 174 904 397 30 14 25 47 254 21 1 6 1922 AC	RES
BASINS	5 1 TYPE 2 3 TYPE 3 8 TYPE 4 5 TYPE 5 TOTAL	ACRES ACRES	16 482 473 155 1126

NICOLLET COUNTY TOTAL BOX ELDER COTTONWOOD CROPLAND EMERGENT WETL/ GRASSLANDS LOWLAND DECIDU LOWLAND SHRUBS OAK OTHER DECIDUOU UPLAND SHRUBS	uou: s us	S TALS	10 9 29 77 8 29 23 7 28 1 221	ACRES	
WETLAND TOTALS BASINS BASINS BASINS	5 2 1 1	TYPE 2 TYPE 3 TYPE 5	ACRI ACRI ACRI	ES ES	3 46 1
		TOTAL	ACRE	:5	50

MEEKER	
COUNTY TOTAL	
BOX ELDER 10	NOBLES
COVER PLANTING 13	COUNTY TOTAL
CROPLAND 118	ASH 8
EMERGENT WETLAND 816	BOX ELDER 2
GRASSLANDS 435	COTTONWOOD 4
LOWLAND DECIDUOUS 113	COVER PLANTING 43
LOWLAND SHRUBS 67	CROPLAND 280
NATURAL PRAIRIE 4	EMERGENT WETLAND 705
DAK 34	GRASSLANDS 379
OPEN WATER 135	LOWLAND DECIDUOUS 9
OTHER DECIDUOUS 101	LOWLAND SHRUBS 24
UPLAND SHRUBS 2	NATURAL PRAIRIE 19
TOTALS 1848 ACRES	OPEN WATER 111
	SAND-GRAVEL
WETLAND TOTALS	TOTALS 1585 ACRES
BASINS G TYPE 2 ACRES 10	IUTALS ISOS ACRES
BASINS 14 TYPE 3 ACRES 539	WETLAND TOTALS
BASINS 4 TYPE' 4 ACRES 404	BASINS 1 TYPE 2 ACRES 52
BASINS 1 TYPE 5 ACRES 27	BASINS 14 TYPE 3 ACRES 156
TOTAL ACRES 980	BASINS 8 TYPE 4 ACRES 523
	BASINS 1 TYPE 5 ACRES 41
	TOTAL ACRES 772
	IUTAL ACKES 112

Appendix 5. Continued.

PIPESTONE	·	• •	
COUNTY TOTAL			
BED ROCK		3	
BOX ELDER		-	
COVER PLANTING		71	
CROPLAND		42	
EMERGENT WETLAND		296	
GRASSLANDS		740	
LOWLAND DECIDUOU	S	4	
LOWLAND SHRUBS		18	
MUD FLAT		1	
NATURAL PRAIRIE		220	
OPEN WATER		45	
OTHER DECIDUOUS		2	
SAND-GRAVEL		4	
UPLAND SHRUBS		3	
	TALS	1450 ACR	ES
WETLAND TOTALS		· ·	
BASINS 3	TYPE 2	ACRES	4
BASINS 5	TYPE 3		58
BASINS 4	TYPE 4	ACRES	61
DV211/2 4	TOTAL	ACRES	123
	IOTAL		

SIBLEY COUNTY TOTAL COVER PLANTING CROPLAND EMERGENT WETLA GRASSLANDS LOWLAND DECIDU LOWLAND SHRUBS NATURAL PRAIRI DAK OPEN WATER	ND IOU E	S TALS	6 87 437 89 39 6 3 1 24 692 ACR	ES
WETLAND TOTALS BASINS BASINS BASINS	6 2 1	TYPE 3 TYPE 4 TYPE 5 TOTAL	ACRES ACRES ACRES ACRES	352 98 4 454

REDWOOD	
COUNTY TOTAL	· ·
AQUATIC BED	13
ASH	· · · · · · · · · · · · · · · · · · ·
BOX ELDER	5
CONIFER-DECID.	39
COTTONWOOD	34
COVER PLANTING	84
CROPLAND	300
EMERGENT WETLAND	1217
GRASSLANDS	837
LOWLAND DECIDUOUS	
	24
LOWLAND SHRUBS	
NATURAL PRAIRIE	20 287
OPEN WATER	
OTHER CONIFER	52
OTHER DECIDUOUS	79
SAND-GRAVEL	2
TO	TALS 3134 ACRES
WETLAND TOTALS	
BASINS 7	TYPE 2 ACRES 55
BASINS 14	TYPE 3 ACRES 221
BASINS 9	TYPE 4 ACRES 855
BASINS 8	TYPE 5 ACRES 413
. –	TOTAL ACRES 1544

SWIFT COUNTY TOTAL BOX ELDER COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS LOWLAND SHRUBS NATURAL PRAIRIE OPEN WATER OTHER DECIDUOUS UPLAND SHRUBS	13 25 48 152 2204 834 200 93 84 95 22 26 LS 3796	ACRES
BASINS 25 T BASINS 3 T BASINS 6 T BASINS 1 T	YPE 2 ACRE YPE 3 ACRE YPE 4 ACRE YPE 5 ACRE YPE 6 ACRE OTAL ACRE	5 1946 5 73 5 125 5 1

RENVILLE COUNTY TOTAL ASH 1 COTTONWOOD 3 COVER PLANTING 15 CROPLAND 60 EMERGENT WETLAND 266 GRASSLANDS 68 LOWLAND DECIDUOUS 20 LOWLAND SHRUBS 17 NATURAL PRAIRIE 1 OPEN WATER 7	WASECA COUNTY TOTAL ASH 5 ASPEN 9 BOX ELDER 2 COVER PLANTING 7 CROPLAND 78 EMERGENT WETLAND 1057 GRASSLANDS 101 LOWLAND DECIDUOUS 73 LOWLAND DECIDUOUS 73 LOWLAND SHRUES 77 MUD FLAT 2 OAK 4 OPEN WATER 242 OTHER DECIDUOUS 114 TOTALS 1771 A	CRES
OTHER DECIDUOUS 10 TOTALS 468 ACRES WETLAND TOTALS BASINS 7 TYPE 3 ACRES 248 BASINS 1 TYPE 4 ACRES 31 BASINS 1 TYPE 4 ACRES 31 TOTAL ACRES 279	WETLAND TOTALS BASINS 1 TYPE 2 ACRES BASINS 9 TYPE 3 ACRES BASINS 3 TYPE 4 ACRES BASINS 1 TYPE 5 ACRES TOTAL ACRES	1 422 818 63 1304

Appendix 5.Continued.

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WATONWAN COUNTY TOTAL AQUATIC BED ASH BOX ELDER COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS LOWLAND SHRUBS NATURAL PRAIRIE OAK OPEN WATER OTHER DECIDUOUS PLANTED PRAIRIE UPLAND SHRUBS	3 19 10 1 29 100 359 254 79 2 1 1 9 50 17 8 1 2 42 ACRES	-48-	YELLOW MEDI COUNTY TOTA BED ROCK BOX ELDER CONIFER-C COTTONHOO COVER PLA CROPLAND EMERGENT GRASSLAND LOWLAND D LOWLAND S NATURAL P OPEN WATE. OTHER DEC	L DECID. D NTING WETLAN S ECIDUO HRUBS RAIRIE R IDUOUS	US	1 51 39 221 1670 1013 116 39 188 222 24 3588 A	CRES
TOTALS	942 ACRES						
WETLAND TOTALS BASINS 4 TYPE 2 BASINS 6 TYPE 3 BASINS 6 TYPE 4 BASINS 1 TYPE 5 TOTAL	ACRES 18 ACRES 241 ACRES 144 ACRES 13 ACRES 416		WETLAND TOT/ BASINS BASINS BASINS BASINS BASINS	ALS 28 27 3	TYPE 2 TYPE 3 TYPE 4 TYPE 5 TOTAL	ACRES ACRES ACRES ACRES ACRES	8 433 1129 253 1823

REG 4 TOTALS	
AQUATIC BED	112
ASH	171
ASPEN	34
BED ROCK	2
BOX ELDER	313
CONIFER-DECID.	51 435
COTTONWOOD	
COVER PLANTING	1092 5198
CROPLAND DEAD TREES	8
EMERGENT WETLAND	31157
GRASSLANDS	17674
JACK PINE	7
LOWLAND DECIDUOUS	3230
LOWLAND SHRUBS	1590
MAPLE-BASSWOOD	21
MUD FLAT	152
NATURAL PRAIRIE	2431 250
OAK OPEN WATER	5049
OTHER CONIFER	60
OTHER DECIDUOUS	1018
PLANTED PRAIRIE	49
SAND-GRAVEL	36
UPLAND SHRUBS	180
TOTALS	70320 ACRES

			ALS	WETLAND TOT
2	ACRES	TYPE 1	1	BASINS
1003	ACRES	TYPE 2	102	BASINS
11956	ACRES	ΤΥΡΕ 3	403	BASINS `
16584	ACRES	TYPE 4	327	BASINS
5669	ACRES	TYPE 5	92	BASINS
70	ACRES	TYPE 6	2	BASINS
. 4	ACRES	TYPE 8	1	BASINS
35288	ACRES	TOTAL		

Appendix 5. Continued.

REGION 5

	DODGE		1. J.	1	
(COUNTY TOTAL		· -		_19_
	ASPEN		17		
	COVER PLANTING		3		
	CROPLAND		3	· ·	
	GRASSLANDS		4		
	LOWLAND DECIDUOUS		1		
	LOWLAND SHRUBS		13		
	DAK		36		
	UPLAND SHRUBS		2		
	TOTAL	.s	79 ACF	ES	
	WETLAND TOTALS				
		TAL	ACRES	0	

FREEBORN				
COUNTY TOTAL				
CROPLAND			14	
EMERGENT WET	LAND		259	
GRASSLANDS			73	
LOWLAND DECI	DUOU	S	10	
LOWLAND SHRU	BS		30	
DAK			55	
OPEN WATER			90	
OTHER DECIDU	oue		8	
DIHER DECIDO			•	
	10	TALS	539 ACR	E 5
	10			
WETLAND TOTA		TYPE O	LODEC	100
BASINS	2	TYPE 3	ACRES	183
BASINS	. 1	TYPE 4	ACRES	9
BASINS	3	TYPE 5	ACRES	157
		TOTAL	ACRES	349

GOODHUE COUNTY TOTAL AQUATIC BED BOX ELDER EMERGENT WE' GRASSLANDS LOWLAND DEC LOWLAND SHRU OAK OPEN WATER OTHER DECIDU UPLAND SHRU	IDUOI JBS JOUS 3S		67 7 583 44 577 112 66 1645 952 1 4054 A	CRES	
WETLAND TOTALS BASINS BASINS BASINS BASINS	5 1 2 4 2	TYPE 2 TYPE 3 TYPE 4 TYPE 5 TOTAL	ACRES ACRES ACRES ACRES ACRES		
HOUSTON COUNTY TOTAL AQUATIC BE OPEN WATER OTHER DECI		JS TOTALS	11 2 15	ACRES	

	TOTALS	15 ACRES	
WETLAND TOTAL BASINS	S 1 TYPE 5 TOTAL	ACRES	13 13

MOWER COUNTY TOTAL AQUATIC BED ASPEN COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS LOWLAND DECIDUOUS LOWLAND SHRUBS OPEN WATER OTHER DECIDUOUS TOTALS WETLAND TOTALS BASINS 1 TYPE 4 TOTAL	1 22 1 13 22 109 394 15 45 2 57 681 ACR ACRES ACRES	ES 1
OLMSTED COUNTY TOTAL ASPEN BOX ELDER COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS LOWLAND SHRUBS OAK OTHER DECIDUOUS UPLAND SHRUBS TOTALS WETLAND TOTALS BASINS 2 TYPE 2 TOTAL	2 10 1 44 76 116 65 68 98 3 30 900 ACR ACRES ACRES	ES 81 81
RICE COUNTY TOTAL ASH ASPEN BOX ELDER CONIFER-DECID COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS LOWLAND SHRUBS MAPLE-BASSWOOD OAK OPEN WATER OTHER DECIDUOUS SAVANNA UPLAND SHRUBS TOTALS WETLAND TOTALS	12 2 12 7 20 304 470 256 47 109 10 50 33 23 7 17 1379 ACRI	
BASINS 6 TYPE 2 BASINS 6 TYPE 3 BASINS 1 TYPE 4 BASINS 1 TYPE 4 BASINS 1 TYPE 5 TOTAL STEELE COUNTY TOTAL ASPEN BOX ELDER COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS LOWLAND SHRUBS OAK OPEN WATER OTHER DECIDUOUS TOTALS	ACRES ACRES ACRES ACRES ACRES ACRES BO 1 1 10 91 455 163 118 139 31 20 14 1123 ACRE	55 253 45 19 372
WETLAND TOTALS BASINS 4 TYPE 2 BASINS 2 TYPE 3 BASINS 1 TYPE 4 BASINS 1 TYPE 6 TOTAL	ACRES ACRES ACRES ACRES ACRES	19 428 52 84 583

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WAB	ASHA	
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COUNTY TOTAL	
AQUATIC BED	67
ASPEN	7
BOX ELDER	. 89
COVER PLANTING	5
CROPLAND	27
EMERGENT WETLAND	1060
GRASSLANDS	290
LOWLAND DECIDUOUS	686
LOWLAND SHRUBS	. 294
DAK	58
OPEN WATER	. 49 .
OTHER DECIDUOUS	41
UPLAND SHRUBS	7
. ΤΟΤ/	ALS 2680 ACRES

WETLAND TOT	ALS	•		
BASINS	13	TYPE 2	ACRES	230
BASINS	6	TYPE 3	ACRES	258
BASINS	7	TYPE 4	ACRES	670
		TOTAL	ACRES	115~

REG. 5 TOTALS AQUATIC BED ASH ASPEN BOX ELDER CONIFER-DECID. COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND DECIDUOUS LOWLAND SHRUBS MAPLE-BASSWOOD OAK OPEN WATER OTHER DECIDUOUS SÁVANNA UPLAND SHRUBS TOTALS	146 12 130 119 7 3 65 878 3015 1341 1597 813 10 394 1851 1100 7 57 11545 ACRES

WETLAND TOTA	ALS				
BASINS	28	TYPE 2	ACRES	391	
BASINS	18	TYPE 3	ACRES	1135	
BASINS	15	TYPE 4	ACRES	868	
BASINS	11	TYPE 5	ACRES	2356	
BASINS	1	TYPE 6	ACRES	84	
	•	TOTAL	ACRES	4834	

WINONA COUNTY TOTAL EMERGENT WE ⁻ GRASSLANDS LOWLAND DEC LOWLAND SHRU OPEN WATER	JBS		3 1 78 3 10 95 ACRE	ES
WETLAND TOT	ALS			_
BASINS	2	TYPE 2	ACRES	3
BASINS	4	TYPE 5	ACRES	10
		TOTAL	ACRES	13

Appendix 5.Continued.

	1				REGIU
	ANOKA COUNTY TOTAL ASH BOX ELDER COVER PLANTING CROPLAND EMERGENT WETL/ GRASSLANDS LOWLAND DECIDU LOWLAND SHRUBS NATURAL PRAIRI OAK OPEN WATER OTHER DECIDUOU RED PINE	ND JOUS S LE	32 14 6 1 97 340 76 5 162 1 144 143 2 1540 ACRE	:S	-51-
	WETLAND TOTALS BASINS BASINS BASINS BASINS BASINS BASINS	2 TYPE	3 ACRES 4 ACRES 5 ACRES	6 169 131 718 3 1027	
	CARVER COUNTY TOTAL COTTONWOOD CROPLAND EMERGENT WETLA GRASSLANDS LOWLAND DECIDU LOWLAND SHRUBS OPEN WATER OTHER DECIDUOL	Jous S	1 210 5 27 6 15 3 268 ACRE	:S	
	WETLAND TOTALS BASINS BASINS	1 TYPE 2 TYPE TOTAL	4 ACRES	128 97 225	
	DAKOTA COUNTY TOTAL COVER PLANTING CROPLAND EMERGENT WETLAN GRASSLANDS LOWLAND DECIDUOU LOWLAND SHRUBS NATURAL PRAIRIE OAK OPEN WATER OTHER DECIDUOUS UPLAND SHRUBS		26 52 551 74 475 152 12 84 196 819 819 819 819 819		
	WETLAND TOTALS BASINS 2 BASINS 6 BASINS 1	TYPE 4 TYPE 5	ACRES 20 ACRES 563 ACRES 156 ACRES 739		
	HENNEPIN COUNTY TOTAL EMERGENT WETL/ LOWLAND DECIDI LOWLAND SHRUBS OTHER DECIDUOU UPLAND SHRUBS	suous S	4 1 30 11 50 ACRE	ËS	
pe	WETLAND TOTALS BASINS BASINS ndix 5.Continued	1 TYPE 1 TYPE TOTAL	3 ACRES	1 3 4	

Appendix 5.Continued.

SCOTT COUNTY TOTAL ASH BOX ELDER COVER PLANTIN CRUPLAND EMERGENT WETL GRASSLANDS LOWLAND DECID LOWLAND DECID LOWLAND SHRUB MAPLE-BASSWOOI OAK OPEN WATER OTHER DECIDUO UPLAND SHRUBS WETLAND TOTAL BASINS	AND UOUS D US TOTALS S 2 TYPE	3 ACRE	
BASINS WASHINGTON COUNTY TOTAL ASPEN	3 TYPE TOTAI		
BOX ELDER CONIFER-DECID COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLA GRASSLANDS LOWLAND CONIFE LOWLAND DECIDL LOWLAND SHRUBS NATURAL PRAIRI OAK OPEN WATER OTHER DECIDUOL SAVANNA UPLAND SHRUBS	AND ER JOUS S LE	10 4 14 3 7 443 186 195 16 21 118 10 44 251 167 16 74 1579	CRES
WETLAND TOTALS BASINS BASINS BASINS BASINS BASINS	3 TYPE 9 TYPE 2 TYPE 3 TYPE TOTAL	5 ACRES	51 18 413
REG. 6 TOTALS ASH ASPEN BOX ELDER CONIFER-DECID. COTTONWOOD COVER PLANTING CROPLAND EMERGENT WETLAND GRASSLANDS LOWLAND CONIFER LOWLAND DECIDUOU LOWLAND SHRUBS MAPLE-BASSWOOD NATURAL PRAIRIE OAK OPEN WATER OTHER DECIDUOUS RED PINE SAVANNA UPLAND SHRUBS		38 27 25 14 36 597 1576 360 16 531 508 39 23 243 1040 1185 2 16 99 6379 ACR	S
WETLAND TOTALS BASINS 6 BASINS 22 BASINS 14 BASINS 7 BASINS 1	TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TOTAL	ACRES ACRES	25 471 1071 287 3 2857

STATEWIDE

GRASSLAI JACK PII LOWLAND LOWLAND LOWLAND MAPLE-BA MOSS/LIC MUD FLAT NATURAL NORTHERI OAK OPEN WA OTHER CC OTHER DI PLANTED RED PINE SAND-GRA SAVANNA UPLAND S WHITE PI	K -DECID. DOD LANTING D EES T WETLAND NDS NE CONIFER DECIDUOUS MIXED SHRUBS ASSWOOD CHEN BOG T PRAIRIE N WOOD TER DNIFER ECIDUOUS PRAIRIE SHRUBS INE PRUCE	5: 10 4: 1	600 1442 7809 2 1229 543 3060 599 1560 2136 22510 4494 2183 1454 1107 9726 233 639 13 639 13 219 9959 4866 4915 7252 718 99207 61 5555 104 27 3255 6 144 2445	
WETLAND TO BASINS BASINS BASINS BASINS BASINS BASINS BASINS BASINS	DTALS 2 551 1365 685 238 32 1 10	TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 TYPE 6 TYPE 7 TYPE 8 TOTAL	ACRES ACRES ACRES ACRES ACRES ACRES ACRES ACRES ACRES	3 7476 43625 45841 16617 1292 6 373 115233

Appendix	5.Cont	inued.
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