WISCONSIN COASTAL MANAGEMENT PROGRAM

Wisconsin Coastal Zone Management Program

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UPDATING WISCONSIN'S WETLAND INVENTORY

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

DECEMBER 1991

CZIC COLLECTION

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WISCONSIN COASTAL MANAGEMENT PROGRAM

FINAL REPORT

1990-91 COASTAL MANAGEMENT GRANT 81026-101.24

PURCHASE ORDER ADA-00568

UPDATING OF WISCONSIN'S WETLAND INVENTORY

BY

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FORWARD

The Wisconsin Coastal Management Program was established in 1978 to direct comprehensive attention to the state's 820 miles of Lake Michigan and Lake Superior coastline. The WCMP analyzes and develops state policy on a wide range of Great Lakes issues, coordinates the many governmental programs that affect the coast, and provides grants to stimulate state and local coastal management. It's overall goal is to preserve, protect and develop the resources of Wisconsin's coastal areas for this and succeeding generations.

WISCONSIN WETLAND INVENTORY

BACKGROUND

The Wisconsin Legislature required DNR to inventory (map) wetlands in the state and provided a statutory definition [Ch. 374, Laws of 1978 & s. 23.32 (1), Stats.] The definition sets a standard for all state wetland regulatory programs.

The Wisconsin Wetland Inventory (WWI) consists of wetland maps with statewide coverage and computerized data. Initial mapping and digitizing took 5 years and $2,500,000 to complete.

The 1984-85 State Legislature allowed for updating the original Wisconsin Wetland Inventory on a 10 year cycle. Budget restraints have limited the update to a 20 year cycle.

GRANT SUMMARY

Since 1989, financial assistance from the Wisconsin Coastal Management Program has allowed the DNR to update the Wisconsin Wetland Inventory maps for the majority of coastal counties in the state. Status and source of funding for the WWI coastal counties is as follows:

COUNTY	STEREO PHOTOS FUNDED BY	BASE PHOTOS FUNDED BY	MAPPING FUNDED BY	DIGITIZING FUNDED BY
Ashland	CMP	CMP	CMP	-
Bayfield	DNR	CMP	CMP	-
Douglas	CMP	CMP	CMP	-
Iron	CMP	CMP	CMP	-
Brown	DNR	CMP	DNR	EPA
Door	DNR	DNR	DNR	CMP
Kewaunee	CMP	CMP	CMP	CMP
Manitowoc	CMP	CMP	CMP	CMP
Marinette	CMP	CMP	CMP	EPA
Oconto	CMP	CMP	CMP	EPA
Kenosha	-	-	-	-
Milwaukee	-	-	-	-
Ozaukee	-	-	-	-
Racine	-	-	-	-
Sheboygan	DNR	DNR	DNR	CMP
15	11	11	11	7

CMP = Coastal Management Program
DNR = Department of Natural Resources
EPA = Environmental Protection Agency, Region V
\- = Wetland Inventory update work has not been scheduled yet

The award of Grant 81026-101.24 has allowed the DNR to complete the following WWI work:

Stereo Aerial Photography For Ashland and Iron Counties:
Contract awarded to Horizons Inc.

TOTAL	DNR COST	CMP COST
26,884.00	16,130.00	10,754.00

All of the photography for these two counties was completed in the spring of 1991.

Wetland Mapping For Douglas and Bayfield Counties
Contract awarded to Maclean Consultants, Ltd.

TOTAL	DNR COST	CMP COST
60,202.00	36,121.00	24,081.00

Wetland interpretation, field verification and drafting completed. Since the City of Superior is presently compiling wetland information as part of a SAMP (Special Areas Management Plan) the Wisconsin Wetland Inventory delineations will be further verified once the data collected by the City's hired consultant is provided to us.

Digitizing Wisconsin Wetland Inventory Maps for Kewaunee and Manitowoc Counties.

TOTAL	DNR COST	CMP COST
8,838.00	5,304.00	3,534.00

Attached are Wisconsin Wetland Inventory acreage analysis reports for Kewaunee and Manitowoc Counties summarizing changes in wetland acreage and type over a period of approximately 10 years.

PROJECT EVALUATION
COASTAL MANAGEMENT GRANT 81026-101.24

PROJECT BENEFITS

The Wisconsin Wetland Inventory is the only statewide assessment of wetlands on record. To date each county and over half of the municipalities in the state have held public hearings on the accuracy of the wetland maps and have adopted them as apart of a shoreland wetland zoning ordinance (NR 115 & 117).

MAP USES

The wetland maps are the regulatory map base for locally administered shoreland wetland protection programs and are used in state Ch. 30 water regulation permit review and to assist in the implementation of NR 103 (Wetland Water Quality Standards).

The U.S. Army Corps of Engineers uses the WWI maps in their Section 404 regulatory program.

The U.S. Fish & Wildlife Service and Environmental Protection Agency use these wetland maps in their wetland protection, monitoring and enforcement activities.

All DNR environmental protection and resource management programs use the aerial photography and wetland data in their daily work activities.

With an average update frequency of once every 20 years, the wetland maps will become outdated and of limited use for management and regulatory purposes. Funding assistance from the Coastal Management Program has allowed the DNR to protect it's investment in the WWI and has enabled the production of more current information for use in regulatory and resource management activities.

SUMMARY

The attached wetland acreage analysis reports clearly demonstrate the usefulness of maintaining a digital Wisconsin Wetland Inventory (DWI). With appropriate staffing, equipment and budget much more detailed information could be derived from this computerized data.

It is becoming increasingly difficult to produce this digital information with the use of Limited Term Employees (LTEs). Once an LTE becomes familiar enough with the policies and procedures for the DWI, their 1044 hours are usually expended and they cannot be rehired to do the same scope of work. Since the scope of work involved with the DWI is very specialized, it is imperative that we at least try and obtain a project position to attract and keep those individuals who demonstrate these skills.

There has also been a vast increase in the demand for wetland information in a digital rather than hard copy format from the public as well as the private sector. Without the proper staff available to handle this increase, these requests can only be filled as time allows (usually 4-5 months per request).

In addition, the DWI does not have a plotter with which to generate hard copy plots of wetland boundaries and associated classifications and acreage. This information would be very beneficial to local, state and federal wetland regulators and managers.

KEWAUNEE COUNTY WETLAND ACREAGE ANALYSIS
FOR MAPPED WETLANDS 2 ACRES OR MORE IN SIZE

LOCATION	1978	1989	ACRES LOST	PERCENT LOST
T22N R23E	4,260.48	3,581.94	678.54	15.93%
T22N R24E	2,604.99	2,165.35	439.64	16.88%
T22N R25E	3.36	10.86	*	
T23N R23E	1,892.26	1,589.45	302.81	16.00%
T23N R24E	3,774.15	3,435.86	338.29	8.96%
T23N R25E	469.80	783.29	*	
T24N R23E	1,616.18	1,096.40	519.78	32.16%
T24N R24E	4,148.19	3,193.80	954.39	23.01%
T24N R25E	1,295.07	1,150.13	144.94	11.19%
T25N R23E	3,073.86	2,946.39	127.47	4.15%
T25N R24E	6,024.63	4,913.43	1,111.20	18.44%
T25N R25E	2,663.53	2,796.30	*	
T25N R26E	100.97	91.98	8.99	8.90%
TOTAL	31,927.47	27,755.18	4,626.05	14.49%

AVERAGE ANNUAL LOSS OVER AN 11 YEAR PERIOD = 421 ACRES/YEAR

WETLAND ACREAGE BY TYPE FOR KEWAUNEE COUNTY

WETLAND TYPE	1978	1989
Aquatics	20	0
Emergent	1,261	1,832
Scrub/shrub, deciduous	710	2,599
Scrub/shrub, coniferous	22	4
Forested, deciduous	5,389	20,031
Forested, coniferous	92	3,240
Open water	22	49
**WET (class unknown)	24,411	0
TOTAL	31,927	27,755

* = Increases in wetland acreage attributed to the following:

1) improved aerial photography and interpretation techniques
2) farmed areas reverting back to wetland vegetation

Decreases in wetland acreage attributed to the following:

1) improved aerial photography and interpretation techniques (corrected previous mapping errors)
2) draining/filling/farming areas that were wetland in 1978

** - The WET classification represents the acreage of large wetland complexes whose internal boundaries were too detailed to digitize under time and budget constraints imposed on the project.

MANITOWOC COUNTY WETLAND ACREAGE ANALYSIS
FOR MAPPED WETLANDS 2 ACRES OR MORE IN SIZE

LOCATION	1979	1989	ACRES LOST	PERCENT LOST
T17N R21E	2,744.73	2,576.53	168.20	6.13%
T17N R22E	2,111.27	1,394.44	716.83	33.95%
T17N R23E	1,138.46	976.70	161.76	14.21%
T18N R21E	7,337.29	6,639.43	697.86	9.51%
T18N R22E	4,074.81	3,351.98	722.83	17.74%
T18N R23E	1,609.99	1,531.78	78.21	4.86%
T18N R24E	89.34	99.13	*	
T19N R21E	7,762.55	6,923.41	839.14	10.81%
T19N R22E	2,403.06	2,232.13	170.93	7.11%
T19N R23E	1,313.73	1,317.38	*	
T19N R24E	937.26	1,367.06	*	
T19N R25E	0.00	0.00		
T20N R21E	6,398.77	4,588.25	1,810.52	28.29%
T20N R22E	2,523.88	1,990.77	533.11	21.12%
T20N R23E	1,501.18	1,275.94	225.24	15.00%
T20N R24E	1,803.90	2,027.73	*	
T20N R25E	2,309.92	2,201.02	108.90	4.71%
T21N R22E	3,887.81	3,648.41	239.40	6.16%
T21N R23E	3,219.41	2,870.51	348.90	10.84%
T21N R24&25E	2,041.76	1,855.33	186.43	9.13%
TOTAL	55,209.12	48,867.93	7,008.26	12.69%

AVERAGE ANNUAL LOSS OVER A 10 YEAR PERIOD = 701 ACRES/YEAR

WETLAND ACREAGE BY TYPE FOR MANITOWOC COUNTY

WETLAND TYPE	1979	1989
Aquatics	49	
Emergent	4,853	7,811
Scrub/shrub, deciduous	2,937	6,635
Scrub/shrub, coniferous	30	25
Forested, deciduous	21,828	30,072
Forested, coniferous	502	3,932
Open water	186	393
**WET (class unknown)	24,824	
TOTAL	55,209	48,868

* = Increases in wetland acreage attributed to the following:

1) improved aerial photography and interpretation techniques
2) farmed areas reverting back to wetland vegetation

Decreases in wetland acreage attributed to the following:

1) improved aerial photography and interpretation techniques (corrected previous mapping errors)
2) draining/filling/farming areas that were wetland in 1978

** - The WET classification represents the acreage of large wetland complexes whose internal boundaries were too detailed to digitize under time and budget constraints imposed on the project.