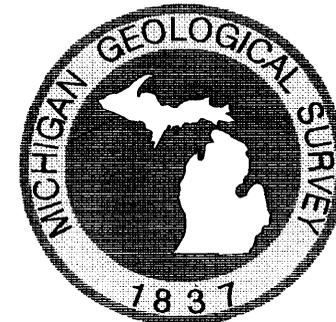
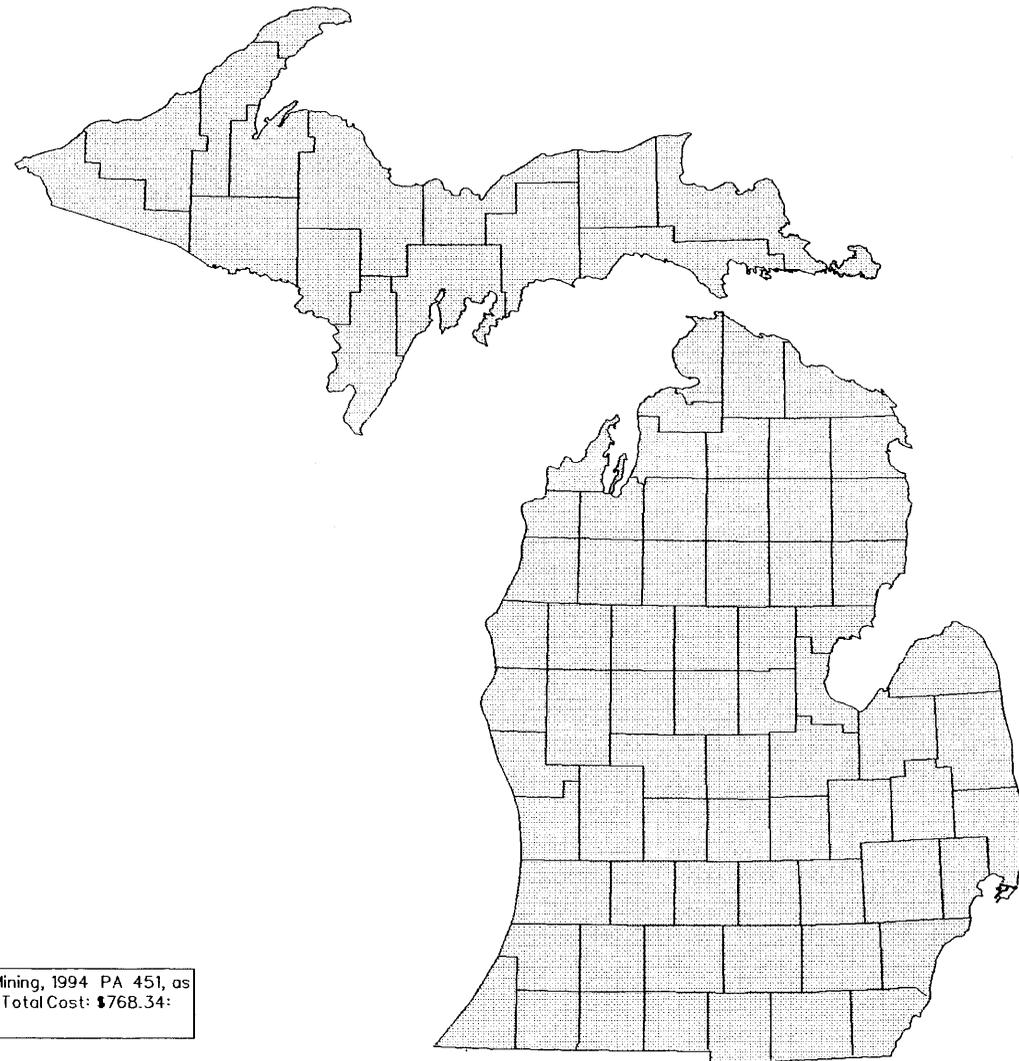


STATE OF MICHIGAN

DESIGNATED AND CRITICAL SAND DUNE AREAS



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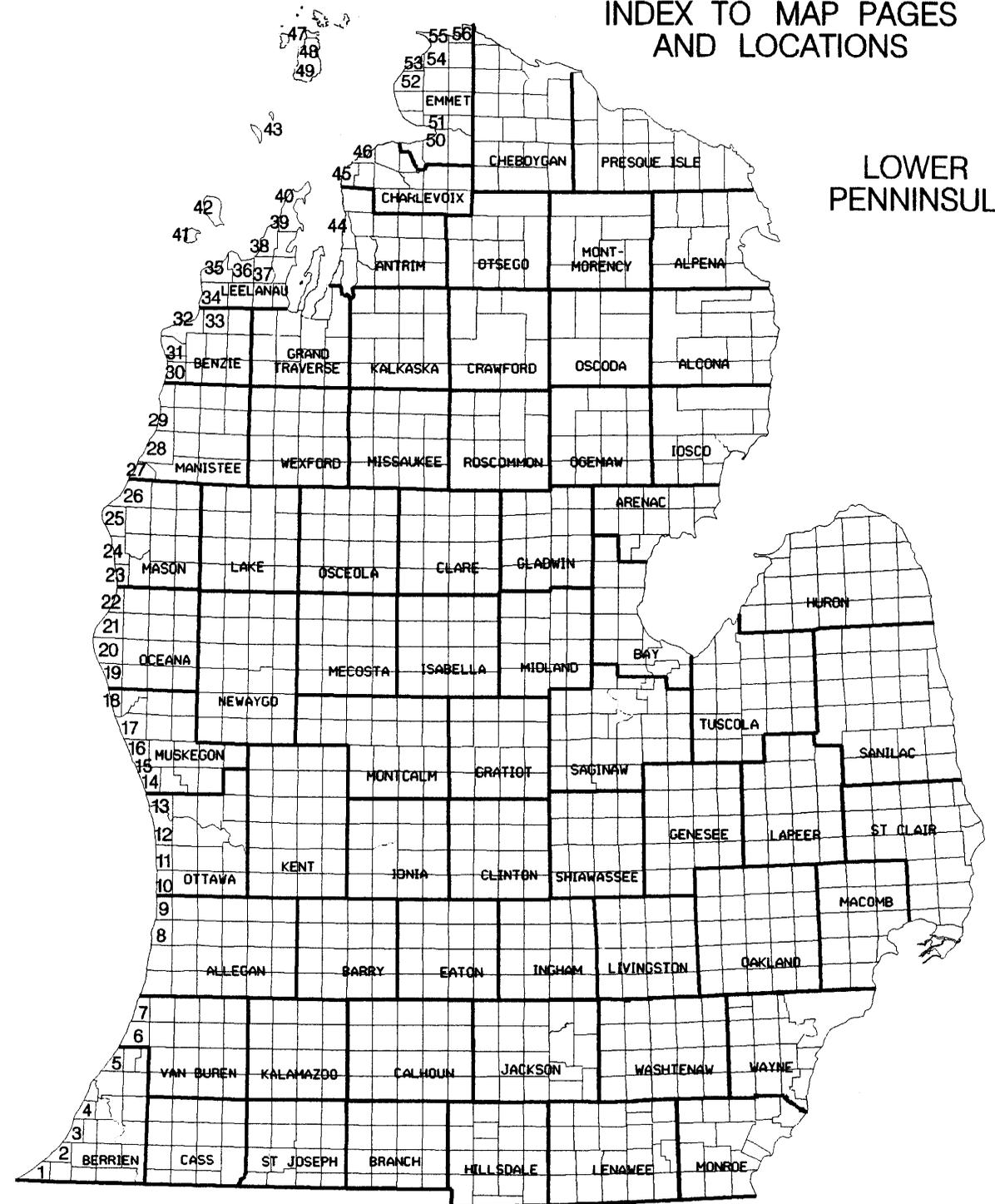
DEQ DEPARTMENT OF ENVIRONMENTAL QUALITY
GSD GEOLOGICAL SURVEY DIVISION

JANUARY 2002

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2	CHIKAMING	BERRIEN
3	LAKE	BERRIEN
4	LINCOLN	BERRIEN
5	HAGAR	BERRIEN
6	COVERT	VAN BUREN
7	SOUTH HAVEN	VAN BUREN
8	SAUGATUCK	ALLEGAN
9	LAKETOWN	ALLEGAN
10	PARK	OTTAWA
11	PORT SHELTON	OTTAWA
12	SOUTHERN GRAND HAVEN	OTTAWA
13	SPRING LAKE-NORTHERN GRAND HAVEN	OTTAWA
14	NORTON SHORES	MUSKEGON
15	CITY OF MUSKEGON	MUSKEGON
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18	WHITE RIVER	MUSKEGON
19	CLAYBANKS	OCEANA
20	BENONA	OCEANA
21	GOLDEN	OCEANA
22	PENTWATER	OCEANA
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24	PERE MARQUETTE	MASON
25	HAMLIN	MASON
26	GRANT	MASON
27	FILER	MANISTEE
28	NORTHERN MANISTEE	MANISTEE
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30	BLAINE	BENZIE
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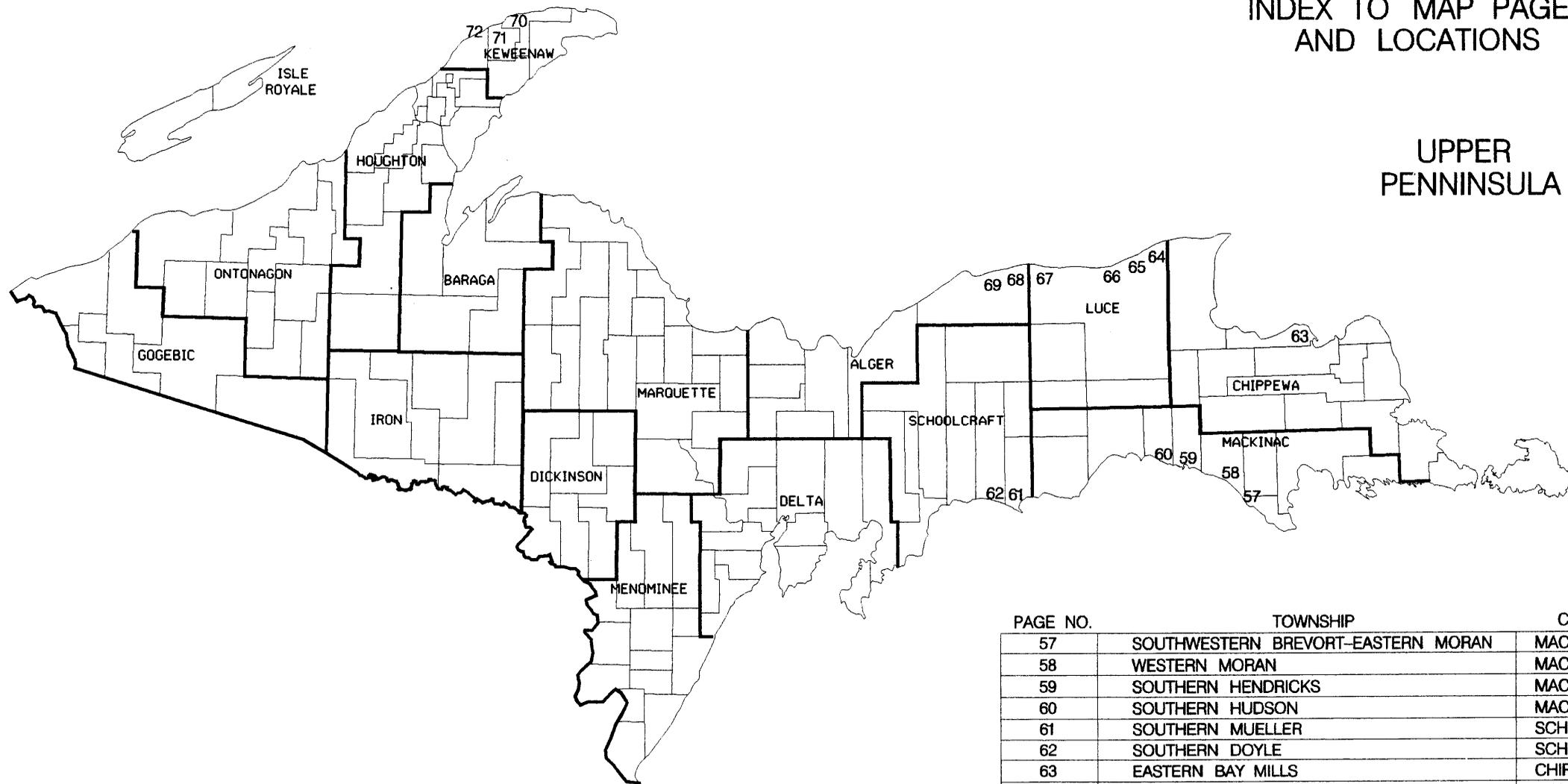
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PENNINSULA



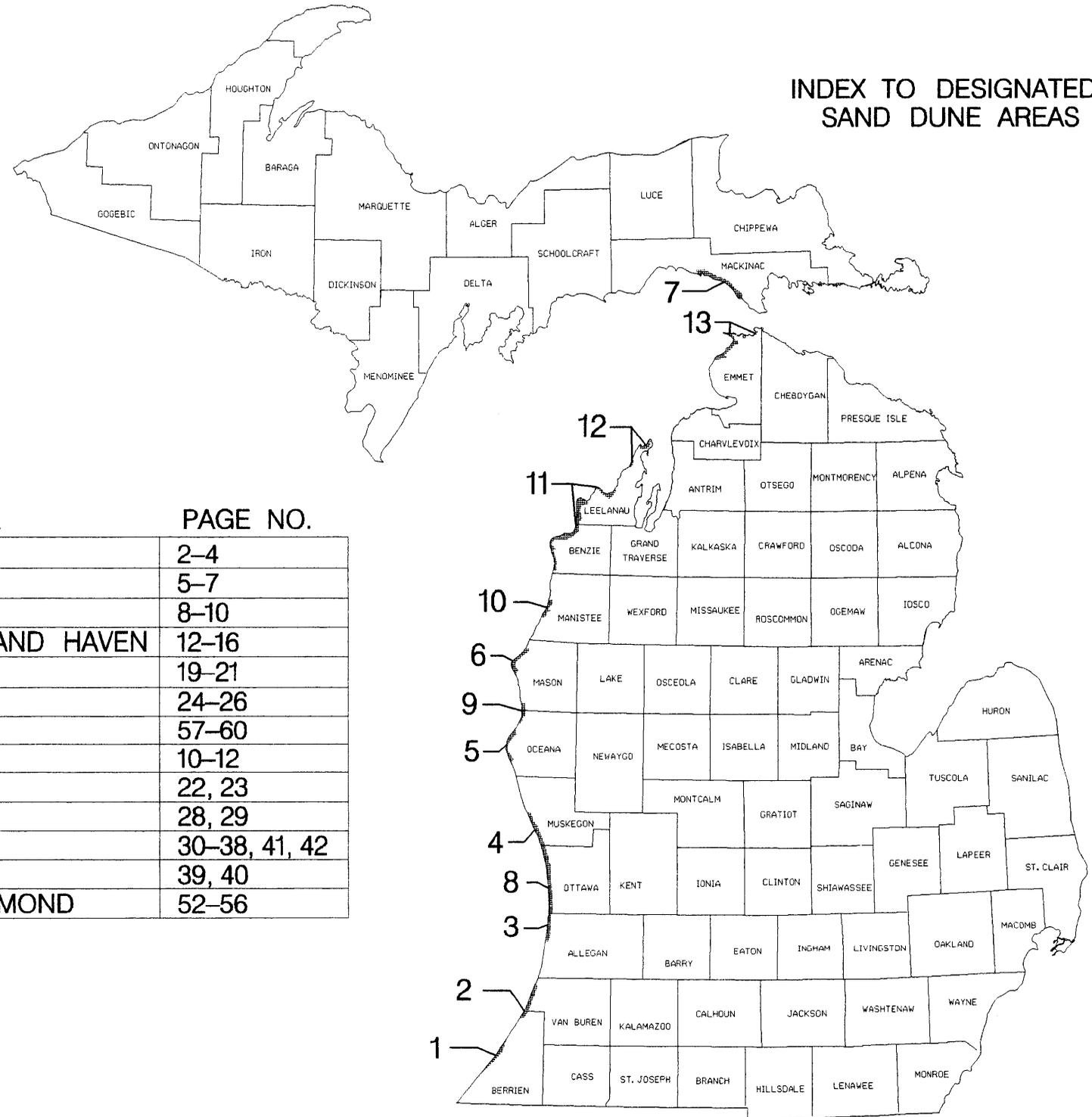
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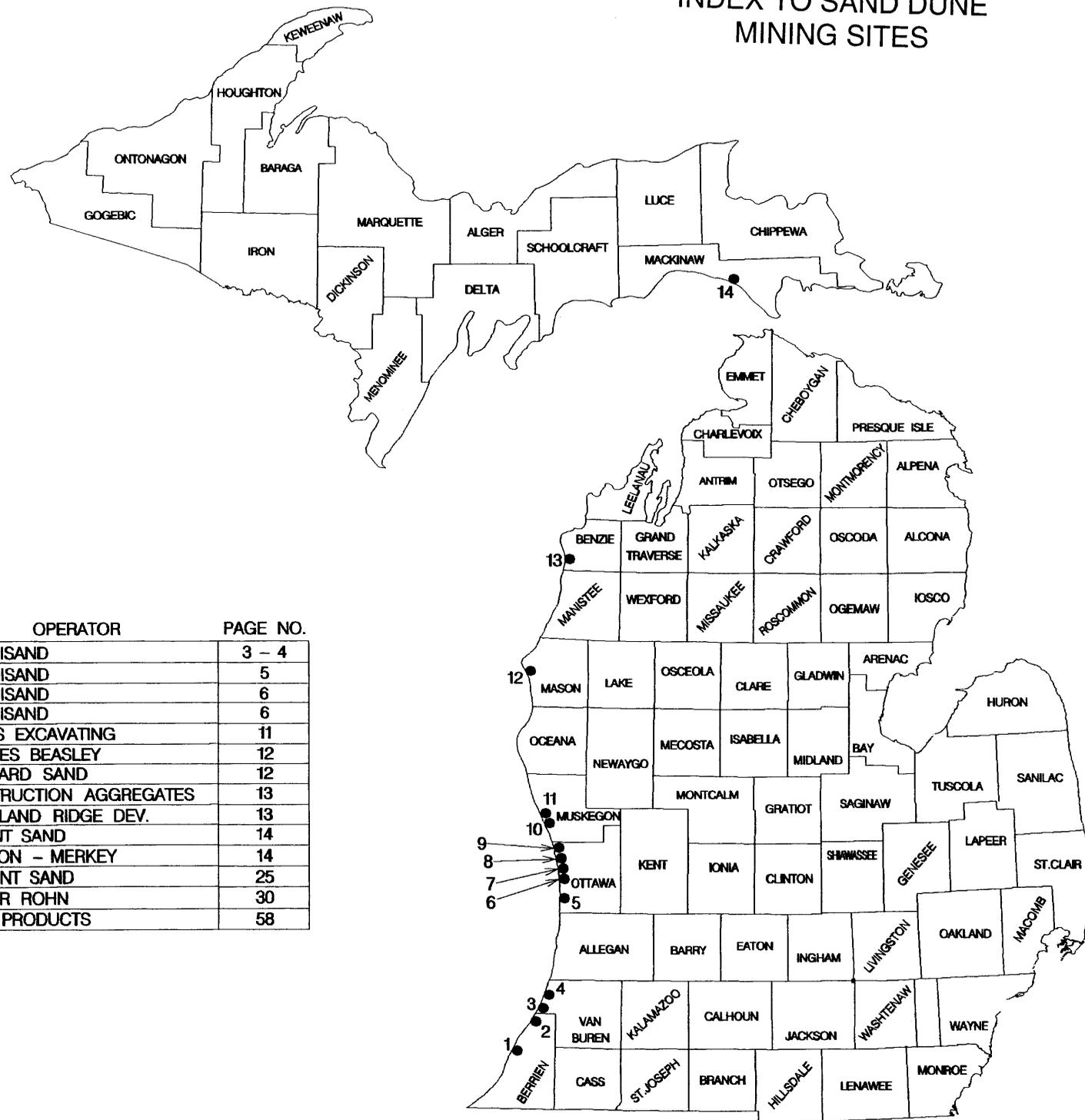
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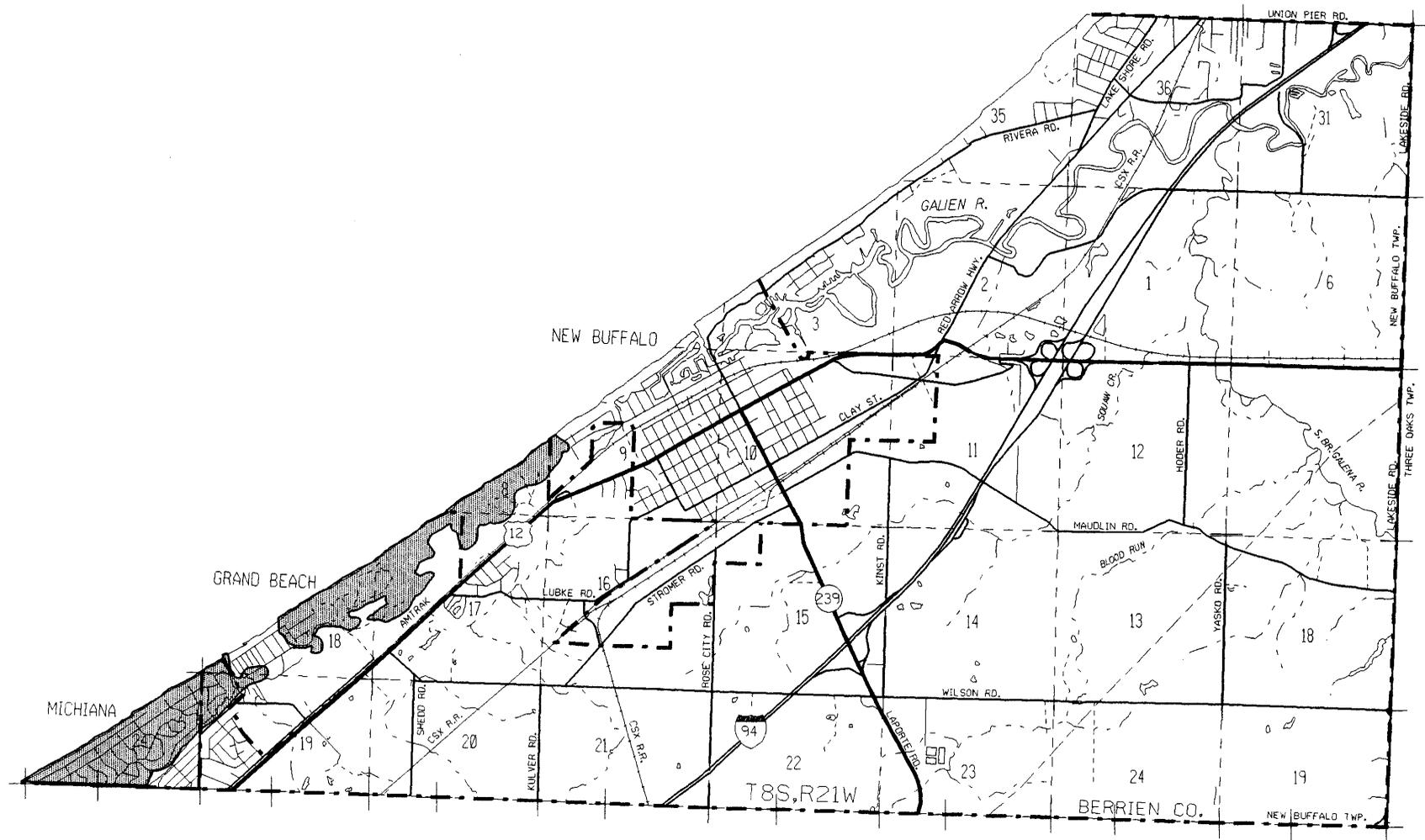
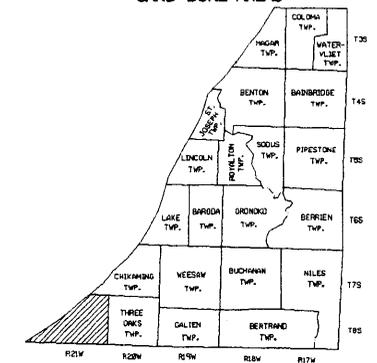
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BERRIEN COUNTY NEW BUFFALO TOWNSHIP DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

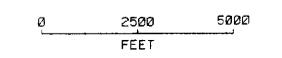
AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

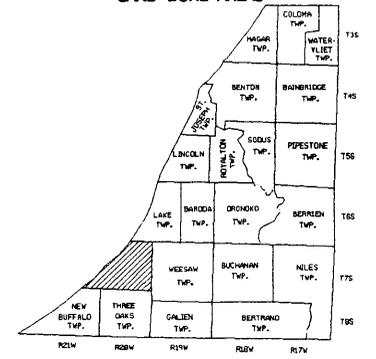
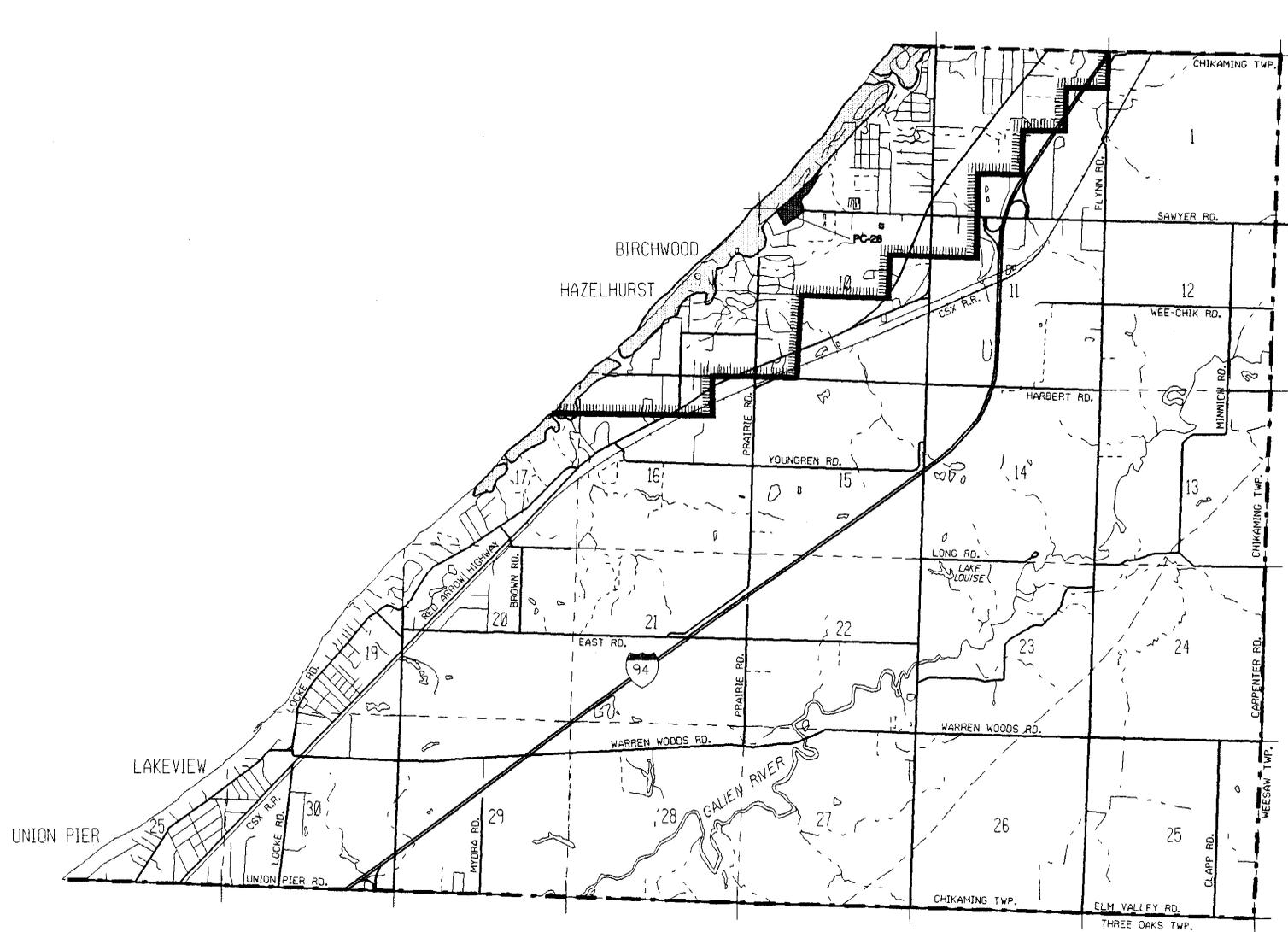
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BERRIEN COUNTY
CHIKAMING TOWNSHIP
DESIGNATED
SAND DUNE AREAS



- LEGEND**
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 - [Dotted Area] AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.
 - [Dark Dotted Area] EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

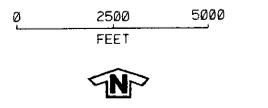
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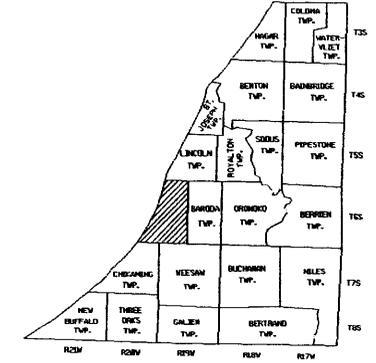
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DEQ
DEPARTMENT OF ENVIRONMENTAL QUALITY



BERRIEN COUNTY
LAKE TOWNSHIP

DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

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PC-00

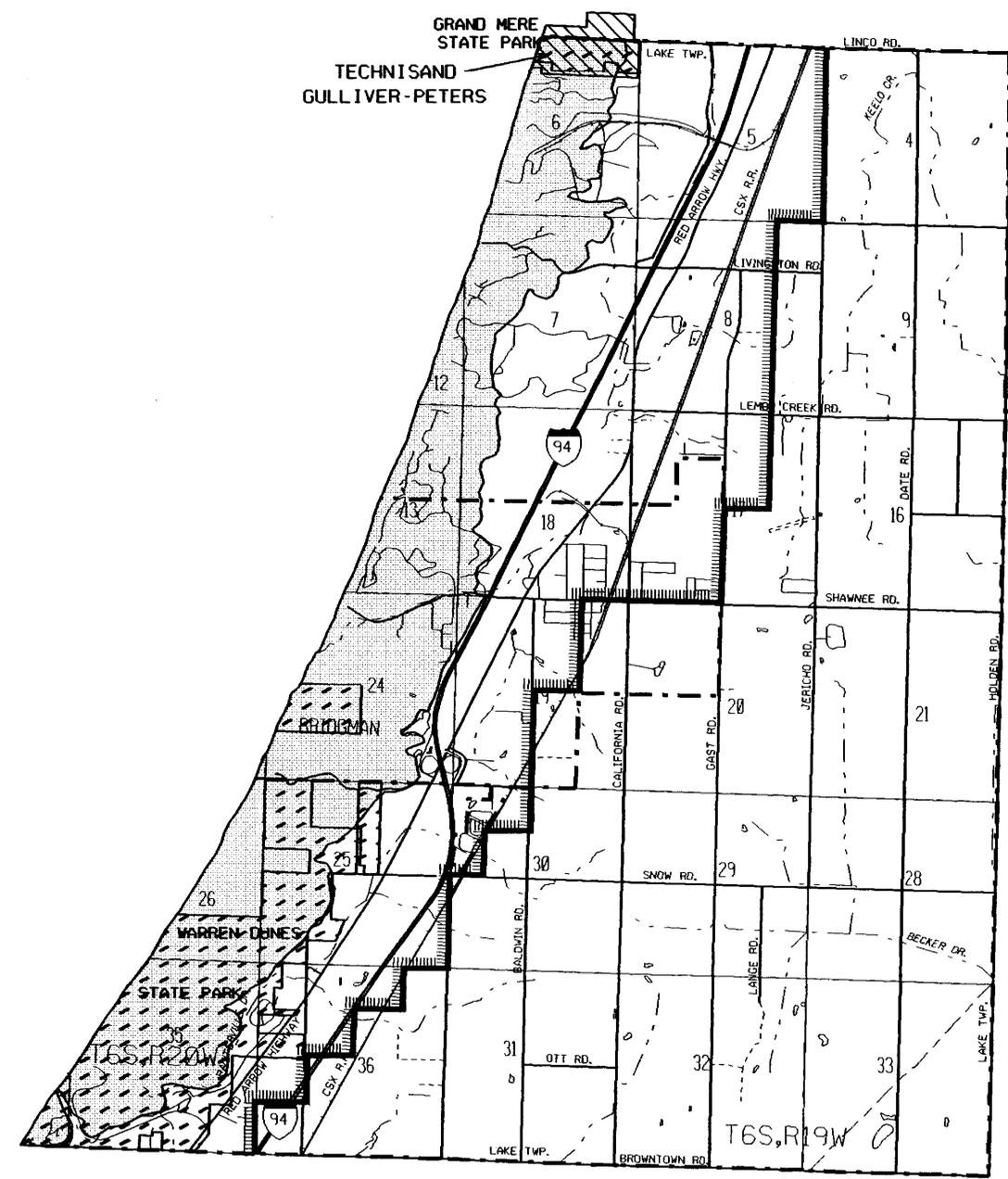
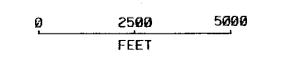
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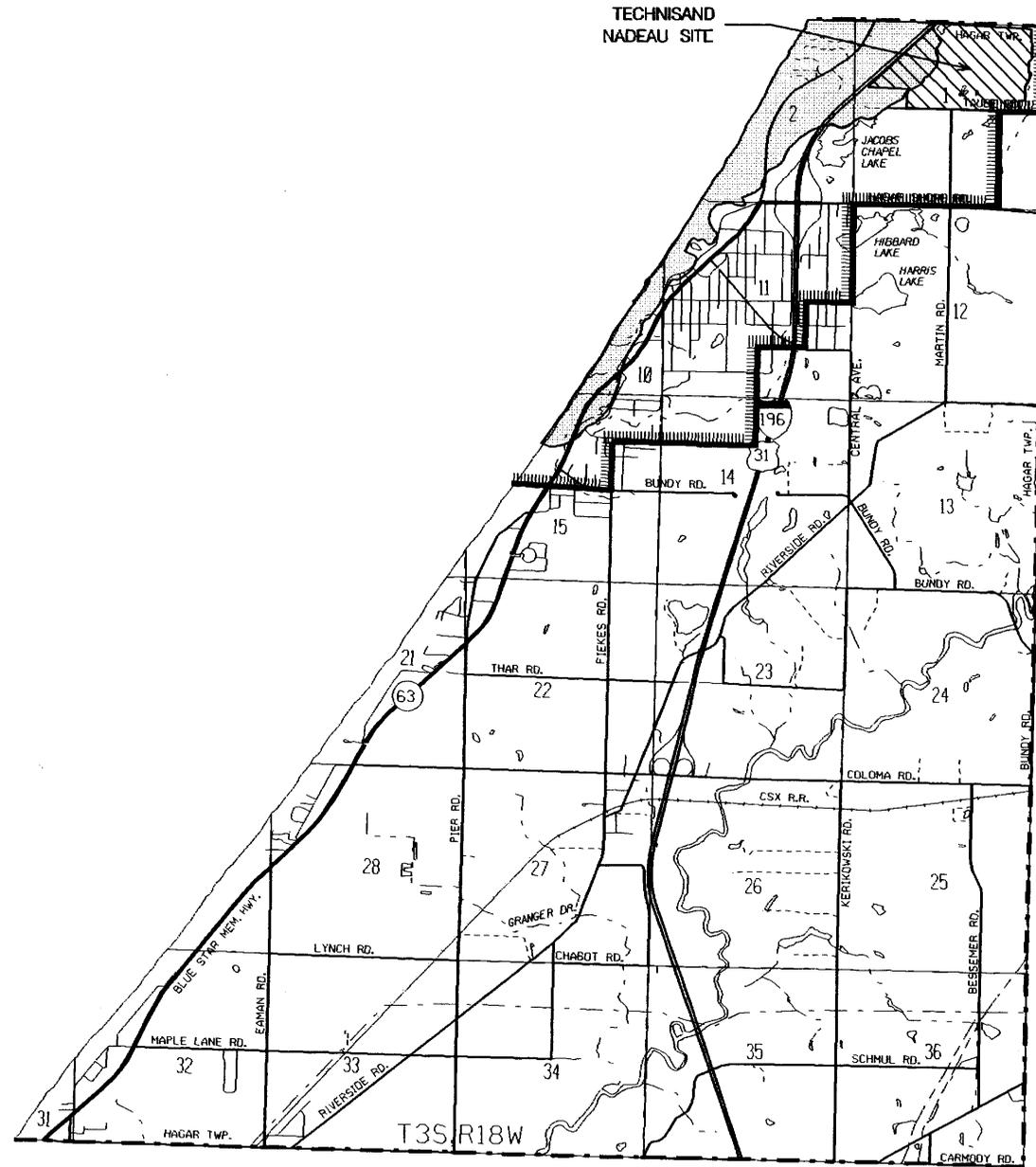
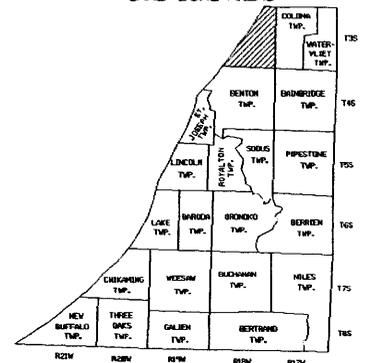
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GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ



BERRIEN COUNTY HAGAR TOWNSHIP DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

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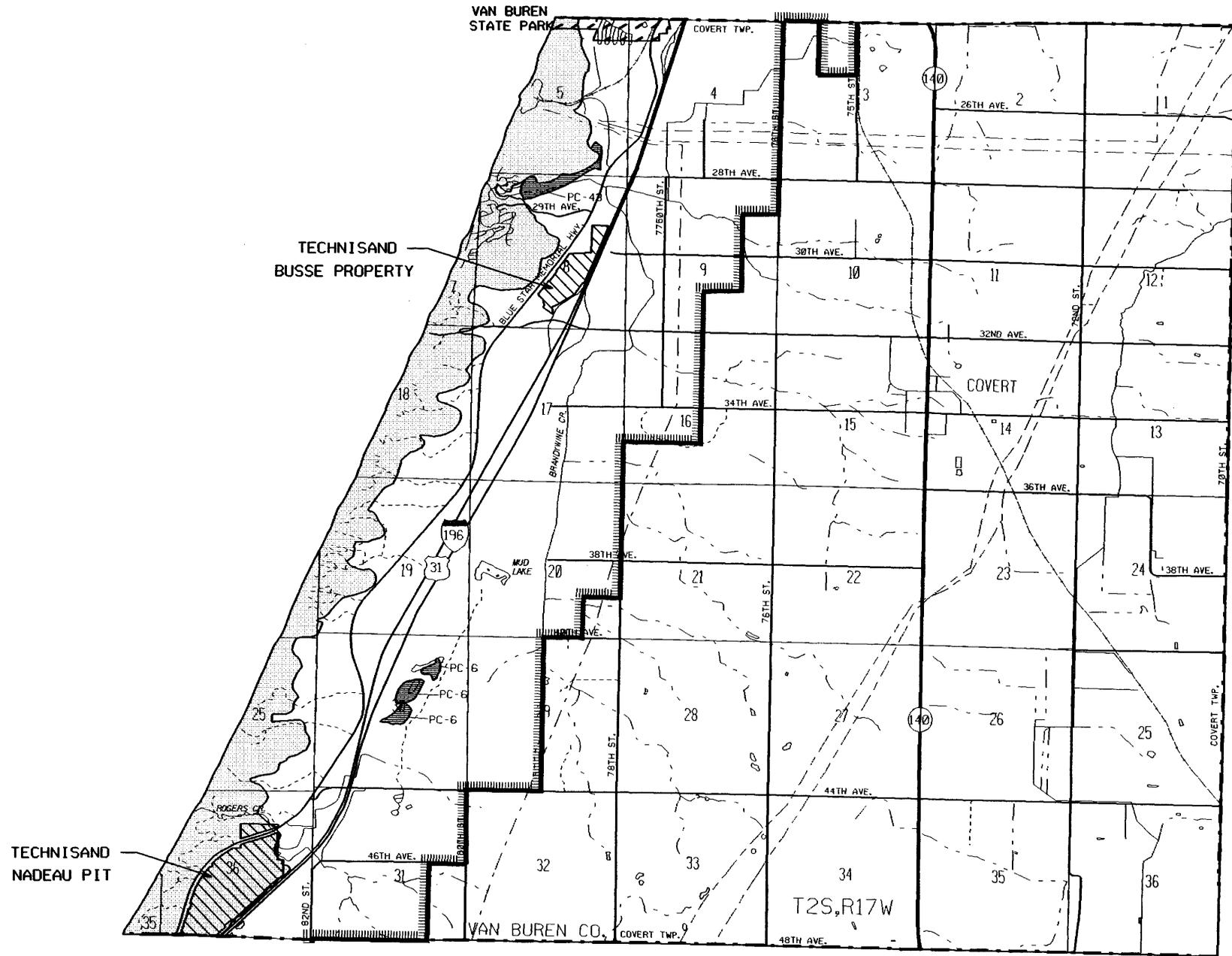
EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE

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VAN BUREN COUNTY
COVERT TOWNSHIP
DESIGNATED
SAND DUNE AREAS



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 - CRITICAL DUNE AREAS**
 - [Irregular Shape] BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 45L AS AMENDED
 - [Dotted Shape] AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.
 - [Shaded Shape] EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

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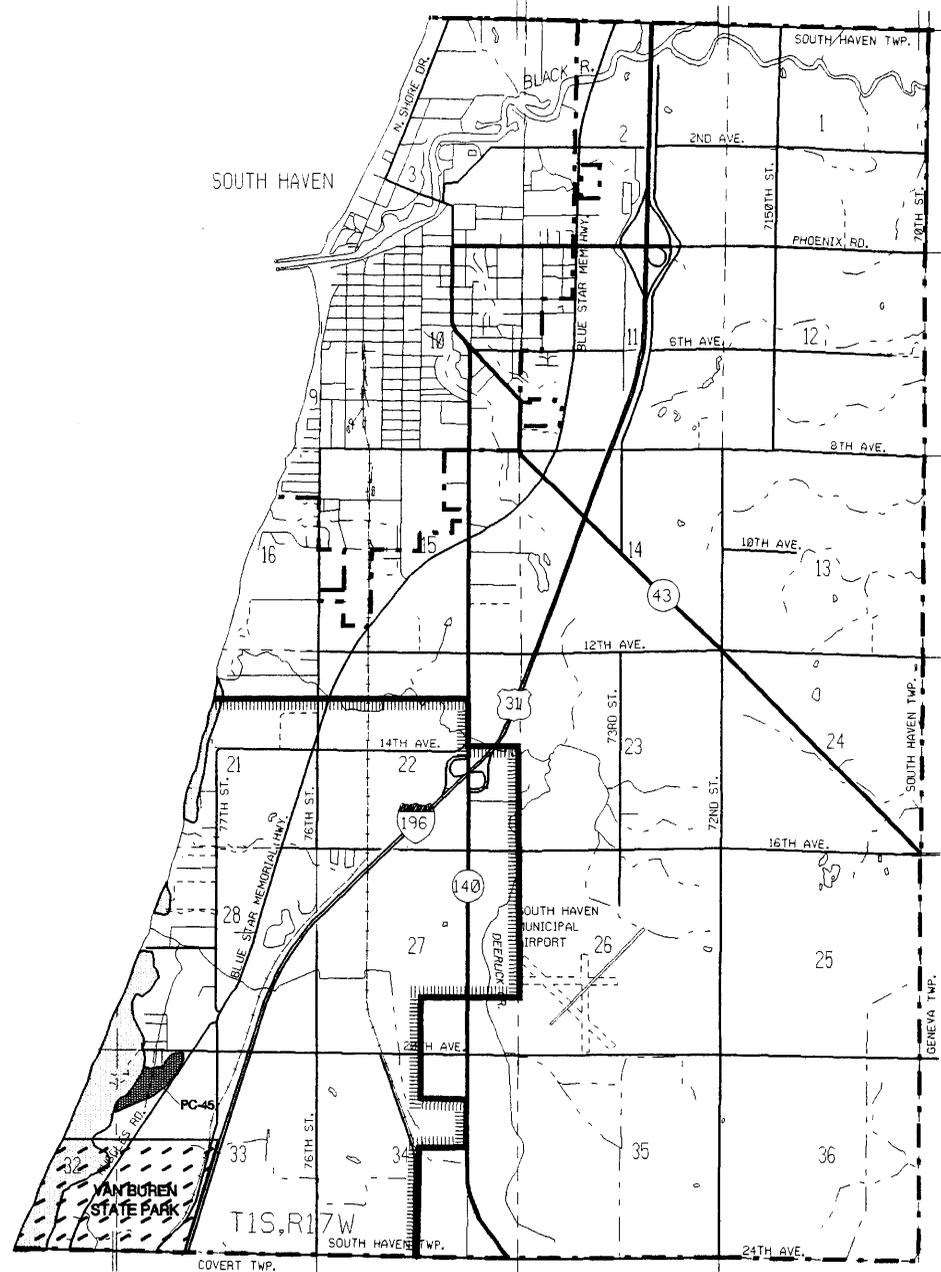
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GEORGE SHELBY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DNR

DEQ



VAN BUREN COUNTY
SOUTH HAVEN TOWNSHIP
DESIGNATED
SAND DUNE AREAS



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--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

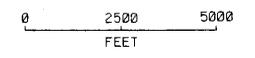
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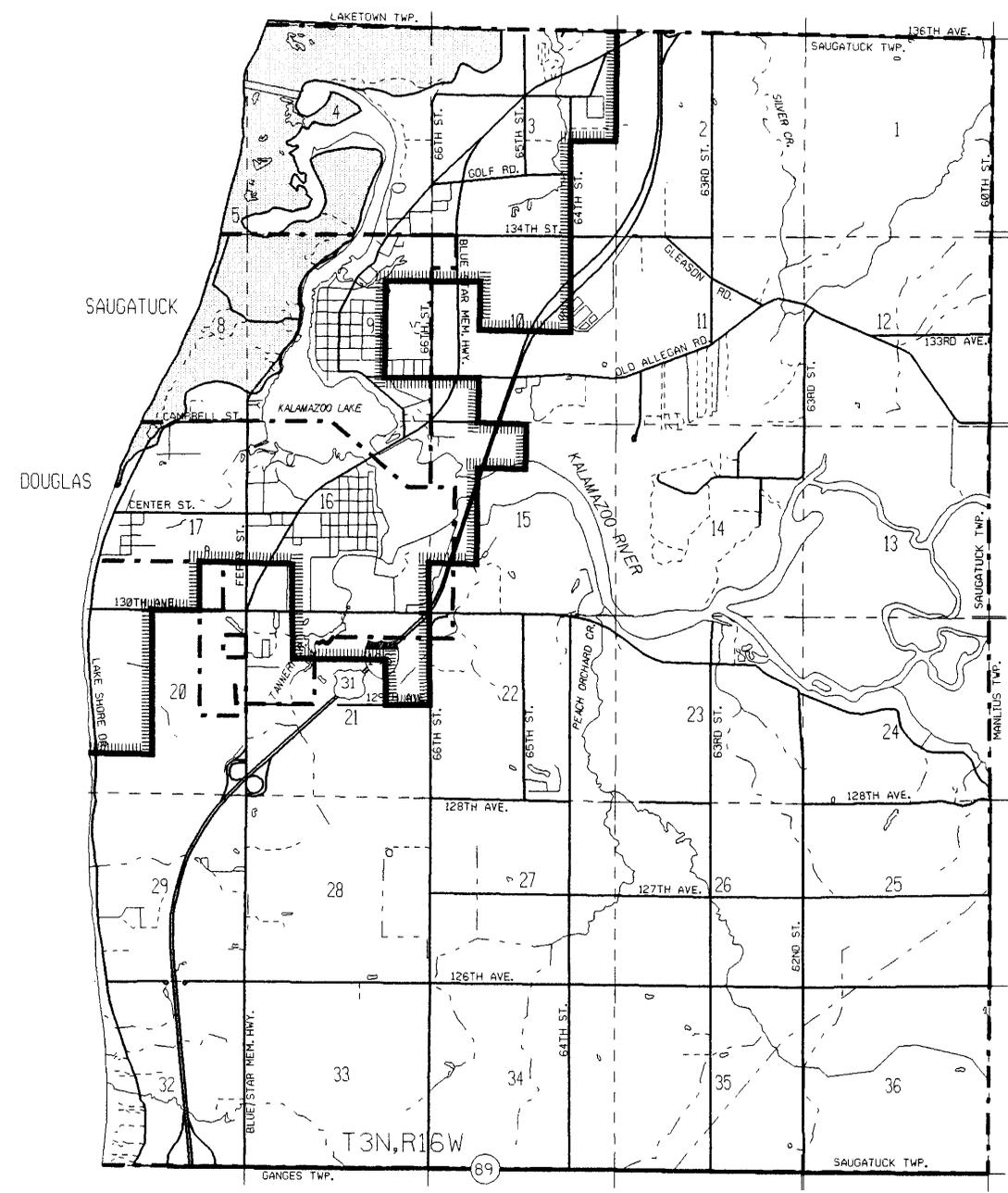
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ALLEGAN COUNTY
SAUGATUCK TOWNSHIP
DESIGNATED
SAND DUNE AREAS



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MAULIE TWP.	VALLEY TWP.	ALLEGAN TWP.	HEPKING TWP.	WILAND TWP.	
SARGES TWP.	CLYDE TWP.	WILEY TWP.	ALLEGAN TWP.	WYSON TWP.	DEARBORNE TWP.
OSCO TWP.	LEE TWP.	CHESIE TWP.	TRIMBORO TWP.	OSCO TWP.	OSCO PLAIN TWP.

LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

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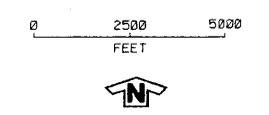
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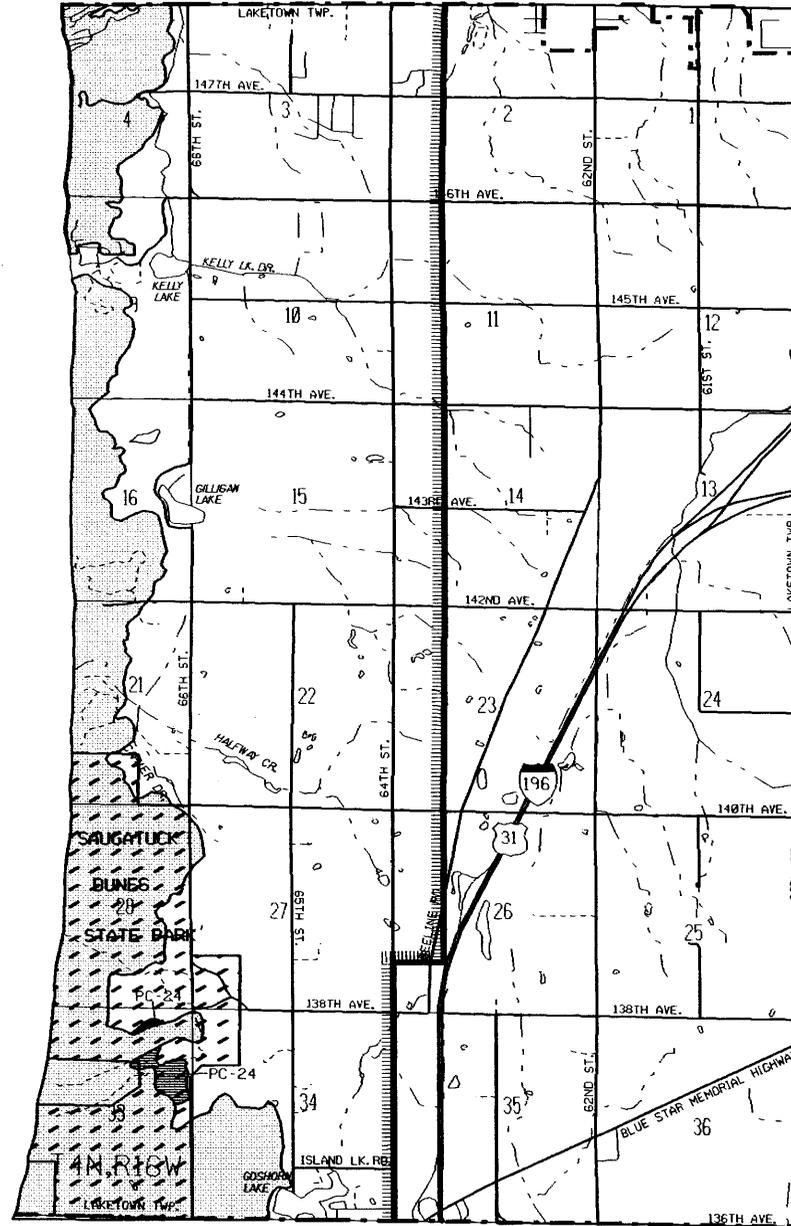
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GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



ALLEGAN COUNTY
LAKETOWN TOWNSHIP
DESIGNATED
SAND DUNE AREAS



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ORONOKO TWP.	WOLFE TWP.	VALLEY TWP.	ALLEGAN TWP.	ROPERIC TWP.	WATLAND TWP.
GAMES TWP.	CLYDE TWP.	VALLEY TWP.	ALLEGAN TWP.	WATSON TWP.	SHARPSVILLE TWP.
ORONOKO TWP.	LIE TWP.	CHERRY TWP.	FRANKLIN TWP.	OTSEGO TWP.	GRAND PLAIN TWP.
RD#1	RD#2	RD#3	RD#4	RD#5	RD#6

LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

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BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

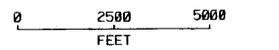
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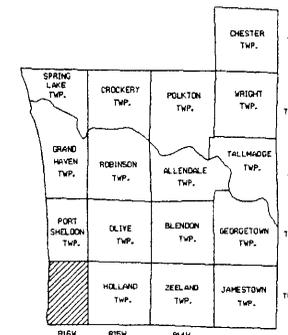
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GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



OTTAWA COUNTY PARK TOWNSHIP

DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

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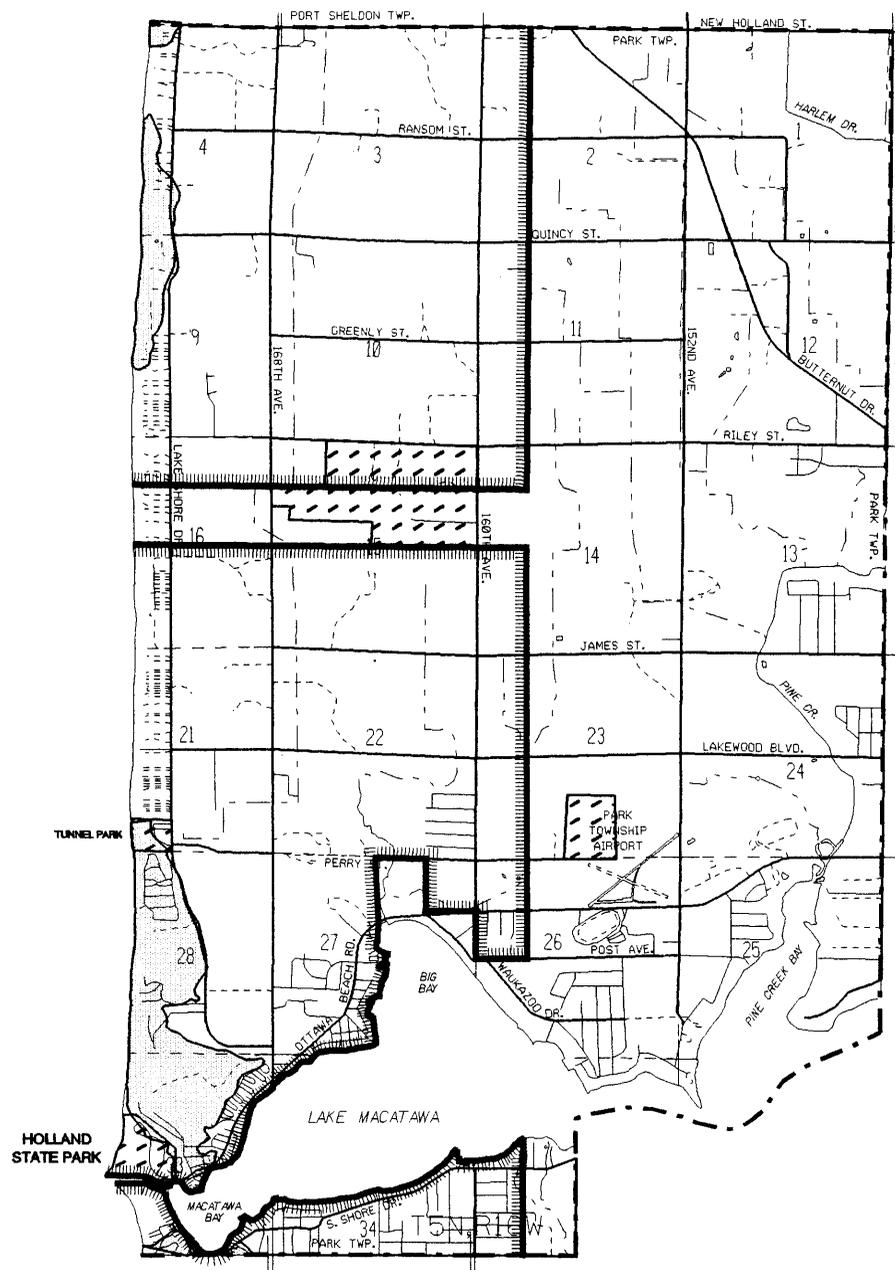
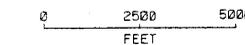
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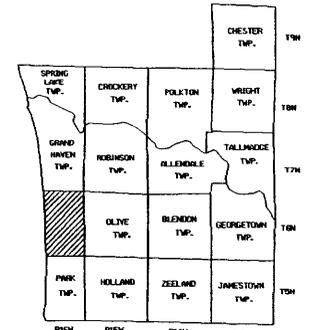
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OTTAWA COUNTY PORT SHELTON TOWNSHIP DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

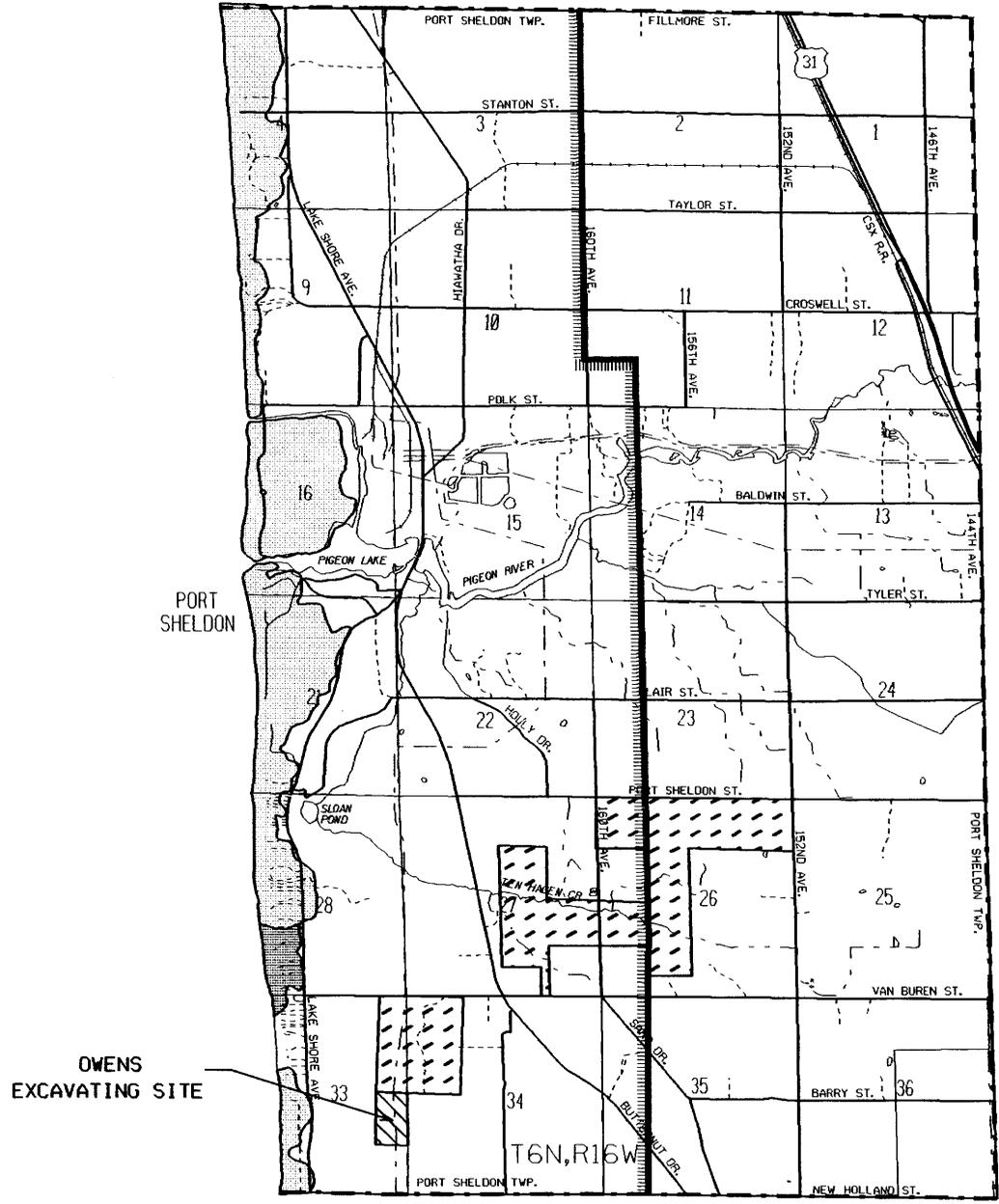
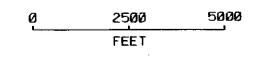
AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

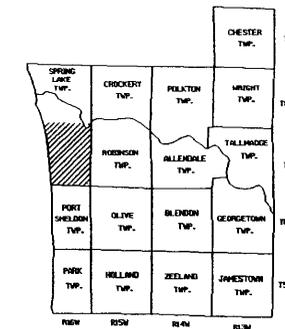
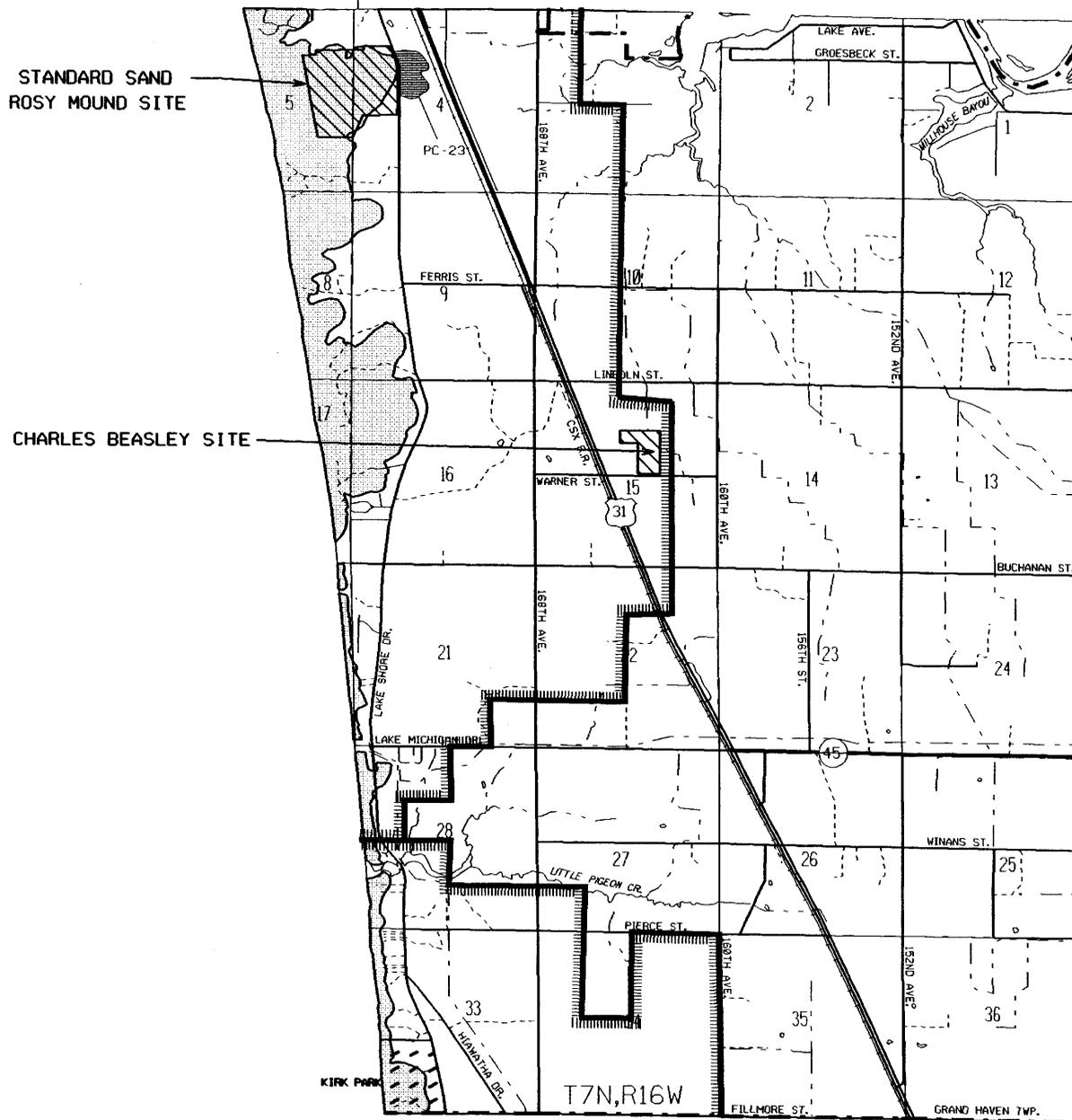
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES **DNR**

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY **DEQ**



OTTAWA COUNTY
SOUTHERN
GRAND HAVEN TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

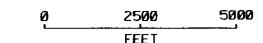
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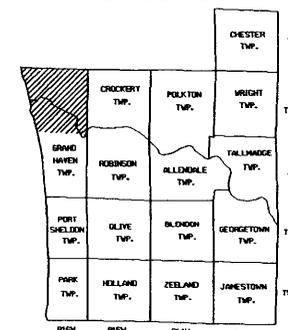
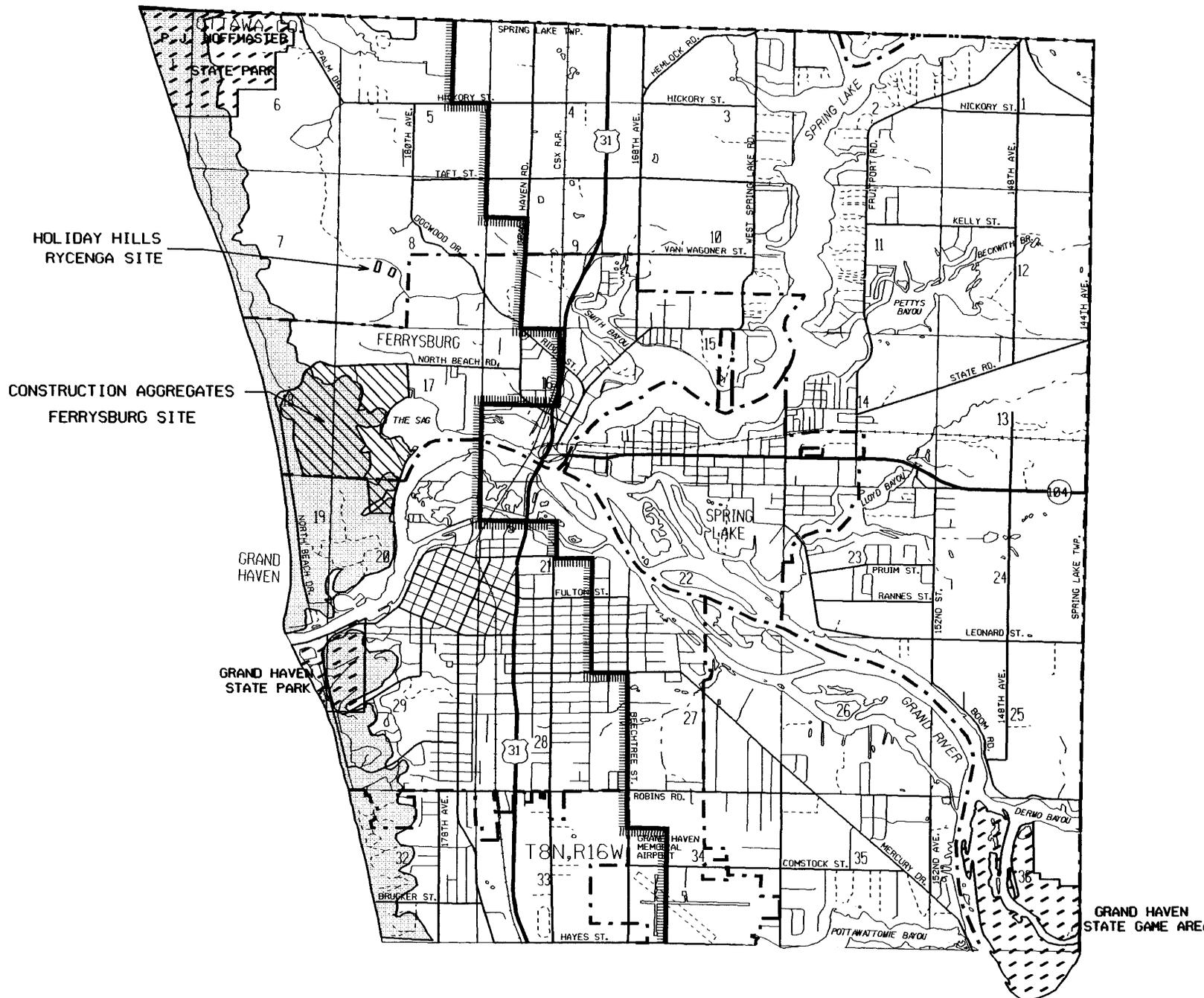
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
DIGITAL ESTIMATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



OTTAWA COUNTY
SPRING LAKE TOWNSHIP
NORTHERN
GRAND HAVEN TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.
- FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

- SAND DUNE AREAS DESIGNATED PURSUANT TO PART 837, 1994 PA 451, AS AMENDED
- PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

- BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 253, 1994 PA 451, AS AMENDED
- AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.
- EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE

MMS
MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

DNR

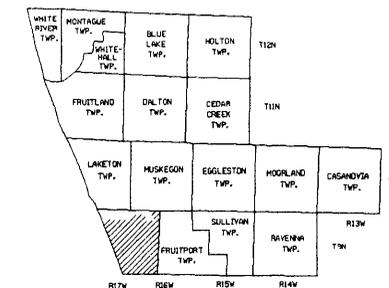
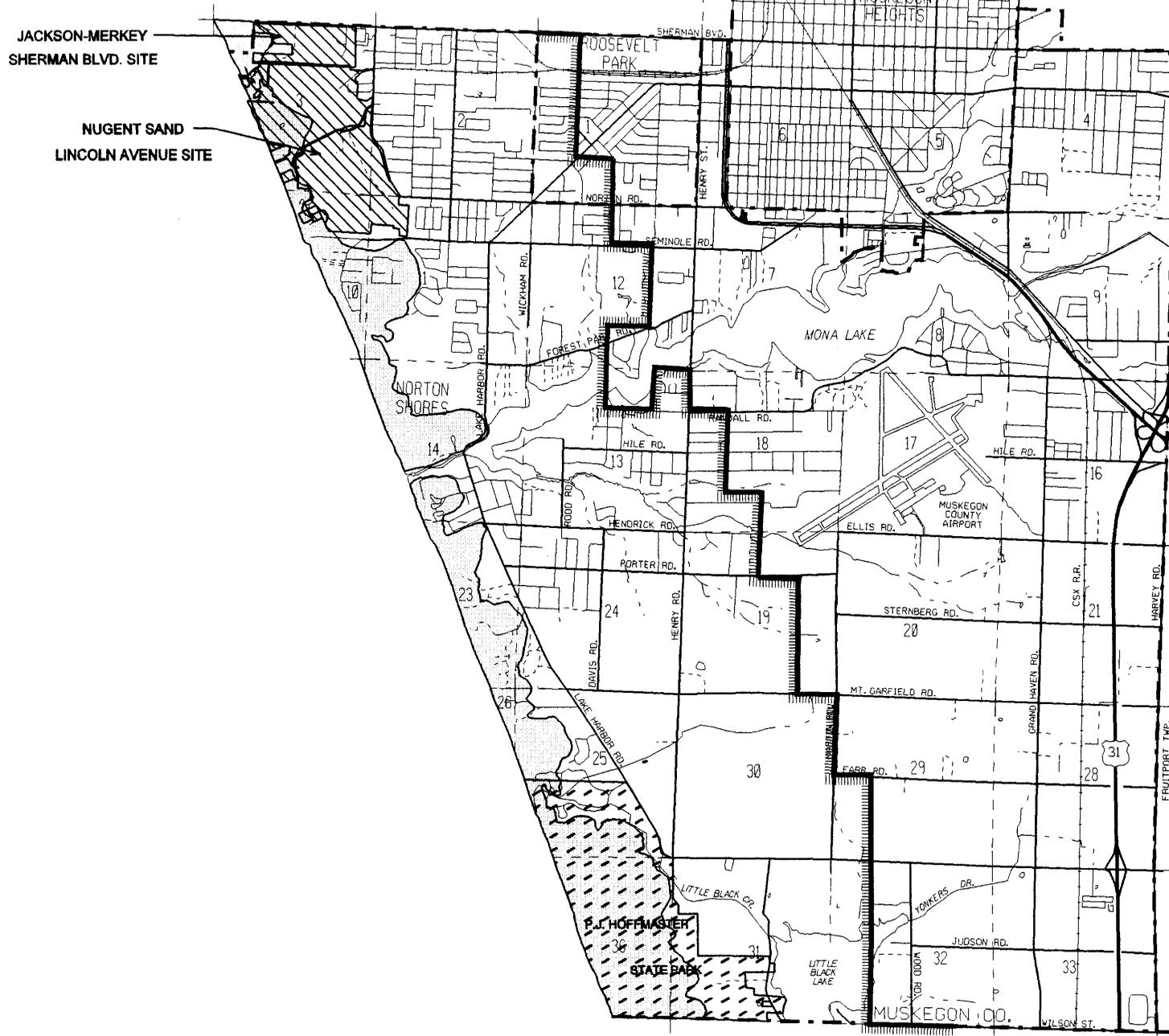
GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ



GRAND HAVEN STATE GAME AREA

MUSKEGON COUNTY
NORTON SHORES TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

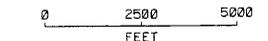
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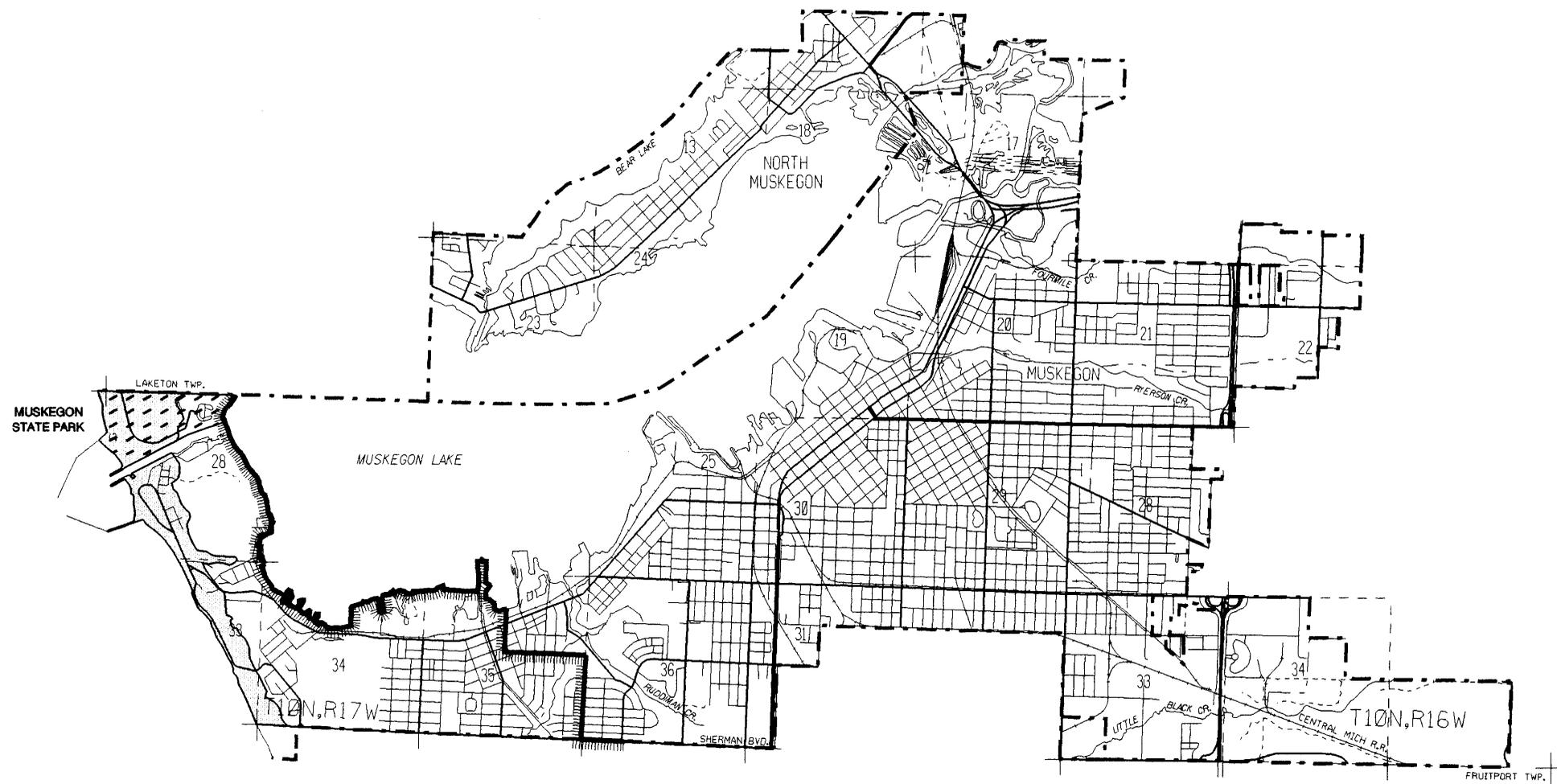
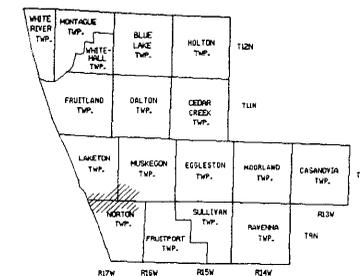
MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



T9N, R16W
FRUITPORT TWP.

MUSKEGON COUNTY
CITY OF MUSKEGON
DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 937, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

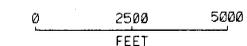
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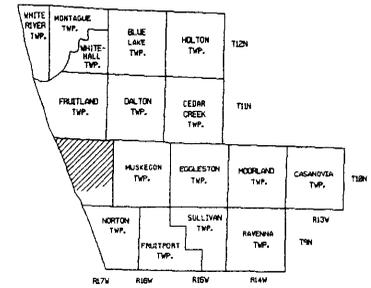
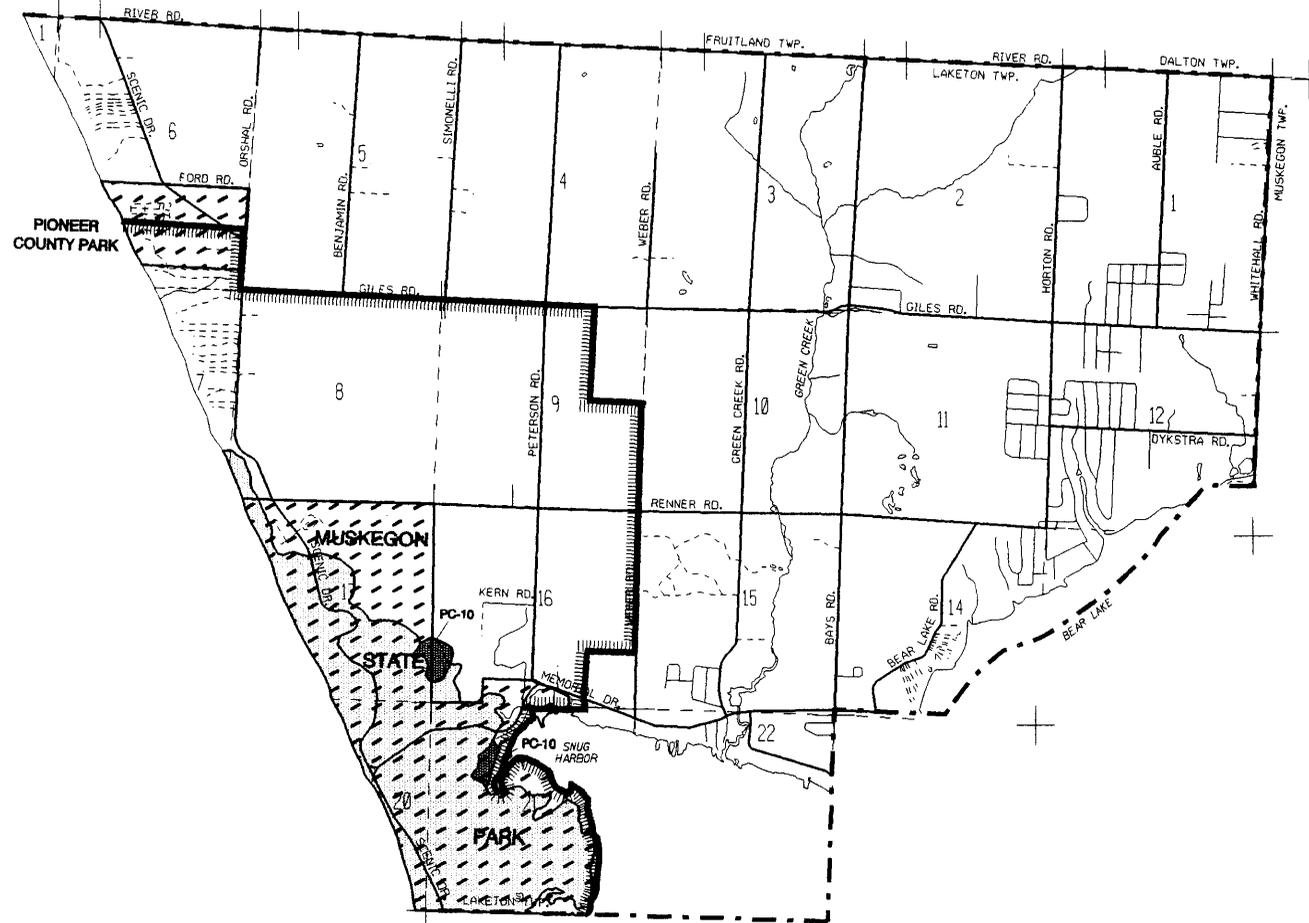
SOURCE

MICHIGAN RESOURCE DEFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

DNR
 QSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



MUSKEGON COUNTY LAKETON TOWNSHIP DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

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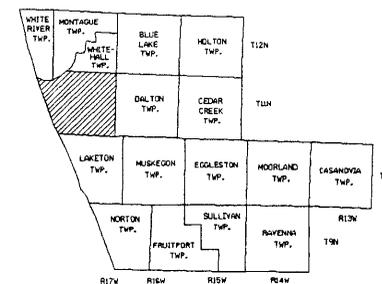
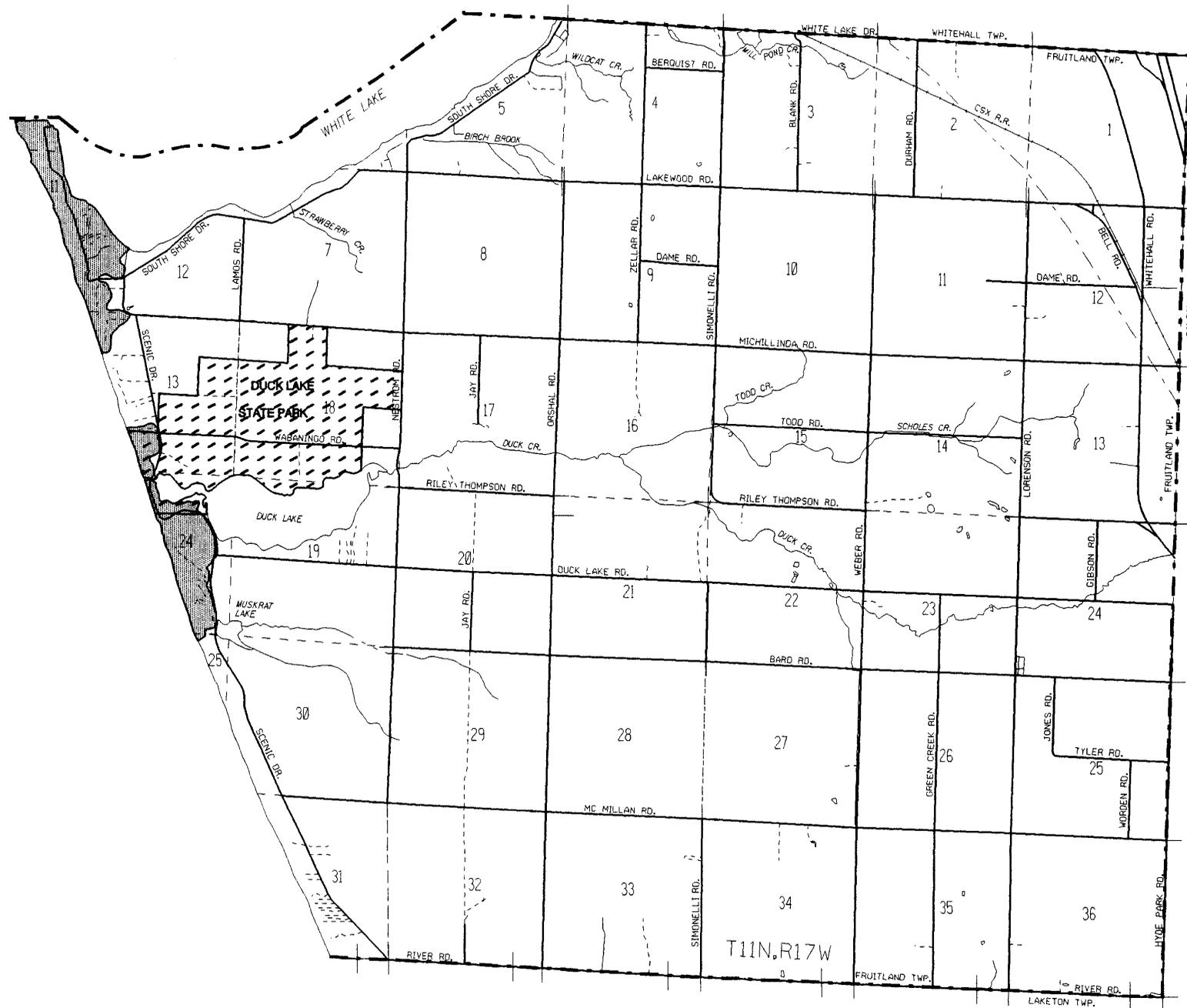
MITS
MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



MUSKEGON COUNTY FRUITLAND TOWNSHIP

DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

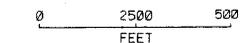
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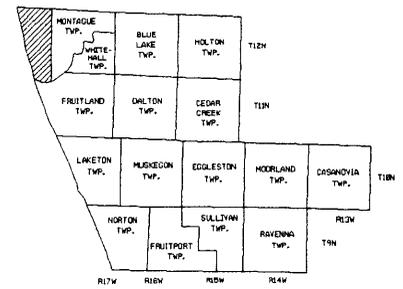
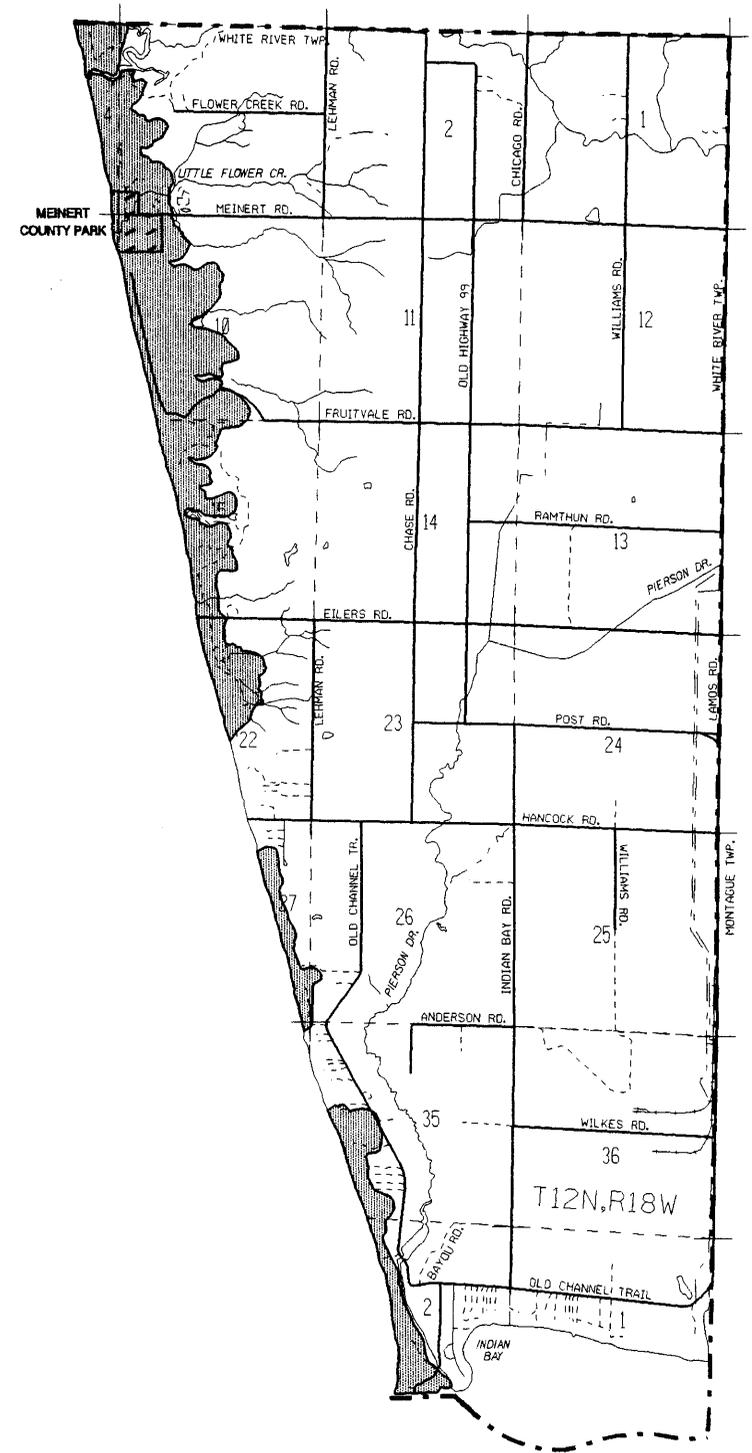
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



MUSKEGON COUNTY
WHITE RIVER TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

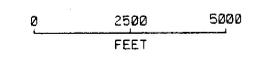
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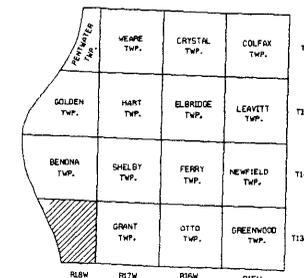
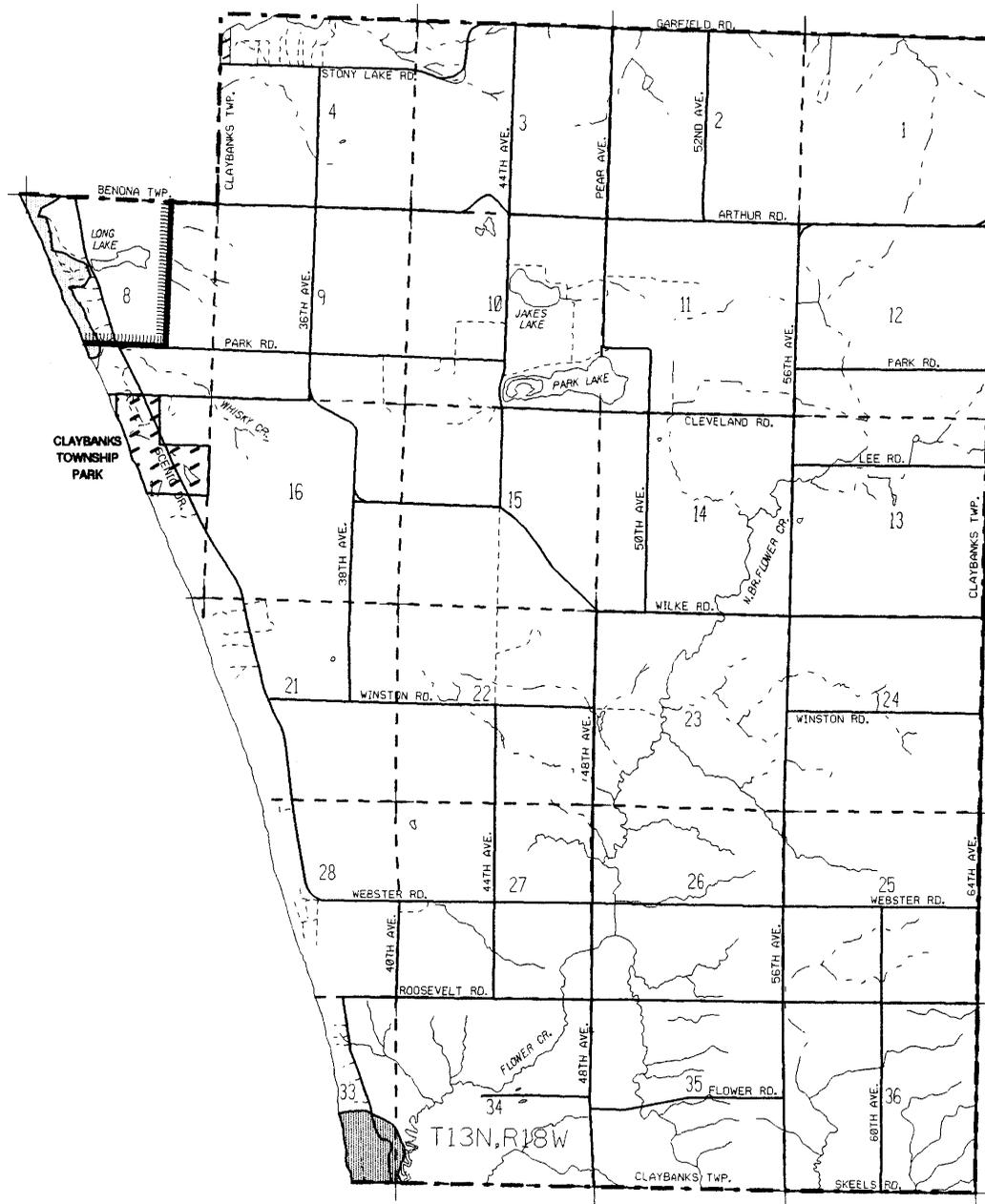
SOURCE

MIRS MICHIGAN RESOURCE INFORMATION SYSTEM REAL ESTATE DIVISION DEPARTMENT OF NATURAL RESOURCES

GSD GEOLOGICAL SURVEY DIVISION DEPARTMENT OF ENVIRONMENTAL QUALITY



OCEANA COUNTY
CLAYBANKS TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

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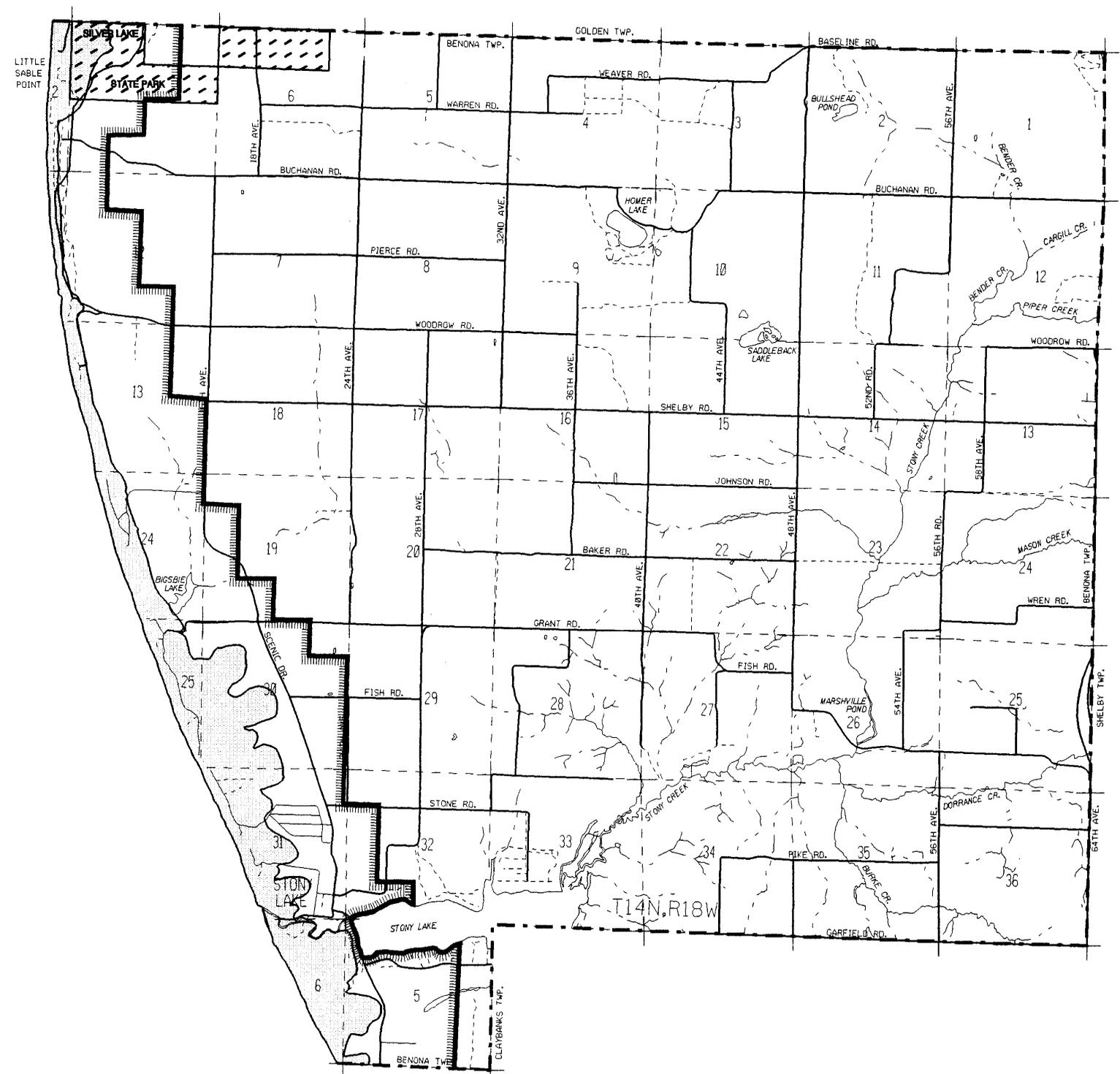
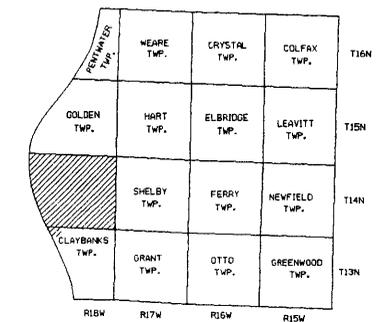
EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
 DEPARTMENT OF NATURAL RESOURCES
 GEOLOGICAL SURVEY DIVISION
 DEPARTMENT OF ENVIRONMENTAL QUALITY



OCEANA COUNTY BENONA TOWNSHIP DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

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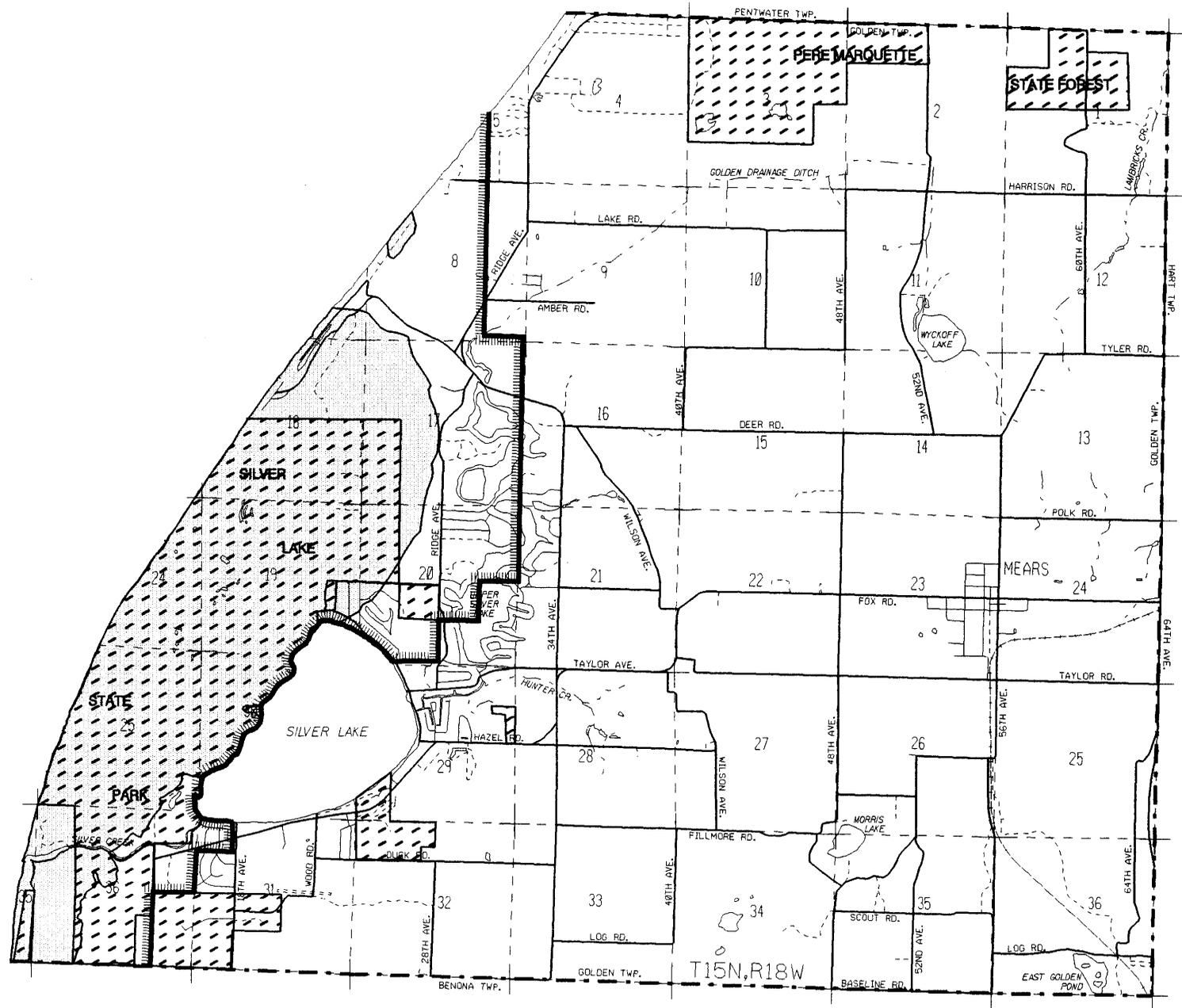
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



OCEANA COUNTY
GOLDEN TOWNSHIP
DESIGNATED
SAND DUNE AREAS



PENTWATER TWP.	WEARE TWP.	CRYSTAL TWP.	COLFAX TWP.	T15N
	HART TWP.	ELBRIDGE TWP.	LEAVITT TWP.	T15N
BENONA TWP.	SHELBY TWP.	FERRY TWP.	NEWFIELD TWP.	T14N
CLAYBANKS TWP.	GRANT TWP.	OTTO TWP.	GREENWOOD TWP.	T13N
R16W	R17W	R16W	R15W	

LEGEND

- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.
- FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

- SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED
- PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

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SOURCE

MIRIS
MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

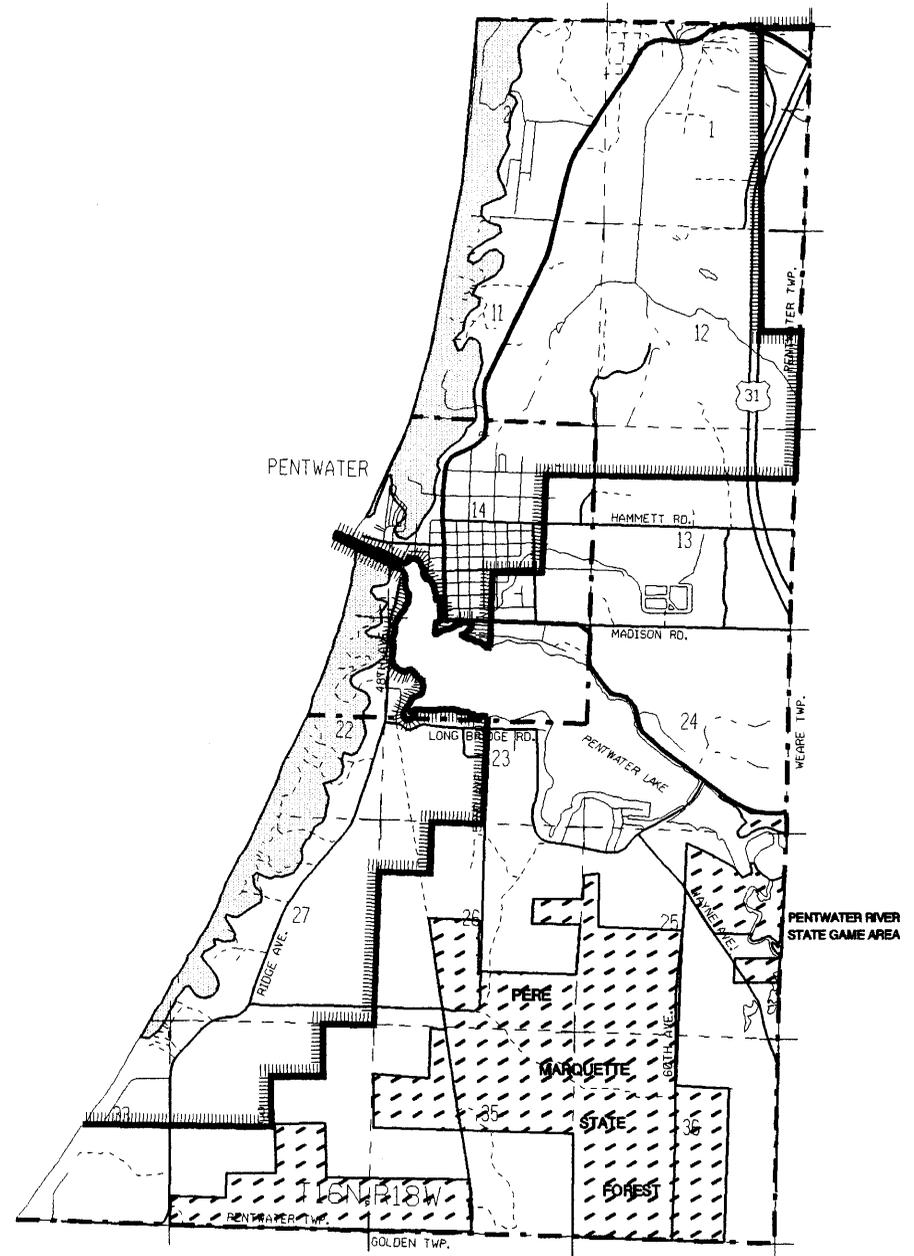
DNR

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ



OCEANA COUNTY
 PENTWATER TOWNSHIP
 DESIGNATED
 SAND DUNE AREAS



	WEARE TWP.	CRYSTAL TWP.	COLFAX TWP.	T18N
GOLDEN TWP.	HART TWP.	ELM RIDGE TWP.	LEAVITT TWP.	T15N
BENONG TWP.	SHELBY TWP.	FERRY TWP.	NEWFIELD TWP.	T14N
CLAYBANKS TWP.	GRANT TWP.	OTTO TWP.	GREENWOOD TWP.	T13N
R16W	R17W	R18W	R19W	

LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

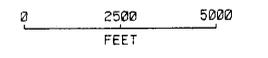
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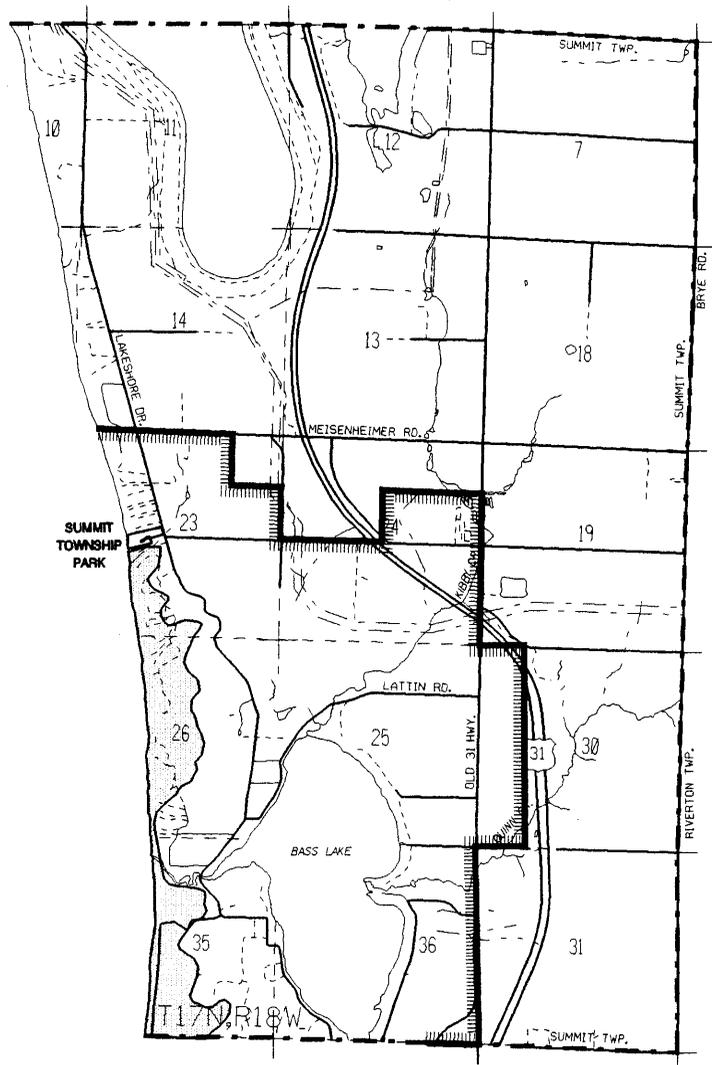
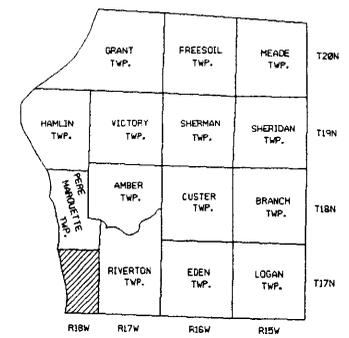
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
 REAL ESTATE DIVISION
 DEPARTMENT OF NATURAL RESOURCES

GEOLOGICAL SURVEY DIVISION
 DEPARTMENT OF ENVIRONMENTAL QUALITY



MASON COUNTY
SUMMIT TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 45L AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 45L AS AMENDED

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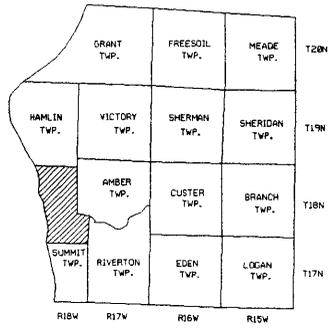
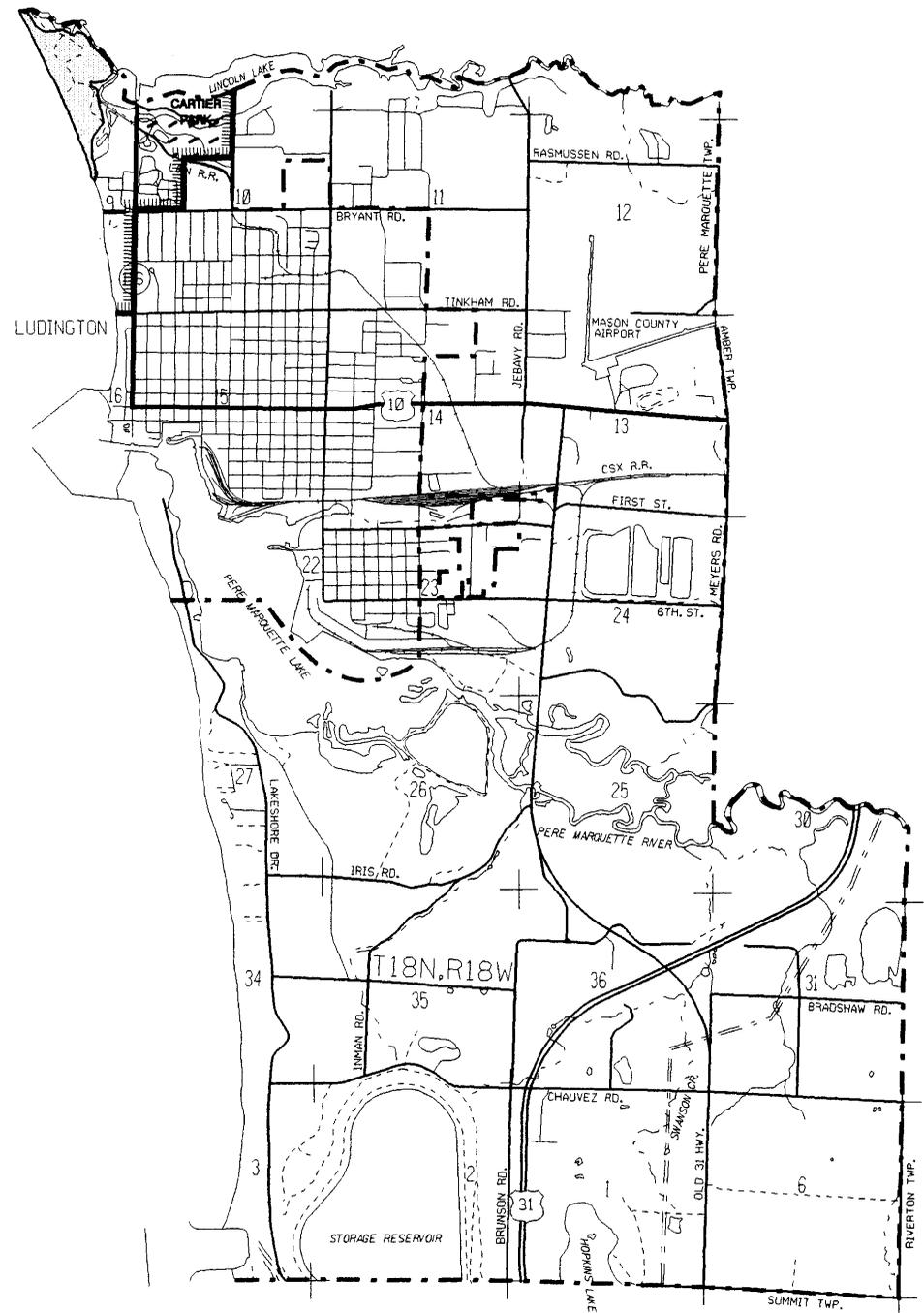
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



MASON COUNTY
PERE MARQUETTE TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

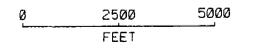
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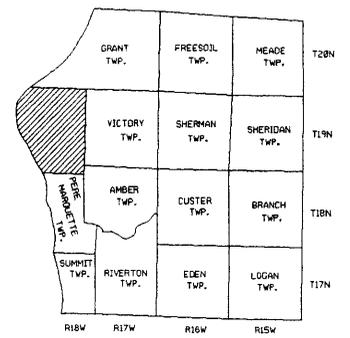
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



**MASON COUNTY
HAMLIN TOWNSHIP
DESIGNATED
SAND DUNE AREAS**



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

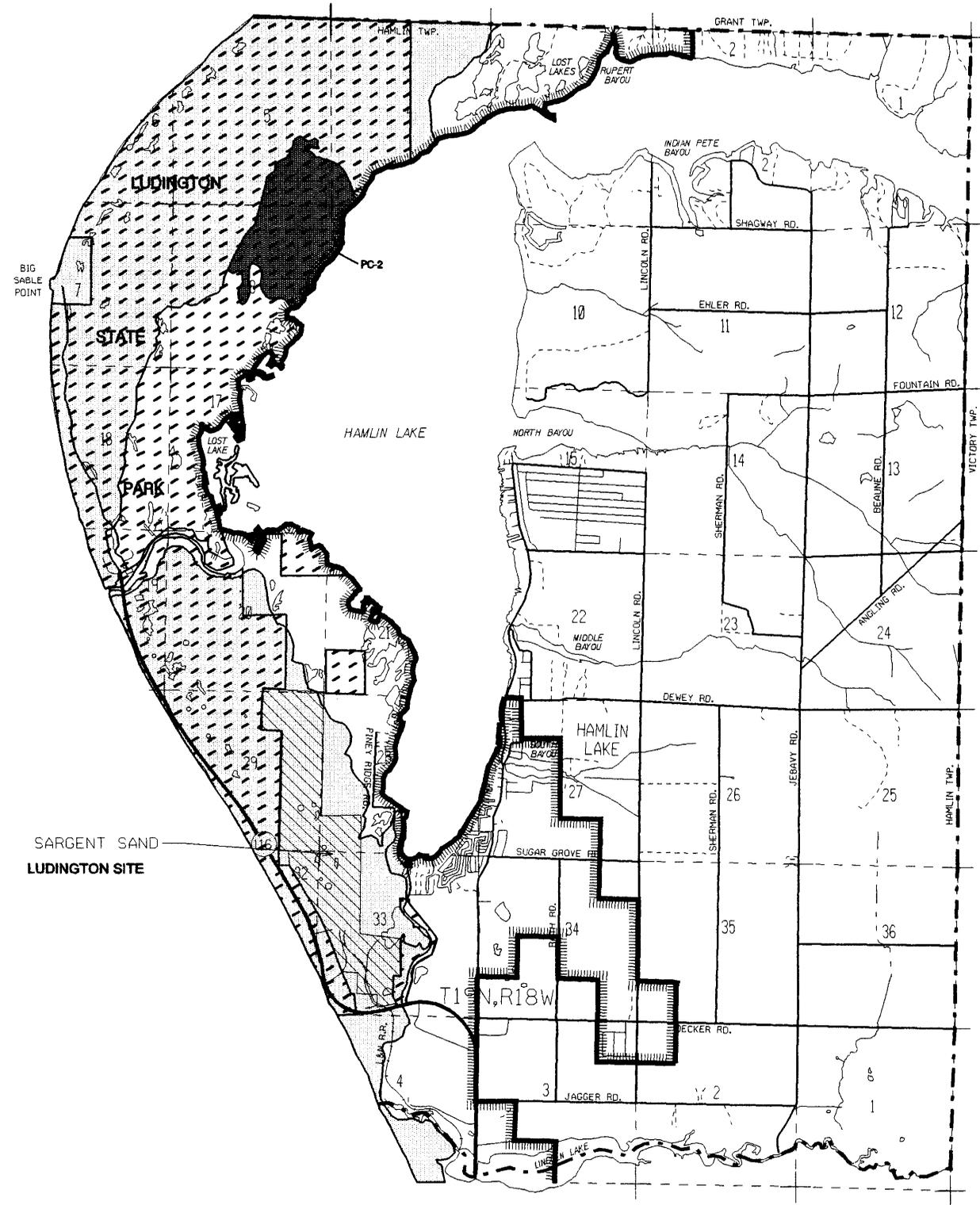
AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

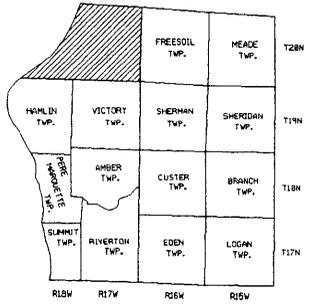
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES **DNR**

GSD
REGIONAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY **DEQ**



MASON COUNTY GRANT TOWNSHIP DESIGNATED SAND DUNE AREAS



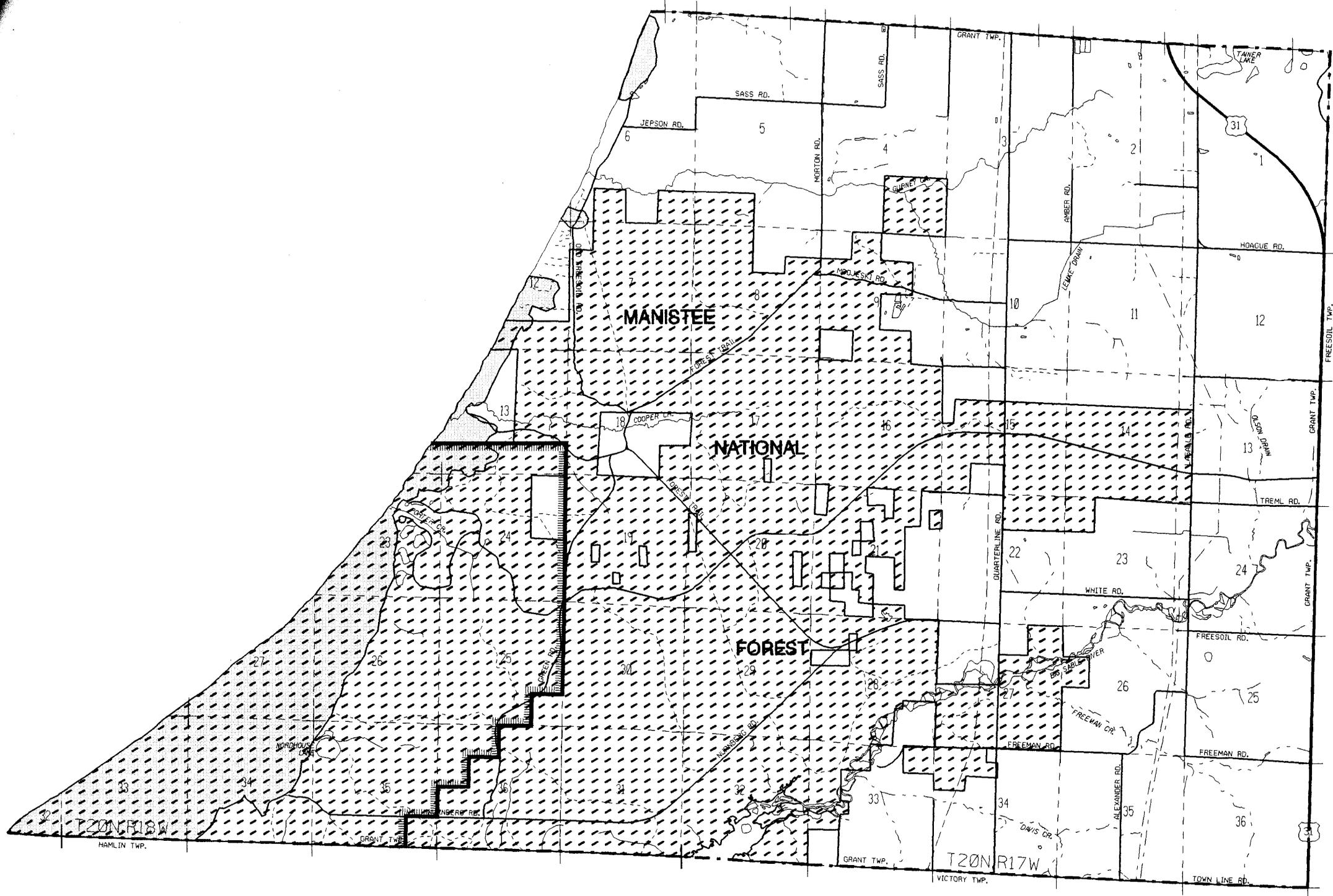
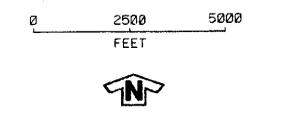
- LEGEND**
- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.
 - FEDERAL, STATE, AND LOCALLY OWNED LANDS.
 - DESIGNATED SAND DUNE AREAS**
 - SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED.
 - PERMITTED SAND DUNE MINING SITES.
 - CRITICAL DUNE AREAS**
 - BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED.
 - AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.
 - EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE

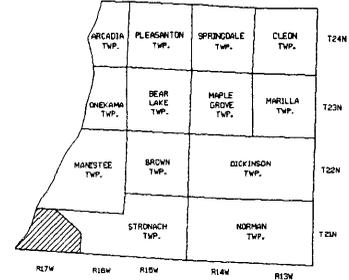
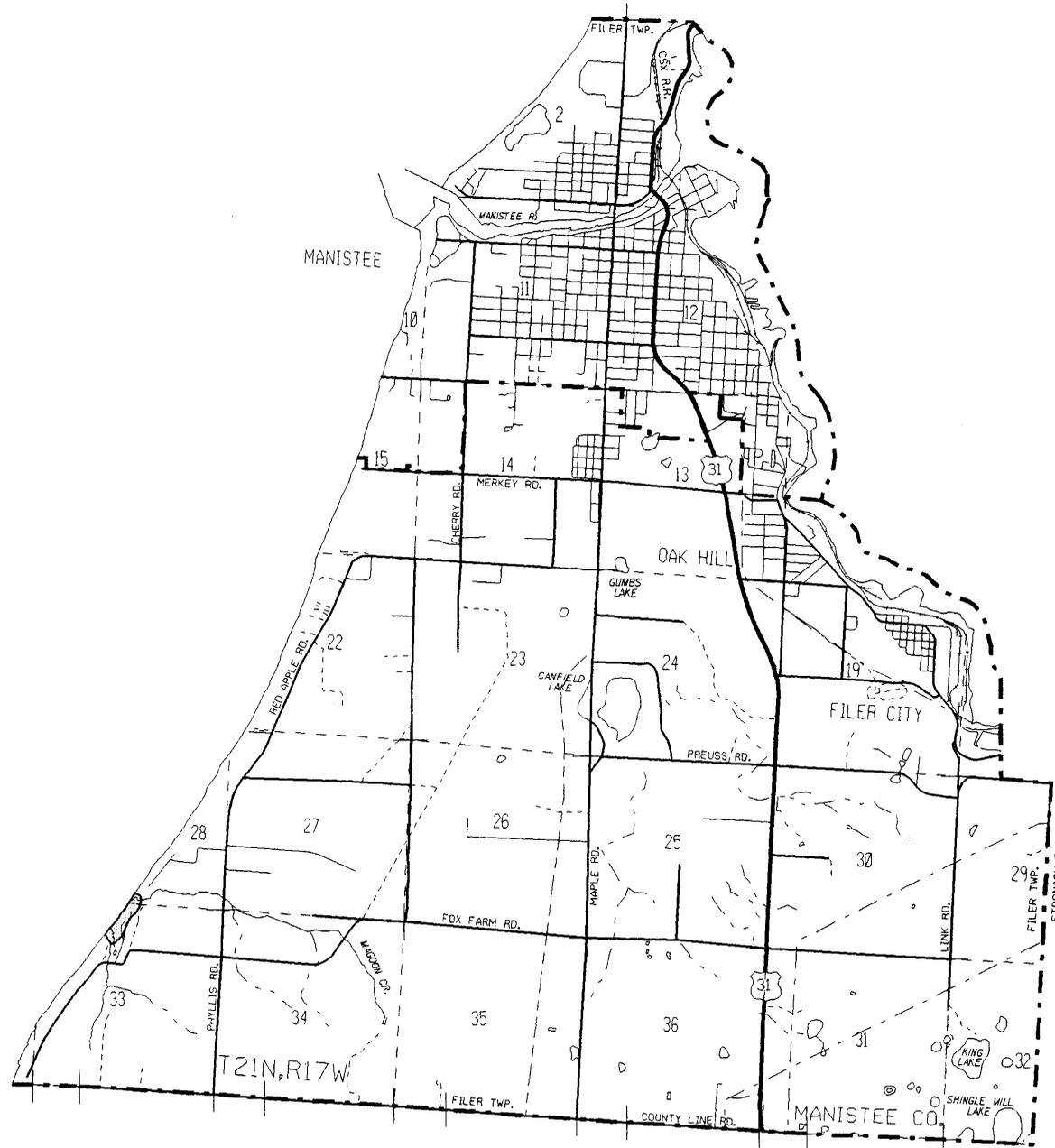
MNIS
MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DNR
DEQ



**MANISTEE COUNTY
FILER TOWNSHIP
DESIGNATED
SAND DUNE AREAS**



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

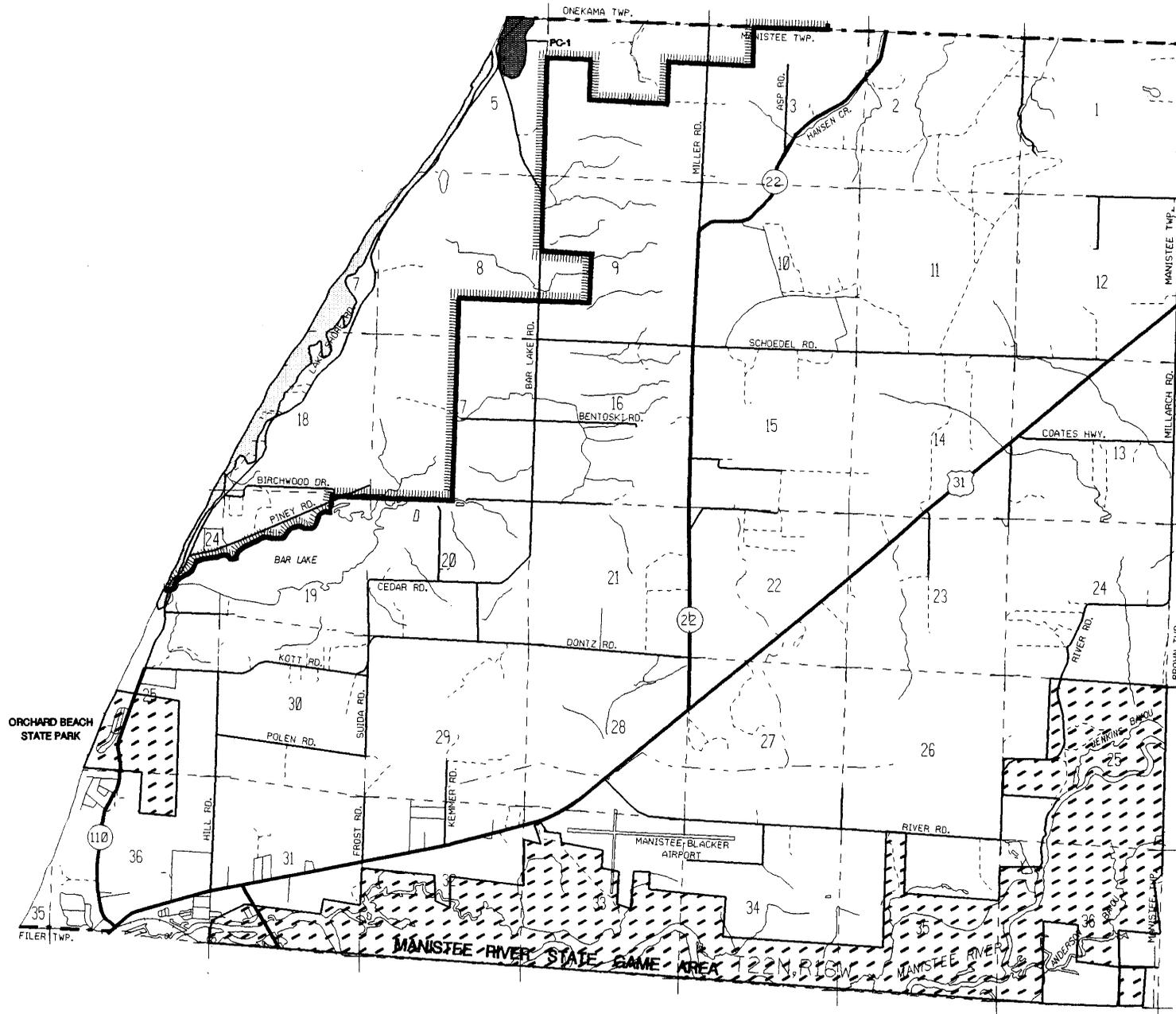
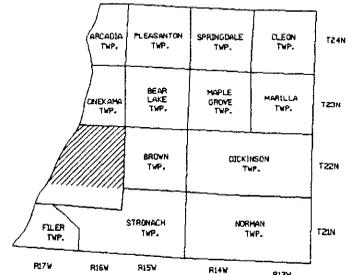
EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE
 MICHIGAN RESOURCE INFORMATION SYSTEM
 REAL ESTATE DIVISION
 DEPARTMENT OF NATURAL RESOURCES

GSD
 GEOLOGICAL SURVEY DIVISION
 DEPARTMENT OF ENVIRONMENTAL QUALITY



MANISTEE COUNTY NORTHERN MANISTEE TOWNSHIP DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

[Hatched Box] FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

[Hatched Box] SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

[Diagonal Lines Box] PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

[Stippled Box] BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

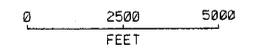
[Dotted Box] AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

[Solid Black Box] EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

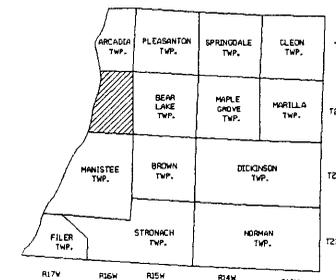
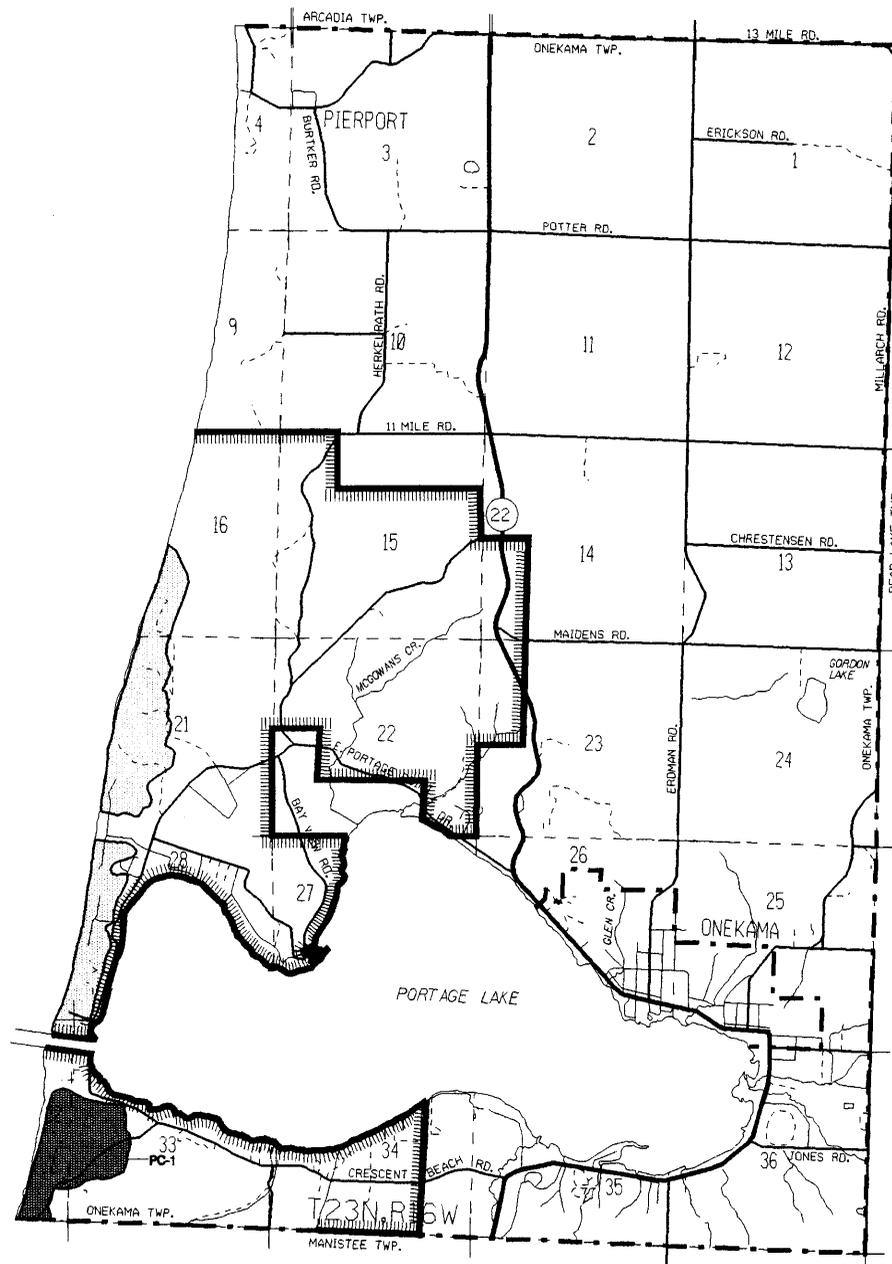
SOURCE

MMS
NORTHERN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



**MANISTEE COUNTY
ONEKAMA TOWNSHIP
DESIGNATED
SAND DUNE AREAS**



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

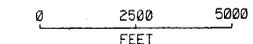
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EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE

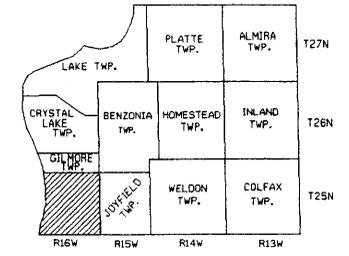
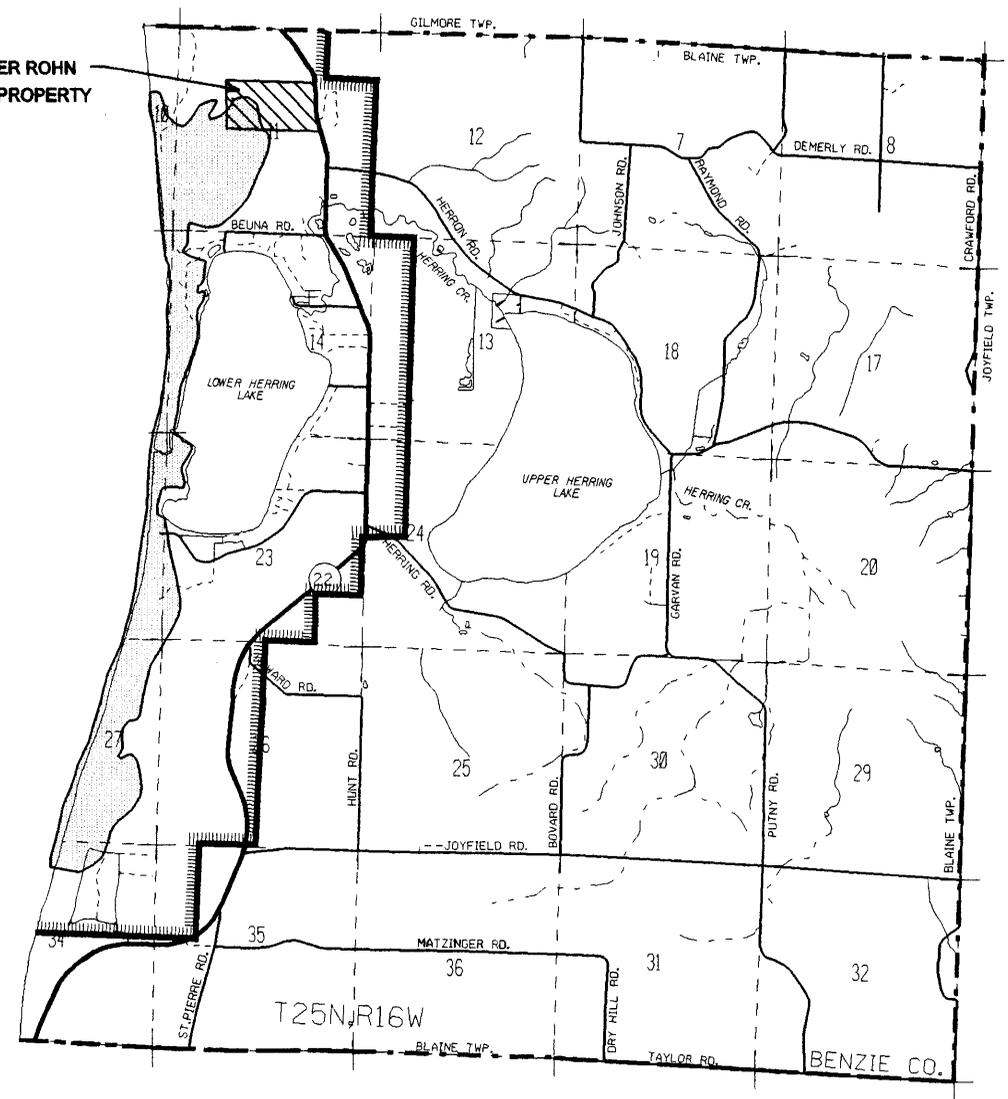
MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



**BENZIE COUNTY
BLAINE TOWNSHIP
DESIGNATED
SAND DUNE AREAS**

WALTER ROHN
ROHN PROPERTY



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 363, 1994 PA 451, AS AMENDED

AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

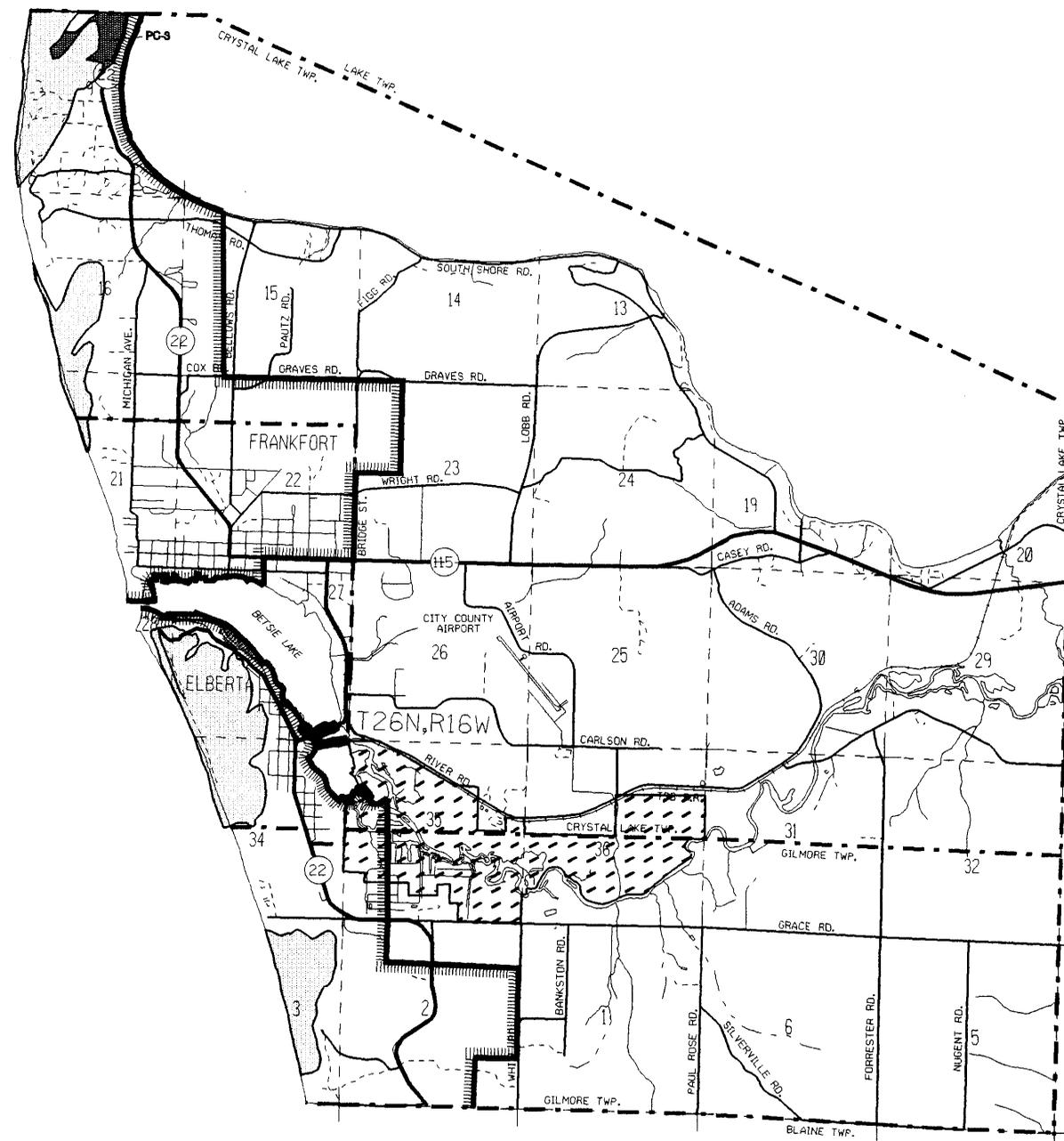
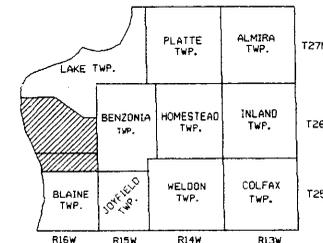
SOURCE

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REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



**BENZIE COUNTY
CRYSTAL LAKE TOWNSHIP
GILMORE TOWNSHIP**
DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

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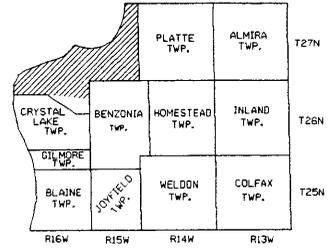
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



BENZIE COUNTY LAKE TOWNSHIP DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 253, 1994 PA 451, AS AMENDED

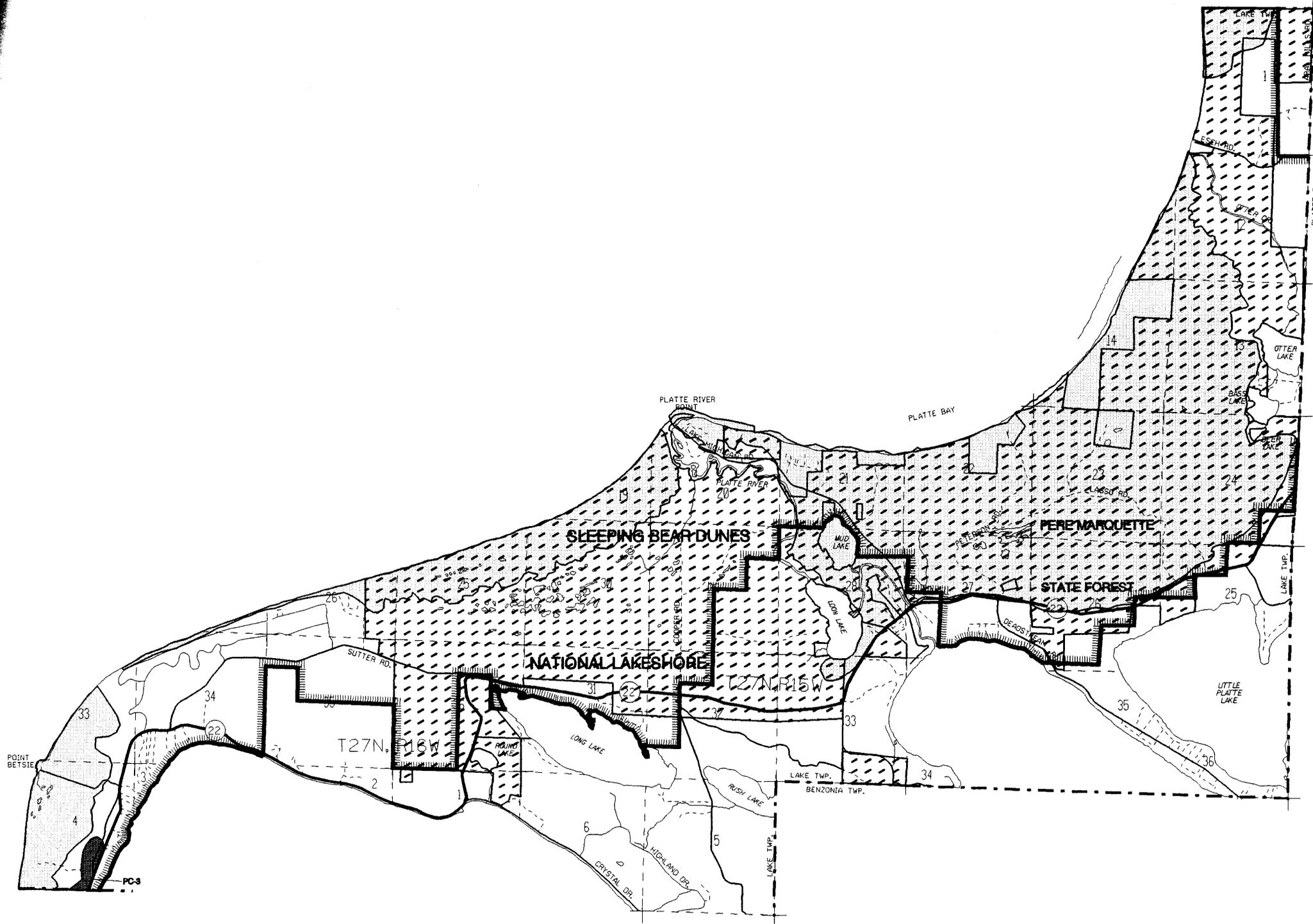
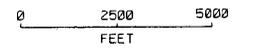
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EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

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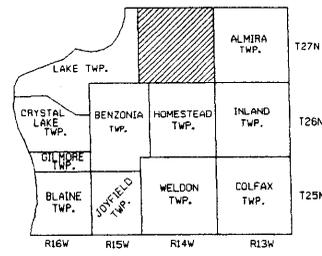
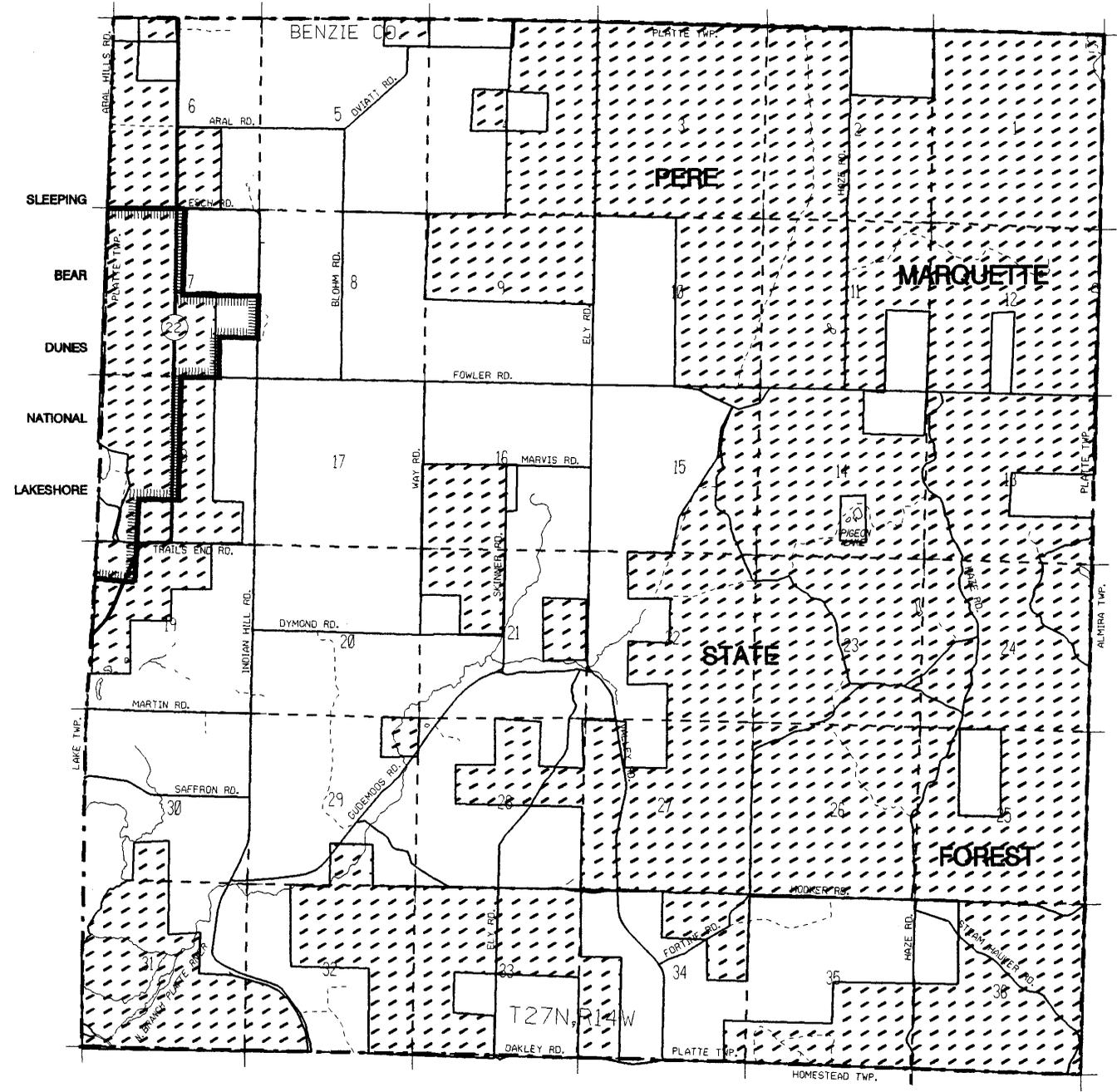
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DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



PC-3

BENZIE COUNTY PLATTE TOWNSHIP DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

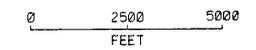
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EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

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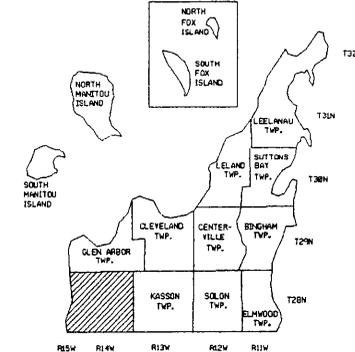
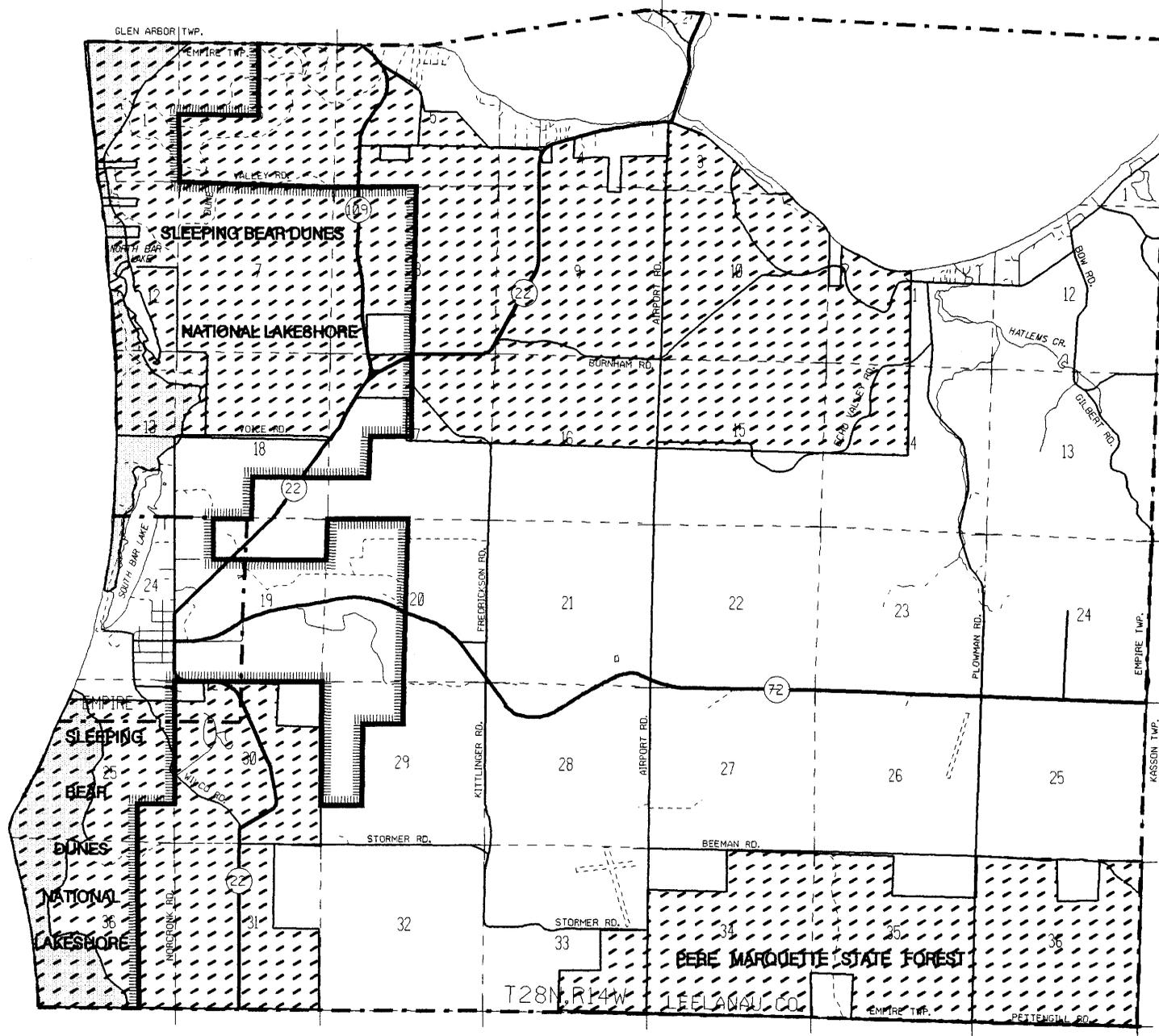
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REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



LEELANAU COUNTY
EMPIRE TOWNSHIP

DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

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EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

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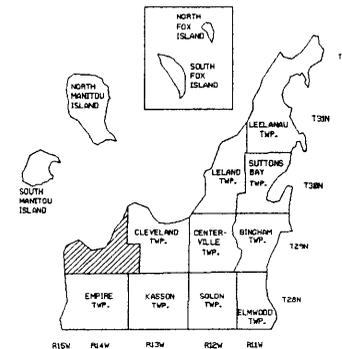
MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES
 GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

0 2500 5000
FEET



LEELANAU COUNTY
GLEN ARBOR TOWNSHIP

DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

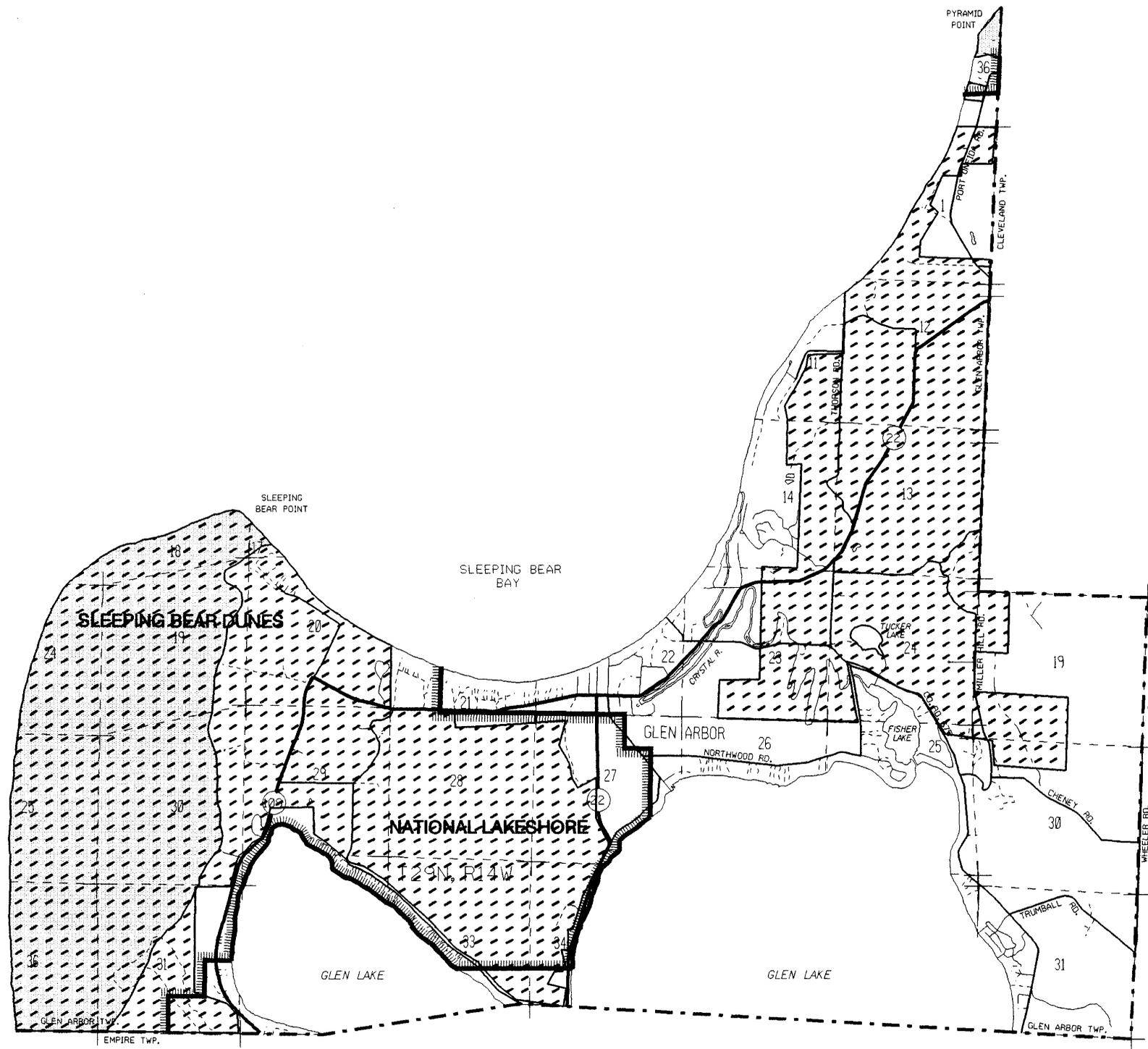
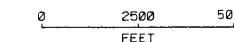
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EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

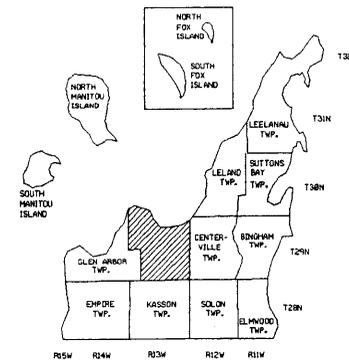
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



LEELANAU COUNTY CLEVELAND TOWNSHIP DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

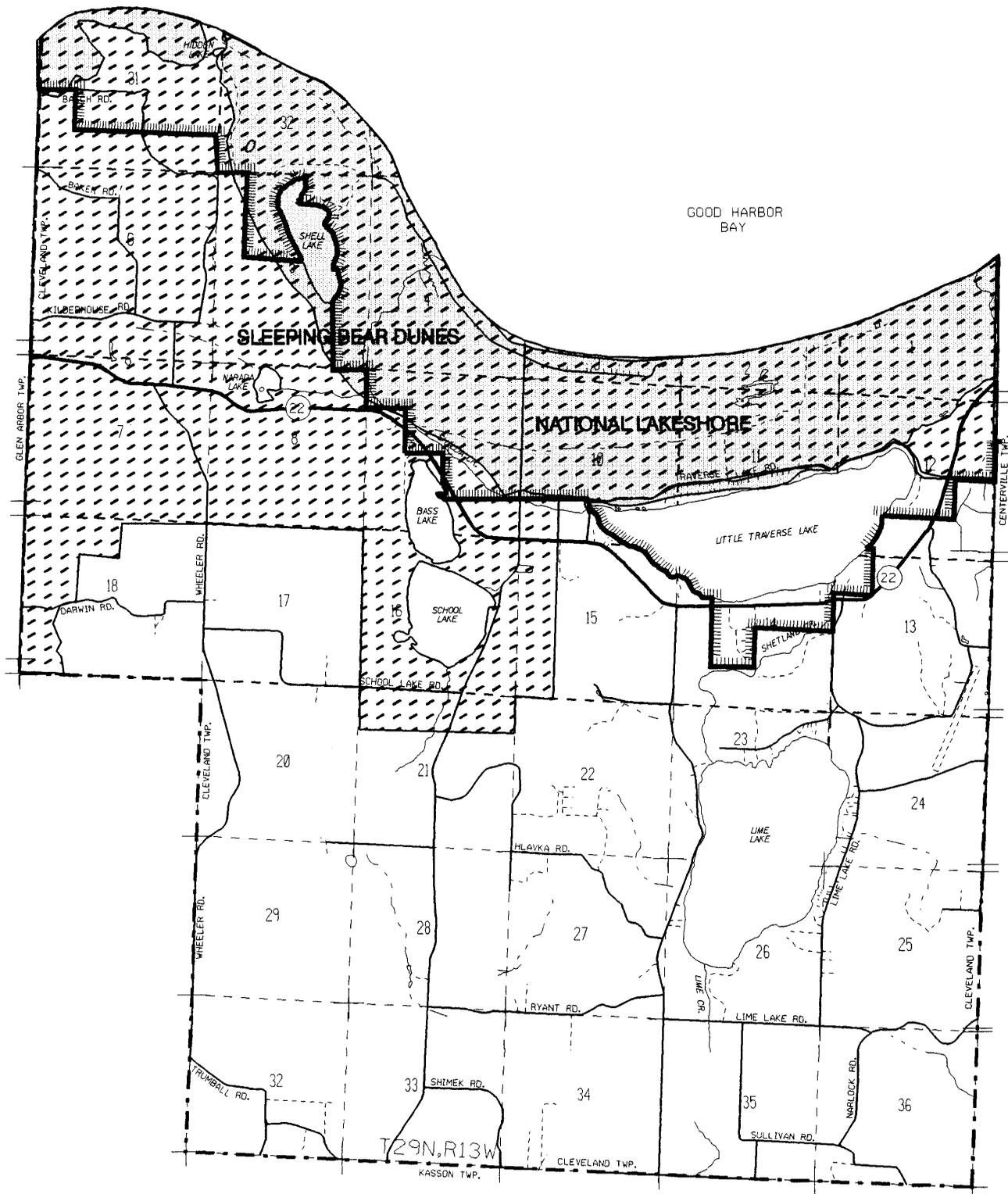
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EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

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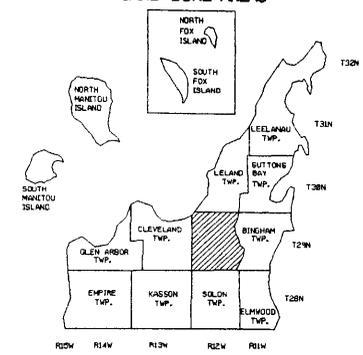
MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



LEELANAU COUNTY CENTERVILLE TOWNSHIP

DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

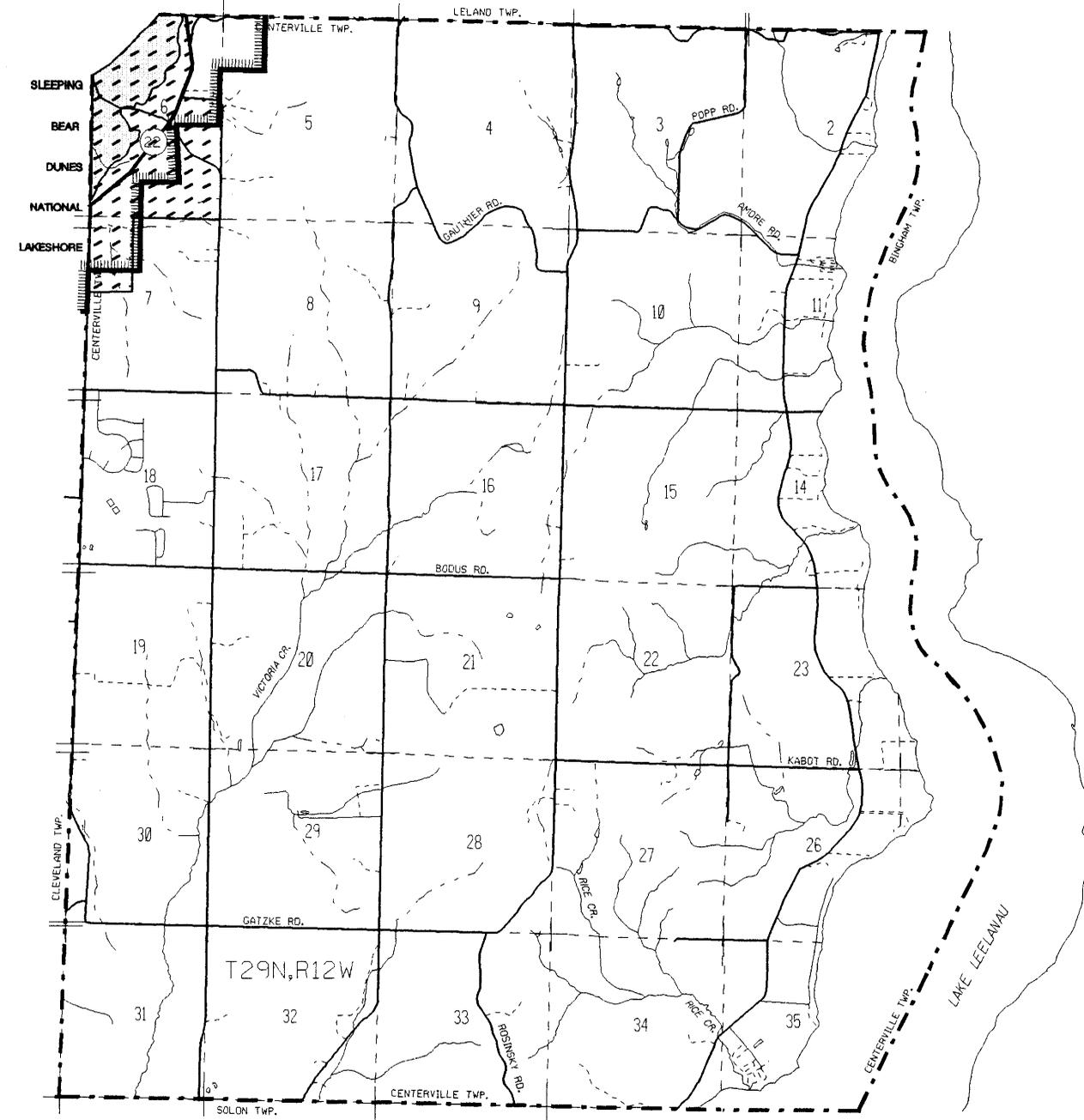
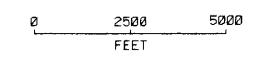
BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

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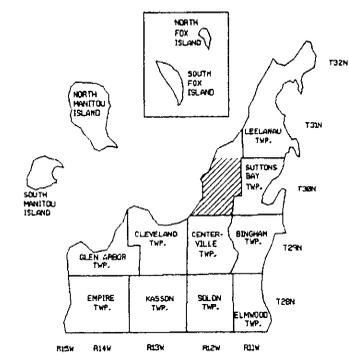
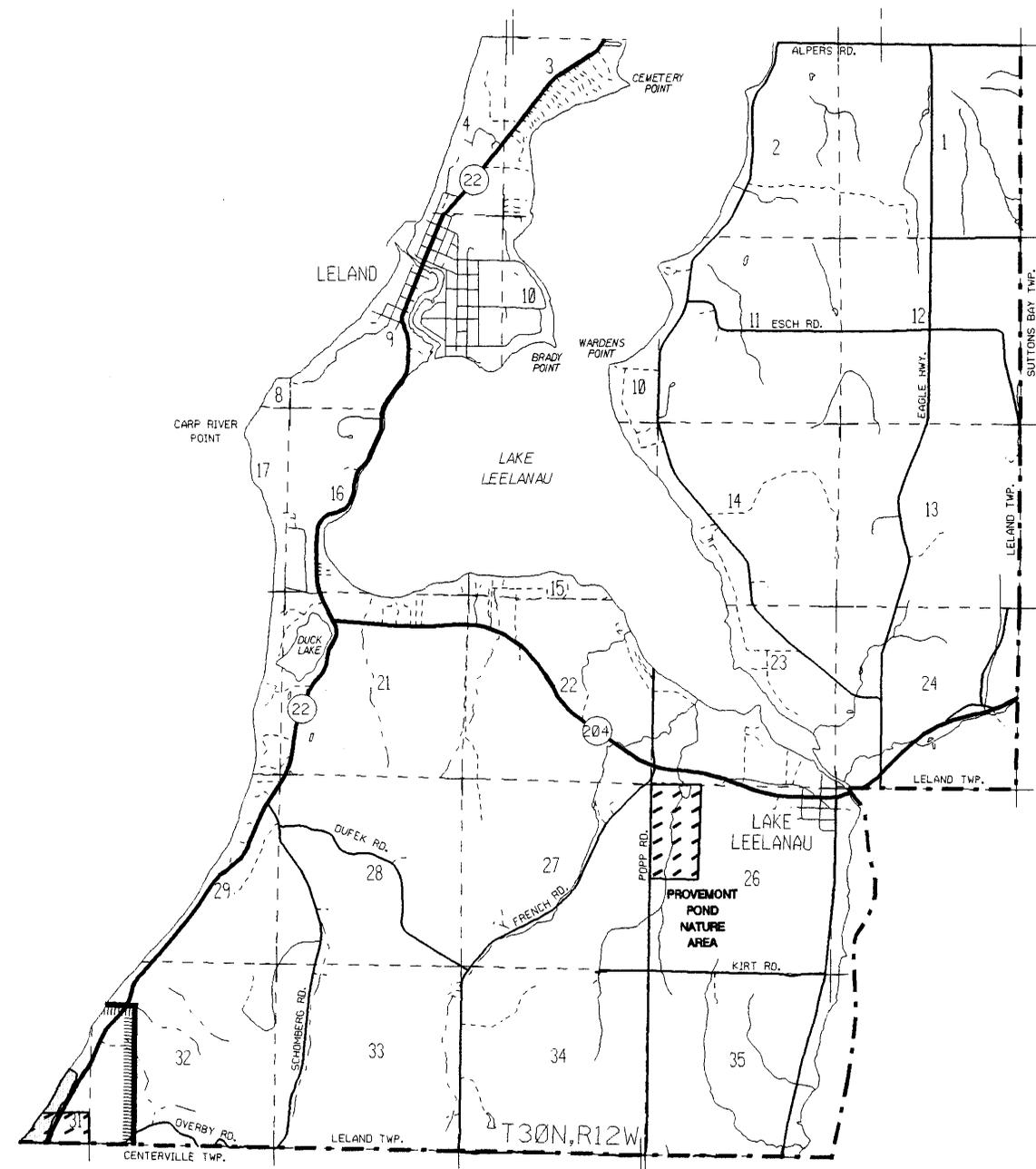
EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE
 MICHIGAN RESOURCE INFORMATION SYSTEM
 REAL ESTATE DIVISION
 DEPARTMENT OF NATURAL RESOURCES

GSD
 GEOLOGICAL SURVEY DIVISION
 DEPARTMENT OF ENVIRONMENTAL QUALITY



LEELANAU COUNTY
SOUTHERN
LELAND TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.
- FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

- SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED
- PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

- BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED
- AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.
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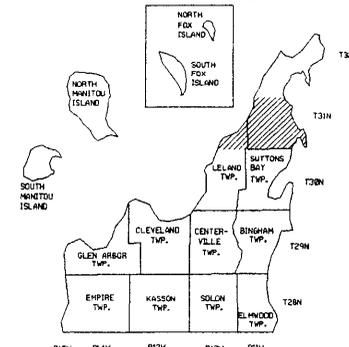
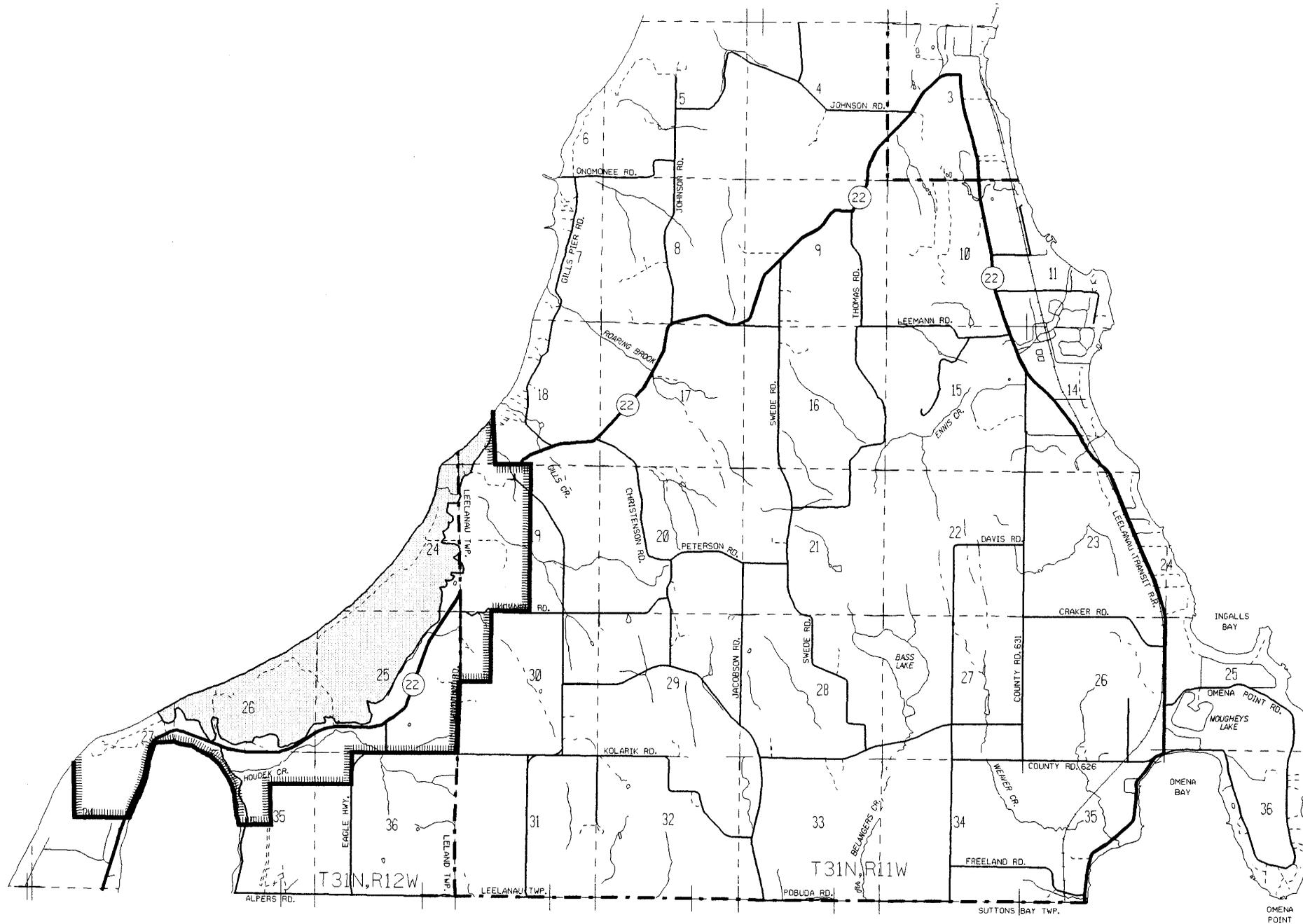
SOURCE

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REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



LEELANAU COUNTY
 SOUTHERN
 LEELANAU TOWNSHIP
 NORTHERN
 LELAND TOWNSHIP
 DESIGNATED
 SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

[Hatched Box] FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

[Hatched Box] SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

[Square with Diagonal Line] PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

[Wavy Line] BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

[Dotted Area] AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

[Solid Black Area] EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

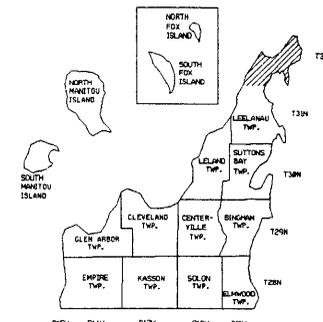
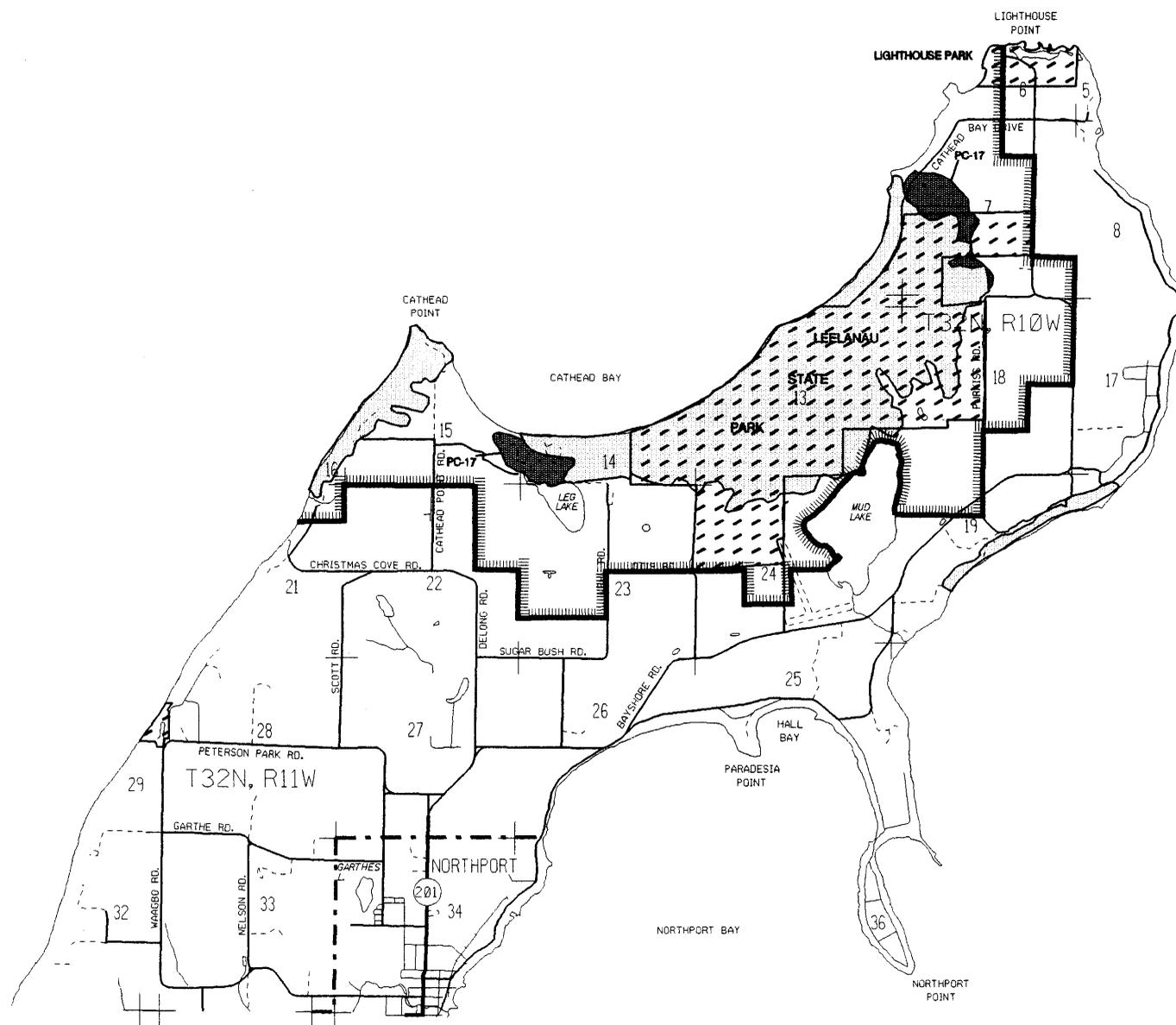
SOURCE

MIRMS
 MICHIGAN RESOURCE INFORMATION SYSTEM
 REAL ESTATE DIVISION
 DEPARTMENT OF NATURAL RESOURCES

GSD
 GEOLOGICAL SURVEY DIVISION
 DEPARTMENT OF ENVIRONMENTAL QUALITY



LEELANAU COUNTY
NORTHERN
LEELANAU TOWNSHIP
DESIGNATED
SAND DUNE AREAS

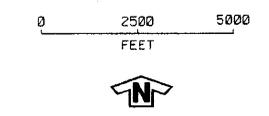


- LEGEND
- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.
 - FEDERAL, STATE, AND LOCALLY OWNED LANDS.
 - DESIGNATED SAND DUNE AREAS**
 - SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED
 - PERMITTED SAND DUNE MINING SITES
 - CRITICAL DUNE AREAS**
 - BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED
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 - PC-00**

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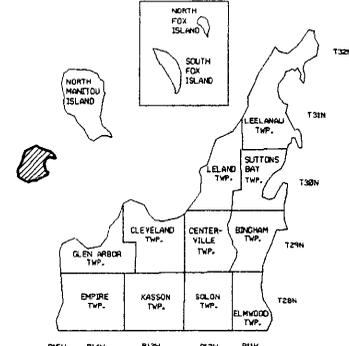
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REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



LEELANAU COUNTY GLEN ARBOR TOWNSHIP

DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

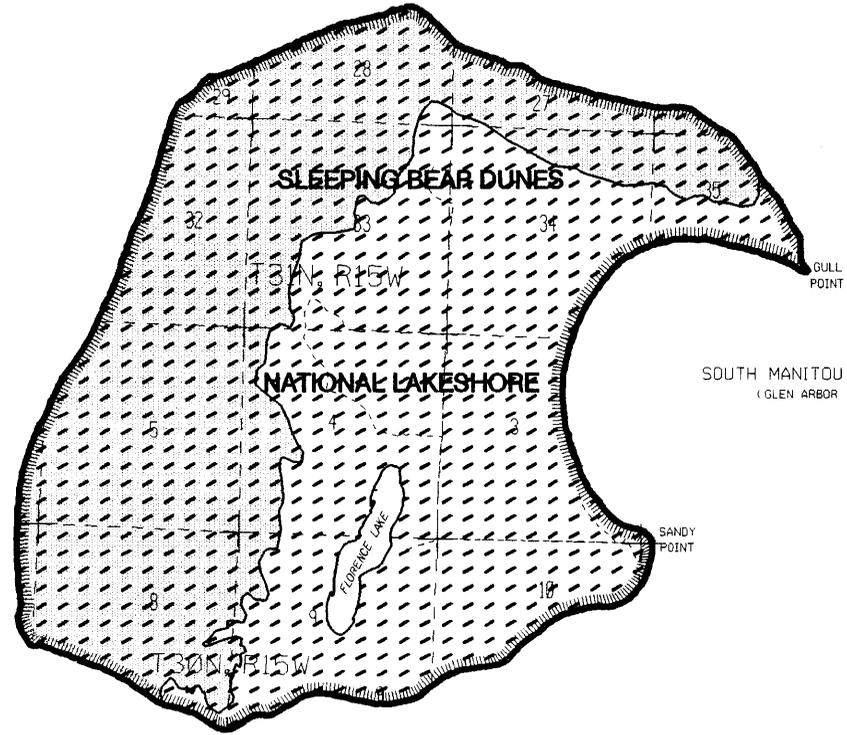
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EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

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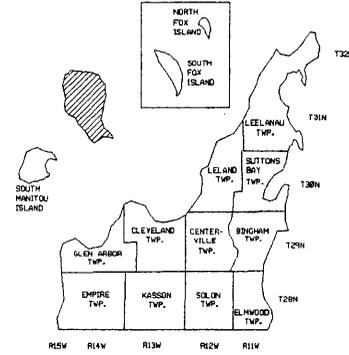
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REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



LEELANAU COUNTY LELAND TOWNSHIP

DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

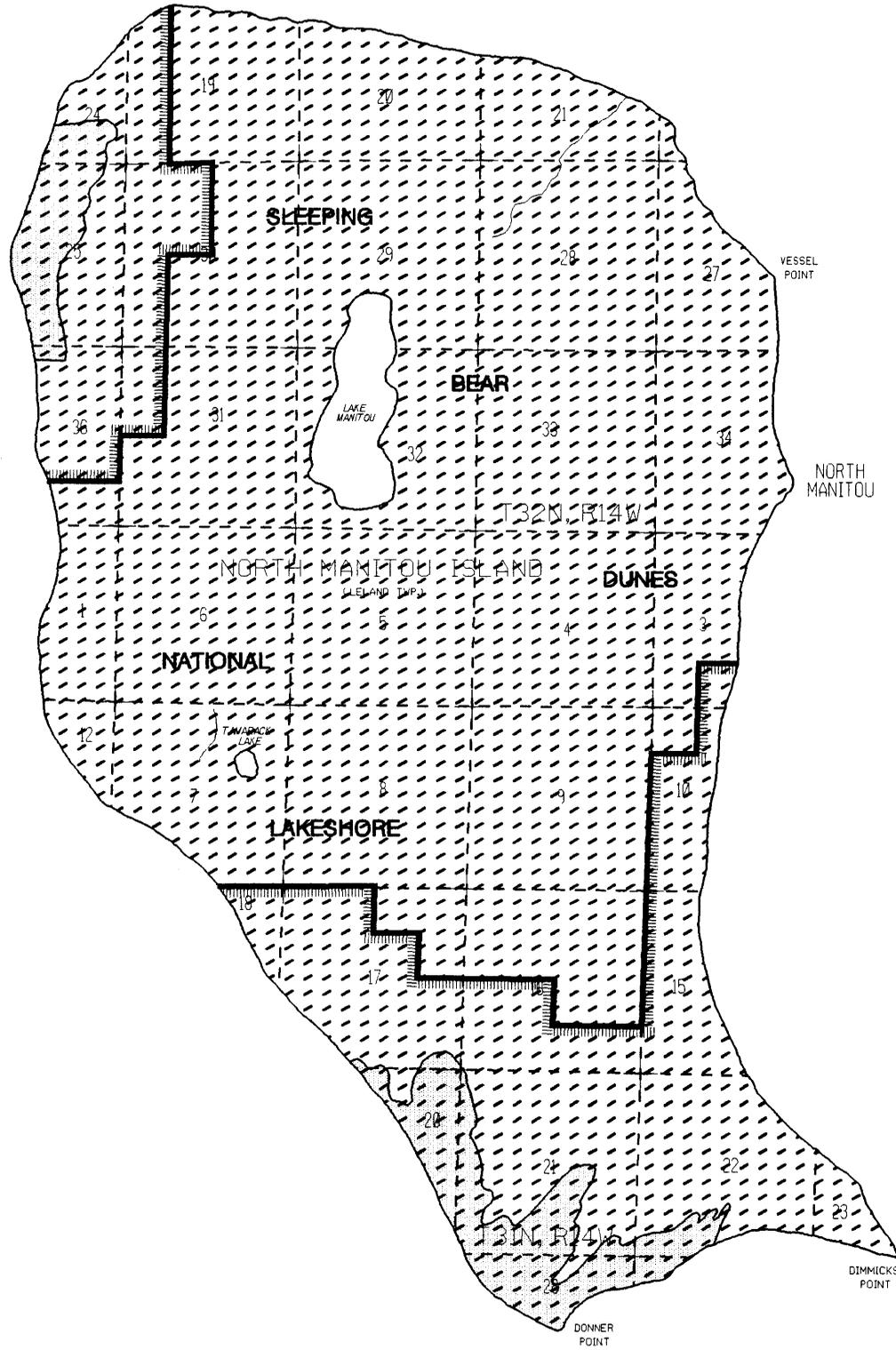
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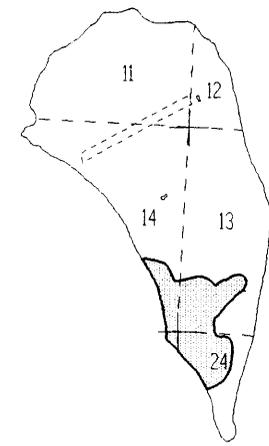
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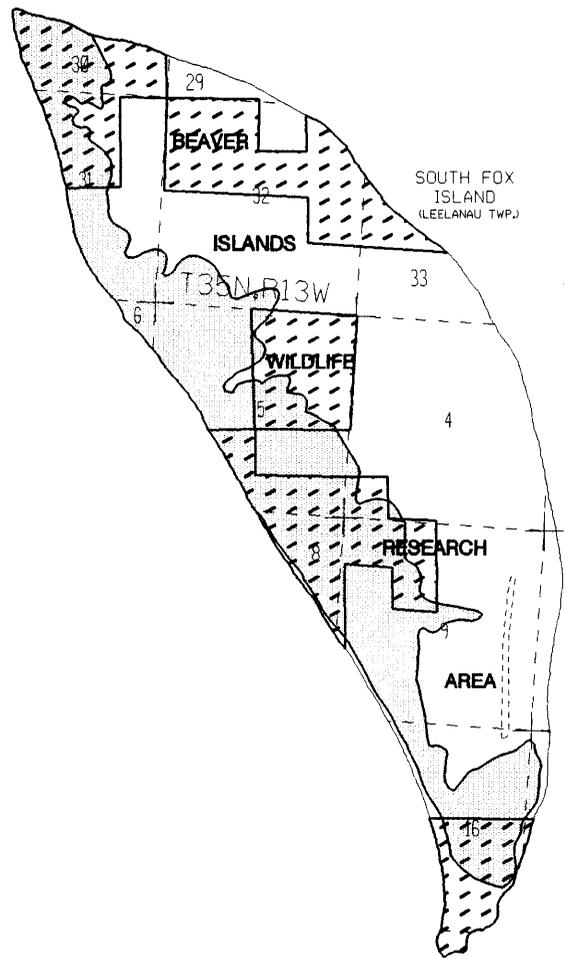
MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



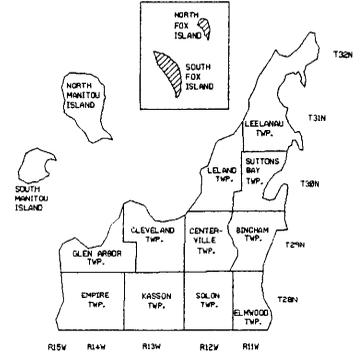


NORTH FOX ISLAND
(LEELANAU TWP.)
T35N, R13W



SOUTH FOX ISLAND
(LEELANAU TWP.)

LEELANAU COUNTY
LEELANAU TOWNSHIP
DESIGNATED SAND DUNE AREAS



- LEGEND
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 - FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

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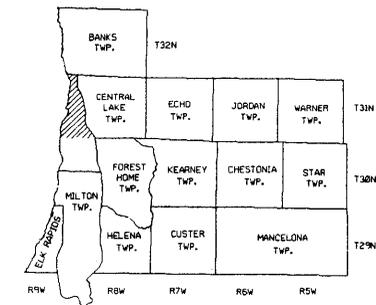
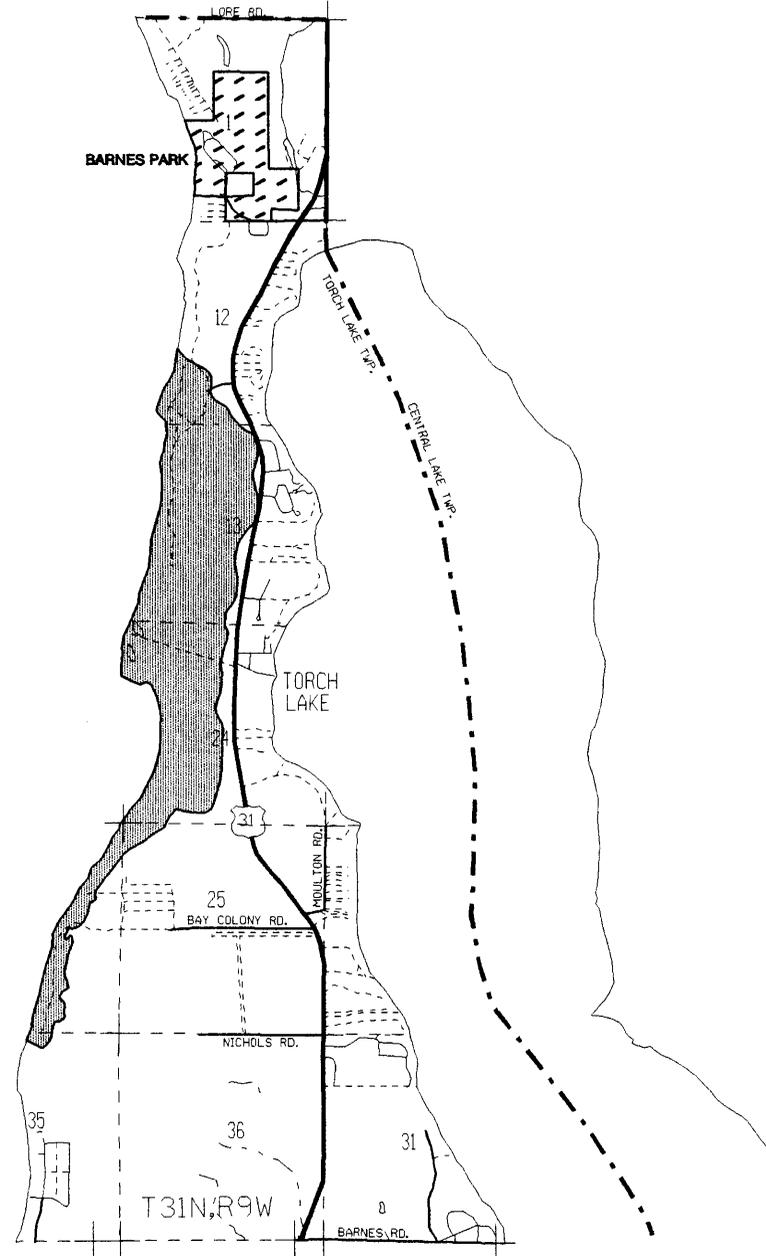
SOURCE

MMS
MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES **DNR**

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY **DEQ**



ANTRIM COUNTY NORTHERN TORCH LAKE TOWNSHIP DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 352, 1994 PA 451, AS AMENDED

AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

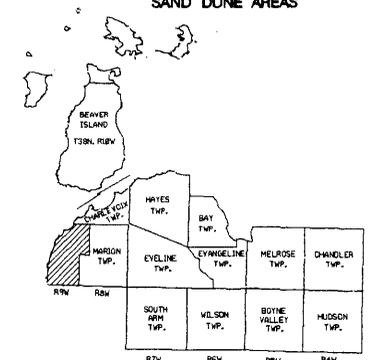
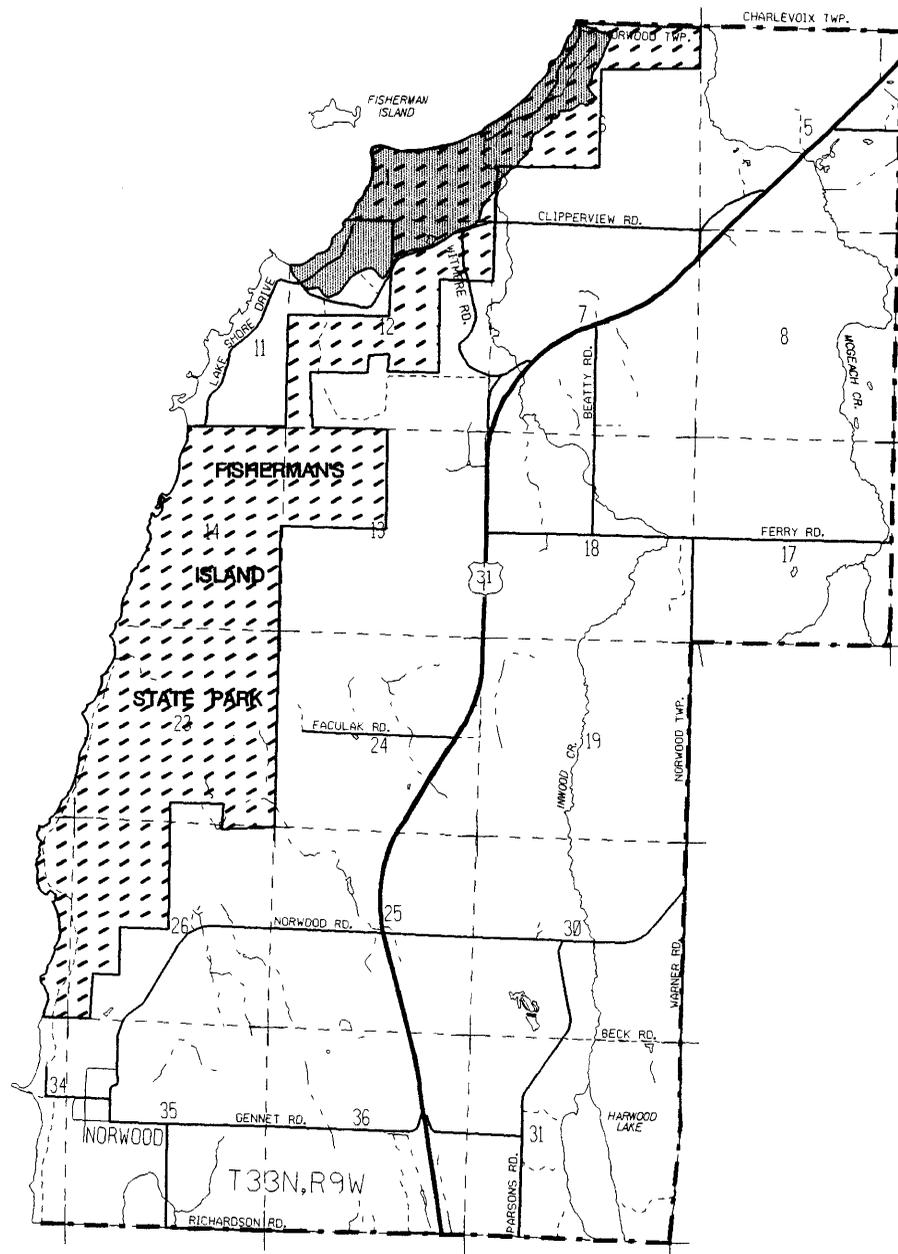
SOURCE

MICHIGAN INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



CHARLEVOIX COUNTY
NORWOOD TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

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FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

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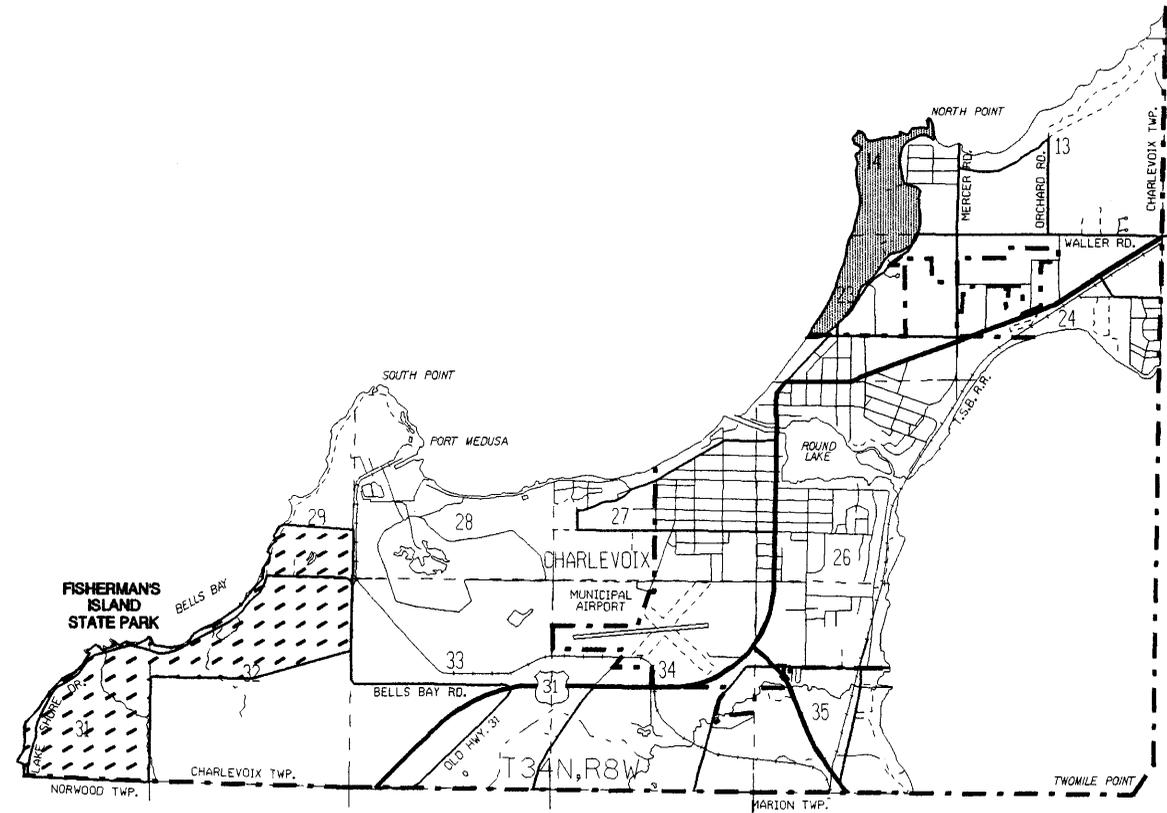
MIRS
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 REAL ESTATE DIVISION
 DEPARTMENT OF NATURAL RESOURCES

DNR
 GSD
 GEOLOGICAL SURVEY DIVISION
 DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ



CHARLEVOIX COUNTY
CHARLEVOIX TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

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DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 363, 1994 PA 451, AS AMENDED

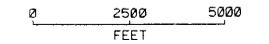
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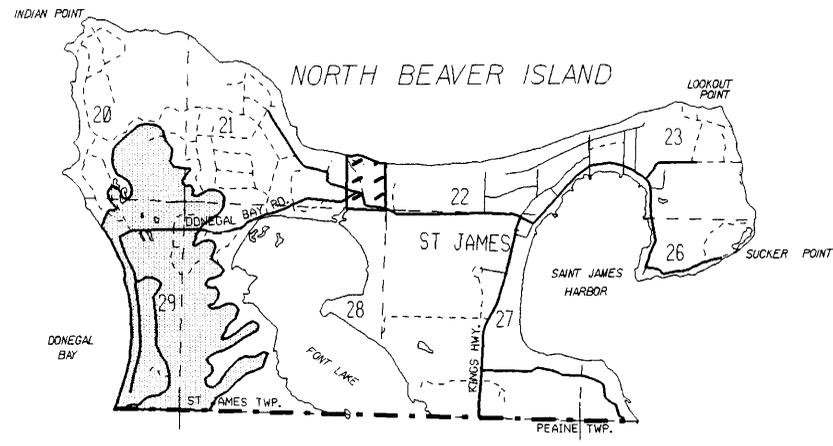
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

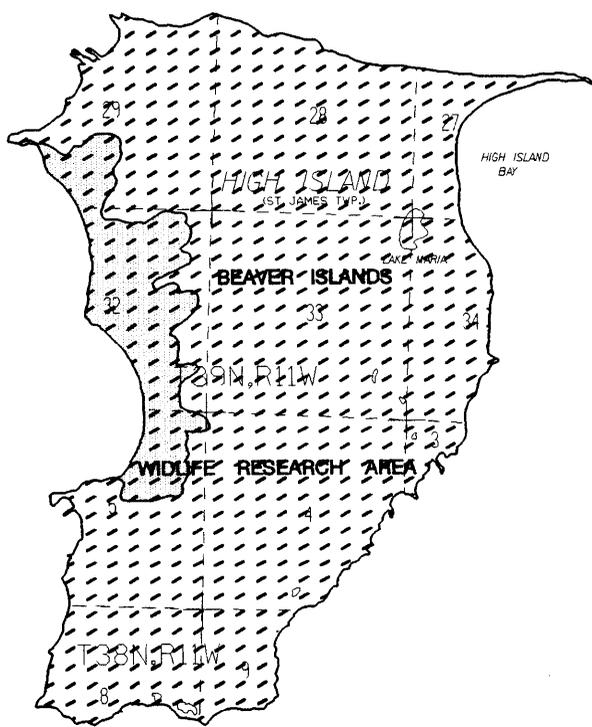
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



**CHARLEVOIX COUNTY
ST. JAMES TOWNSHIP
DESIGNATED
SAND DUNE AREAS**



T39N, R10W



- LEGEND**
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 - FEDERAL, STATE, AND LOCALLY OWNED LANDS.
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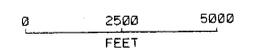
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

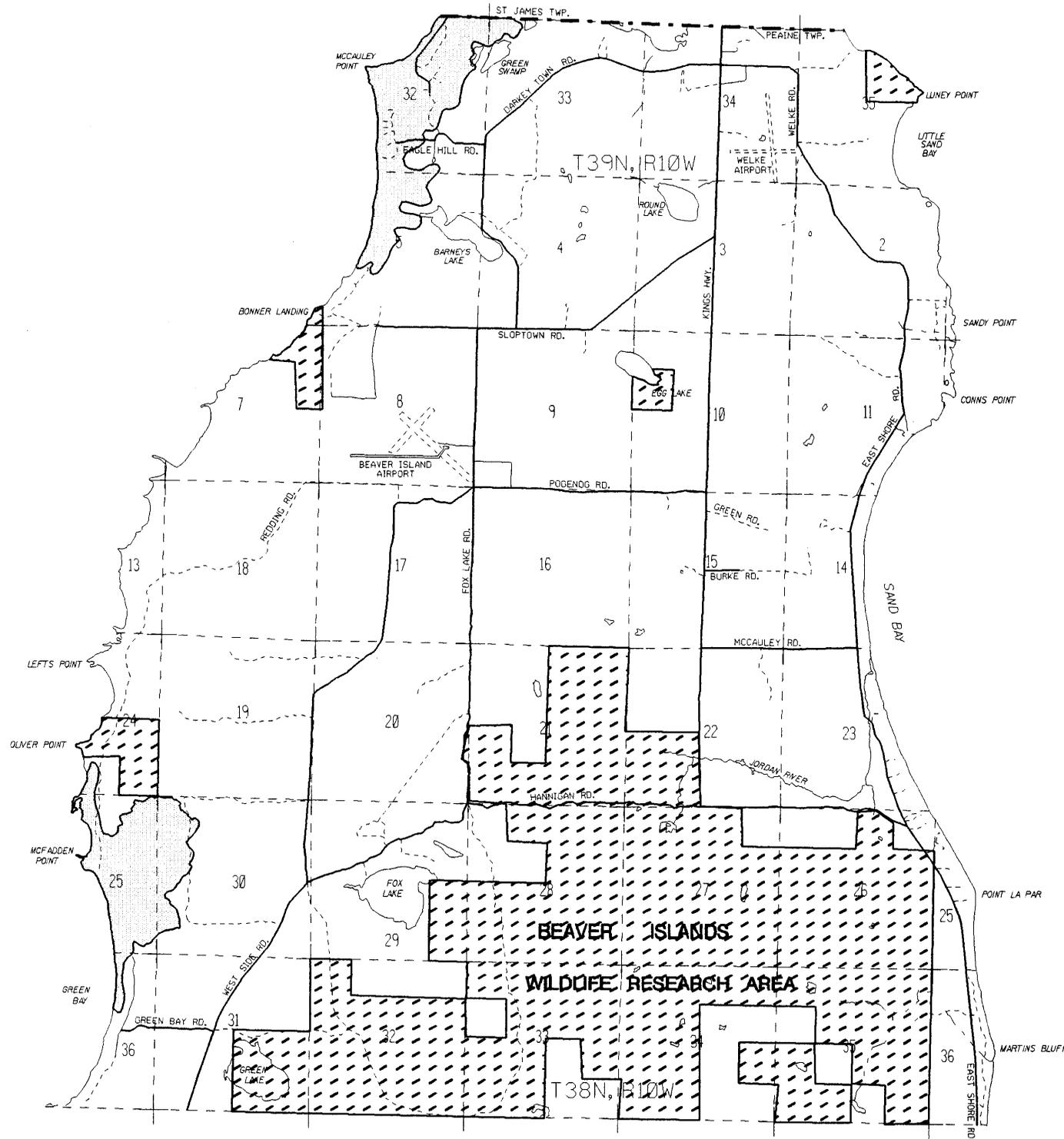
DNR

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ



CHARLEVOIX COUNTY NORTHERN PEAINE TOWNSHIP DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 363, 1994 PA 451, AS AMENDED

AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

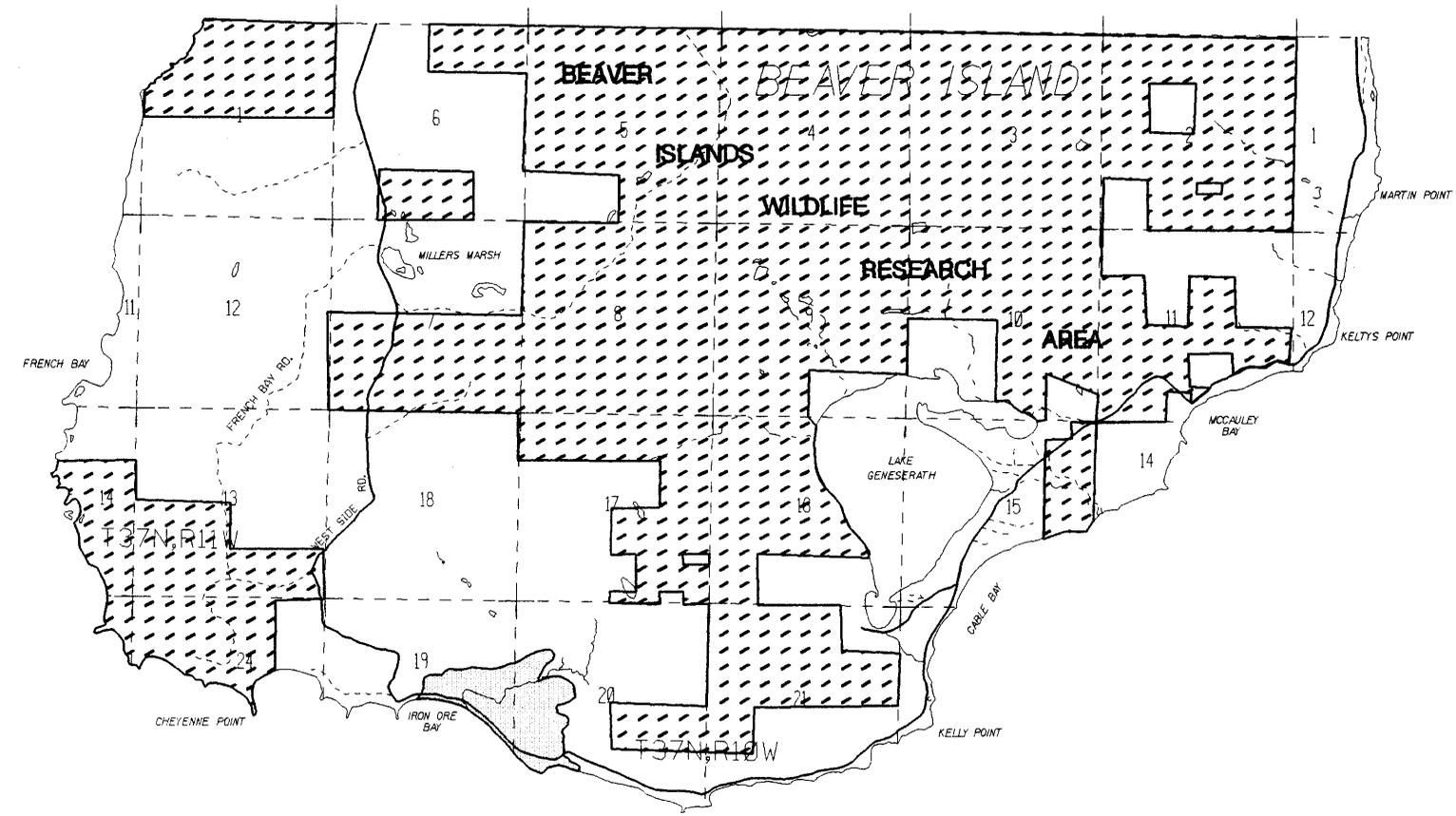
DNR

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ



CHARLEVOIX COUNTY SOUTHERN PEAINE TOWNSHIP DESIGNATED SAND DUNE AREAS

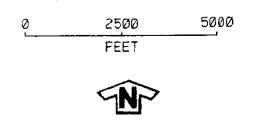


- LEGEND**
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 - FEDERAL, STATE, AND LOCALLY OWNED LANDS.
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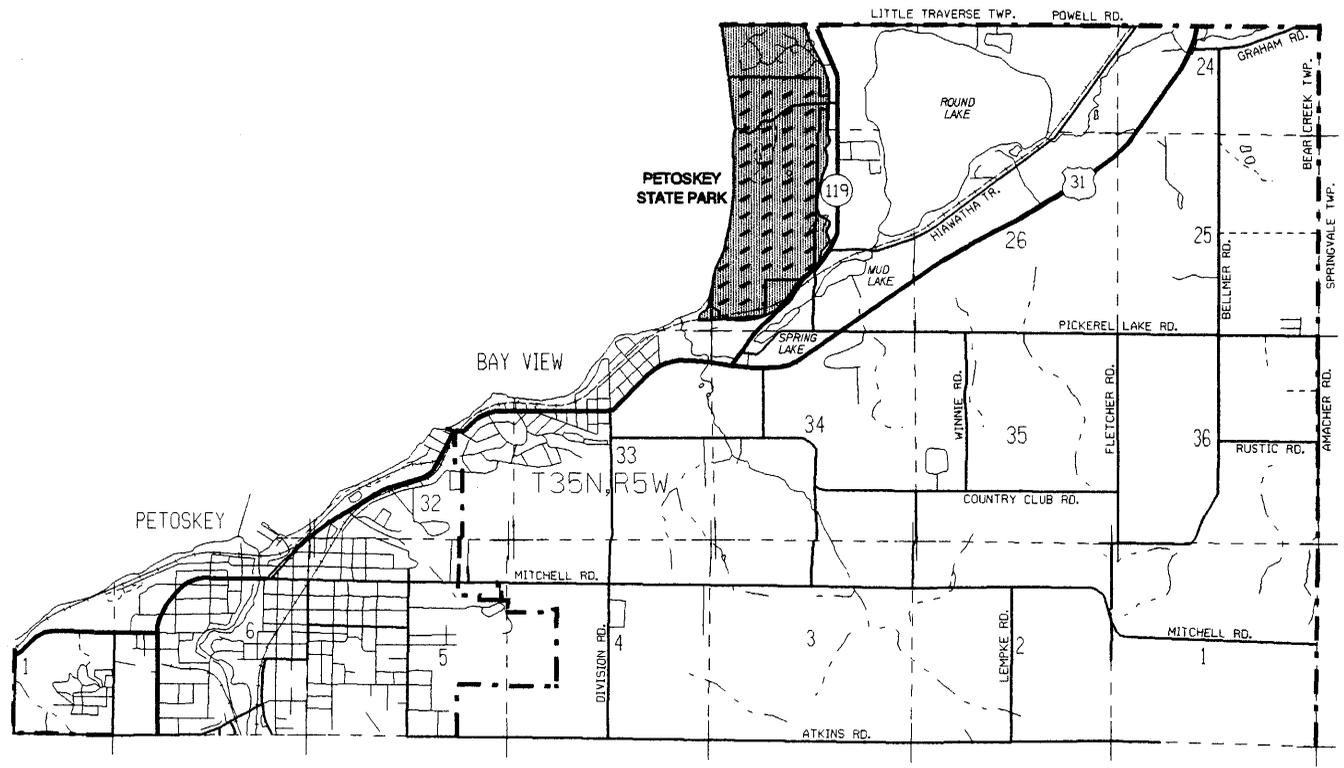
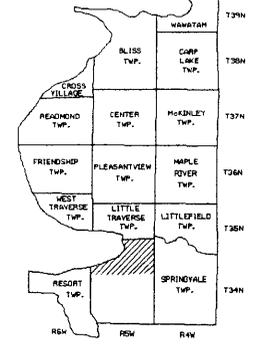
SOURCE

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REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



EMMET COUNTY NORTHERN BEAR CREEK TOWNSHIP DESIGNATED SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

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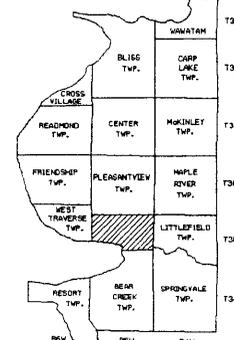
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
 REAL ESTATE DIVISION
 DEPARTMENT OF NATURAL RESOURCES
 GEOLOGICAL SURVEY DIVISION
 DEPARTMENT OF ENVIRONMENTAL QUALITY



EMMET COUNTY
LITTLE TRAVERSE TOWNSHIP

DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

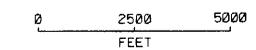
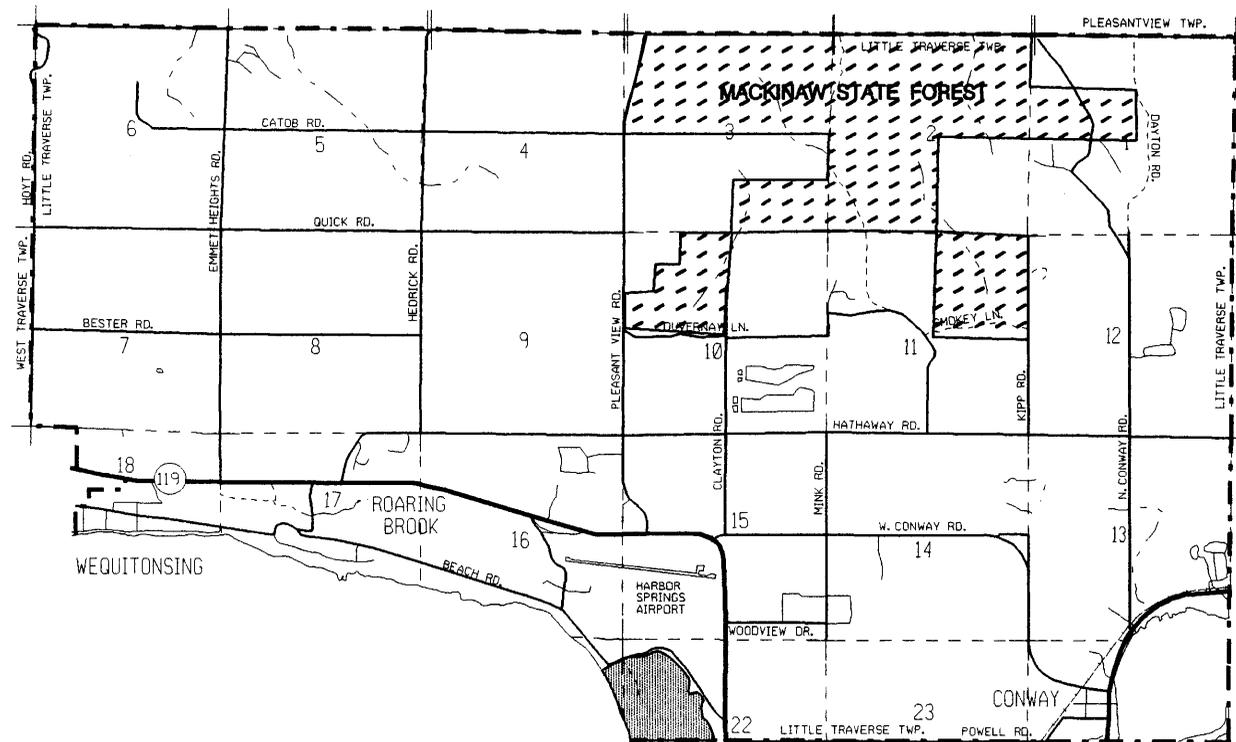
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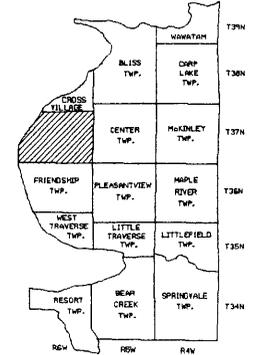
MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



**EMMET COUNTY
READMOND TOWNSHIP**

**DESIGNATED
SAND DUNE AREAS**



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

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PERMITTED SAND DUNE MINING SITES.

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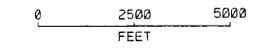
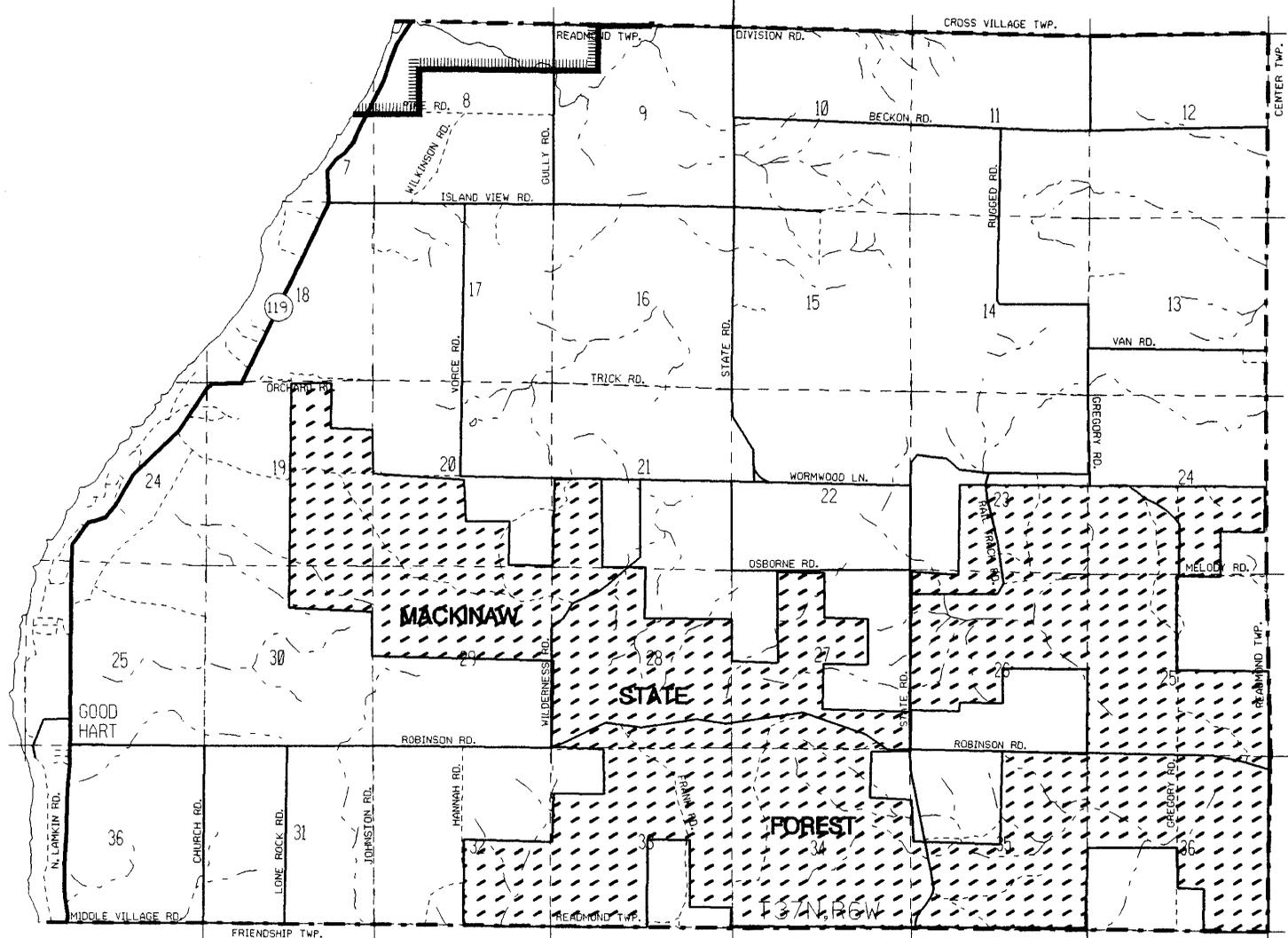
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REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

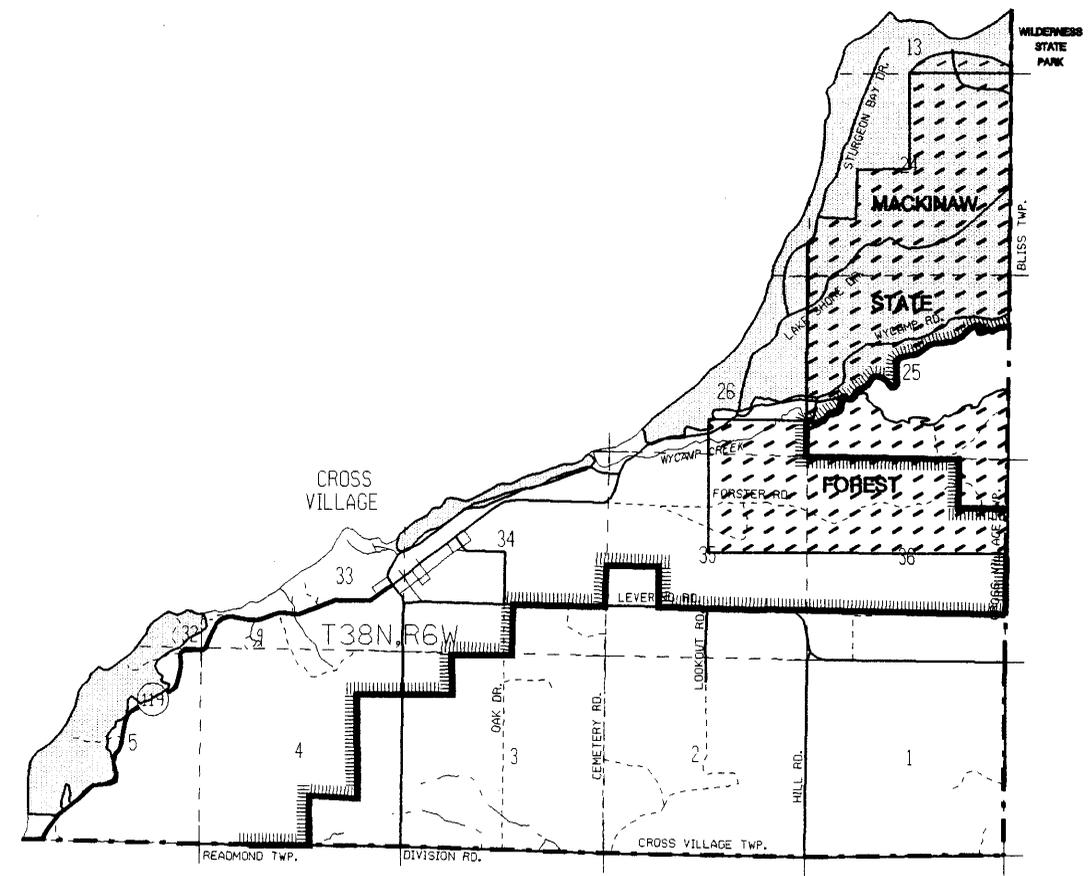
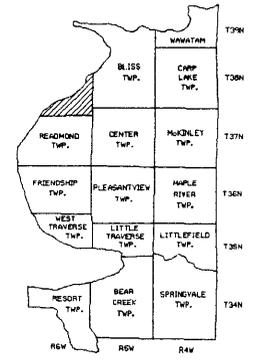
DNR

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ



EMMET COUNTY
CROSS VILLAGE TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

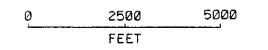
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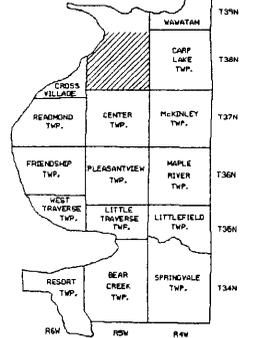
SOURCE

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GSD GEOLOGICAL SURVEY DIVISION DEPARTMENT OF ENVIRONMENTAL QUALITY



EMMET COUNTY
SOUTHERN
BLISS TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

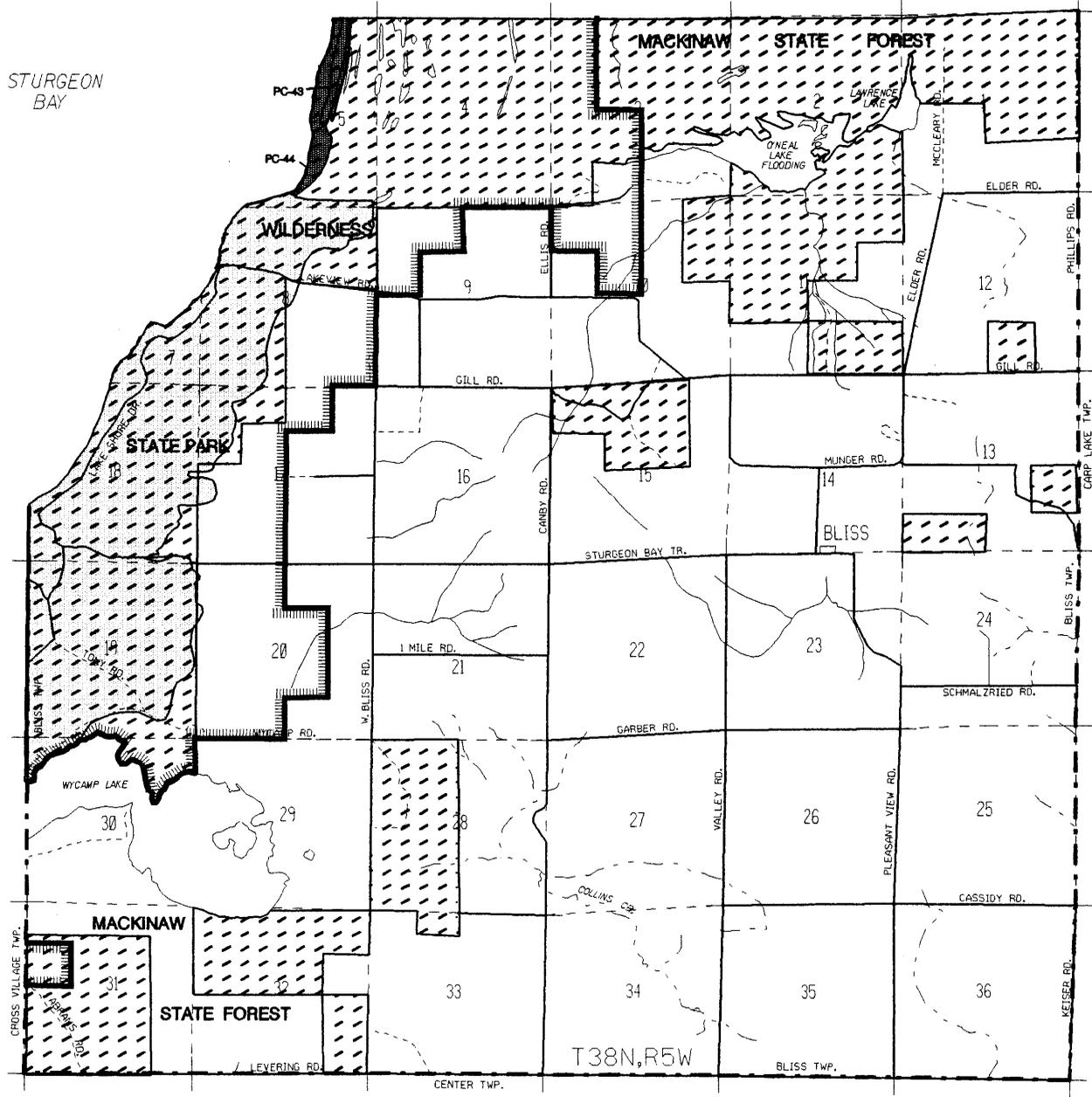
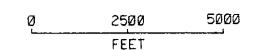
AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE

MIRIS
MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES
DNR

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY
DEQ



STURGEON BAY

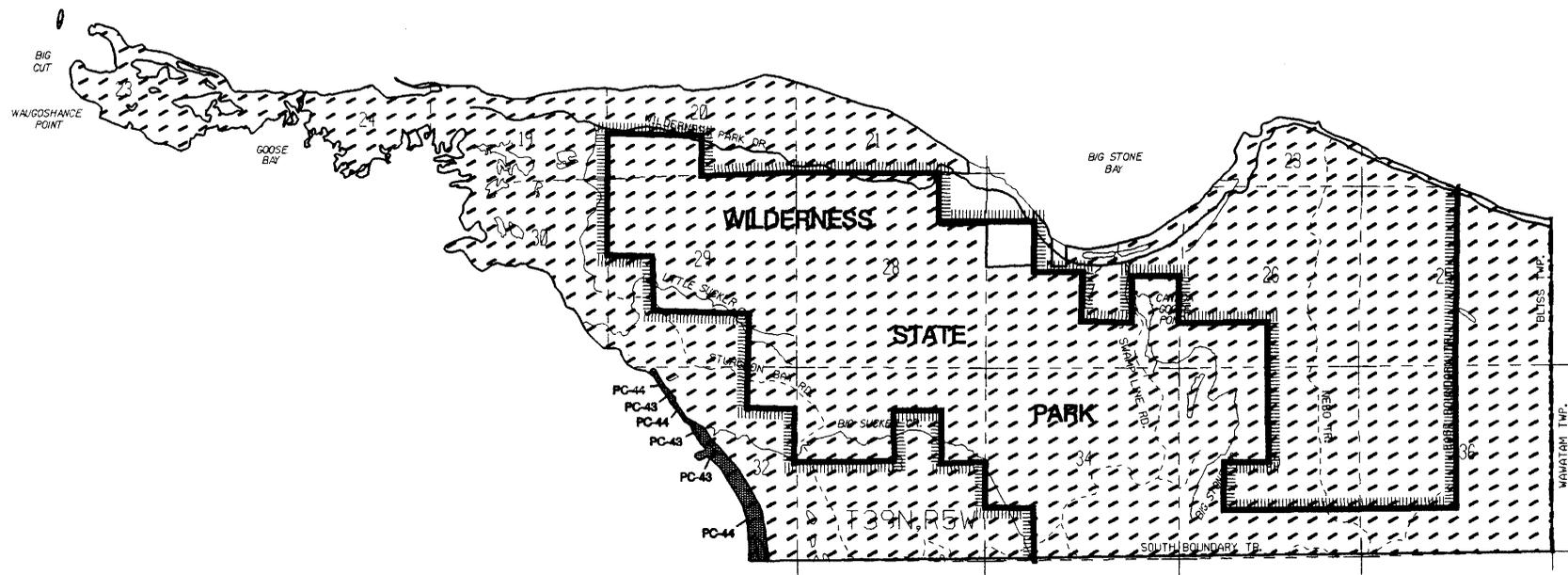
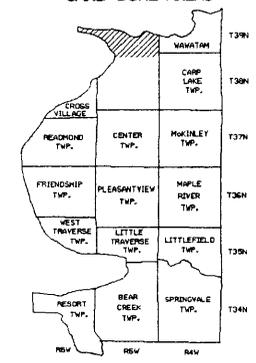
CROSS VILLAGE TWP.

T38N, R5W

CENTER TWP.

BLISS TWP.

EMMET COUNTY
NORTHERN
BLISS TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

[Hatched pattern] FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

[Vertical hatched pattern] SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

[Diagonal hatched pattern] PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

[Irregular shape] BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

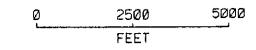
[Dotted pattern] AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

[Dark shaded area] EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED. PC-00

SOURCE

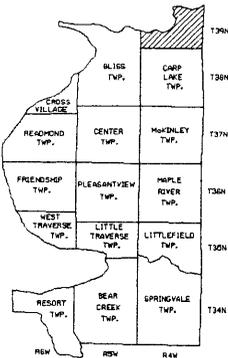
MIRIS MICHIGAN RESOURCE INFORMATION SYSTEM REAL ESTATE DIVISION DEPARTMENT OF NATURAL RESOURCES DNR

GSD GEOLOGICAL SURVEY DIVISION DEPARTMENT OF ENVIRONMENTAL QUALITY DEQ



EMMET COUNTY
WAWATAM TOWNSHIP

DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

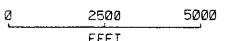
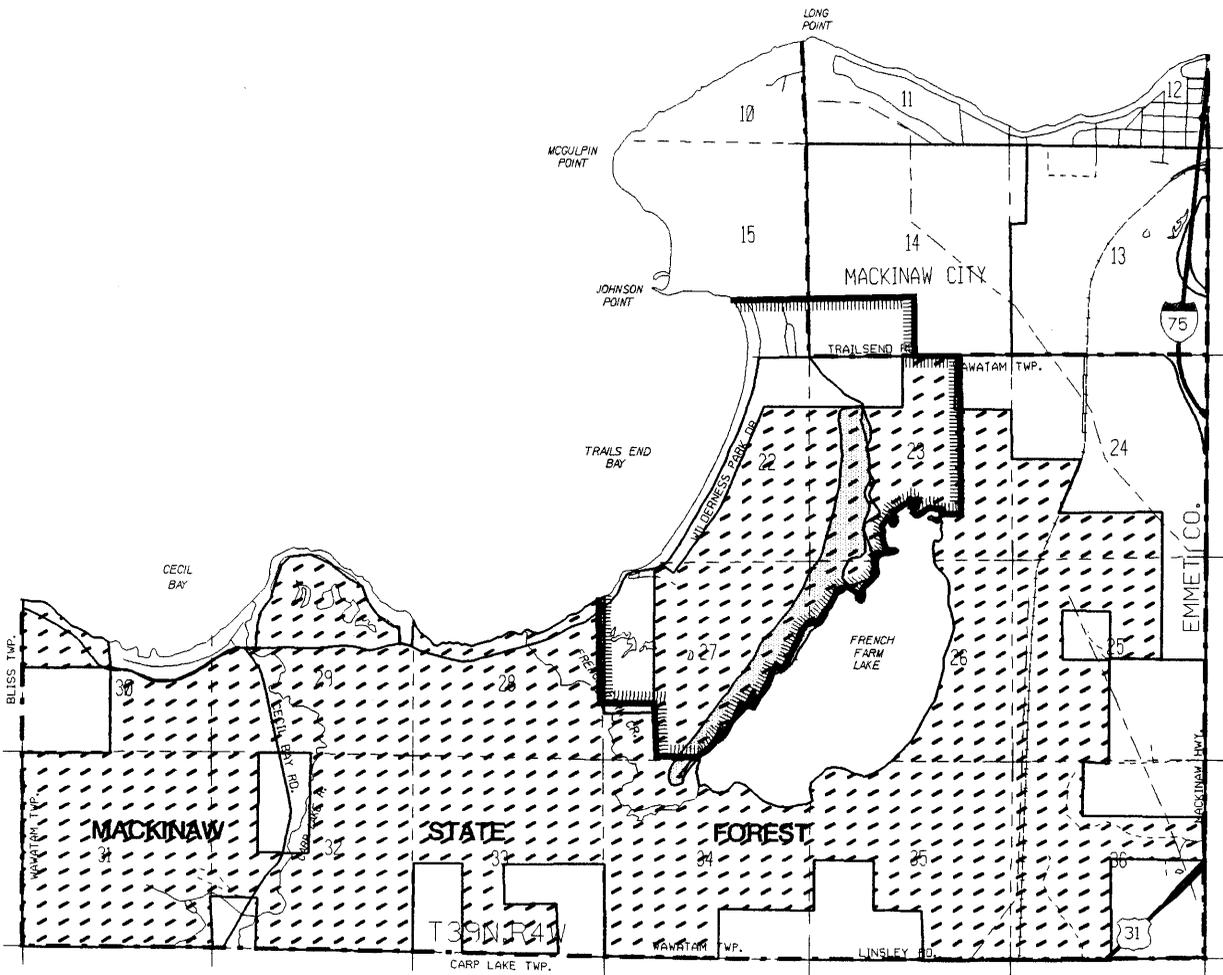
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

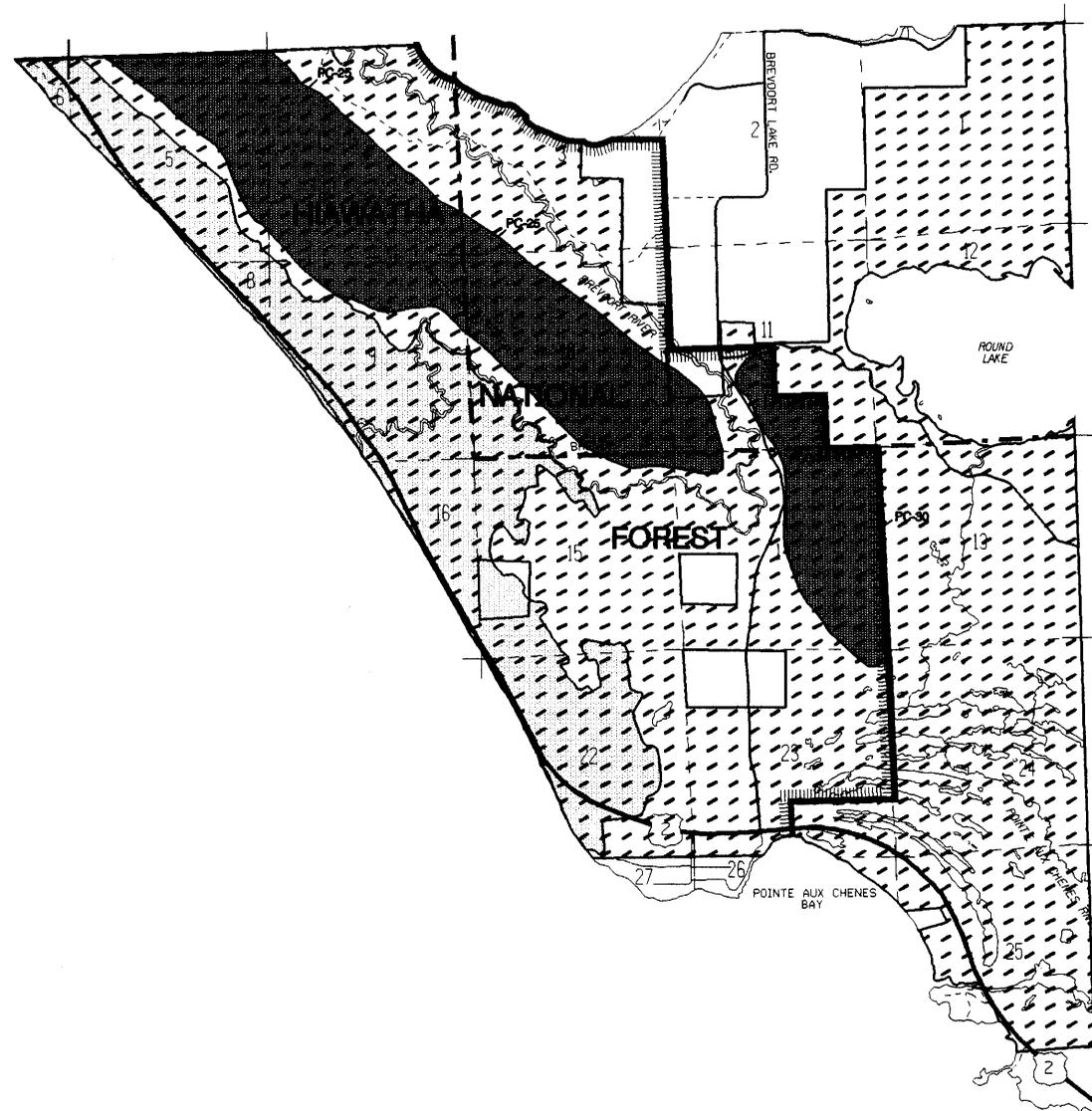
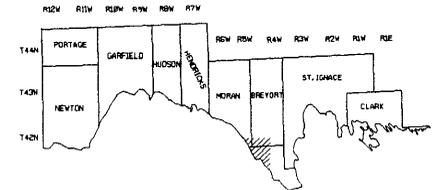
DNR

GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ



MACKINAC COUNTY
 SOUTHWESTERN BREVORT TOWNSHIP
 SOUTHERN MORAN TOWNSHIP
 DESIGNATED
 SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

[Hatched pattern] FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

[Vertical hatching pattern] SAND DUNE AREAS DESIGNATED PURSUANT TO PART 837, 1994 PA 451, AS AMENDED

[Diagonal hatching pattern] PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

[Wavy hatching pattern] BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

[Dotted hatching pattern] AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

[Solid black pattern] EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

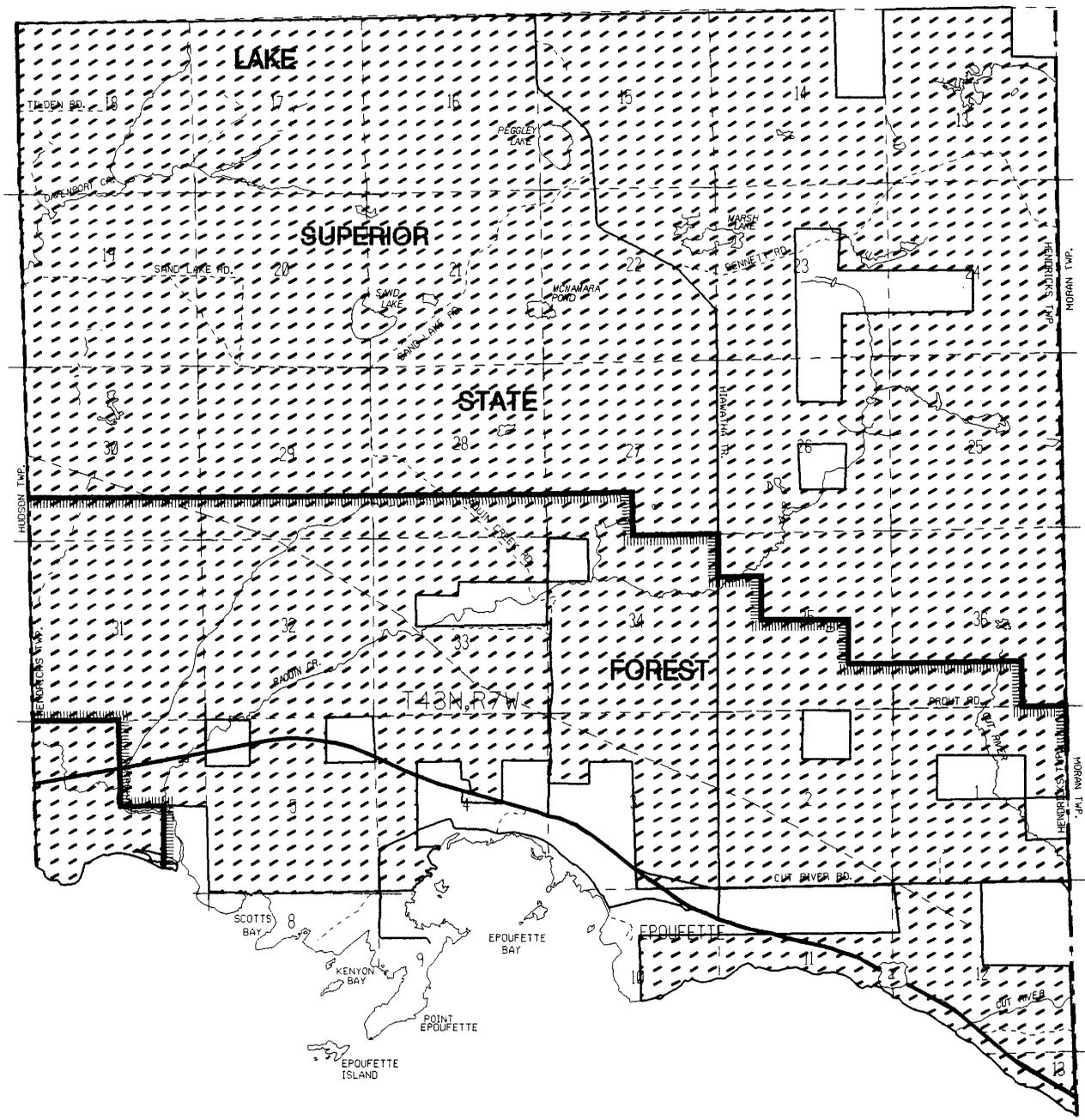
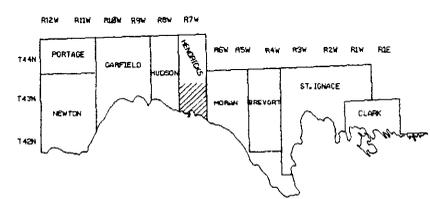
SOURCE

MIRIS
 MICHIGAN RESOURCE INFORMATION SYSTEM
 REAL ESTATE DIVISION
 DEPARTMENT OF NATURAL RESOURCES

GSD
 GEOLOGICAL SURVEY DIVISION
 DEPARTMENT OF ENVIRONMENTAL QUALITY



MACKINAC COUNTY SOUTHERN HENDRICKS TOWNSHIP DESIGNATED SAND DUNE AREAS



LEGEND

- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.
- ▨ FEDERAL, STATE, AND LOCALLY OWNED LANDS.
- DESIGNATED SAND DUNE AREAS**
- ▨ SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED
- ▨ PERMITTED SAND DUNE MINING SITES
- CRITICAL DUNE AREAS**
- ▨ BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED
- ▨ AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.
- ▨ EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

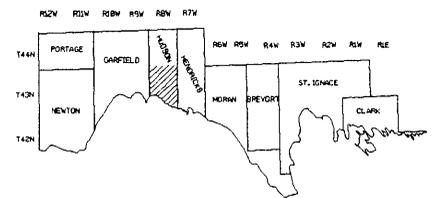
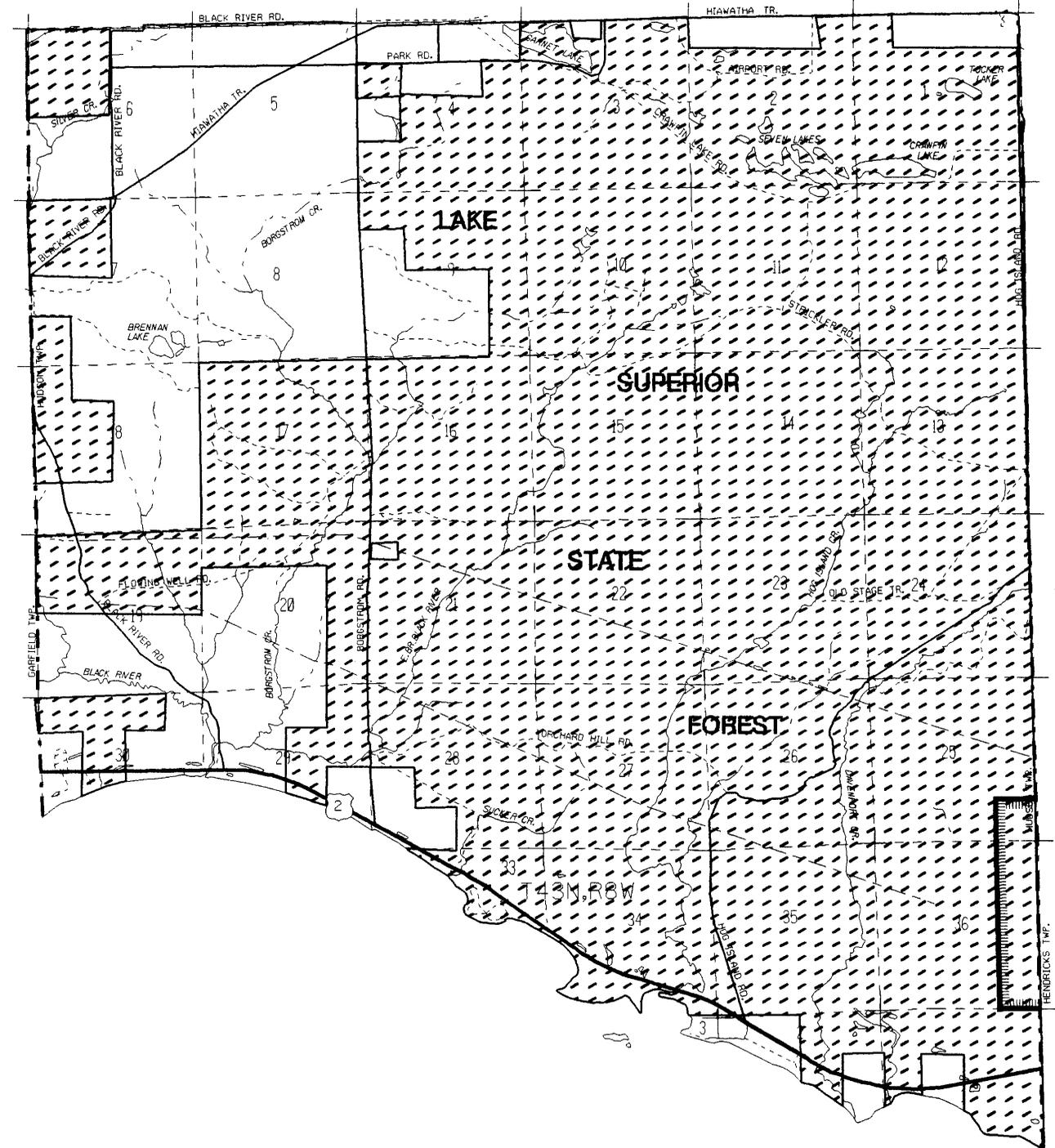
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
 REAL ESTATE DIVISION
 DEPARTMENT OF NATURAL RESOURCES

GEOLOGICAL SURVEY DIVISION
 DEPARTMENT OF ENVIRONMENTAL QUALITY



MACKINAC COUNTY
SOUTHERN HUDSON TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE

MIRIS MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

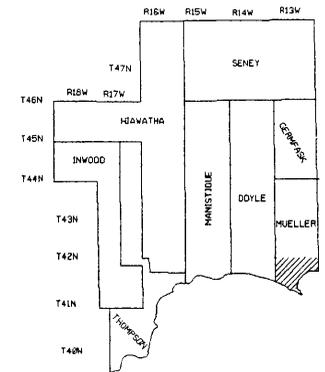
GSD GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DNR DEQ



SCHOOLCRAFT COUNTY
SOUTHERN MUELLER TOWNSHIP

DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

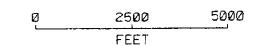
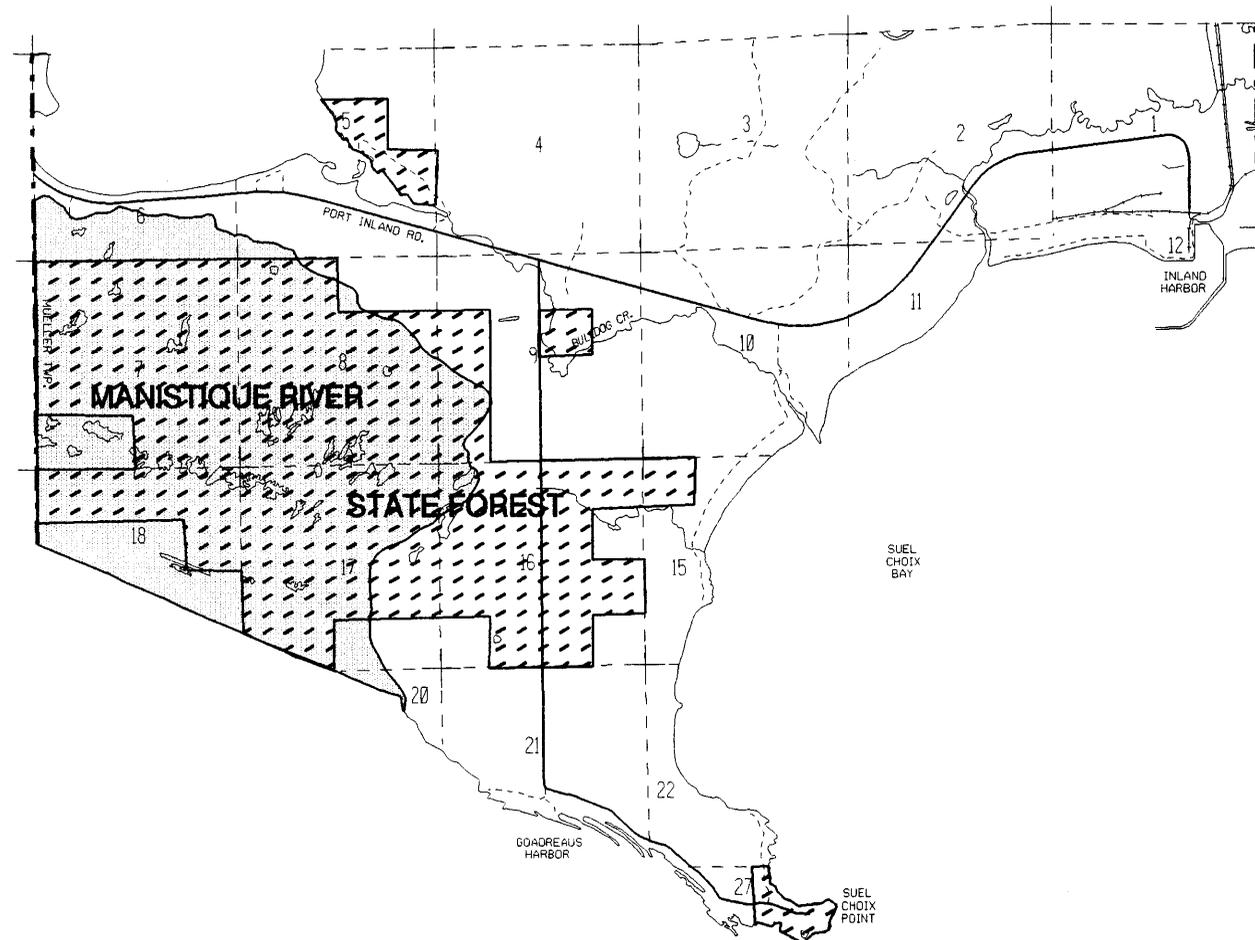
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

DNR

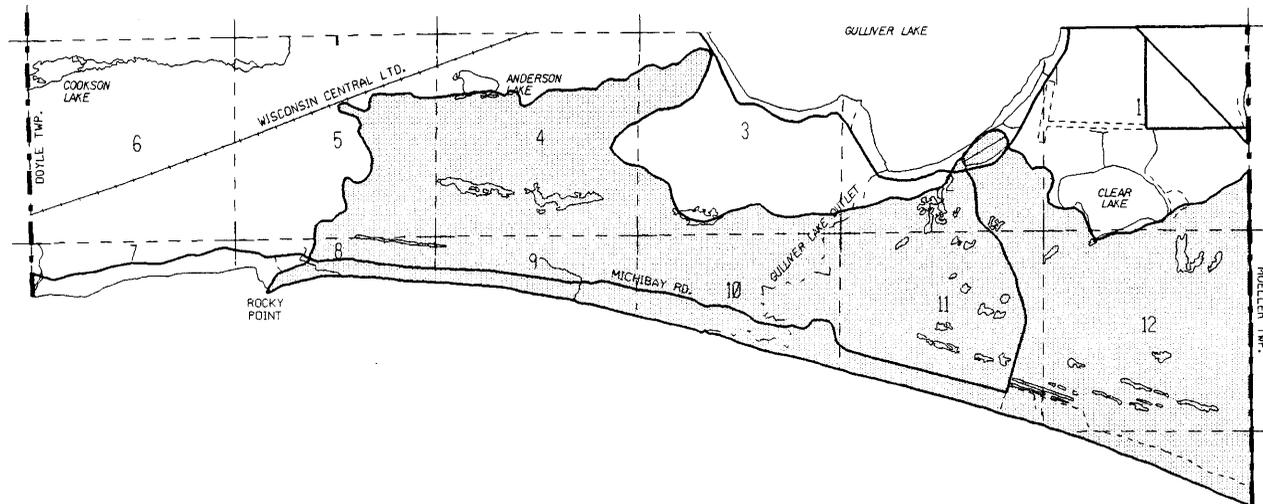
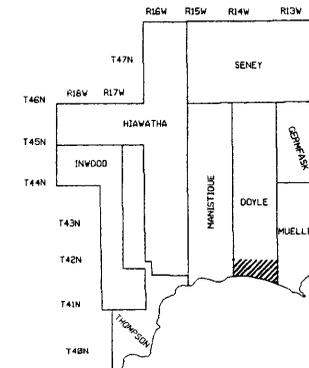
GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ



SCHOOLCRAFT COUNTY
SOUTHERN DOYLE TOWNSHIP

DESIGNATED
SAND DUNE AREAS



- LEGEND**
- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.
 - FEDERAL, STATE, AND LOCALLY OWNED LANDS.
 - DESIGNATED SAND DUNE AREAS**
 - SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED
 - PERMITTED SAND DUNE MINING SITES
 - CRITICAL DUNE AREAS**
 - BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 293, 1994 PA 451, AS AMENDED
 - AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.
 - EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

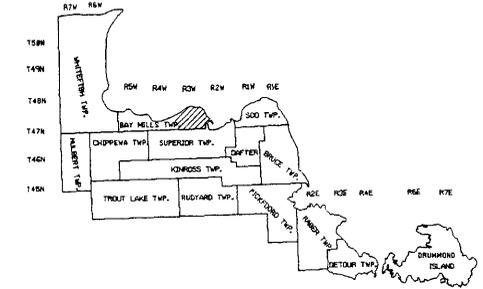
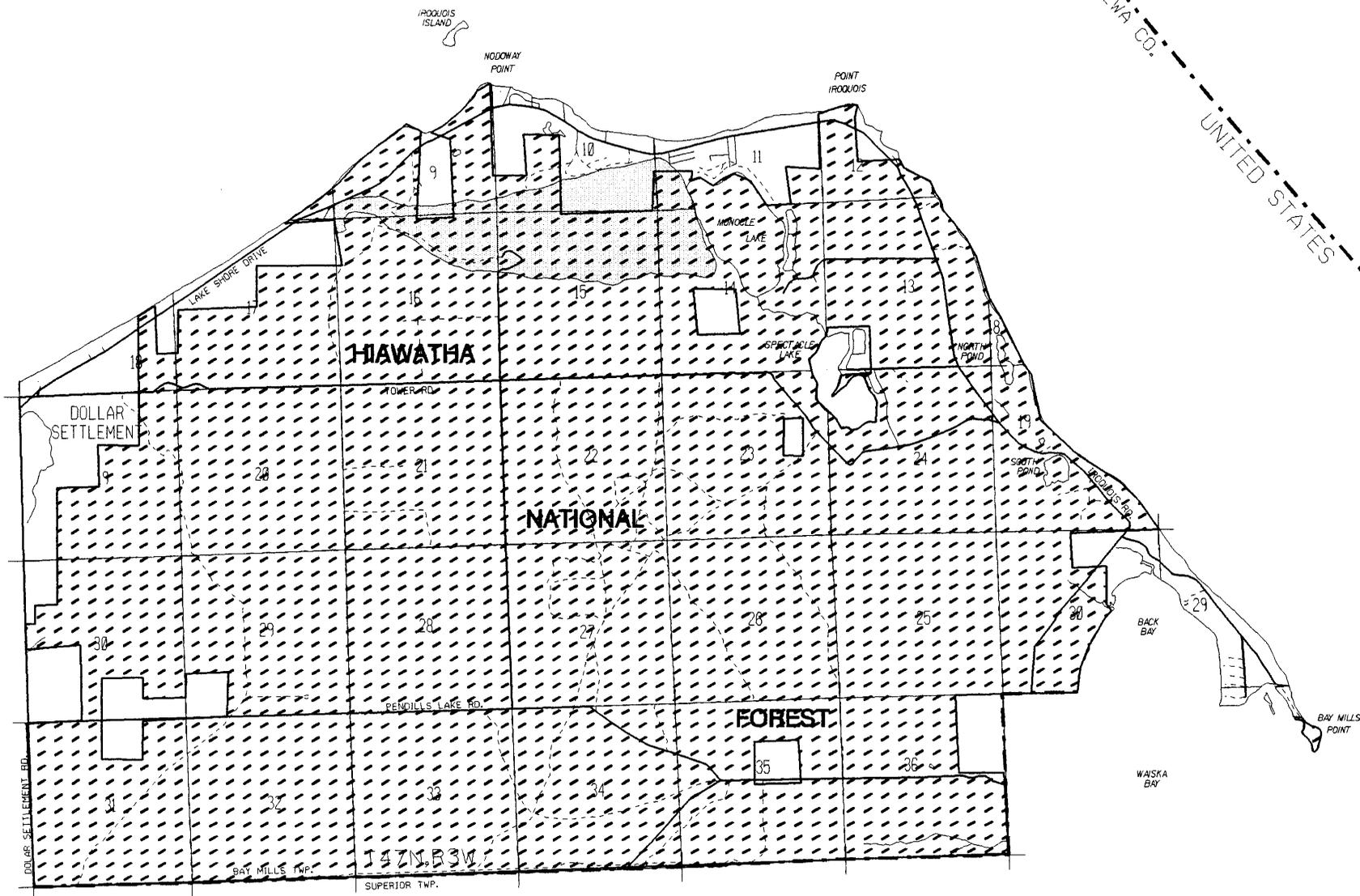
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



CHIPPEWA COUNTY
EASTERN BAY MILLS TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

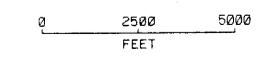
SOURCE

MICHIGAN RESIDENCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

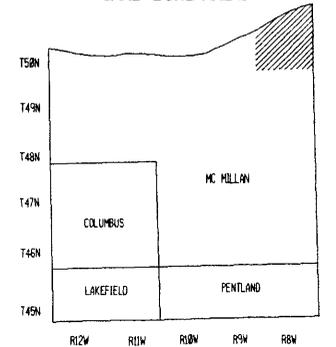
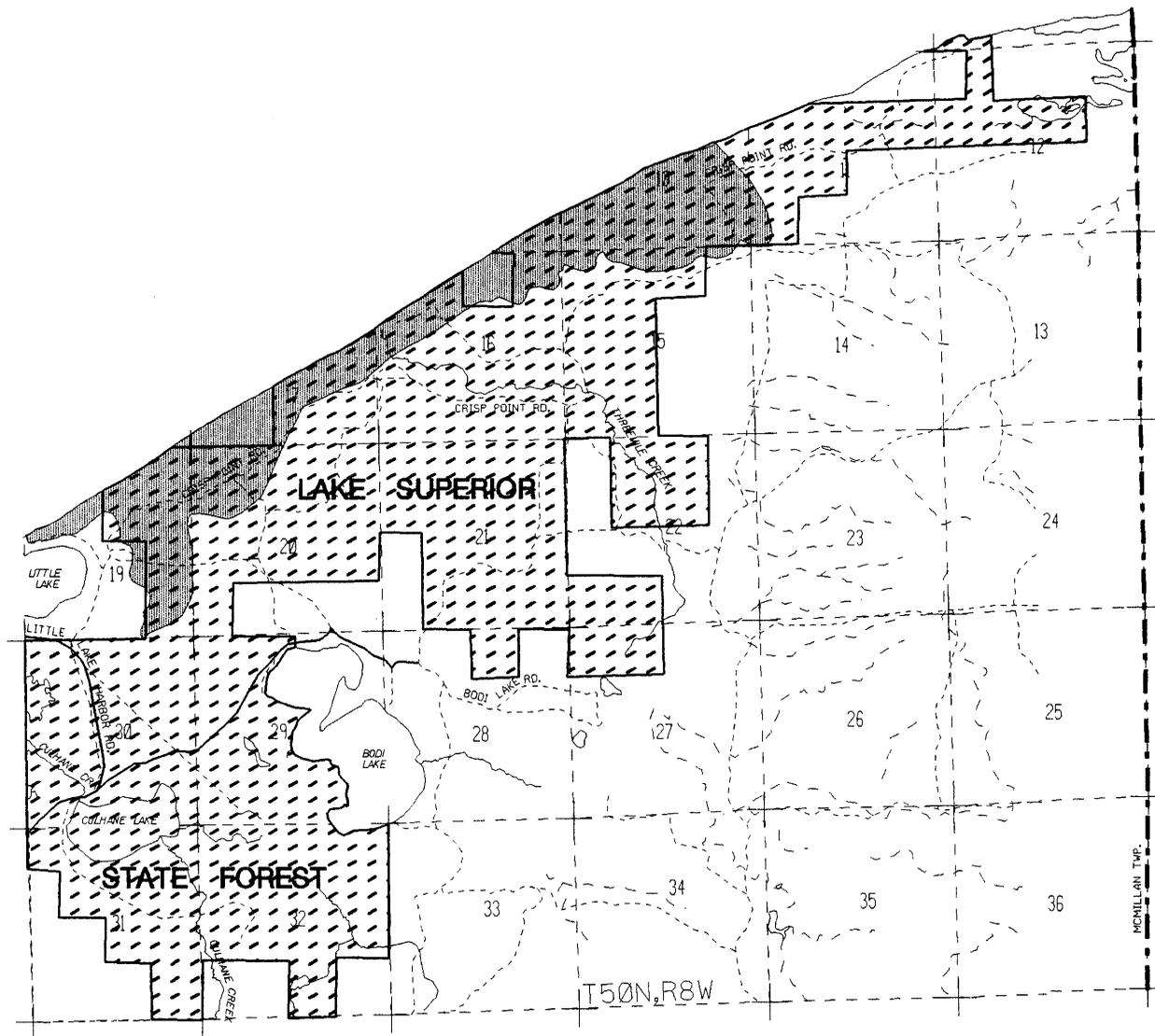
DNR

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ



LUCE COUNTY
T50N, R8W
MCMILLAN TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 393, 1994 PA 451, AS AMENDED

AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

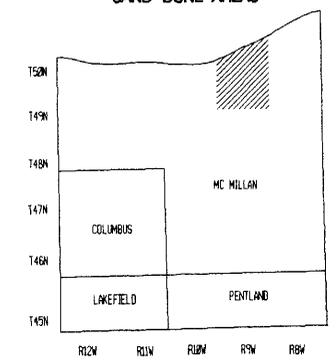
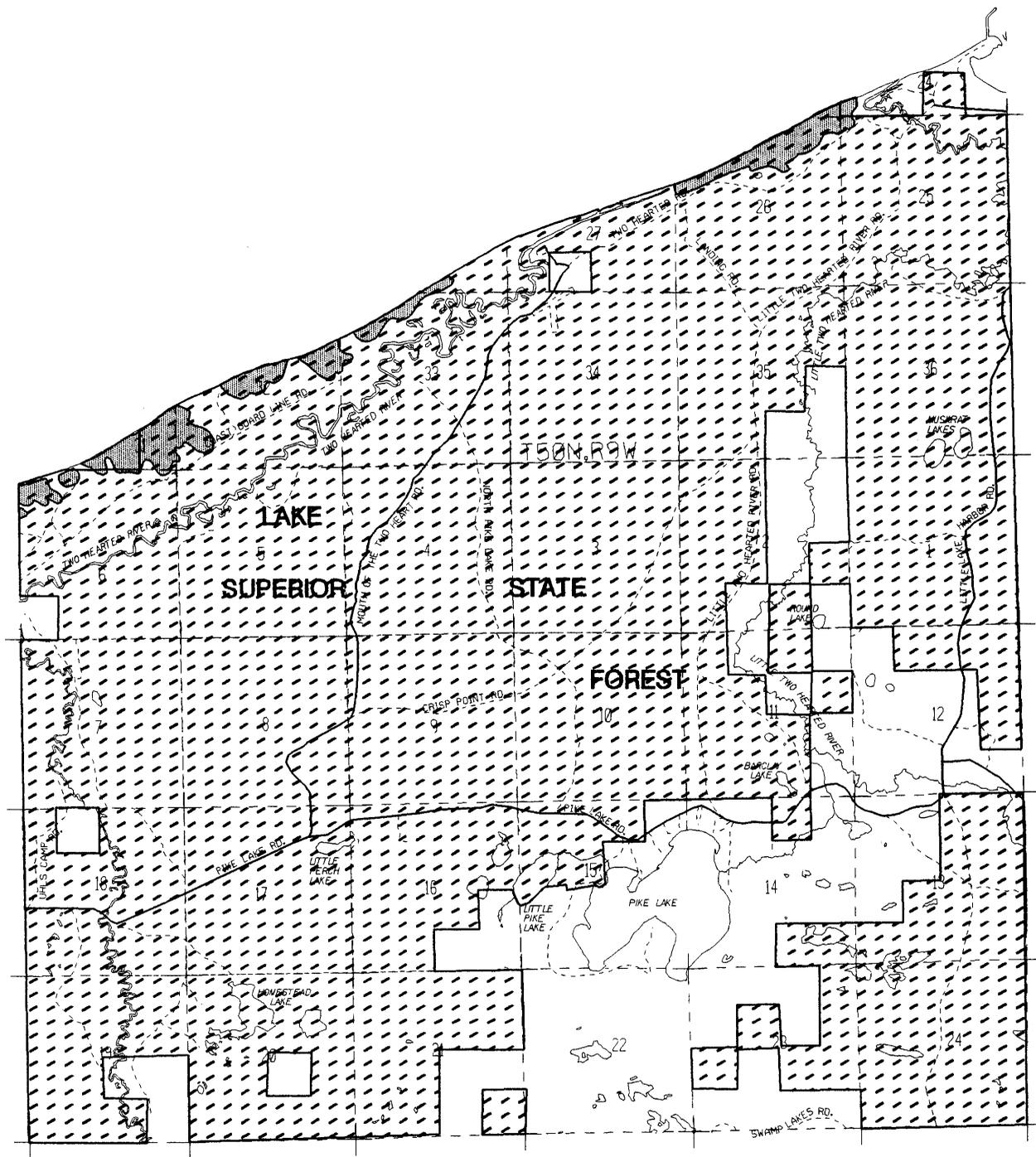
DNR

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ



LUCE COUNTY
T49-50N, R9W
MCMILLAN TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

[Hatched Box] FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

[Hatched Box] SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

[Square with Diagonal Line] PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

[Wavy Line] BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

[Wavy Line] AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

[Wavy Line] EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

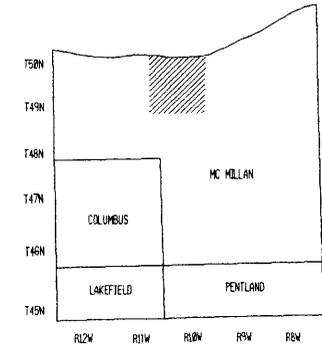
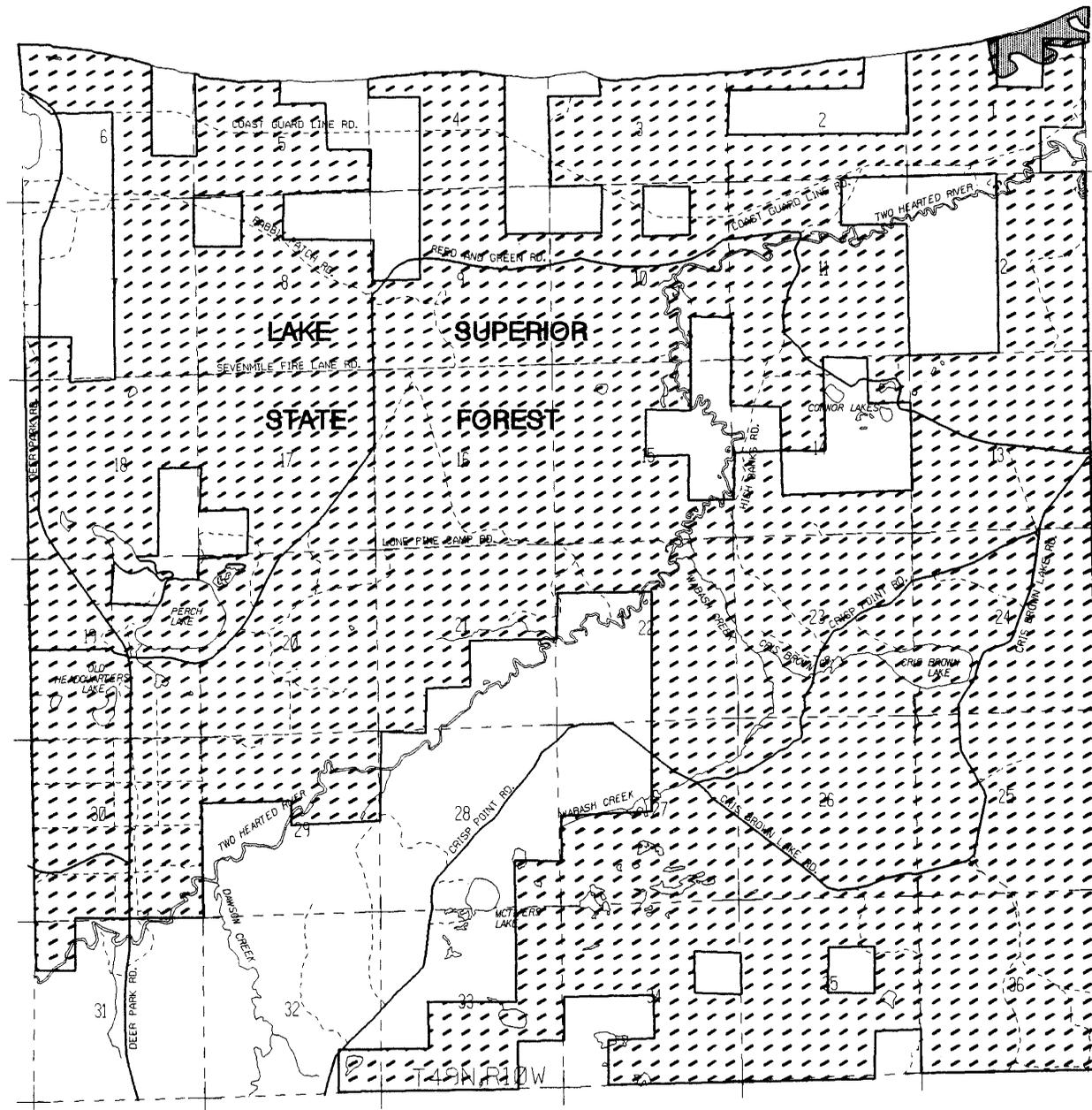
SOURCE

MMS MICHIGAN RESOURCE INFORMATION SYSTEM REAL ESTATE DIVISION DEPARTMENT OF NATURAL RESOURCES DNR

GSD GEOLOGICAL SURVEY DIVISION DEPARTMENT OF ENVIRONMENTAL QUALITY DEQ



LUCE COUNTY
T49N, R10W
MCMILLAN TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.
- FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

- SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED
- PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

- BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

- AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

- EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

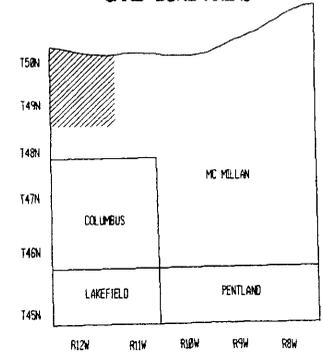
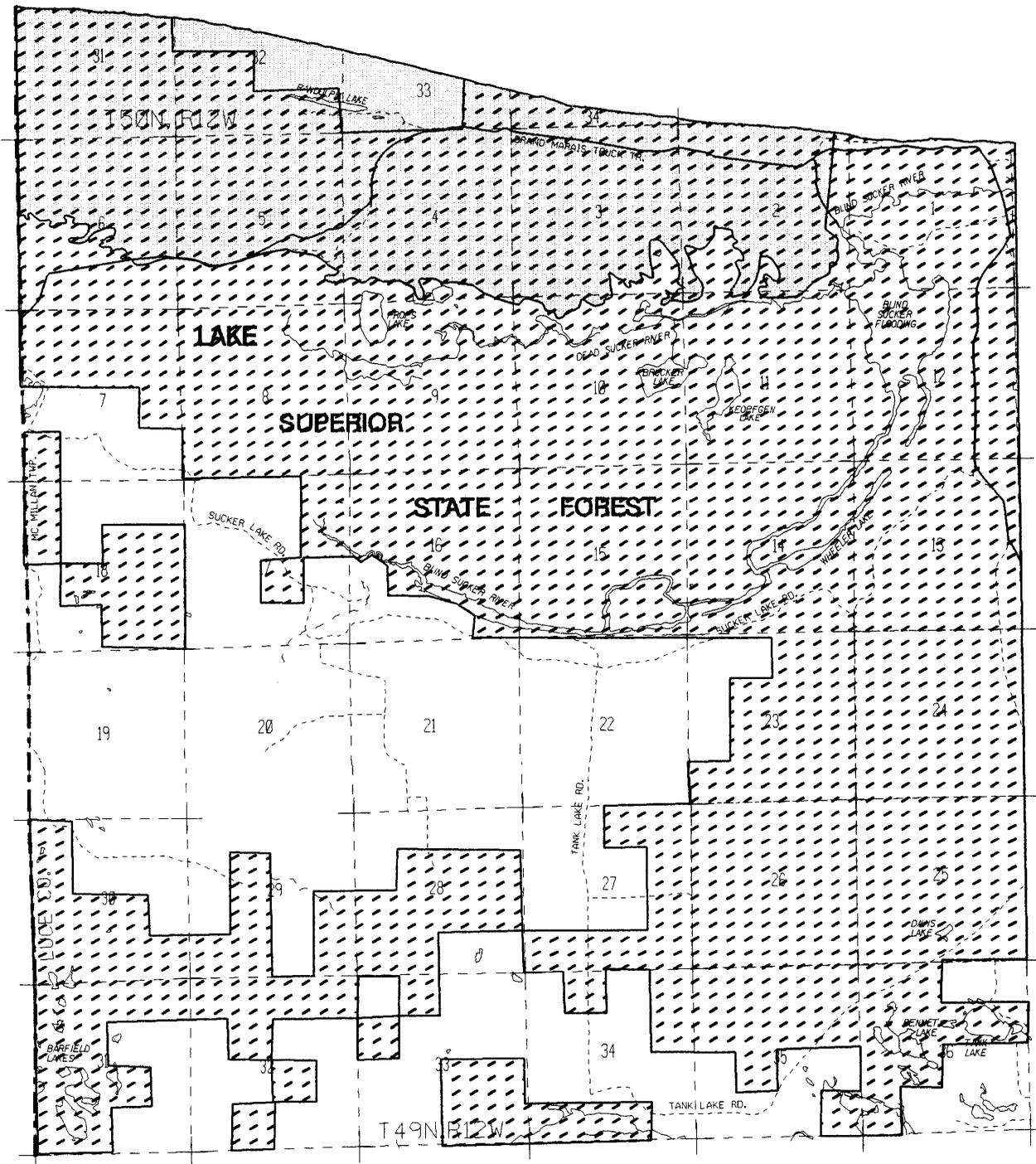
SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GEOLOGICAL SURVEY REVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



LUCE COUNTY
T49-50N, R12W
MCMILLAN TOWNSHIP
DESIGNATED
SAND DUNE AREAS



LEGEND

BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

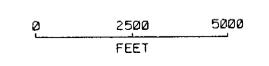
BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED

AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

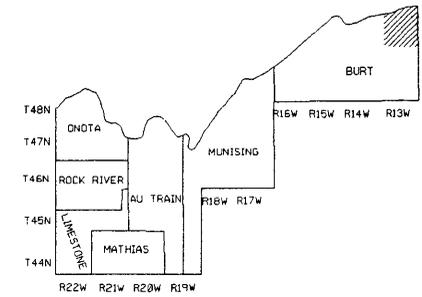
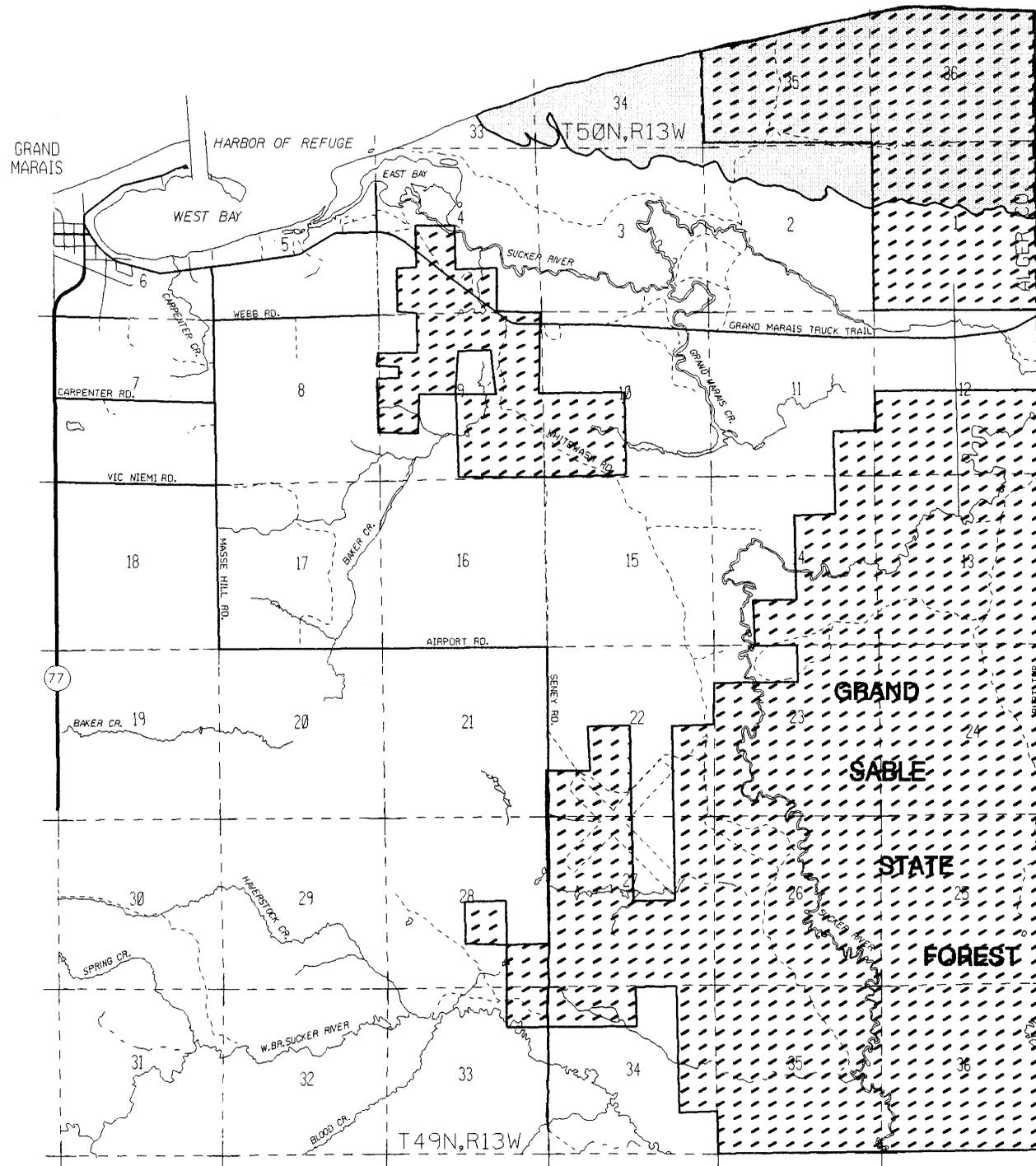
E Exemplary dune associated plant communities outside designated dune formations. Michigan Natural Features Inventory reference code indicated.

SOURCE

MNRS MICHIGAN NATURE RESOURCES INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES
GSD GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



ALGER COUNTY
T49-50N, R13W
BURT TOWNSHIP
DESIGNATED
SAND DUNE AREAS

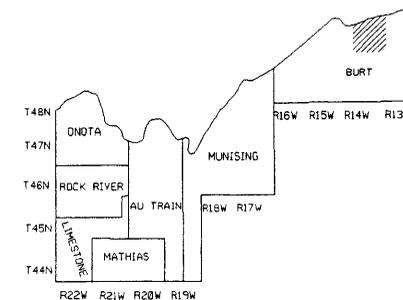
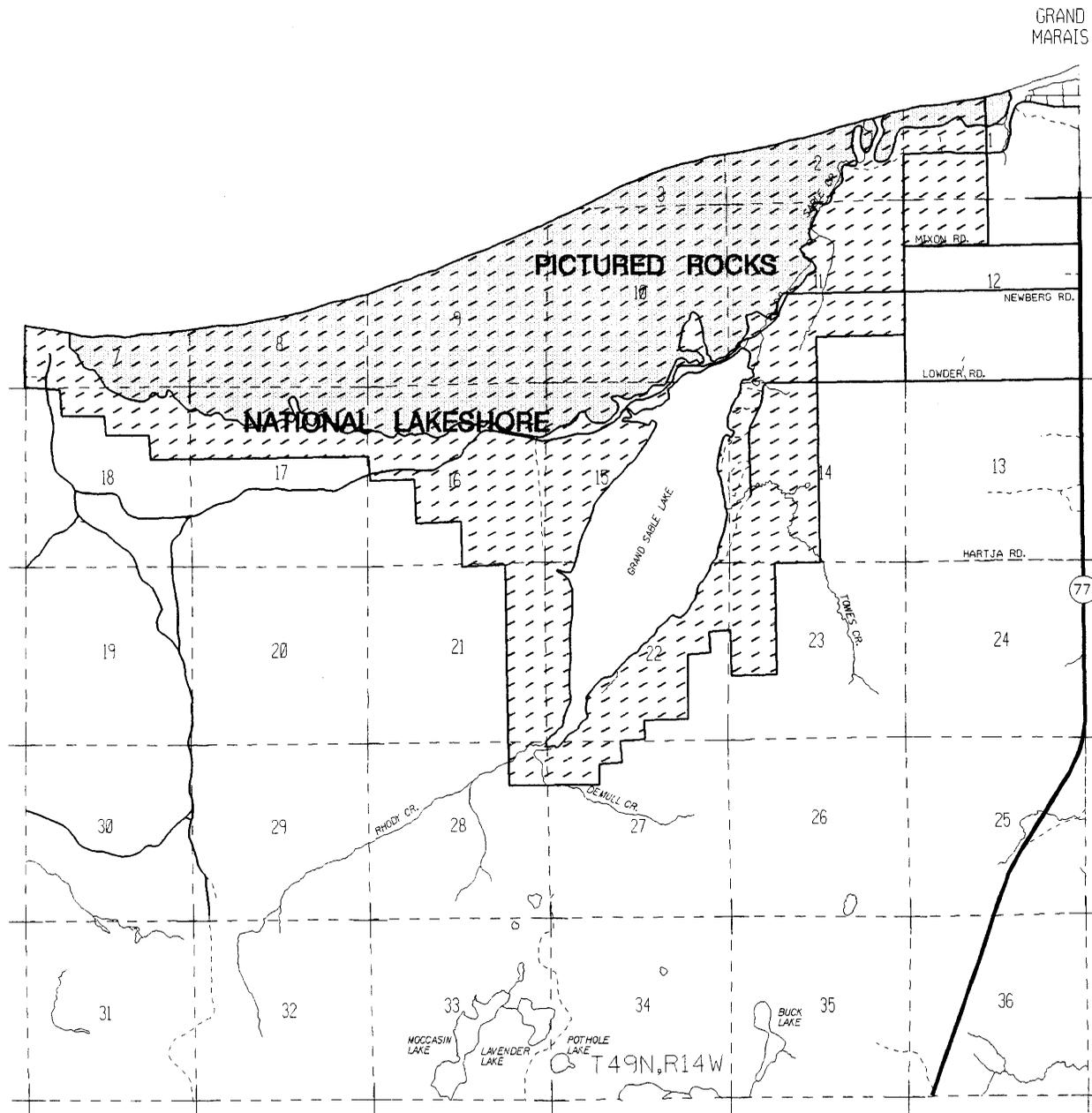


- LEGEND
- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.
 - FEDERAL, STATE, AND LOCALLY OWNED LANDS.
 - DESIGNATED SAND DUNE AREAS**
 - SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED
 - PERMITTED SAND DUNE MINING SITES
 - CRITICAL DUNE AREAS**
 - BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED
 - AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.
 - EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE
 MICHIGAN RESOURCE INFORMATION SYSTEM
 REAL ESTATE DIVISION
 DEPARTMENT OF NATURAL RESOURCES
 GEOLOGICAL SURVEY DIVISION
 DEPARTMENT OF ENVIRONMENTAL QUALITY



ALGER COUNTY
T49N, R14W
BURT TOWNSHIP
DESIGNATED
SAND DUNE AREAS



- LEGEND
- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.
 - FEDERAL, STATE, AND LOCALLY OWNED LANDS.
 - DESIGNATED SAND DUNE AREAS
 - SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED
 - PERMITTED SAND DUNE MINING SITES
 - CRITICAL DUNE AREAS
 - BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO PART 353, 1994 PA 451, AS AMENDED
 - AREAS NOT INCLUDED AS BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.
 - EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS. MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE

MICHIGAN RESOURCES INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

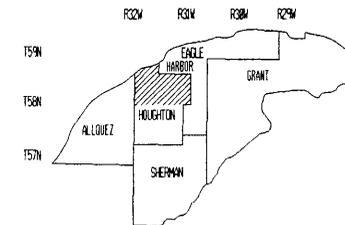
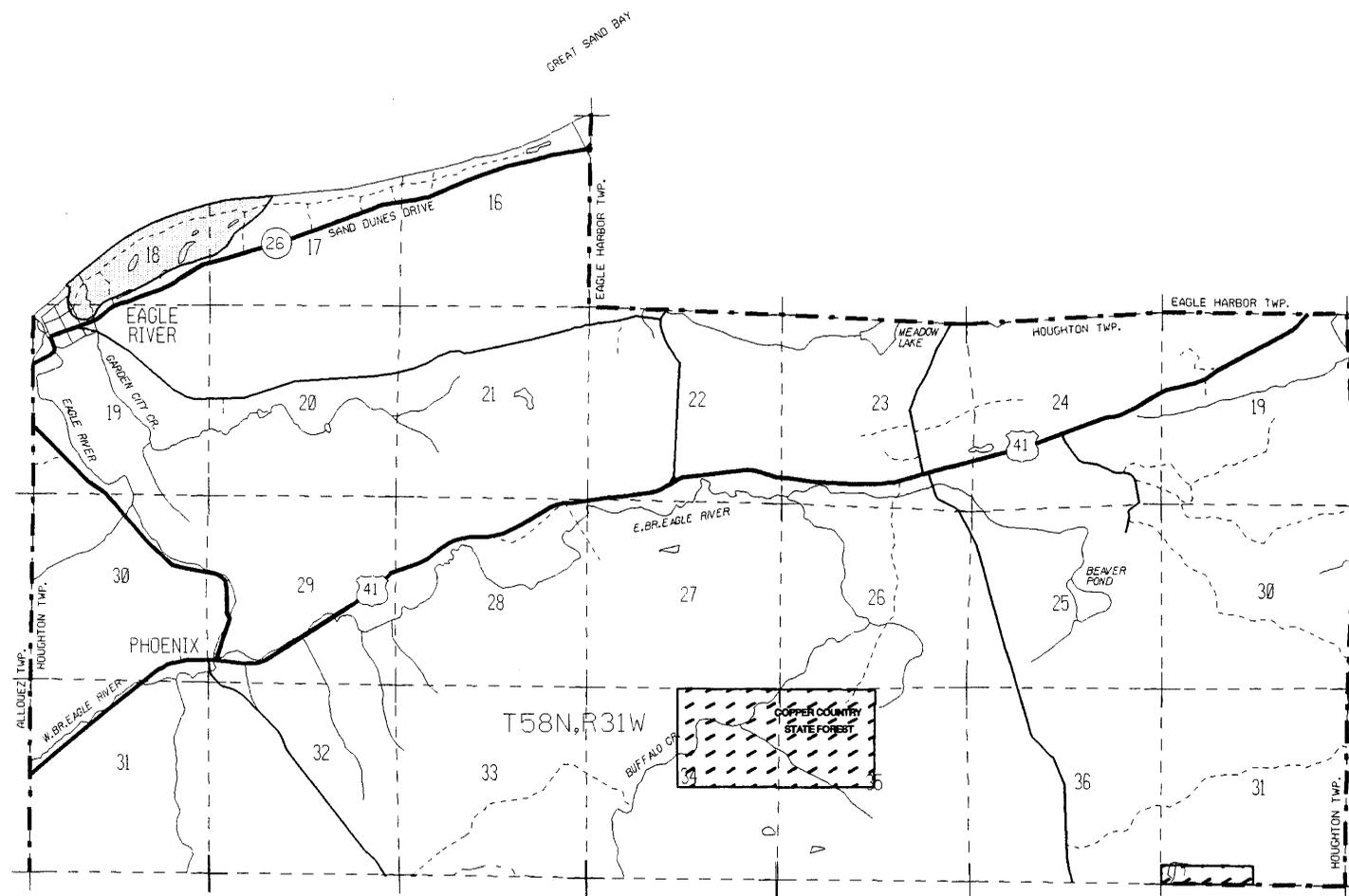
DNR

GSD
GEOLOGICAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ



**KEWEENAW COUNTY
HOUGHTON TOWNSHIP
DESIGNATED
SAND DUNE AREAS**



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

FEDERAL, STATE, AND LOCALLY OWNED LANDS.

DESIGNATED SAND DUNE AREAS

SAND DUNE AREAS DESIGNATED PURSUANT TO PART 637, 1994 PA 451, AS AMENDED

PERMITTED SAND DUNE MINING SITES

CRITICAL DUNE AREAS

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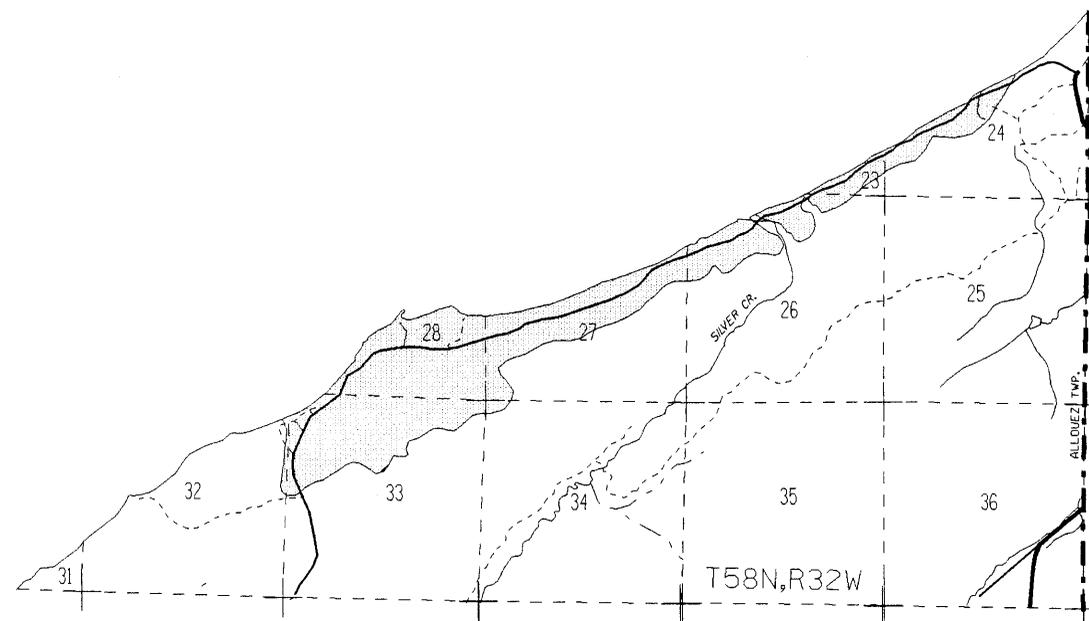
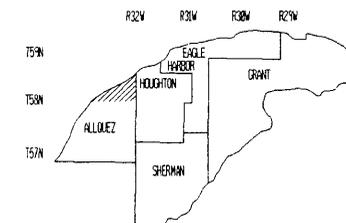
SOURCE

MMS
MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
REGIONAL SURVEY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY



**KEWEENAW COUNTY
ALLOUEZ TOWNSHIP
DESIGNATED
SAND DUNE AREAS**



LEGEND

--- BOUNDARIES OF COUNTIES, TOWNSHIPS, AND INCORPORATED CITIES AND VILLAGES CURRENT AS OF 1987.

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SOURCE

MICHIGAN RESOURCE INFORMATION SYSTEM
REAL ESTATE DIVISION
DEPARTMENT OF NATURAL RESOURCES

GSD
COLLECTION QUALITY DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

0 2500 5000
FEET



ERRATA

Pg. 18 - listed as Ottawa County, should be Muskegon County

Please note on the page listed as *INDEX TO SAND DUNE MINING SITES* the following three sites are closed:

1. Garage Site
2. Bridgman North Site
3. Rose Pit Site
4. Bridgman South Site

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