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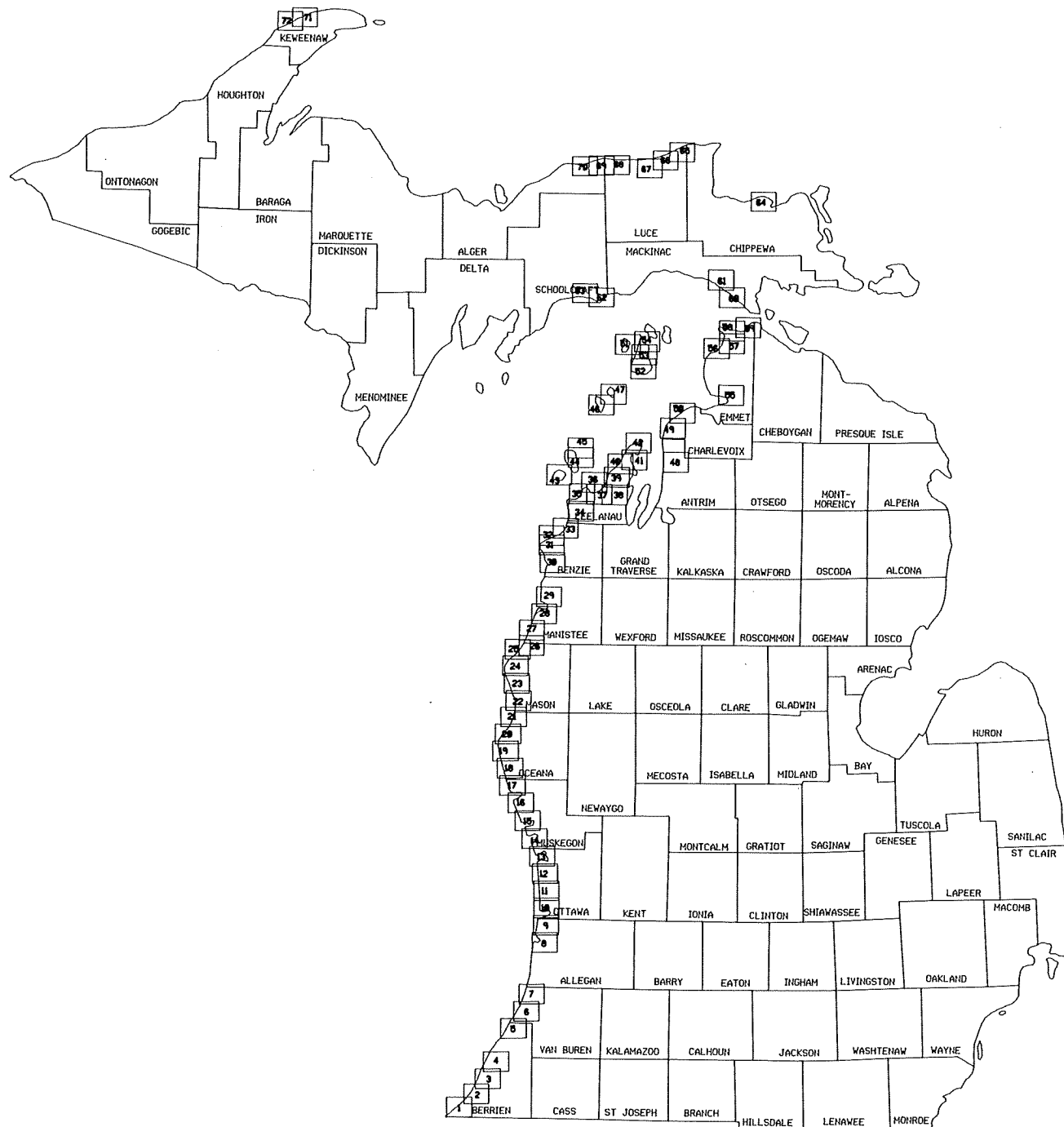
ATLAS OF CRITICAL DUNES

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
LAND AND WATER MANAGEMENT DIVISION

FEBRUARY 17, 1989
(REPRINTED FEBRUARY 1993)

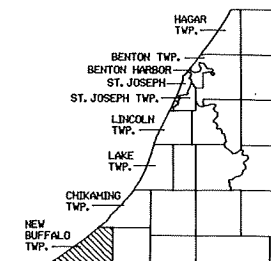


INDEX MAP



NEW BUFFALO TOWNSHIP CRITICAL DUNE AREAS

BERRIEN COUNTY



LEGEND

--- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
AND INCORPORATED CITIES AND
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xxx PUBLIC LANDS
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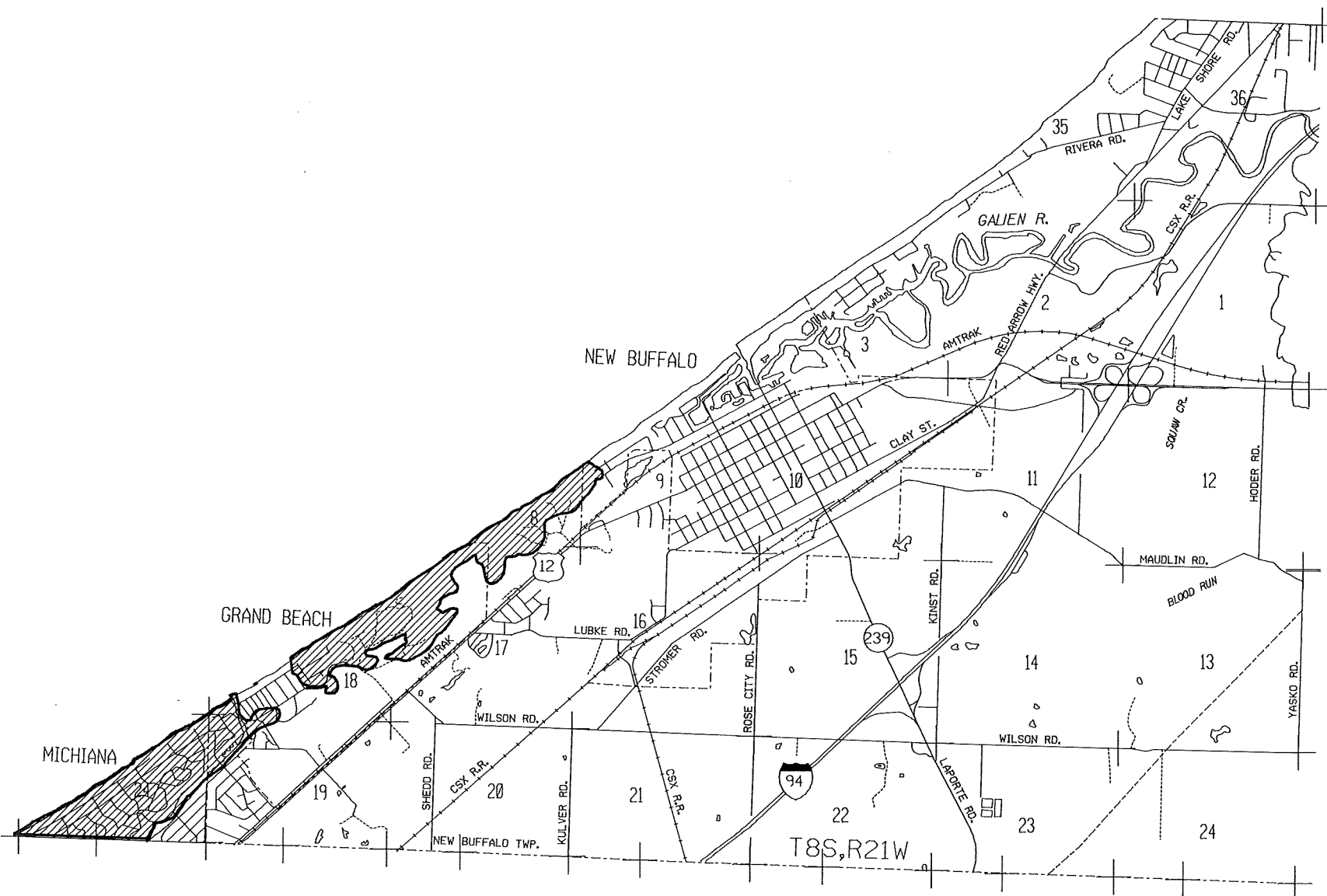
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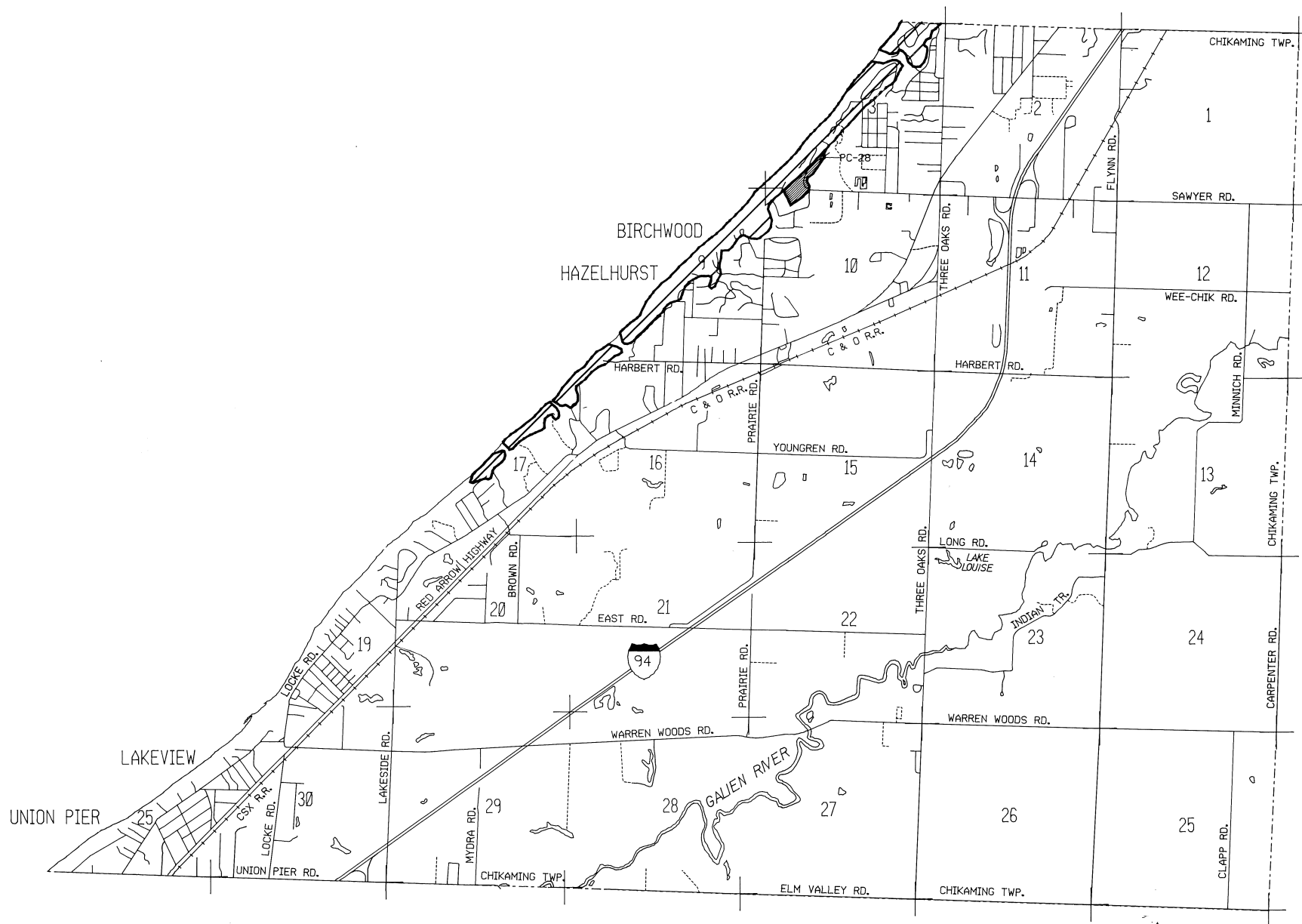
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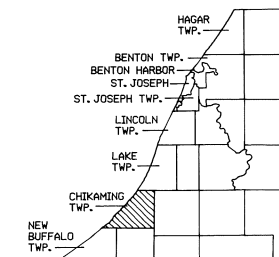
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CHIKAMING TOWNSHIP CRITICAL DUNE AREAS



BERRIEN COUNTY



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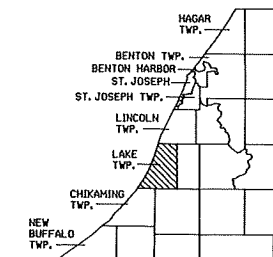
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PC-28 - Dry-mesic Southern Forest, Michigan Natural Features Inventory

LAKE TOWNSHIP CRITICAL DUNE AREAS

BERRIEN COUNTY



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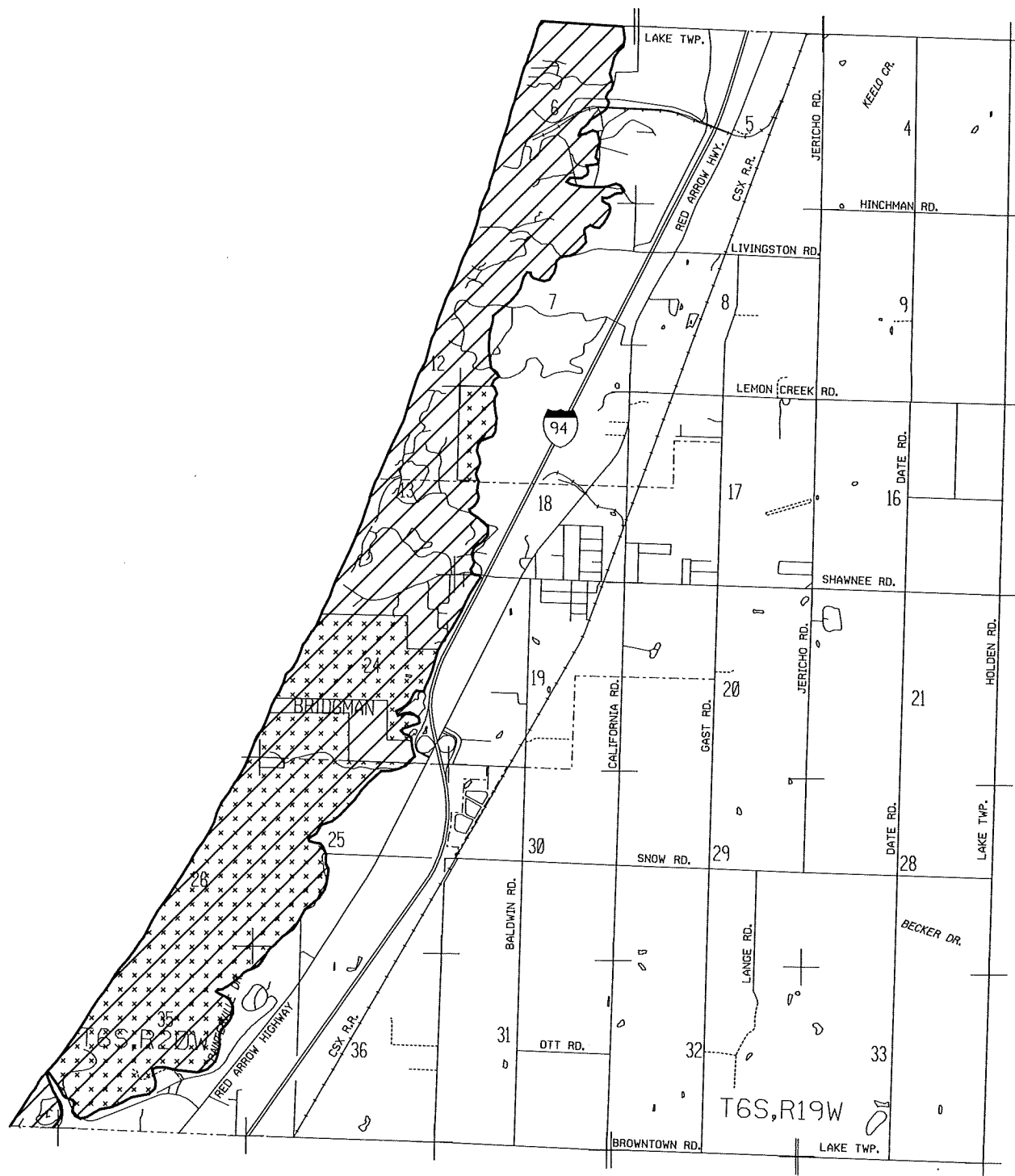
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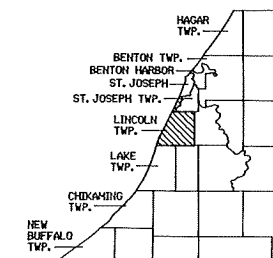
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LINCOLN TOWNSHIP CRITICAL DUNE AREAS

BERRIEN COUNTY



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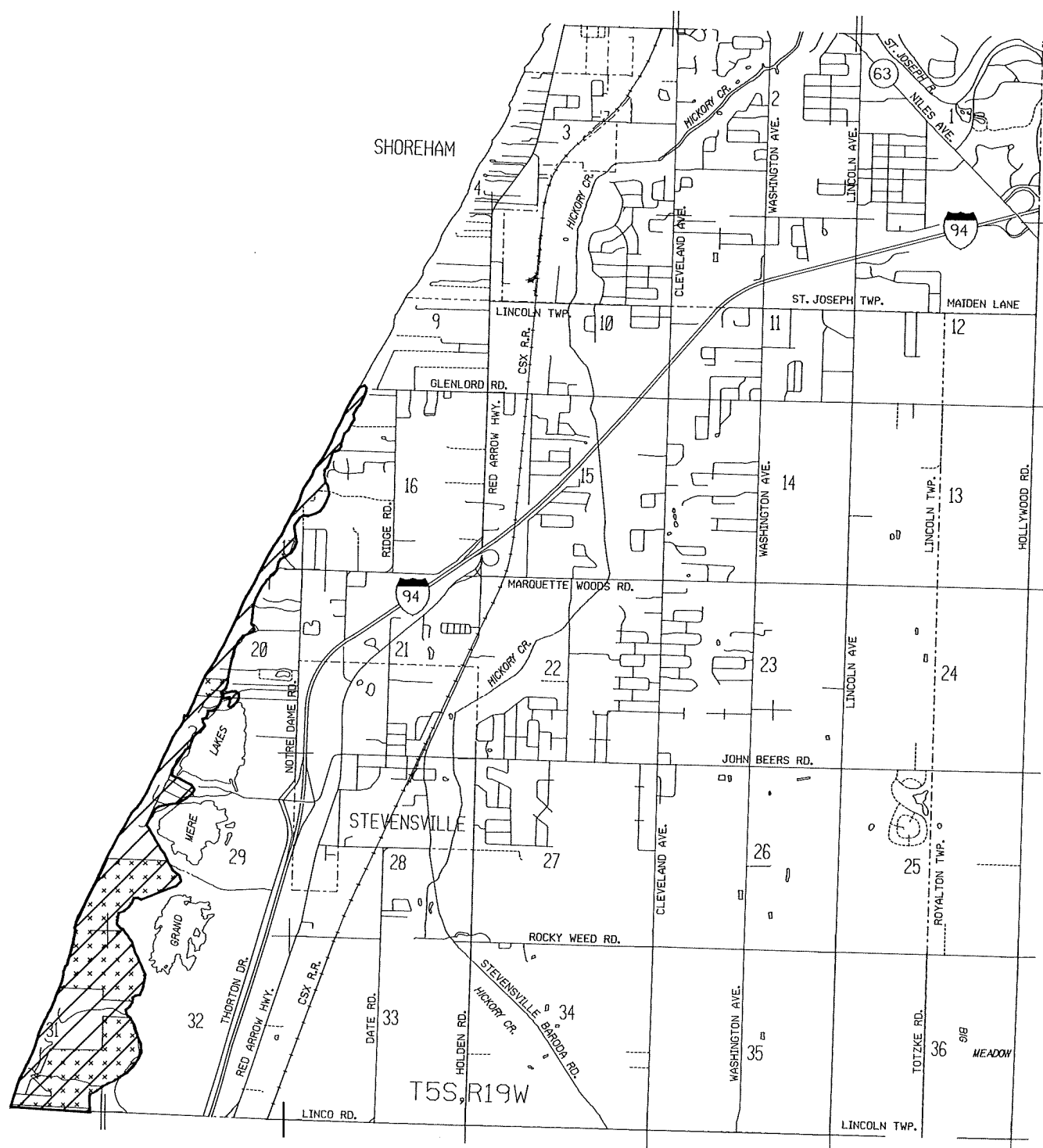
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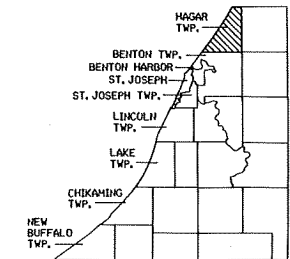
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HAGAR TOWNSHIP CRITICAL DUNE AREAS

BERRIEN COUNTY



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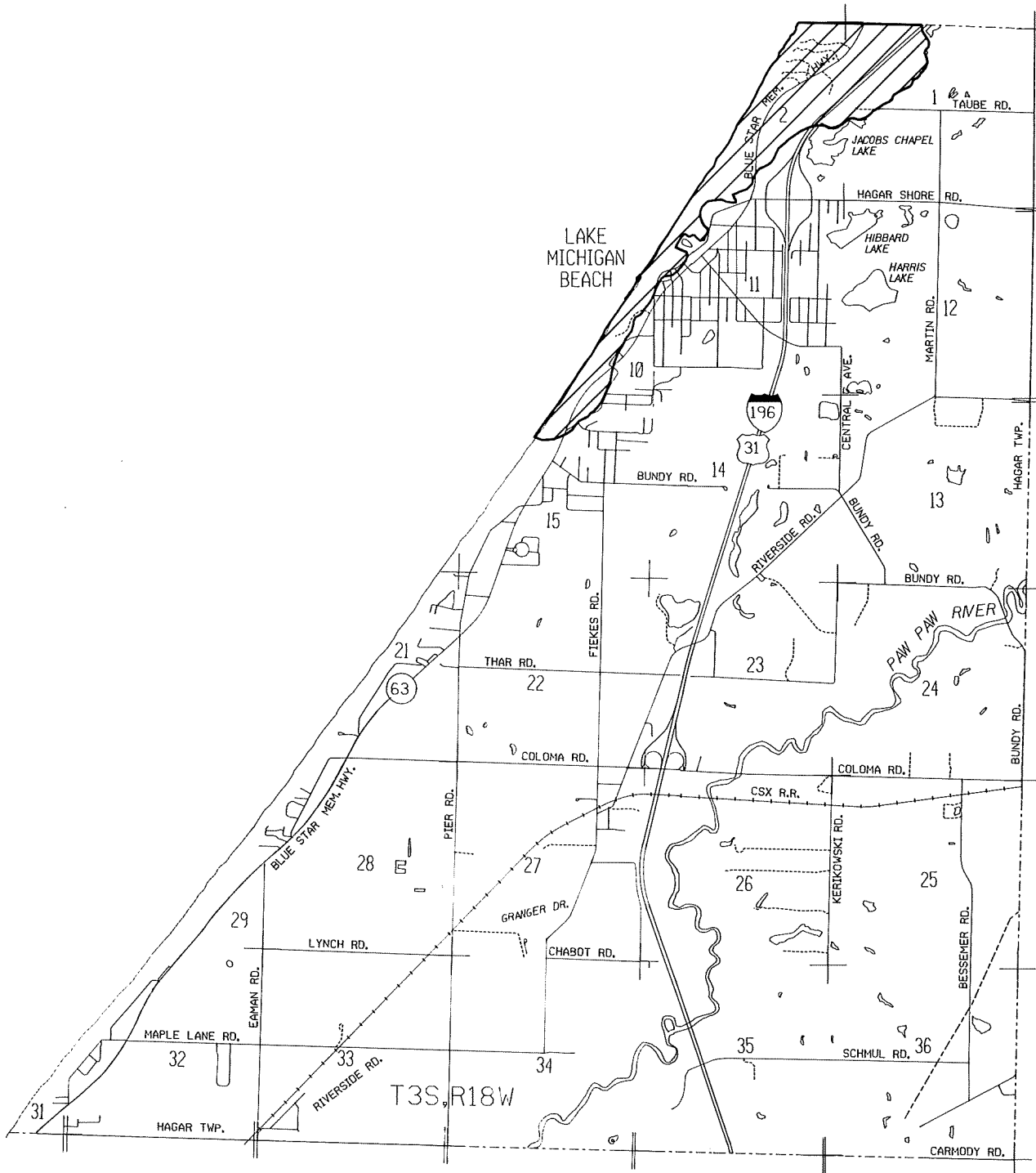
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VAN BUREN
STATE PARK

COVERT TWP.

PC-43

29TH AVE.

28TH AVE.

75TH ST.

140

26TH AVE. 2

77TH ST.

30TH AVE.

72ND ST.

32ND AVE.

COVERT

34TH AVE.

36TH AVE.

38TH AVE.

40TH AVE.

76TH AVE.

78TH AVE.

80TH AVE.

46TH AVE.

44TH AVE.

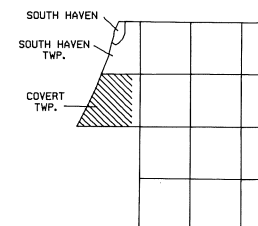
T2S, R17W

48TH AVE.

COVERT TWP.

COVERT TOWNSHIP CRITICAL DUNE AREAS

VAN BUREN COUNTY



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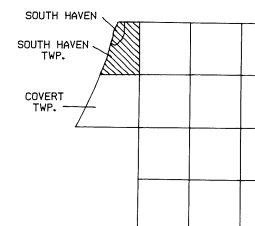
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PC-43 - Mesic Southern Forest, Michigan Natural Features Inventory
PC-6 - Coastal Plain Marsh, Michigan Natural Features Inventory

SOUTH HAVEN TOWNSHIP

CRITICAL DUNE AREAS

VAN BUREN COUNTY



LEGEND

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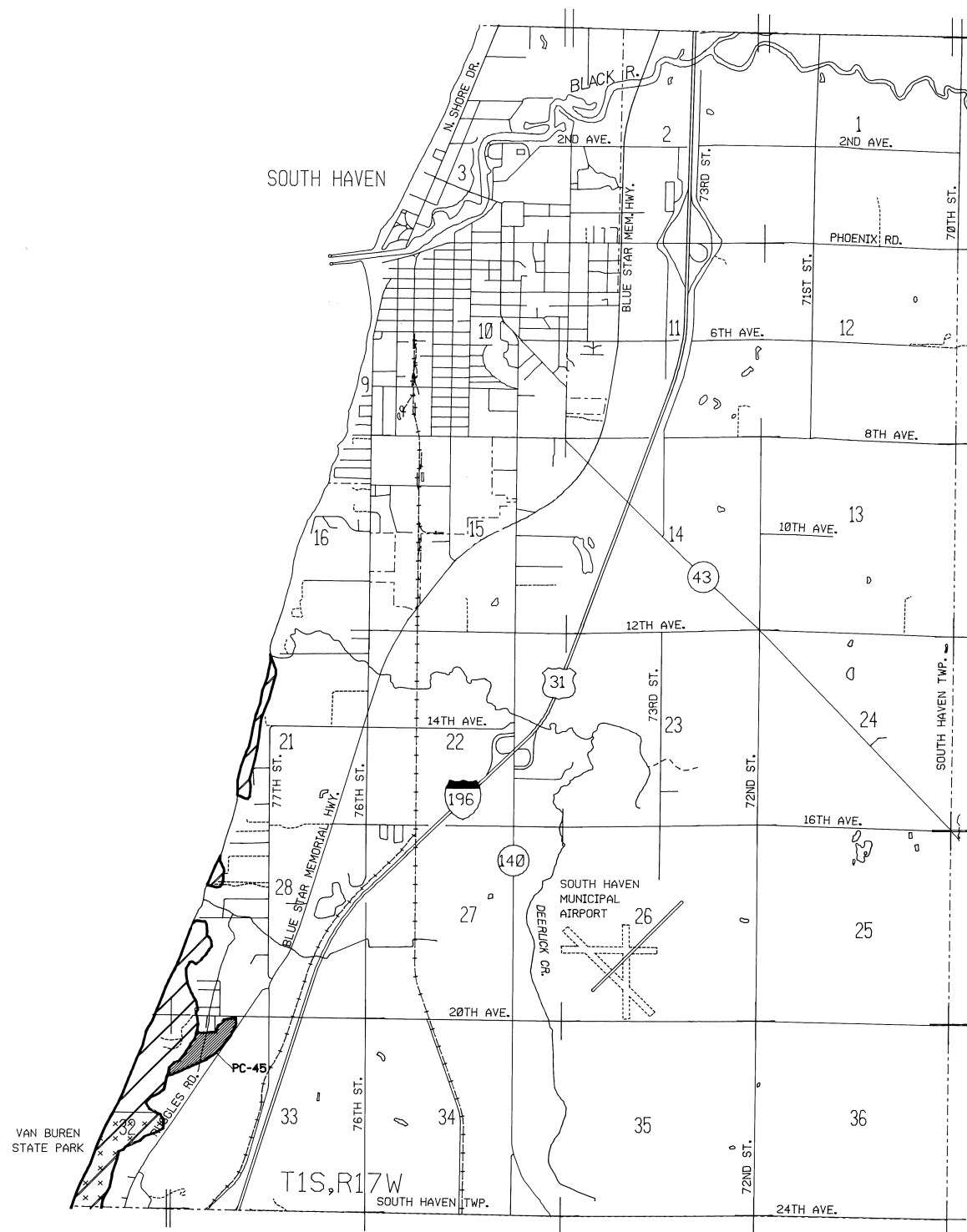
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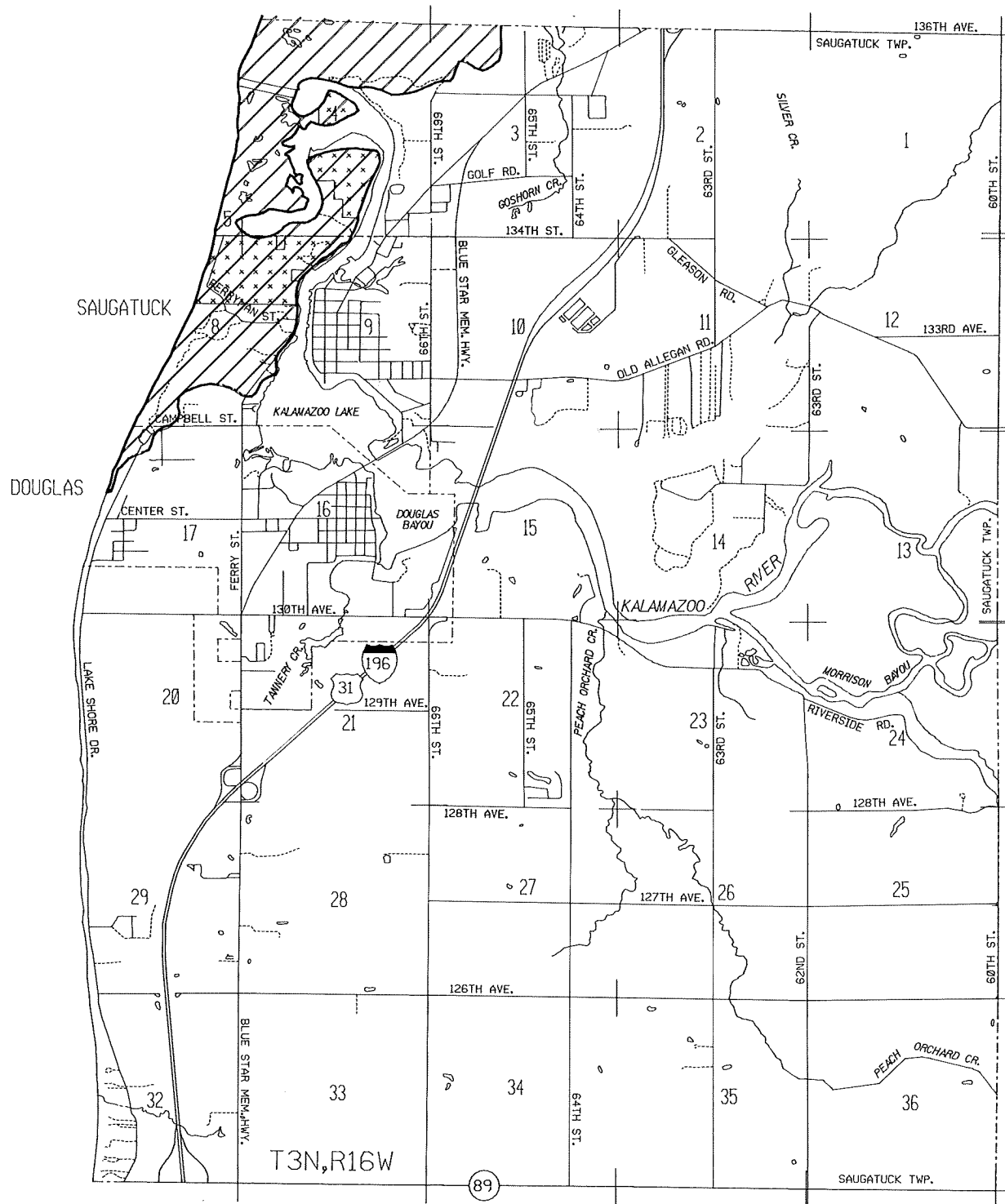
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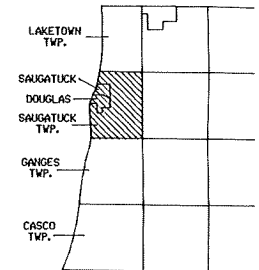


PC-45 - Mesic Southern Forest, Michigan Natural Features Inventory

SAUGATUCK TOWNSHIP CRITICAL DUNE AREAS



ALLEGAN COUNTY



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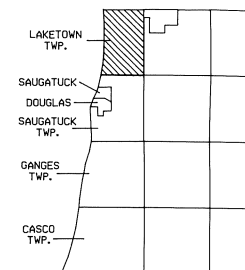
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LAKETOWN TOWNSHIP CRITICAL DUNE AREAS

ALLEGAN COUNTY






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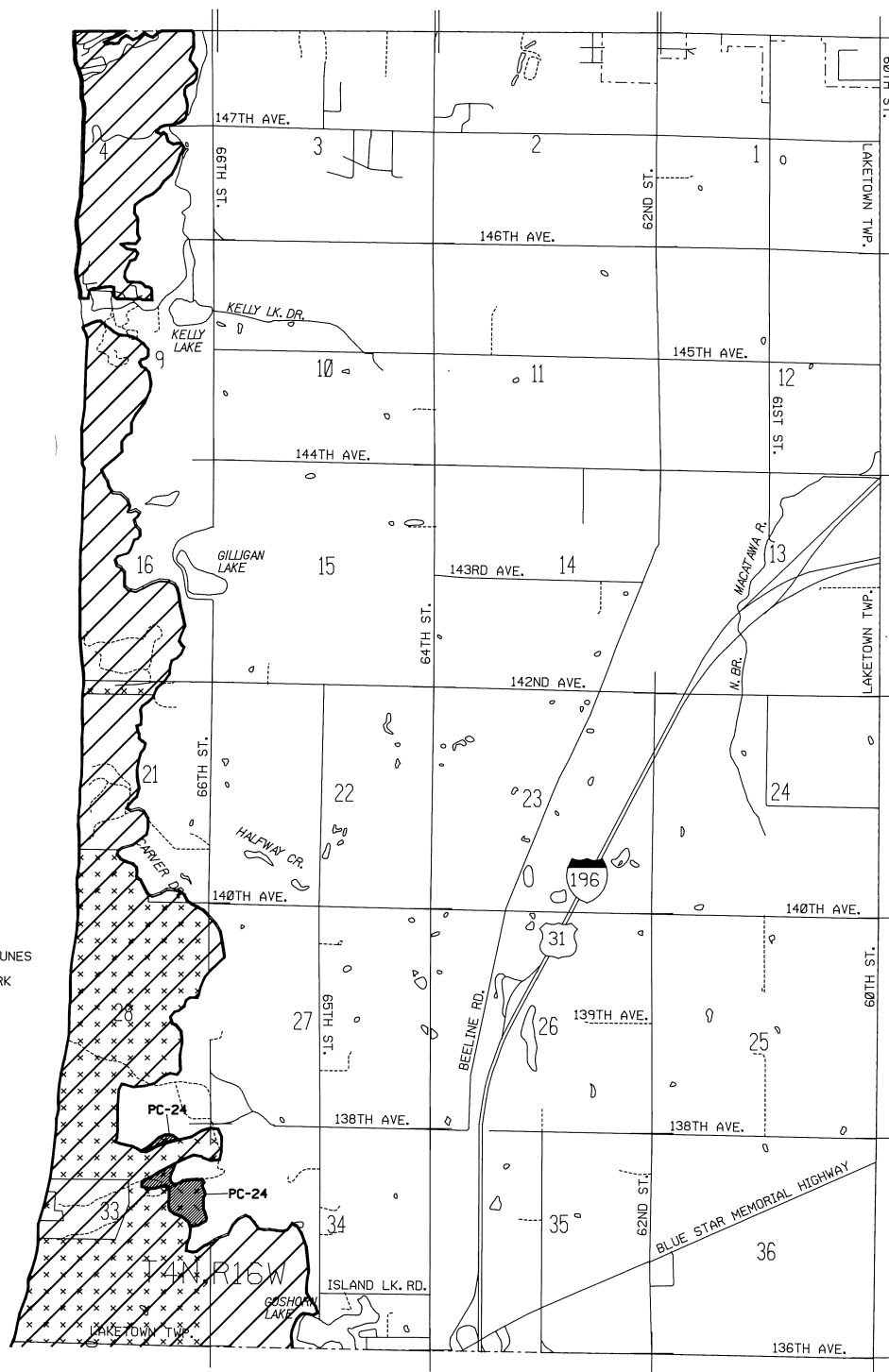
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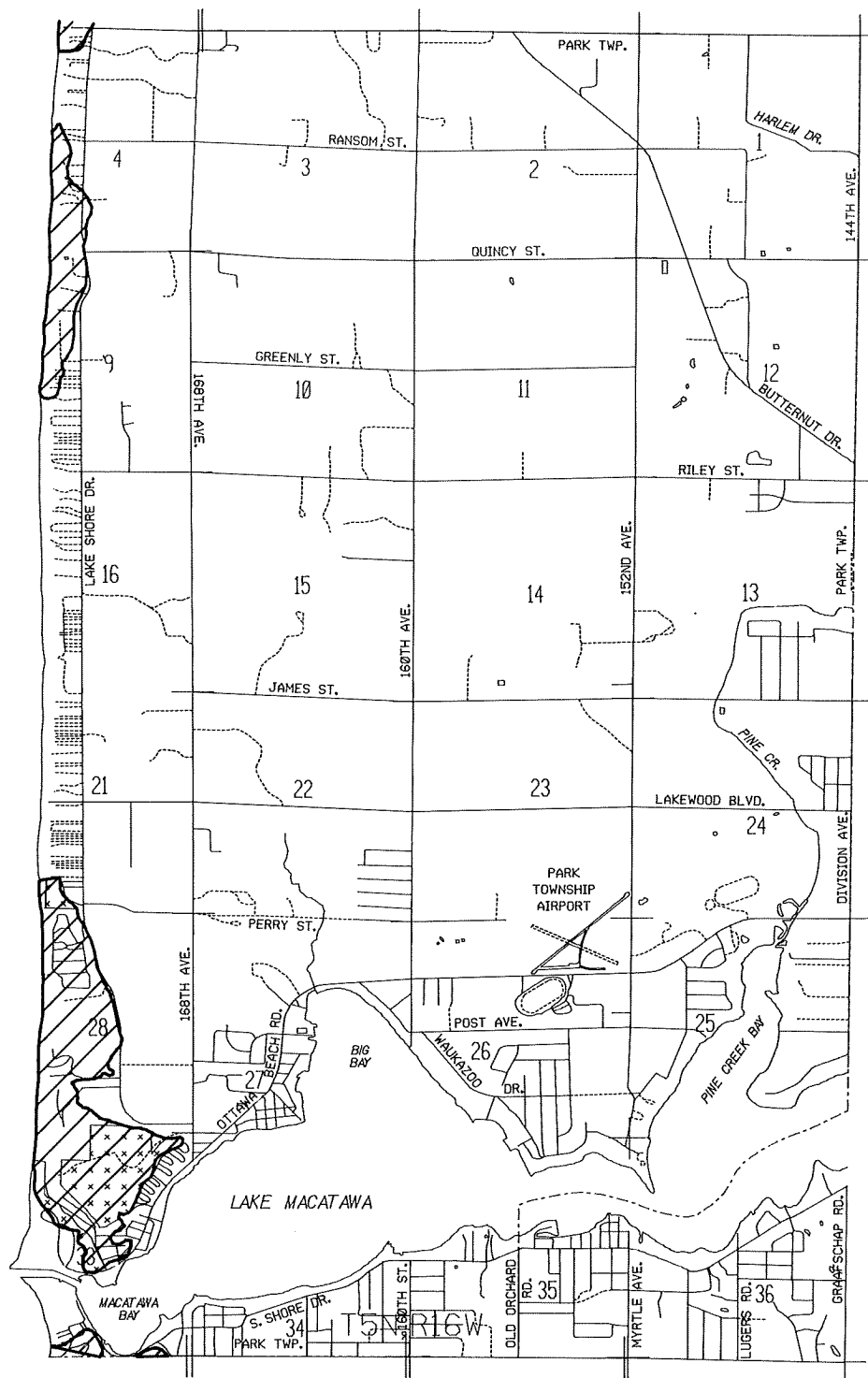
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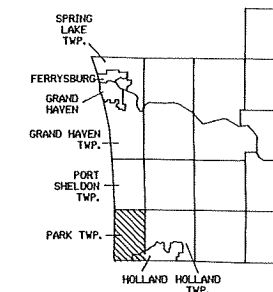
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PARK TOWNSHIP CRITICAL DUNE AREAS

OTTAWA COUNTY



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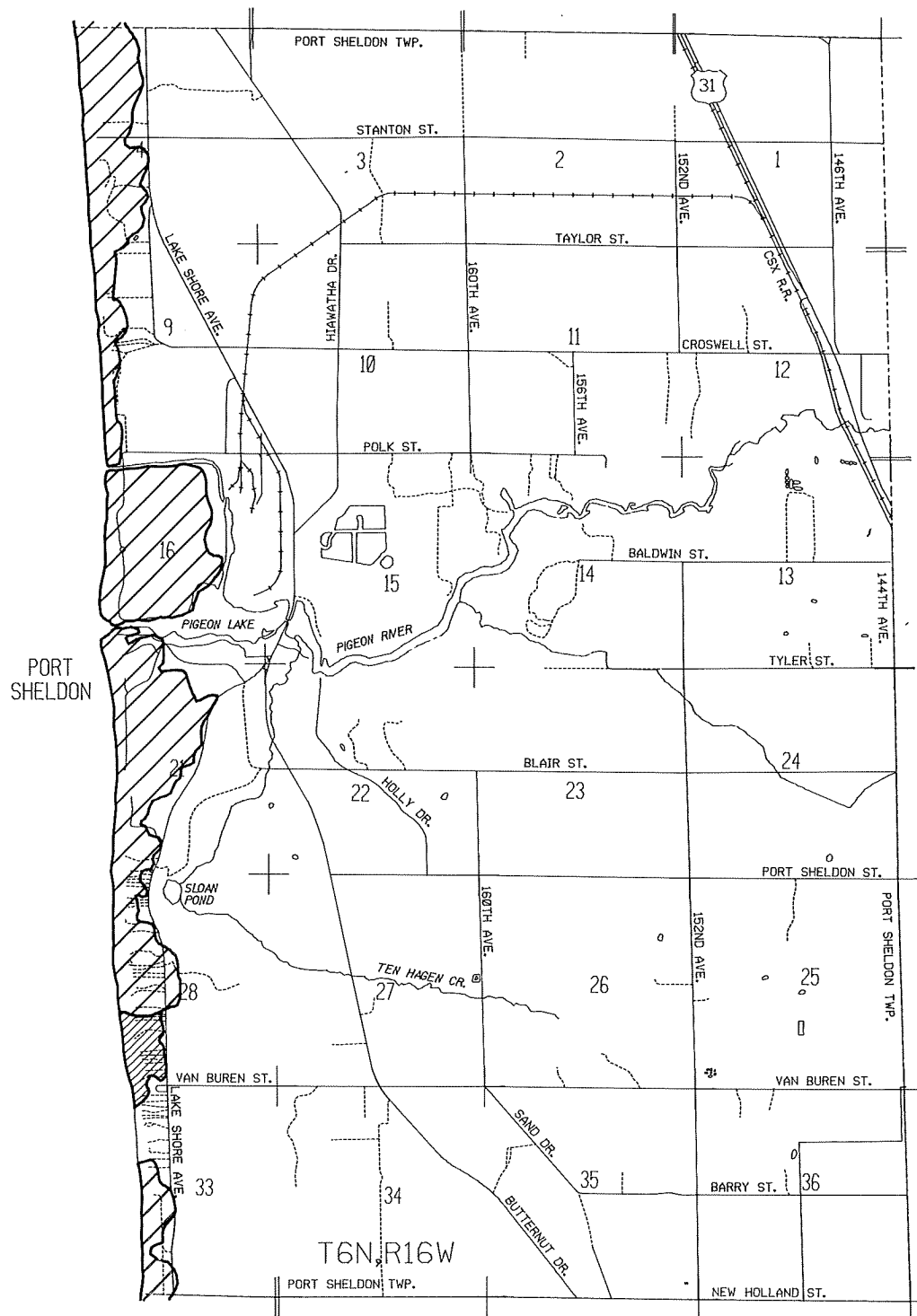
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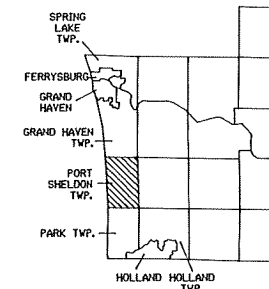
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PORT SHELTON TOWNSHIP

CRITICAL DUNE AREAS



OTTAWA COUNTY



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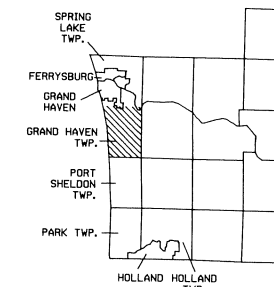
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GRAND HAVEN TOWNSHIP

CRITICAL DUNE AREAS

OTTAWA COUNTY






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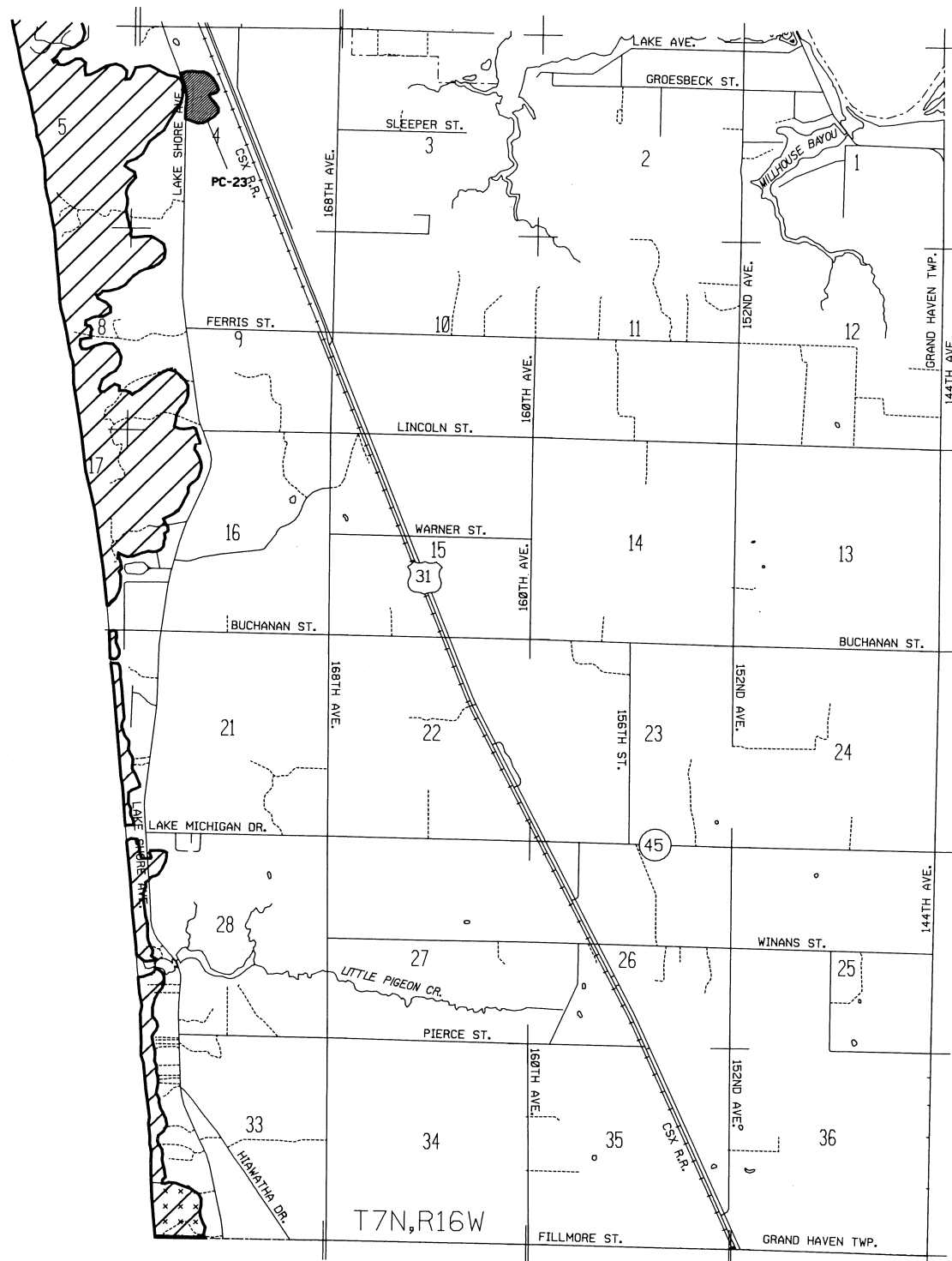
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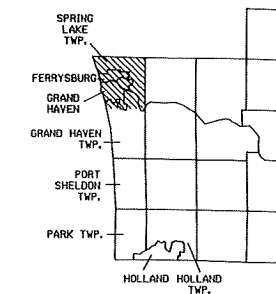


P.J. HOFFMASTER
STATE PARK

GRAND HAVEN SPRING LAKE TOWNSHIP

CRITICAL DUNE AREAS

OTTAWA COUNTY



LEGEND

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

xxx STATE AND FEDERAL LANDS AND
MAJOR LOCAL PARKS WITHIN CRITICAL
DUNE AREAS. PUBLIC LANDS ARE
CURRENT AS OF 1986.

PROPOSED CRITICAL DUNE AREAS

- BARRIER DUNES
BARRIER DUNE FORMATIONS DESIGNATED
PURSUANT TO 1976 P.A. 222
- AREAS NOT INCLUDED IN DESIGNATED
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.

INFORMATION

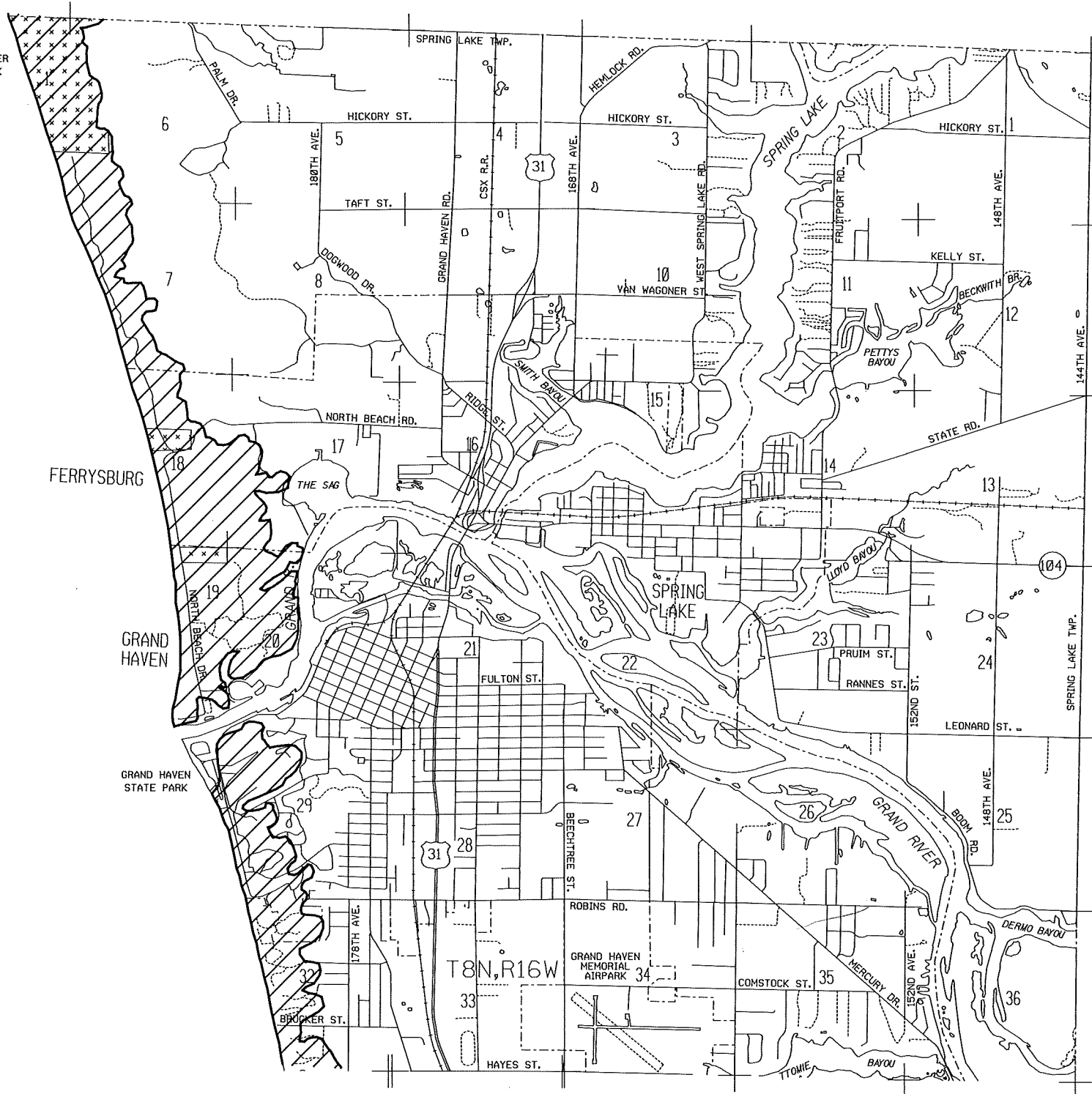
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
LAND AND WATER MANAGEMENT DIVISION
P.O. BOX 30828
LANSING, MI 48209
(517) 373-1178

GLIS

GREAT LAKES INFORMATION SYSTEM
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
LAND AND WATER MANAGEMENT DIVISION

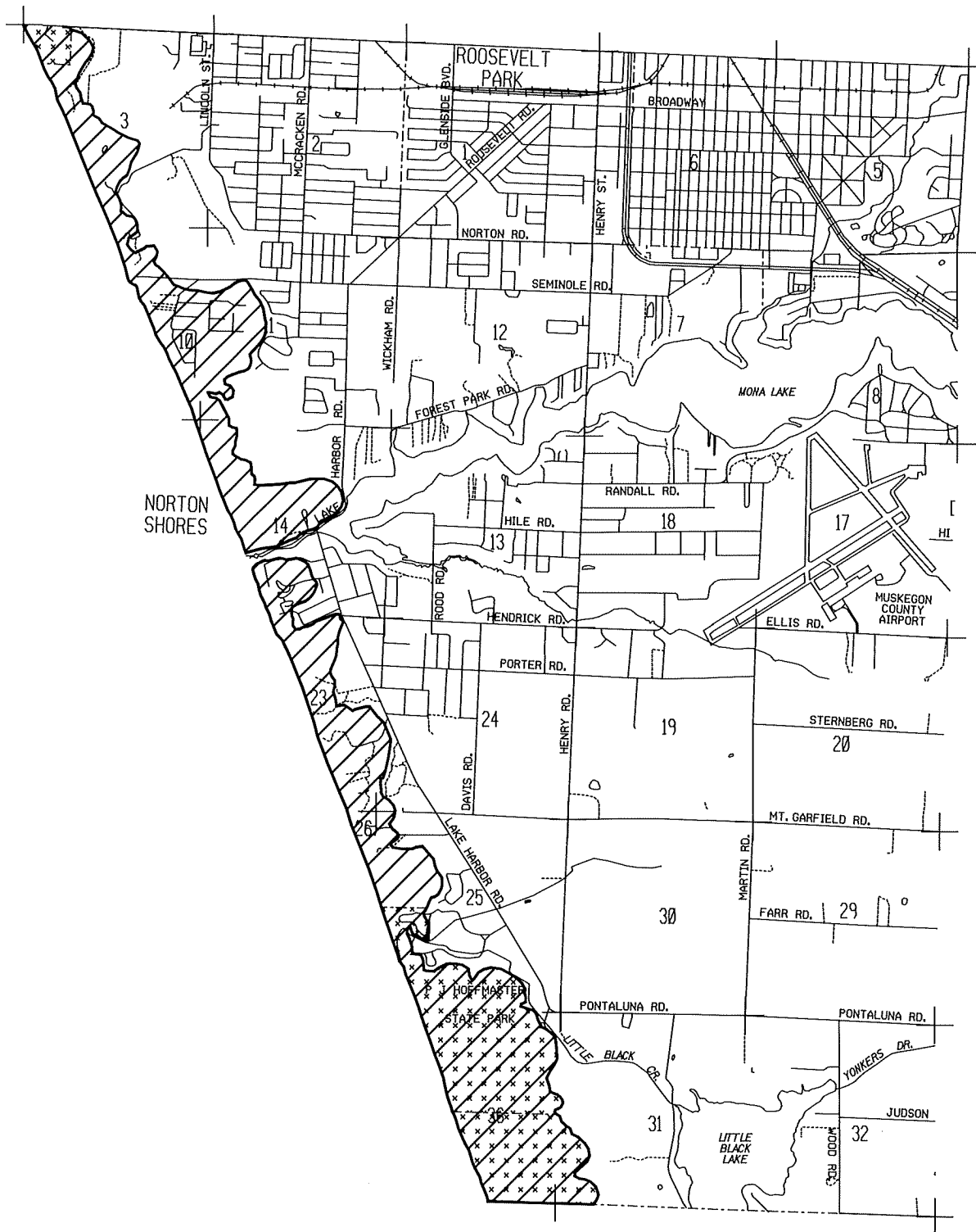
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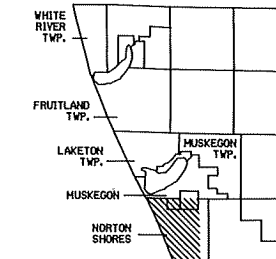


NORTON SHORES TOWNSHIP

CRITICAL DUNE AREAS



MUSKEGON COUNTY



LEGEND

--- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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COMMUNITIES OUTSIDE DESIGNATED
DUNE FORMATIONS. MICHIGAN NATURAL
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INFORMATION

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LANSING, MI 48909
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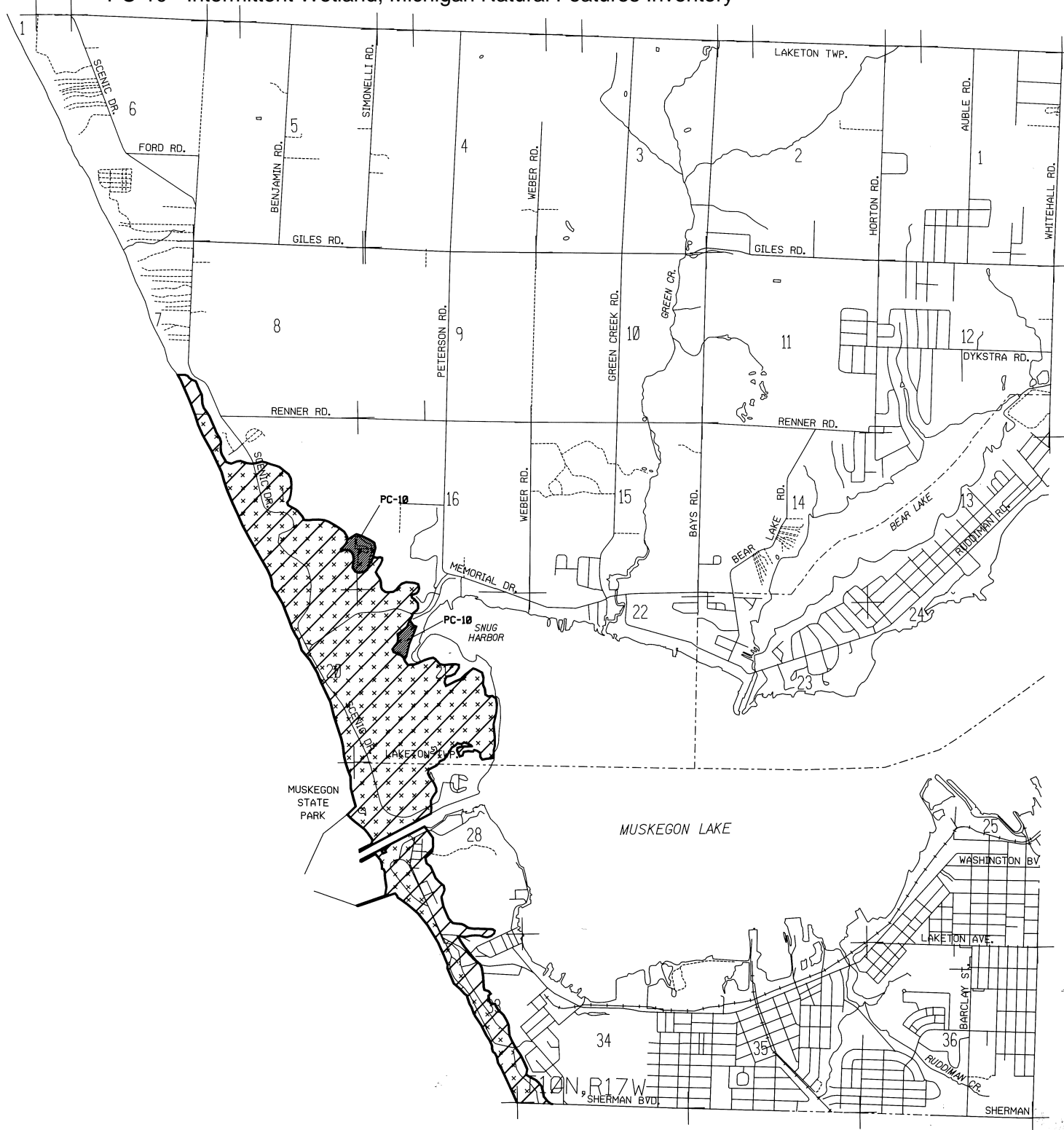
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FEET

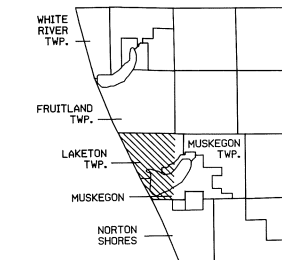
PC-10 - Intermittent Wetland, Michigan Natural Features Inventory



MUSKEGON LAKETON TOWNSHIP

CRITICAL DUNE AREAS

MUSKEGON COUNTY



LEGEND

- POLITICAL JURISDICTIONS
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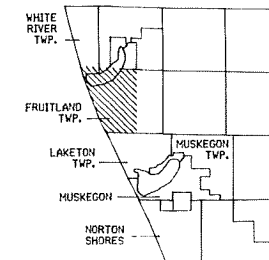
GREAT LAKES INFORMATION SYSTEM
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
LAND AND WATER MANAGEMENT DIVISION

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FEET

FRUITLAND TOWNSHIP CRITICAL DUNE AREAS

MUSKEGON COUNTY



LEGEND

--- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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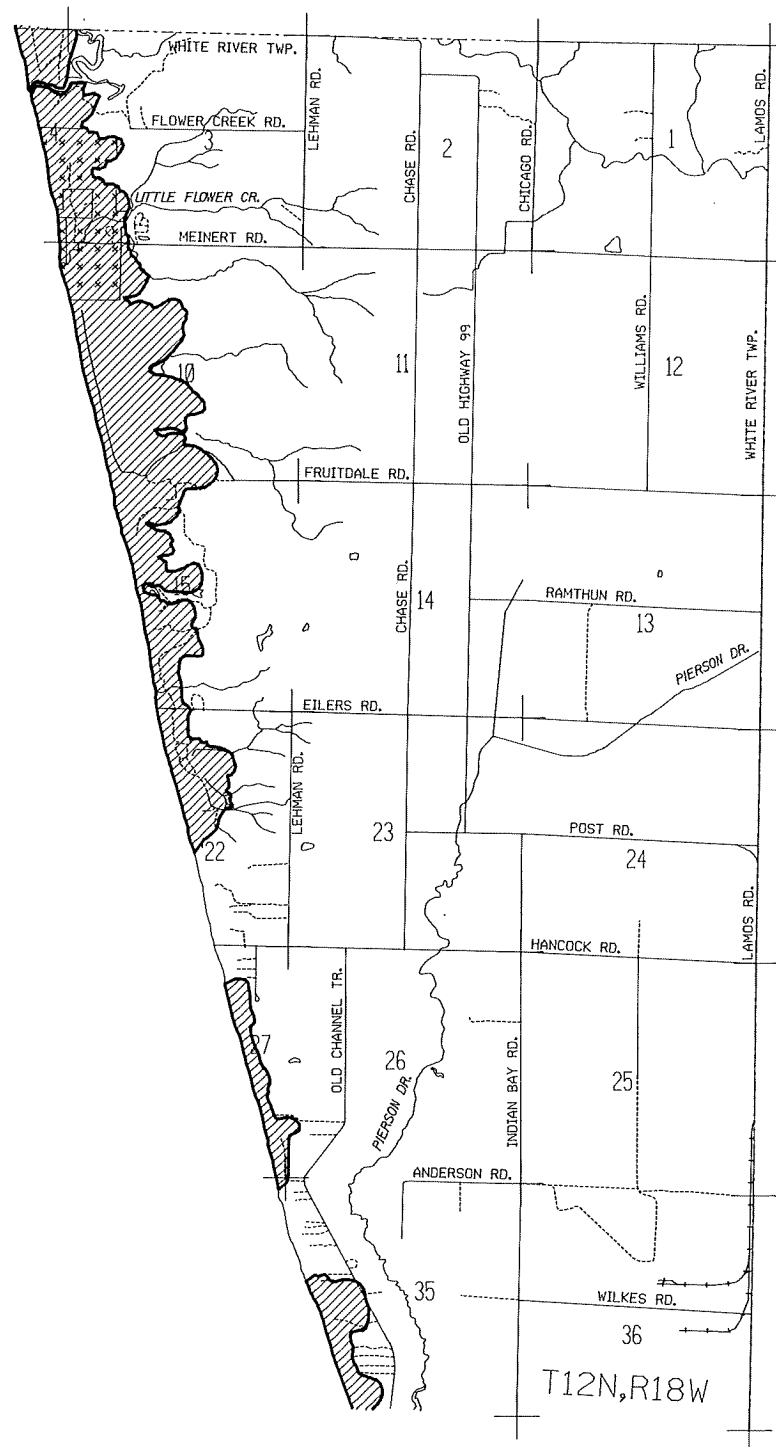
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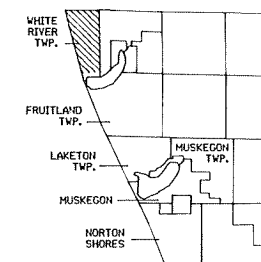


T11N, R17W
FRUITLAND TWP.0

WHITE RIVER TOWNSHIP CRITICAL DUNE AREAS



MUSKEGON COUNTY



LEGEND

- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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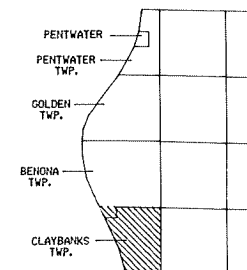
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CLAYBANKS TOWNSHIP CRITICAL DUNE AREAS

OCEANA COUNTY






LEGEND

--- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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STATE AND FEDERAL LANDS AND
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BARRIER DUNE FORMATIONS DESIGNATED
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AND EXHIBIT SEVERAL DUNE-LINE
CHARACTERISTICS.**
-  **EXEMPLARY DUNE ASSOCIATED PLANT
COMMUNITIES OUTSIDE DESIGNATED
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INFORMATION

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(517) 373-1170

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LAND AND WATER MANAGEMENT DIVISION

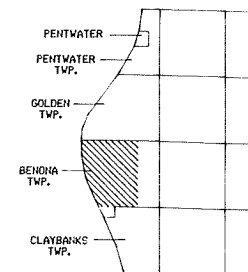
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FEET

BENONA TOWNSHIP CRITICAL DUNE AREAS



OCEANA COUNTY



LEGEND

- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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STATE AND FEDERAL LANDS AND
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LANSING, MI 48909
(517) 373-1170

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES
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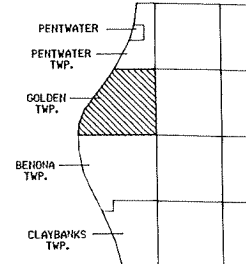
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FEET

GOLDEN TOWNSHIP

CRITICAL DUNE AREAS

OCEANA COUNTY



LEGEND

--- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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AND EXHIBIT SEVERAL DUNE-LIKE
CHARACTERISTICS.**
- NONFLUVIAL DUNE ASSOCIATED PLANT
COMMUNITIES OUTSIDE DESIGNATED
DUNE FORMATIONS. MICHIGAN NATURAL
FEATURES INVENTORY REFERENCE CODE
INDICATED.**

INFORMATION

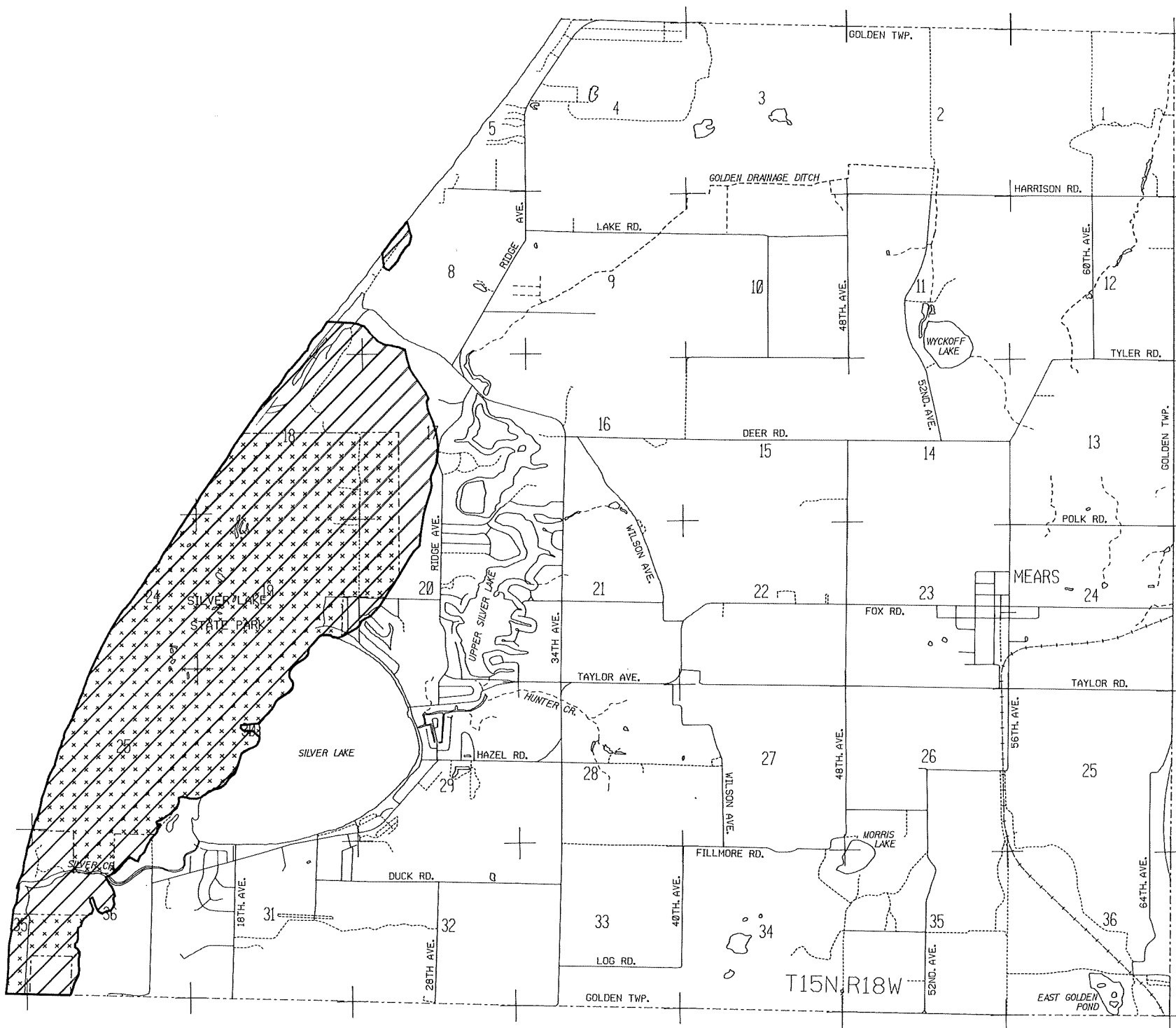
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
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LANSING, MI 48909
(517) 373-1178

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GREAT LAKES INFORMATION SYSTEM
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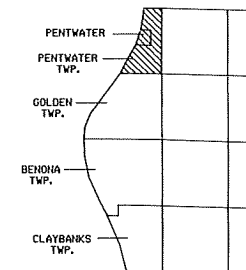
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FEET



PENTWATER TOWNSHIP

CRITICAL DUNE AREAS

OCEANA COUNTY



LEGEND

- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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- xxx PUBLIC LANDS
STATE AND FEDERAL LANDS AND
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COMMUNITIES OUTSIDE DESIGNATED
DUNE FORMATIONS. MICHIGAN NATURAL
FEATURES INVENTORY REFERENCE CODE
INDICATED.**

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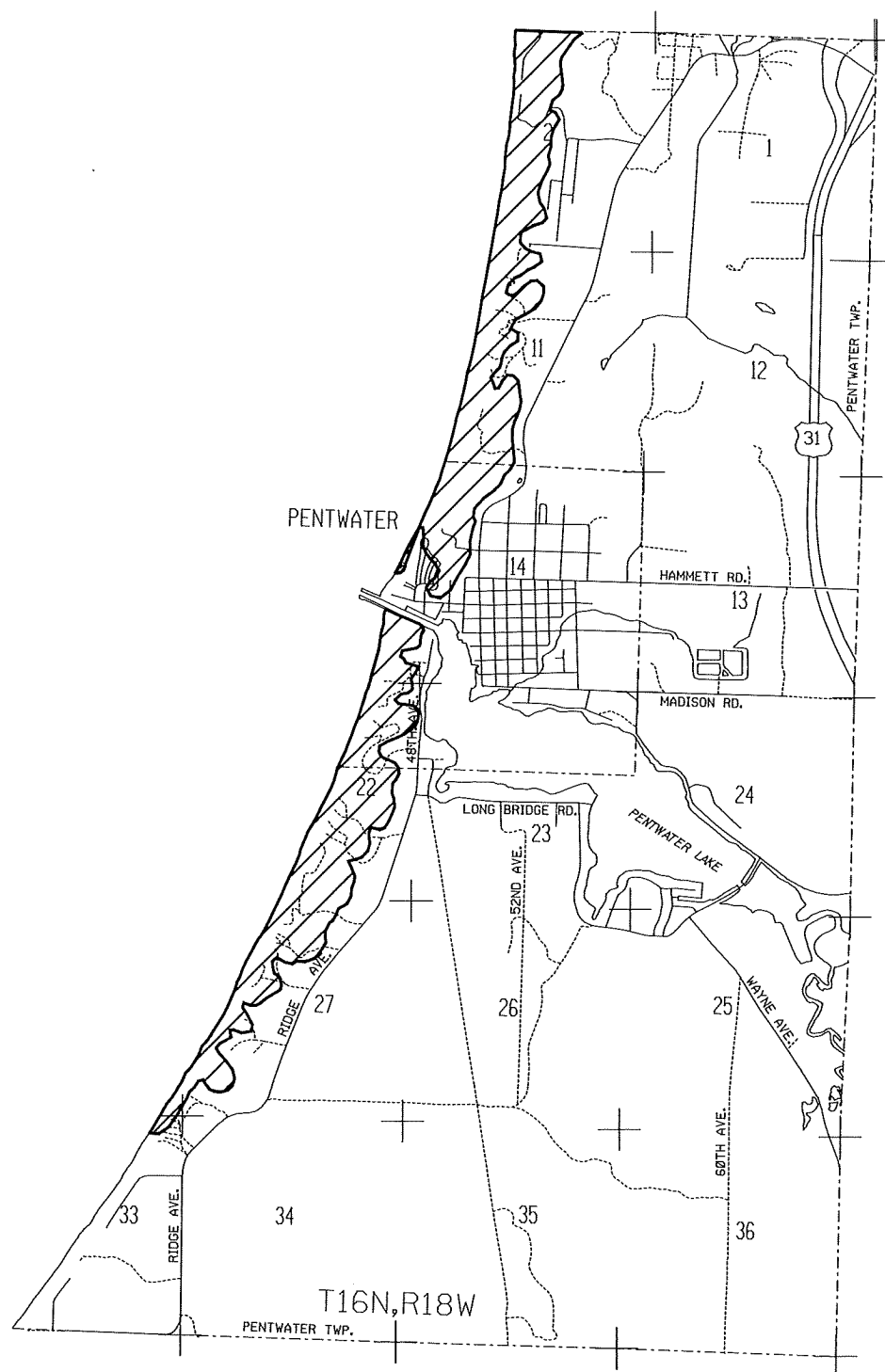
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
LAND AND WATER MANAGEMENT DIVISION
P.O. BOX 38028
LANSING, MI 48989
(517) 373-1170

GLIS

GREAT LAKES INFORMATION SYSTEM
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
LAND AND WATER MANAGEMENT DIVISION

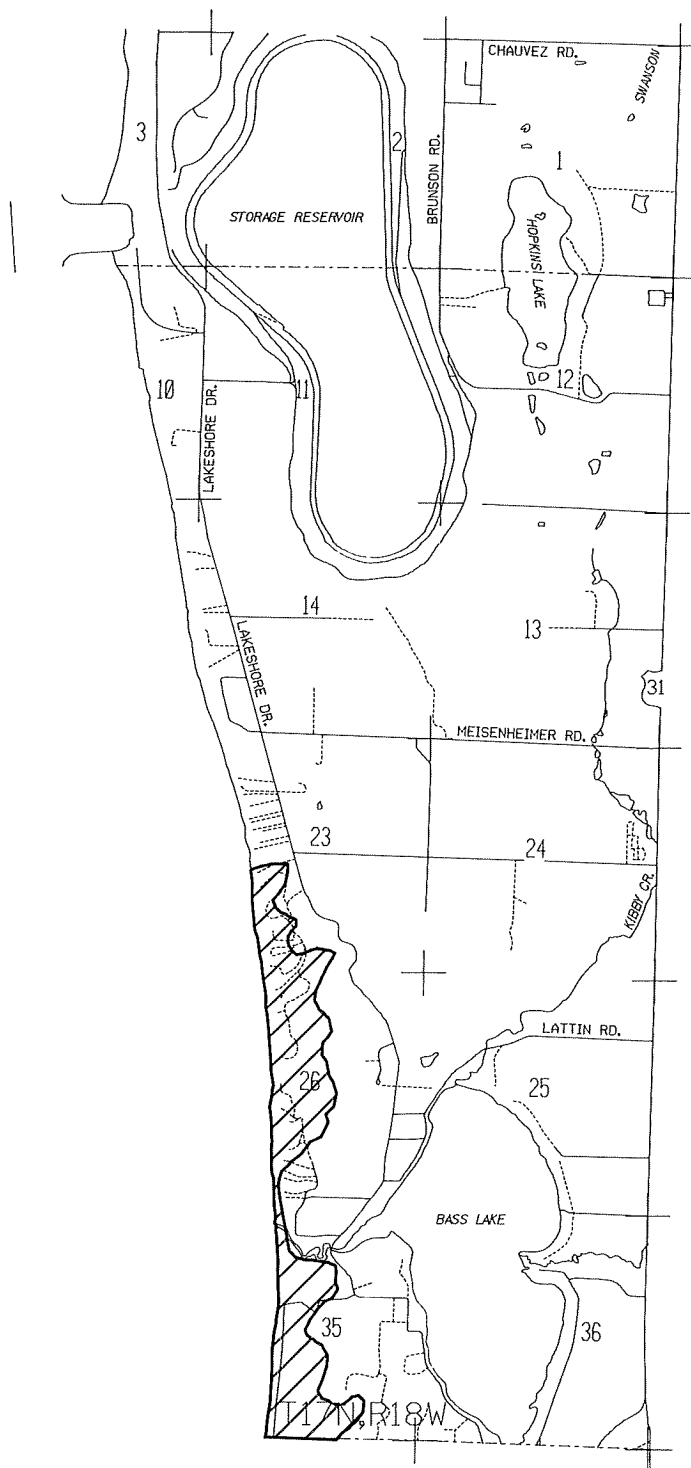
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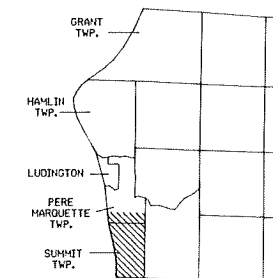


SUMMIT TOWNSHIP

CRITICAL DUNE AREAS



MASON COUNTY



LEGEND

--- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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XXXX PUBLIC LANDS
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INFORMATION

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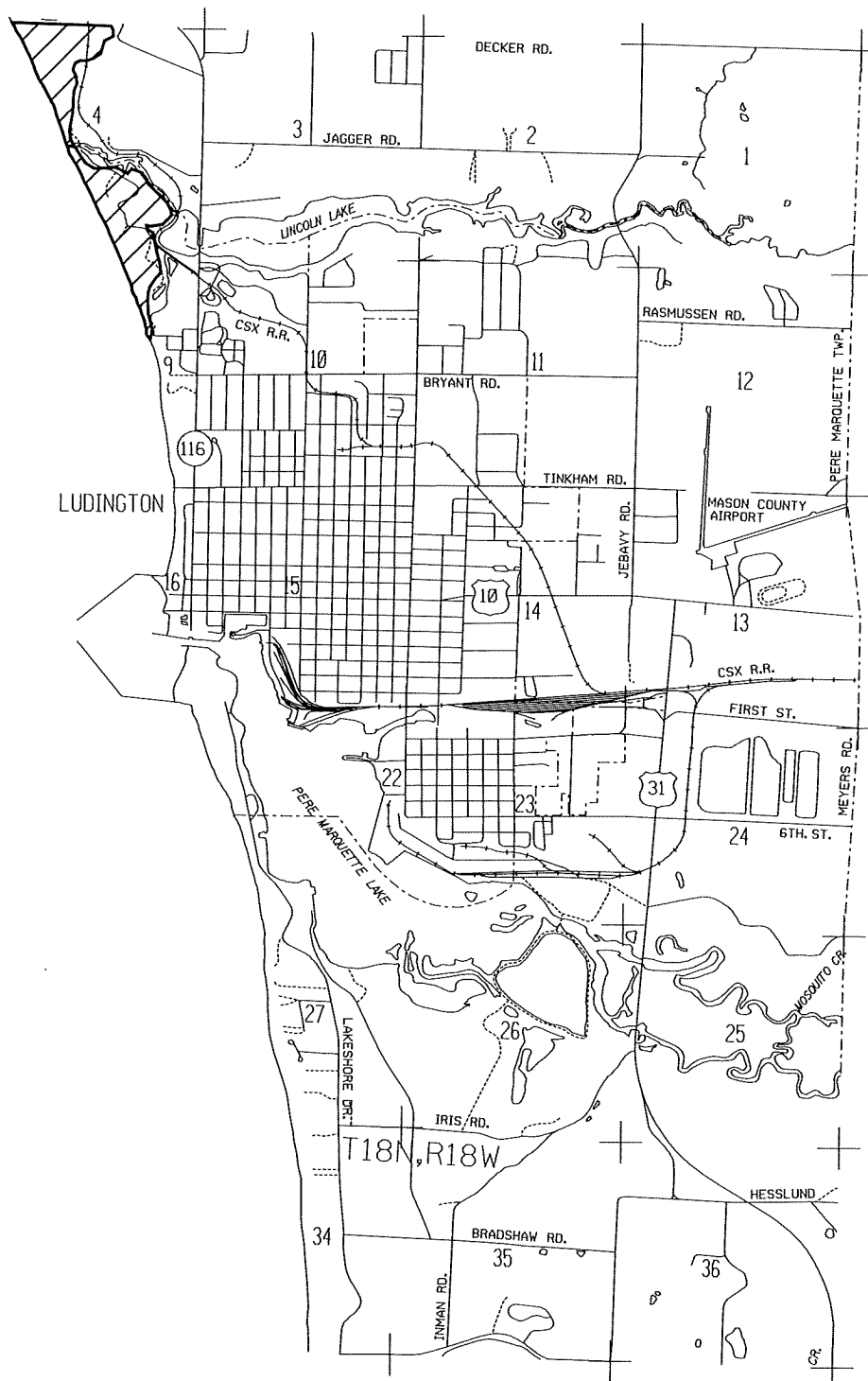
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES
LAND AND WATER MANAGEMENT DIVISION

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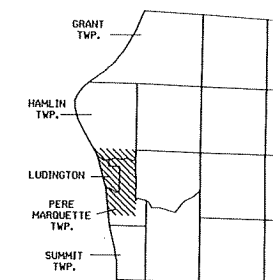
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FEET

LUDINGTON PERE MARQUETTE TOWNSHIP

CRITICAL DUNE AREAS



MASON COUNTY



LEGEND

--- POLITICAL JURISDICTIONS
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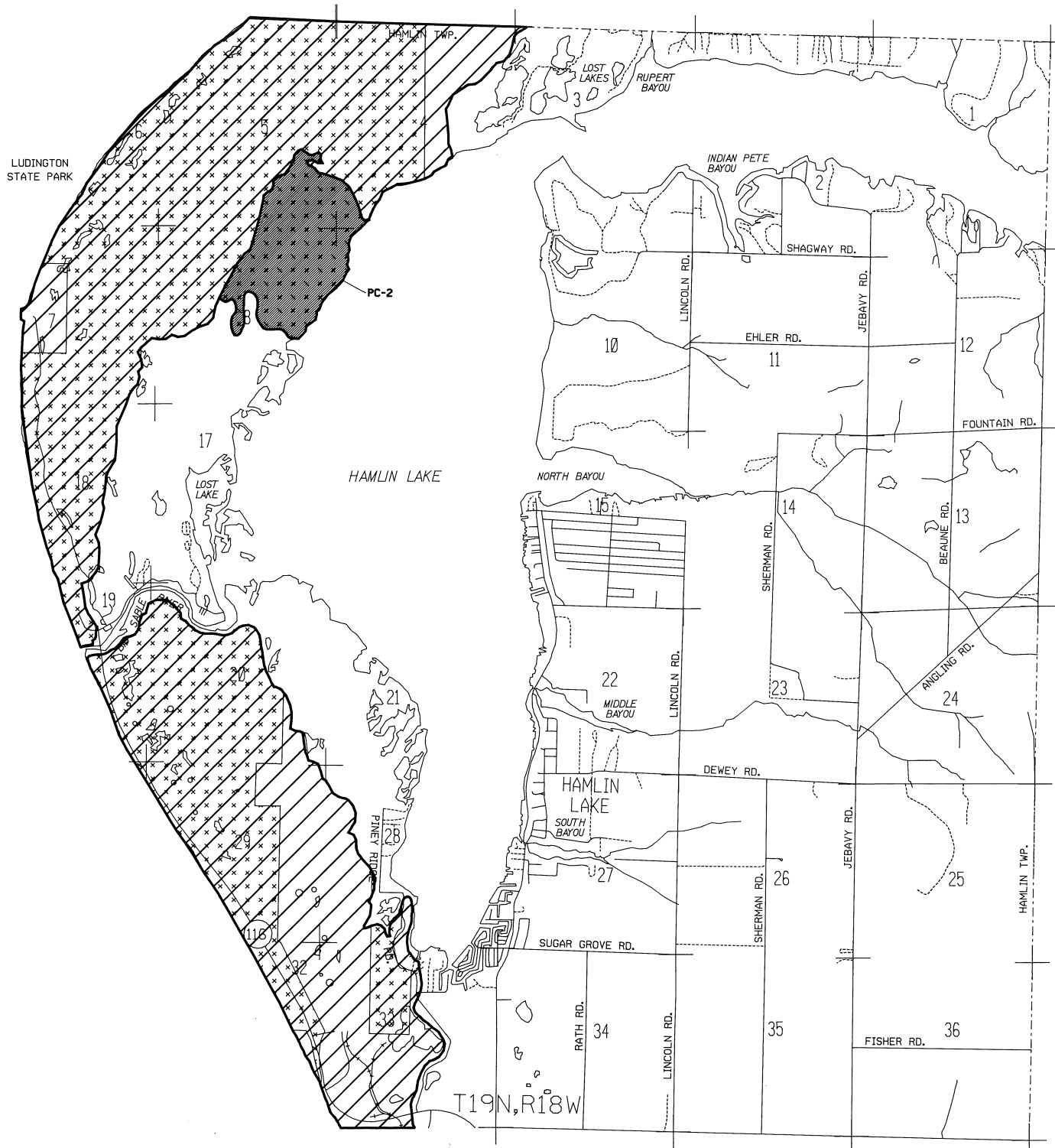
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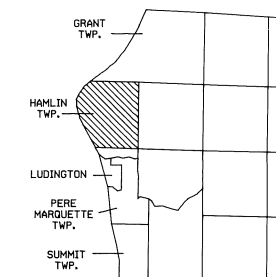
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FEET

HAMLIN TOWNSHIP CRITICAL DUNE AREAS



MASON COUNTY



LEGEND

--- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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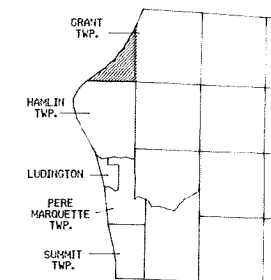
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PC-2 - Open Dunes, Michigan Natural Features Inventory

GRANT TOWNSHIP (WEST) CRITICAL DUNE AREAS

MASON COUNTY



LEGEND

--- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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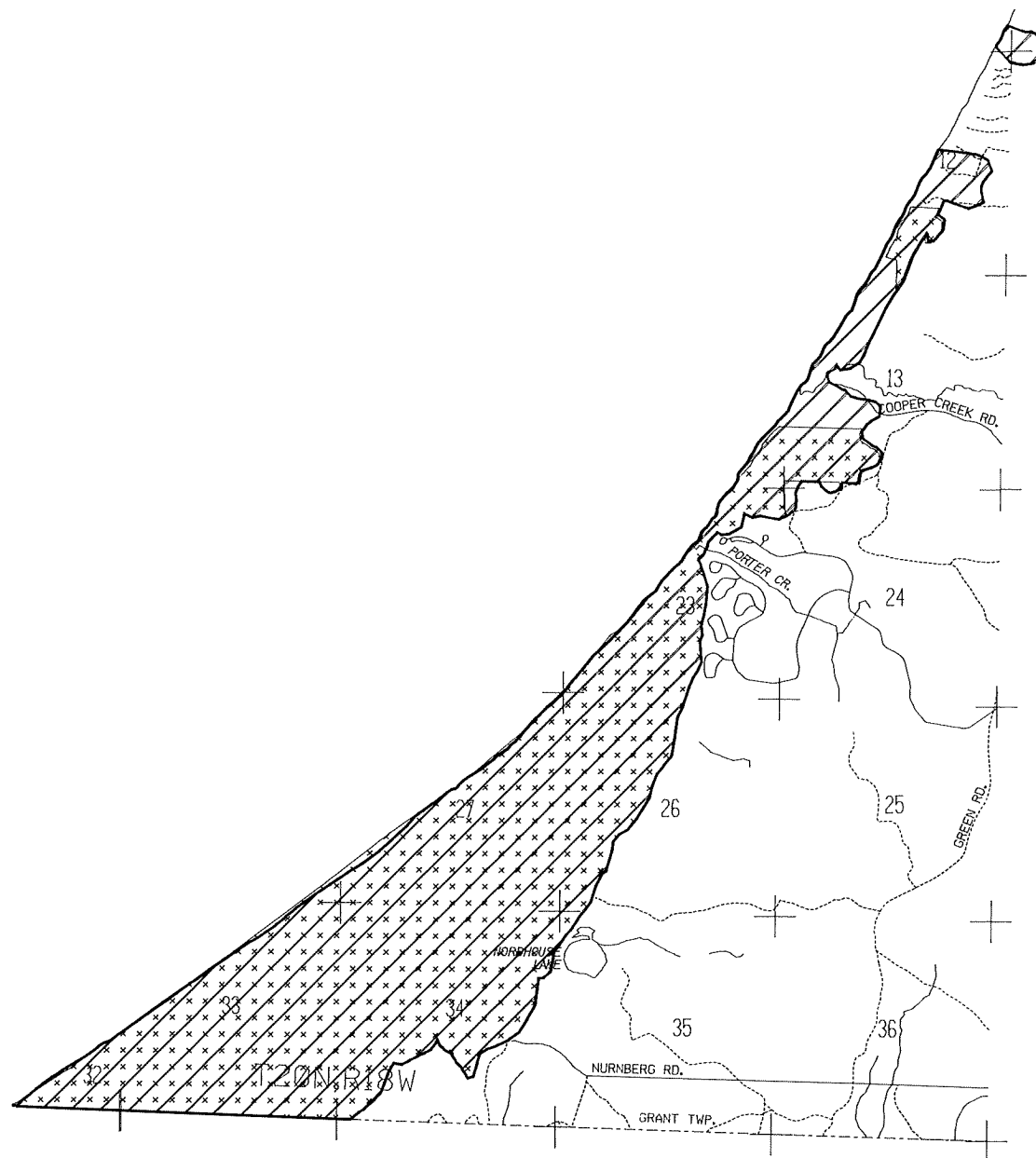
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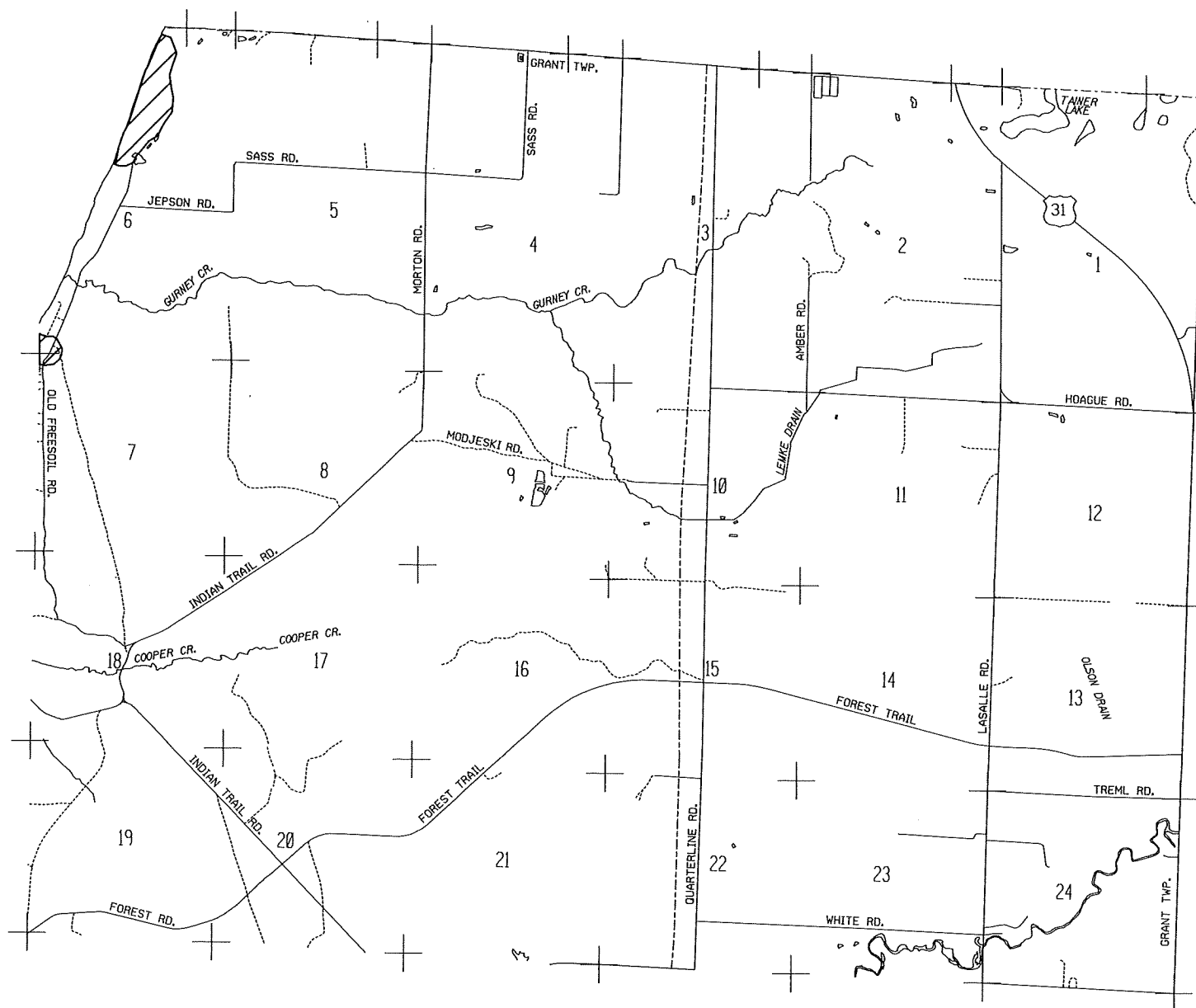
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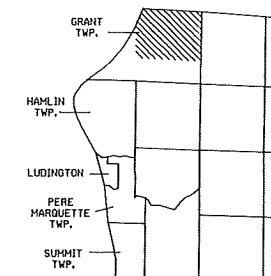
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GRANT TOWNSHIP CRITICAL DUNE AREAS



MASON COUNTY



LEGEND

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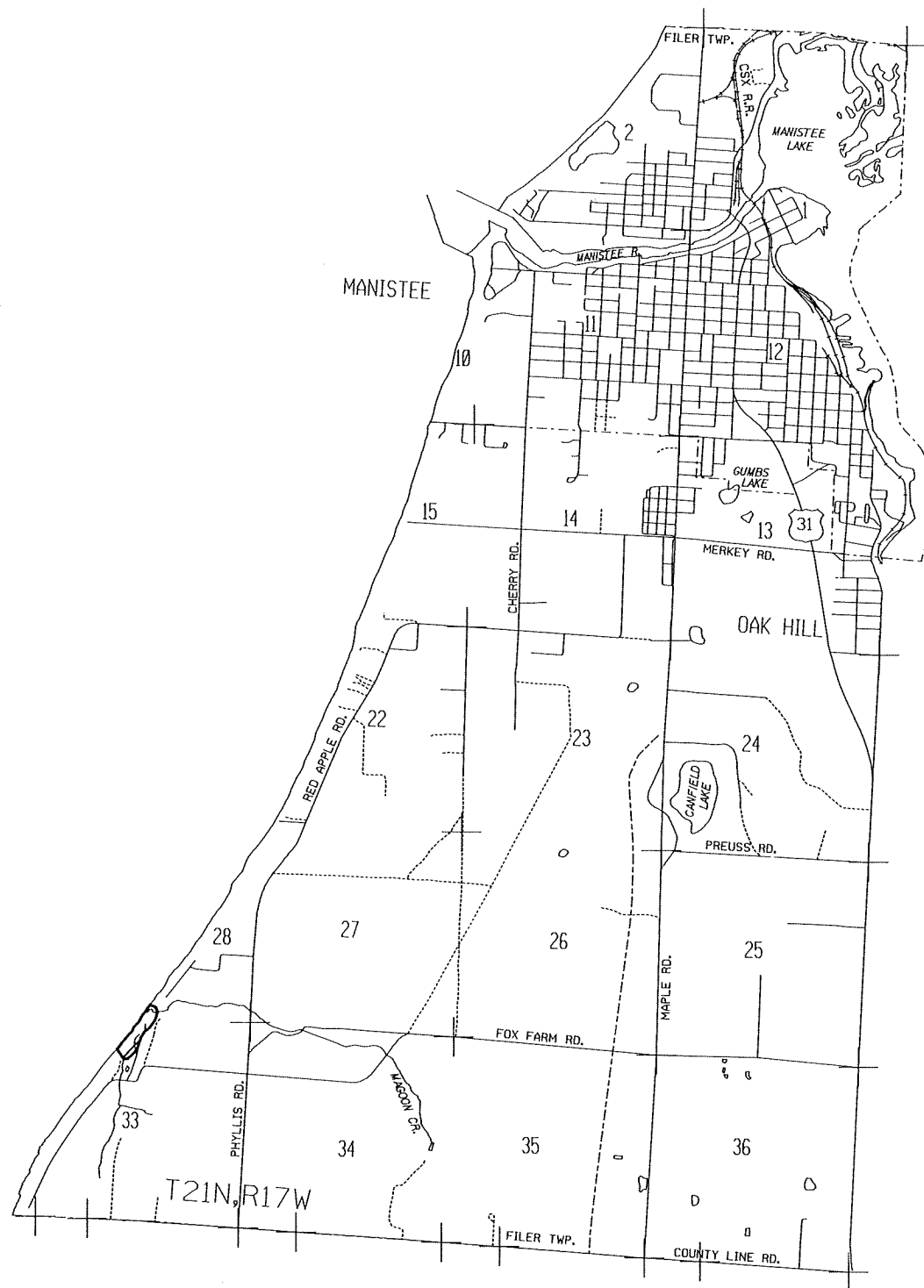
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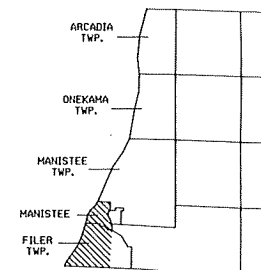
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FILER TOWNSHIP CRITICAL DUNE AREAS



MANISTEE COUNTY



LEGEND

- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
AND INCORPORATED CITIES AND
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- XXXX PUBLIC LANDS
STATE AND FEDERAL LANDS AND
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PROPOSED CRITICAL DUNE AREAS

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

INFORMATION

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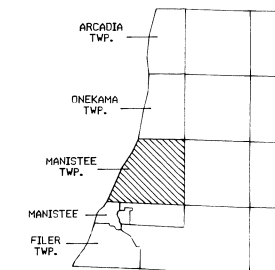
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MANISTEE TOWNSHIP

CRITICAL DUNE AREAS

MANISTEE COUNTY



LEGEND

--- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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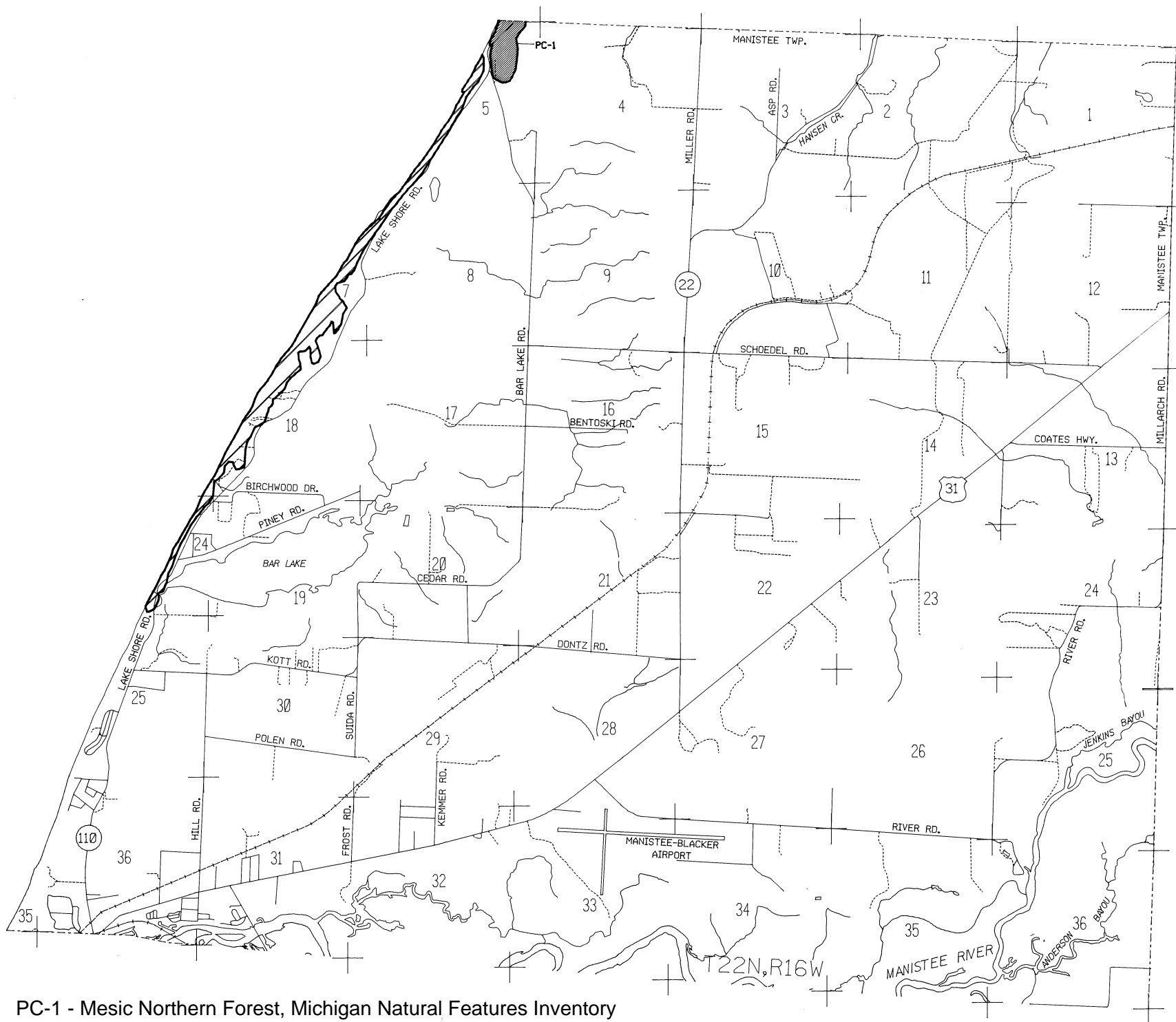
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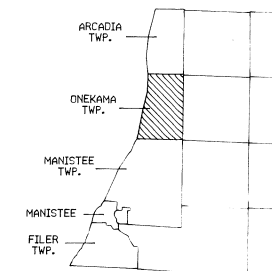


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ONEKAMA TOWNSHIP

CRITICAL DUNE AREAS

MANISTEE COUNTY






LEGEND

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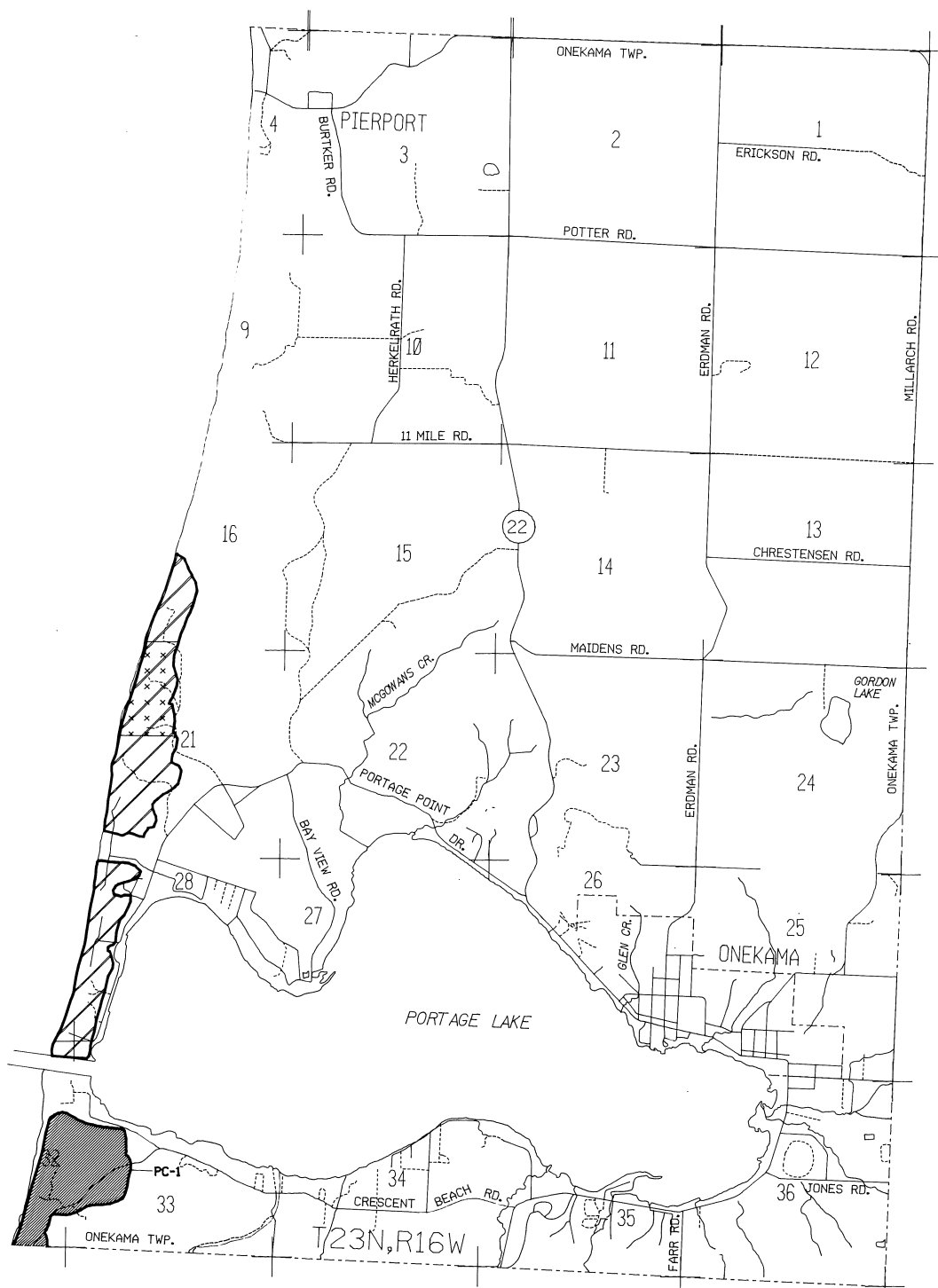
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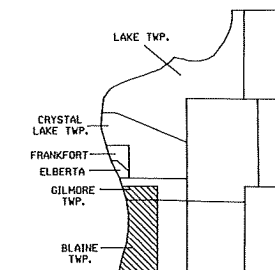


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GILMORE BLAINE TOWNSHIPS

CRITICAL DUNE AREAS

BENZIE COUNTY



LEGEND

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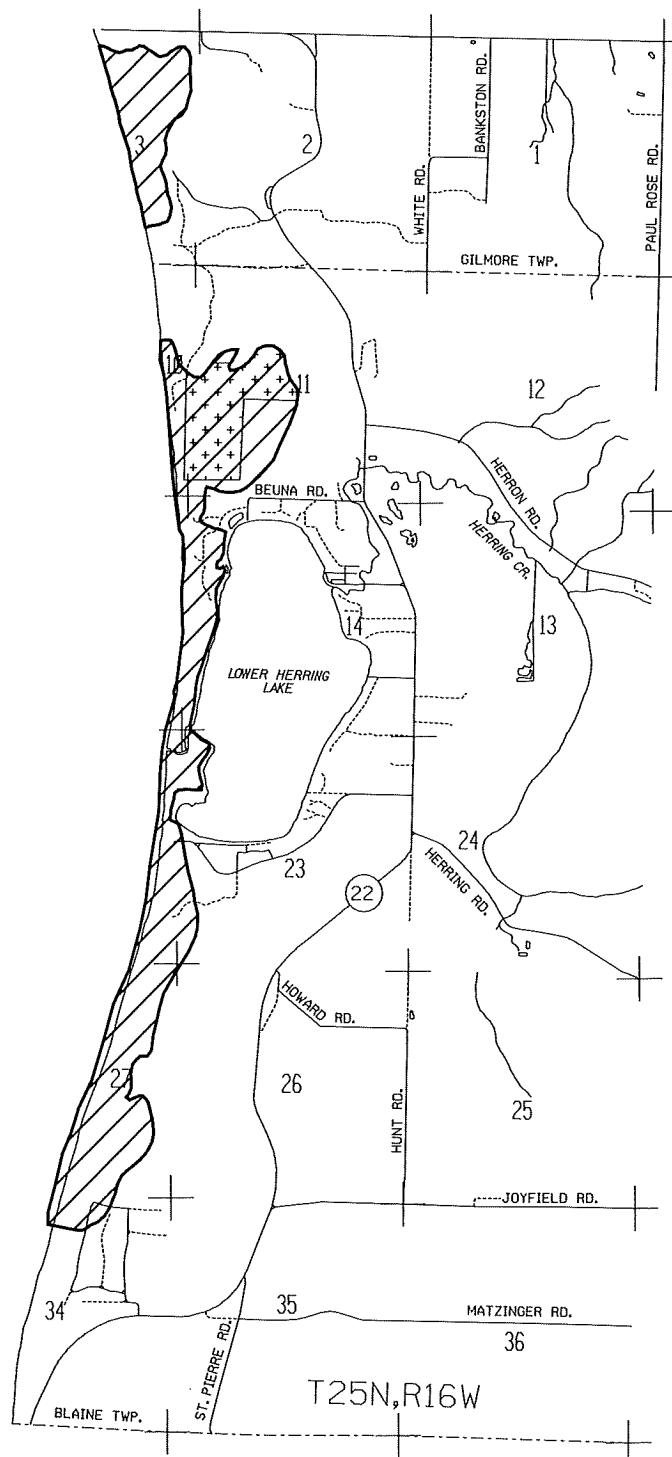
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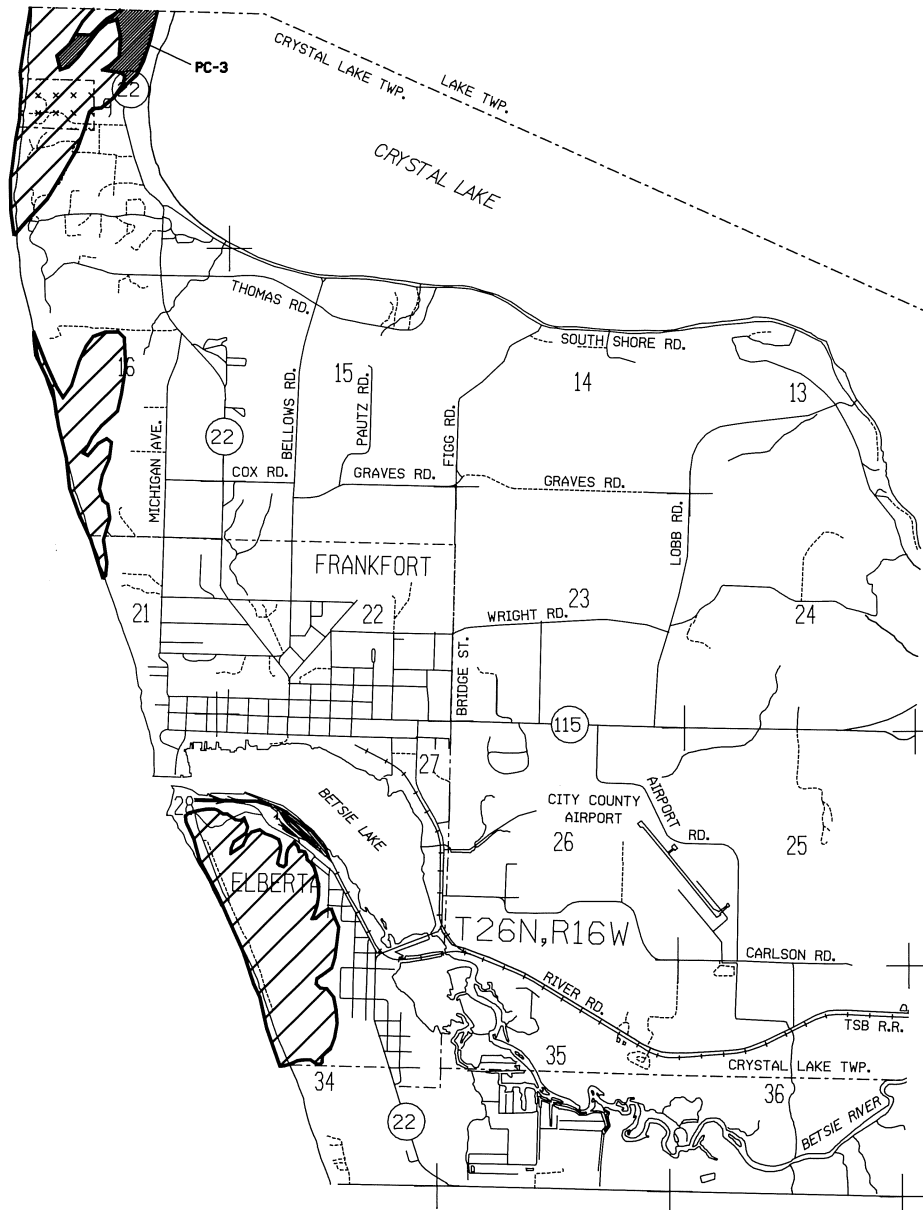
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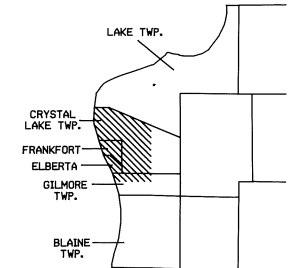
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CRYSTAL LAKE TOWNSHIP CRITICAL DUNE AREAS



BENZIE COUNTY






LEGEND

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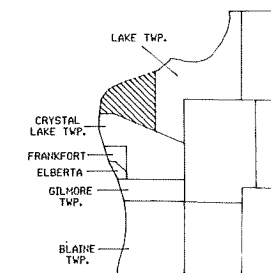
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LAKE TOWNSHIP CRITICAL DUNE AREAS

BENZIE COUNTY



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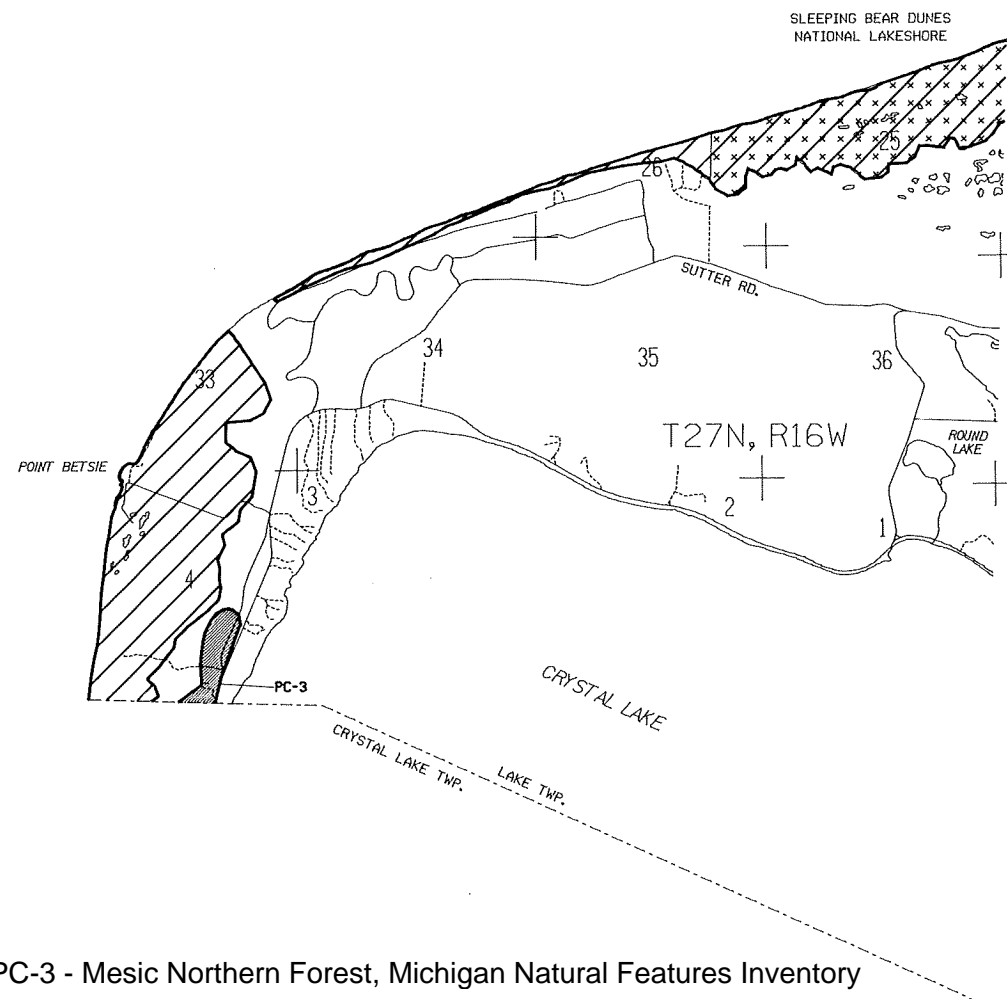
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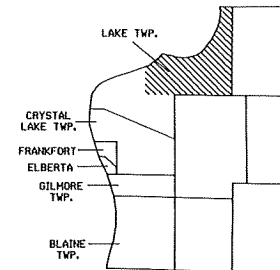
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PC-3 - Mesic Northern Forest, Michigan Natural Features Inventory

LAKE TOWNSHIP CRITICAL DUNE AREAS

BENZIE COUNTY



LEGEND

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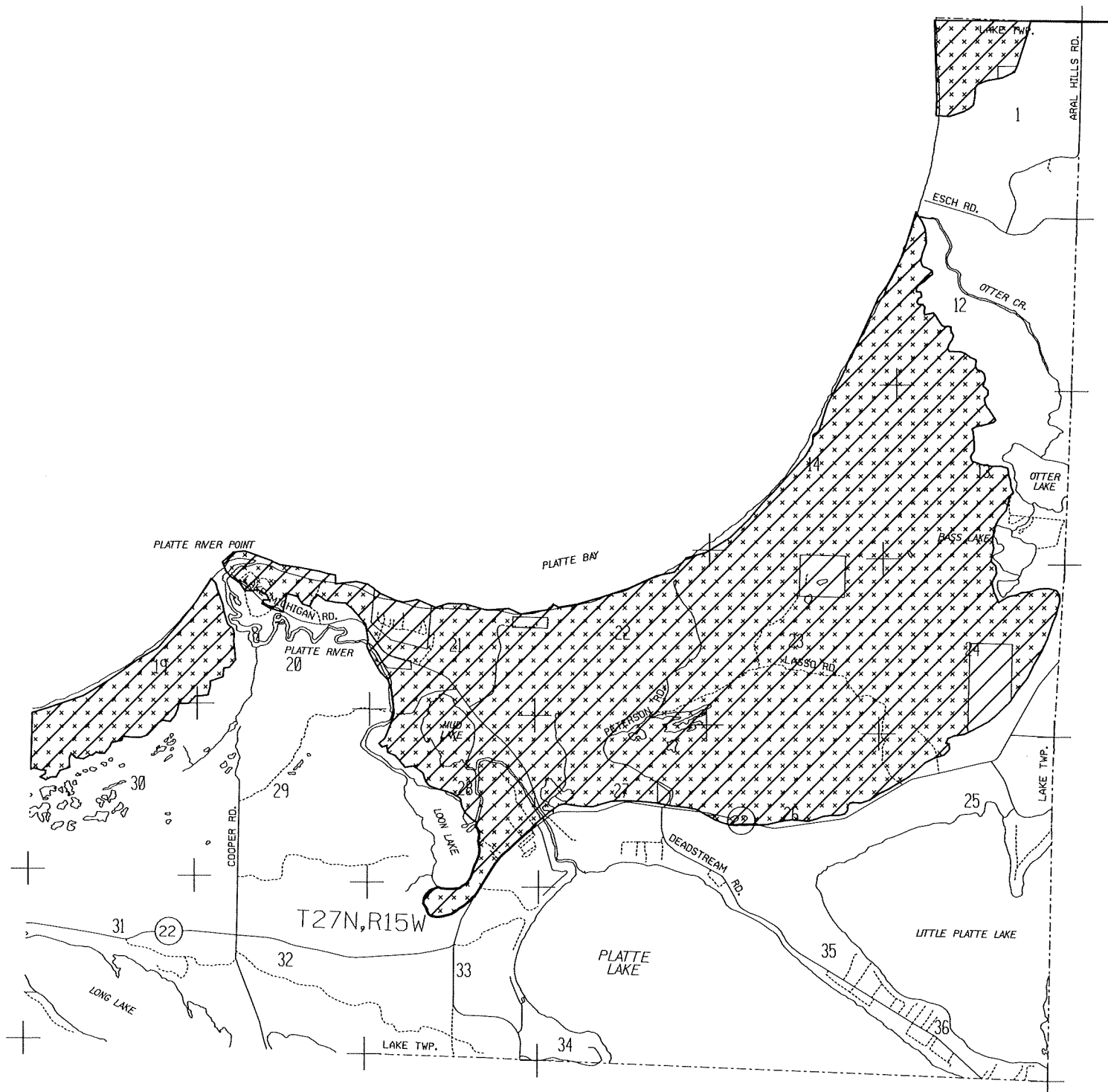
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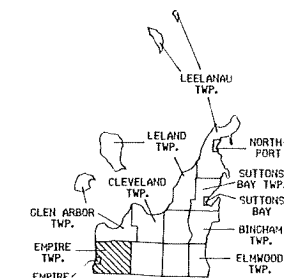
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EMPIRE TOWNSHIP CRITICAL DUNE AREAS

LEELANAU COUNTY



LEGEND

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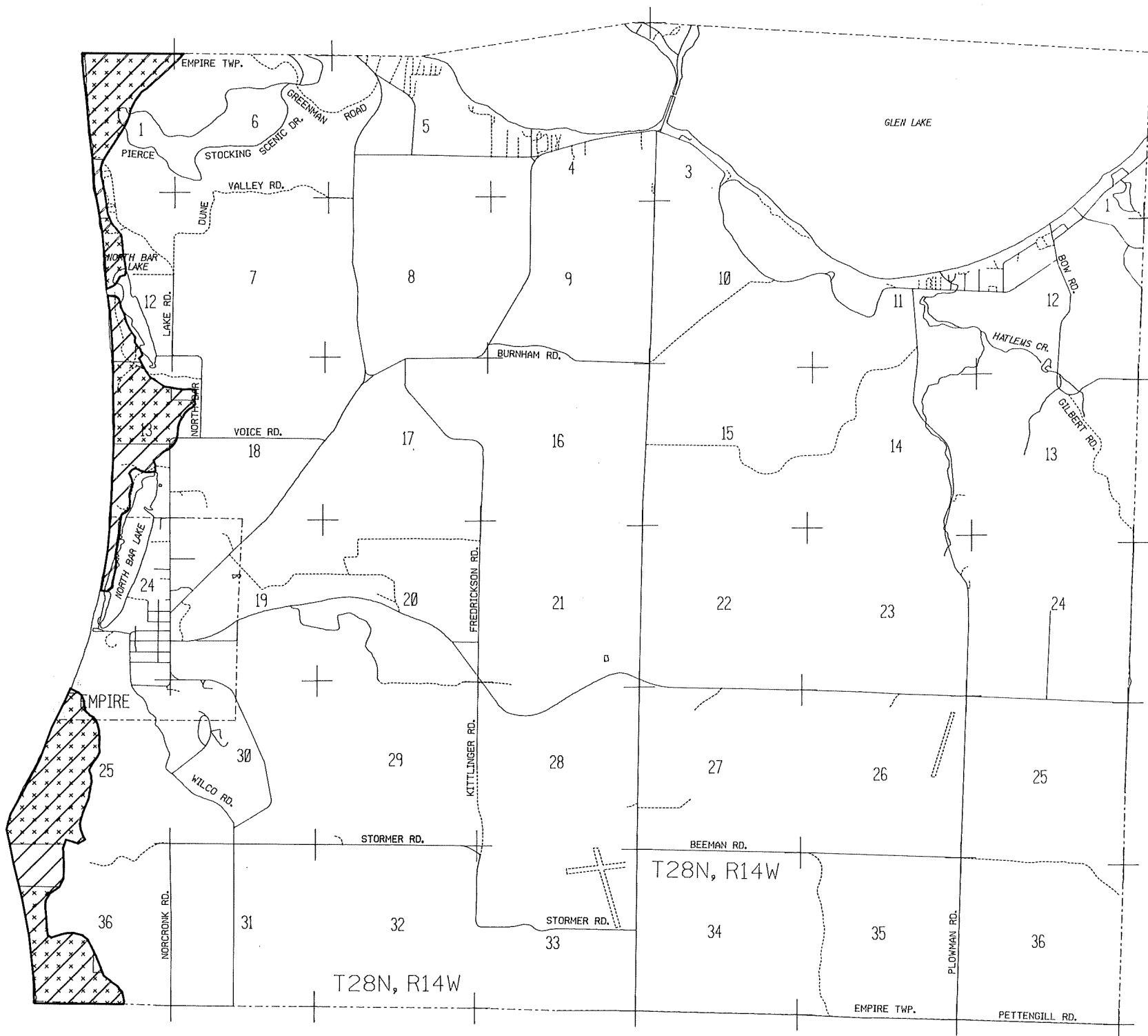
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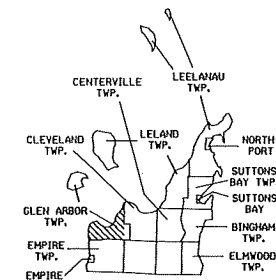
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GLEN ARBOR TOWNSHIP CRITICAL DUNE AREAS

LEELANAU COUNTY



LEGEND

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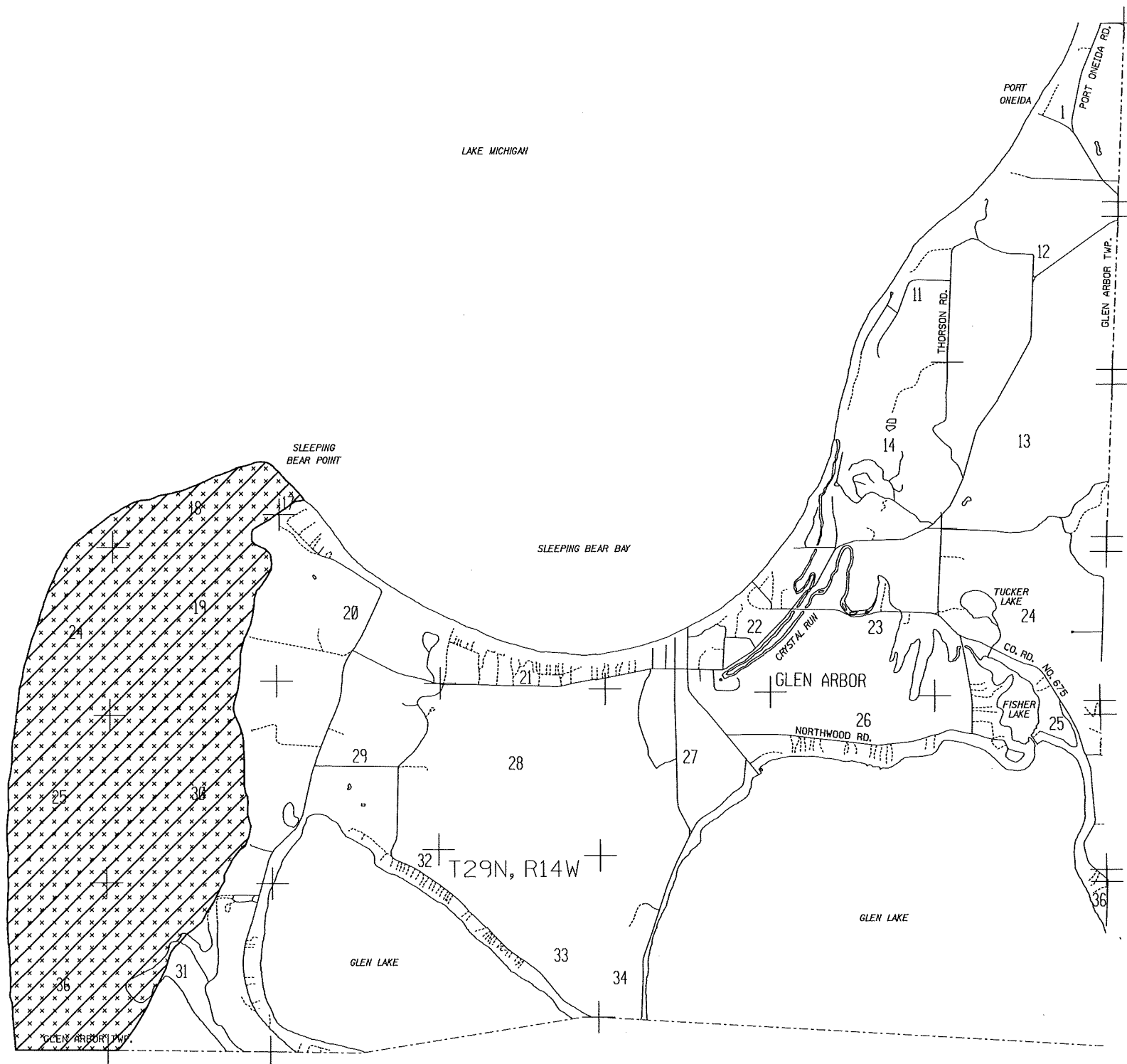
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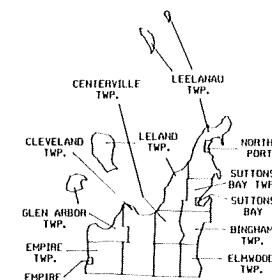
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CLEVELAND TOWNSHIP

CRITICAL DUNE AREAS

LEELANAU COUNTY



LEGEND

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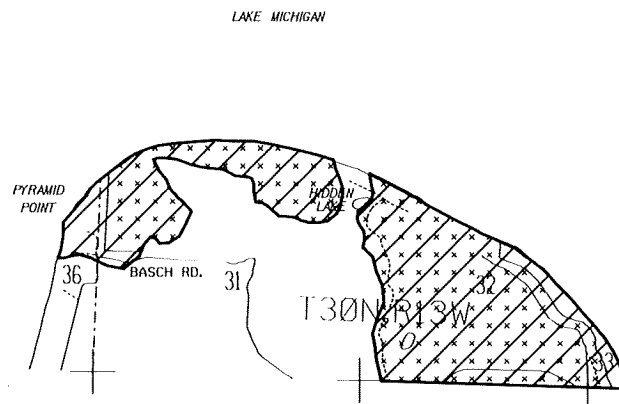
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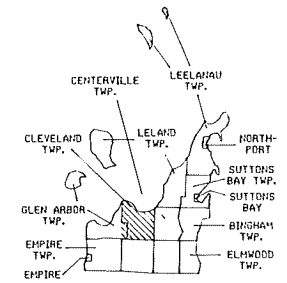
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CLEVELAND TOWNSHIP

CRITICAL DUNE AREAS

LEELANAU COUNTY



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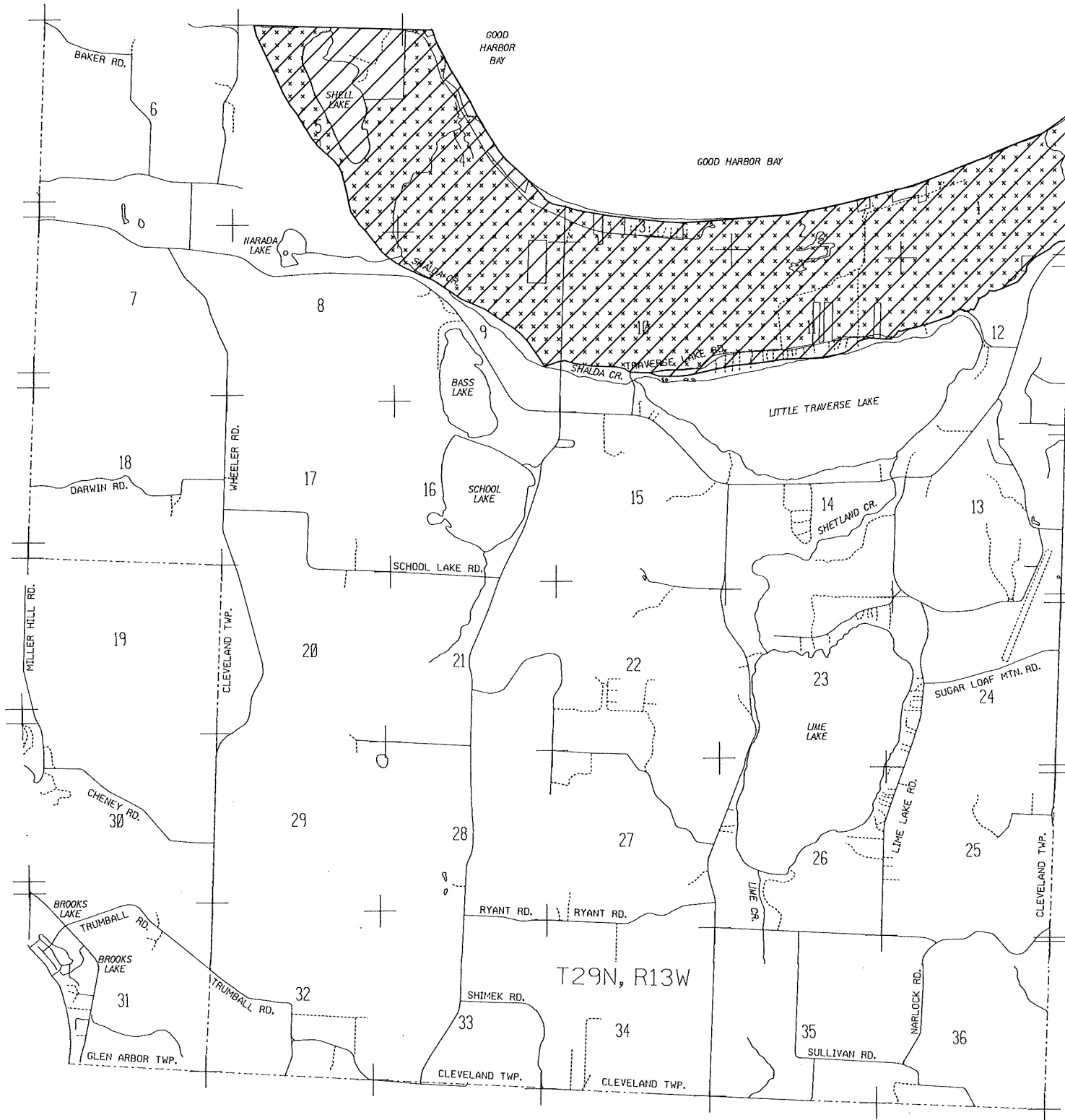
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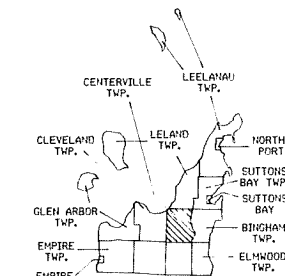
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CENTERVILLE TOWNSHIP

CRITICAL DUNE AREAS

LEELANAU COUNTY



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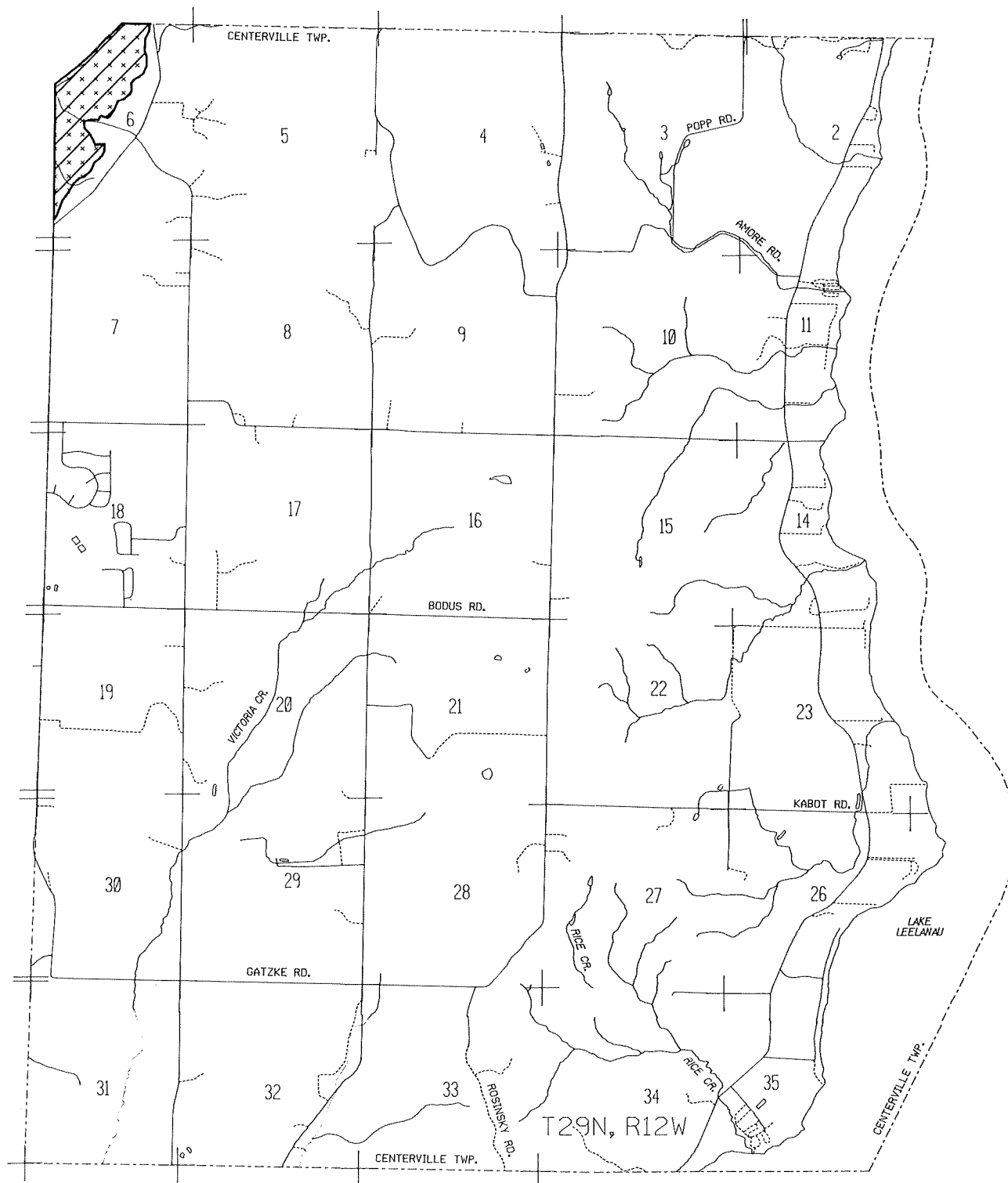
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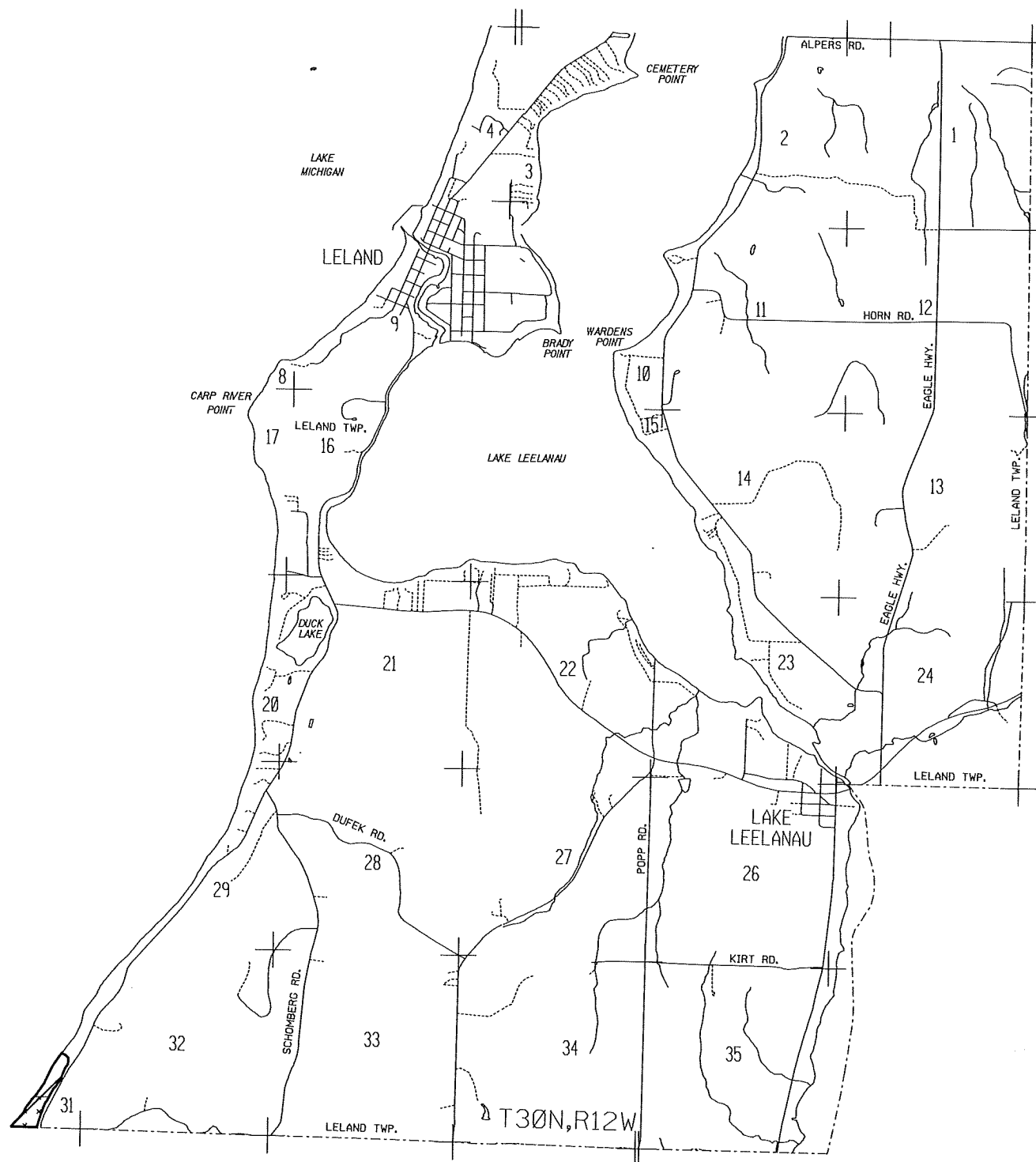
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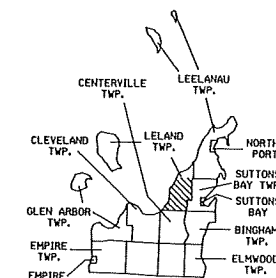
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LELAND TOWNSHIP CRITICAL DUNE AREAS

LEELANAU COUNTY



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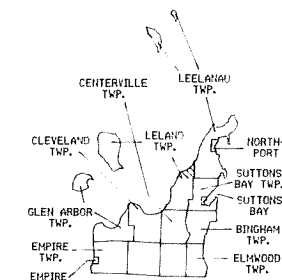
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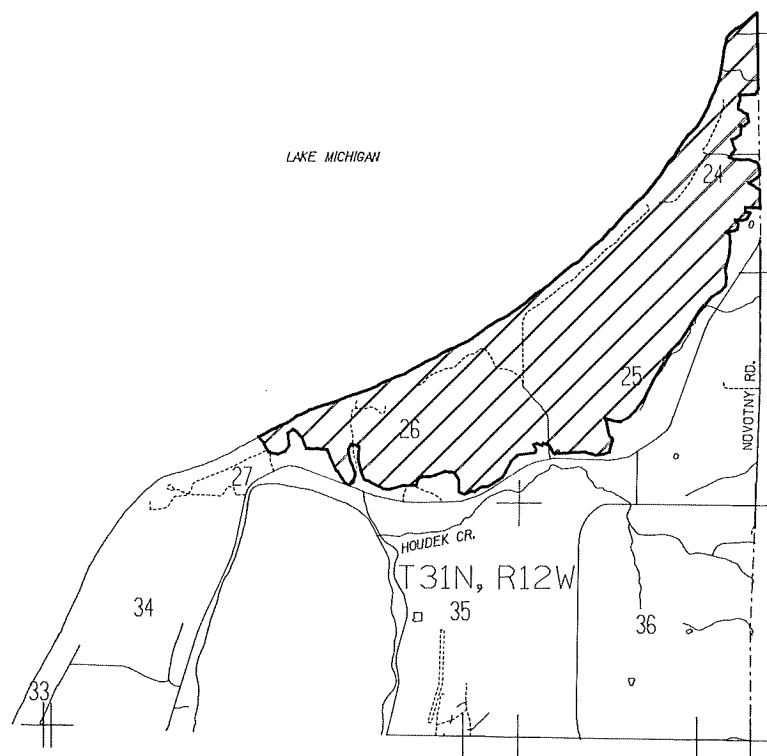
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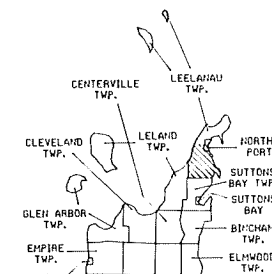
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LEELANAU TOWNSHIP

CRITICAL DUNE AREAS

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BARRIER DUNE FORMATIONS DESIGNATED
PURSUANT TO 1976 P.A. 222
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DUNE FORMATIONS, MICHIGAN NATURAL
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INDICATED.**

INFORMATION

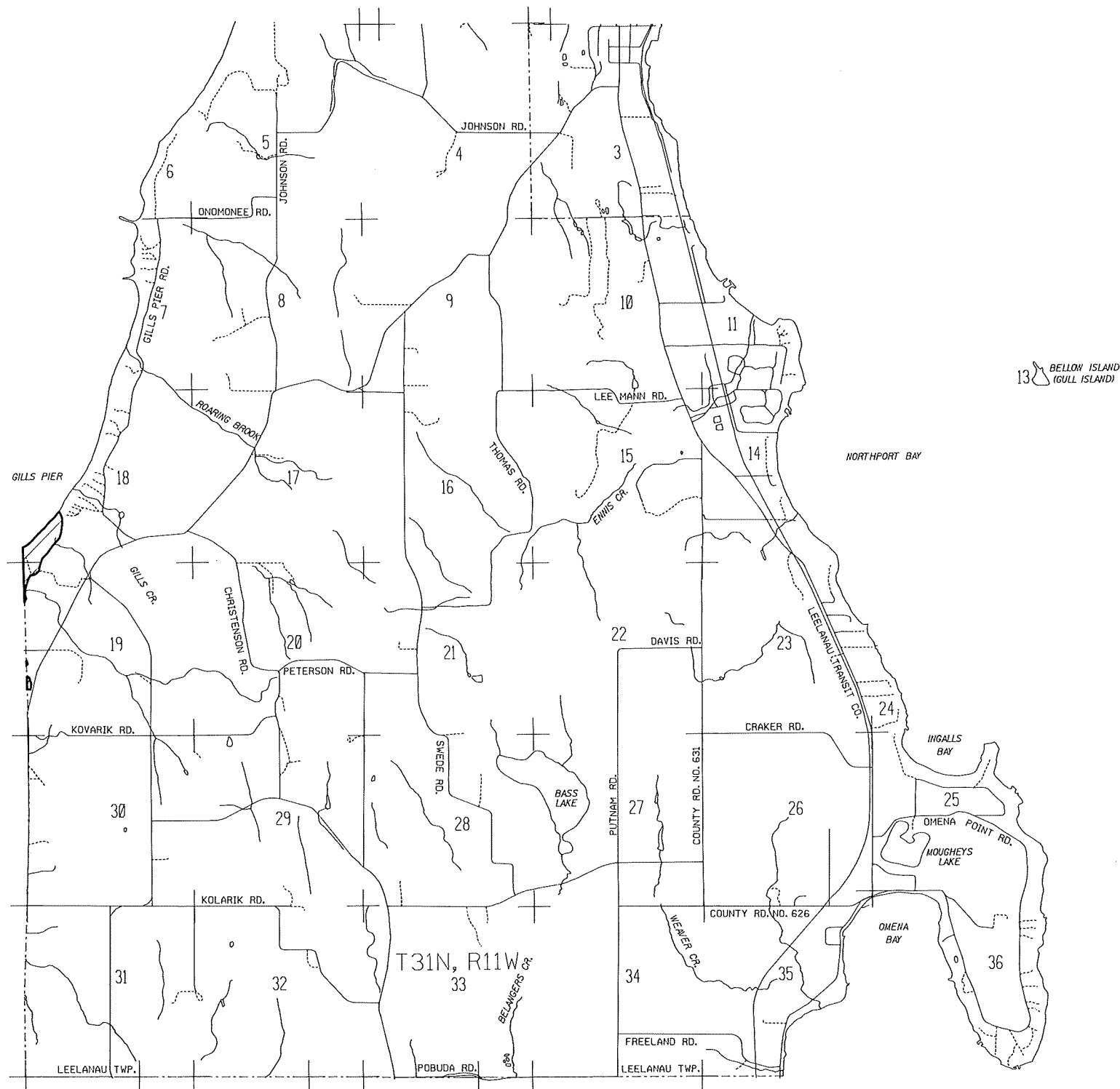
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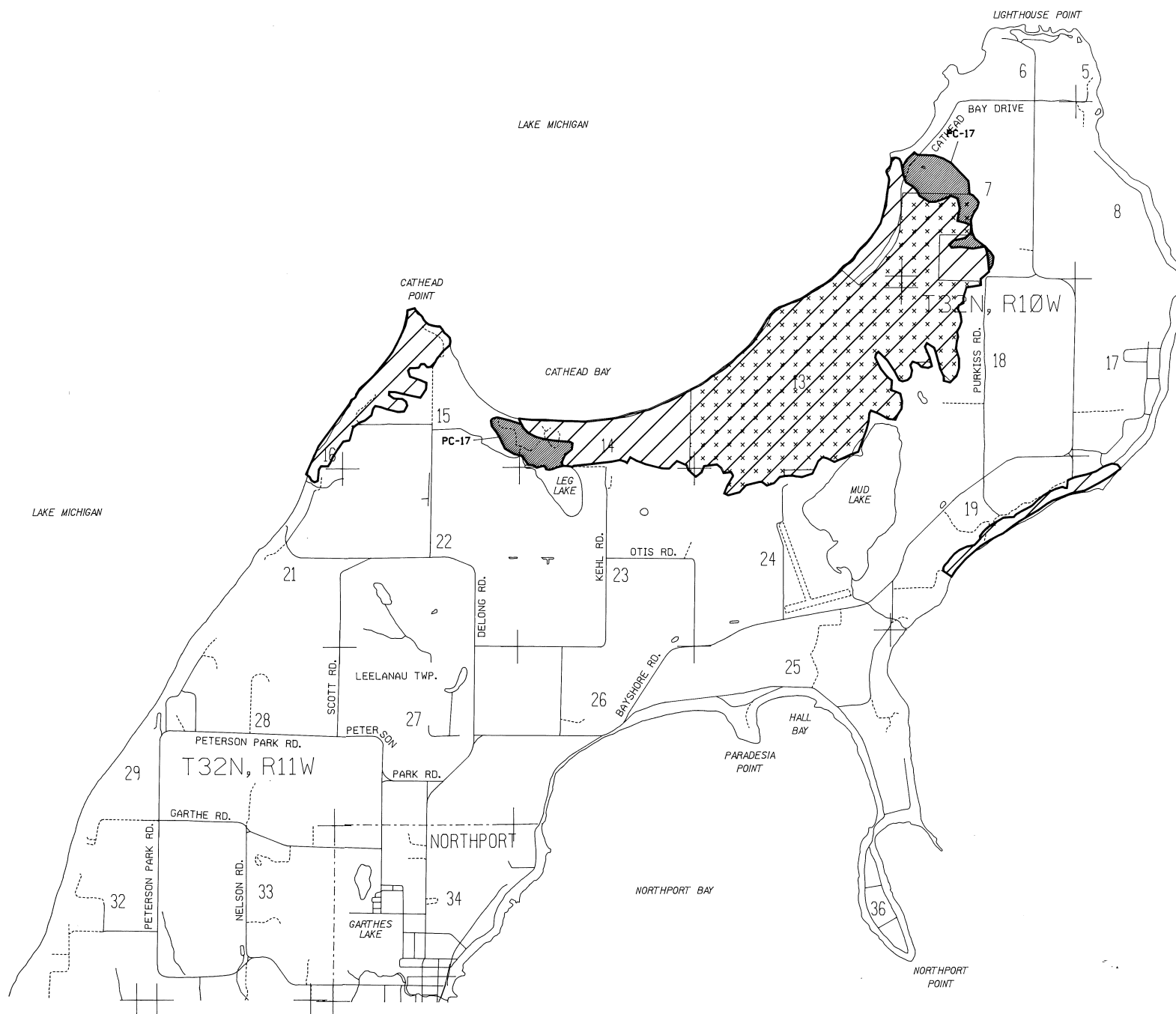
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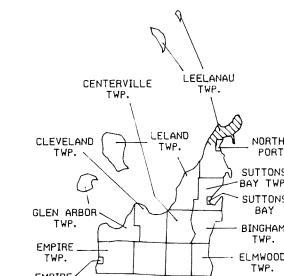


LEELANAU TOWNSHIP

CRITICAL DUNE AREAS



LEELANAU COUNTY



LEGEND

--- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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xxx PUBLIC LANDS
STATE AND FEDERAL LANDS AND
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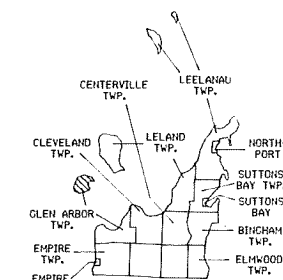
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GLEN ARBOR TOWNSHIP

CRITICAL DUNE AREAS

LEELANAU COUNTY



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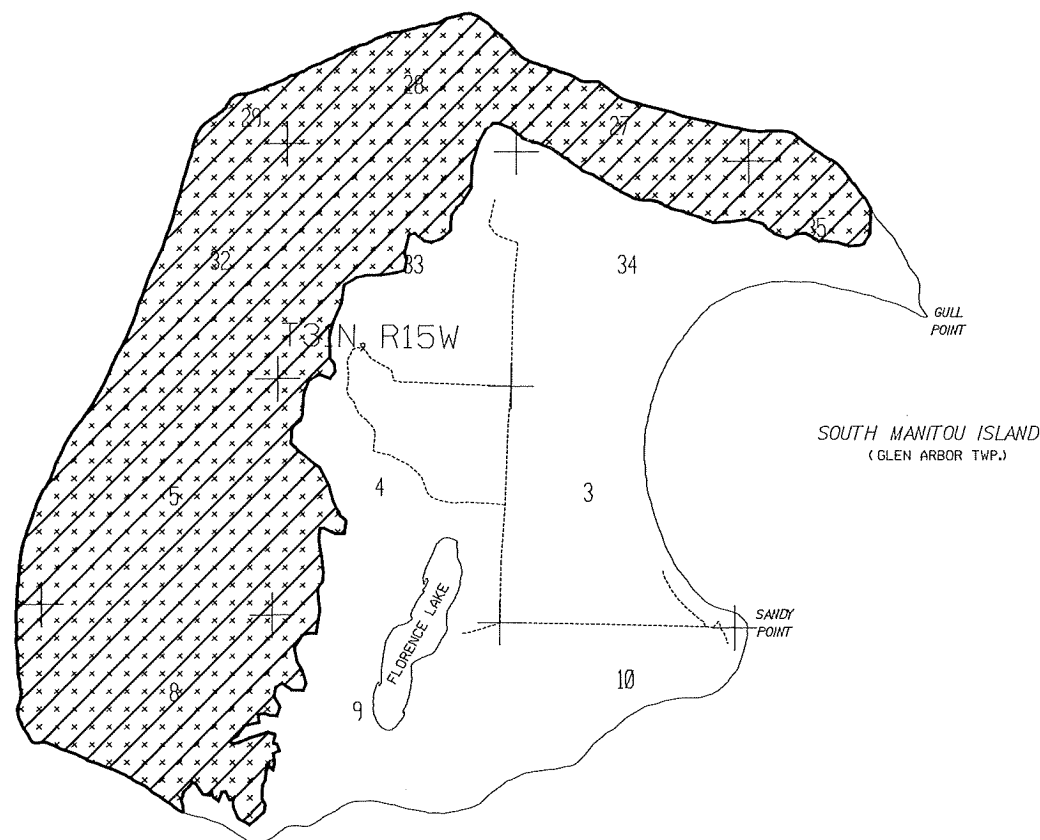
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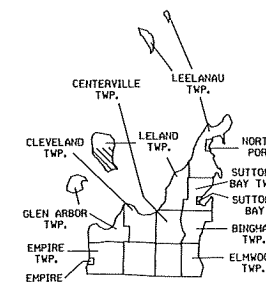
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LELAND TOWNSHIP

CRITICAL DUNE AREAS

LEELANAU COUNTY



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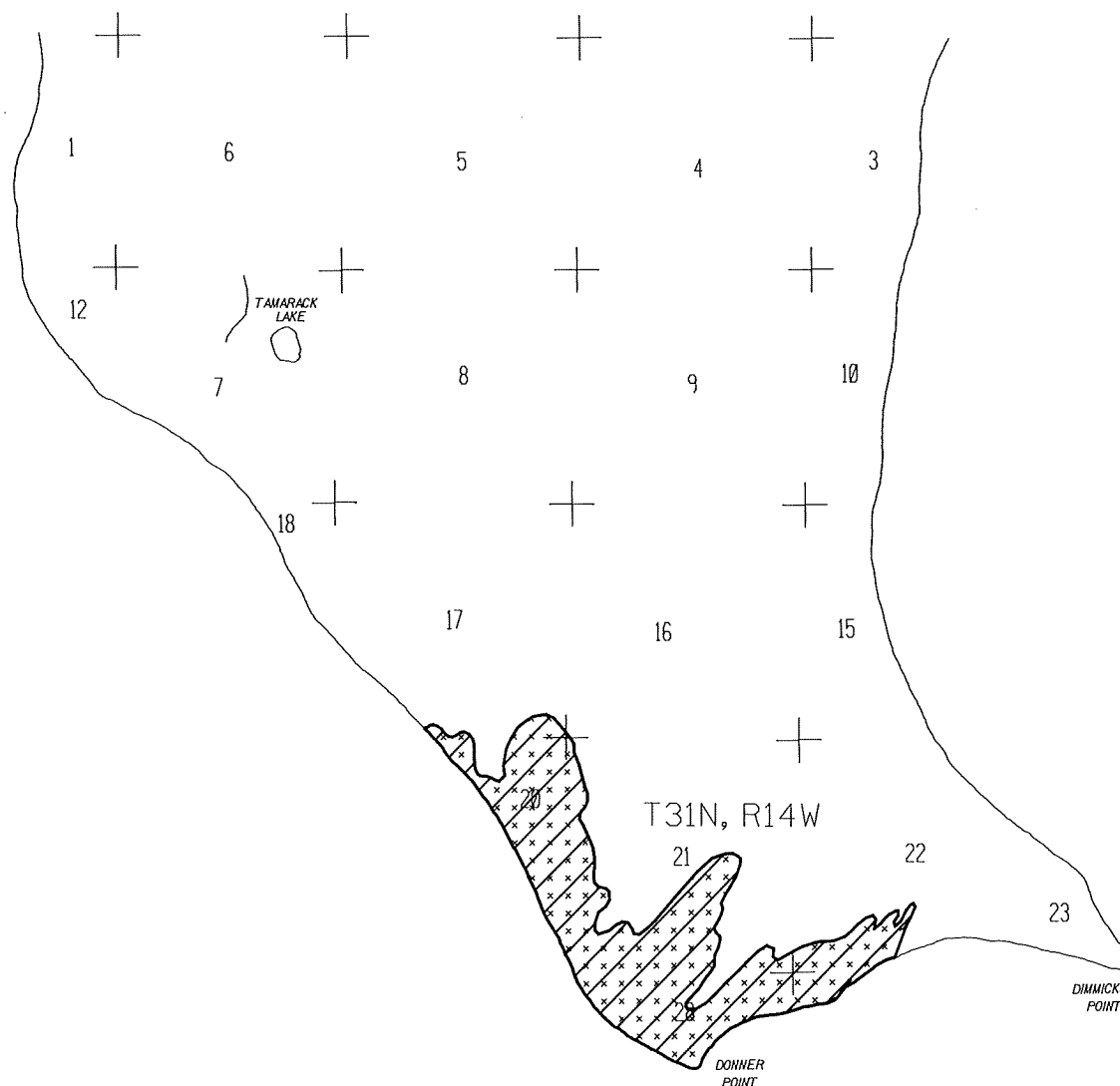
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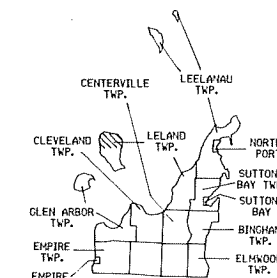
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NORTH MANITOU
ISLAND
(LELAND TWP.)



LELAND TOWNSHIP CRITICAL DUNE AREAS

LEELANAU COUNTY






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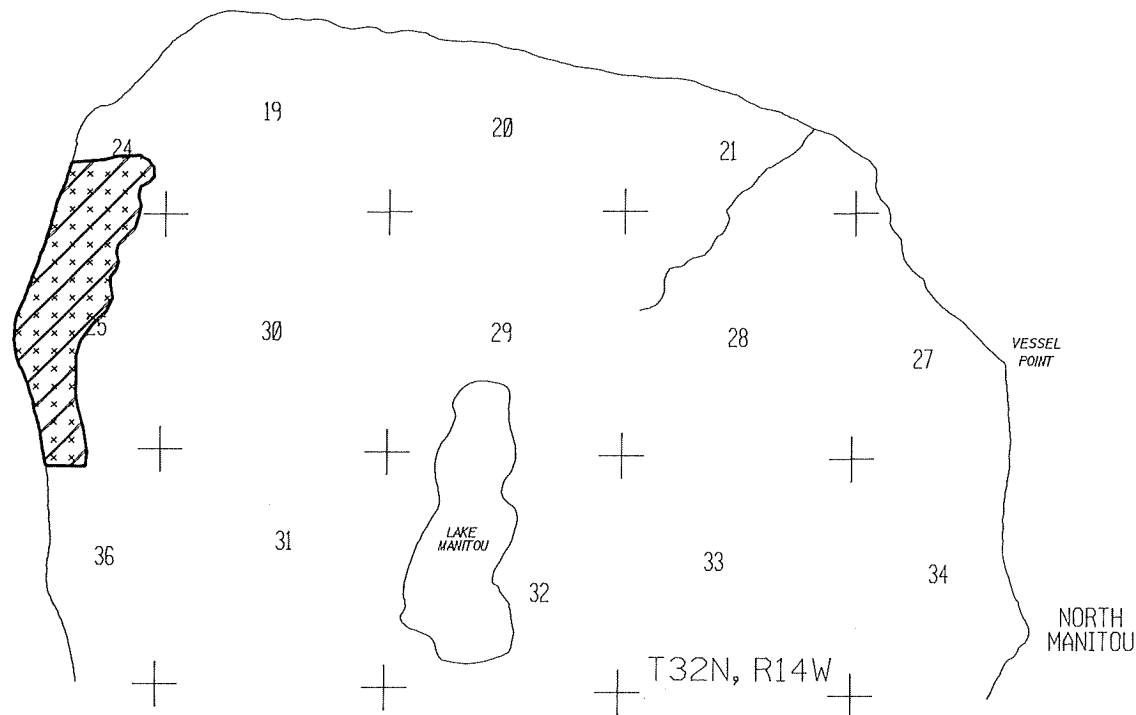
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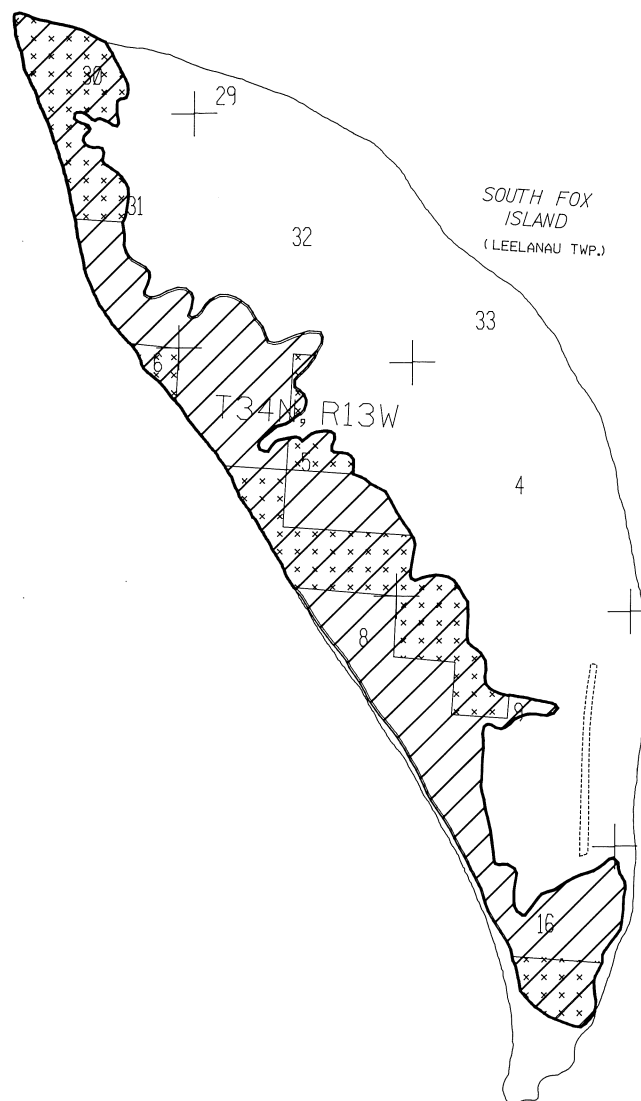
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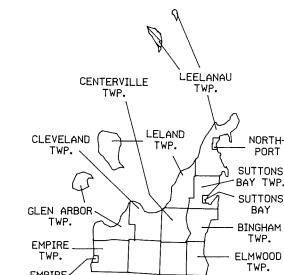


LEELANAU TOWNSHIP

CRITICAL DUNE AREAS



LEELANAU COUNTY






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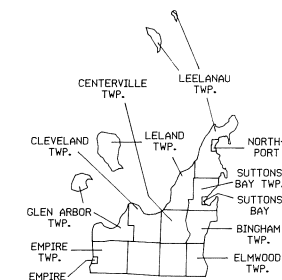
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LEELANAU TOWNSHIP

CRITICAL DUNE AREAS

LEELANAU COUNTY






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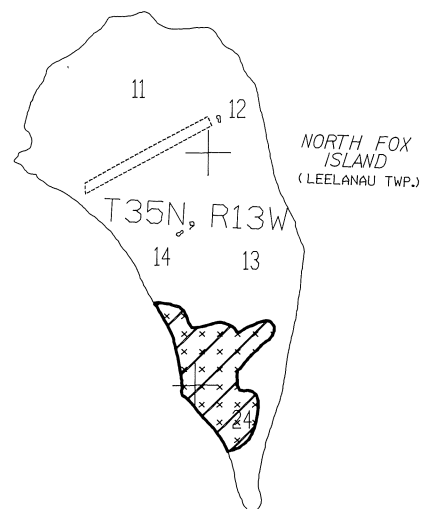
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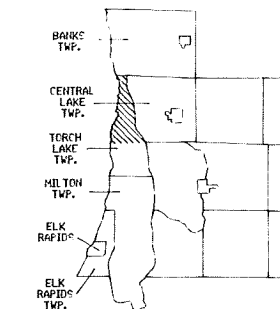
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TORCH LAKE TOWNSHIP

CRITICAL DUNE AREAS

ANTRIM COUNTY



LEGEND

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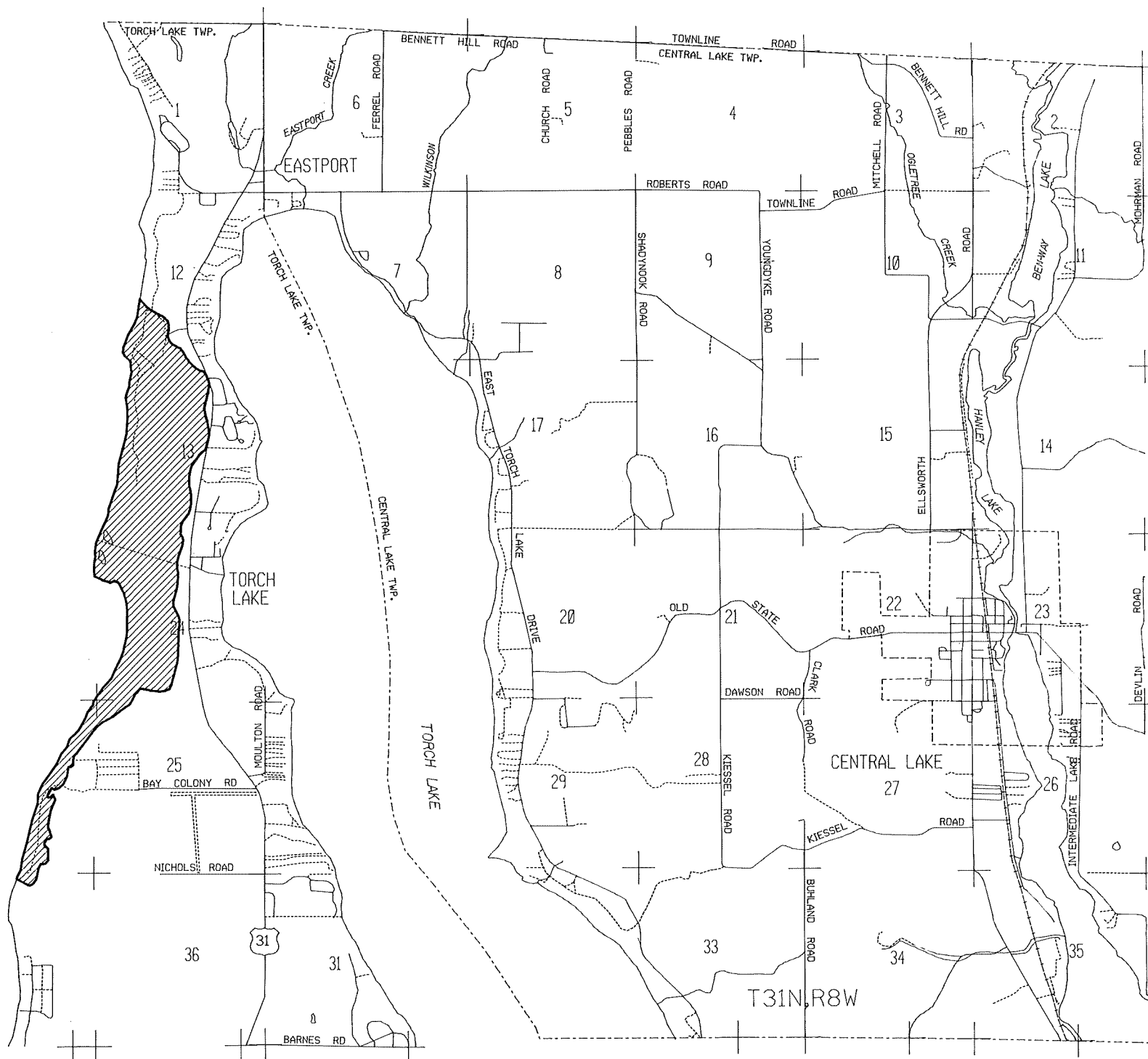
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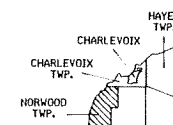
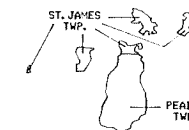
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NORWOOD TOWNSHIP CRITICAL DUNE AREAS

CHARLEVOIX COUNTY



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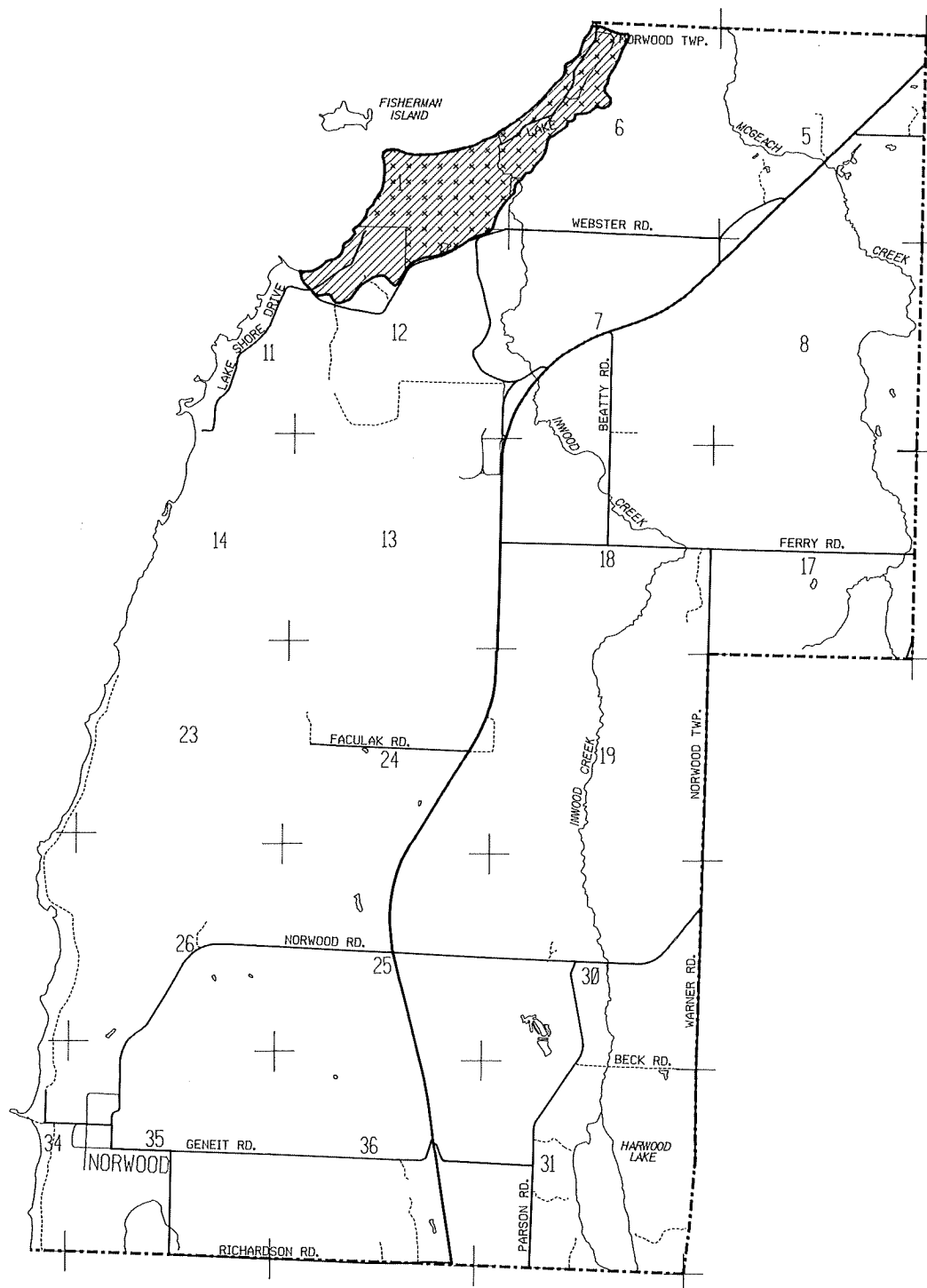
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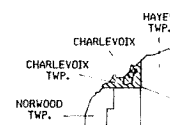
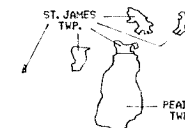
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CHARLEVOIX TOWNSHIP

CRITICAL DUNE AREAS

CHARLEVOIX COUNTY



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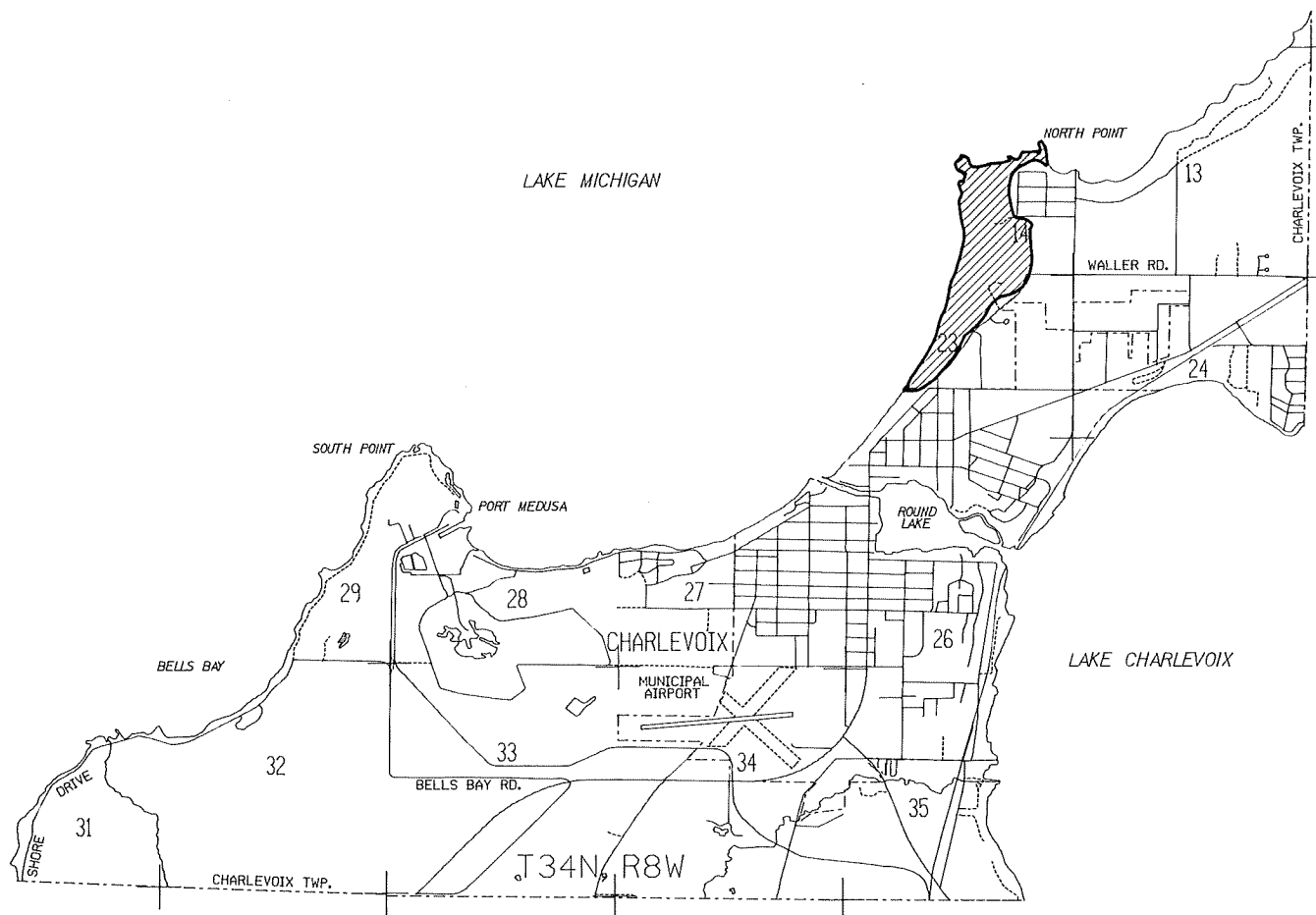
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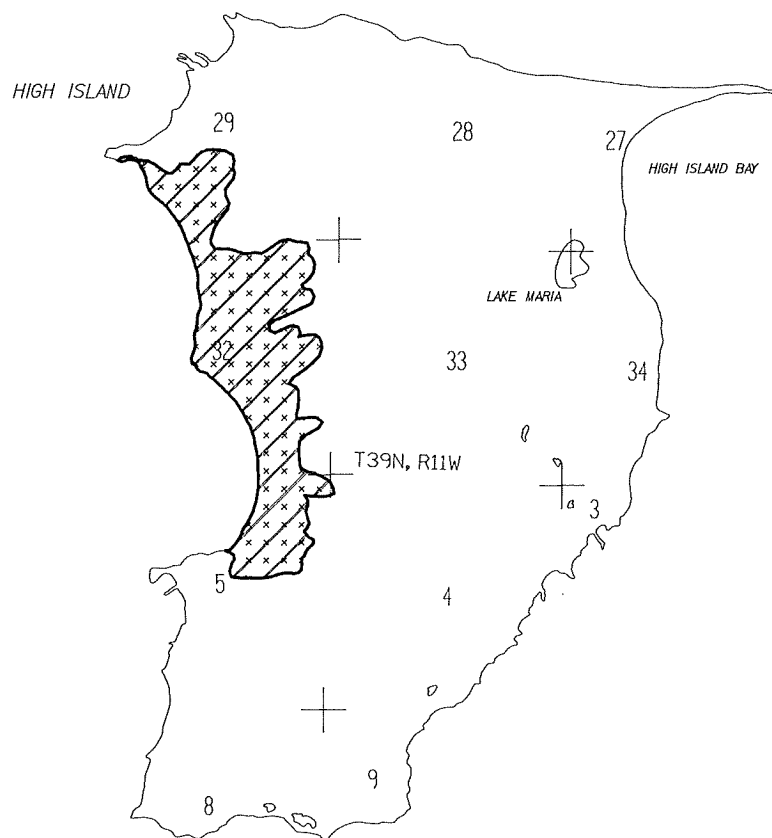
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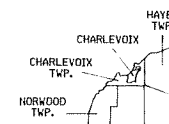
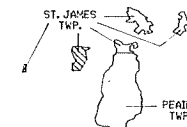
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ST. JAMES TOWNSHIP CRITICAL DUNE AREAS



CHARLEVOIX COUNTY






LEGEND

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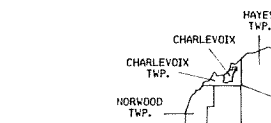
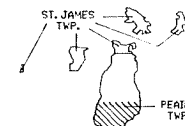
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PEAINE TOWNSHIP CRITICAL DUNE AREAS

CHARLEVOIX COUNTY



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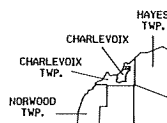
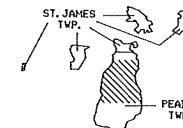
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PEAINE TOWNSHIP CRITICAL DUNE AREAS

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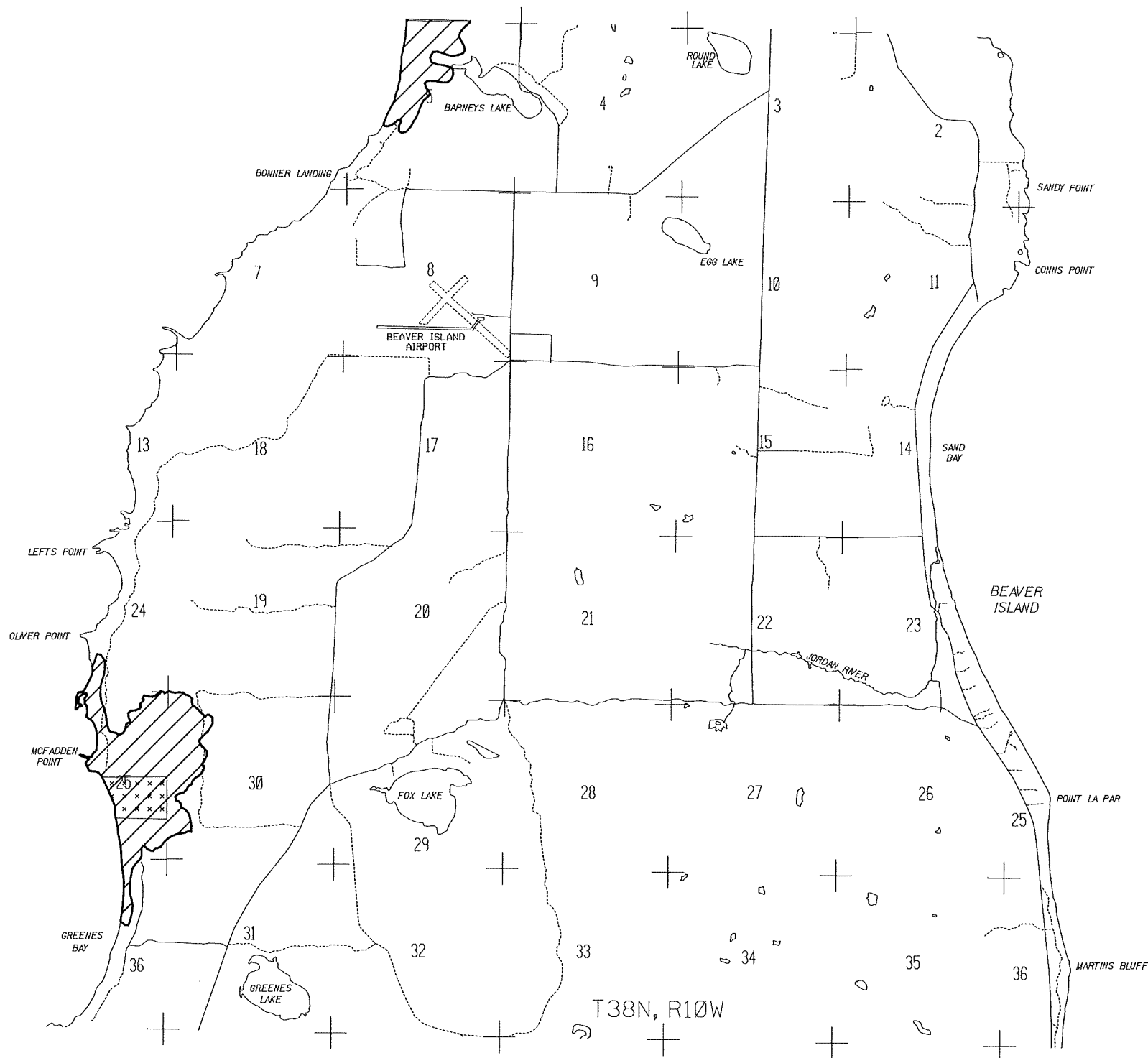
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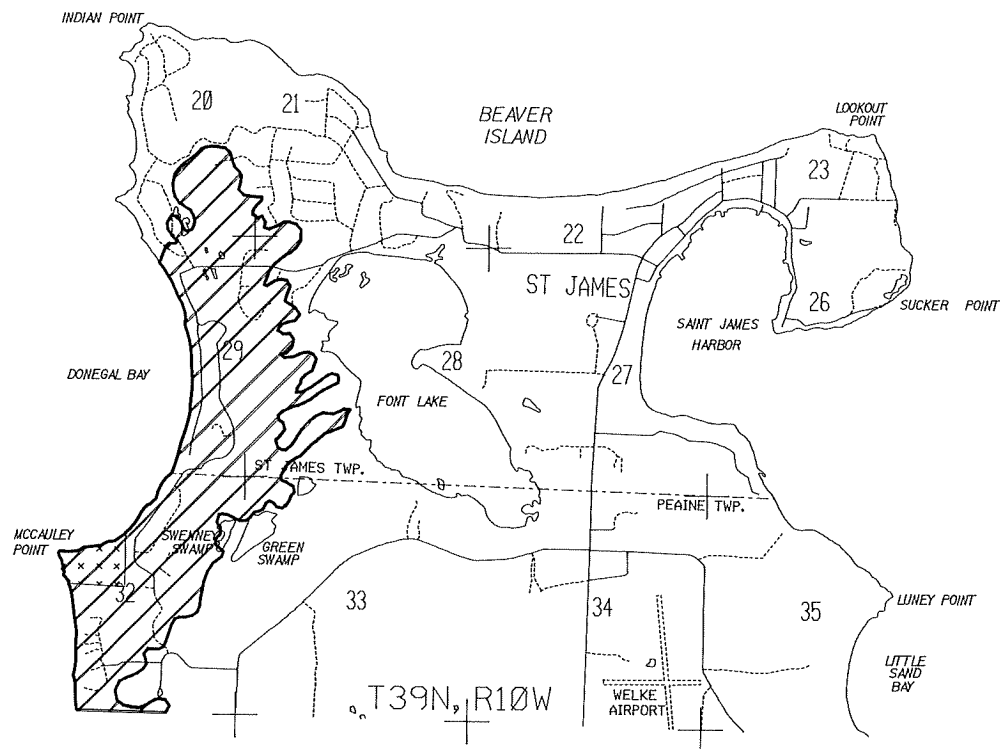
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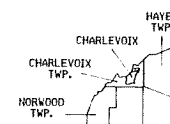
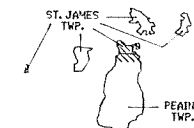
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ST. JAMES TOWNSHIP CRITICAL DUNE AREAS



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- EXEMPLARY DUNE ASSOCIATED PLANT
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DUNE FORMATIONS. MICHIGAN NATURAL
FEATURES INVENTORY REFERENCE CODE
INDICATED.**

INFORMATION

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LAND AND WATER MANAGEMENT DIVISION
P.O. BOX 36028
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(517) 373-1170

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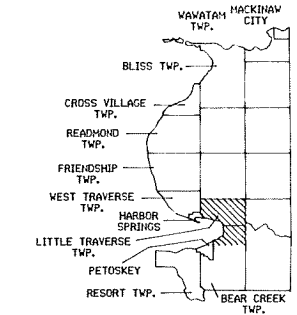
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BEAR CREEK LITTLE TRAVERSE TOWNSHIPS

CRITICAL DUNE AREAS

EMMET COUNTY



LEGEND

--- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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xxx PUBLIC LANDS
STATE AND FEDERAL LANDS AND
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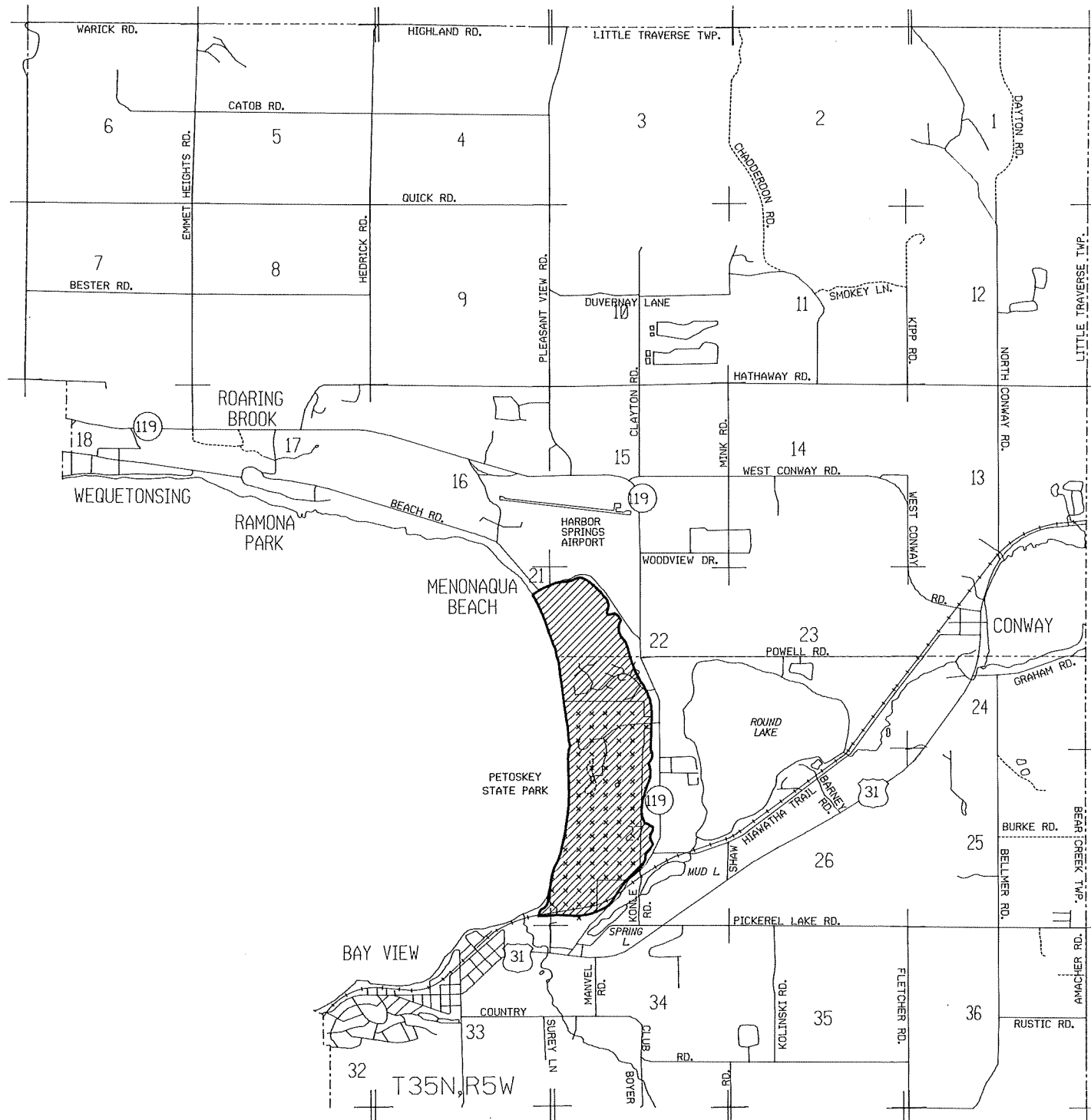
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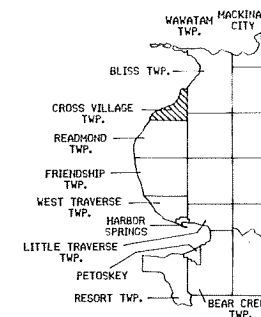
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CROSS VILLAGE TOWNSHIP

CRITICAL DUNE AREAS

EMMET COUNTY



LEGEND

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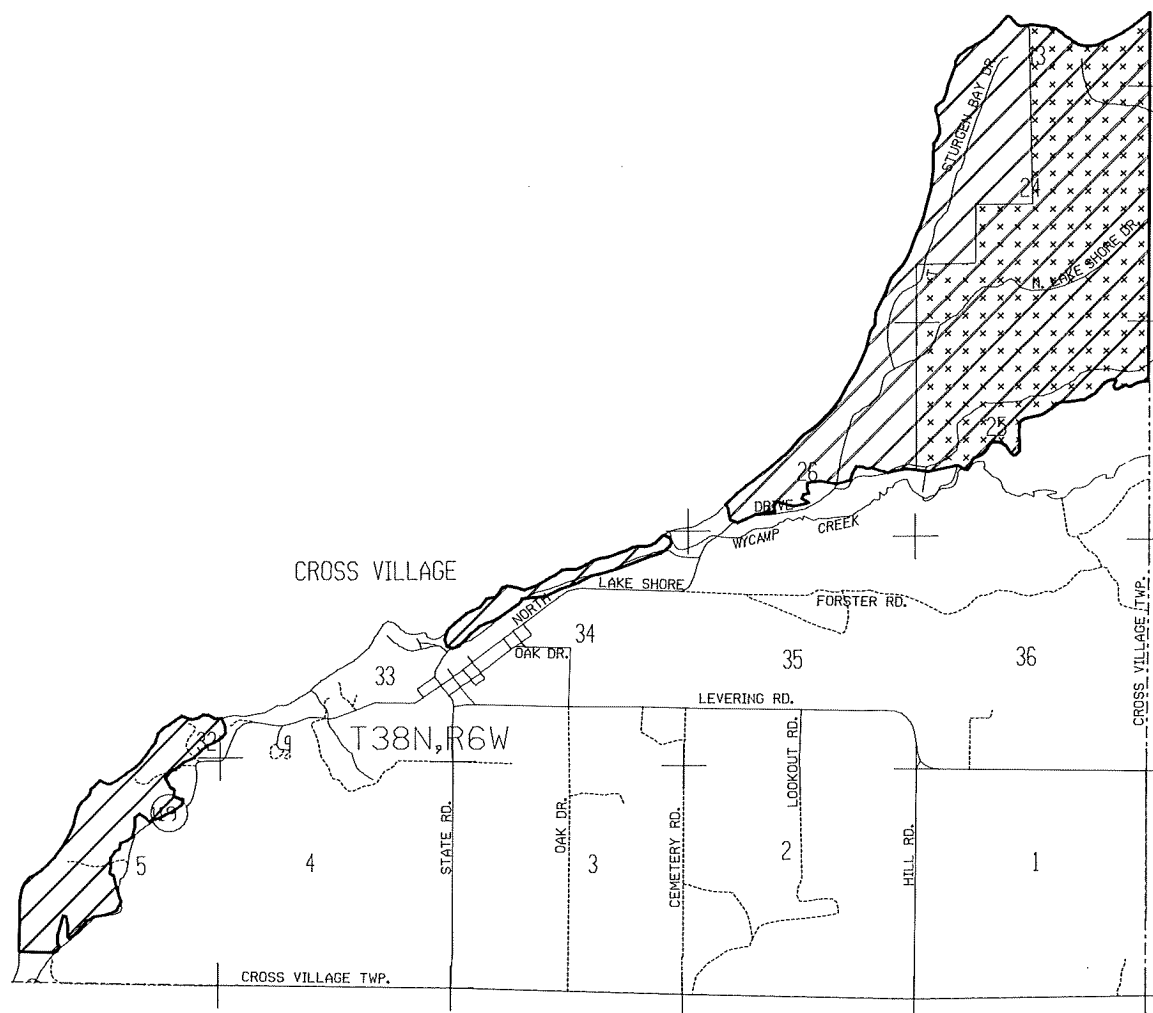
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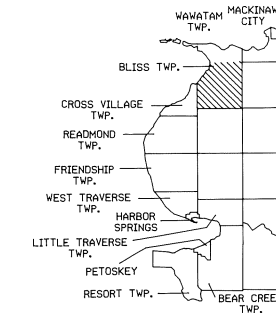
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BLISS TOWNSHIP CRITICAL DUNE AREAS

EMMETT COUNTY



LEGEND

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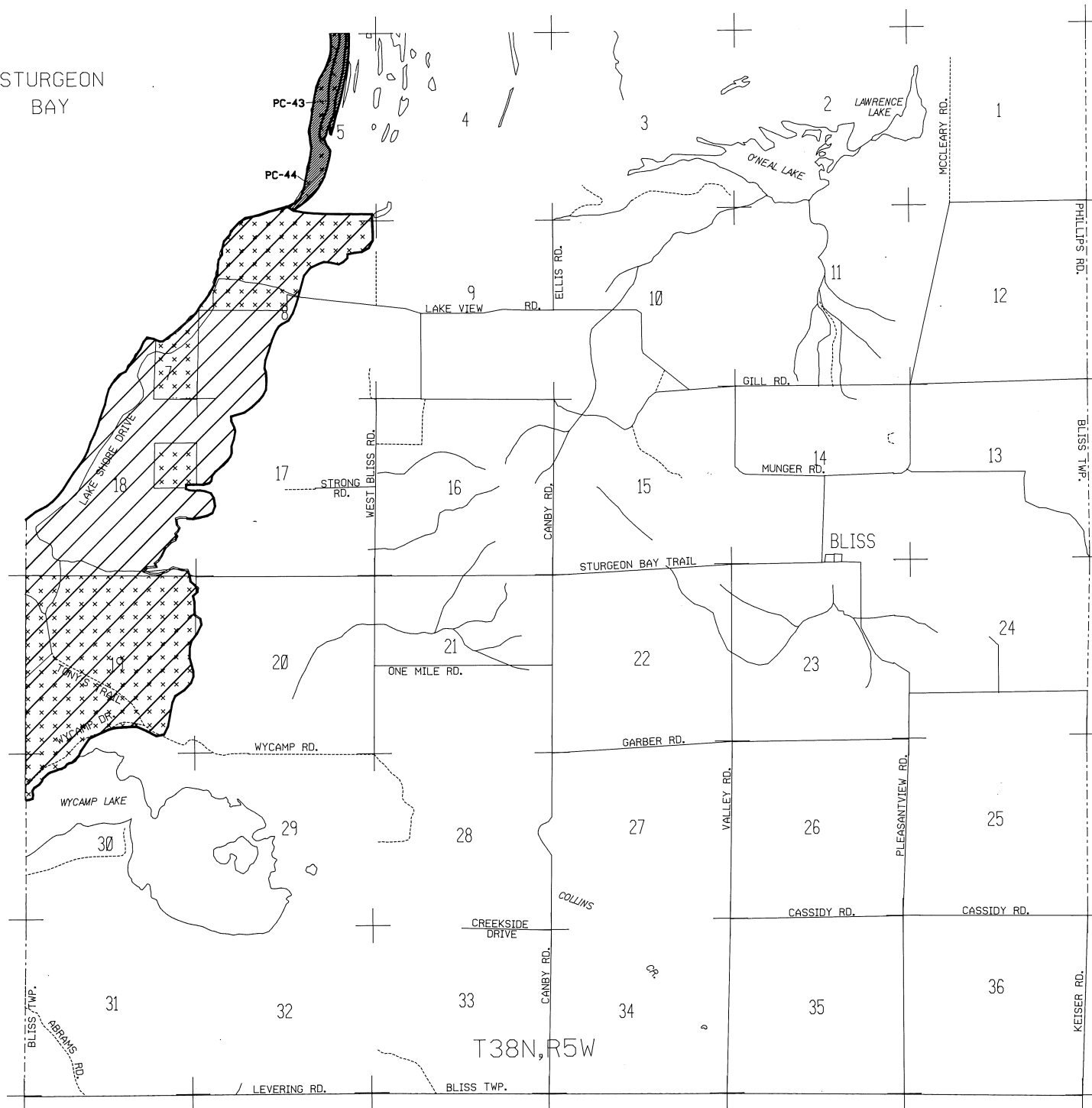
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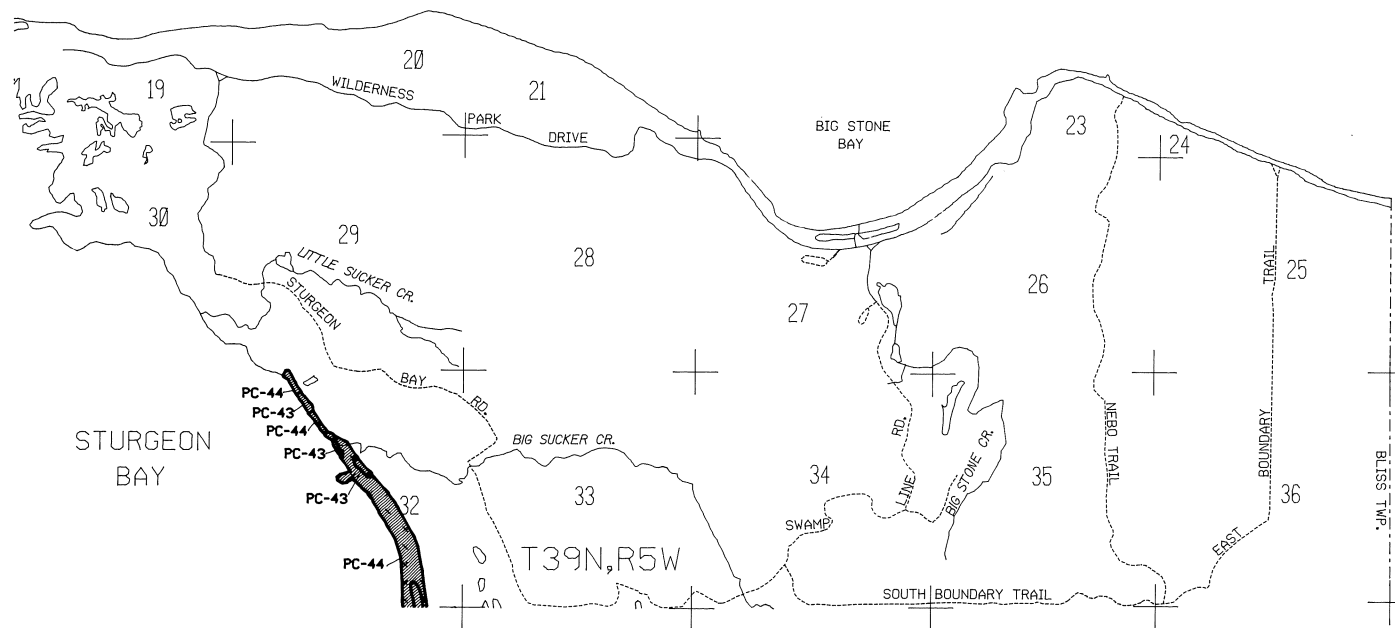
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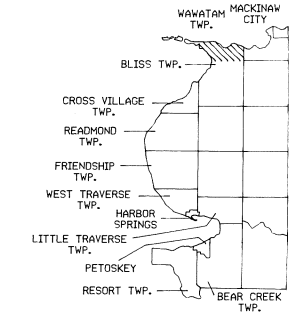
PC-44 - Open Dunes, Michigan Natural Features Inventory
PC-43 - Interdunal Wetland, Michigan Natural Features Inventory

BLISS TOWNSHIP CRITICAL DUNE AREAS



PC-44 - Open Dunes, Michigan Natural Features Inventory
PC-43 - Interdunal Wetland, Michigan Natural Features Inventory

EMMET COUNTY





LEGEND


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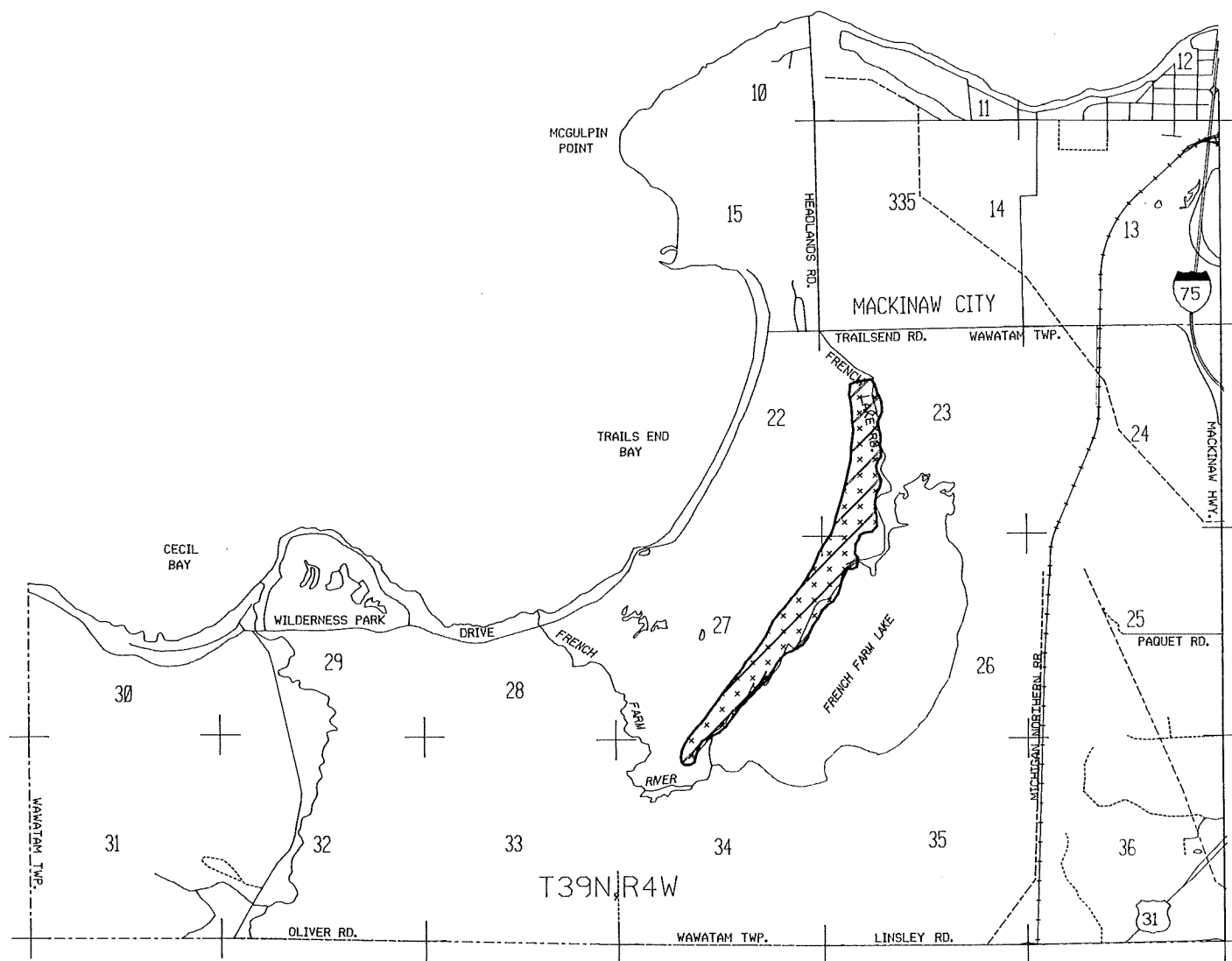
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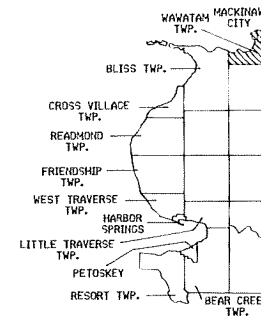
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**WAWATAM
TOWNSHIP**
CRITICAL DUNE AREAS

STRAITS OF MACKINAC



EMMET COUNTY



LEGEND

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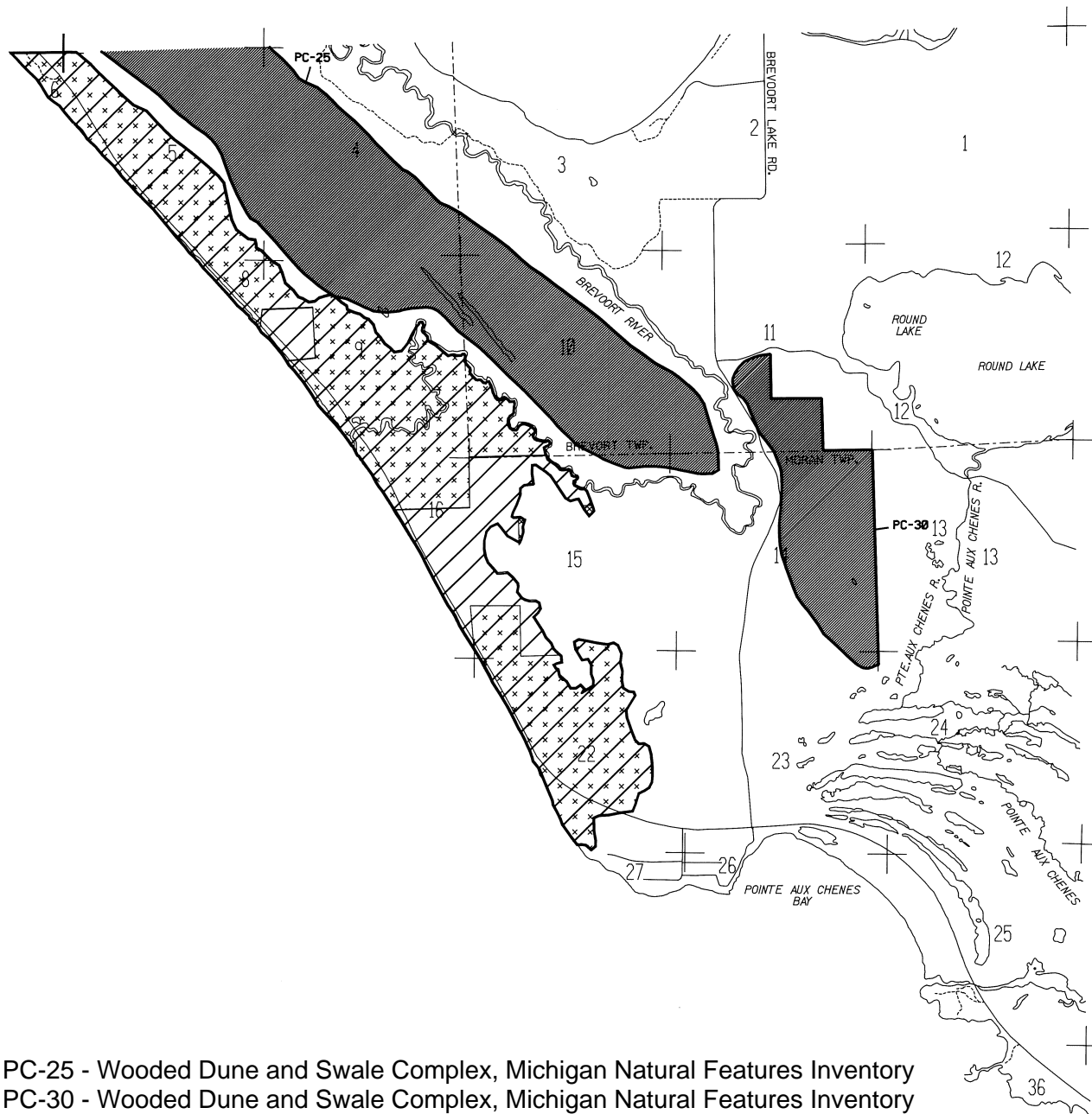
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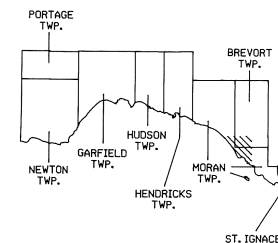
BREVORT MORAN TOWNSHIP

CRITICAL DUNE AREAS



PC-25 - Wooded Dune and Swale Complex, Michigan Natural Features Inventory
PC-30 - Wooded Dune and Swale Complex, Michigan Natural Features Inventory

MACKINAC COUNTY



LEGEND

- POLITICAL JURISDICTIONS
BOUNDARIES OF COUNTIES, TOWNSHIPS,
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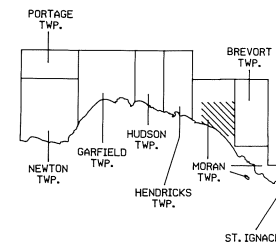
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LAND AND WATER MANAGEMENT DIVISION

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MORAN TOWNSHIP CRITICAL DUNE AREAS

MACKINAC COUNTY



LEGEND

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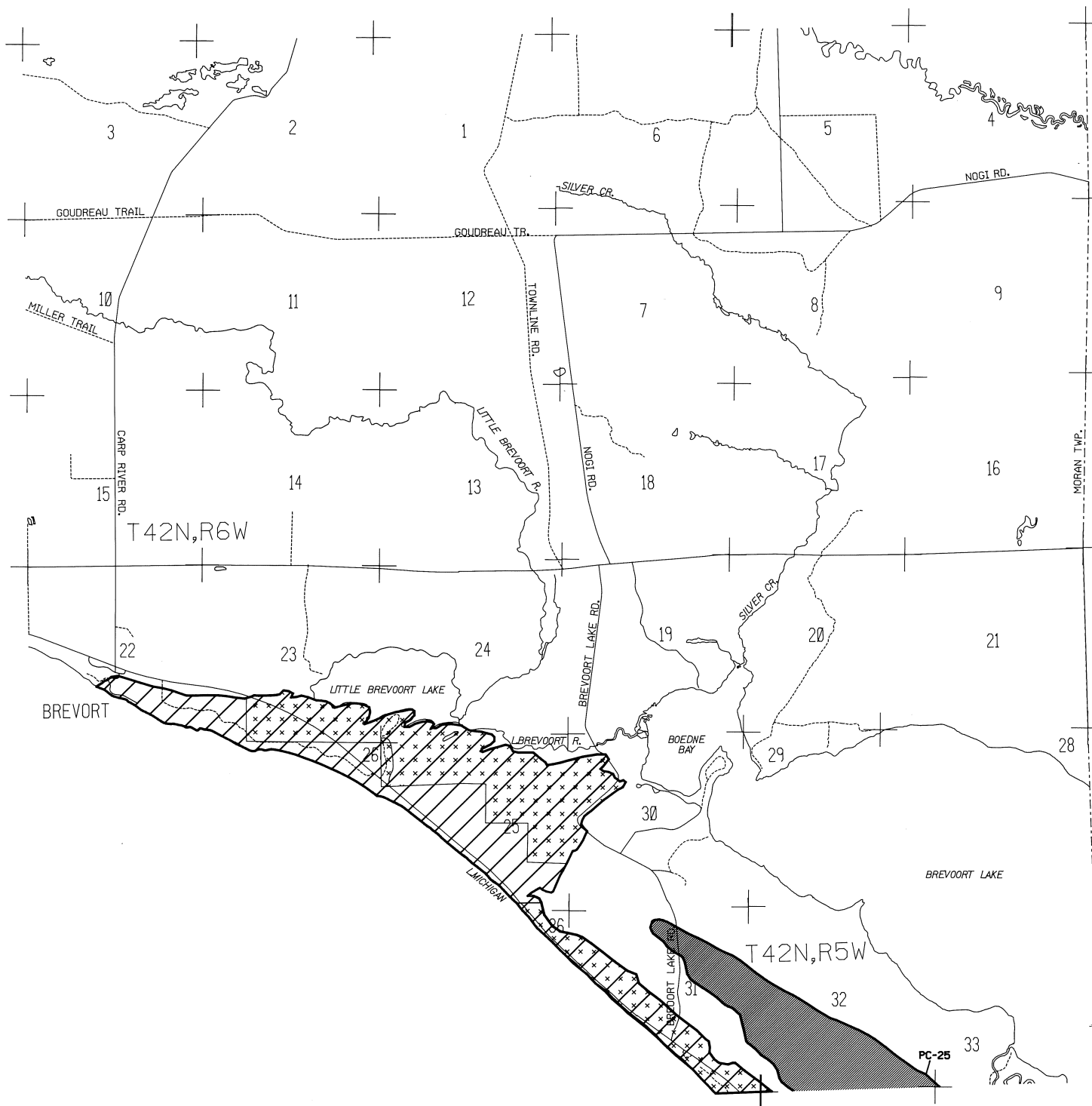
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MICHIGAN DEPARTMENT OF NATURAL RESOURCES
LAND AND WATER MANAGEMENT DIVISION

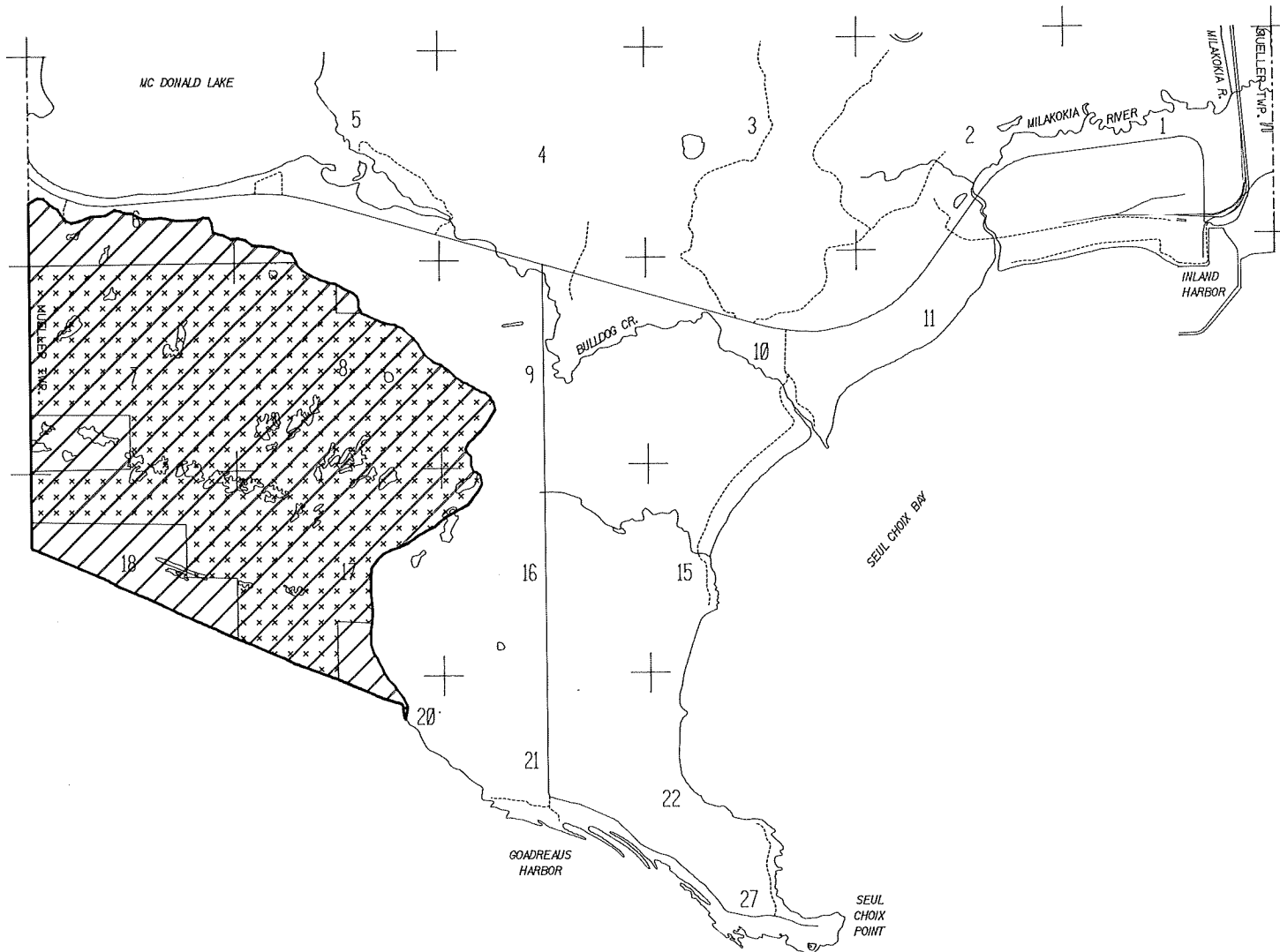
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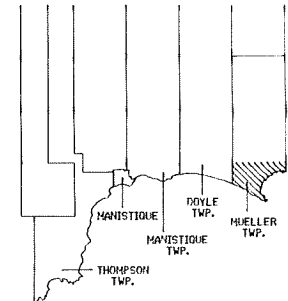


PC-25 - Wooded Dune and Swale Complex, Michigan Natural Features Inventory

MUELLER TOWNSHIP CRITICAL DUNE AREAS



SCHOOLCRAFT COUNTY



LEGEND

- POLITICAL JURISDICTIONS
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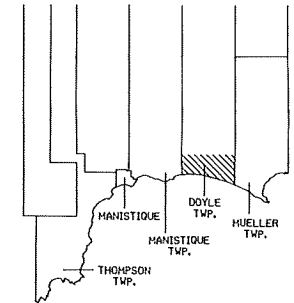
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SCHOOLCRAFT COUNTY






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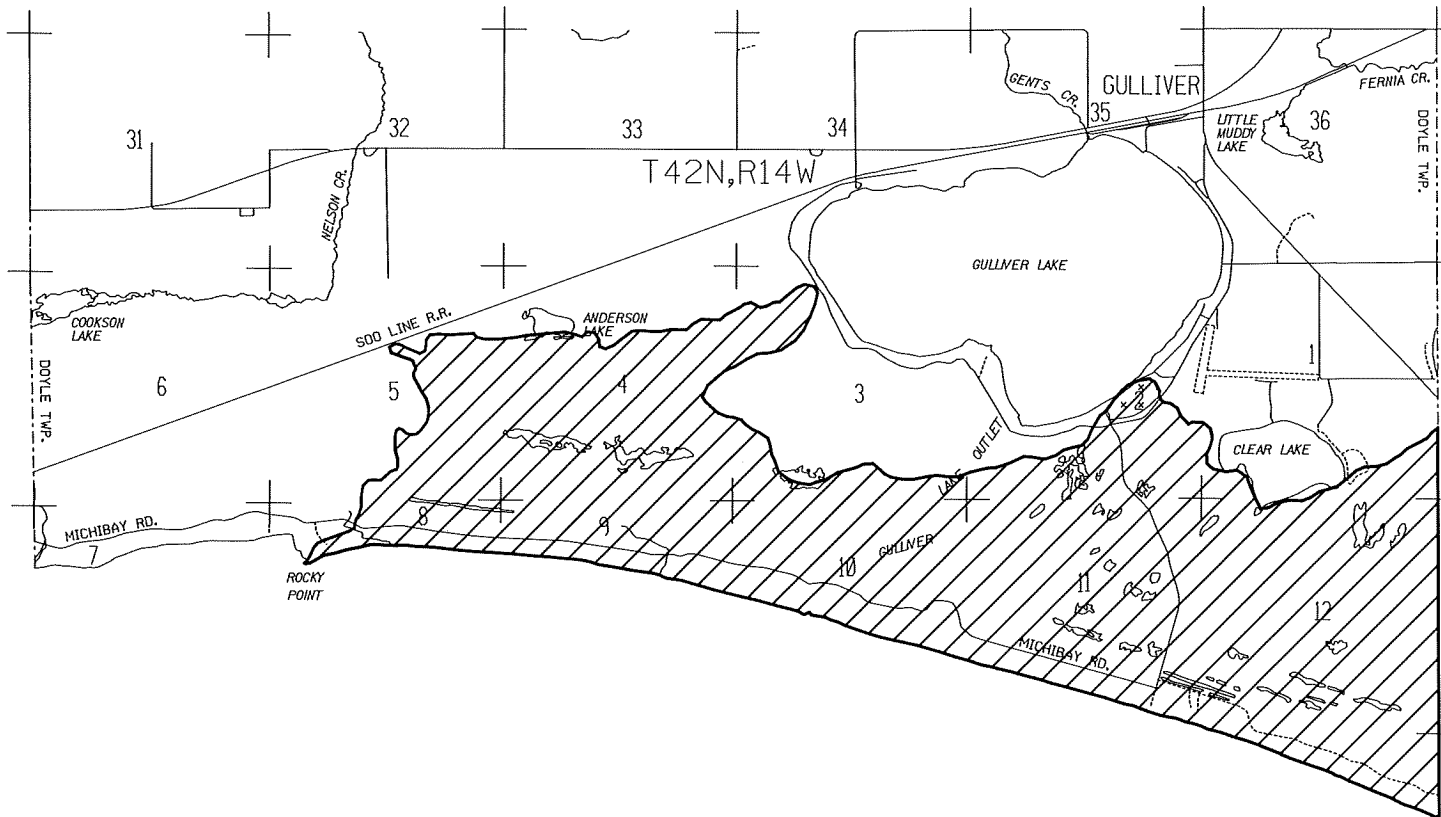
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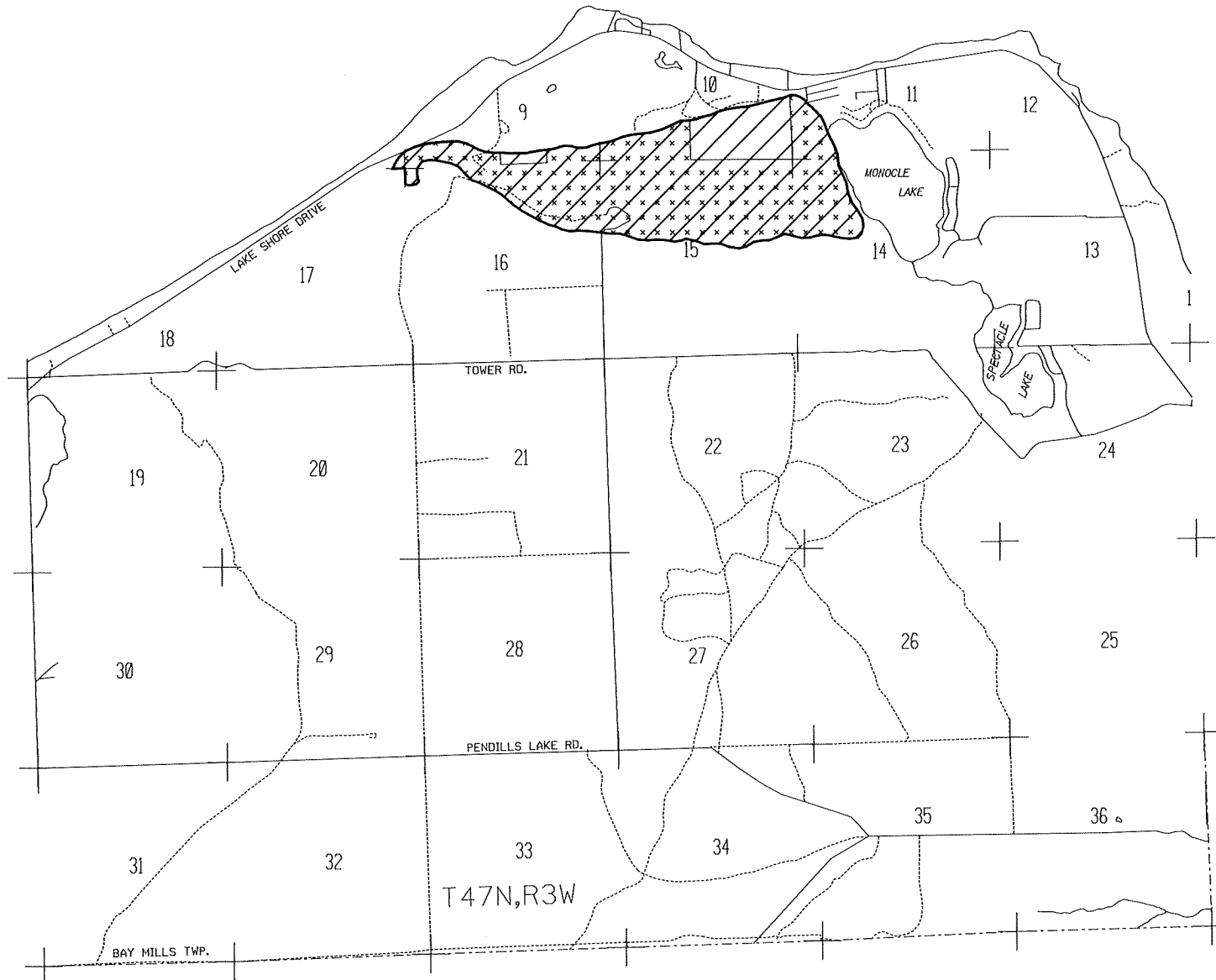
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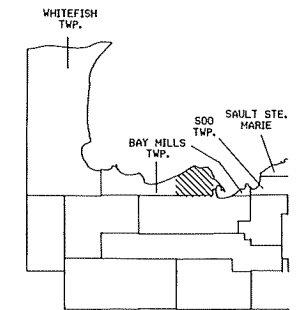


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IROQUOIS
ISLAND



CHIPPEWA COUNTY (WEST)






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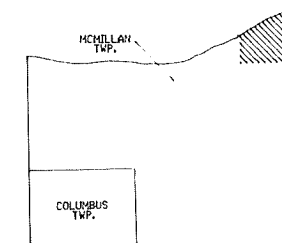
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MCMILLAN TOWNSHIP

CRITICAL DUNE AREAS

LUCE COUNTY






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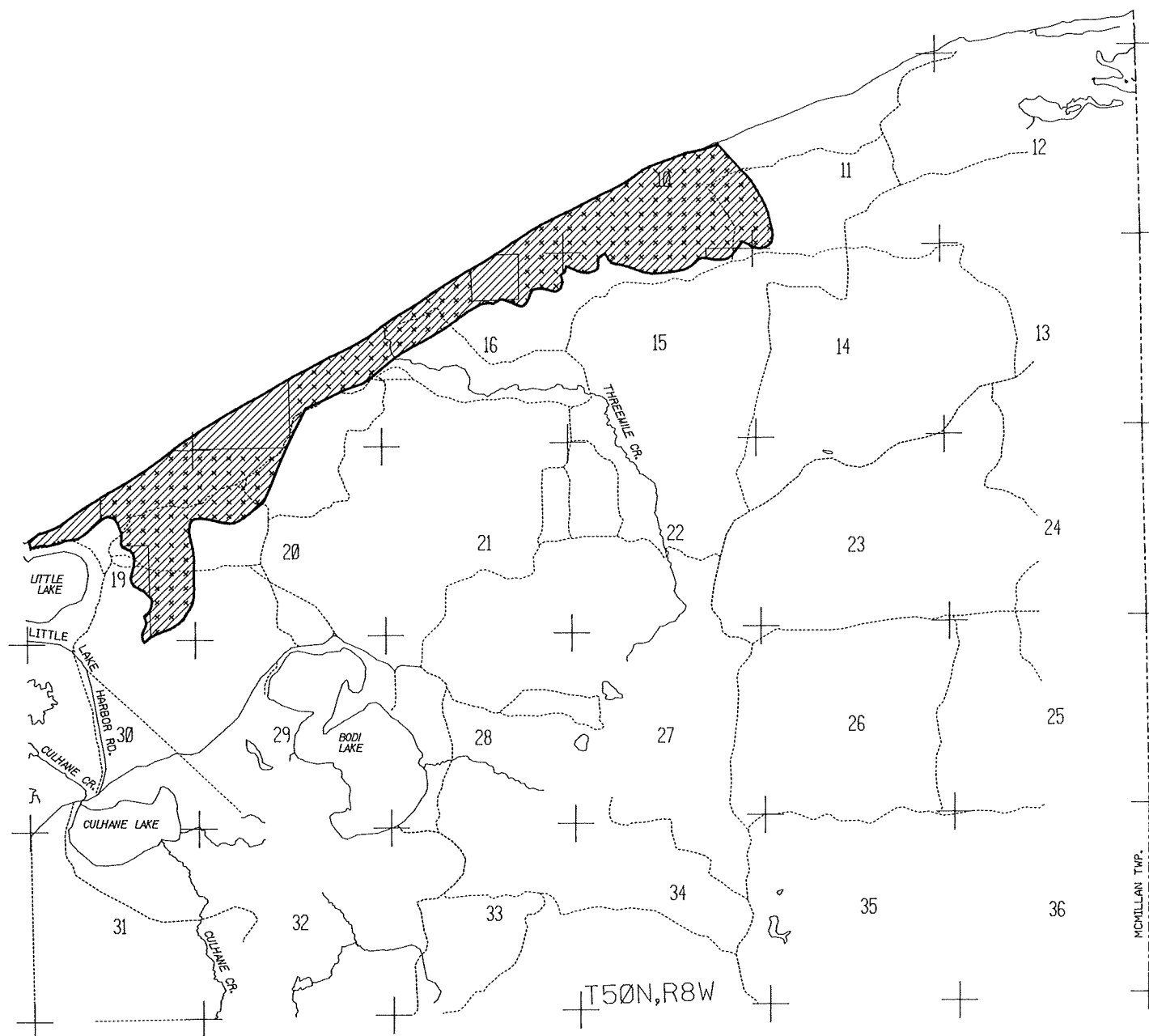
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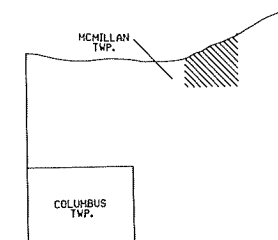
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MCMILLAN TOWNSHIP **CRITICAL DUNE AREAS**

LUCE COUNTY



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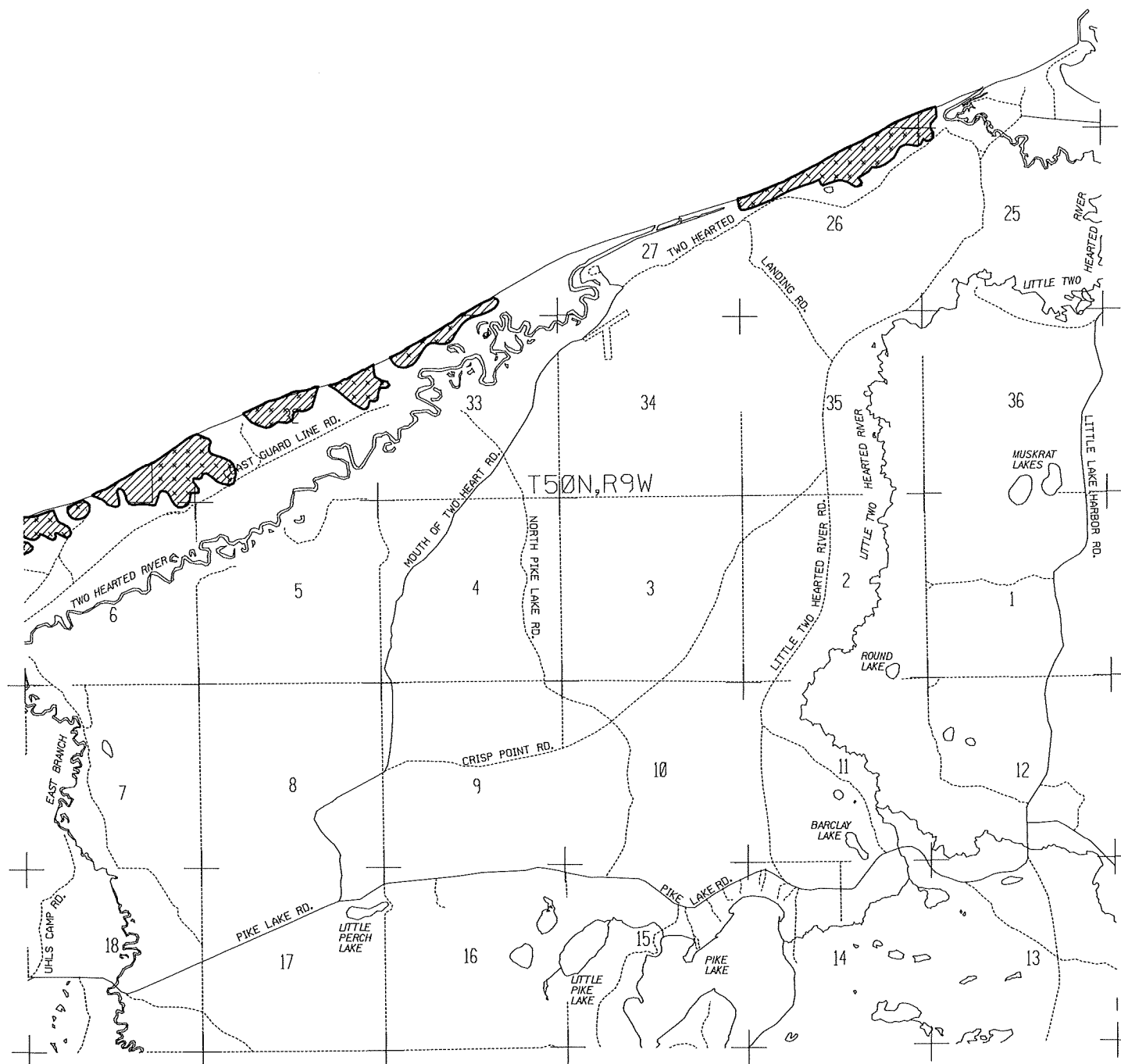
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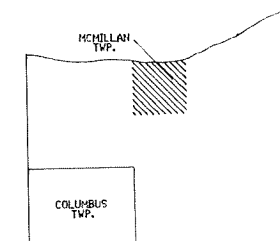
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MCMILLAN TOWNSHIP **CRITICAL DUNE AREAS**

LUCE COUNTY



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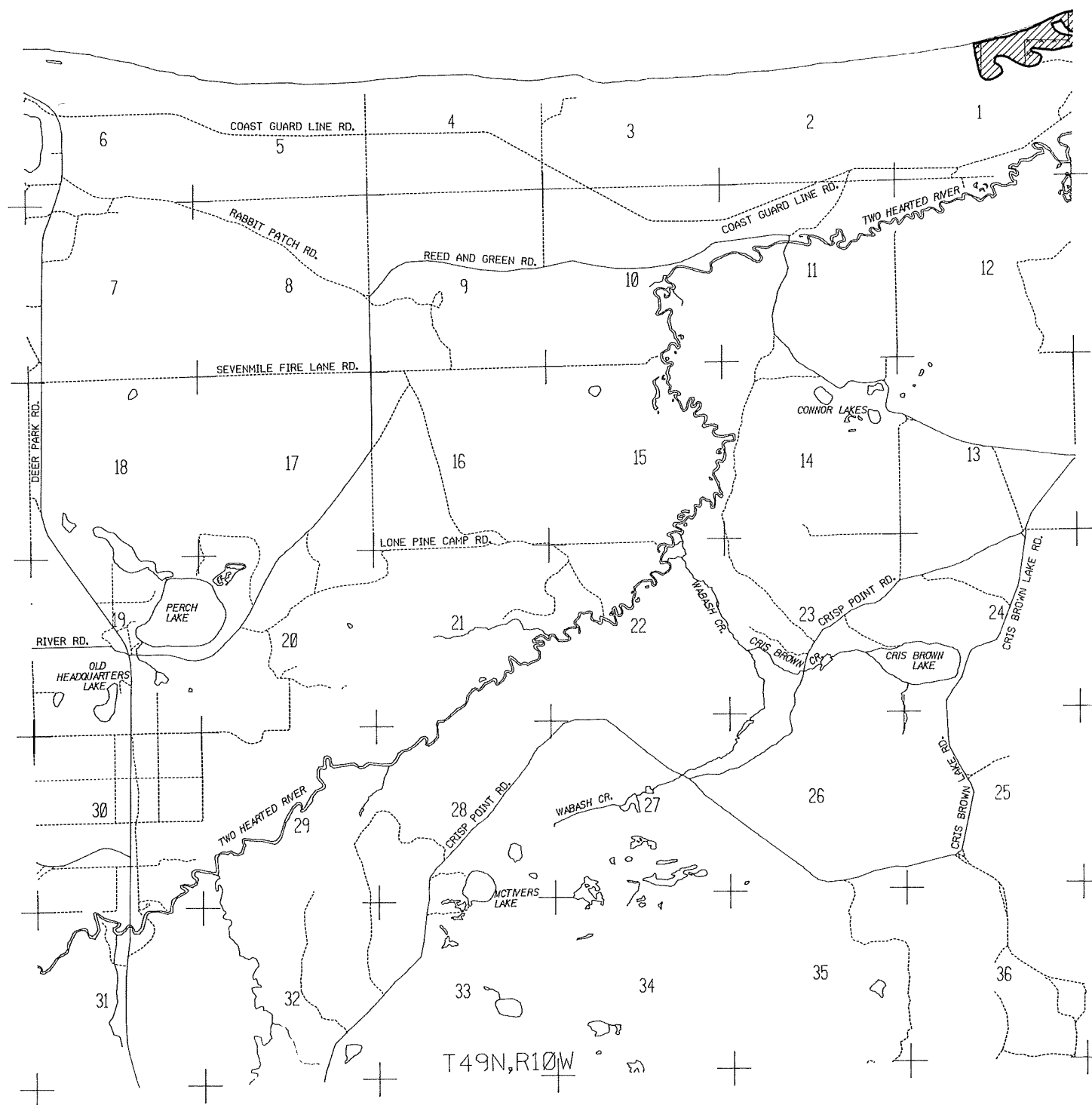
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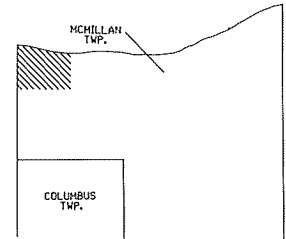
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McMILLAN TOWNSHIP **CRITICAL DUNE AREAS**

LUCE COUNTY



LEGEND

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

x x x PUBLIC LANDS
 STATE AND FEDERAL LANDS AND
 MAJOR LOCAL PARKS WITHIN CRITICAL
 DUNE AREAS. PUBLIC LANDS ARE
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PROPOSED CRITICAL DUNE AREAS

- BARRIER DUNES**
 BARRIER DUNE FORMATIONS DESIGNATED
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- AREAS NOT INCLUDED IN DESIGNATED
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- EXEMPLARY DUNE ASSOCIATED PLANT
 COMMUNITIES OUTSIDE DESIGNATED
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 INDICATED.

INFORMATION

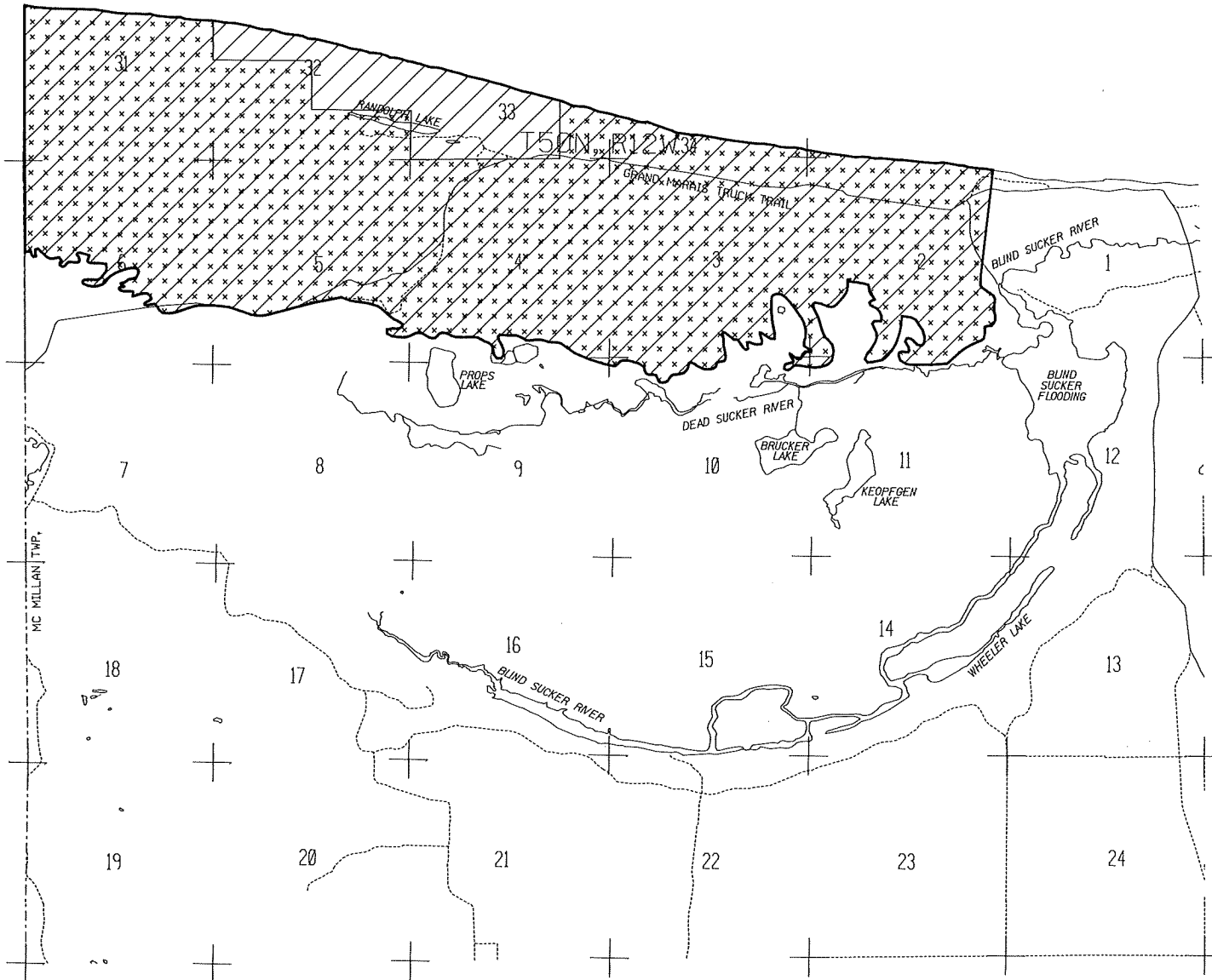
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 LAND AND WATER MANAGEMENT DIVISION
 P.O. BOX 38028
 LANSING, MI 48909
 (517) 373-1170

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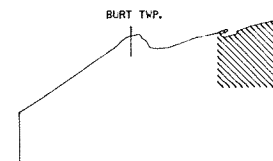
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BURT TOWNSHIP CRITICAL DUNE AREAS

ALGER COUNTY (EAST)



LEGEND

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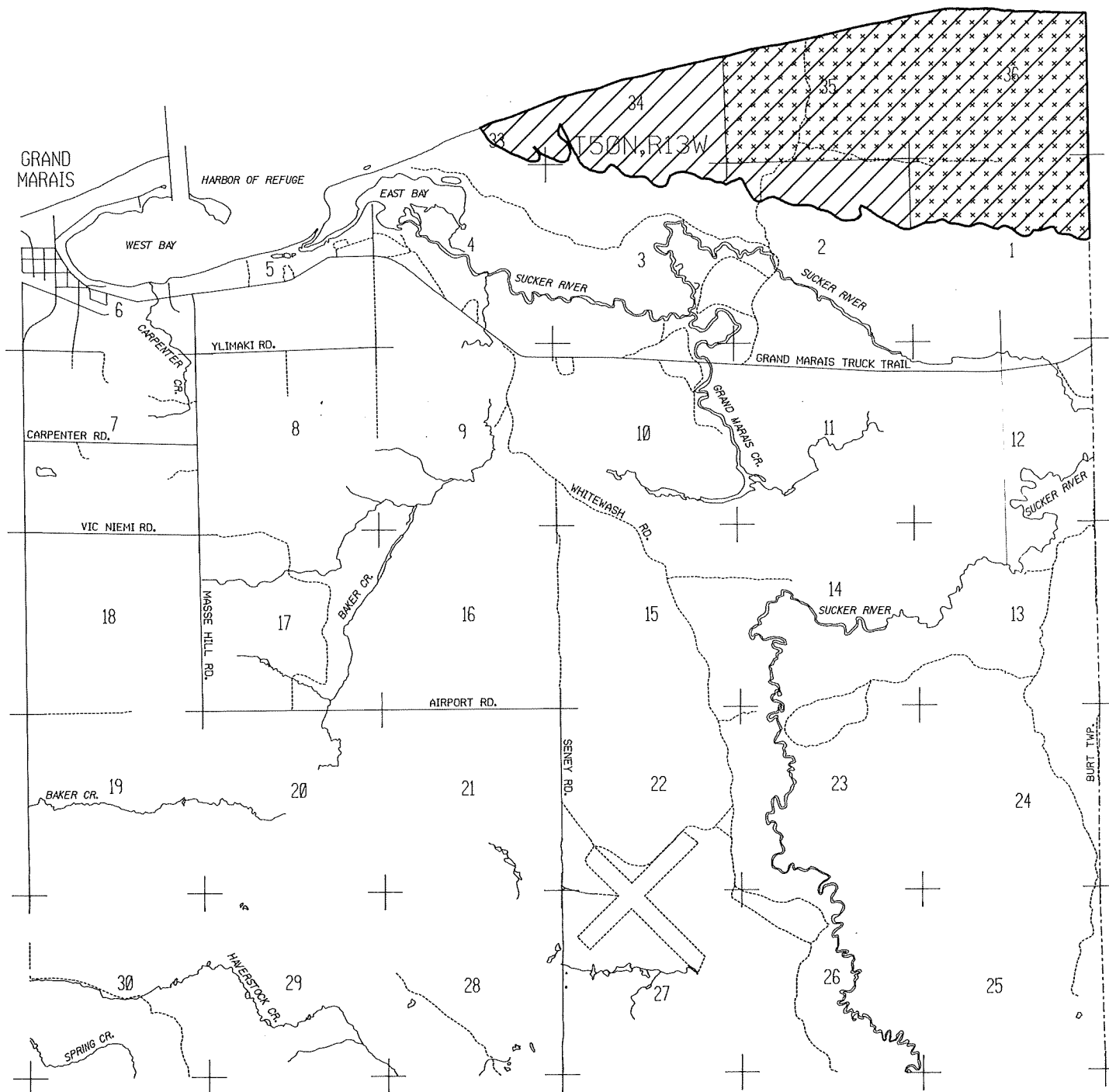
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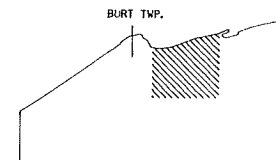
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BURT TOWNSHIP CRITICAL DUNE AREAS

ALGER COUNTY (EAST)



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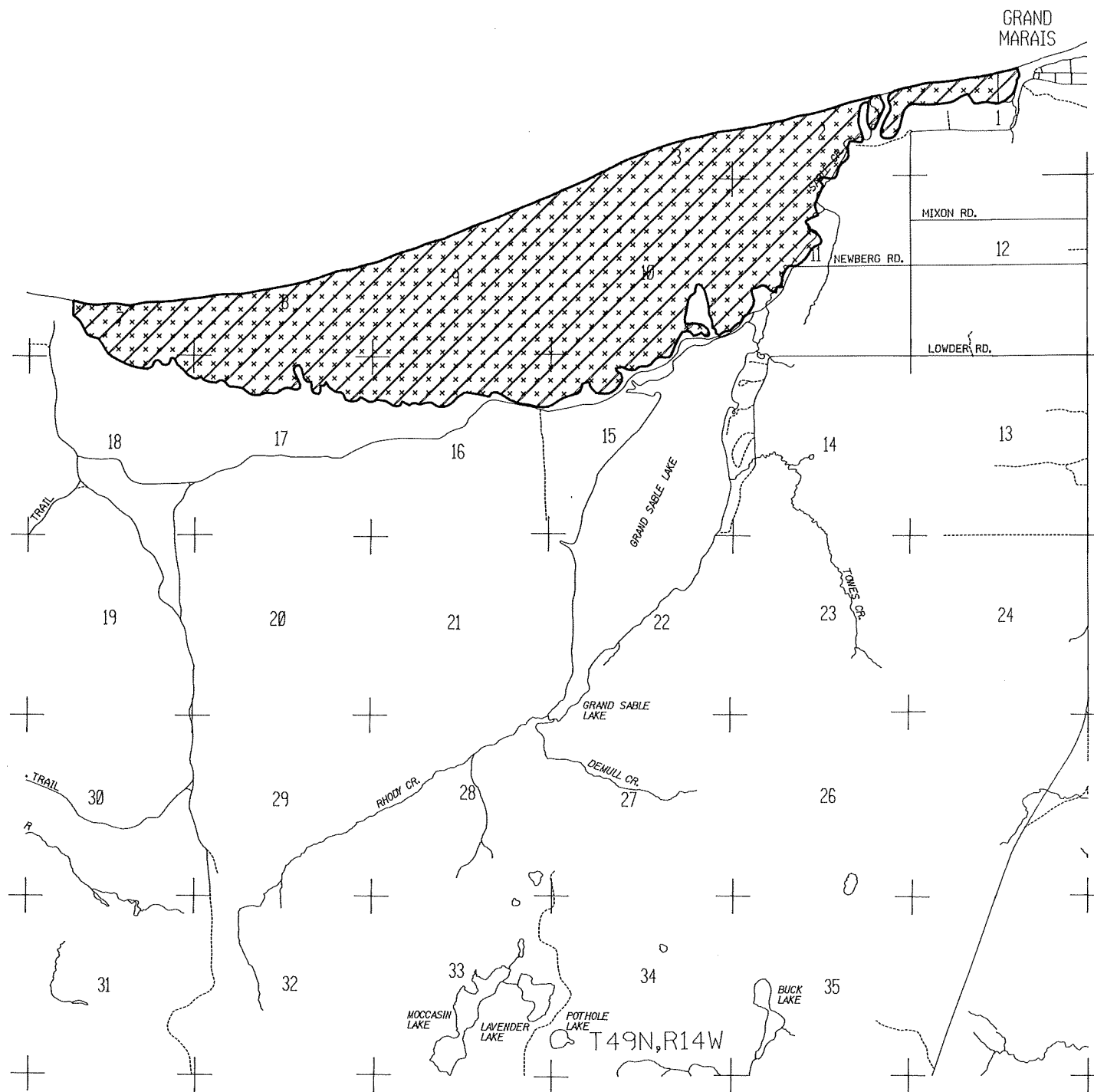
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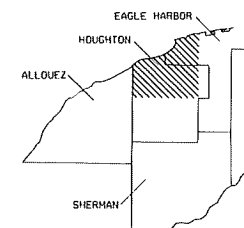
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EAGLE HARBOR HOUGHTON TOWNSHIP

CRITICAL DUNE AREAS

YEWEEENAW COUNTY



LEGEND

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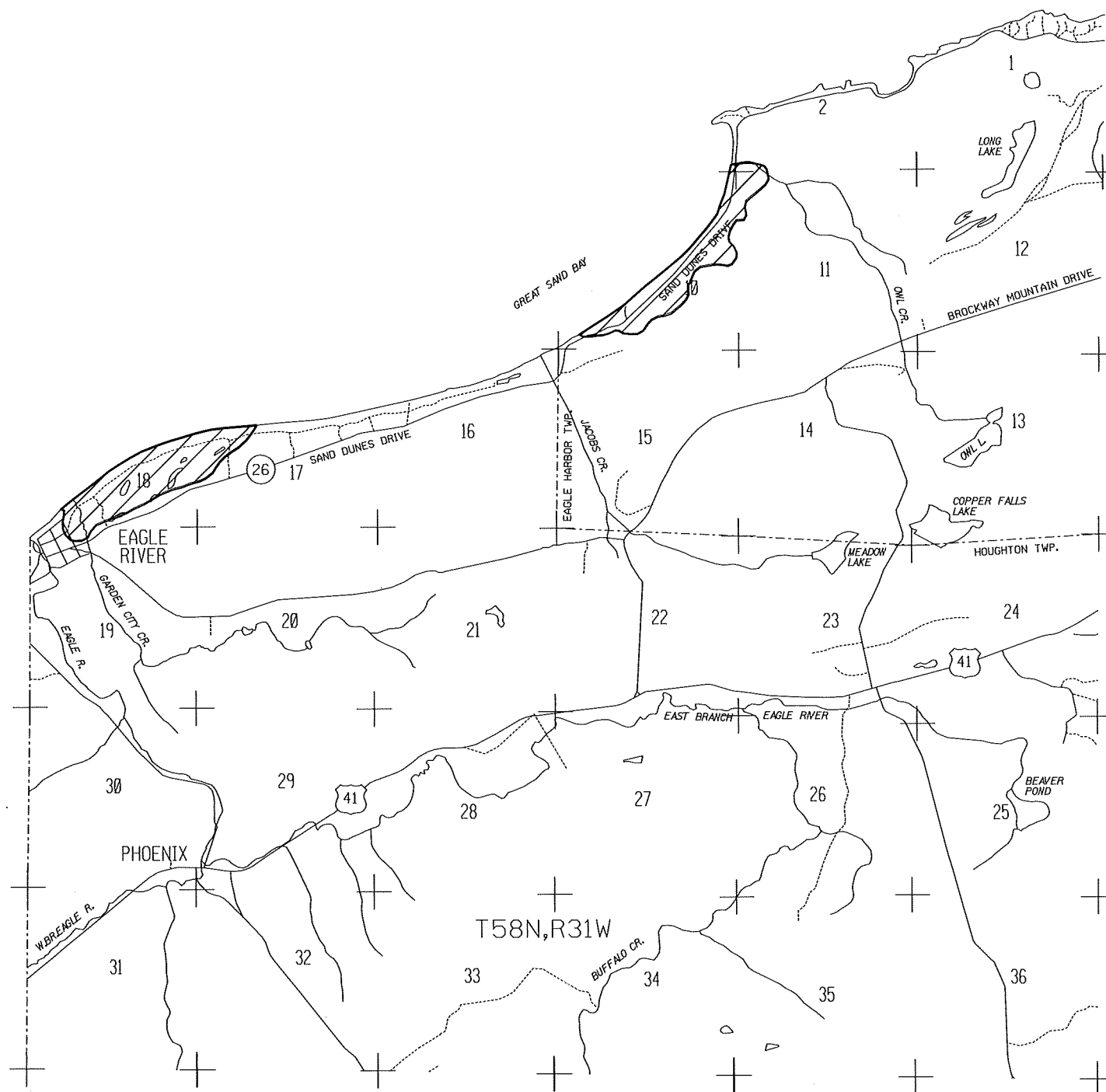
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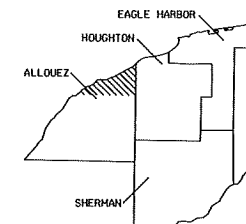
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ALLOUEZ TOWNSHIP CRITICAL DUNE AREAS

KEWEENAW COUNTY



LEGEND

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