USDA icon **Natural Resources Conservation Service**

Major Land Resource Area 096X
Northwestern Michigan Fruit Belt

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Ecological site keys

MLRA 96

1a. Sites immediately adjacent to the Great Lakes, river mouths and shoreline, affected by water levels of the Great Lakes.

2a. River mouths. ... R096XY002MI – Great Lakes Marsh

2b. Storm washed beach and active windblown dunes ... R096XY001MI – Coastal Dune Complex

1b. Inland.

3a. Bedrock within 150 cm of surface and no water table. --- F094CY038MI --- Limestone Plains

3b. Deep Soil or Water Table.

4a. North of the Manistee River, cooler summer, more winter snow.

5a. Floodplain.

6a. Hydric Soil (poorly or very poorly drained). ... F096XA013MI – Snowy Wet Floodplain

6b. Non-hydric Soil (somewhat poorly to well drained). ... F096XA012MI – Snowy Floodplain

5b. Non-Floodplain.

7a. Mineral Soil with no histic epipedon.

8a. Sandy Site: ? 80% sand in the top 150 cm and ? 70% sand in the top 50 cm; or ? 80% sand in top 50 cm; or < 20% clay in top 150 cm, pH <6, and ultic subgroup.

9a. No water table within 100 cm of surface (well drained or drier).

10a. Signs of higher productivity and infrequent fire: Bhs horizon present (dark reddish brown layer of organic matter and iron-aluminum oxides). ... F096XA006MI – Snowy Rich Sandy Drift

10b. Signs of lower productivity and frequent fire: Bhs horizon absent (lacking a dark reddish brown layer of organic matter and iron-aluminum oxides). ... F096XA007MI – Snowy Sandy Drift

9b. Seasonal water table present within 100 cm of surface (moderately well drained or wetter).

11a. Non-hydric Soil (somewhat poorly to moderately well drained).

12a. pH ? 5.5 in the top 50 cm, Mollisols, or Mollic subgroups. ... F096XA010MI – Snowy Sandy Depression

12b. pH < 5.5 in the top 50 cm, Spodosols, or Spodic and Ultic subgroups. ... F096XA008MI – Snowy Acidic Sandy Depression

11b. Hydric Soil (poorly or very poorly drained).

13a. pH ? 5.5 in the top 50 cm, Mollisols, or Mollic subgroups. ... F096XA011MI – Snowy Wet Sandy Depression

13b. pH < 5.5 in the top 50 cm, Spodosols, or Spodic and Ultic subgroups. ... F096XA009MI – Snowy Wet Acidic Sandy Depression

8b. Loamy Site: < 80% sand in the top 150 cm or < 70% sand in the top 50 cm; and not in ultic subgroup unless pH ?6 or clay ?20%.

14a. No seasonal water table (well drained or drier). ... F096XA003MI – Snowy Loamy Till

14b. Seasonal water table present within 100 cm of surface (moderately well drained or wetter).

15a. Non-hydric Soil (somewhat poorly to moderately well drained). ... F096XA004MI – Snowy Loamy Depression

15b. Hydric Soil (poorly or very poorly drained). ... F096XA005MI – Snowy Wet Loamy Depression

7b. Histosol or Histic Subgroup.

16a. Mean pH of the top 50 cm ? 5.0, or euic reaction class. ... F096XA014MI – Snowy Mucky Depression

16b. Mean pH of the top 50 cm < 5.0, or dysic reaction class. ... F096XA015MI – Snowy Acidic Peaty Depression

4b. South of Manistee River, warmer summer, less winter snow.

17a. Floodplain.

18a. Hydric Soil (poorly or very poorly drained). ... F096XB026MI – Wet Floodplain

18b. Non-hydric Soil (somewhat poorly to well drained). ... F096XB025MI – Floodplain

17b. Non-Floodplain.

19a. Mineral Soil with no histic epipedon (if any peat or muck surface, it is < 20 cm thick).

20a. Sandy Site: ? 80% sand in the top 150 cm and ? 70% sand in the top 50 cm; or ? 80% sand in top 50 cm; or < 20% clay in top 150 cm, pH <6, and ultic subgroup.

21a. No water table within 100 cm of surface (well drained or drier).

22a. Signs of higher productivity and infrequent fire: Spodic subgroup or Spodosol (reddish or reddish brown layer of organic matter and iron-aluminum oxides), or pH of top 50 cm ? 6, or depth to carbonates < 100 cm deep. ... F096XB019MI – Rich Sandy Drift

22b. Signs of lower productivity and frequent fire: Not Spodic subgroup nor Spodosol (reddish or reddish brown layer of organic matter and iron-aluminum oxides), and pH of top 50 cm < 6, and depth to carbonates ? 100 cm. ... F096XB020MI – Sandy Drift

21b. Seasonal water table present within 100 cm of surface (moderately well drained or wetter)

23a. Non-hydric Soil (somewhat poorly to moderately well drained).

24a. pH ? 5.5 in the top 50 cm, Mollisols, or Mollic subgroups. ... F096XB023MI – Sandy Depression

24b. pH < 5.5 in the top 50 cm, Spodosols, or Spodic and Ultic subgroups. ... F096XB021MI – Acidic Sandy Depression

23b. Hydric Soil (poorly or very poorly drained).

25a. pH ? 5.5 in the top 50 cm, Mollisols, or Mollic subgroups. ... F096XB024MI – Wet Sandy Depression

25b. pH < 5.5 in the top 50 cm, Spodosols, or Spodic and Ultic subgroups. ... F096XB022MI – Wet Acidic Sandy Depression

20b. Loamy Site: < 80% sand in the top 150 cm or < 70% sand in the top 50 cm; and not in ultic subgroup unless pH ?6 or clay ?20%.

26a. No water table (well drained or drier). ... F096XB016MI – Loamy Till

26b. Seasonal water table present (moderately well drained or wetter).

27a. Non-hydric Soil (somewhat poorly to moderately well drained). ... F096XB017MI – Loamy Depression

27b. Hydric Soil (poorly or very poorly drained). ... F096XB018MI – Wet Loamy Depression

19b. Histosol or Histic Subgroup (peat or muck surface ? 20 cm thick).

28a. Mean pH of the top 50 cm ? 5.0, or euic reaction class. ... F096XB027MI – Mucky Depression

28b. Mean pH of the top 50 cm < 5.0, or dysic reaction class. ... F096XB028MI – Acidic Peaty Depression