

# Lake County, MI

Risk-assessment baseline packet

County FIPS: 26085    Release: 2026-10    Data as of: 2026-09-30    Storm Events data through: 2026-06-30

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## Summary

Plan status as of 2026-09-30: Approved, expires 2029-03-31. Plan: Lake County HMP Update (FEMA plan 109552), approved 2024-04-01.  
Since the plan was approved on 2024-04-01: 1 new hazard declaration (1 incident): DR-4925-MI (Severe Storms, Tornadoes, and Flooding).  
NOAA Storm Events records since that date: 10 records (data through 2026-06-30).  
Highest expected annual loss (FEMA National Risk Index, modeled total; see B1-a): Inland Flooding (\$3,208,574 a year), Strong Wind (\$818,508) and Cold Wave (\$382,174).  
Repetitive-loss flood properties now: FMA RL 1, SRL 1 (44 CFR 77.2); any definition: 8.  
The tables that follow are organized by the items of FEMA's Local Mitigation Plan Review Tool, Element B (B1-a to B2-c); each heading says which item its tables support.

## TERMS USED

**EAL:** expected annual loss: FEMA's modeled average yearly loss from a hazard.  
**NRI:** FEMA's National Risk Index (version 1.20, December 2025).  
**NFIP:** National Flood Insurance Program.  
**RL, SRL:** repetitive loss and severe repetitive loss: flood-insured properties with repeated claims (definitions in B2-c).  
**FMA, HMGP:** Flood Mitigation Assistance and Hazard Mitigation Grant Program, FEMA mitigation grants.  
**PA:** FEMA Public Assistance: disaster aid to governments and some nonprofits.  
**Zone-level:** NOAA logged the event for a National Weather Service forecast zone, which may include parts of neighboring counties.  
**County-coded:** NOAA logged the event to this county.  
**FIPS:** the federal code for a place; 26085 is this area.  
**D0 to D4:** U.S. Drought Monitor categories, from abnormally dry (D0) to exceptional drought (D4).  
**F/EF, EFU:** Fujita and Enhanced Fujita tornado ratings; EFU is an unrated tornado.  
**kt, CONUS:** knots (1 kt is about 1.15 mph); the contiguous United States.  
**CFR:** Code of Federal Regulations.  
**A4-a, E1-a:** other items of FEMA's Local Mitigation Plan Review Tool (sources, and changes since the last plan).  
**Dollars:** nominal (as reported, labeled with the year), not adjusted for inflation.

## CONTENTS

1. Summary and terms used, page 1
2. Plan clock, page 2
3. What changed since your last plan (approved 2024-04-01), page 2
4. Supports FEMA checklist item B1-a: hazard identification, page 4
5. Supports FEMA checklist item B1-b: hazard location, page 5
6. Supports FEMA checklist item B1-c: hazard extent, page 6
7. Supports FEMA checklist item B1-d: previous occurrences, page 8
8. Supports FEMA checklist item B1-e: probability of future events, page 11
9. Supports FEMA checklist item B1-f: hazards that vary across jurisdictions, page 13
10. Supports FEMA checklist items B2-a and B2-b: vulnerability and potential impacts, page 16
11. Supports FEMA checklist item B2-a: vulnerability (county context), page 17
12. Supports FEMA checklist item B2-c: repetitive loss properties, page 18
13. Sources, what the plan adds, disclaimer and citation, page 19

Plan clock

|                                                                |                                                                                            |                                      |                                           |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------|
| Status:                                                        | Approved, expires 2029-03-31                                                               | Plan:                                | Lake County HMP Update (FEMA plan 109552) |
| Approved:                                                      | 2024-04-01                                                                                 | Days to expiry:                      | 913                                       |
| <b>What changed since your last plan (approved 2024-04-01)</b> |                                                                                            |                                      |                                           |
| New federal declarations:                                      | 1 new hazard declaration (1 incident): DR-4925-MI (Severe Storms, Tornadoes, and Flooding) | Storm Events records since approval: | 10 records (data through 2026-06-30)      |
| Repetitive loss now:                                           | FMA RL 1, SRL 1 (44 CFR 77.2); any definition: 8                                           | Repeat-flood change:                 | this release sets the baseline count.     |
| Sources: 1, 2, 4, 6 (numbered list at the end)                 |                                                                                            |                                      |                                           |

Plan status for every jurisdiction listed in this county: 18 rows, in the section "Plan clock: Plan status for every jurisdiction listed in this county" on the following pages.

State plan status and tribal plans in this state: see the state page.

## Plan clock

### Plan status for every jurisdiction listed in this county

Source: 1

| Jurisdiction             | Type     | Status                       | Plan                                      | Approved   | Expires    | Days to<br>expiry<br><small>negative =<br/>days since<br/>expiry</small> | Notes                                 |
|--------------------------|----------|------------------------------|-------------------------------------------|------------|------------|--------------------------------------------------------------------------|---------------------------------------|
| Lake County              | County   | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      |                                       |
| Baldwin village          | Village  | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-09-24 |
| Luther village           | Village  | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-10-16 |
| Chase township           | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-08-08 |
| Cherry Valley township   | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-08-08 |
| Dover township           | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-09-24 |
| Eden township            | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-10-23 |
| Elk township             | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-08-08 |
| Ellsworth township       | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-10-23 |
| Lake township            | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-08-08 |
| Newkirk township         | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2025-02-05 |
| Peacock township         | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-10-16 |
| Pinora township          | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-09-24 |
| Pleasant Plains township | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-08-08 |
| Sauble township          | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-08-08 |
| Sweetwater township      | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-10-23 |
| Webber township          | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-10-16 |
| Yates township           | Township | Approved, expires 2029-03-31 | Lake County HMP Update (FEMA plan 109552) | 2024-04-01 | 2029-03-31 | 913                                                                      | this jurisdiction approved 2024-12-10 |

## Supports FEMA checklist item B1-a: hazard identification

Hazards NRI does not cover (local data needed)

- dam failure (incl. upstream dams)
- levee failure
- flash flood as its own subtype
- ice jams
- debris flows
- erosion (riverine and coastal)
- land subsidence and sinkholes
- expansive soils

### The 18 National Risk Index hazards, ranked by expected annual loss (EAL)

Sources: 5, 6

| Rank<br>by EAL | Hazard             | NRI risk<br>rating     | EAL rating             | EAL buildings<br><i>modeled dollars<br/>per year</i> | EAL<br>agriculture<br><i>modeled dollars<br/>per year</i> | Cost of expected<br>deaths and injuries<br><i>FEMA's dollar value per<br/>year, not property<br/>damage</i> | EAL total (see<br>note)<br><i>modeled dollars<br/>per year</i> | Storm Events<br>records, 1996 to<br>2026-06-30<br><i>count</i> | Storm Events coverage note                                                                                               |
|----------------|--------------------|------------------------|------------------------|------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| 1              | Inland<br>Flooding | Relatively<br>Low      | Very Low               | \$3,208,519                                          | \$0                                                       | \$54                                                                                                        | \$3,208,574                                                    | 9                                                              |                                                                                                                          |
| 2              | Strong Wind        | Relatively<br>Moderate | Relatively<br>Moderate | \$761,818                                            | \$1,856                                                   | \$54,834                                                                                                    | \$818,508                                                      | 47                                                             | Includes 8 High Wind and 1 Strong Wind records (NOAA non-thunderstorm wind types, outside NRI's Strong Wind definition). |
| 3              | Cold Wave          | Relatively<br>Low      | Relatively Low         | \$36                                                 | \$1,845                                                   | \$380,293                                                                                                   | \$382,174                                                      | 0                                                              | No recorded events in Storm Events since 1996 (data through 2026-06-30).                                                 |
| 4              | Tornado            | Very Low               | Very Low               | \$105,913                                            | \$58                                                      | \$106,969                                                                                                   | \$212,940                                                      | 3                                                              |                                                                                                                          |
| 5              | Winter<br>Weather  | Relatively<br>Moderate | Relatively<br>Moderate | \$3,400                                              | \$34                                                      | \$163,177                                                                                                   | \$166,611                                                      | 91                                                             | Includes 1 Sleet record (outside NRI's Winter Weather definition).                                                       |
| 6              | Lightning          | Relatively<br>Low      | Relatively Low         | \$2,111                                              | n/a                                                       | \$100,320                                                                                                   | \$102,431                                                      | 0                                                              | No recorded events in Storm Events since 1996 (data through 2026-06-30).                                                 |
| 7              | Heat Wave          | Very Low               | Very Low               | \$473                                                | under \$1                                                 | \$46,670                                                                                                    | \$47,144                                                       | 0                                                              | No recorded events in Storm Events since 1996 (data through 2026-06-30).                                                 |
| 8              | Wildfire           | Very Low               | Very Low               | \$19,086                                             | \$2                                                       | \$1,536                                                                                                     | \$20,624                                                       | 0                                                              | No recorded events in Storm Events since 1996 (data through 2026-06-30).                                                 |
| 9              | Hail               | Very Low               | Very Low               | \$13,271                                             | \$3,064                                                   | \$1,956                                                                                                     | \$18,291                                                       | 19                                                             |                                                                                                                          |
| 10             | Ice Storm          | Very Low               | Very Low               | \$9,366                                              | n/a                                                       | \$2,861                                                                                                     | \$12,228                                                       | 1                                                              |                                                                                                                          |
| 11             | Earthquake         | Very Low               | Very Low               | \$6,614                                              | n/a                                                       | \$1,533                                                                                                     | \$8,147                                                        |                                                                | Storm Events does not record earthquakes.                                                                                |
| 12             | Landslide          | Relatively<br>Low      | Very Low               | \$196                                                | n/a                                                       | \$3,367                                                                                                     | \$3,562                                                        | 0                                                              | No recorded events in Storm Events since 1996 (data through 2026-06-30).                                                 |

| Rank<br>by EAL | Hazard    | NRI risk<br>rating | EAL rating                   | EAL buildings<br><i>modeled dollars<br/>per year</i> | EAL agriculture<br><i>modeled dollars<br/>per year</i> | Cost of expected<br>deaths and injuries<br><i>FEMA's dollar value per<br/>year, not property<br/>damage</i> | EAL total (see<br>note)<br><i>modeled dollars<br/>per year</i> | Storm Events<br>records, 1996 to<br>2026-06-30<br><i>count</i> | Storm Events coverage note                                               |
|----------------|-----------|--------------------|------------------------------|------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------|
| 13             | Hurricane | Very Low           | Very Low                     | \$2,201                                              | \$69                                                   | under \$1                                                                                                   | \$2,271                                                        | 0                                                              | No recorded events in Storm Events since 1996 (data through 2026-06-30). |
| 14             | Drought   | No Rating          | No Expected<br>Annual Losses | n/a                                                  | \$0                                                    | n/a                                                                                                         | \$0                                                            | 0                                                              | Declared 1 time; no Storm Events record of this type.                    |

Total = buildings + agriculture + population equivalence; FEMA values each expected death (or 10 injuries) at \$13.7 million (2024 dollars).

NRI risk rating combines expected annual loss with social vulnerability and community resilience; EAL rating rates expected annual loss alone. Both compare this county with all U.S. counties.

Local data needed: state and local lightning, wildfire and landslide records (Storm Events records these hazards only in part).

*Not applicable to this county per NRI, with no federal declaration and no Storm Events record since 1996: avalanche, coastal flooding, tsunami and volcanic activity. That is the evidence for leaving them out of the plan.*

The state hazard mitigation plan also lists hazards for this county; FEMA asks the plan to explain any hazard it leaves out.

## Supports FEMA checklist item B1-b: hazard location

Affects the whole county (national data give no location within it): Cold Wave, Drought, Hail, Heat Wave, Ice Storm, Lightning, Strong Wind and Winter Weather.

Inland Flooding: The FEMA Flood Insurance Rate Map (FIRM) is the required location source for flooding. See the FEMA Flood Map Service Center (<https://msc.fema.gov>) for this county.

### Hazards that vary within the county: highest-rated census tracts

Source: 5

| Hazard     | Highest-rated census tracts<br><i>NRI risk rating, score 0 to 100</i>                                        |
|------------|--------------------------------------------------------------------------------------------------------------|
| Earthquake | tract 9612 (Very Low, 14.9); tract 9611 (Very Low, 14.8); tract 9601 (Very Low, 11.4)                        |
| Hurricane  | tract 9611 (Very Low, 34.2); tract 9601 (Very Low, 33.5); tract 9612 (Very Low, 31.8)                        |
| Landslide  | tract 9613 (Relatively Low, 94.6); tract 9601 (Relatively Low, 93.1); tract 9612 (Relatively Low, 92.5)      |
| Tornado    | tract 9611 (Relatively Moderate, 59.0); tract 9601 (Relatively Low, 52.9); tract 9612 (Relatively Low, 50.9) |
| Wildfire   | tract 9613 (Relatively Low, 83.9); tract 9601 (Relatively Low, 82.9); tract 9611 (Relatively Low, 81.8)      |

Up to 3 census tracts per hazard, highest National Risk Index rating first, then highest score; a tract number is the Census tract number (for example 9612 is Census Tract 9612). FEMA's Resilience Analysis and Planning Tool maps the National Risk Index for every tract: <https://www.fema.gov/emergency-managers/practitioners/resilience-analysis-and-planning-tool>

## Supports FEMA checklist item B1-c: hazard extent

### Extent: scale, observed range and worst recorded event per hazard

Sources: 6, 7

| Hazard                                            | Scale                                 | Records<br><i>count and years</i> | Observed range                                            | Worst recorded event                                                                          | Most damaging<br>(when different)                                  | How it applies to jurisdictions                                                                                                     | Note                                                                                                                                                                 |
|---------------------------------------------------|---------------------------------------|-----------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cold/Wind Chill, Extreme Cold/Wind Chill          | wind chill                            | 0                                 |                                                           |                                                                                               |                                                                    |                                                                                                                                     | Wind chill: in event narratives only (local data needed).                                                                                                            |
| Frost/Freeze (outside NRI's Cold Wave definition) | crop damage                           | 0                                 |                                                           |                                                                                               |                                                                    |                                                                                                                                     | Temperature: in event narratives only (local data needed).                                                                                                           |
| Drought                                           | U.S. Drought Monitor scale (D0 to D4) | 0                                 |                                                           |                                                                                               |                                                                    |                                                                                                                                     | Storm Events enters a drought at D2 or worse east of the Rockies and D3 or worse from the Rockies west (NWS Instruction 10-1605); NRI drought counts D3 and D4 only. |
| Earthquake                                        | Modified Mercalli (local data)        | 0                                 |                                                           |                                                                                               |                                                                    |                                                                                                                                     | Storm Events does not record earthquakes; the USGS earthquake catalog is the source.                                                                                 |
| Hail                                              | hail size (inches)                    | 21 records, 1961 to 2026          | 0.75 in to 2.5 in (median 1 in); 21 with a recorded value | 2.5 in hail, 2021-09-07                                                                       | Hail, 2000-08-09, \$50,000 property; \$25,000 crops (2000 dollars) | Event records naming jurisdictions in the plan: Baldwin village (9 records), Luther village (3 records), Chase township (1 record). |                                                                                                                                                                      |
| Excessive Heat, Heat                              | heat index (in event narratives)      | 0                                 |                                                           |                                                                                               |                                                                    |                                                                                                                                     | Heat index: in event narratives only (local data needed).                                                                                                            |
| Hurricane, Tropical Storm, Tropical Depression    | Saffir-Simpson                        | 0                                 |                                                           |                                                                                               |                                                                    |                                                                                                                                     | Storm Events files every zone of a storm's episode under the storm's type; flooding from the storm is filed as Flood or Flash Flood records.                         |
| Ice Storm                                         | Sperry-Piltz ice scale (local data)   | 1 record, 2003 (1 zone-level)     |                                                           | Ice Storm, 2003-04-03, \$200,000 property; crops not reported (2003 dollars); NWS zone MIZ038 |                                                                    | Countywide (zone-level records).                                                                                                    | Ice thickness: in event narratives only (local data needed).                                                                                                         |

| Hazard                                                           | Scale                                                                              | Records<br><i>count and years</i>      | Observed range                                                                     | Worst recorded event                                                                                                                               | Most damaging<br>(when different)                                                            | How it applies to jurisdictions                                                                                                                                               | Note                                                                                                                                                                                                                 |
|------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flash Flood, Flood, Lakeshore Flood                              | damage and flood days (flood depth: FIRM)                                          | 9 records, 1997 to 2019 (1 zone-level) |                                                                                    | Flood, 2013-04-17, \$3,000,000 property; \$0 crops (2013 dollars)                                                                                  |                                                                                              | Event records naming jurisdictions in the plan: Baldwin village (2 records), Luther village (1 record), Peacock township (1 record). Zone-level records (1) apply countywide. | Flood depth: see the FEMA Flood Insurance Rate Map. Storm Events damage is often \$0 or blank for floods, major ones included; FEMA Public Assistance by declaration (B1-d) shows which floods cost the most.        |
| Debris Flow                                                      | none (count and damage only)                                                       | 0                                      |                                                                                    |                                                                                                                                                    |                                                                                              |                                                                                                                                                                               | Physical measure: in event narratives only (local data needed).                                                                                                                                                      |
| Lightning                                                        | annualized frequency (the measure FEMA's Local Mitigation Planning Handbook names) | 0                                      |                                                                                    |                                                                                                                                                    |                                                                                              |                                                                                                                                                                               | Storm Events lists lightning with damage or casualties; physical measure in event narratives only (local data needed).                                                                                               |
| High Wind and Strong Wind (outside NRI's Strong Wind definition) | wind speed (kt and mph)                                                            | 9 records, 1997 to 2017 (9 zone-level) | 45 kt (52 mph) to 61 kt (70 mph) (median 52 kt (60 mph)); 8 with a recorded value  | 61 kt (70 mph) estimated gust, High Wind, 2013-11-17; NWS zone MIZ038                                                                              | High Wind, 2017-03-08, \$5,000,000 property; \$0 crops, reported for the zone (2017 dollars) | Countywide (zone-level records).                                                                                                                                              |                                                                                                                                                                                                                      |
| Thunderstorm Wind                                                | wind speed (kt and mph)                                                            | 46 records, 1976 to 2025               | 50 kt (58 mph) to 61 kt (70 mph) (median 52 kt (60 mph)); 33 with a recorded value | 61 kt (70 mph) estimated gust, Thunderstorm Wind, 2021-08-27; same speed and measurement basis also recorded on 2008-06-28, 2013-08-07, 2019-07-19 | Thunderstorm Wind, 1998-05-31, \$1,110,000 property; crops not reported (1998 dollars)       | Event records naming jurisdictions in the plan: Baldwin village (15 records), Chase township (3 records), Luther village (1 record), Peacock township (1 record).             |                                                                                                                                                                                                                      |
| Tornado                                                          | Enhanced Fujita (Fujita before Feb 2007)                                           | 4 records, 1985 to 2018                | F/EF0 to F/EF1 (median F/EF1); 4 with a recorded value                             | F1 tornado, 2005-07-26, 4 mi within this county, 850 yd wide, \$150,000 property; \$50,000 crops (2005 dollars)                                    |                                                                                              | Event records naming jurisdictions in the plan: Baldwin village (2 records).                                                                                                  | Before 1996 a tornado is listed once, under the county where it began, with its whole path's rating and length; from 1996 on, each county lists its own segment. Length is not used to rank tornadoes (see Methods). |

| Hazard                                                                      | Scale                               | Records<br><i>count and years</i>        | Observed range | Worst recorded event                                                                    | Most damaging<br>(when different) | How it applies to jurisdictions  | Note                                                        |
|-----------------------------------------------------------------------------|-------------------------------------|------------------------------------------|----------------|-----------------------------------------------------------------------------------------|-----------------------------------|----------------------------------|-------------------------------------------------------------|
| Wildfire                                                                    | acres burned<br>(local data)        | 0                                        |                |                                                                                         |                                   |                                  | Acres burned: in event narratives only (local data needed). |
| Winter Storm, Heavy Snow, Blizzard, Lake-Effect Snow, Winter Weather, Sleet | none in data (snowfall: local data) | 91 records, 1996 to 2026 (91 zone-level) |                | Winter Storm, 2010-12-11, \$250,000 property; \$0 crops (2010 dollars); NWS zone MIZ038 |                                   | Countywide (zone-level records). | Snow depth: in event narratives only (local data needed).   |

Storm Events records are more complete after 1996; before 1996 only Tornado (from 1950), Hail and Thunderstorm Wind (from 1955) exist. Zone-level records whose zone no NWS zone-county file places in this county (mostly before 2020) are not counted here (the Methods page explains the zone matching).

Dollars are nominal (as reported), labeled with the year; not adjusted for inflation.

## Supports FEMA checklist item B1-d: previous occurrences

Federal declarations for this county: 9 declarations covering 6 separate hazard incidents counted in this packet (declarations for the same incident count once; non-natural and evacuation-only declarations are not counted).

### Federal disaster declarations for this county

Sources: 1, 2, 3

| Declared   | Incident began | FEMA number | Type           | Title                                  | Mapped hazard                                                        | County Public Assistance<br><i>federal share obligated, nominal dollars</i> | Flags                                    | Notes                    |
|------------|----------------|-------------|----------------|----------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------|------------------------------------------|--------------------------|
| 2026-06-30 | 2026-04-10     | DR-4925-MI  | Major disaster | Severe Storms, Tornadoes, and Flooding | Inland Flooding (primary); also designated: Tornado                  | no Public Assistance recorded                                               | new since last plan; within last 5 years |                          |
| 2020-03-27 | 2020-01-20     | DR-4494-MI  | Major disaster | COVID-19 Pandemic                      | Non-natural, not counted                                             | no Public Assistance recorded                                               |                                          |                          |
| 2020-03-13 | 2020-01-20     | EM-3455-MI  | Emergency      | COVID-19                               | Non-natural, not counted                                             | no Public Assistance recorded                                               |                                          | same incident as DR-4494 |
| 2008-07-14 | 2008-06-06     | DR-1777-MI  | Major disaster | Severe Storms, Tornadoes, and Flooding | Inland Flooding; Tornado                                             | \$226,130.45                                                                |                                          |                          |
| 2005-09-07 | 2005-08-29     | EM-3225-MI  | Emergency      | Hurricane Katrina Evacuation           | Hurricane: evacuation support, not a local hazard event; not counted | no Public Assistance recorded                                               |                                          |                          |
| 1986-09-18 | 1986-09-10     | DR-774-MI   | Major disaster | Severe Storms & Flooding               | Inland Flooding                                                      | no Public Assistance recorded                                               |                                          |                          |
| 1985-09-18 | 1985-09-05     | DR-744-MI   | Major disaster | Severe Storms and Flooding             | Inland Flooding                                                      | no Public Assistance recorded                                               |                                          |                          |
| 1978-01-27 | 1978-01-27     | EM-3057-MI  | Emergency      | Blizzards & Snowstorms                 | Winter Weather                                                       | no Public Assistance recorded                                               |                                          |                          |
| 1977-03-02 | 1977-03-02     | EM-3035-MI  | Emergency      | Drought                                | Drought                                                              | no Public Assistance recorded                                               |                                          |                          |

County Public Assistance: applicants the FEMA record places in this county, including any state agencies FEMA files there; statewide rows are listed on the state page; federal share obligated, nominal dollars.

Statewide declarations

Source: 2

| Declared   | Incident began | FEMA number | Type           | Title   | Mapped hazard |
|------------|----------------|-------------|----------------|---------|---------------|
| 1956-04-05 | 1956-04-05     | DR-53-MI    | Major disaster | Tornado | Tornado       |
| 1953-06-09 | 1953-06-09     | DR-6-MI     | Major disaster | Tornado | Tornado       |
| 1953-06-02 | 1953-06-02     | DR-4-MI     | Major disaster | Tornado | Tornado       |

FEMA recorded these with designated area Statewide and no county, so they are listed on every county page in the state and not counted with county rows. Local data needed: whether each one affected this county.

Previous occurrences by hazard, with explicit no-event rows

Sources: 2, 6, 7

| Hazard          | Storm Events records,<br>all years on file<br><i>(years in the Period column)</i> | Since plan<br>approval<br>records | In the 12 months before<br>plan approval<br>records | Last 5<br>years<br>records | Declared incidents,<br>all years<br><i>separate disasters</i> | Declared since<br>approval<br><i>separate disasters</i> | Period             | Statement                                                                                  |
|-----------------|-----------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------|----------------------------|---------------------------------------------------------------|---------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------|
| Cold Wave       | 0                                                                                 | 0                                 | 0                                                   | 0                          | 0                                                             | 0                                                       | 1996 to 2026-06-30 | No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events                             |
| Drought         | 0                                                                                 | 0                                 | 0                                                   | 0                          | 1                                                             | 0                                                       | 1996 to 2026-06-30 | No Storm Events records of this type; 1 federal declared incident (see declarations table) |
| Earthquake      | 0                                                                                 | 0                                 | 0                                                   | 0                          | 0                                                             | 0                                                       |                    | Storm Events does not record earthquakes; the USGS earthquake catalog is the source.       |
| Hail            | 21                                                                                | 3                                 | 0                                                   | 3                          | 0                                                             | 0                                                       | 1955 to 2026-06-30 |                                                                                            |
| Heat Wave       | 0                                                                                 | 0                                 | 0                                                   | 0                          | 0                                                             | 0                                                       | 1996 to 2026-06-30 | No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events                             |
| Hurricane       | 0                                                                                 | 0                                 | 0                                                   | 0                          | 0                                                             | 0                                                       | 1996 to 2026-06-30 | No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events                             |
| Ice Storm       | 1                                                                                 | 0                                 | 0                                                   | 0                          | 0                                                             | 0                                                       | 1996 to 2026-06-30 |                                                                                            |
| Inland Flooding | 9                                                                                 | 0                                 | 0                                                   | 0                          | 4                                                             | 1                                                       | 1996 to 2026-06-30 |                                                                                            |
| Landslide       | 0                                                                                 | 0                                 | 0                                                   | 0                          | 0                                                             | 0                                                       | 1996 to 2026-06-30 | No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events                             |
| Lightning       | 0                                                                                 | 0                                 | 0                                                   | 0                          | 0                                                             | 0                                                       | 1996 to 2026-06-30 | No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events                             |
| Strong Wind     | 55                                                                                | 3                                 | 1                                                   | 4                          | 0                                                             | 0                                                       | 1955 to 2026-06-30 | Includes 8 High Wind and 1 Strong Wind records.                                            |
| Tornado         | 4                                                                                 | 0                                 | 0                                                   | 0                          | 2                                                             | 1                                                       | 1950 to 2026-06-30 |                                                                                            |
| Wildfire        | 0                                                                                 | 0                                 | 0                                                   | 0                          | 0                                                             | 0                                                       | 1996 to 2026-06-30 | No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events                             |
| Winter Weather  | 91                                                                                | 4                                 | 1                                                   | 8                          | 1                                                             | 0                                                       | 1996 to 2026-06-30 | Includes 1 Sleet record.                                                                   |

## Notable Storm Events records

Sources: 1, 6, 7

| Date       | Event type        | Magnitude or extent                      | Damage<br><i>nominal dollars</i>                                             | Deaths,<br>injuries<br><i>direct only</i> | Location                           | Why listed                                                                                       |
|------------|-------------------|------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------|------------------------------------|--------------------------------------------------------------------------------------------------|
| 2021-09-07 | Hail              | 2.5 in                                   | \$25,000 property; \$0 crops (2021 dollars)                                  | 0, 0                                      | BALDWIN                            | B1-c worst recorded: Hail                                                                        |
| 2021-08-27 | Thunderstorm Wind | 61 kt (70 mph) estimated gust            | \$50,000 property; \$0 crops (2021 dollars)                                  | 0, 0                                      | BALDWIN                            | B1-c worst recorded: Thunderstorm Wind                                                           |
| 2019-07-20 | Flood             |                                          | \$800,000 property; \$0 crops (2019 dollars)                                 | 0, 0                                      | IRONS to BRISTOL                   | large reported damage                                                                            |
| 2017-03-08 | High Wind         | 50 kt (58 mph) estimated gust            | \$5,000,000 property; \$0 crops, reported for the zone (2017 dollars)        | 0, 0                                      | NWS zone MIZ038 (LAKE), zone-level | B1-c most damaging: High Wind and Strong Wind                                                    |
| 2013-11-17 | High Wind         | 61 kt (70 mph) estimated gust            | \$75,000 property; \$0 crops, reported for the zone (2013 dollars)           | 0, 0                                      | NWS zone MIZ038 (LAKE), zone-level | B1-c worst recorded: High Wind and Strong Wind                                                   |
| 2013-04-17 | Flood             |                                          | \$3,000,000 property; \$0 crops (2013 dollars)                               | 0, 0                                      | IRONS to BALDWIN                   | B1-c worst recorded: Flash Flood, Flood, Lakeshore Flood                                         |
| 2010-12-11 | Winter Storm      |                                          | \$250,000 property; \$0 crops, reported for the zone (2010 dollars)          | 0, 0                                      | NWS zone MIZ038 (LAKE), zone-level | B1-c worst recorded: Winter Storm, Heavy Snow, Blizzard, Lake-Effect Snow, Winter Weather, Sleet |
| 2008-06-13 | Flash Flood       |                                          | \$2,000,000 property; \$500,000 crops (2008 dollars)                         | 0, 0                                      | PEACOCK to LUTHER                  | large reported damage                                                                            |
| 2005-07-26 | Tornado           | F1, 4 mi within this county, 850 yd wide | \$150,000 property; \$50,000 crops (2005 dollars)                            | 0, 0                                      | BALDWIN                            | B1-c worst recorded: Tornado                                                                     |
| 2003-04-03 | Ice Storm         |                                          | \$200,000 property; crops not reported, reported for the zone (2003 dollars) | 0, 0                                      | NWS zone MIZ038 (LAKE), zone-level | B1-c worst recorded: Ice Storm                                                                   |
| 2000-08-09 | Hail              | 1.75 in                                  | \$50,000 property; \$25,000 crops (2000 dollars)                             | 0, 0                                      | LUTHER                             | B1-c most damaging: Hail                                                                         |
| 1998-05-31 | Thunderstorm Wind | speed not recorded                       | \$1,110,000 property; crops not reported (1998 dollars)                      | 0, 0                                      | BRANCH to CHASE                    | B1-c most damaging: Thunderstorm Wind                                                            |

**The full list is in the Excel file, sheet "B1-d Storm Events history" (181 rows).**

Location is the place NOAA recorded, as written in its data; it need not be a jurisdiction in this plan.

Local data needed: state-declared emergencies, from your state emergency management agency (federal data do not include them).

Tribal and special-area declarations in this state are listed on the state page.

## Supports FEMA checklist item B1-e: probability of future events

### Probability: FEMA annualized frequency and descriptor per hazard

Sources: 5, 6

| Hazard          | FEMA annualized frequency (modeled)<br><i>unit per row</i> | Unit                             | In plain terms                                                                             | Descriptor                                  | Descriptor basis                                  | NRI events or days in its record period (hail, wind and tornado are area-weighted, so can be fractional) | NRI period                                 | Location   | Note                                                                                                                    |
|-----------------|------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------|
| Cold Wave       | 1.47                                                       | event-days per year              | about 1.47 days per year                                                                   |                                             | event-days in 0 of 30 years, 1996 to 2025 (0%)    | 28                                                                                                       | 2005-11-12 to 2024-11-12 (19 years)        | countywide | No Storm Events cold wave record, 1996 to 2025.                                                                         |
| Drought         | 0                                                          | event-days per year              | none modeled                                                                               |                                             | event-days in 0 of 30 years, 1996 to 2025 (0%)    | 0                                                                                                        | 2000 to 2025 (25.25 years; D3 and D4 only) | countywide | No Storm Events drought record, 1996 to 2025                                                                            |
| Earthquake      | 0.000437                                                   | annual probability at a location | chance a given location in the county has at least minor-damage shaking in a year: 0.0437% |                                             |                                                   | not shown                                                                                                | modeled                                    | see B1-f   | No descriptor (Storm Events does not record earthquakes).                                                               |
| Hail            | 0.889                                                      | events per year                  | about 0.89 per year                                                                        | Likely                                      | FEMA annualized frequency (modeled)               | 33.8 (modeled)                                                                                           | 1986 to 2023 (38 years)                    | countywide |                                                                                                                         |
| Heat Wave       | 1.53                                                       | event-days per year              | about 1.53 days per year                                                                   |                                             | event-days in 0 of 30 years, 1996 to 2025 (0%)    | 28                                                                                                       | 2005-11-12 to 2024-11-12 (19 years)        | countywide | No Storm Events heat wave record, 1996 to 2025                                                                          |
| Hurricane       | 0.01                                                       | events per year                  | about 1 in 100 years                                                                       | Possible                                    | FEMA annualized frequency (modeled)               | 0                                                                                                        | 1851 to 2024 (Atlantic)                    | see B1-f   | NRI counts hurricane and tropical storm tracks passing within storm-force wind range; federal declarations are in B1-d. |
| Ice Storm       | 0.342                                                      | event-days per year              | about 0.342 days per year                                                                  | Possible (from Storm Events: 1 of 30 years) | event-days in 1 of 30 years, 1996 to 2025 (3.33%) | 24                                                                                                       | 1946-12-31 to 2014-02-12 (67 years)        | countywide |                                                                                                                         |
| Inland Flooding | 0.321                                                      | event-days per year              | about 0.321 days per year                                                                  | Likely (from Storm Events: 9 of 30 years)   | event-days in 9 of 30 years, 1996 to 2025 (30%)   | 9                                                                                                        | 1996 to 2023 (28 years)                    | see B1-f   |                                                                                                                         |
| Landslide       | 0.202                                                      | events per year (modeled)        | about 1 in 5 years                                                                         | Likely                                      | FEMA annualized frequency (modeled)               | not shown                                                                                                | modeled                                    | see B1-f   |                                                                                                                         |
| Lightning       | 29.6                                                       | days per year with a strike      | about 29.6 days per year                                                                   | Highly likely                               | FEMA annualized frequency (modeled)               | not shown                                                                                                | 1995 to 2023 (29 years; CONUS)             | countywide |                                                                                                                         |
| Strong Wind     | 1.31                                                       | events per year                  | about 1.31 per year                                                                        | Highly likely                               | FEMA annualized frequency (modeled)               | 50                                                                                                       | 1986 to 2023 (38 years)                    | countywide |                                                                                                                         |

| Hazard            | FEMA<br>annualized<br>frequency<br>(modeled)<br><i>unit per row</i> | Unit                                   | In plain terms                                                       | Descriptor                                       | Descriptor basis                                                  | NRI events or days in its<br>record period (hail, wind and<br>tornado are area-weighted,<br>so can be fractional) | NRI period                                      | Location   | Note                                                  |
|-------------------|---------------------------------------------------------------------|----------------------------------------|----------------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------|-------------------------------------------------------|
| Tornado           | 0.091                                                               | events per<br>year                     | about 1 in 11 years                                                  | Possible                                         | FEMA annualized<br>frequency<br>(modeled)                         | not shown                                                                                                         | 1950 to 2023<br>(EF2+); 1986 to<br>2023 (EF0-1) | see B1-f   |                                                       |
| Wildfire          | 0.000165                                                            | annual<br>probability at<br>a location | chance a given location<br>in the county burns in a<br>year: 0.0165% |                                                  | Storm Events<br>records in 0 of 30<br>years, 1996 to<br>2025 (0%) | not shown                                                                                                         | modeled                                         | see B1-f   | No descriptor: no Storm Events<br>record 1996 to 2025 |
| Winter<br>Weather | 25                                                                  | event-days<br>per year                 | about 25 days per year                                               | Likely (from<br>Storm Events:<br>25 of 30 years) | event-days in 25 of<br>30 years, 1996 to<br>2025 (83.3%)          | 474                                                                                                               | 2005-11-12 to<br>2024-11-12 (19<br>years)       | countywide |                                                       |

FEMA annualized frequency (modeled) is the National Risk Index v1.20 (December 2025) estimate of how often a hazard affects this county in a year; it is not recorded events divided by years, and its unit differs by hazard (events, event-days, or days with a lightning strike per year). For earthquake, wildfire, coastal flooding and tsunami the value is the chance (or number of events) at a location in the county, not across the county, so no "1 in N years" is given and the descriptor comes from Storm Events where it has a record (none for earthquake). The Methods page gives each hazard's method, from FEMA's National Risk Index Technical Documentation v1.20.

Descriptor scale used in this packet (defined per unit)

Sources: 5, 6

| Unit                        | Descriptor    | Definition                                               |
|-----------------------------|---------------|----------------------------------------------------------|
| events per year             | Highly likely | 1 or more per year                                       |
| events per year             | Likely        | about once in 1 to 10 years                              |
| events per year             | Possible      | about once in 10 to 100 years                            |
| events per year             | Unlikely      | less than once in 100 years                              |
| annual probability          | Likely        | 10% to under 100% chance in a given year                 |
| annual probability          | Possible      | 1% to under 10% chance in a given year                   |
| annual probability          | Unlikely      | under 1% chance in a given year                          |
| event-days (share of years) | Highly likely | event-days recorded in 90% or more of years              |
| event-days (share of years) | Likely        | event-days recorded in 10% to under 90% of years         |
| event-days (share of years) | Possible      | event-days recorded in some years but under 10% of years |
| lightning strike-days       | Highly likely | cloud-to-ground strikes on 1 or more days per year       |

Intensity bands: historical frequency (Storm Events)

Source: 6

| Hazard                                         | Band                      | Years        | Events<br><i>county-coded records</i> | Years in period | Events per year<br><i>events / years</i> |
|------------------------------------------------|---------------------------|--------------|---------------------------------------|-----------------|------------------------------------------|
| Hail                                           | 1.00-1.99 in              | 1996 to 2025 | 9                                     | 30              | 0.3                                      |
| Hail                                           | 2.00 in+                  | 1996 to 2025 | 1                                     | 30              | 0.0333                                   |
| Thunderstorm Wind (counted as NRI Strong Wind) | 50-64 kt                  | 1996 to 2025 | 33                                    | 30              | 1.1                                      |
| Thunderstorm Wind (counted as NRI Strong Wind) | 65 kt+                    | 1996 to 2025 | 0                                     | 30              | 0                                        |
| Thunderstorm Wind (counted as NRI Strong Wind) | unmeasured or below 50 kt | 1996 to 2025 | 5                                     | 30              | 0.167                                    |
| Tornado                                        | EF0-1                     | 1996 to 2025 | 3                                     | 30              | 0.1                                      |
| Tornado                                        | EF2-3                     | 1996 to 2025 | 0                                     | 30              | 0                                        |
| Tornado                                        | EF4-5                     | 1996 to 2025 | 0                                     | 30              | 0                                        |
| Tornado                                        | unrated (EFU)             | 1996 to 2025 | 0                                     | 30              | 0                                        |

The bands show how often events of each severity were recorded in this county, to profile how severe events have been (FEMA's probability item asks for the range of intensities).

Hail smaller than 1 inch is not counted: on 2010-01-05 the National Weather Service raised its severe-hail threshold from 3/4 inch to 1 inch, so smaller reports became less common after 2009 (NWS Service Change Notice 09-52). NRI hail frequency uses a 0.75 inch threshold.

Optional: future conditions. Not a required item in the 2025 FEMA Local Mitigation Planning Policy Guide; some states ask for it. The federal Climate Mapping for Resilience and Adaptation (CMRA) site gives county exposure to future climate conditions (<https://resilience.climate.gov/>).

Supports FEMA checklist item B1-f: hazards that vary across jurisdictions

Range of census tract risk within the county

Source: 5

| Hazard          | Tracts<br><i>rated of all</i> | NRI risk score, 0 to 100 |        |      | Tracts by rating                         |
|-----------------|-------------------------------|--------------------------|--------|------|------------------------------------------|
|                 |                               | Min                      | Median | Max  |                                          |
| Cold Wave       | 4 of 4                        | 69.6                     | 71.5   | 82.4 | Relatively High 1, Relatively Moderate 3 |
| Drought         | 0 of 4                        |                          |        |      | No Rating 4                              |
| Earthquake      | 4 of 4                        | 9.2                      | 13.1   | 14.9 | Very Low 4                               |
| Hail            | 4 of 4                        | 45.3                     | 47.6   | 53.3 | Relatively Low 4                         |
| Heat Wave       | 4 of 4                        | 19.0                     | 20.7   | 34.5 | Relatively Low 4                         |
| Hurricane       | 4 of 4                        | 31.8                     | 32.7   | 34.2 | Very Low 4                               |
| Ice Storm       | 4 of 4                        | 43.2                     | 46.1   | 53.2 | Relatively Low 4                         |
| Inland Flooding | 4 of 4                        | 76.3                     | 79.9   | 87.1 | Relatively High 2, Relatively Moderate 2 |
| Landslide       | 4 of 4                        | 91.2                     | 92.8   | 94.6 | Relatively Low 4                         |
| Lightning       | 4 of 4                        | 79.3                     | 82.1   | 92.6 | Relatively High 4                        |
| Strong Wind     | 4 of 4                        | 98.3                     | 98.7   | 99.2 | Very High 4                              |

| Hazard         | Tracts<br><i>rated of all</i> | NRI risk score, 0 to 100 |        |      | Tracts by rating                        |
|----------------|-------------------------------|--------------------------|--------|------|-----------------------------------------|
|                |                               | Min                      | Median | Max  |                                         |
| Tornado        | 4 of 4                        | 50.9                     | 51.9   | 59.0 | Relatively Moderate 1, Relatively Low 3 |
| Wildfire       | 4 of 4                        | 77.5                     | 82.4   | 83.9 | Relatively Low 4                        |
| Winter Weather | 4 of 4                        | 98.2                     | 98.4   | 99.5 | Very High 4                             |

Rated tracts only: No Rating (score 0.0), Not Applicable and Insufficient Data tracts are counted but not used for the minimum, median and maximum.

The score ranks a tract against all U.S. tracts (100 = highest). The rating is FEMA's category for the tract's risk value, computed differently, so the two can disagree.

Frequency data for cold wave, hail, heat wave, ice storm, lightning, strong wind and winter weather are county-wide or coarse (49 km grid or NWS zone), the same for every jurisdiction; the tract range mostly reflects where buildings and people are.

### Each jurisdiction (starting figures from federal data)

Sources: 1, 3, 4, 6

| Jurisdiction           | Type     | Plan status                  | Repetitive loss<br><i>FMA RL and SRL (44 CFR 77.2); repeat-flood, any definition</i> | Public Assistance to this jurisdiction<br><i>FEMA records matched by applicant name; federal share obligated, nominal dollars</i> | Event records naming this place<br><i>all years; since its plan</i> | Notes                                                 |
|------------------------|----------|------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------|
| Lake County            | County   | Approved, expires 2029-03-31 |                                                                                      | no Public Assistance recorded                                                                                                     | 0 total; 0 since its plan                                           | No NFIP community ID on this jurisdiction's plan row. |
| Baldwin village        | Village  | Approved, expires 2029-03-31 |                                                                                      | no Public Assistance recorded                                                                                                     | 28 total; 1 since its plan                                          | No NFIP community ID on this jurisdiction's plan row. |
| Luther village         | Village  | Approved, expires 2029-03-31 |                                                                                      | no Public Assistance recorded                                                                                                     | 5 total; 1 since its plan                                           | No NFIP community ID on this jurisdiction's plan row. |
| Chase township         | Township | Approved, expires 2029-03-31 |                                                                                      | no Public Assistance recorded                                                                                                     | 4 total; 0 since its plan                                           | No NFIP community ID on this jurisdiction's plan row. |
| Cherry Valley township | Township | Approved, expires 2029-03-31 | FMA RL 0, SRL 1; any 1                                                               | no Public Assistance recorded                                                                                                     | 0 total; 0 since its plan                                           |                                                       |
| Dover township         | Township | Approved, expires 2029-03-31 |                                                                                      | no Public Assistance recorded                                                                                                     | 0 total; 0 since its plan                                           | No NFIP community ID on this jurisdiction's plan row. |
| Eden township          | Township | Approved, expires 2029-03-31 |                                                                                      | no Public Assistance recorded                                                                                                     | 0 total; 0 since its plan                                           | No NFIP community ID on this jurisdiction's plan row. |
| Elk township           | Township | Approved, expires 2029-03-31 |                                                                                      | no Public Assistance recorded                                                                                                     | 0 total; 0 since its plan                                           | No NFIP community ID on this jurisdiction's plan row. |
| Ellsworth township     | Township | Approved, expires 2029-03-31 |                                                                                      | no Public Assistance recorded                                                                                                     | 0 total; 0 since its plan                                           | No NFIP community ID on this jurisdiction's plan row. |
| Lake township          | Township | Approved, expires 2029-03-31 | FMA RL 0, SRL 0; any 0                                                               | no Public Assistance recorded                                                                                                     | 0 total; 0 since its plan                                           |                                                       |
| Newkirk township       | Township | Approved, expires 2029-03-31 |                                                                                      | no Public Assistance recorded                                                                                                     | 0 total; 0 since its plan                                           | No NFIP community ID on this jurisdiction's plan row. |
| Peacock township       | Township | Approved, expires 2029-03-31 |                                                                                      | no Public Assistance recorded                                                                                                     | 2 total; 0 since its plan                                           | No NFIP community ID on this jurisdiction's plan row. |

| Jurisdiction             | Type     | Plan status                  | Repetitive loss                                                   | Public Assistance to this jurisdiction                                                  | Event records naming this place  | Notes                                                 |
|--------------------------|----------|------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------|
|                          |          |                              | <i>FMA RL and SRL (44 CFR 77.2); repeat-flood, any definition</i> | <i>FEMA records matched by applicant name; federal share obligated, nominal dollars</i> | <i>all years; since its plan</i> |                                                       |
| Pinora township          | Township | Approved, expires 2029-03-31 |                                                                   | no Public Assistance recorded                                                           | 0 total; 0 since its plan        | No NFIP community ID on this jurisdiction's plan row. |
| Pleasant Plains township | Township | Approved, expires 2029-03-31 | FMA RL 1, SRL 0; any 7                                            | no Public Assistance recorded                                                           | 0 total; 0 since its plan        |                                                       |
| Sauble township          | Township | Approved, expires 2029-03-31 |                                                                   | no Public Assistance recorded                                                           | 0 total; 0 since its plan        | No NFIP community ID on this jurisdiction's plan row. |
| Sweetwater township      | Township | Approved, expires 2029-03-31 |                                                                   | no Public Assistance recorded                                                           | 0 total; 0 since its plan        | No NFIP community ID on this jurisdiction's plan row. |
| Webber township          | Township | Approved, expires 2029-03-31 | FMA RL 0, SRL 0; any 0                                            | no Public Assistance recorded                                                           | 0 total; 0 since its plan        |                                                       |
| Yates township           | Township | Approved, expires 2029-03-31 | FMA RL 0, SRL 0; any 0                                            | no Public Assistance recorded                                                           | 0 total; 0 since its plan        |                                                       |

Repetitive-loss counts are for whole NFIP communities, which can extend beyond this county (see the note in B2-c).

County Public Assistance in B1-d also includes applicants filed under the county that are not jurisdictions in this plan (for example state agencies, special districts and nonprofits), so the jurisdiction rows add up to less.

## Supports FEMA checklist items B2-a and B2-b: vulnerability and potential impacts

Local data needed

The table below gives county-level starting figures; the plan describes impacts for each jurisdiction and its own assets.

- Critical facilities and lifelines per hazard
- A problem statement per jurisdiction per hazard
- Changes in development in hazard-prone areas since the last approval, or a statement of none (E1-a)
- Future assets

### County-level starter: exposure, expected annual loss and damage since the plan

Sources: 1, 2, 3, 5, 6, 7

| Hazard          | Building exposure<br><i>modeled dollars</i> | Agriculture exposure<br><i>modeled dollars</i> | Population exposed<br><i>people</i> | EAL buildings<br><i>modeled dollars per year</i> | EAL agriculture<br><i>modeled dollars per year</i> | Cost of expected deaths and injuries<br><i>FEMA's dollar value per year, not property damage</i> | EAL as % of exposure<br><i>buildings; agriculture where noted</i> | Storm Events damage since 2024-04-01<br><i>county-coded records, property plus crops, nominal dollars</i> | Zone-level damage since plan<br><i>property plus crops, reported for the zone</i> | Public Assistance since plan<br><i>nominal dollars; see note</i> | Note                                                                                                                                                                      |
|-----------------|---------------------------------------------|------------------------------------------------|-------------------------------------|--------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cold Wave       | \$4,009,554,315                             | \$4,182,284                                    | 12,084                              | \$36                                             | \$1,845                                            | \$380,293                                                                                        | under 0.0001%                                                     |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |
| Drought         | n/a                                         | \$0                                            | n/a                                 | n/a                                              | \$0                                                | n/a                                                                                              |                                                                   |                                                                                                           |                                                                                   |                                                                  | agriculture exposure is 0 in NRI                                                                                                                                          |
| Earthquake      | \$6,382,173,452                             | n/a                                            | 12,096                              | \$6,614                                          | n/a                                                | \$1,533                                                                                          | 0.000104%                                                         |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |
| Hail            | \$4,009,554,315                             | \$4,182,284                                    | 12,084                              | \$13,271                                         | \$3,064                                            | \$1,956                                                                                          | 0.000331%                                                         | \$0                                                                                                       |                                                                                   |                                                                  |                                                                                                                                                                           |
| Heat Wave       | \$4,009,554,315                             | \$4,182,284                                    | 12,084                              | \$473                                            | under \$1                                          | \$46,670                                                                                         | under 0.0001%                                                     |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |
| Hurricane       | \$4,009,554,315                             | \$4,182,284                                    | 12,084                              | \$2,201                                          | \$69                                               | under \$1                                                                                        | under 0.0001%                                                     |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |
| Ice Storm       | \$4,008,483,614                             | n/a                                            | 12,083                              | \$9,366                                          | n/a                                                | \$2,861                                                                                          | 0.000234%                                                         |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |
| Inland Flooding | \$4,004,942,239                             | \$0                                            | 27                                  | \$3,208,519                                      | \$0                                                | \$54                                                                                             | n/a (see note)                                                    |                                                                                                           |                                                                                   | no Public Assistance recorded (1 declaration)                    | NRI counts the full building value of any census block with some flood loss; this is not the value of buildings in the floodplain. Use local FIRM overlays for B2-a/B2-b. |
| Landslide       | \$61,477,656                                | n/a                                            | 169                                 | \$196                                            | n/a                                                | \$3,367                                                                                          | 0.000318%                                                         |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |
| Lightning       | \$4,009,554,315                             | n/a                                            | 12,084                              | \$2,111                                          | n/a                                                | \$100,320                                                                                        | under 0.0001%                                                     |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |
| Strong Wind     | \$4,009,554,315                             | \$4,182,284                                    | 12,084                              | \$761,818                                        | \$1,856                                            | \$54,834                                                                                         | 0.019%                                                            | \$100,000                                                                                                 |                                                                                   |                                                                  |                                                                                                                                                                           |

| Hazard         | Building exposure<br><i>modeled dollars</i> | Agriculture exposure<br><i>modeled dollars</i> | Population exposed<br><i>people</i> | EAL buildings<br><i>modeled dollars per year</i> | EAL agriculture<br><i>modeled dollars per year</i> | Cost of expected deaths and injuries<br><i>FEMA's dollar value per year, not property damage</i> | EAL as % of exposure<br><i>buildings; agriculture where noted</i> | Storm Events damage since 2024-04-01<br><i>county-coded records, property plus crops, nominal dollars</i> | Zone-level damage since plan<br><i>property plus crops, reported for the zone</i> | Public Assistance since plan<br><i>nominal dollars; see note</i> | Note |
|----------------|---------------------------------------------|------------------------------------------------|-------------------------------------|--------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------|------|
| Tornado        | \$4,009,554,315                             | \$4,182,284                                    | 12,084                              | \$105,913                                        | \$58                                               | \$106,969                                                                                        | 0.00264%                                                          |                                                                                                           |                                                                                   | no Public Assistance recorded (1 declaration)                    |      |
| Wildfire       | \$1,034,214,950                             | \$1,532,256                                    | 4,440                               | \$19,086                                         | \$2                                                | \$1,536                                                                                          | 0.00185%                                                          |                                                                                                           |                                                                                   |                                                                  |      |
| Winter Weather | \$4,009,554,315                             | \$4,182,284                                    | 12,084                              | \$3,400                                          | \$34                                               | \$163,177                                                                                        | under 0.0001%                                                     |                                                                                                           | \$0                                                                               |                                                                  |      |

Totals since 2024-04-01 (Storm Events through 2026-06-30): 6 county-coded records, 5 with a damage value recorded (including \$0), \$100,000; 4 zone-level records, 1 with a damage value recorded (including \$0), \$0 reported for the zone; Public Assistance: none recorded on the 1 counted declaration.

FEMA does not split Public Assistance by hazard. A declaration mapped to several hazards is listed under each of them with its full amount, so the per-hazard column does not add up to the total; the unit total counts each declaration once.

NRI computes earthquake exposure on its own basis, so it exceeds the county building value in B2-a.

## Supports FEMA checklist item B2-a: vulnerability (county context)

### County context

Source: 5

| Measure                                                                                                                                                                       | Value           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Population                                                                                                                                                                    | 12,084          |
| Building value (total, not at risk)                                                                                                                                           | \$4,009,554,315 |
| Agriculture value (total, not at risk)                                                                                                                                        | \$4,182,284     |
| NRI risk rating (all hazards)                                                                                                                                                 | Very Low        |
| Expected annual loss, buildings and agriculture, all hazards                                                                                                                  | \$4,139,931     |
| Expected annual loss, population equivalence, all hazards (NRI values each statistical life at \$13.7M; a modeled value of expected deaths and injuries, not property damage) | \$863,573       |
| Social vulnerability rating                                                                                                                                                   | Very High       |
| Community resilience rating                                                                                                                                                   | Relatively Low  |
| NRI version                                                                                                                                                                   | December 2025   |

FEMA's all-hazard expected annual loss adds buildings, agriculture and population equivalence; this table gives the property part and the population-equivalence part as separate rows.

Social vulnerability: higher means people are more likely to be harmed and slower to recover. Community resilience: lower means the community is less able to recover. High social vulnerability and low resilience both raise the NRI risk rating.

## Supports FEMA checklist item B2-c: repetitive loss properties

### Repetitive loss in this county, both definitions

Sources: 1, 4

| Definition                                    | Properties | Severe repetitive loss                               | Properties |
|-----------------------------------------------|------------|------------------------------------------------------|------------|
| Repetitive loss, FMA definition (44 CFR 77.2) | 1          | Severe repetitive loss, FMA definition (44 CFR 77.2) | 1          |
| Repetitive loss, NFIP insurance definition    | 8          | Severe repetitive loss, NFIP insurance definition    | 1          |

The state NFIP coordinator's list, the source FEMA's Handbook names, often uses the NFIP insurance definition (second row).

### Repeat-flood properties: county and state-level rows

Sources: 1, 4

| Scope                               | RL, FMA<br><i>properties</i> | SRL, FMA<br><i>properties</i> | RL, NFIP<br><i>properties</i> | SRL, NFIP<br><i>properties</i> | Any category<br><i>properties</i> | Mitigated<br><i>properties</i> | Currently insured<br><i>properties</i> |
|-------------------------------------|------------------------------|-------------------------------|-------------------------------|--------------------------------|-----------------------------------|--------------------------------|----------------------------------------|
| County total                        | 1                            | 1                             | 8                             | 1                              | 8                                 | 0                              | 1                                      |
| of which: Pleasant Plains township  | 1                            | 0                             | 7                             | 0                              | 7                                 | 0                              | 1                                      |
| of which: Cherry Valley township    | 0                            | 1                             | 1                             | 1                              | 1                                 | 0                              | 0                                      |
| Statewide, no county in FEMA's file | 0                            | 0                             | 4                             | 0                              | 4                                 | 0                              | 0                                      |

The statewide row counts properties FEMA's file gives with no county in this state; they are listed for reference and are not in this county's counts.

### Repeat-flood properties by jurisdiction in the plan (NFIP community)

Sources: 1, 4

| Jurisdiction             | NFIP community ID | RL, FMA<br><i>properties</i> | SRL, FMA<br><i>properties</i> | RL, NFIP<br><i>properties</i> | SRL, NFIP<br><i>properties</i> | Any category<br><i>properties</i> | Mitigated<br><i>properties</i> | Currently insured<br><i>properties</i> |
|--------------------------|-------------------|------------------------------|-------------------------------|-------------------------------|--------------------------------|-----------------------------------|--------------------------------|----------------------------------------|
| Cherry Valley township   | 260798            | 0                            | 1                             | 1                             | 1                              | 1                                 | 0                              | 0                                      |
| Lake township            | 260691            | 0                            | 0                             | 0                             | 0                              | 0                                 | 0                              | 0                                      |
| Pleasant Plains township | 260431            | 1                            | 0                             | 7                             | 0                              | 7                                 | 0                              | 1                                      |
| Webber township          | 260754            | 0                            | 0                             | 0                             | 0                              | 0                                 | 0                              | 0                                      |
| Yates township           | 260432            | 0                            | 0                             | 0                             | 0                              | 0                                 | 0                              | 0                                      |

### Counts by occupancy group for each jurisdiction are in the Excel file, sheet "B2-c Jurisdictions".

Jurisdiction rows are whole NFIP communities and need not add up to the county total: a community that extends into another county is counted in full on each jurisdiction row, while the county table counts only its part in this county.

County repeat-flood properties by occupancy group

Sources: 1, 4

| Occupancy group           | RL, FMA<br><i>properties</i> | SRL, FMA<br><i>properties</i> | RL, NFIP<br><i>properties</i> | SRL, NFIP<br><i>properties</i> | Any category<br><i>properties</i> | Mitigated<br><i>properties</i> | Currently insured<br><i>properties</i> |
|---------------------------|------------------------------|-------------------------------|-------------------------------|--------------------------------|-----------------------------------|--------------------------------|----------------------------------------|
| single-family residential | 1                            | 1                             | 8                             | 1                              | 8                                 | 0                              | 1                                      |
| 2 to 4 unit residential   | 0                            | 0                             | 0                             | 0                              | 0                                 | 0                              | 0                                      |
| other residential         | 0                            | 0                             | 0                             | 0                              | 0                                 | 0                              | 0                                      |
| non-residential           | 0                            | 0                             | 0                             | 0                              | 0                                 | 0                              | 0                                      |
| not reported              | 0                            | 0                             | 0                             | 0                              | 0                                 | 0                              | 0                                      |

FEMA's occupancy groups have no institutional class; institutional properties are counted in non-residential or other residential in the table by occupancy group.

FMA RL and FMA SRL are the Flood Mitigation Assistance definitions (44 CFR 77.2), the ones the FEMA Local Mitigation Planning Policy Guide cites. NFIP repetitive loss (the FEMA insurance definition) is 2 or more claims over \$1,000 in 10 years, and a property can leave that group once it is mitigated. Also shown: NFIP severe repetitive loss, any category, mitigated and currently insured. The Methods page gives the OpenFEMA field details.

Counts are aggregates of FEMA's public NFIP Multiple Loss Properties file (FEMA's data date 2026-08-02; file version 2026-08-04). No property is identified. County assignment is FEMA's geocode.

In this county 0 properties are FMA repetitive loss but not NFIP repetitive loss, and 7 properties are NFIP repetitive loss but not FMA repetitive loss.

Exact counts; no count suppression.

Sources

Tables cite these sources by number. The full list, for the plan's bibliography (FEMA review item A4-a):

1. FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-29T134039Z, pulled 2026-09-30, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)
2. FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-29T162832Z, pulled 2026-09-30, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API)
3. FEMA, OpenFEMA PublicAssistanceFundedProjectsSummaries v1, version 2026-09-29T150754Z, pulled 2026-09-30, <https://www.fema.gov/api/open/v1/PublicAssistanceFundedProjectsSummaries> (API)
4. FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-30, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)
5. FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-30, [https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI\\_Table\\_Counties.zip](https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_Counties.zip) (download, 25 MB), [https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI\\_Table\\_CensusTracts.zip](https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_CensusTracts.zip) (download, 635 MB)
6. NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-30, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>
7. NOAA National Weather Service, NWS county-public forecast zones correlation file, version bp03mr20 to bp16ap26 (11 files; newest bp16ap26), pulled 2026-09-30, <https://www.weather.gov/gis/ZoneCounty>
8. U.S. Census Bureau, Census 2024 Gazetteer, 2020 place by county, CT county-to-cousub crosswalk, version 2024-gazetteer, pulled 2026-09-30, [https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024\\_Gazetteer/2024\\_Gaz\\_counties\\_national.zip](https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gazetteer/2024_Gaz_counties_national.zip), [https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024\\_Gazetteer/2024\\_Gaz\\_cousubs\\_national.zip](https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_cousubs_national.zip), [https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024\\_Gazetteer/2024\\_Gaz\\_place\\_national.zip](https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_place_national.zip), [https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024\\_Gazetteer/2024\\_Gaz\\_unsd\\_national.zip](https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_unsd_national.zip), [https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024\\_Gazetteer/2024\\_Gaz\\_elsd\\_national.zip](https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_elsd_national.zip), [https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024\\_Gazetteer/2024\\_Gaz\\_scsd\\_national.zip](https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_scsd_national.zip), [https://www2.census.gov/geo/docs/reference/codes2020/national\\_place\\_by\\_county2020.txt](https://www2.census.gov/geo/docs/reference/codes2020/national_place_by_county2020.txt), [https://www2.census.gov/geo/docs/reference/ct\\_change/ct\\_cou\\_to\\_cousub\\_crosswalk.xlsx](https://www2.census.gov/geo/docs/reference/ct_change/ct_cou_to_cousub_crosswalk.xlsx) (used to match place names and codes; no table prints its values)

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## What this packet is and what the plan adds

This packet is the federal data for the plan's risk assessment, organized by the items of FEMA's Local Mitigation Plan Review Tool, Element B. Each section heading names the item its tables support; the plan and FEMA's review decide whether the item is met.

The plan adds what only the community has: local data on assets, critical facilities, development and each jurisdiction's impacts; local hazard history, including state-declared emergencies; the mitigation strategy; and adoption.

How the federal data are built: National Risk Index values are FEMA's model, not counts of events. Storm Events is more complete from 1996; zone-level records are placed by forecast zone, not by location in the county. Public Assistance for a jurisdiction is matched by applicant name. The Methods page gives every rule and the known edge cases.

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## OpenFEMA disclaimer

This product uses the Federal Emergency Management Agency's OpenFEMA API, but is not endorsed by FEMA. The Federal Government or FEMA cannot vouch for the data or analyses derived from these data after the data have been retrieved from the Agency's website(s).

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## Reuse, citation and corrections

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Cite this: Hazard Plain (2026). Lake County, MI: risk-assessment baseline packet, release 2026-10 (data as of 2026-09-30; County FIPS 26085). Automated baseline. <https://hazardplain.org/mi/26085/> Built from FEMA OpenFEMA, the FEMA National Risk Index and NOAA NCEI Storm Events; source versions in the packet's Sources list.

Corrections: to report an error, name the packet, the table and what your records show. Contact: [contact@hazardplain.org](mailto:contact@hazardplain.org)

Hazard Plain release 2026-10. As of 2026-09-30; Storm Events data through 2026-06-30. Automated baseline.