

Welcome to the Statewide Flood Hazard Mitigation Plan Update

Planning Committee Meeting

10/12/2021



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This webinar is being recorded and will be posted for those unable to attend

WELCOME & INTRODUCTIONS

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- 01** Welcome and Introductions
- 02** Goals, Objectives, Mitigation Actions
- 03** Risk Assessment Approach
- 04** Claims History
- 05** Plan Sections
- 06** Next Steps

2. GOALS, OBJECTIVES, & MITIGATION ACTIONS

- Spilt into four categories:
 - **Structure and Infrastructure**
 - **Natural Systems Protection**
 - **Education and Awareness Programs**
 - **Local Plans/Regulations**

GOALS AND OBJECTIVES

Key Changes Since 2013 Plan:

- More strongly aligned with FEMA's mitigation action categories
- Aligned with and incorporate 2021 SHMP goals and objectives
- Natural systems protection more clearly defined
- Greater emphasis on planning and collaboration
- Representative of holistic approach to flood hazard mitigation

GOALS AND OBJECTIVES

Structure and Infrastructure

Goal:

Reduce or eliminate long term flood risk to human life and property.

GOALS AND OBJECTIVES

Structure and Infrastructure

Objectives:

- Promote and support initiatives that protect or exclude human habitation in flood zones.
- Improve emergency communication and flood warning systems.
- Manage development and growth to minimize flood risks.
- Reduce, remove, or mitigate existing structures in flood hazard areas.
- Identify opportunities to mitigate vulnerable state facilities, local critical facilities, and other lifeline-related facilities.

GOALS AND OBJECTIVES

Natural Systems Protection

Goal:

Preserve and enhance the natural and beneficial functions of floodplains

GOALS AND OBJECTIVES

Natural Systems Protection

Objectives:

- Encourage the use of green and natural infrastructure and promote resilient and sustainable construction to reduce vulnerabilities.
- Encourage integration of future climate trends in planning and design
- Promote the continued use of natural systems and features, and open space preservation, in land use planning and development by local jurisdictions.

GOALS AND OBJECTIVES

Education and Awareness Programs

Goal:

Promote public awareness of flood hazards and post-flooding response

GOALS AND OBJECTIVES

Education and Awareness Programs

Objective:

- Provide educational opportunities to the public to learn about flood risk, flood mitigation, floodplain management, and post-flooding response

GOALS AND OBJECTIVES

Local Plans / Regulations

Goal:

Coordinate with federal, state, and local partners for flood mitigation planning and program efforts.

GOALS AND OBJECTIVES

Local Plans / Regulations

Objectives:

- Provide technical assistance to communities, state agencies, and federal agencies to assist with identification of flood hazards.
- Provide best available floodplain mapping and regulatory data for floodplain management and hazard mitigation planning purposes.
- Coordinate with state and federal agencies regarding disaster response.
- Coordinate with state and local agencies on mitigation efforts and promote resiliency and sustainability.

MITIGATION ACTIONS

Key Changes Since 2013 Plan:

- Aligned with FEMA's mitigation action categories
- Describe discreet activities that communities may elect
- Progress more easily measured
- Representative of more holistic approach to flood mitigation
- Seeking to promote low-cost, high-value actions

MITIGATION ACTIONS

Structure and Infrastructure

- Limit percentage of impervious surface within re-developed parcels and those under development
- Require that fill within SFHA result in no net loss of natural floodplain storage by providing equal storage volume at or adjacent to the development site.
- Implement a safe room program to disincentivize use of basements in SFHA.

MITIGATION ACTIONS

Natural Systems Protection

- Develop a land banking program for the preservation of natural and beneficial functions of flood hazard areas.
- Adopt stream and wetland buffers or setback requirements.
- For subdivision and large developments, require a stormwater management plan limiting peak runoff for rainfall events, and limiting impacts to downstream channels and floodplains.

MITIGATION ACTIONS

Education and Awareness Programs

- Annually distribute flood safety pamphlets to residents in flood-prone areas. Encourage landlords to do the same.
- Remind realtors of state requirement to disclose in writing whether the property is in a SFHA, or whether the property has incurred any damage due to flooding.
- Identify transportation solutions for vulnerable population (low to moderate income, those living in compromised structures, older adults, individuals with mobility issues, and households with limited English proficiency) in the event of a flood.

MITIGATION ACTIONS

Local Plans/Regulations

- Incorporate multiple levels of backup safety in plans should primary flood protections fail.
- Use transfer of development rights to allow developers to increase densities on parcels with low flood risk in return for keeping flood-prone areas vacant.
- Collaborate with other jurisdictions to incorporate integrated flood management approaches that consider entire basins or watersheds into local plans.

INPUT

- What mitigation actions are you aware of in your community?
- What is a mitigation action you'd like to see?

3. RISK ASSESSMENT APPROACH

- State-wide flood risk assessment
- To inform planning effort and include as part of this plan update
- Will utilize available datasets of flood risk and impacts
 - Floodplain, parcels, critical and state-owned facility's, etc.
- Based on 1% annual chance exceedance event (100-yr flood)

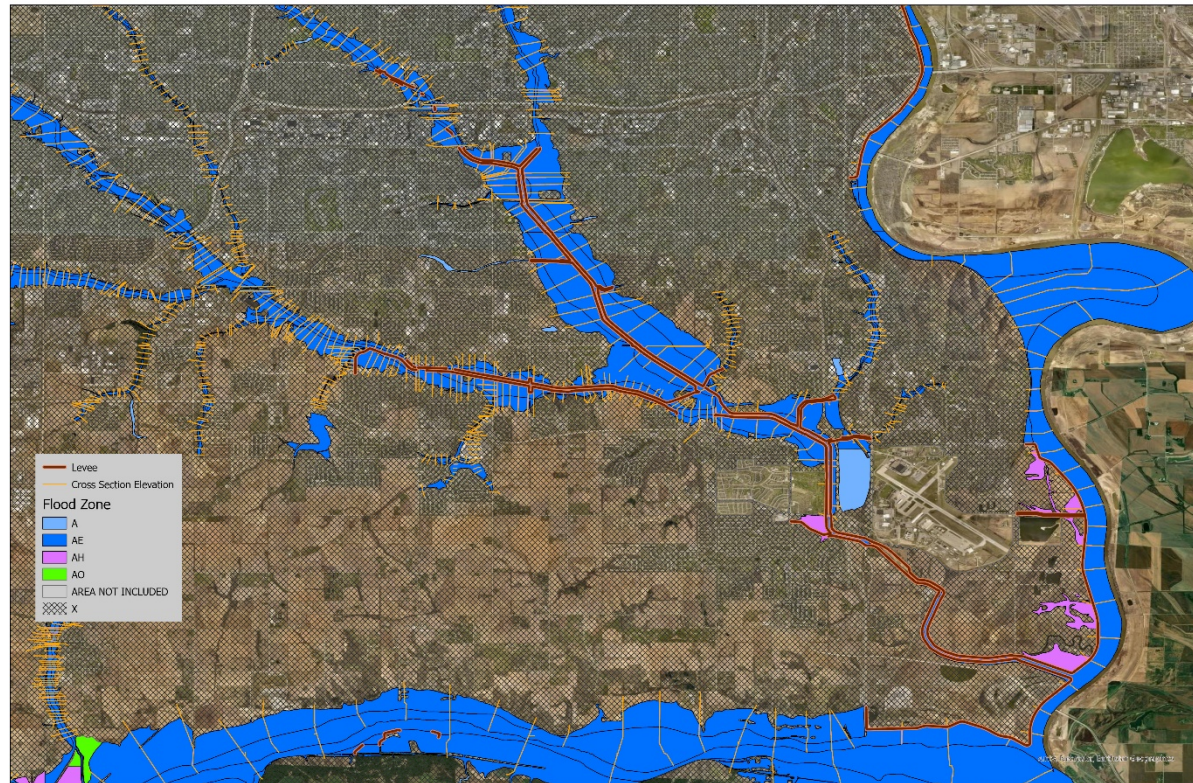
FLOOD RISK

- Utilize FEMA digital floodplain mapping
- For counties with paper maps, will utilize digital NeDNR Flood Awareness Areas data
- Will also determine areas protected by levees (Zones X, D, etc.), where available

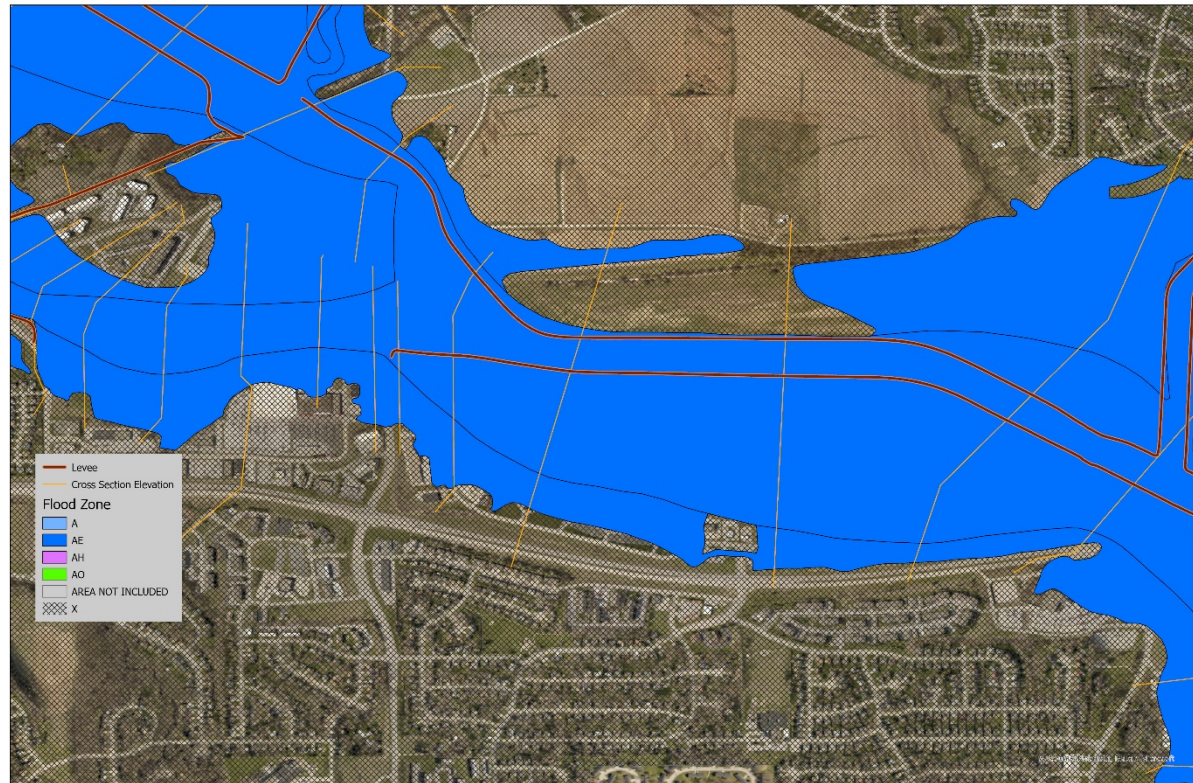
FLOOD RISK

- State wide flood depth raster will be developed using flooding elevation and LiDAR data
- Where LiDAR data is not available, 30m DEM will be used
- Flooding depths for areas protected by levees will not be developed as part of this effort.

FLOOD RISK



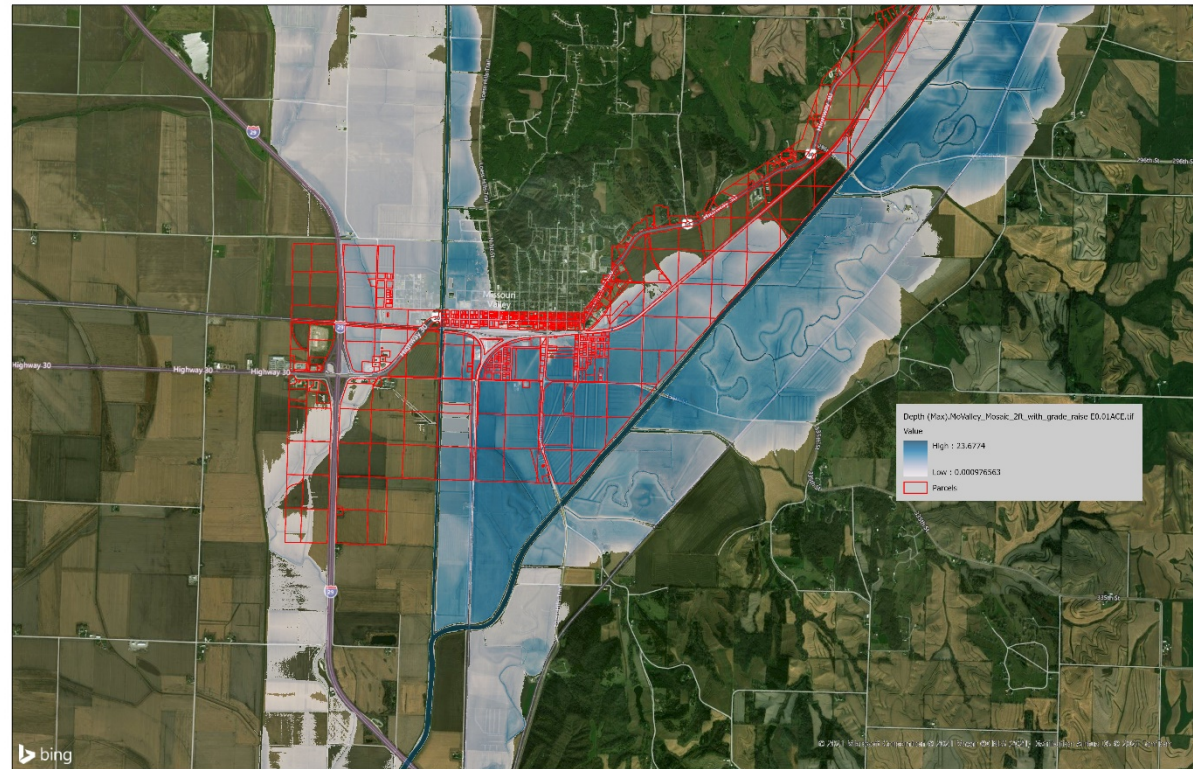
FLOOD RISK



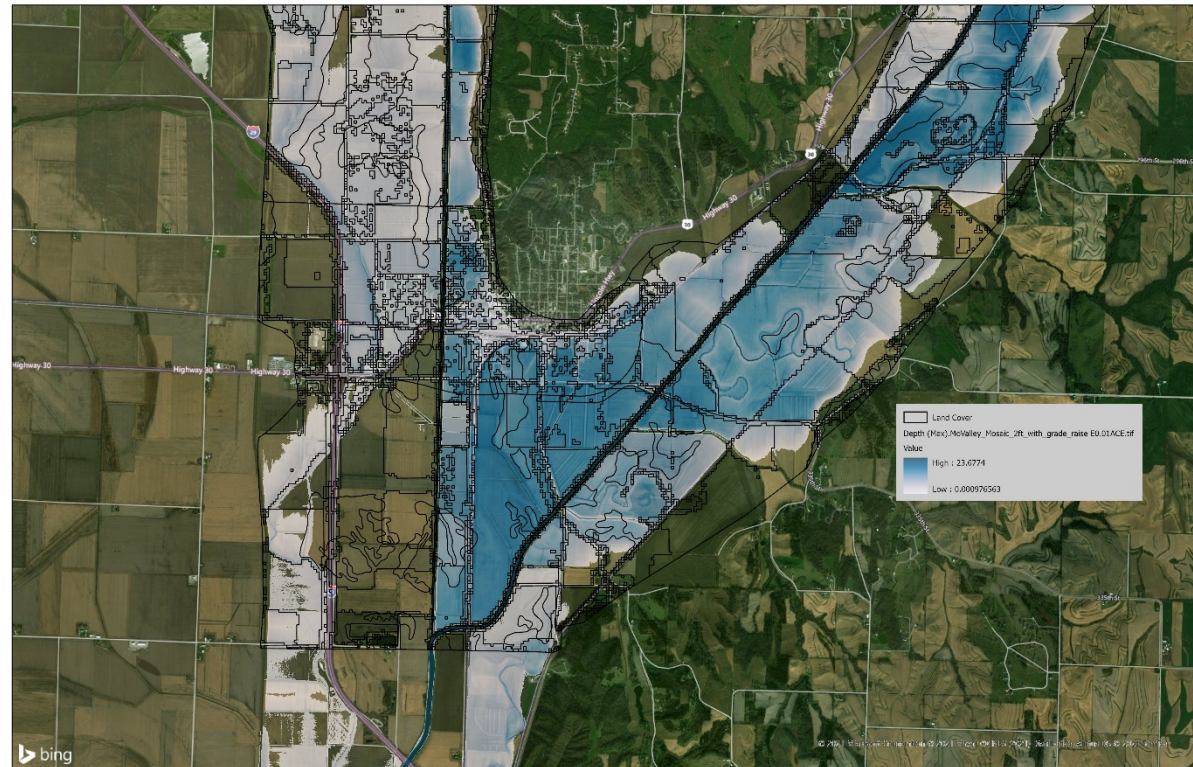
FLOODING IMPACTS

- Impacts to be evaluated include
 - Critical Facilities
 - State-owned Facilities
 - Private property (state-wide parcel database)
 - State roadways
 - Threatened & Endangered species (T&E) habitat
 - Cultural/historic properties
 - Others?

FLOOD RISK



FLOOD RISK



FLOODING IMPACTS

- Damage estimates will be prepared for:
 - Building loss exposure
 - Building and content loss estimates
 - Agricultural production losses
 - Infrastructure losses (transportation, utilities, etc.)

FLOODING IMPACTS

- Damage Estimates for property will be developed for structures and contents based on parcel valuation/replacement data.
 - General curve for estimating content value based on structure value/type
 - Depth raster grid provides flooding depth by individual parcel
 - Depth-damage curve provides multiplier that represents % of total structure value loss for a given depth of flooding.
 - Depth damage curve for contents provides similar factor to estimate content loss

FLOODING IMPACTS

- Non-economic analysis
 - Critical infrastructure – no economic analysis, just at-risk facilities identified
 - State roadways – critical route evaluation
 - Levee – total valuation of improvements on parcels protected by levees
 - Others – cultural/historic properties, T&E critical habitat, etc.

RISK ASSESSMENT REPORTING

- Risk Assessment summarized at county level
- Tabular summary as well as state-wide maps at county level

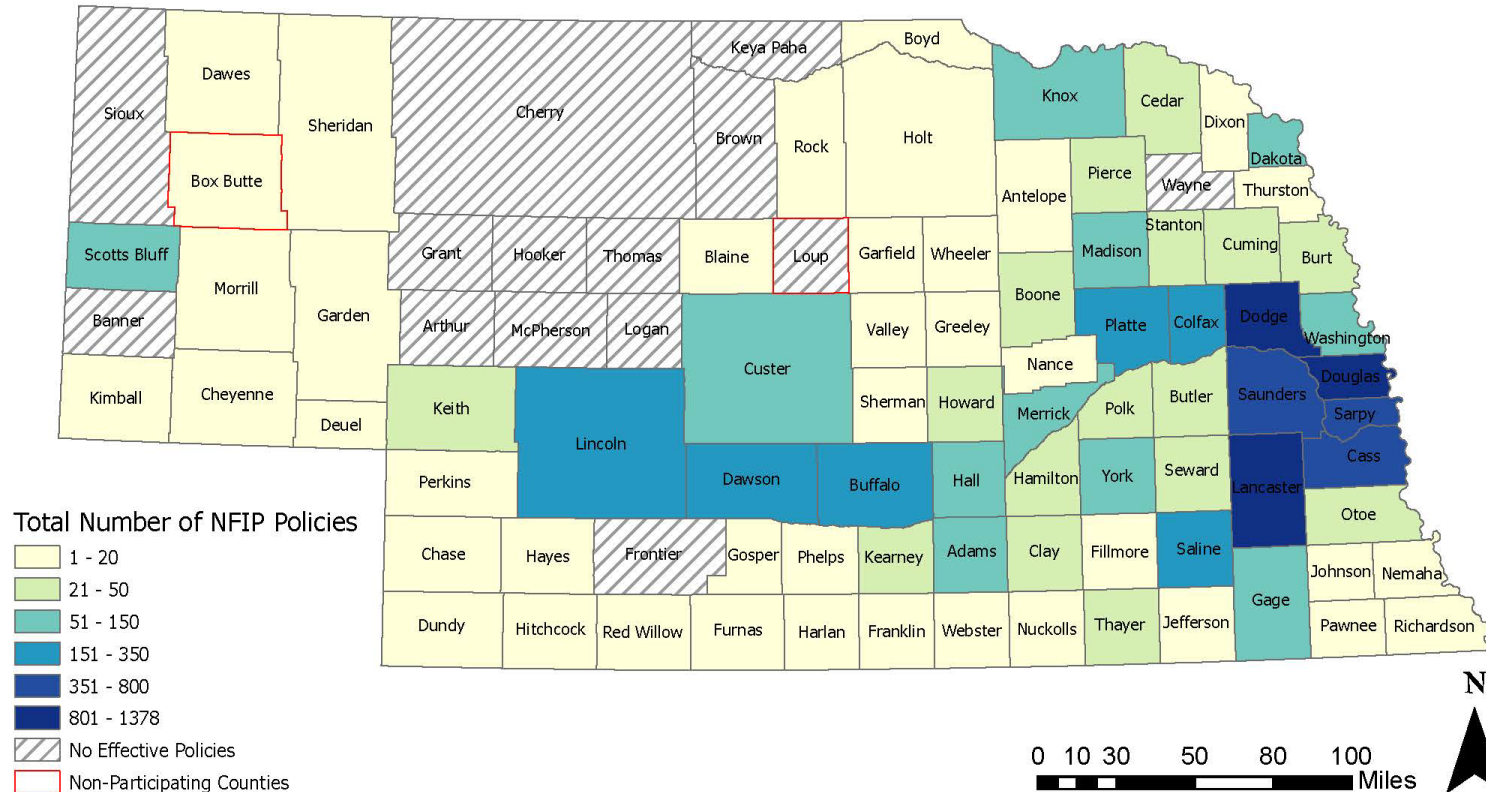
4. FLOOD CLAIM ANALYSIS

- Comprehensive data starting from 1978
- Analyze and map claims at county level, including:
 - Total policy count & average coverage per policy
 - Total claim count & net payments
 - Frequency of claims per policy
 - 2019 flood insurance claims & net payments
- Analyze claims by Flood Zone

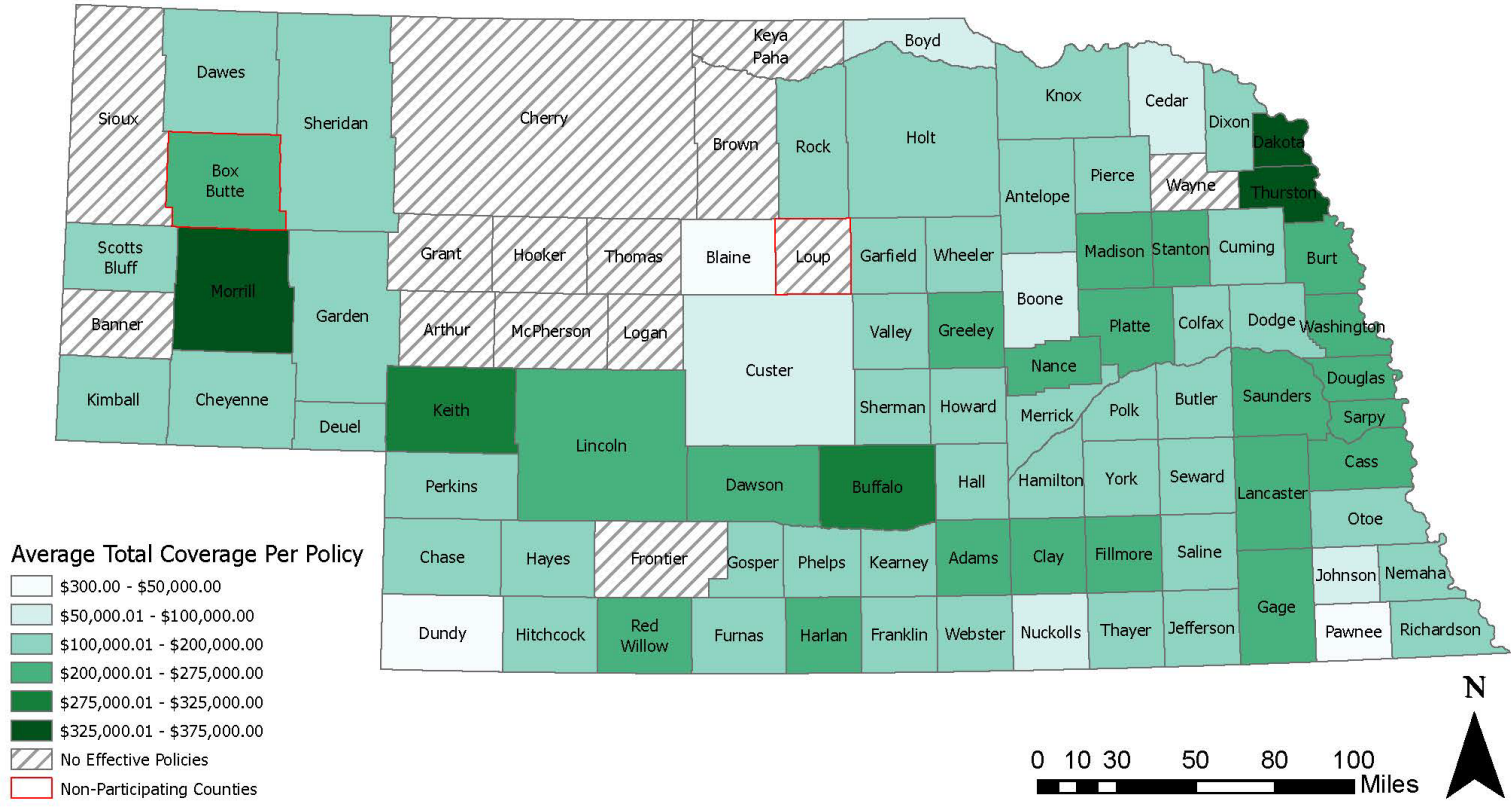
LIMITATIONS

- Only policies and losses from participating NFIP communities
- Dataset is not static:
 - Community participation occurs at various times since 1978
 - Policies within participating communities can be added or removed by holders at any time for various reasons
- Number of policies may not represent all structures at risk, or that were damaged

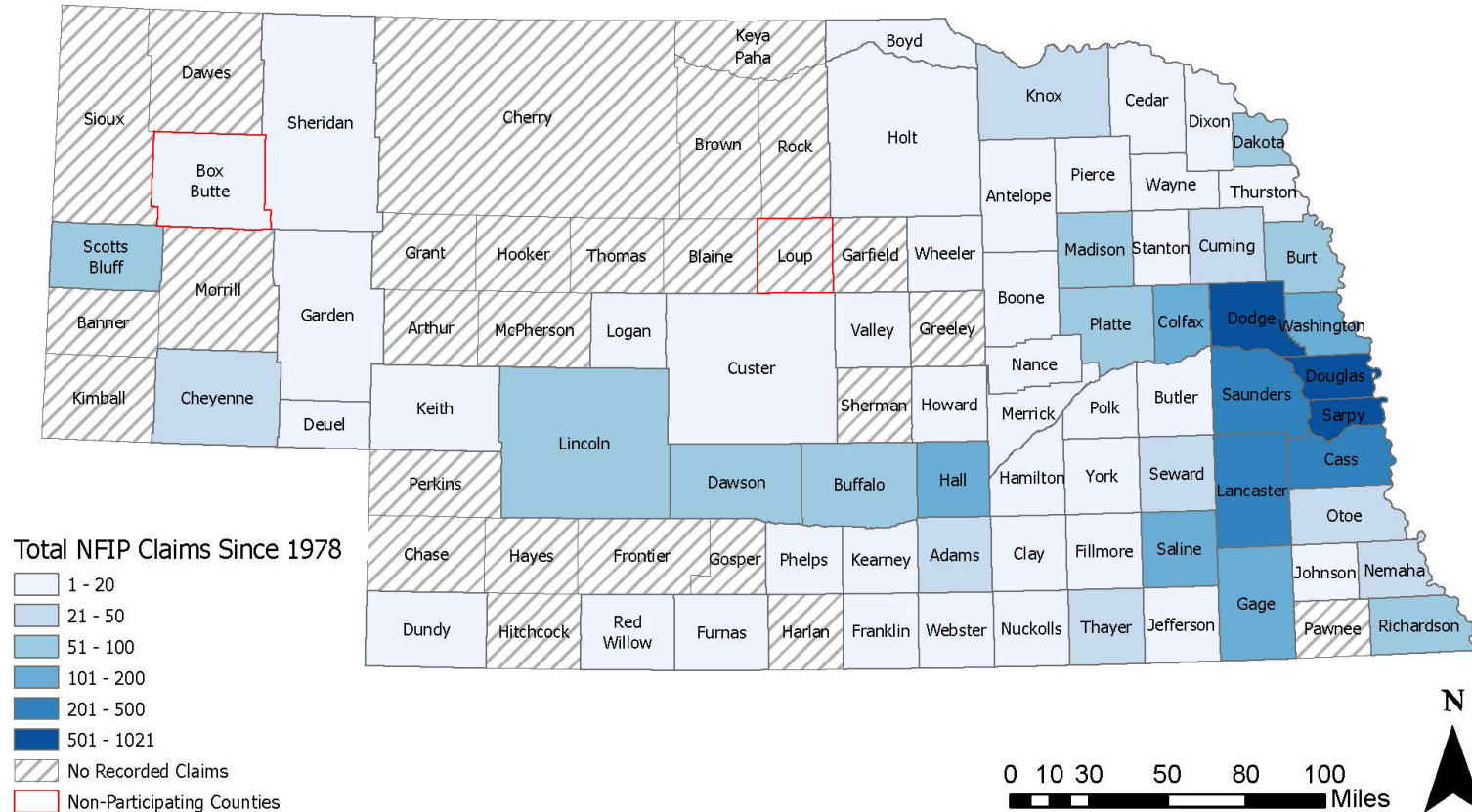
TOTAL NUMBER OF POLICIES



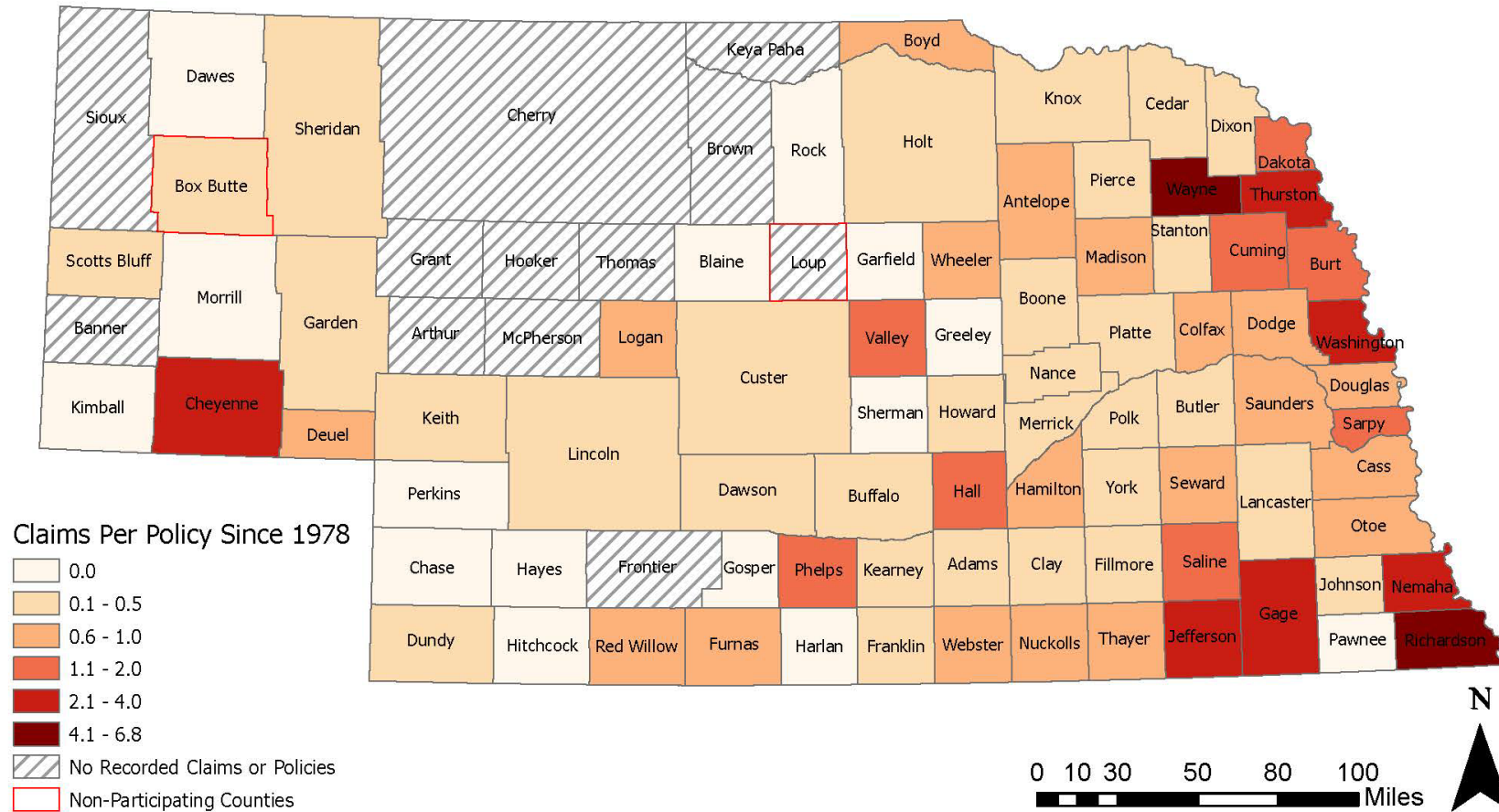
AVERAGE TOTAL COVERAGE PER POLICY



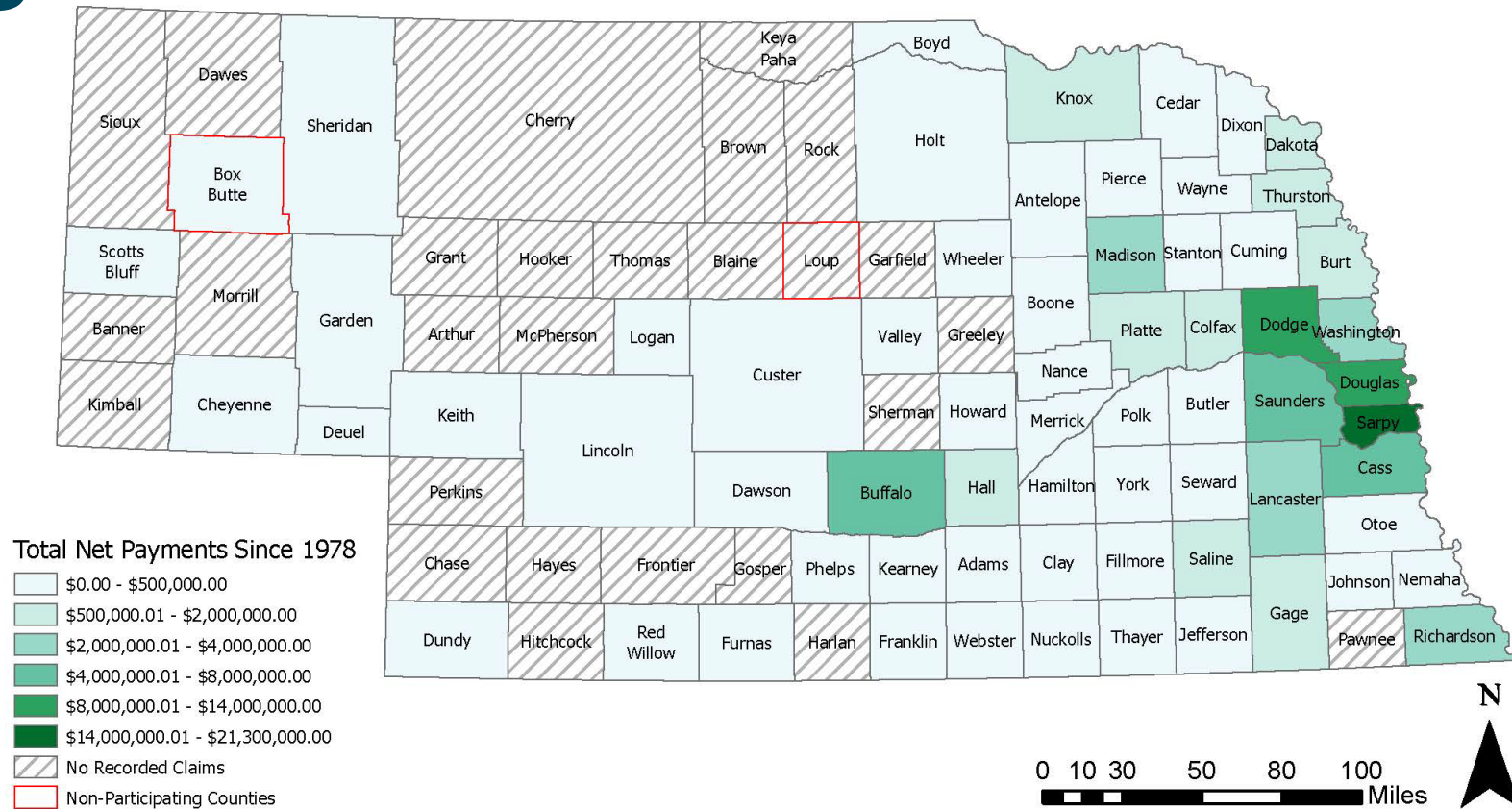
TOTAL NUMBER OF CLAIMS SINCE 1978



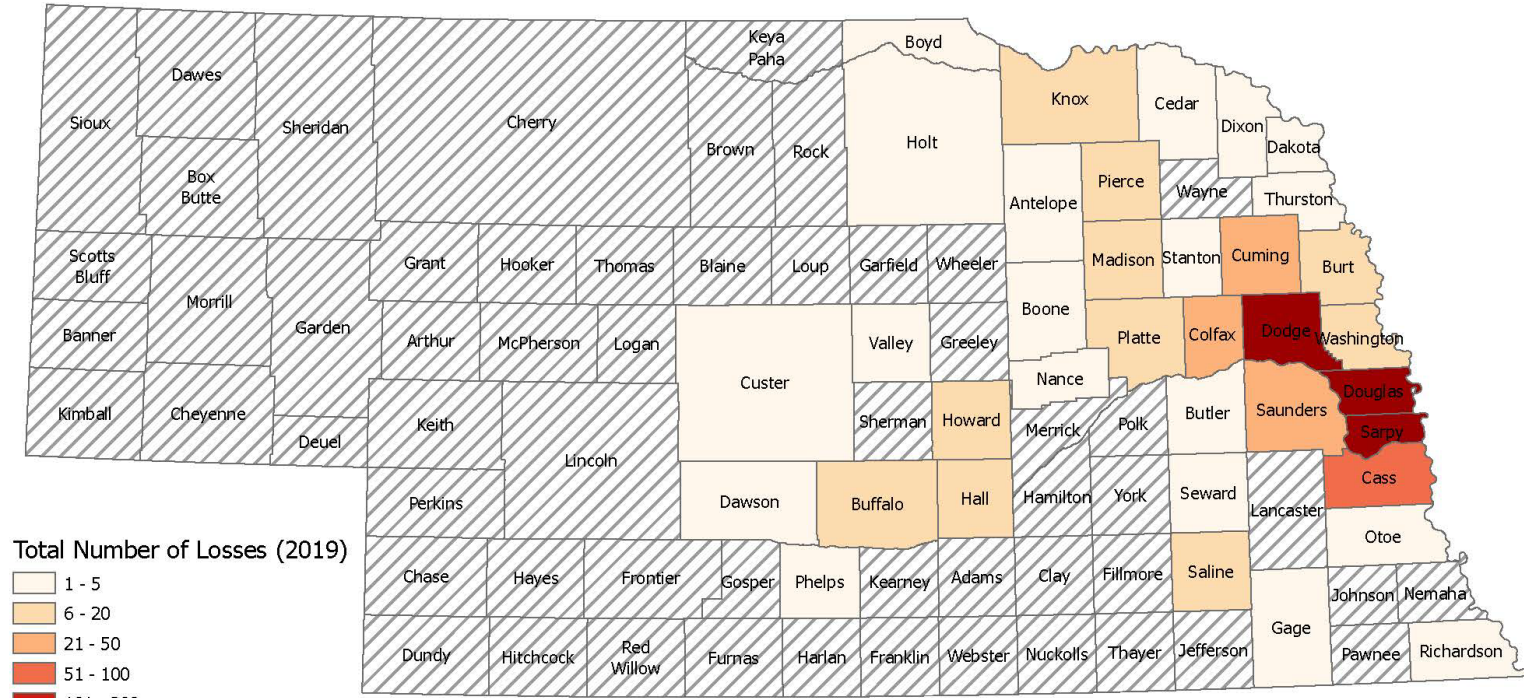
CLAIMS PER POLICY SINCE 1978



TOTAL NET PAYMENTS SINCE 1978



2019 LOSS CLAIMS

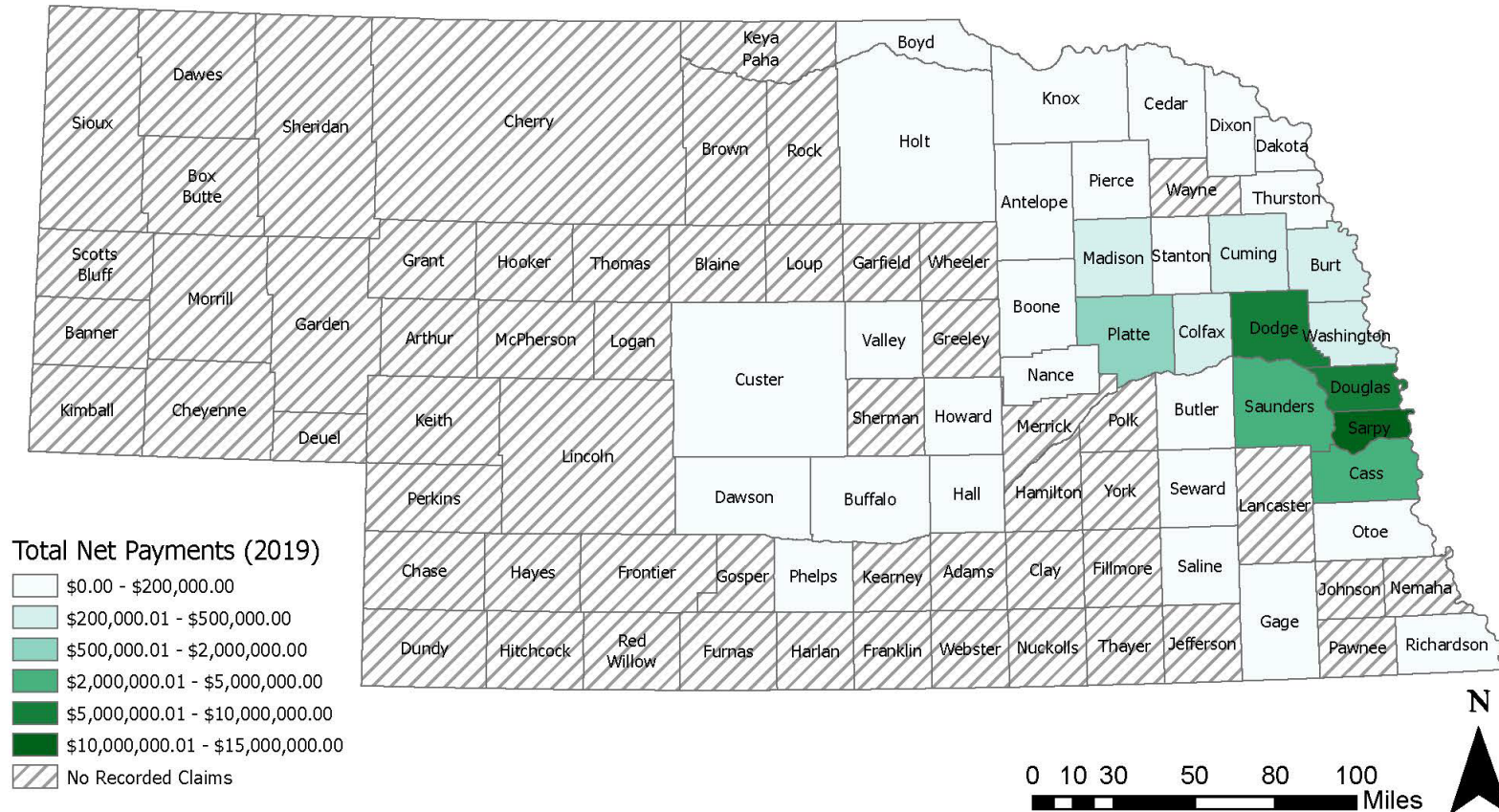


Total Number of Losses (2019)

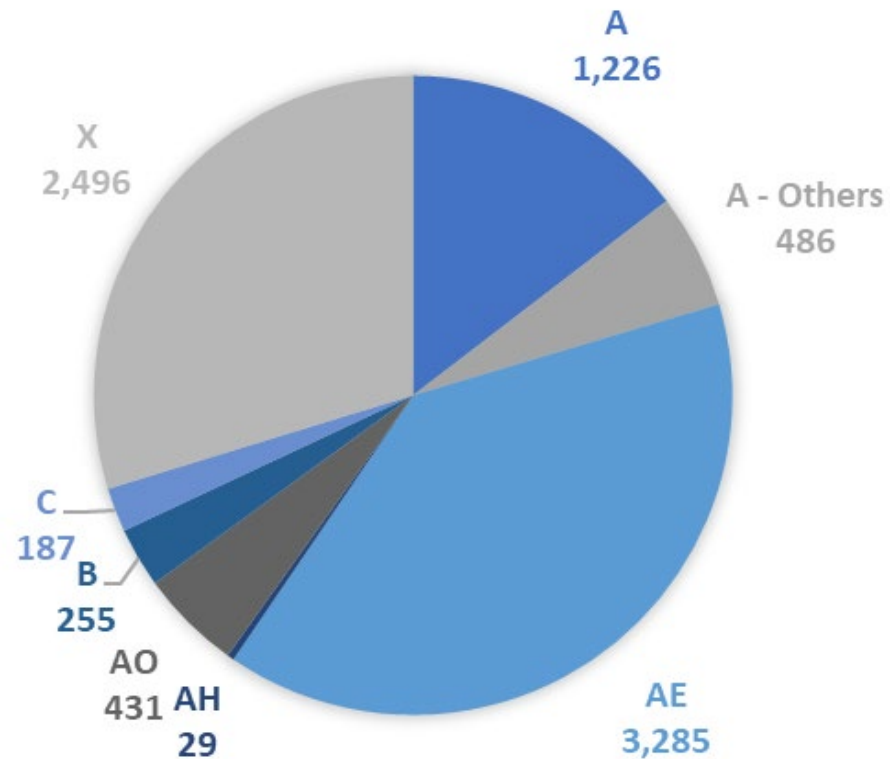
- 1 - 5
- 6 - 20
- 21 - 50
- 51 - 100
- 101 - 200
- 201 - 300
- No Recorded Claims



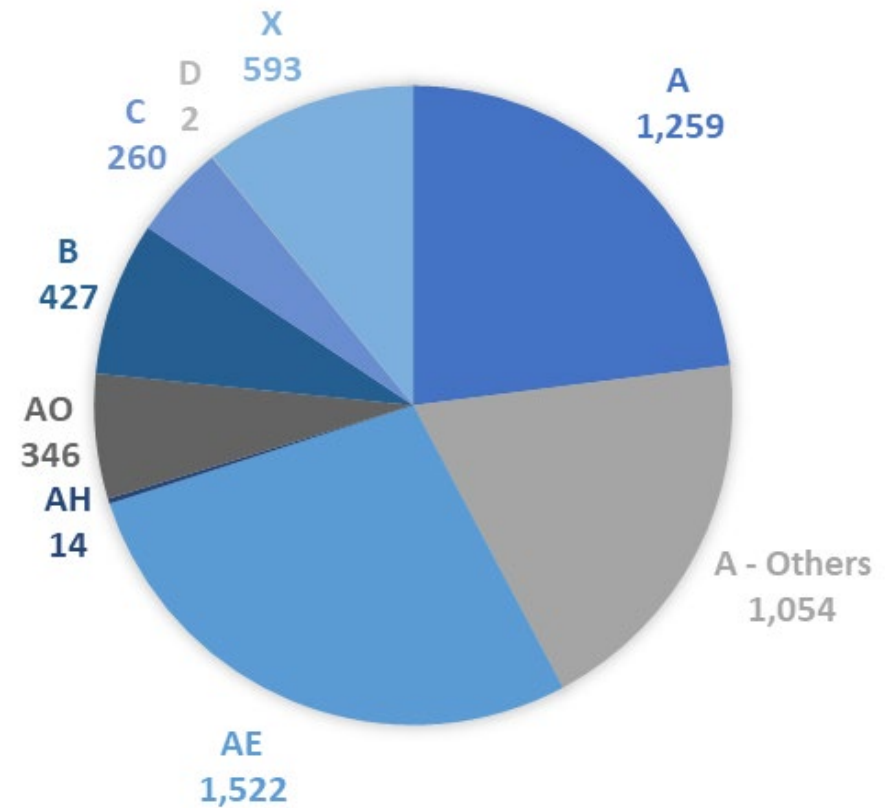
2019 LOSS PAYMENTS



POLICIES BY FLOOD ZONE



CLAIMS BY FLOOD ZONE



5. PLAN DOCUMENTS FOR REVIEW



- <https://dnr.nebraska.gov/floodplain/nebraska-flood-hazard-mitigation-plan>
 - Documents currently available for review
 - Review/comment form



- Sections available now through **October 29:**
 - Mitigation Strategy: Goals, Objectives, and Actions
 - Flood Claim Analysis



- Upcoming:
 - Regulatory Framework Evaluation
 - Local Capability Assessment

INPUT

- Flood history information for:

Verdigre Creek

Wood River

South Platte River

Middle, South, and Lower Loup Rivers

Pebble Creek

Medicine Creek

Red Willow Creek



- Have you collected data from the 2019 event that would be helpful to the study team?



- Risk assessment data
- Flood events other than 2019
- Anecdotal evidence also beneficial

6. NEXT STEPS

- Incorporating comments on Funding, Mitigation Strategies, Flood Claim Analysis, and Local Capability Assessment sections
- Finalize Plan Maintenance Process, Planning Process, and Flood Risk Types sections.
- Begin Risk Assessment
- Next Meeting
 - December 14, 2021 – 10:00 AM
 - Regulatory Framework Evaluation
 - State Capability Assessment
 - Primary State Programs
 - Programs Administered by other State and Federal Agencies



FUTURE MEETING TOPICS

 Meeting	 Meeting Topic	
Kickoff Meeting (July 23)	<ul style="list-style-type: none"> • Introduction and Purpose • Public Meeting Recap 	<ul style="list-style-type: none"> • Flood Types and Flood History • Next Steps
Meeting #2 (August 10)	<ul style="list-style-type: none"> • Recovery and Funding Sources • Assessment of Opportunities for Improvement 	<ul style="list-style-type: none"> • Plan Maintenance Process
Meeting #3 (TODAY)	<ul style="list-style-type: none"> • Flood Impact Analysis, Pt. 1 	<ul style="list-style-type: none"> • Mitigation Strategy, Pt. 1
Meeting #4	<ul style="list-style-type: none"> • State Capability Assessments 	<ul style="list-style-type: none"> • Regulatory Framework Evaluation
Meeting #5	<ul style="list-style-type: none"> • Flood Impact Analysis, Pt. 2 • Mitigation Strategy, Pt. 2 	<ul style="list-style-type: none"> • Coordination with Local Mitigation Planning
Meeting #6	<ul style="list-style-type: none"> • Draft Plan Review 	
Meeting #7	<ul style="list-style-type: none"> • Public Hearing Recap 	<ul style="list-style-type: none"> • Final Draft Plan Approval

Visit the website to access the online meeting, more information, links

<https://dnr.nebraska.gov/floodplain/nebraska-flood-hazard-mitigation-plan>

QUESTIONS?