

# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Kick-off Meeting July 30, 2013

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AMEC Environment & Infrastructure



## AMEC Project Team

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# Agenda

- Soft Match Time Forms
- Hazard Mitigation Planning Purpose
- Multi-jurisdictional Approach
- Grant Programs Linked to Approved Plan
- Public Involvement
- Data Collection Guides
- Discussion/Prioritization of Hazards
- Next Steps in the Planning Process

## Soft Match

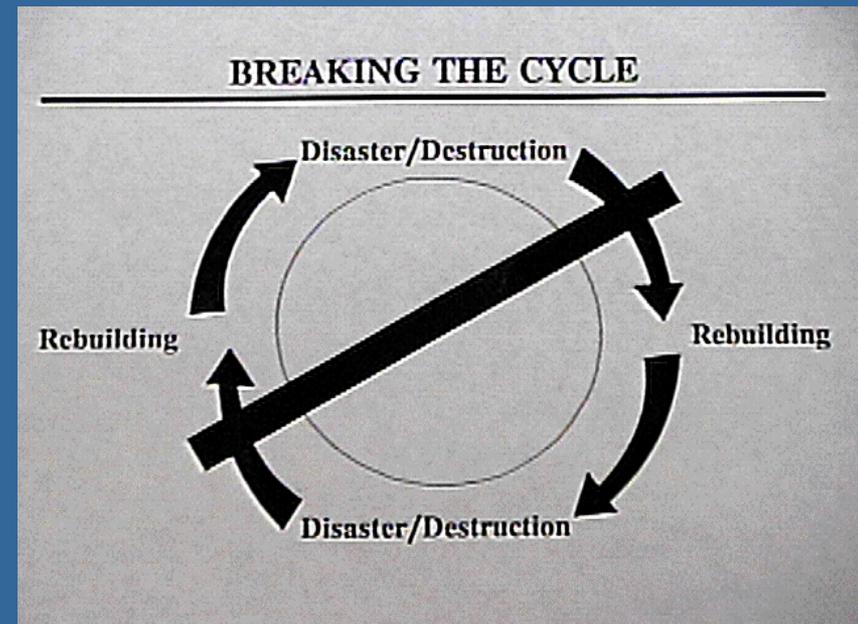
- Planning Grant from FEMA administered by Iowa HSEMD
  - 75% federal, 10% state, and 15% local
- Local funds can be Soft Match
- Your time in meetings, gathering data, reviewing drafts, notifying public, etc. counts!
- Requirements to count local meetings

## What Is Mitigation?

- Sustained action taken to reduce or eliminate long-term risk to human life and property from hazard events.
- Mitigation planning is a process for communities to:
  - Identify the hazards to which they are at risk
  - Assess the potential impacts of those hazards
  - Develop goals, objectives, and actions to reduce impacts
  - Prioritize and implement mitigation actions

## Disaster Mitigation Act of 2000 (DMA 2K)

- Requires local governments to adopt a natural hazard mitigation plan to maintain eligibility for FEMA mitigation funds
- The plan must be updated and approved by FEMA every 5 years. This is an update to the existing 2009 Polk County Multi-jurisdictional Hazard Mitigation Plan.



# Increasing Costs of Disaster Response and Recovery

- Population Growth and Development
  - More People, Buildings, Infrastructure in Hazardous Areas
- More Disaster Declarations
  - Average 61 Declarations/Year since 2000
  - Thousands Made Homeless
  - Billions of Tax Dollars Spent
- Cost of “Doing Nothing” Too Much
- Many Events are Predictable and Repetitive
- Loss Reduction Activities
  - Cost Effective
  - Environmentally Sound
  - Funds Available
- Legal and Moral Responsibilities

# Polk County

## Multi-Jurisdictional Hazard Mitigation Plan

### FEMA Major Disaster Declarations including Polk County Since 1965

Disaster Number	Description	Declaration Date Incident Period	Individual Assistance (IA) Public Assistance (PA)
DR-1930	Severe Storms, Flooding, & Tornadoes	7-29-2010 6-1-2010 to 8-31-3010	IA & PA
DR-1763	Severe Storms, Tornadoes, & Flooding	5-27-2008 5-25-2008 to 8-13-2008	IA & PA
DR-1688	Severe Winter Storms	3-14-2007 2-23-2007 to 3-2-2007	PA
DR-1518	Severe Storms, Tornadoes, & Flooding	5-25-2004 5-19-2004 to 6-24-2004	IA
DR-1230	Severe Weather, Tornadoes, & Flooding	7-2-1998 6-13-1998 to 7-15-1998	IA & PA
DR-1191	Severe Snow Storm	11-20-1997 10-26-97 to 10-28-1997	PA
DR-996	Flooding, Severe Storm	7-9-1993 4-13-1993 to 10-1-1993	IA & PA
DR-868	Flooding, Severe Storm	5-26-1990 5-18-1990 to 7-6-1990	IA & PA
DR-443	Flooding, Severe Storm	6-24-1974 6-24-1974	IA & PA
DR-269	Heavy Rains, Flooding	8-14-69 8-14-69	IA & PA
DR-259	Flooding	4-25-1969 4-25-1969 to 4-25-1969	IA & PA
DR-193	Flooding	4-22-1965 4-22-1965 to 4-22-1965	IA & PA

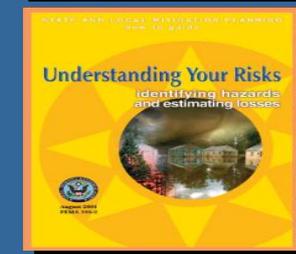
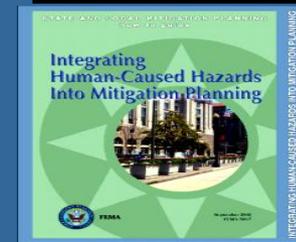
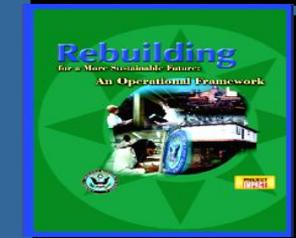
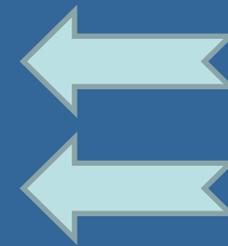
# FEMA's Four-Phase DMA Planning Guidance

Phase I: Organize resources

Phase II: Assess risks

Phase III: Develop the mitigation plan

Phase IV: Implement the plan/monitor  
progress



## Benefits of Participating in a Multi-Jurisdictional Plan

- Enables comprehensive approaches to mitigate hazards that affect multiple jurisdictions
- Shares costs and resources
- Avoids duplication of efforts
- Improves coordination/communication among local jurisdictions
- Imposes external framework/schedule on process

And...

## Establishes Eligibility for Grants

- Hazard Mitigation Grant Program
- Pre-Disaster Mitigation Program
- Flood Mitigation Assistance Program
  - Repetitive Loss Program
  - Severe Repetitive Loss Program

# Hazard Mitigation Grant Program

- The Hazard Mitigation Grant Program (HMGP) provides grants to States and local governments to implement long-term hazard mitigation measures after a major disaster declaration.
- Equal to 15 percent (20 percent for Enhanced Plan State) of the first \$2 billion of estimated aggregate amounts of disaster assistance—based on a sliding scale formula after the first \$2 billion.
- Eligible applicants are state agencies, local governments, private non-profit organizations, or Indian tribal governments.
- An approved local mitigation plan is required.

## HMGP Project Examples

- Acquiring (and either demolishing or relocating) flood-prone homes from willing owners and returning the property to open space;
- Implementing minor flood control projects to protect critical facilities;
- Constructing safe rooms inside schools or other buildings in tornado-prone areas;
- Mitigation Planning

## Previous Polk County HMA Grants

- 1994-2012
- Nearly \$30 Million Total Project Cost
- Over \$20 Million in Federal Funding
- Des Moines was also Chosen as a Project Impact Community in 1999-\$1 Million Seed Funding

# Polk County

## Multi-Jurisdictional Hazard Mitigation Plan

Funding Source	Project Type	Sub applicant	County	Award Date	Current Project Cost (Total)
HMGP	Tornado Safe Room	Urbandale, City of	Polk	8/17/2011	\$1,038,781
HMGP	Tornado Safe Room	West Des Moines Valley CSD	Polk	6/7/2011	\$2,047,323
HMGP	Tornado Safe Room	Bondurant, City of	Polk	8/11/2010	\$459,705
HMGP	Tornado Safe Room	Bondurant-Farrar High School	Polk	8/17/2010	\$1,478,625
HMGP	Tornado Safe Room	Bondurant-Farrar Middle School	Polk	8/11/2010	\$1,008,453
HMGP	Tornado Safe Room	Iowa State Fair	Polk	2/4/2002	\$880,228.00
HMGP	Property Acquisition	Des Moines, City of	Polk	12/7/2011	\$7,985,810
HMGP	Property Acquisition	Des Moines, City of # 1	Polk	4/28/2009	\$747,897
HMGP	Property Acquisition	Des Moines, City of # 2	Polk	4/28/2009	\$233,085
HMGP	Property Acquisition	Des Moines, City of	Polk	2/17/1999	\$583,956.76
HMGP	Property Acquisition	Des Moines, City of	Polk	9/13/1993	\$1,690,258.00
HMGP	Property Acquisition	NHS of Des Moines	Polk	8/9/1993	\$217,413.91
HMGP	Mitigation Planning	Polk County	Polk	5/10/2012	\$100,000
PDM	Mitigation Planning	Polk County	Polk	1/18/2006	\$164,770.68
HMGP	Infrastructure	Polk County	Polk	1/25/2011	\$9,896,000
HMGP	Infrastructure	Des Moines, City of	Polk	2/7/1994	\$342,092.00
LPDM	GPS software	Des Moines, City of	Polk	9/4/2008	\$273,091.77
<b>Total</b>					<b>\$29,147,490</b>

# Polk County

## Multi-Jurisdictional Hazard Mitigation Plan

### Multi-Jurisdictional Plan Approach

<u>Cities</u>	Polk County
Alleman	
Altoona	
Ankeny	
Bondurant	<u>School Districts</u>
Clive	Ankeny, 261
Des Moines	Bondurant-Farrar, 720
Elkhart	Dallas Center-Grimes, 1576
Grimes	Des Moines Independent, 1737
Johnston	Johnston, 3231
Mitchellville	North Polk, 4779
Pleasant Hill	Saydel, 5805
Polk City	Southeast Polk, 6101
Runnells	Urbandale, 6579
Urbandale	West Des Moines, 6957
West Des Moines	
Windsor Heights	

## Requirements for Each Participating Jurisdiction

1. Designate a representative to serve on the Polk County Hazard Mitigation Planning Committee, which will meet three times during the planning process,
2. Provide data for and assist in the development of the updated risk assessment that describes how various hazards impact your jurisdiction,
3. Provide data to describe current capabilities,
4. Develop/update mitigation actions (at least one) specific to your jurisdiction,
5. Provide comments on plan drafts as requested,
6. Inform the public, local officials, and other interested parties about the planning process and provide opportunities for them to comment on the plan, and
7. Formally adopt the mitigation plan.

## What Happens if My Jurisdiction Chooses Not to Participate in the Polk County Plan?

Counties, municipalities, cities, towns, school districts, special districts, councils of government, tribal organizations, as well as publicly funded colleges and universities that have not participated in a FEMA-approved mitigation plan **will not be eligible applicants** for certain FEMA mitigation funding programs

# Stakeholders in the Planning Process

- Federal agencies
- State agencies
- Academic Institutions
- Business Community
- Adjacent Counties
- Other cities w/ portions city limits in Polk County
  - Carlisle-Warren County
  - Norwalk-Warren County
  - Sheldahl-Boone County/Story County
  - Granger-Dallas County

# Public Involvement Requirements

- Opportunity for all stakeholders to be involved
- Public Comment periods
  - 1. Drafting Stage
    - Public Survey (Survey Monkey),
    - Facebook & Twitter (Polk County Emergency Management),
    - Water Bill Flyer-DMWW
  - 2. Prior to approval—Draft Review via County Website
- Other Ideas/Events to Inform the Public?

## Data Collection Guides

- Due to AMEC by August 30, 2013
  - Capability Assessment Section
    - Existing Plans/Policies/Ordinances
    - Administrative/Technical Capabilities
    - Fiscal Resources
    - Additional Questions
  - Historic Hazard Events

## Hazard Ranking Method-adopted by Iowa

- Calculated Priority Risk Index (CPRI):
  - Probability
  - Magnitude / Severity
  - Warning Time
  - Duration
- Presentation Includes Preliminary Ranking

**Each of these  
Elements receives a  
rating of 1-4  
(see handout)**

$(\text{Probability} \times .45) + (\text{Magnitude} \times .30) + (\text{Warning Time} \times .15) + (\text{Duration} \times .10) = \text{CPRI}$

# Polk County

## Multi-Jurisdictional Hazard Mitigation Plan

Hazard	Probability	Magnitude	Warning Time	Duration	Weighted Score	Level
<b>*River Flooding</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>3.25</b>	<b>High</b>
<b>*Tornado</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>3.25</b>	<b>High</b>
<b>*Winter storm</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3.15</b>	<b>High</b>
<b>*Structural Fire</b>	<b>4</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>3.10</b>	<b>High</b>
Transportation Incident	4	2	4	1	3.10	High
<b>*Thunderstorm/Lightning/Hail</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2.90</b>	<b>Moderate</b>
<b>*Windstorm</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2.90</b>	<b>Moderate</b>
HAZMAT Incident	4	1	4	1	2.80	Moderate
<b>*Levee Failure</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>2.80</b>	<b>Moderate</b>
<b>*Flash flood</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2.65</b>	<b>Moderate</b>
Drought	3	2	1	4	2.50	Moderate
Infrastructure Failure	2	2	4	4	2.50	Moderate
Human disease	2	3	2	4	2.50	Moderate
<b>*Grass/Wildland Fire</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2.35</b>	<b>Moderate</b>
<b>*Dam Failure</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>2.35</b>	<b>Moderate</b>
Extreme Heat	2	2	1	3	1.95	Low
Animal/Plant/Crop disease	1	2	1	4	1.60	Low
Earthquake	1	1	4	1	1.45	Low
Expansive Soils	2	1	1	1	1.45	Low
Sinkholes/Landslide	1	1	2	1	1.15	Low

**\* = included in 2009 Polk County Multi-jurisdictional Hazard Mitigation Plan**

# Hazard Identification and Risk Assessment

- Hazard Description
  - Warning Time
  - Duration
- Geographic Location
- Previous Occurrences
- Probability of Future Occurrence
- Vulnerability Overview (Magnitude/Severity)
- Potential Losses to Existing Development
- Future Development

**Based on existing plan, additional information from planning committee, additional research/analysis**

# Flood-Related Hazards

# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Dam Failure

- 74 Regulated Dams
  - 13 High Hazard Dams
    - (4 are USACE-1 Saylorville/3 Big Creek)
  - 16 Significant Hazard Dams
  - 45 Low Hazard Dams
- All State-regulated High Hazard Dams inspected by DNR w/in last 2 years
- No State-regulated High Hazard Dams Have Emergency Action Plans (EAPs)
- Research did not reveal any previous Dam Failure Events

Probability: Level 1 —Unlikely  
Magnitude: Level 3—Critical  
Warning Time: Level 4  
Duration: Level 4



Lake Delhi Dam Failure, 2010  
KCRG-TV9 News

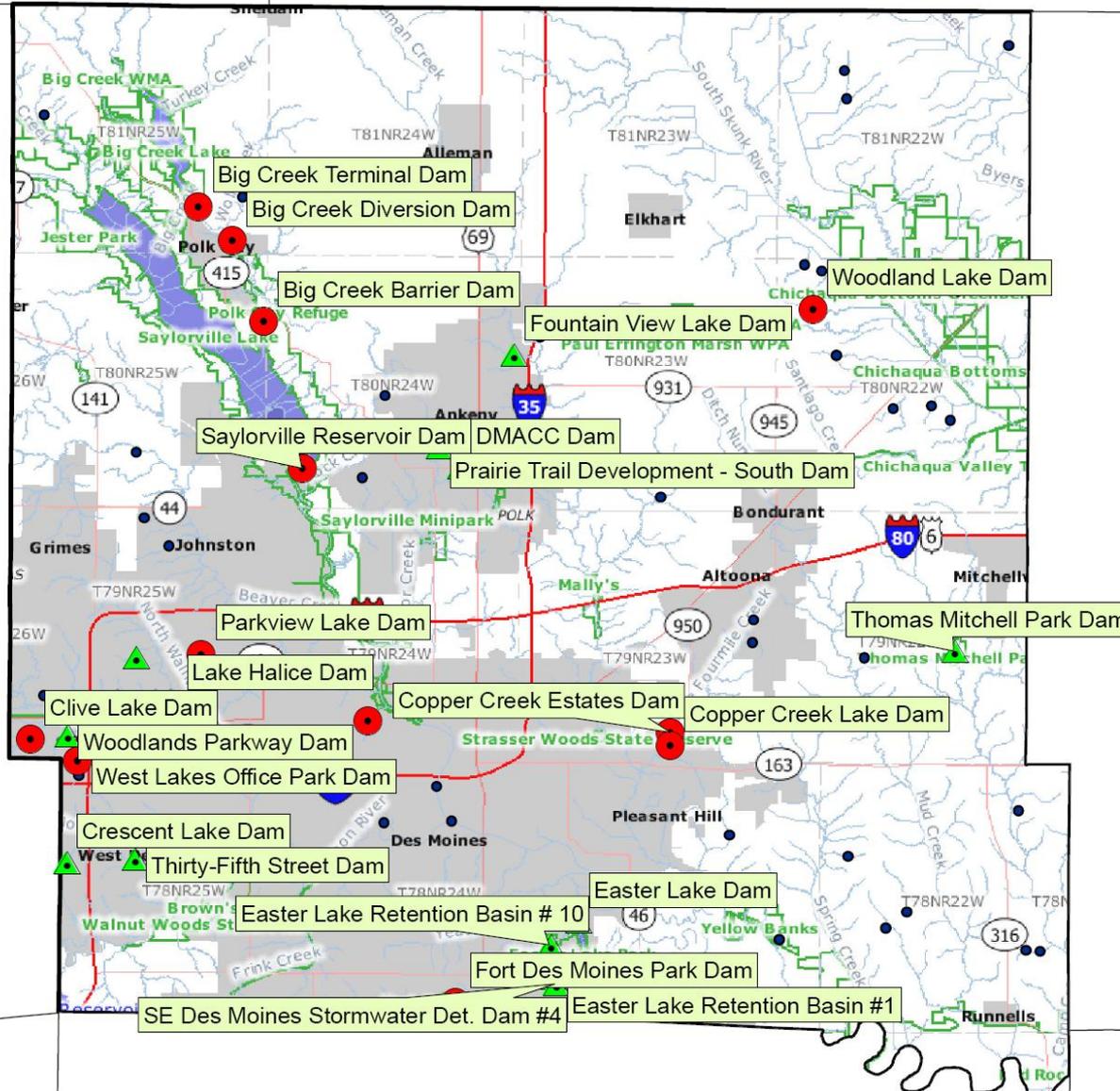
Note: Hazard classification is based on downstream risk and not the condition of the dam structure.

# Polk County Multi-Jurisdictional Hazard Mitigation Plan



## Iowa Dam Inventory January 2013

- High Hazard
- ▲ Moderate Hazard
- Low Hazard



# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Flash Flood

- Intense rain over short time
- 66 recorded flash flood events in NCDC from 1996 to April 2013 (avg. 3.8 per yr.)
  - Property Damage – \$6.4M
  - 4 reported injuries, 2 fatalities
- Annual Average \$370,693/yr
- Specific Problem Areas/Intersections?



Probability: Level 4—Highly Likely

Magnitude: Level 2—Limited

Warning Time: Level 1

Duration: Level 1

## Levee Failure

- Des Moines—6 levee systems
  - 5 in USACE Levee Safety Program (LSP)
  - 1 non-federal (DM Water Works)
- West Des Moines-1 levee system in LSP

## Levee Failure

- August 2008 Levee Failure along Des Moines River near Birdland Park area
  - Rapid water rises of about 4 feet in 1 hour/ 8 feet total
  - Mandatory evacuation
  - 271 homes affected; several businesses; 1 high school
  - \$7M in estimated damages
- Other Levee Failure events?



Probability: Level 2—Occasional  
Magnitude: Level 3—Critical  
Warning Time: Level 4  
Duration: Level 4

# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## River Flood

- 111 reported events 1996-April 2013 (avg. 6.4/yr)
  - Over \$21.8M Property Damages (\$1.2M/yr)- NCDC
- USDA Crop Insurance Payments nearly \$15M 2001-2011 (\$1.35M/yr)
- 10 of 13 Presidential Declarations in Polk County since 1969 included flooding



2008 Des Moines Flood  
Nowpublic.com

Probability: Level 4—Highly Likely  
Magnitude: Level 3—Critical  
Warning Time: Level 1  
Duration: Level 4

# Severe Weather Hazards

# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Drought

- 9 Reported Droughts from 1996-April 2013.
- \$2.5 Million in USDA Risk Management Agency's insured crop damages from drought in Polk County (2001-2011).
  - Average Annual \$227,272
- All Iowa Counties Declared for USDA Drought Declaration in 2012.

Probability: Level 3—Likely  
Magnitude: Level 2—Limited  
Warning Time: Level 1  
Duration: Level 4



## Extreme Heat

- 100 degrees Fahrenheit for 3 or more days (including heat index)
- Between 1996 and 2012, Polk County experienced 2 heat related events that resulted in fatalities
  - 8/5/2001 - elderly female at home
  - 7/17/2006 – elderly female in back yard
- 2002 – 2011 Polk County USDA Extreme Heat Losses for Insured Crops
  - \$ 118,848 / \$ 11,848 annual average
- Currently there are 29 cooling shelters open in Polk County according to the Public Health Department website

Probability: Level 2—Occasional

Magnitude: Level 2—Limited

Warning Time: Level 1

Duration: Level 3

# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Grass or Wildland Fire

- Prescribed Burns for Vegetation Management in Forestry Areas
- Conservation Reserve Program (CRP) land
- Accidental Grass / Wildland Fires
- Statistics from Iowa DNR, Forestry on reported grass/wildland fires in Polk County 2005-2013 (8.5 yrs)
  - 142 total fires
    - 41 natural/accidental causes (4.8/yr)
    - 101 controlled burns (11.8/yr)
  - 403 acres burned from natural/accidental causes (47.4 acres/yr)
    - Misc. cause-222.5 acres; Arson-87 acres; Debris burning-77.5 acres
  - 5364 acres burned in controlled burns (631 acres/year)
- Increased Development in Wildland Urban Interface (WUI)
- Any Firewise Communities?

Probability: Level 4—Highly Likely

Magnitude: Level 1—Negligible

Warning Time: Level 1

Duration: Level 1



## Thunderstorm & Lightning

- 7 of 12 Presidential Declarations in Polk County included severe thunderstorms
- 113 thunderstorm winds over 60 knots reported and 27 lightning strikes reported 1996-April 2013 NCDC database (100% annual probability)
  - \$71.2 Million in damages (wind and lightning)
  - No deaths , 46 injuries
  - Semi-trailers blown over on I-35
  - House fires from lightning



Probability: Level 4—Highly Likely  
Magnitude: Level 2—Limited  
Warning Time: Level 2  
Duration: Level 2

# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Hailstorm

- 223 reported Severe Hailstorms (1 inch and larger) from 1996-April 2013 NCDC database (100% annual probability)
- \$274,742 in USDA Risk Mgmt Agency's insured crop damages from hail in Polk County (2001-2011).
  - Average Annual \$24,976
- Largest Hail was 3 inches in diameter recorded in Johnston in July 2009



Hail across Iowa, July 2, 2013

# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Tornado

- 3 of 12 Presidential Declarations in Polk County included tornadoes
- 17 reported tornadoes 1996-April 2013 NCDC database (100% annual probability)
  - \$10.8 M in damages
  - No deaths
  - 84 injuries
  - 1 recorded F2 event in Grimes - 1998

Probability: Level 4—Highly Likely

Magnitude: Level 3—Critical

Warning Time: Level 3

Duration: Level 1

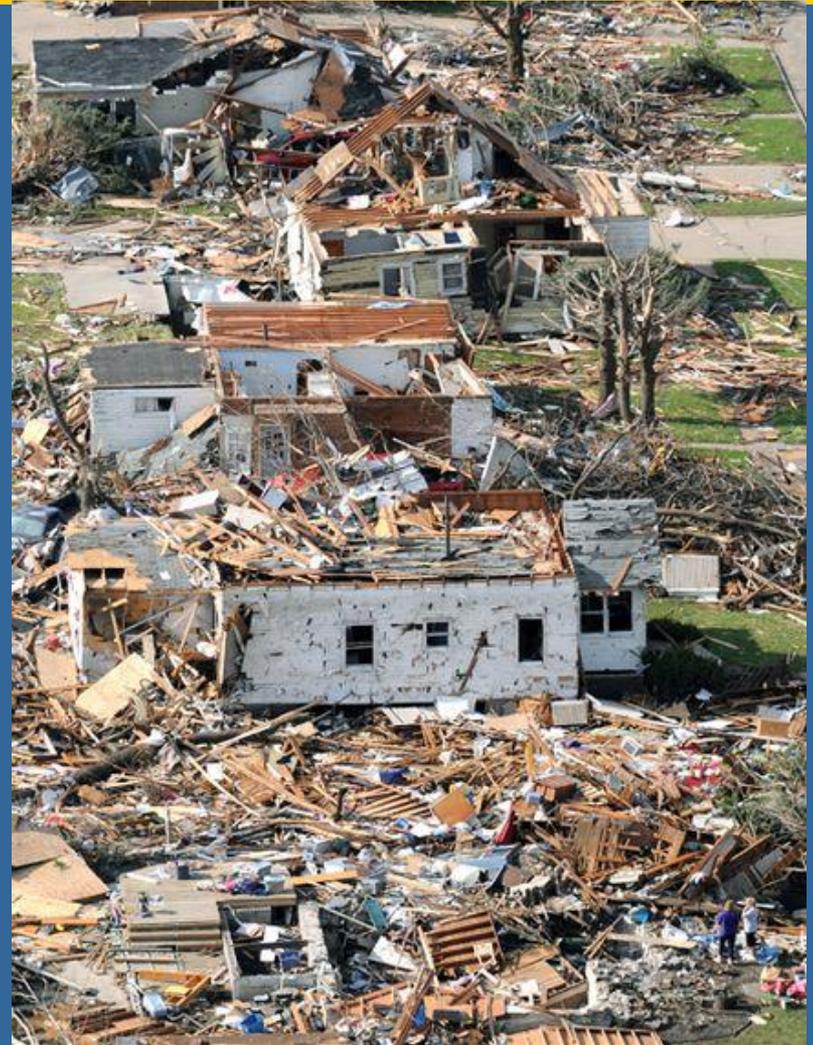


Photo of May 2008 tornado in  
Parkersburg, IA

# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Windstorm

- 31 reported 1996-April 2013 NCDC database (100% annual probability)

- 3 events with over 60 knots recorded
- \$2.557 Million in damages
- No deaths & 3 injuries

- \$812,416 in USDA Risk Mgmt Agency's insured crop damages from wind in Polk County (2001-2011).

- Average Annual \$73,856



Probability: Level 4—Highly Likely

Magnitude: Level 2—Limited

Warning Time: Level 2

Duration: Level 2

# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Winter Storm

- 55 Blizzard, Heavy Snow, Ice, & Winter Storm events in NCDC since 1996 (Average 3 per year)
  - 2 Deaths
  - \$7.6 Million in property damages
- 2 Presidential Disaster Declarations (1997 & 2007)
- \$392,346 in USDA Risk Mgmt Agency's insured crop damages from winter storms in Polk County (2001-2011) & Average Annual \$35,667

Probability: Level 4—Highly Likely

Magnitude: Level 2—Limited

Warning Time: Level 3

Duration: Level 3



Tulip Time in Pella, IA. May 3, 2013

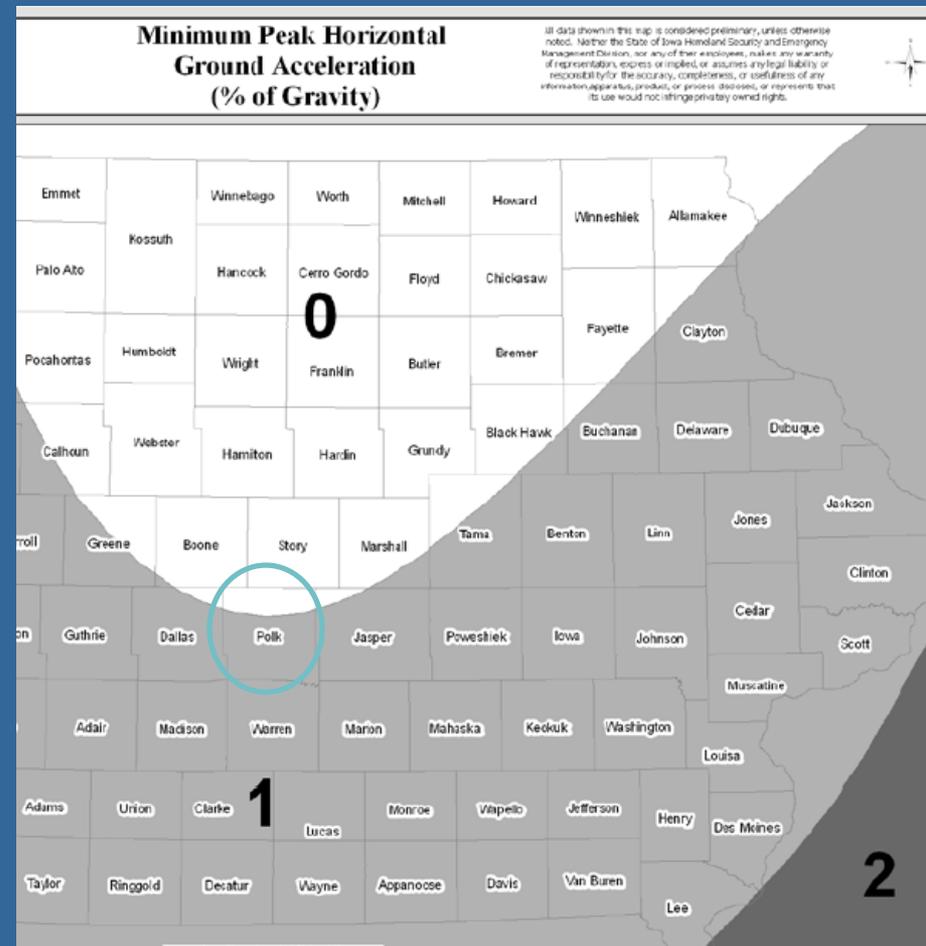
# Geologic Hazards

# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Earthquake

- Iowa as a whole has experienced only a few earthquakes in the past 175 years.
- Largest magnitude VI occurred near Davenport in 1934 with only slight damage.
- Polk County is located in low risk zones
  - (Seismic Zones 0 & 1)
- New Madrid Evacuees
- New Madrid Medical Care

Probability: Level 1—Unlikely  
Magnitude: Level 1—Negligible  
Warning Time: Level 4  
Duration: Level 1

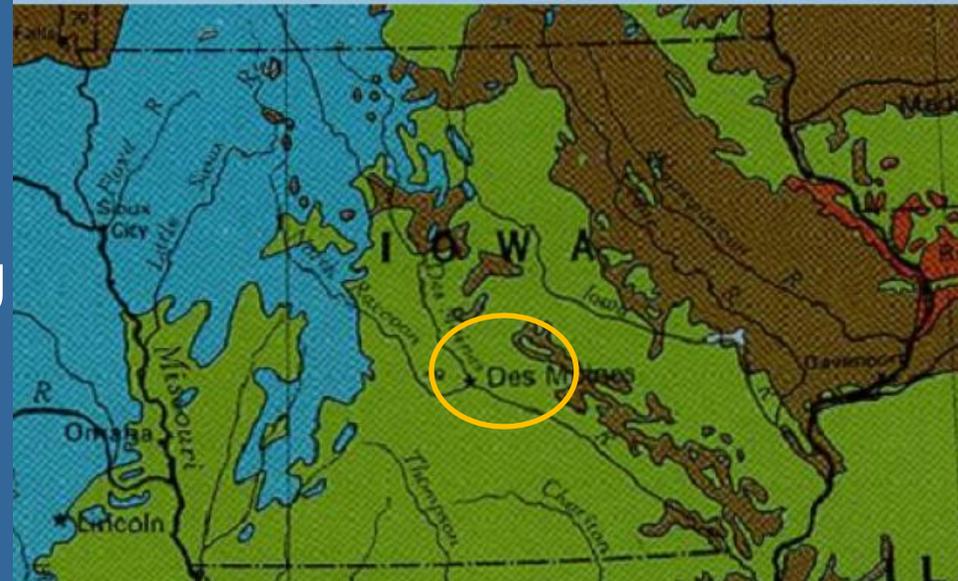


# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Expansive Soils

- Polk County is in the green-shaded area where generally less than 50% of the soil unit consists of clay having slight to moderate swelling potential (USGS)
- When soils expand and contract, this causes damage to foundations, streets, sidewalks, parking lots, driveway, etc.

Probability: Level 2—Occasional  
Magnitude: Level 1—Negligible  
Warning Time: Level 1  
Duration: Level 1



## Sinkholes

- Mine Subsidence
- Karst Subsidence
- No Previous Sinkholes  
Recorded in DNR Inventory

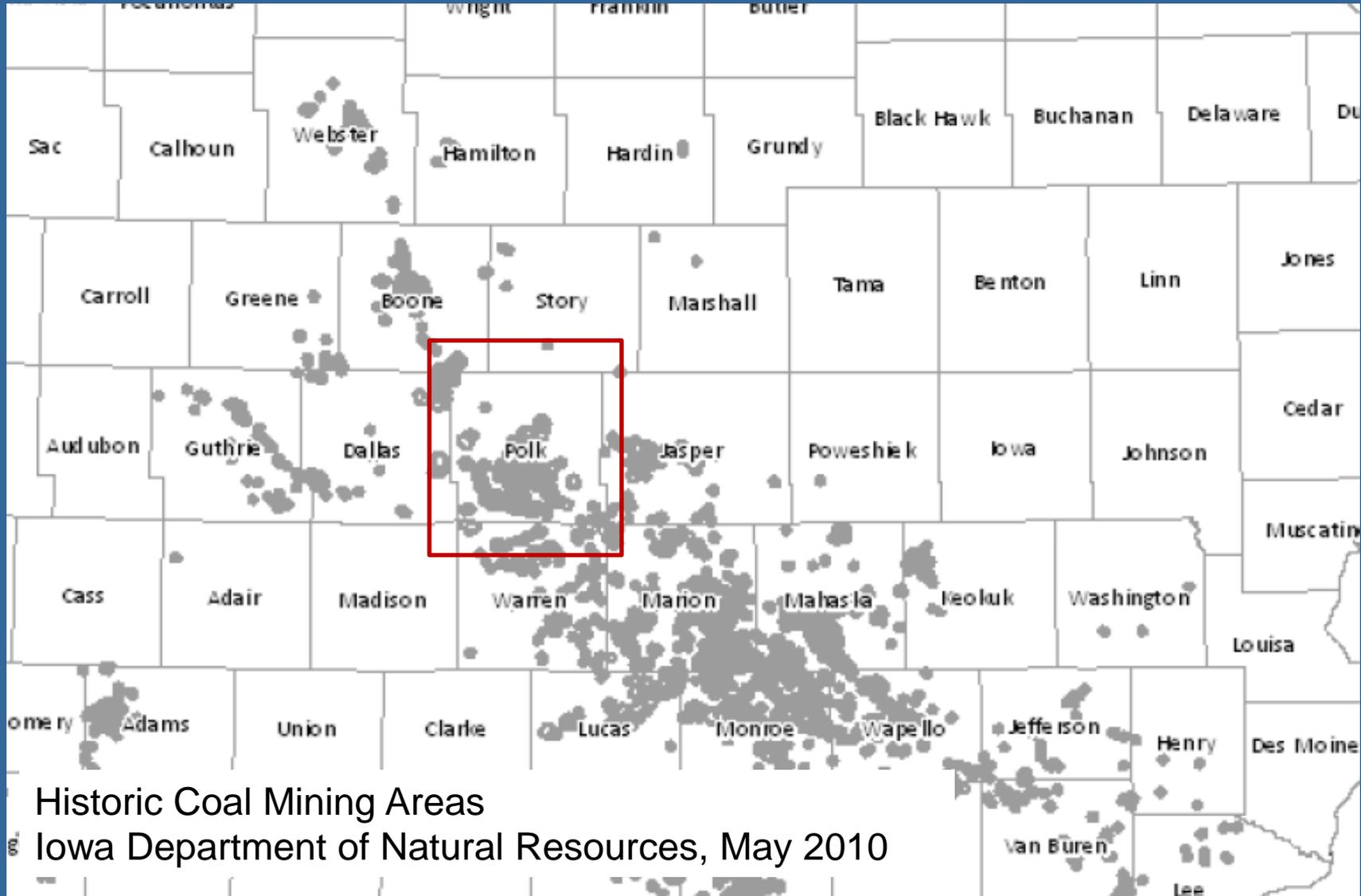


Keokuk County crater from ground collapse into an abandoned coal mine.  
*Photo by Paul VanDorpe*

Probability: Level 1—Unlikely  
Magnitude: Level 1—Negligible  
Warning Time: Level 2  
Duration: Level 1

# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Coal Mine Locations



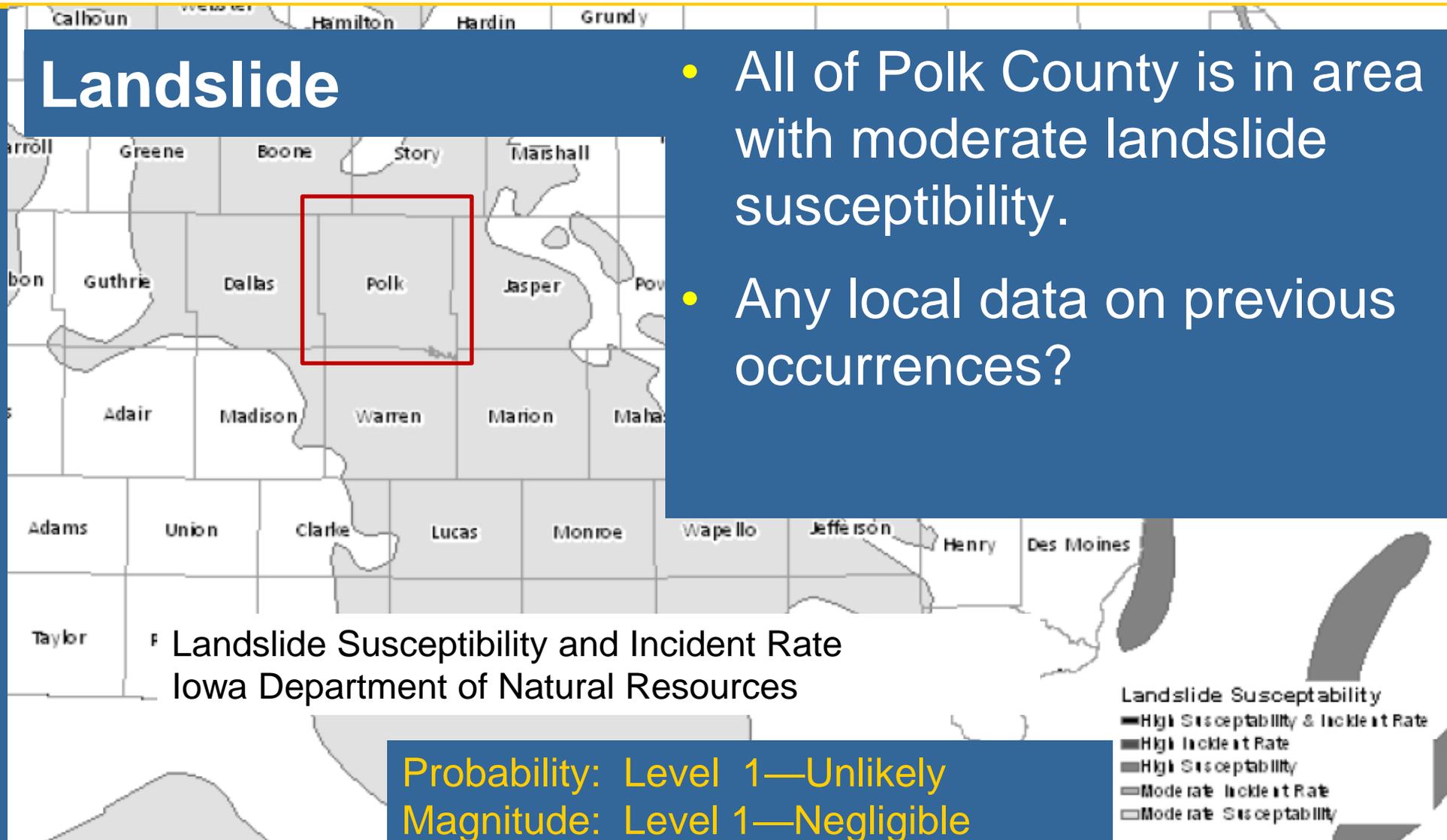
Historic Coal Mining Areas

Iowa Department of Natural Resources, May 2010

# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Landslide

- All of Polk County is in area with moderate landslide susceptibility.
- Any local data on previous occurrences?



Probability: Level 1—Unlikely  
Magnitude: Level 1—Negligible  
Warning Time: Level 2  
Duration: Level 1

# Accidental Hazards

# Polk County Multi-Jurisdictional Hazard Mitigation Plan

## Hazardous Materials Incident

- Fixed Hazardous Materials Incidents
    - Analysis of Tier II Facilities (facilities with reportable quantities of certain chemicals)
    - 2012 Polk County Statistics
      - 265 Tier II Facilities; 210 with EHS (Extremely Hazardous Substances); 1,779 Tier II Chemicals
      - 76 Fixed Facility Releases in 2012
  - Transportation Hazardous Materials Incident
    - Discussion of Major Transport Routes—Highways, Railroads, etc.
  - Pipeline Incidents
    - 4 Significant incidents 2002-2013
      - 3 Des Moines, 1 Pleasant Hill
      - 1 injury, \$134,628 in property damages
    - 102 Gas Miles
    - 157 Liquid Miles
- Probability: Level 4—Highly Likely  
Magnitude: Level 1—Negligible  
Warning Time: Level 4  
Duration: Level 1

## Hazardous Materials Incident

- 1,746 Spills in Polk County Reported to DNR since 1995
    - 125 air, 198 ground water, 1,559 land, 54 surface water (some multiple)
    - 5 involved fatalities
    - 89 with injury potential
    - 16 involved evacuations
  - 94 Spills/Yr. Annual Average
- Probability: Level 4—Highly Likely  
Magnitude: Level 1—Negligible  
Warning Time: Level 4  
Duration: Level 1

**Hazardous  
Materials Spills  
Reported to DNR  
Since 1995—  
Number by  
Location**

Des Moines	963
West Des Moines	121
Ankeny	110
Urbandale	95
Clive	85
Altoona	84
Pleasant Hill	84
Johnston	59
Bondurant	24
Grimes	21
Mitchellville	18
Windsor Heights	16
Polk City	11
Elkhart	9
Runnells	8
Saylorville	8
County	7
Alleman	5
Berwick	3
Carlisle	3
Cumming	3
Maxwell	3
Granger	2
Dewar	1
Madrid	1
Norwalk	1
Sheldahl	1
Total	1746

## Infrastructure Failure

- Often Secondary or Cascading Impact
- Communications
- Energy
  - Electric
  - Petroleum
  - Natural Gas
- Roads/Bridges



Probability: Level 2—Occasional  
Magnitude: Level 2—Limited  
Warning Time: Level 4  
Duration: Level 4

## Structural Fire

- Includes historical data from State Fire Marshal Division for the reporting years of 2010-2012.
  - Who responds to calls outside of Polk County?

Probability: Level 4—Highly Likely  
Magnitude: Level 2—Limited  
Warning Time: Level 4  
Duration: Level 1



## Transportation Incidents

- Includes Air, Highway, Railway and Waterway Incidents.
- I-35, I-80, & I-235 intersect in Des Moines
- BNSF, Iowa Interstate, Union Pacific Railroad, & Norfolk & Southern Railway Co runs through County.
- 3 Public Airports and 9 Private Airports & Heliports



Marching band tour bus crash near Minden.

Probability: Level 4—Highly Likely  
Magnitude: Level 2—Limited  
Warning Time: Level 4  
Duration: Level 1

# Disease Hazards

## Animal / Plant / Crop Disease

- UDSA Crop Insurance Payments 2002 to 2011
  - \$ 8,671 from Insects
  - \$ 16,581 from Plant Disease
  - \$ 46,933 from Mycotoxin (Aflatoxin)
- Iowa Dept of Ag and Land Stewardship—annual animal disease investigations and surveys crop/plant pests reports there is a low probability of a serious animal/plant/crop disease incident in any given year.
- Information from State Level FAD plans and reportable animal diseases will be included

Probability: Level 1—Unlikely

Magnitude: Level 2—Limited

Warning Time: Level 1

Duration: Level 4

# Human Disease

- Includes communicable diseases, epidemics and pandemic influenza
  - Vaccine preventable disease rates
  - Foodborne illness outbreak occurrences
  - On-going surveillance activities
  - Zoonotic incidents
- Loss information
  - Based on pandemic planning assumptions and typical Iowa hospital and outpatient costs
  - Effects on health care infrastructure
- Terrorism
  - Will include planning efforts related to Biological Agents

Probability: Level 2—Occasional

Magnitude: Level 3—Critical

Warning Time: Level 2

Duration: Level 4

# Polk County

## Multi-Jurisdictional Hazard Mitigation Plan

### Comments/Changes to Hazards/Ranking?

Hazard	Probability	Magnitude	Warning Time	Duration	Weighted Score	Level
*River Flooding	4	3	1	4	3.25	High
*Tornado	4	3	3	1	3.25	High
*Winter Storm	4	2	3	3	3.15	High
*Structural Fire	4	2	4	1	3.10	High
Transportation Incident	4	2	4	1	3.10	High
*Thunderstorm/Lightning/Hail	4	2	2	2	2.90	Moderate
*Windstorm	4	2	2	2	2.90	Moderate
HAZMAT Incident	4	1	4	1	2.80	Moderate
*Levee Failure	2	3	4	4	2.80	Moderate
*Flash Flood	4	2	1	1	2.65	Moderate
Drought	3	2	1	4	2.50	Moderate
Infrastructure Failure	2	2	4	4	2.50	Moderate
Human Disease	2	3	2	4	2.50	Moderate
*Grass/Wildland Fire	4	1	1	1	2.35	Moderate
*Dam Failure	1	3	4	4	2.35	Moderate
Extreme Heat	2	2	1	3	1.95	Low
Animal/Plant/Crop Disease	1	2	1	4	1.60	Low
Earthquake	1	1	4	1	1.45	Low
Expansive Soils	2	1	1	1	1.45	Low
Sinkholes/Landslide	1	1	2	1	1.15	Low

\* = included in 2009 Polk County Multi-jurisdictional Hazard Mitigation Plan

## Next Steps in the Planning Process

- Data Collection Guides Due August 30, 2013 to AMEC
- 2<sup>nd</sup> Planning Meeting scheduled for **Thursday, October 17, 2013**
  - Develop Goals and Objectives
  - Validate Critical Facilities
- 3<sup>rd</sup> Planning Meeting scheduled for **Thursday, January 9, 2014**
- **Don't Forget to Turn in Soft Match Time Forms as you work on data!**