Columbia County
EMERGENCY MANAGEMENT AGENCY

All-Hazard Mitigation Plan Update Columbia County, PA

Public Review of Draft Plan
September 20, 2016

Agenda

- Welcome and Introductions
- Project Overview
- Draft Plan Review
  - Planning Process
  - Risk Assessment
  - Capability Assessment
  - Mitigation Strategy
  - Plan Maintenance
- Planning Timeline
- Question and Comment Session

Project Overview

- What is Hazard Mitigation?
- What is a Hazard Mitigation Plan?
- What is the Purpose of a Hazard Mitigation Plan?

Draft Plan Findings Review

- Planning Process
- Risk Assessment
- Capability Assessment
- Mitigation Strategy
- Plan Maintenance

Planning Process

- Participation Status
- Planning Team
- Meetings

Risk Assessment
Hazard Profiles

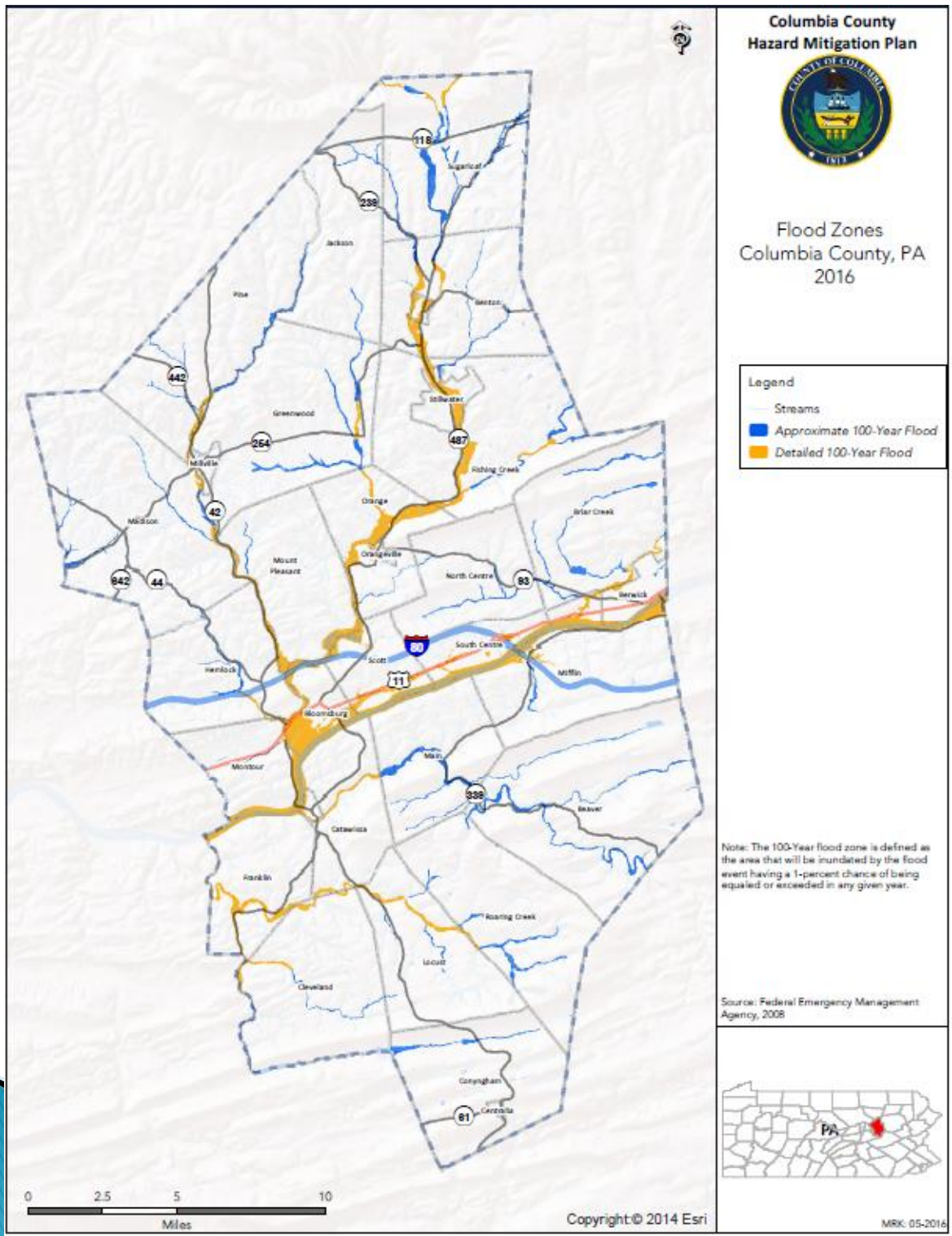
- Location and Extent
- Range of Magnitude
- Past Occurrence
- Future Occurrence
- Vulnerability

Risk Assessment

HAZARD RISK	HAZARD NATURAL (N) or MAN-MADE (M)	RISK ASSESSMENT CATEGORY					RISK FACTOR
		PROBA-BILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURA-TION	
HIGH	Flood, Flash Flood, Ice Jam (N)	4	3	3	2	3	3.2
	Environmental Hazards (M)	3	3	3	4	2	3.0
	Winter Storm (N)	4	2	4	1	2	2.9
	Tornado, Windstorm (N)	4	2	3	2	1	2.7
MODERATE	Nuclear Incident (M)	1	2	3	4	4	2.3
	Dam Failure (M)	1	3	2	4	2	2.2
	Drought (N)	2	1	4	1	4	2.2
	Utility Interruption (M)	2	1	3	3	2	2.0
LOW	Hurricane, Tropical Storm, Nor'easter (N)	2	2	2	1	2	1.9
	Landslide (N)	2	1	3	2	2	1.9
	Radon Exposure (N)	2	1	1	4	4	1.9
	Levee Failure (M)	1	2	1	4	3	1.8
	Pandemic (N)	2	1	2	1	4	1.8
	Wildfire (N)	2	1	2	3	1	1.7
	Earthquake (N)	1	1	1	4	1	1.3

Risk Assessment

Flood, Flash Flood, Ice Jam

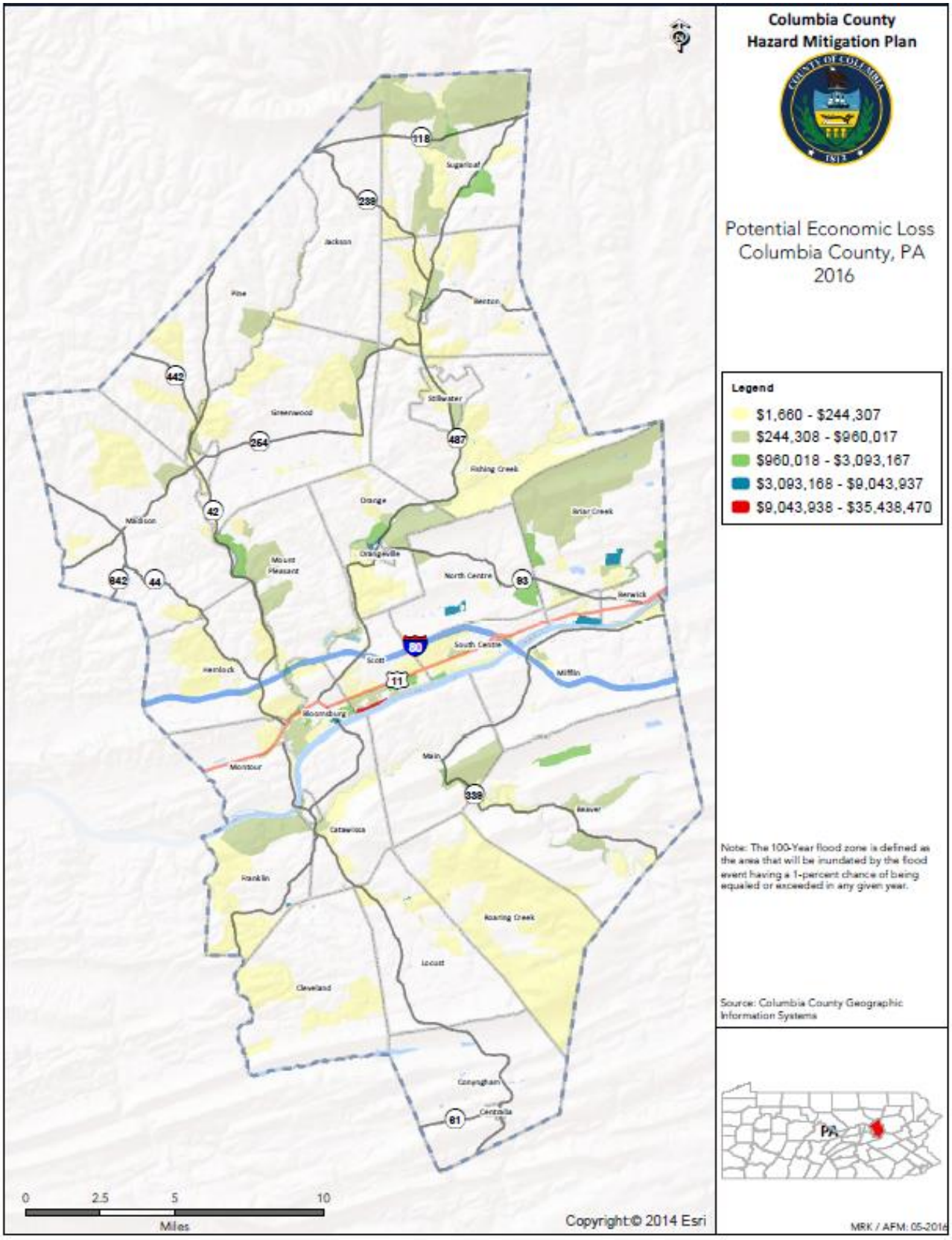


Risk Assessment

Flood, Flash Flood, Ice Jam Vulnerability

Municipality	Total Addressable Structures in SFHA	% of Total Addressable Structures in SFHA	Total Assessed Value of Addressable Structures in SFHA	Total Population (2.39 ppl per Household)	Estimated Population in SFHA (2.39 ppl per Household)
Beaver Township	10	2.2%	$504,381	1,102	24
Benton Borough	169	39.7%	$13,651,637	1,018	404
Benton Township	63	9.7%	$3,319,742	1,556	151
Berwick Borough	62	1.3%	$2,701,549	11,278	148
Town of Bloomsburg	434	10.8%	$40,817,149	9,598	1,037
Briar Creek Borough	41	12.6%	$20,818,270	779	98
Briar Creek Township	122	7.7%	$5,273,381	3,771	292
Catawissa Borough	30	4.4%	$1,064,694	1,647	72
Catawissa Township	12	2.5%	$640,208	1,140	29
Centralia Borough	-	-	-	7	-
Cleveland Township	49	8.4%	$5,791,411	1,396	117
Conyngham Township	1	0.2%	$1,886,854	1,042	2
Fishing Creek Township	97	11.2%	$3,223,733	2,070	232
Franklin Township	39	12.5%	$2,831,748	748	93
Greenwood Township	85	9.5%	$3,393,549	2,144	203
Hemlock Township	92	9.1%	$5,054,756	2,423	220
Jackson Township	1	0.3%	$10,852	817	2
Locust Township	49	6.5%	$1,920,787	1,804	117
Madison Township	8	1.1%	$306,388	1,812	19
Main Township	19	3.4%	$282,815	1,346	45
Mifflin Township	31	2.9%	$2,275,671	2,524	74
Millville Borough	4	0.9%	$170,594	1,056	10
Montour Township	17	2.7%	$1,399,765	1,503	41
Mt. Pleasant Township	45	6.9%	$1,952,624	1,558	108
North Centre Township	16	1.8%	$5,299,906	2,158	38
Orange Township	106	16.8%	$3,993,146	1,508	253
Orangeville Borough	13	7.7%	$514,904	402	31
Pine Township	14	2.5%	$683,491	1,336	33
Roaring Creek Township	22	5.8%	$945,199	903	53
Scott Township	120	4.6%	$10,236,912	6,216	287
South Centre Township	41	4.2%	$3,405,510	2,314	98
Stillwater Borough	46	37.7%	$1,854,494	292	110
Sugarloaf Township	107	14.6%	$7,749,548	1,749	256
Total	**1,965**	-	**$153,975,669**	**71,019**	**4,696**

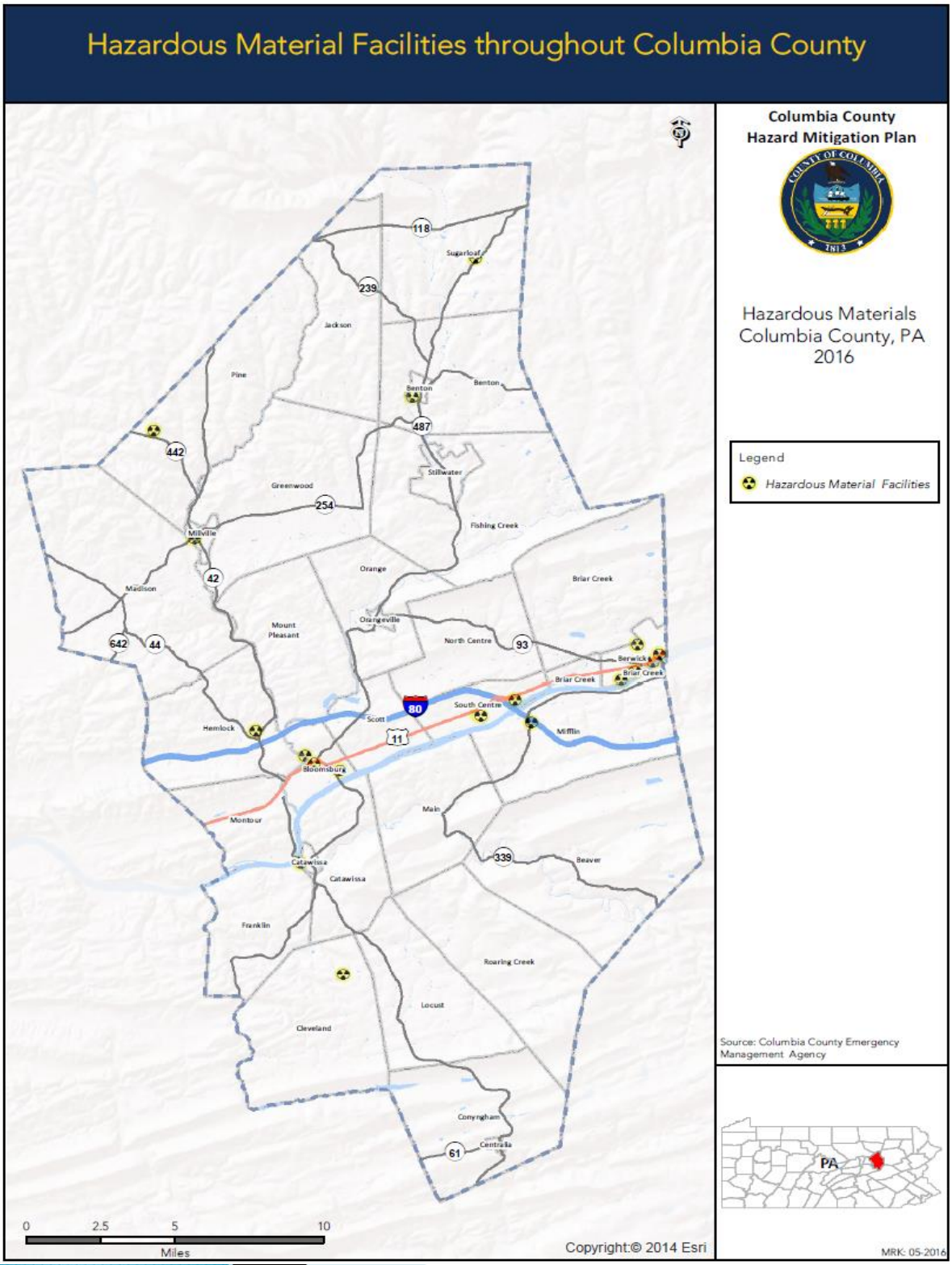
Risk Assessment



Risk Assessment
Environmental Hazards

- Includes:
  - Hazardous materials release
  - Oil & gas well incidents
  - Coal mining incidents
- 58 total Facilities throughout the county that use/store hazardous materials
  - 19 use/store EHS
- Transportation of hazardous materials by rail or roadway poses the biggest threat
- Atlantic Sunrise Expansion Project if completed will pose same threat as other hazardous materials transportation methods

Risk Assessment
Environmental Hazards



Risk Assessment
Environmental Hazards

- **2 oil & gas and 16 gas well permits have been issued**
  - Only 3 wells have been drilled as of June 2016
- **Vulnerable to ground water contamination or potential well blowout**

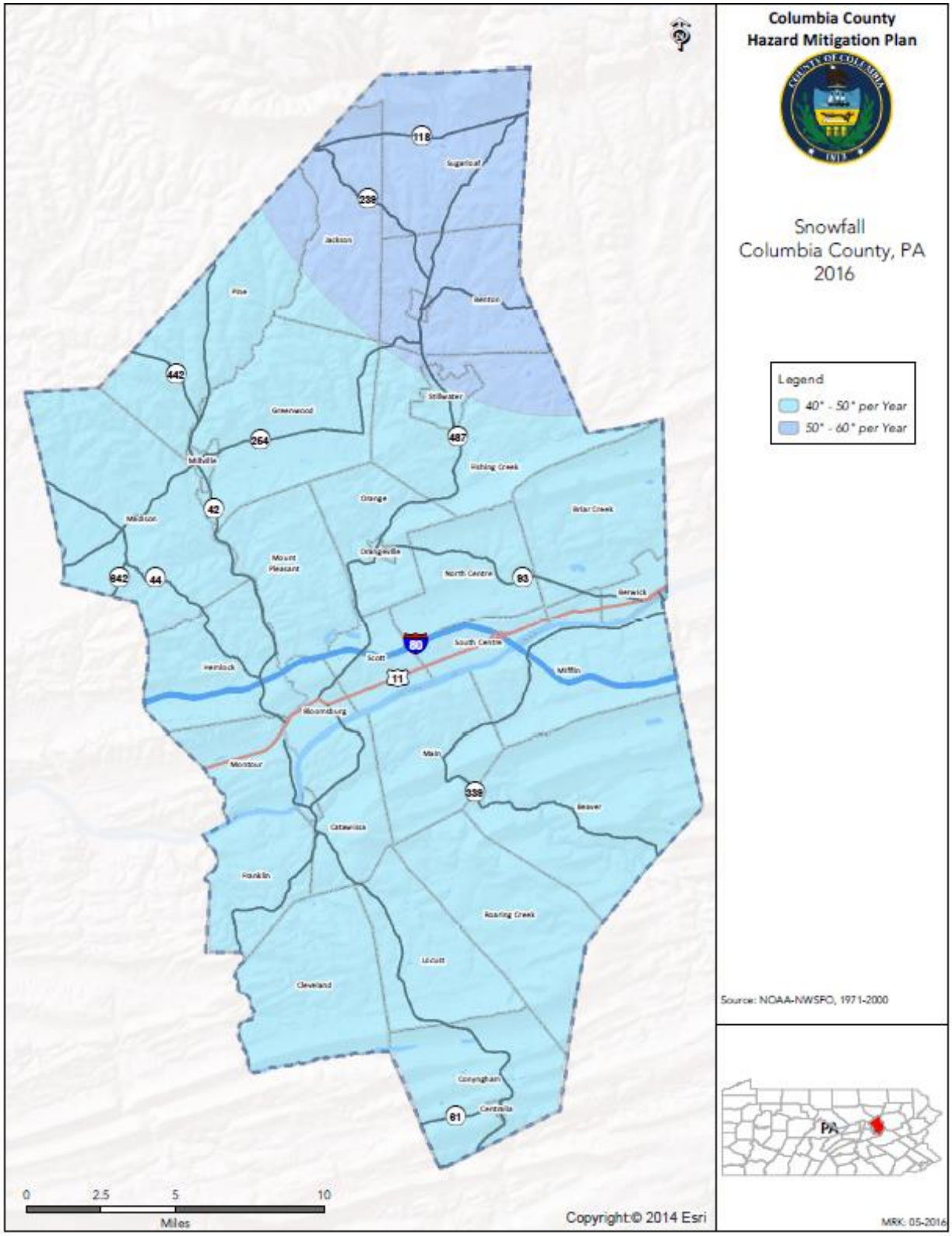
Risk Assessment
Environmental Hazards

- **400 structures in coal deposit areas**
  - 13 are critical facilities
- **Vulnerable to mine subsidence, fire**

Figure 4.3.12-4: : Centralia Mine Fire damage to PA Rt. 61 (Encyclopedia of Earth, 2006)

Risk Assessment

Winter Storm



Risk Assessment

Winter Storm

- Equal vulnerability across all jurisdictions
- Higher structure vulnerability for aging and older buildings
- Health concerns and safety concerns
- Issues for stranded residents, tourists, and motorists

Risk Assessment

Tornado, Windstorm

- 8 – documented tornadoes since 1950 (NCDC)
- Most of Columbia County – six to fifteen F3, F4, or F5 tornadoes per 3,700 square miles
- 30 – 39 percent chance per year
- Increased construction near forested areas results in a higher vulnerability or more extensive damage

Risk Assessment

Tornado, Windstorm

- **58 – documented windstorm events greater than 50 knots in the past 10 years (NCDC)**
- **Manufactured homes are especially vulnerable:**
  - 2987 trailers in the county
  - 20.2 % of addressable structures
- **Bloomsburg University**
  - No more or less vulnerable
  - Wind load criteria for new construction may reduce vulnerability over time

Risk Assessment

Moderate-Ranked Hazards

- Nuclear Incident
- Dam Failure
- Drought
- Utility Interruption

Risk Assessment

Low-Ranked Hazards

- Hurricane, Tropical Storm, Nor'easter
- Landslide
- Radon Exposure
- Levee Failure
- Pandemic
- Wildfire
- Earthquake

Capability Assessment

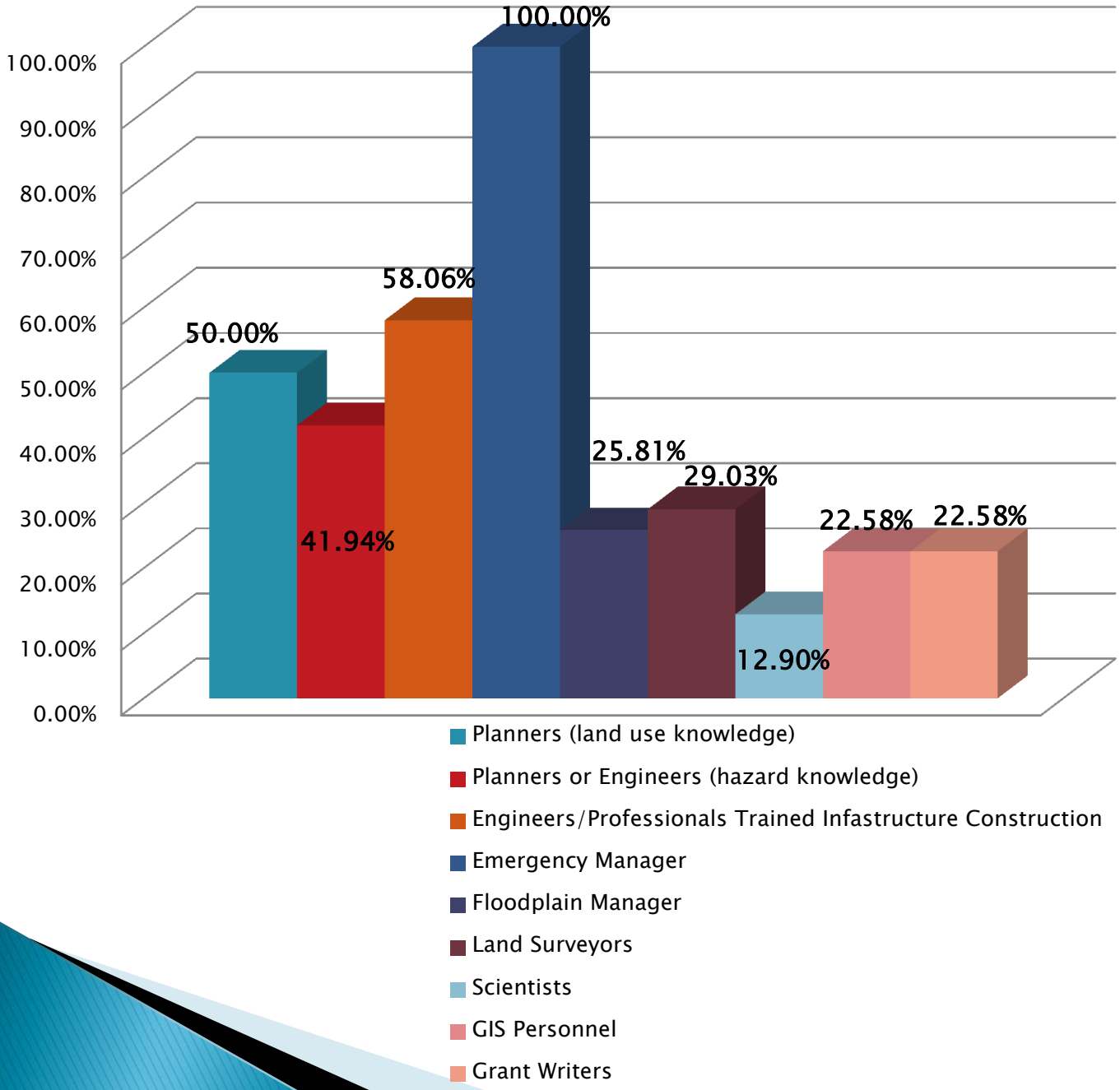
- **Capability Assessment Surveys were completed by municipal representatives to assess:**
  - Planning and Regulatory Capabilities
  - Administrative and Technical Capabilities
  - Fiscal Capabilities
  - Political Capability

Capability Assessment
Planning and Regulatory

- 97 % have an emergency operations plan
- 91% have a hazard mitigation plan
- All participate in the NFIP
- 56% have an evacuation plan

Capability Assessment

Administrative and Technical

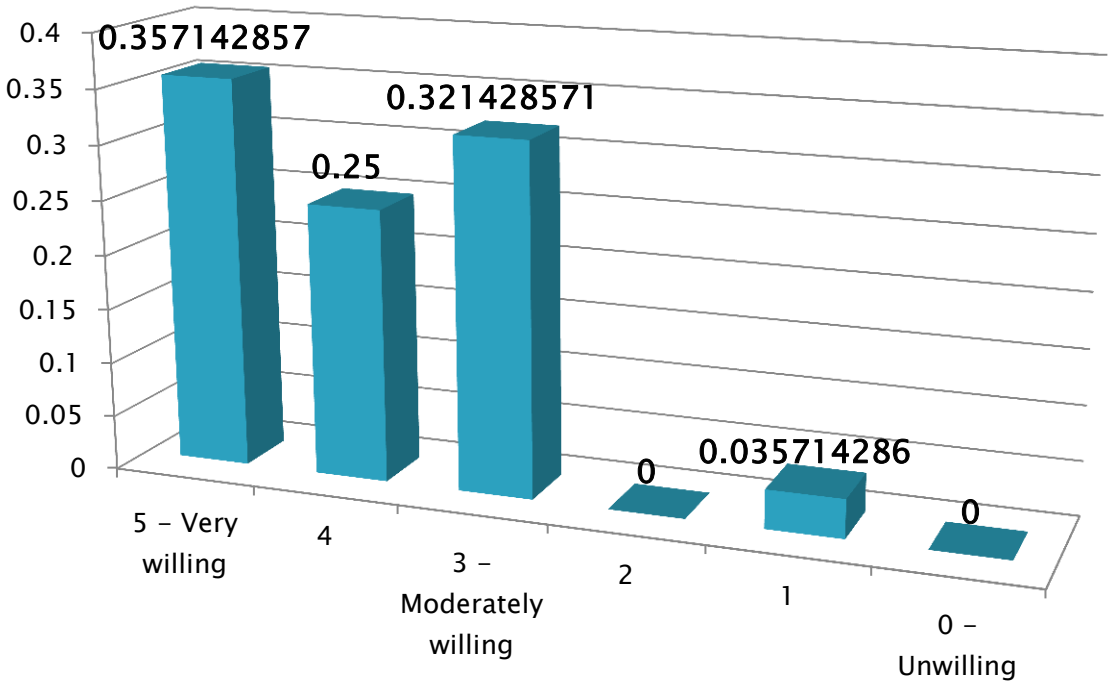


Capability Assessment
Fiscal

- 45.16 % have access to CDBG funds for hazard mitigation
- 19.35% Water/Sewer Fees
- 25.18% Partnering Arrangements or Intergovernmental Arrangements
- 12.9% General Obligation, Revenue, and/or Special Tax Bonds

Capability Assessment
Political

- Self assessment of political willingness to enact policies or programs
  - 5-very willing
  - 3-moderately willing
  - 0-unwilling



Mitigation Strategy

- The approach you take to reduce or avoid long-term vulnerabilities to identified hazards

- Includes:
  - Goals
  - Objectives
  - Actions and Projects

Mitigation Strategy

2017 Goals

GOAL 1	***Reduce vulnerability, including loss of life and damage to property, to natural and human-made hazards.***
GOAL 2	***Promote disaster-resistant future development.***
GOAL 3	***Improve emergency warning and response capabilities and procedures to better protect the citizens of Columbia County.***
GOAL 4	***Protect existing natural resources and preserve environmentally sensitive areas where hazard potential is high.***
GOAL 5	***Increase Public Awareness regarding natural and human-made hazard risks, preparedness and mitigation.***
GOAL 6	***Implement structural projects to reduce the impacts of hazards.***

Mitigation Strategy
Mitigation Action Plan

- **Identifies a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard.**

- **Example:**
  - *Goal:* Increase public awareness and support for hazard mitigation.
  - *Objective:* Publicize the hazard mitigation plan and encourage the implementation of mitigation actions.
  - *Action:* Set up a booth at the Bloomsburg Fair and distribute hazard mitigation information.

Mitigation Strategy

Mitigation Techniques

- Prevention
- Property Protection
- Public Education and Awareness
- Natural Resource Protection
- Structural Projects
- Emergency Services

Mitigation Strategy

Mitigation Actions & Projects

Mitigation Action Title	Jurisdiction	Technique	Hazard Addressed
ACTION: Coordinate with the U.S.G.S., local watershed organizations to increase the number of U.S.G.S. and Integrated Flood Observing and Warning System (IFLOWS) rain and stream gauges in the County, specifically along Fishing Creek, as a potential enhancement to the existing Susquehanna River Basin Flood Forecast and Warning System.	Columbia County	Prevention; Emergency Services	Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter
ACTION: Acquire database (hard copy) of all properties within township flood zone. Present and make available information for public.	Fishing Creek Township	Public Education & Awareness; Emergency Services	Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter
ACTION: Upgrade Radiological Emergency Preparedness activities for the Susquehanna Steam Electric Station to ensure they comply with FEMA's 2016 Radiological Emergency Preparedness Program guidance.	Berwick & Briar Creek Boroughs; Beaver, Briar Creek, North Centre, South Centre, & Fishing Creek Townships	Prevention; Emergency Services	Nuclear Incidents
ACTION: Publish and distribute newsletters and website information to township residents on flood resources. Conduct workshops on managing storm water through use of raingardens and other appropriate means.	Hemlock Township; Scott Township	Public Education & Awareness	Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter

Mitigation Strategy

Mitigation Actions & Projects

Mitigation Action Title	Jurisdiction	Technique	Hazard Addressed
ACTION: Create and distribute electronic and print information on radon exposure and radon mitigation systems to homeowners throughout the County, especially those in zip codes with elevated radon test levels.	Columbia County	Public Education & Awareness	Radon Exposure
ACTION: Improve Emergency Communications by converting radio system from analog to digital for interoperability.	Bloomsburg University	Structure & Infrastructure	Flooding; Civil Disturbance; Environmental Hazards; Hurricane; Tropical Storm; Pandemic; Tornado, Windstorms; Terrorism; Nuclear Incidents; Winter Storm
ACTION: Foster increased cooperation and communication between Beaver Township and the owners of privately held dams that might impact downstream communities through outreach, education, and dam failure scenarios or exercises, as appropriate. Encourage dam owners to create an emergency action plan that addresses the hazard.	Beaver Township	Prevention; Public Education & Awareness	Dam Failure
ACTION: Investigate potential methods to protect the historical covered bridges through processes such as elevations, relocations, or potential means to restrict or remove debris which may flow down the waterways and cause damage to the bridges.	Columbia County	Prevention, Structural Projects, Property Protection	Dam Failure; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Levee Failure; Tornado, Windstorm

Plan Maintenance

- The Plan will be updated every 5 years or following a disaster event.
- Between updates, plan will be monitored and evaluated.
- Columbia County EMA & Resiliency make up the Hazard Mitigation Steering Committee (HMSC) and will lead plan maintenance.

Timeline

- **Public Comment Period**
  - *September 20, 2016 – October 20, 2016*
- **Submit plan to PEMA/FEMA for review**
  - *November 1, 2016*
- **Distribute to municipalities for adoption**
  - *After we receive PEMA/FEMA approval*

Questions & Answer

Columbia County Hazard Mitigation Plan Update Project Website:
ema.columbiapa.org
Click “HMP” tab

Jessica Shoup
HMP Project Manager | Columbia County EMA
PO Box 380 | Bloomsburg, PA 17815
Fax: 570-784-2975
jshoup@columbiapa.org