

Risk MAP Discovery Meeting

Matanuska-Susitna Borough



April 23, 2013



FEMA



Agenda

- Introductions
- Overview of Risk MAP
- Community Discussion
- Wrap Up

Introductions



How Risk MAP can help your community.....

Increase Community Resiliency

Develop GIS data
to capture
community assets

Capture or
Develop Hazard
Data

Estimate Losses

Develop Problem
Statements



Tables and Maps of Community Assets

Maps & Data of Prevalent Hazards

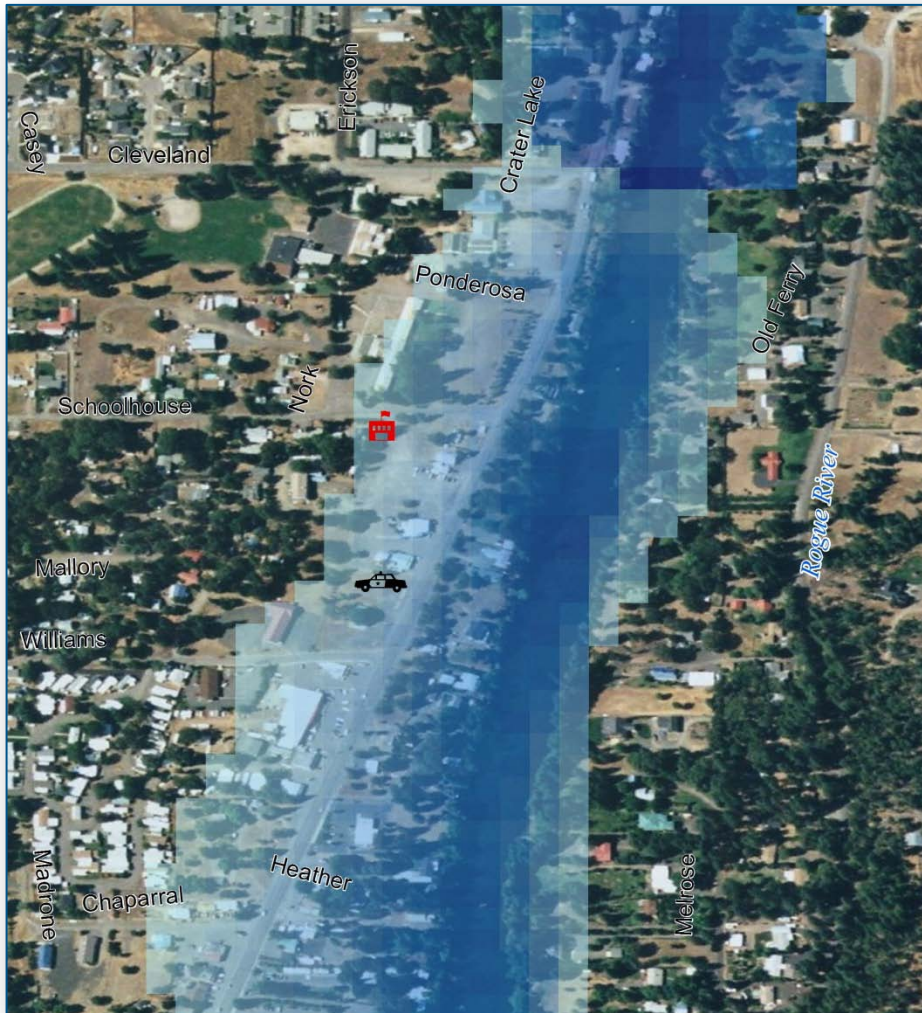
Mitigation Plan Input

Develop GIS data
to capture
community assets

Capture or Develop
Hazard Data

Estimate Losses

Develop Problem
Statements



Potential Community Assets

- Agriculture and Food
- Banking and Finance
- Chemical
- Commercial Facilities
- Communications
- Critical Manufacturing
- Dams
- Defense Industrial Base
- Emergency Services
- Energy
- Government Facilities
- Healthcare
- Information Technology
- Nuclear Reactors, Materials and Waste
- Postal and Shipping
- Transportation Systems
- Water

Develop GIS data
to capture
community assets

Capture or Develop
Hazard Data

Estimate Losses

Develop Problem
Statements

Flood

- Existing Studies
- USACE Studies
- New FEMA Studies

Wildfire

- Alaska DNR – Division of Forestry

Landslide

- Alaska DNR - DGGS

Earthquake/ Tsunami

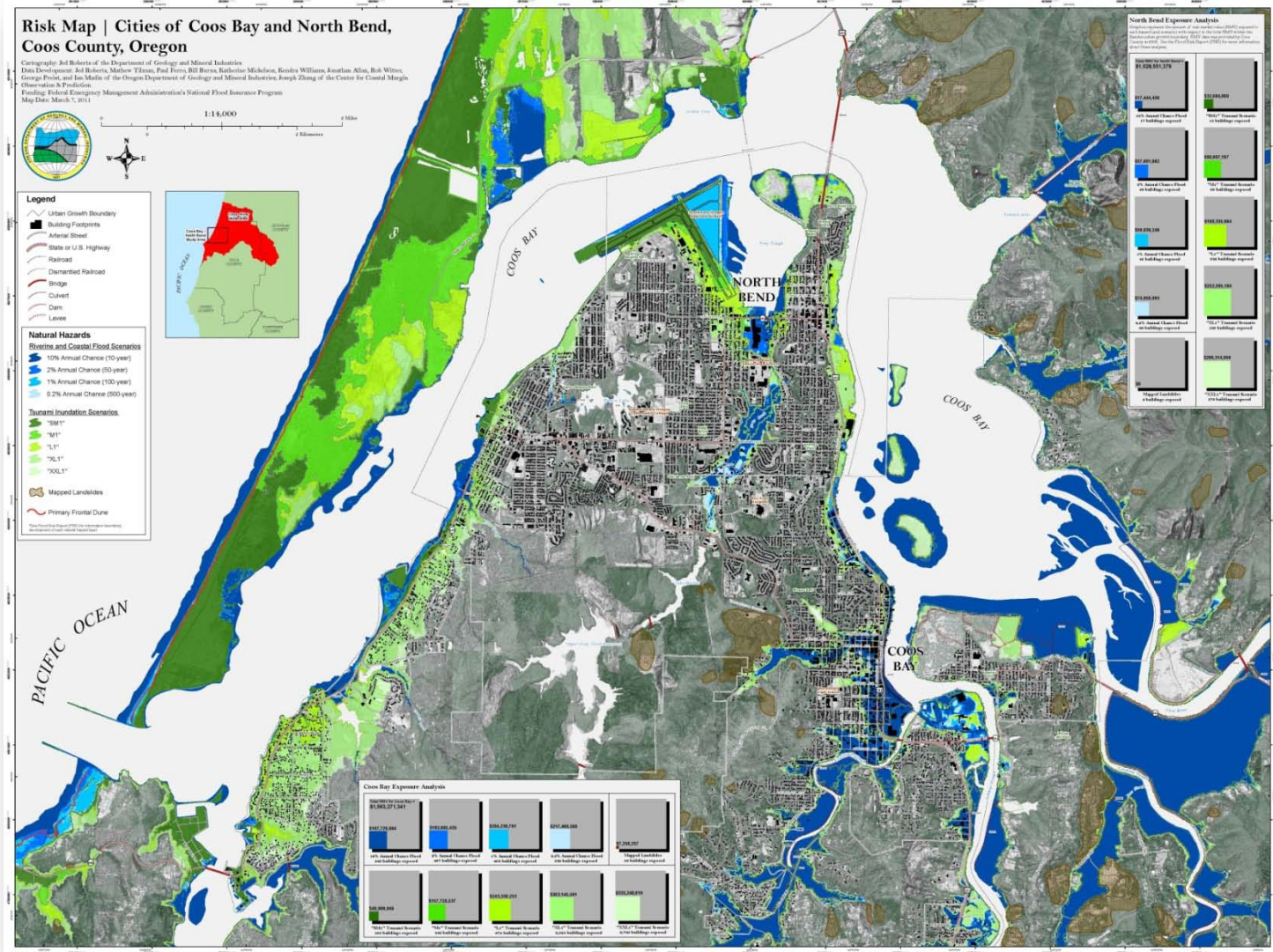
- Alaska DNR - DGGS
- USGS/NOAA

Develop GIS data to capture community assets

Capture or Develop Hazard Data

Estimate Losses

Develop Problem Statements



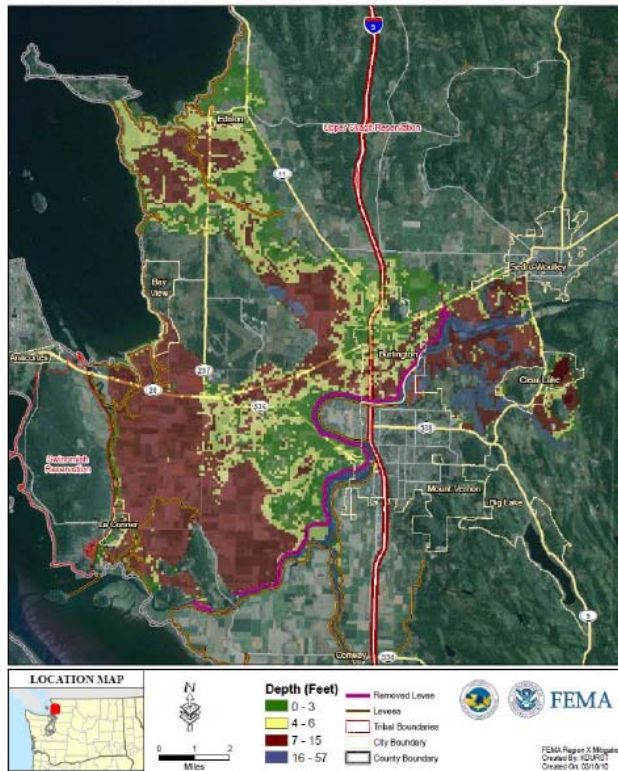
Develop GIS data to capture community assets

Capture or Develop Hazard Data

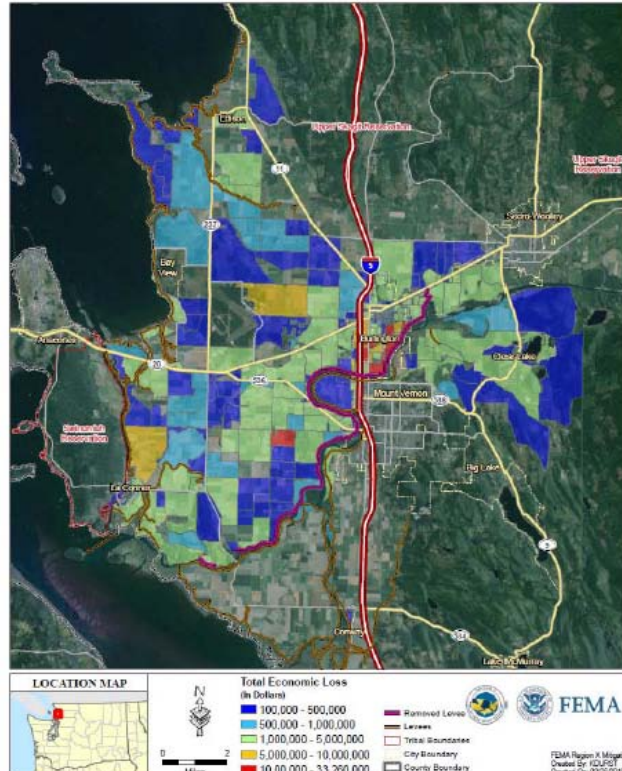
Estimate Losses

Develop Problem Statements

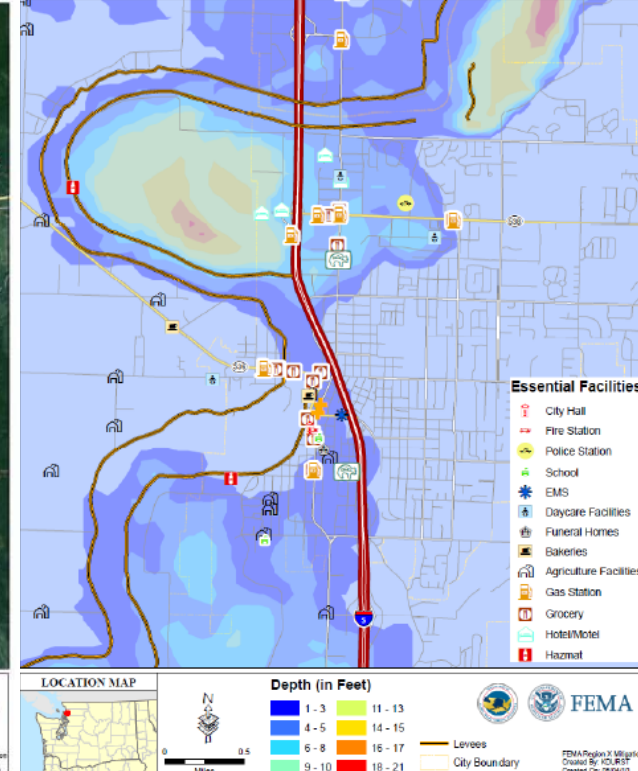
1% Annual Chance Flood Depth for Skagit River, Skagit County, WA
Derived from Right Bank Levees Removed (Except South Fork) - Burlington



Total Economic Loss for 1% Annual Chance Flood Depth of Skagit River, Skagit County, WA
Right Bank Levees Removed in Burlington (except South Fork)



Essential Facilities located in the City of Burlington with Flood Depth
Derived from Combined Levee Removal - Scenario 3



Loss Category	Residential	Commercial	Industrial	Others	TOTAL
Building Loss					
Building	\$135.7M	\$44.3M	\$11.7M	\$14.8M	\$206.5M
Content	\$86.2M	\$113.5M	\$24.5M	\$45.2M	\$269.4M
Inventory	\$0	\$4.7M	\$4.8M	\$5.5M	\$15.0M
Subtotal	\$221.9M	\$162.4M	\$41.1M	\$65.5M	\$491.0M
Business Interruption					
Income	\$40K	\$710K	\$10K	\$390K	\$1.2M
Relocation	\$440K	\$280K	\$0	\$0	\$720K
Rental Income	\$190K	\$190K	\$0	\$0	\$380K
Wage	\$110K	\$850K	\$0	\$2.1M	\$3.0M
Subtotal	\$780K	\$2.0M	\$10K	\$2.4M	\$5.3M
TOTAL	\$222.7M	\$164.5M	\$41.1M	\$67.9M	\$496.2M

Table 12. Scenario Comparison of HAZUS Results for 2% annual chance flood

50 year Scenario	Total Economic Loss	Economic Loss Ratio	Substantially Damage Buildings	Displaced Population	Debris (Tons)
183,780cfs Discharge near Sedro-Woolley					
Scenario A (Burlington Levee)	\$411.5 M	17.0%	144	13,820	76,645
Scenario B (Mount Vernon Levee)	\$478.8M	19.8%	135	10,368	79,697
Scenario D (Combined Levees)	\$720.5 M	29.8%	143	19,363	117,875

Develop GIS data
to capture
community assets

Capture or Develop
Hazard Data

Estimate Losses

Develop Problem
Statements

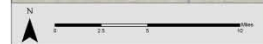
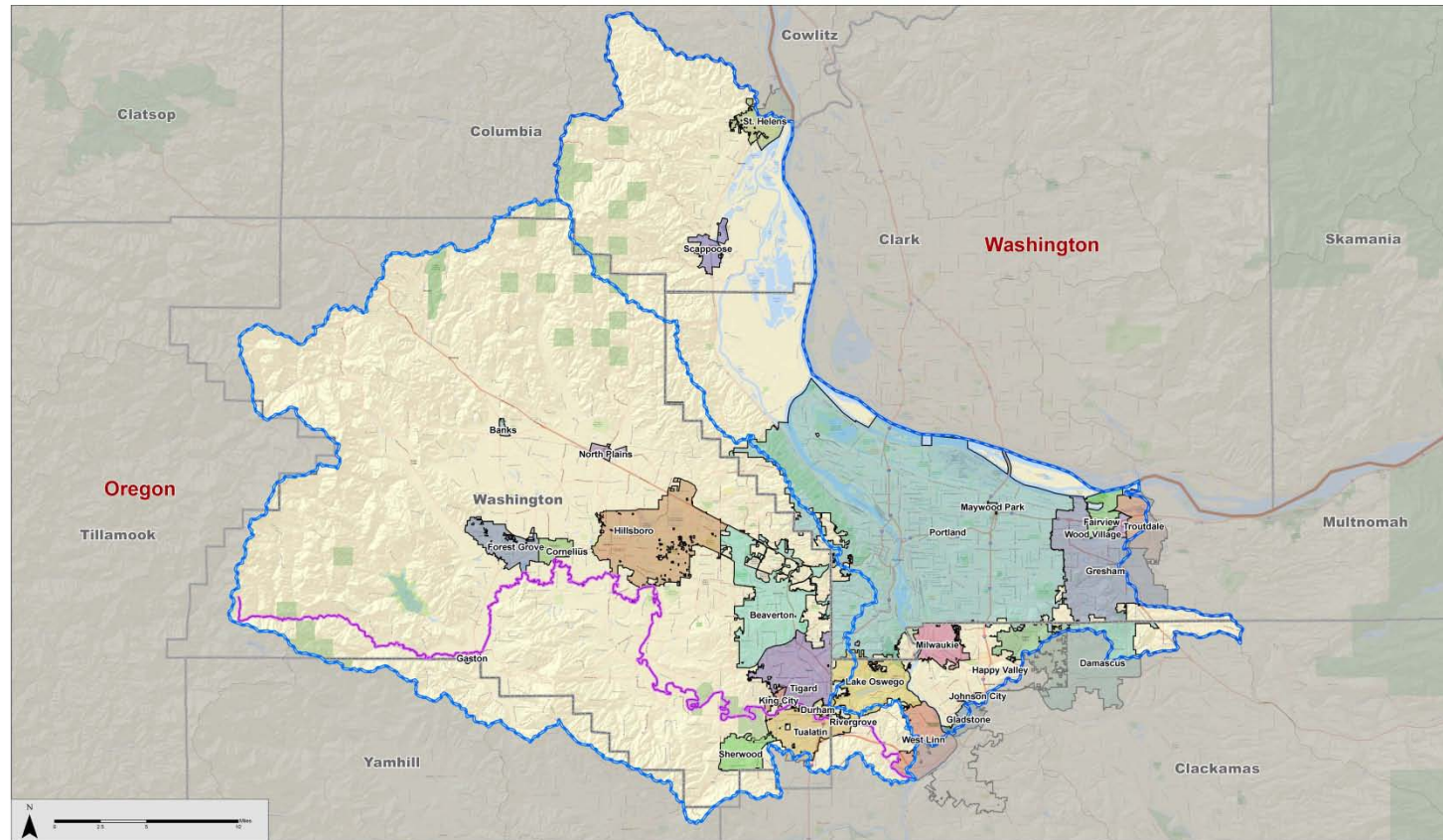
Review and analyze the results of the hazard loss estimations

- Identify areas with highest vulnerabilities on a map

Develop list of problem statements based on findings

- The manufactured home park is the most vulnerable area to flooding. This area floods each year. Flooding is caused by excessive rains
- The sewage treatment plant is located in the 100-year floodplain
- The lighthouse, of significant historic value, is threatened by erosion from coastal flooding. The rate of erosion is 5 feet per year.

How we can help..... Mapping Needs



MAP SYMBOLOLOGY

- Tualatin River
- States
- Federal Lands
- Watershed
- Political Areas
- Counties

WATERSHED LOCATOR



**NATIONAL FLOOD INSURANCE PROGRAM
Discovery Map**

LOWER WILLAMETTE WATERSHED
TUALATIN WATERSHED

HUC-8 Code
17090012
17090010

Risk MAP DFIRM/FIS

FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

DEL NORTE COUNTY

CALIFORNIA AND INCORPORATED AREAS

INCORPORATED CITY/ TOWN	COUNTY NUMBER
DEL NORTE COUNTY	000000
DEL NORTE COUNTY	000000

EFFECTIVE:
SEPTEMBER 28, 2006

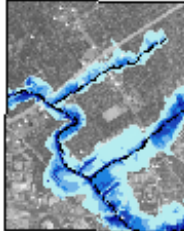
FLOOD INSURANCE STUDY NUMBER:
060420000A



NOTES TO USERS


This map is to be used in conjunction with the National Flood Insurance Program (NFIP) Flood Insurance Study (FIS) and the Flood Insurance Risk Map (FIRM) for Del Norte County, California. The map is intended for informational purposes only and does not constitute a guarantee or warranty of any kind. The map is based on the best available data and is subject to change without notice. The map is not to be used for any purpose other than that for which it was intended. The map is not to be used for any purpose other than that for which it was intended.

RISK MAP

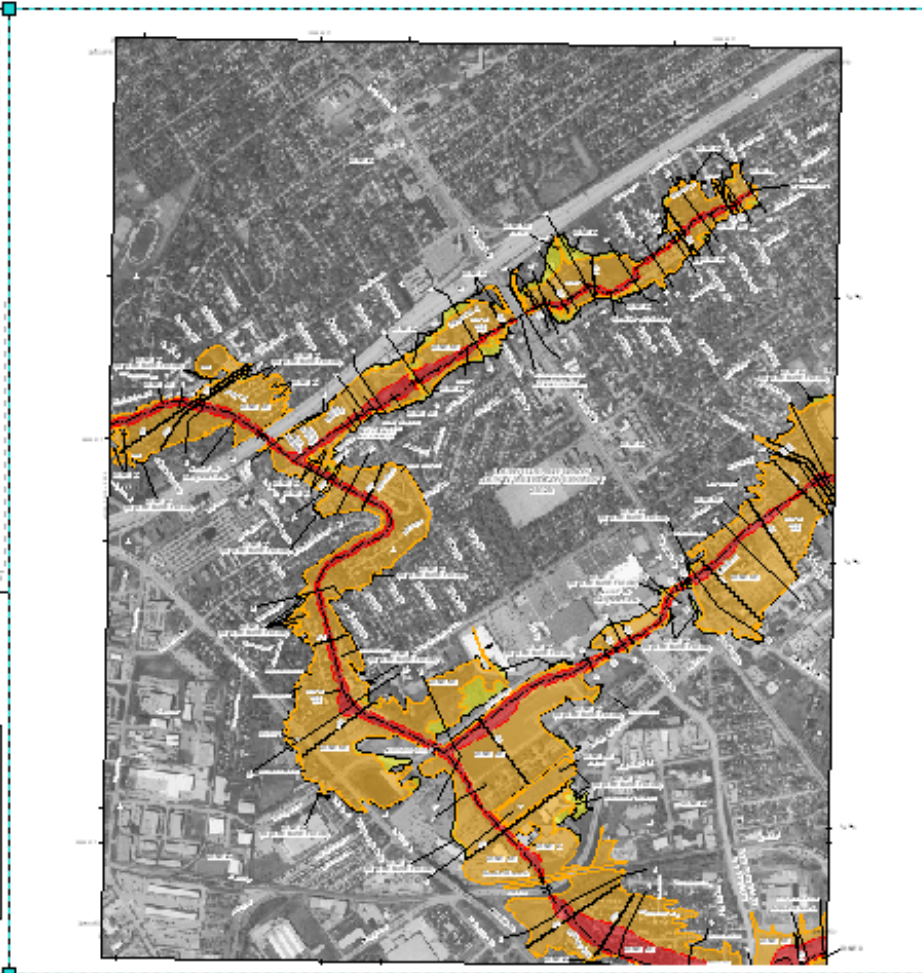


Scale: 1:25,000

PANEL INDEX



Scale: 1:25,000



LEGEND

REGULATED AREAS
REGULATED AREAS ARE SHOWN IN YELLOW ORANGE OR RED. THESE AREAS ARE SUBJECT TO FLOOD DAMAGE AND ARE THEREFORE ELIGIBLE FOR FLOOD INSURANCE UNDER THE NFIP.

FLOOD ZONES
FLOOD ZONES ARE SHOWN IN YELLOW ORANGE OR RED. THESE AREAS ARE SUBJECT TO FLOOD DAMAGE AND ARE THEREFORE ELIGIBLE FOR FLOOD INSURANCE UNDER THE NFIP.

BOUNDARIES
BOUNDARIES ARE SHOWN IN BLACK. THESE AREAS ARE SUBJECT TO FLOOD DAMAGE AND ARE THEREFORE ELIGIBLE FOR FLOOD INSURANCE UNDER THE NFIP.

STREETS
STREETS ARE SHOWN IN BLACK. THESE AREAS ARE SUBJECT TO FLOOD DAMAGE AND ARE THEREFORE ELIGIBLE FOR FLOOD INSURANCE UNDER THE NFIP.

WATER BODIES
WATER BODIES ARE SHOWN IN BLUE. THESE AREAS ARE SUBJECT TO FLOOD DAMAGE AND ARE THEREFORE ELIGIBLE FOR FLOOD INSURANCE UNDER THE NFIP.

UNDEVELOPED AREAS
UNDEVELOPED AREAS ARE SHOWN IN GREEN. THESE AREAS ARE SUBJECT TO FLOOD DAMAGE AND ARE THEREFORE ELIGIBLE FOR FLOOD INSURANCE UNDER THE NFIP.

PLANNED AREAS
PLANNED AREAS ARE SHOWN IN PINK. THESE AREAS ARE SUBJECT TO FLOOD DAMAGE AND ARE THEREFORE ELIGIBLE FOR FLOOD INSURANCE UNDER THE NFIP.

UNINSURABLE AREAS
UNINSURABLE AREAS ARE SHOWN IN BLACK. THESE AREAS ARE NOT ELIGIBLE FOR FLOOD INSURANCE UNDER THE NFIP.

Legend symbols:
Yellow: Special Flood Hazard Area (SFHA) - 1% Annual Chance Flood (ACF)
Orange: SFHA - 1% ACF
Red: SFHA - 1% ACF
Black: Undeveloped Areas
Blue: Water Bodies
Green: Uninsurable Areas
Pink: Planned Areas
Black: Uninsurable Areas

Scale: 1:25,000

NFIP

FIRM

FLOOD INSURANCE RISK MAP
FOR DEL NORTE COUNTY, CALIFORNIA
AND INCORPORATED AREAS
SEPTEMBER 28, 2006
FIRM NUMBER: 060420000A

Scale: 1:25,000

How we can help.....

Technical Support & Training

- **NFIP Training and Technical Support**
- **Outreach Support**
- **Hazus Training and Technical Support**
- **Hazard Mitigation Planning Support**

- **...other training needs?**

Community Discussion

- **Determine areas of concern regarding natural hazards**
- **Discuss activities to mitigate natural hazard risk**
- **Identify flood study priorities**
- **Training needs**
- **Potential risk assessments**
- **Communication and public outreach**
- **Discuss additional data, resources, or funding that may be needed to implement solutions**
- **Relationship to mitigation plan**

Review and Prioritize

- **Top flood study priorities?**
- **Other top priorities?**
- **Overall number 1 priority?**

Next Steps

- Draft discovery report within 2 months for your review
- FEMA will review and prioritize potential projects internally based on need and funding availability
- Notify Community of potential projects
- Draft Partnership Agreements with Communities
- Finalize Scopes of Works
- Share Scopes with impacted communities and Finalize Partnership Agreements

Mat-Su Borough Risk MAP Study Team

- **Sally Russell Cox, Alaska DCCED, State RiskMAP Coordinator**
- **Taunnie L. Boothby, Alaska DCCED, State NFIP Coordinator**
- **Ann Y. Gravier, Alaska DHS, State Hazard Mitigation Officer**
- **Kristen Meyers, FEMA Mitigation Planner**
- **Ted Perkins, FEMA Engineer Lead**
- **Jen Monroe, FEMA Risk Analyst**
- **Karen Wood-McGuinness, FEMA NFIP Coordinator**
- **Fred “Sonny” Kunchick, FEMA HMA POC**
- **Emily Whitehead, Project Manager (STARR)**
- **Joshua Crowley, Regional Service Center (RSC) Lead (STARR)**
- **Becca Croft, RSC Outreach/Training Coordinator (STARR)**