

Risk MAP Discovery Meeting

Ketchikan Gateway Borough



July 7, 2013



FEMA



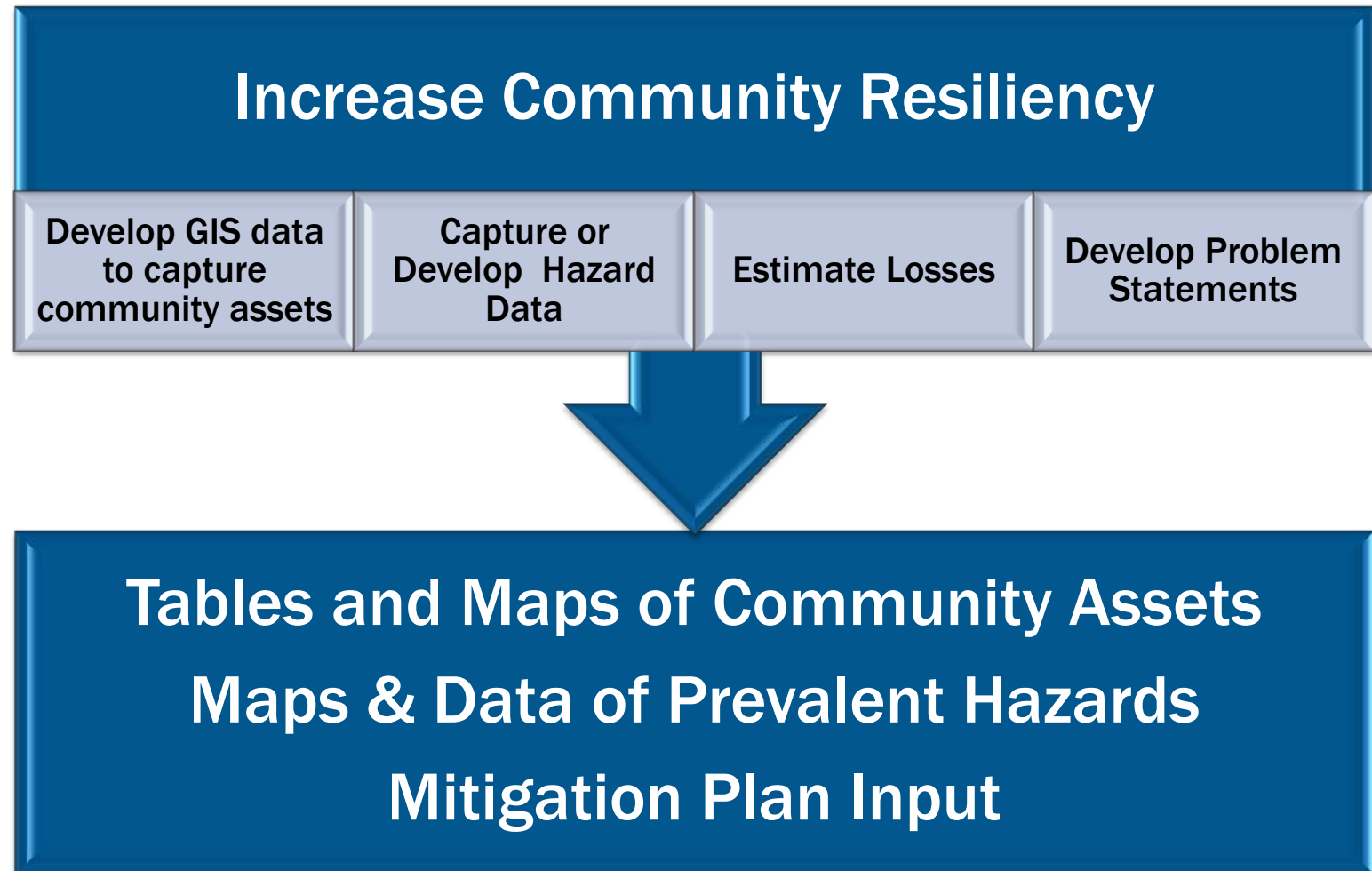
Agenda

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

Introductions



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

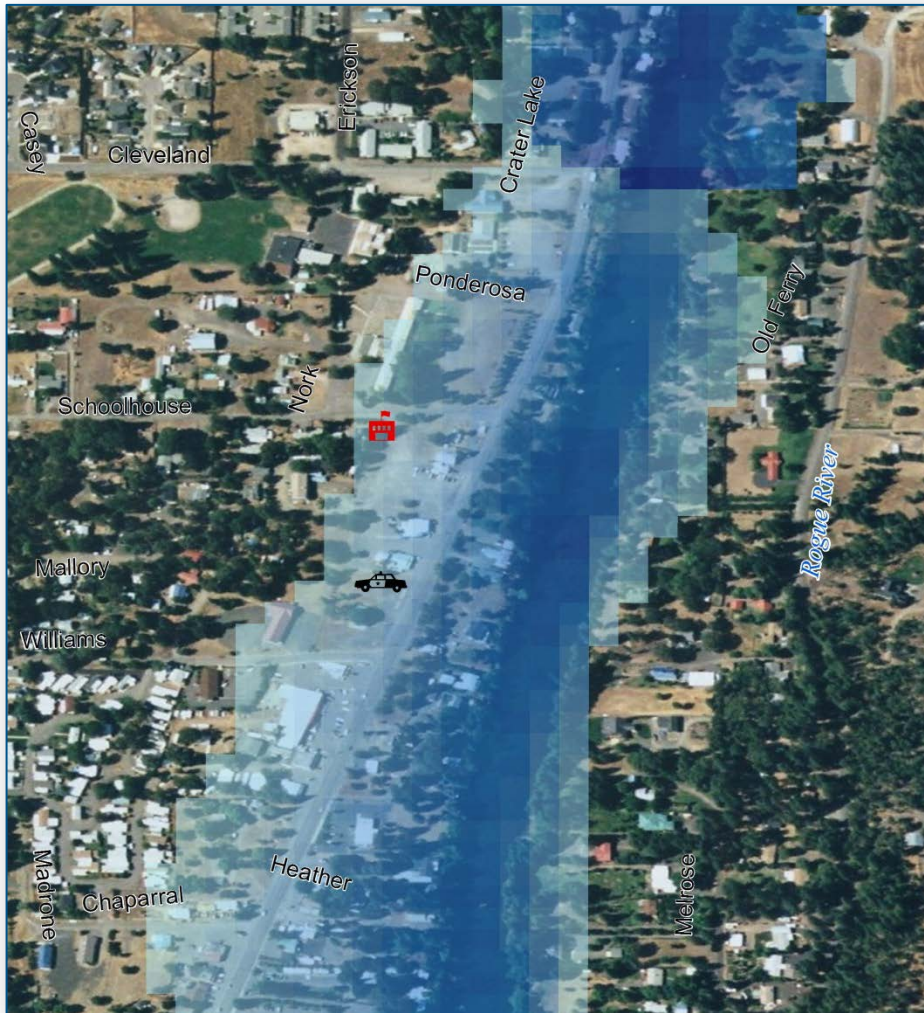


**Develop GIS data
to capture
community assets**

**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

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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

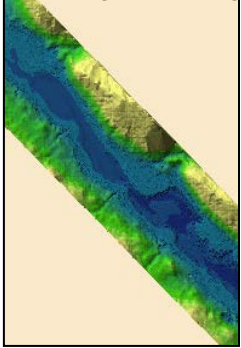
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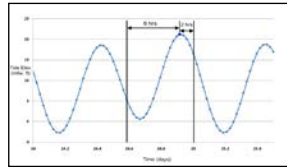
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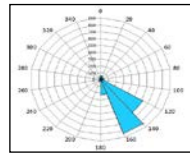
Bathymetry



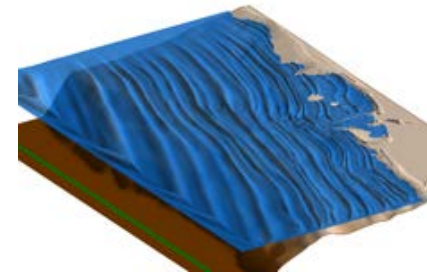
Tides



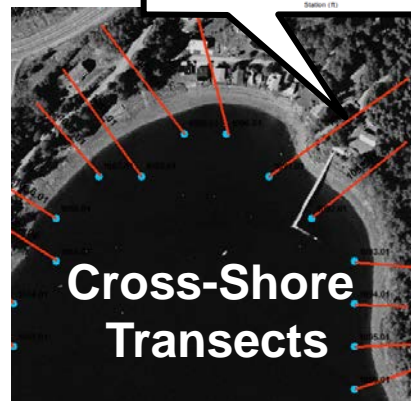
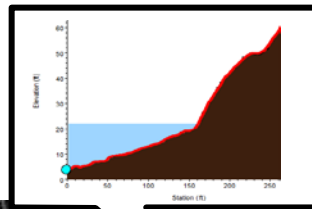
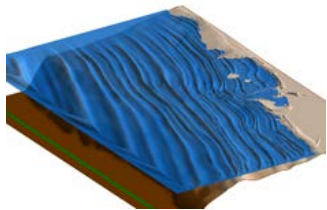
Wind



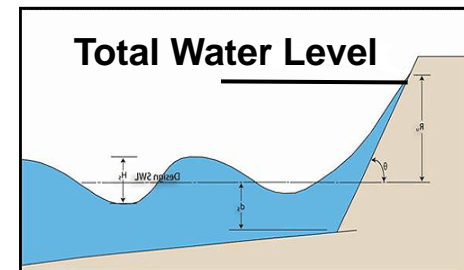
Waves



Wave Data



Wave Runup



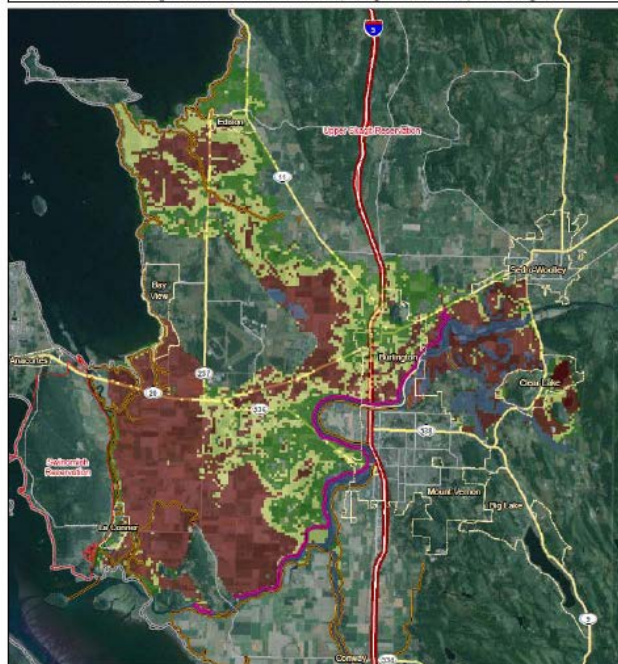
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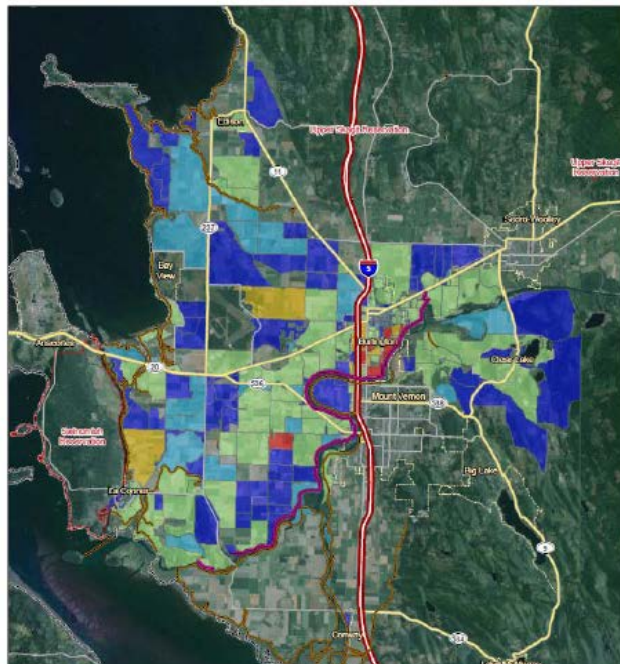
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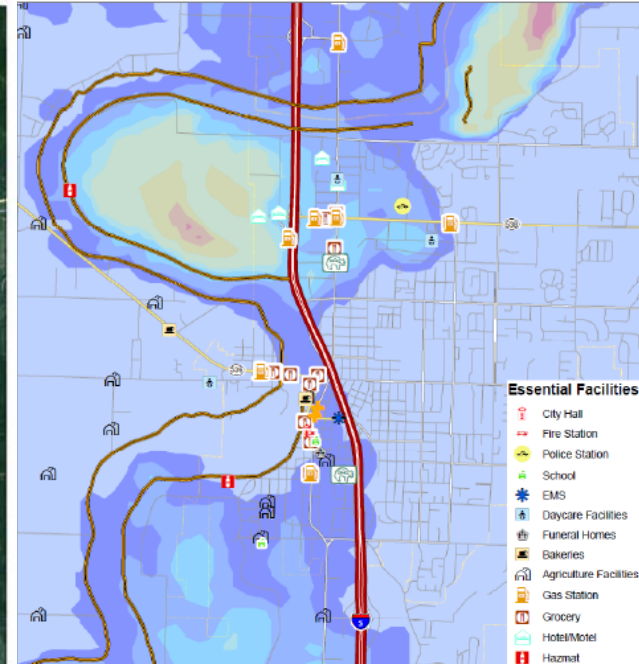
1% Annual Chance Flood Depth for Skagit River, Skagit County, WA
Derived from Right Bank Levees Removed (Except South Fork) - Burlington



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

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Estimate Losses

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Review and analyze the results of the hazard loss estimations

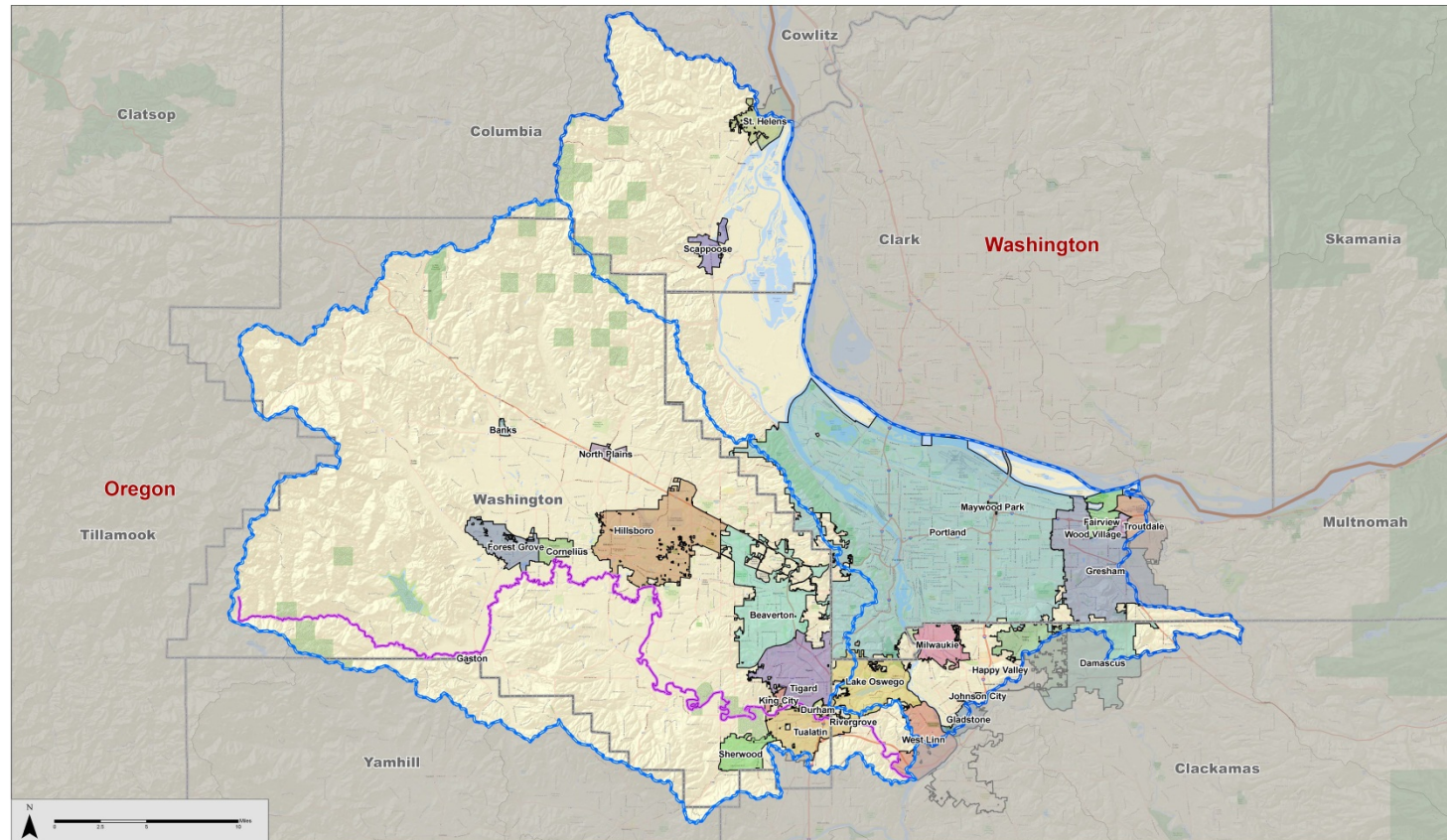
- Identify areas with highest vulnerabilities on a map

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



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

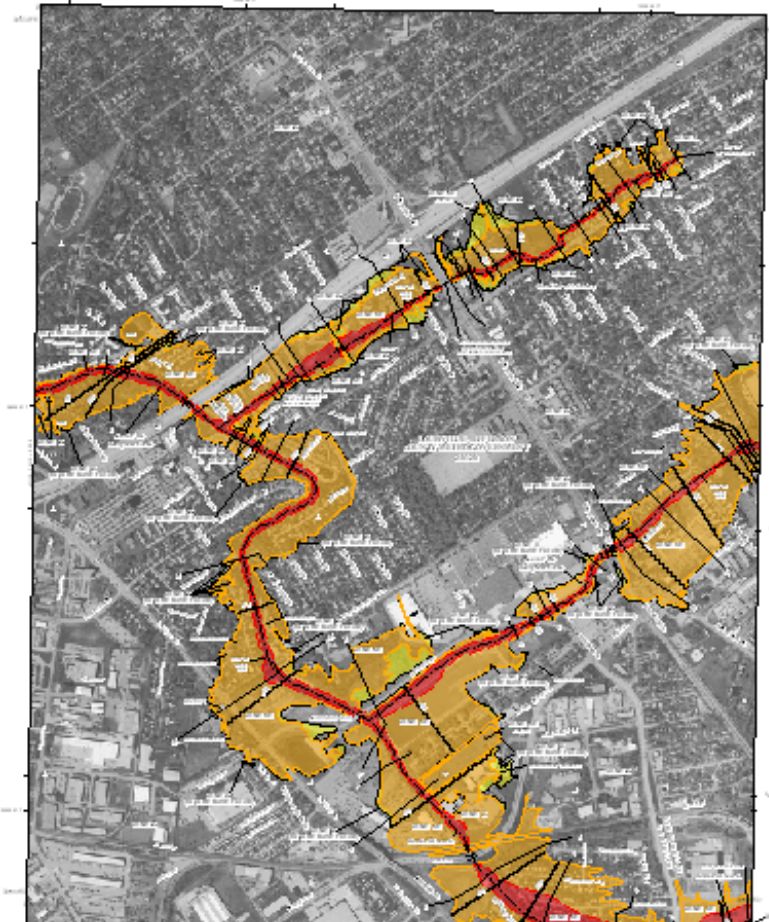
CALIFORNIA AND INCORPORATED AREAS

INSURANCE CODE	COMMUNITY NUMBER
INCIDENT CITY, CITY OF	000000
DEL NORTE COUNTY (ONLY UNINCORPORATED AREAS)	000000



EFFECTIVE:
SEPTEMBER 26, 2006

FLOOD INSURANCE STUDY NUMBER:
0000000000

[illegible][illegible]

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

Sitka 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
- Kelly Stone, FEMA Risk Analyst
- Karen Wood-McGuinness, FEMA NFIP Coordinator
- Fred “Sonny” Kunchick, FEMA HMA POC
- Emily Whitehead, Project Manager (STARR)
- Josha Crowley, Regional Service Center (RSC) Lead (STARR)
- Becca Croft, RSC Outreach/Training Coordinator (STARR)