

**FEMA REGION X**  
**WENATCHEE WASHINGTON**  
**RISK MAP DISCOVERY INTERVIEW**  
April 9, 2015 11:00 AM PST

**Participating**

City of Wenatchee

- Ron Hall, City of Wenatchee GIS
- Glen Devries, City of Wenatchee Planning Manager

State of Washington

- Michelle Gilbert

FEMA Region X

- Ted Perkins, Region X Engineer

STARR (FEMA Contractor)

- Becca Fricke-Croft (meeting host)
- Emily Whitehead, Project Manager
- Troy Sova, Senior GIS Analyst
- Josha Crowley, Regional Service Center (RSC) Lead

**Discussion**

Becca Fricke-Croft made introductions and presented an overview of the RiskMAP program and the different projects and products that can benefit communities. Our overall goal is discovering how FEMA can help Chelan become a more hazard and disaster-resilient community. A copy of the presentation is included with these meeting notes as Appendix A.

Pre-Discovery meetings and interviews with communities within the Wenatchee Watershed have been scheduled throughout March and April, 2015. Conducting pre-meeting interviews with communities helps us to better prepare for the in-person local Discovery meetings. The Discovery Meeting for Chelan County, including the City of Wenatchee, is scheduled for Wednesday, May 6, 2015. Following the Discovery interview and meeting, STARR will prepare a report about the information compiled, including recommendations that FEMA may use to help allocate future Risk MAP funding. During the Discovery process, FEMA will be checking-in with and keeping communities informed every step of the way.

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*The following information was collected during the interview. Unless otherwise noted, all comments are from the City of Wenatchee representative.*

**Confirm Contact Information**

- Contact information was updated as follows:
  - Already included is Ron Hall, the GIS contact, and his email was provided.
  - Already included is Cliff Burdick, Building Official, who is also the local FPA
  - Add Jessica Shaw, Environmental Services Manager who works with Stormwater management issues
  - Add Gary Owen, City Engineer
  - Add Dan Frazier, Public Works Director
  - Add Steve King, Community & Economic Development Director

**Confirm Data Collection**

- Troy Sova discussed the data, in particular GIS base map data that has been collected thus far during Discovery from local, State and Federal resources. He asked if the City had a GIS website or local GIS datasets to share with this Discovery effort.
  - The City is currently under-going a GIS needs assessment and over the past 4-5 years have been building different types of GIS data, such as:
    - Infrastructure
      - Storm System
      - Water System
      - Sanitary Sewer System
    - LiDAR survey done on streetscapes
  - The City is willing to share their GIS data with FEMA for this Discovery effort
- Troy mentioned some PDF maps that he found on the City's website, for example, a "critical areas map" from 2006.
  - The City said while this map is outdated, they have a mandate to update this type of information, so they will be updating those maps online and they think this type of data will be beneficial for this Discovery effort.
- Troy mentioned that we will be bring Discovery maps to the in-person meetings to help guide the conversation and we can mark up the maps to indicate the City's needs and concerns in regards to hazards.
- Troy explained that the floodplain data shown on-screen is Q3 data captured from the "old" effective paper FIRMs. "Q3 floodplains" is a GIS layer depicting flood hazard boundaries that were "rubber-sheeted" or digitized from the paper FIRMs.
  - The City has a local floodplain GIS layer produced by a local surveyor to help increase accuracy. This data is also more accurate than what the County hosts on their website (we are not sure where/how the County obtained this flood hazard layer). The City is

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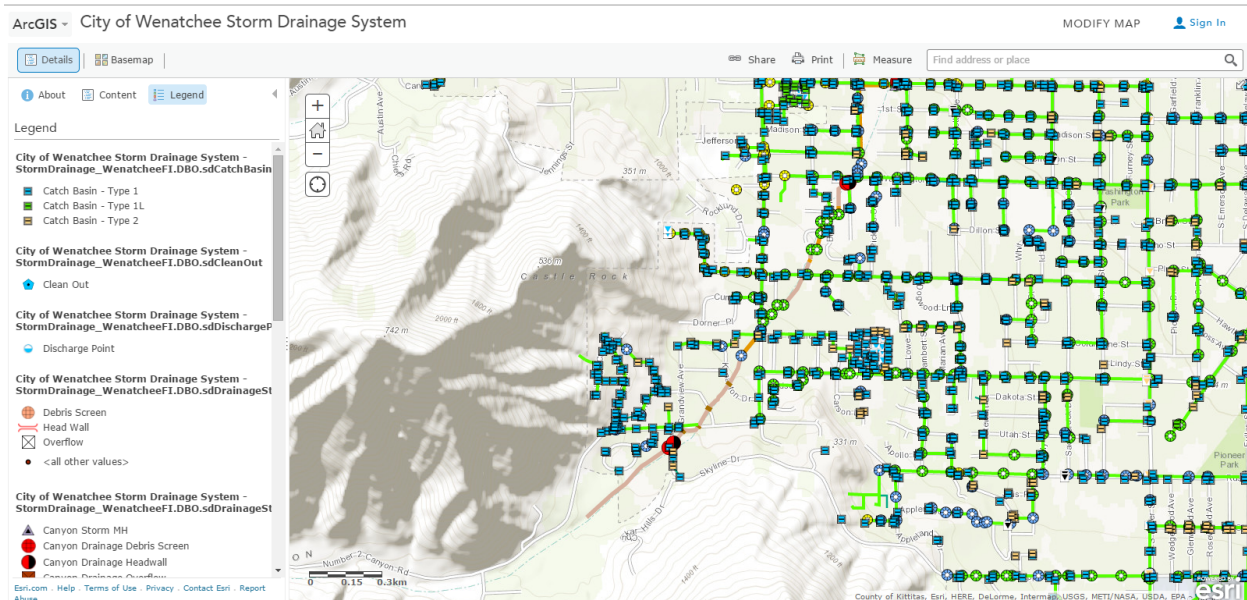
interested in the floodplain data not just within the incorporated area boundary, but also their urban growth area (annexations planned over the next 20 years).

- The City asked if we have access to good earthquake data resources because they want this information for their urban growth area. Troy answered that the earthquake data he was able to collect was a national resource.
  - The City mentioned that Chelan County has an earthquakes fault lines dataset. Troy said he would double-check with Chelan County when we have their pre-meeting interview, which is currently unscheduled.
    - Troy was able to gather a few datasets from Chelan County's GIS website, but most of their GIS data needs to be requested via CD/DVD. FEMA/STARR will be requesting as much relevant data as the County is willing to share for Discovery.
  - The City also mentioned that Chelan County has hazard information for their area.
- The City mentioned they have a digital layer for regulating wildland urban interfaces for fire hazard. This dataset assesses the wildfire risk for building in areas that are currently undeveloped.
  - Troy was able to find a national Historic Fires GIS layer that maps the extents of previous fires in the area. The City's wildfire risk digital layer is different so collecting this data would be useful for the Discovery mapping.
- Troy explained that FEMA will provide a GIS database to the City with all the Discovery data acquired at the conclusion of the project.
- Troy asked if the City has any environmentally sensitive areas.
  - For the shorelines within the urban growth area, the City mentioned a shoreline master program which identified wetlands within 200 feet of ordinary high water mark. The master program conducted an up-to-date environmental inventory and characterizations for the urban growth area.
- Troy mentioned we usually ask for critical facilities, local levees, building footprints, and aerial imagery. He asked if the City knows if the County has flown imagery lately.
  - The City thinks the County's website actually offers the 2006 imagery that the City has flown.
  - The imagery shown on-screen during the interview is BING imagery being streamed over the internet.
- The City mentioned they have a unique situation in that the City backs up against the foothills of the Cascade Mountains. The corporate boundary is just about the base of those foothills. Several drainages that run through town from canyons of those foothills that goes all the way to the Columbia River. Some of that is open channel, and some of that is piped. The City has not taken a stance on the responsibility for those drainages which is probably a liability issue. The County's responsibility for those drainages is unknown. In most cases it's expected where the channels and pipes cross people's properties, it is home owners' responsibilities. In the past, the City has experienced flooding issues on some streets and some of the properties based on flash flooding coming out of those canyons and trying to drain through those structures and

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those open channels that has caused some problems in past years. The City has some of this mapped, where the affected areas were, that they would like to send us.

- There has been some talk between the City and Chelan County on how to mitigate these areas – but nothing has been decided yet.
- The City also has most of those open channels and underground structures for those canyons mapped in GIS.
- Troy will email the City with his contact information and will include credentials to a temporary FTP site that can be used to transfer data for this Discovery effort.
- The City added that they have some local data displayed online via ArcGIS.com. An example is their storm drainage system including the canyon drainage. There are other maps and data posted by other individuals around the area. To view the data/maps, go to <https://www.arcgis.com/home/> and search the keyword “Wenatchee”:



ArcGIS online map - “City of Wenatchee Storm Drainage System” by City of Wenatchee GIS

During the final half of this interview, Becca will be asking questions designed to spark discussion with the City of Wenatchee regarding Resilience.

What is Valuable to the City of Wenatchee? What does the City try to protect?

- In recent years, the city’s main concern has been protecting residents from fires and the flash flooding from the canyons, as well as runoff from the fire areas particularly towards the west side. There are many recreational opportunities in the Wenatchee area particularly on the Columbia River. With the addition of the hydro-electric dams they are more like reservoirs and they provide for boating and skiing, and there is hiking in the area. The City’s major industry is the apple industry, and there are a few manufacturing sites locally, as well as a lot of service-type businesses.

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- One major area of distinction is the City is starting to run out of room. The City is starting to get up against the steep slopes of the foothills of the Cascades which starts to limit the building areas and makes it difficult for City expansion.
  - From a regulatory perspective, under growth management, the City looks at flood hazard and geologic hazard (which includes erosion, landslide, and earthquake). The City looks at critical areas from the habitat perspective, wetlands, drainages for habitat, not just flood hazards. Those are State mandates that are implemented locally so we do have an interest in looking at how we can implement those in a meaningful manner for their residents.
  - The City has historic districts, and is the 12<sup>th</sup> or 13<sup>th</sup> most-dense City in the State. This fact may not be a big deal for Western Washington, but for Eastern Washington, Wenatchee is pretty dense in part due to topography and constraints.
  - Wenatchee is a growing community. The last big surge in population growth wasn't a result of new housing starts, but rather a result of change in persons per housing unit. One area of the city has had a lot of conversions and family sizes changing (increasing from 2-something to four-something persons per unit). A lot of this is cultural changes as the make-up of the community changes.
  - The City is looking at how to accommodate this growth. Quality of life is important to community and looking at these hazards is important to the community. Availability of resources and tools is of interest.
  - The City is in the process of trying to get grants to update their infrastructure – a lot of that is transportation, roads.
  - Ron and Glen haven't been involved much with mitigation and infrastructure for flood water and storm water. Environmental and Engineering divisions deal more with mitigation and hazard risk. Their public works director, Dan Frazier, is a member of the Committee that is on the new Flood Hazard District with the County. A lot of interest and effort going into working on that Flood Hazard District. There are inquiries into these drainage channels, from as simple as: There is vegetation in the channel, what can/can't I do? What about the permitting in these areas? What can we tell people? Can there be pre-approvals worked out through the agencies on what people can/can't do? Who do we direct people to? Regulatory as far as permitting and getting that clear communication with the public so there is lot of interest in that County Flood District helping with a lot of these questions and issues.
  - Jessica Shaw, Environmental Services Manager, is another good contact with the City.

**Planning**

- The "Chelan County Multi-Jurisdiction Natural Hazard Mitigation Plan" was revised in 2011 and the City of Wenatchee was included. Ron and Glen weren't personally involved with the plan update. Also the City has all new planning staff. The Community & Economic Development Director, Steve King, would have more knowledge of the plan.

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- Mitigation Projects in the Plan...are they on-going?
  - Steve King and Jessica Shaw would probably be better contacts for this conversation.

**Earthquake Hazard**

- Don't believe the City has had an earthquake recently.
- A very long time ago North of town on the Columbia River there was an 8-point earthquake
- A canyon to the north, the Entiat Valley, has had frequent earthquakes that don't cause damage (1 or 2 point register).
- Fault line in the Sunny Slopes area.
- In the early 1990's when the growth management act (GMA) came about they were required to have an earthquake component, tied to building code requirements, which is very minimal.
- Try reaching out to Lileth with Chelan County and she may be able to help with additional earthquake data; and critical areas in general.
  - Michelle with State of Washington has Lileth's contact information and will pass it along to Becca.
- Any critical structures in danger of earthquakes:
  - Not sure – would have to check the plan.
  - Planning division is not aware of any.

**Wildfire Hazard**

- First main priority risk level/concern
  - The City of Wenatchee is locally concerned with wildfire risk and this is the main hazard concern of City Council.
- Structures in danger:
  - Along the west side of the City
  - Canyon structures in the open channels
- Evacuation routes along the edges of the City can be affected during fire events. The planning department is currently mitigating this issue by re-routing. There are still some areas that need to have back-up routes developed in event that routes become impassible.
- Considerations for evacuation and access routes are part of their fire code. The plan has a component for the number of folks that can use an access before a second access route is triggered. Also transportation deficient areas are covered in the comprehensive plan.
- City of Wenatchee is currently working with Chelan County and East Wenatchee to form a fire district that has an outreach plan.

**Landslide Hazard**

- There have been significant landslide issues in Old Station, part of their urban growth area, not within the City, over the years people have dug into the hillside for inappropriate excavation that has resulted in deaths in the past.

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- Spatial locations for historic datasets would be easier to identify once we get the urban growth area identified spatially on the map.
- There are areas where development is restricted due to landslide risk. There is once developer seeking to build in the Zone AO, for example, that will require geotechnical modeling as part of the permitting process. Critical areas codes are adopted to try and protect these areas at risk.

**Severe Storm Hazard (high winds, lightening, winter storms, hail, ice)**

- Some wind annually during change of season
- 100 mph winds registered seven years ago at the hills on the south end of town. Blew roofs off houses and trees were up-rooted
- Rain on snow events can be a big deal
- Forest fires started by lightning is huge problem with regards to how they start in their valley
- Seems like thunderstorms and lightning strikes seems to be increasing

**Power Outages**

- Experience minimal power outages
- Pretty infrequent in the area
- They own their dams and don't have too many trees, so the sage brush isn't knocking power lines down.

**Shelters/Safety, Need to shelter people**

- Perhaps used in fire events in past
- Evacuations have been exercised.
- Locations of shelters are unknown – perhaps check the all-hazard mitigation plan for those locations.

**Warning Sirens/Mass Notification System**

- Recommend checking with Public Works Director, City Engineer, Police Director

**Flood Hazard**

- Second main concern for City of Wenatchee is flash flooding from Cascade Mountains.
- Cliff would know best but they believe a Letter of Map Amendment (LOMA) removed a number of homes
- Michelle mentioned a 1996 Letter of Map Revision (LOMR) that changed the floodplains from the older effective maps
- Ron can send a shapefile to Troy that represents historic localized flooding areas as well as floodplains that were mitigated in the past via LOMR/LOMA.
- Also check-in with engineering and public works regarding additional areas of concern regarding flooding. Goal is to circle flood sources that would be good candidates for flood study or re-

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study. Canyon storm drainages are focus of the Flood Hazard District.

**Dam(s)**

- Unaware of any
- Good question for Jessica Shaw and Engineering staff

**Levees**

- Unaware of any
- Good question for Jessica Shaw and Engineering staff

**Environmentally Sensitive Area(s)**

- Ron will send Troy a shapefile depicting any environmentally sensitive areas in the City

**Communications and Outreach**

- The City would be interested in mailers if FEMA provided templates: especially to homes within those canyons in the valley
- Lots of interest in those drainages and areas affected, outreach would be effective via:
  - Mailers going to those homes
  - Talk to local newspaper and run an article
  - Local radio announcements
    - Big concern in the valley, especially in the areas affected by drainages
- The City's environmental group sends mailers to property owners with structures within the canyon drainages and to channels educate them on the importance of keeping them clean from debris; also they have a very good water mitigation outreach program (for example: mailings and seminars) for educating people not to place things down the storm drainage system or into the drainage structures
  - There was a big mud-flow event about a year ago that caused lots of interest from people regarding whether to form the Flood Control District.
  - They believe residents would be interested if notified.
- Another way the City communicates with residents is via their local newspaper and/or radio station(s)

**Templates**

- The City is very interested in templates if they pertain to their needs/concerns. The templates would be shared amongst the various departments of City Government.

**Local Meetings**

- Ron and Glen will ask City Council if they would be interested in FEMA participating directly/indirectly in a future Council meeting.



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- They are unsure how often the Flood Control District is meeting, but they will ask if they need a guest speaker from the Core Team.

**Compliance and Training**

- At the upcoming in-person Discovery meeting, STARR will ask the Floodplain Administrator, Cliff Burdick, whether he or any staff have floodplain management or other training needs that FEMA could provide.

**Next Steps**

- Discovery Meeting is scheduled for Wednesday, May 6, 2015 in Chelan County. City of Wenatchee will be there, not exactly sure which local officials will be able to make it, but Ron and Glen will definitely spread the word.

## **Appendix A - Interview Presentation**



FEMA

# Risk MAP Discovery

## Okanogan & Wenatchee Watersheds

Information Exchange Sessions  
March/April 2015

**RiskMAP**

Increasing Resilience Together



# Information Exchange Agenda

- **Overview of Risk MAP and Discovery**
- **Introduction to Enhanced Risk MAP Products**
- **Interactive Questionnaire**
- **Close**

# The Vision for Risk MAP

Through collaboration with State, Local, and Tribal entities, Risk MAP will deliver quality data that increases public awareness and leads to action that reduces risk to life and property



# RiskMAP

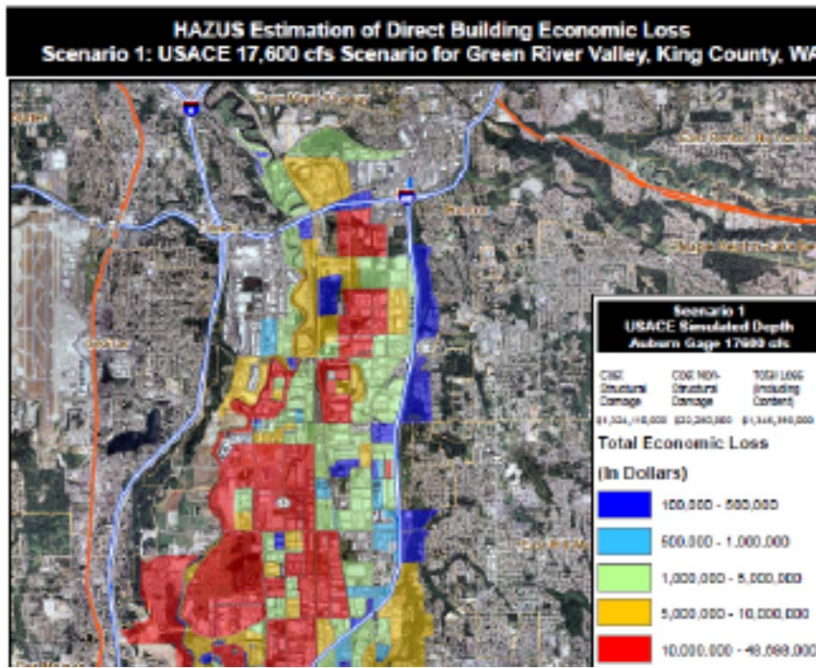
Increasing Resilience Together

- Collaborative approach
- Goals: quality data, public awareness, action that reduces risk
- Watershed-oriented
- Multi-Hazard
- Focus on up-front coordination
- Discovery is mandatory

# Risk MAP Products

## Multi-Frequency Depth & Water-Surface Elevation (WSE) Grids

10%, 2%, 1%, 0.5%, 0.2% annual chance profiles



### Inundation

- 3 feet or less
- 3 to 6 feet
- 6 feet +

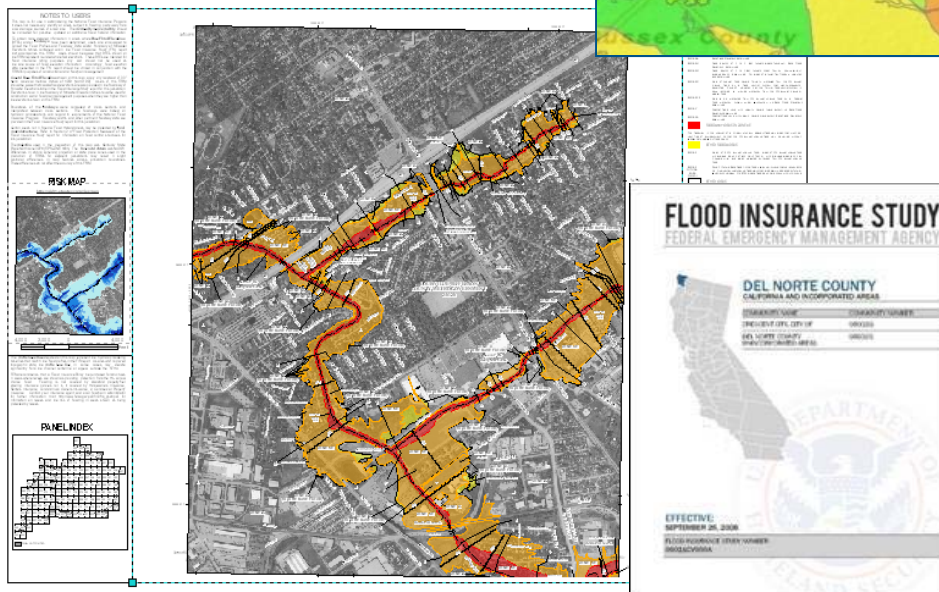
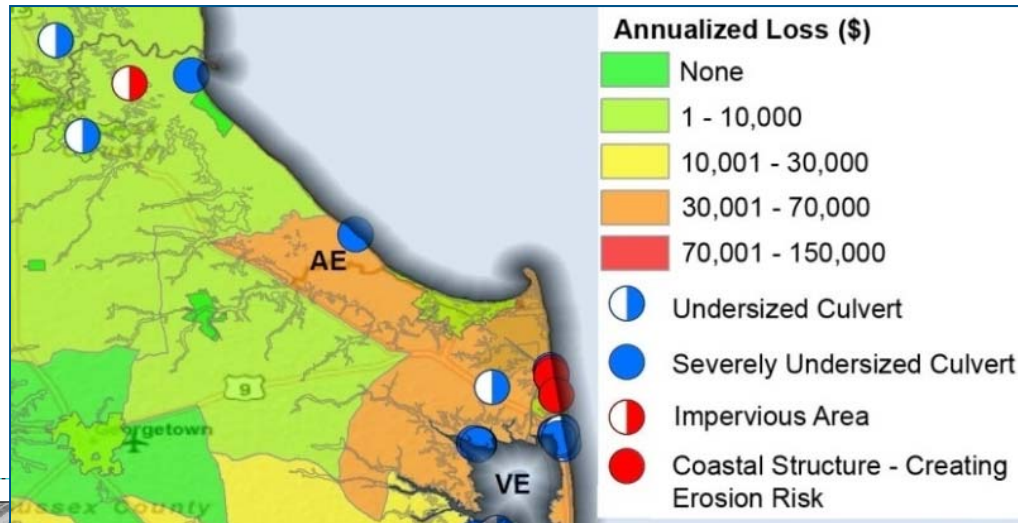
## HAZUS Risk Assessment & National Flood Risk Layer

Enables communities to understand risk by reference to existing structure loss

# Risk MAP Products

## Contributing Hazard Factors

Highlights areas of concern identified throughout project



## FIS Reports and DFIRM Maps

DFIRM and FIS will continue to fulfill regulatory requirements and support the NFIP



# Discovery

***Discovery is the process of data collection and analysis with the goal of initiating a hazard risk or mitigation project and risk discussions within the watershed***

## **When:**

- After an area/watershed has been prioritized
- Before a Risk MAP project is scoped or funded

## **Required for new and updated...**

- Flood studies
- Flood risk assessments
- Mitigation planning technical assistance projects

## **Why:**

- Increases visibility of flood risk information, education, involvement
- Helps inform whether a Risk MAP project will occur in the watershed



# Okanogon & Wenatchee Discovery

- **Federal and State Data Collection**
- **Local Issues: Identify Risk MAP Needs**
  - Need support with mitigation planning?
  - Need mitigation projects?
  - Need new flood study data?
  - Need training on floodplain management?
  - Need support developing a hazard risk outreach program?
  - What else can FEMA do to help your community become resilient?
- **Pre-Discovery Interviews: March/April 2015**
- **Discovery Meetings: May 4-6, 2015**
- **Risk MAP Project(s) Identified**
- **Possible FEMA Funding Allocated for Risk MAP Project**

# Discovery Interview

- **Local Contacts**
- **Data**
  - LiDAR
  - Local or Regional GIS Data
- **Mitigation Planning**
  - Desired Mitigation Projects
- **Local Hazards**
  - Earthquakes
  - Wildfires
  - Landslides
  - Severe Storms
  - Flooding
- **Levees**
- **Environmentally Sensitive Areas**
- **Communications and Outreach**
- **Compliance and Training**

Mitigation Planning		
How would you describe your level of involvement with the development of the mitigation plan? (Considerable, Moderate, Minimal)	Do you need assistance with mitigation planning in your community? (Yes, No, Possibly)	Mitigation Planning Comments, Explanations, Questions

# Questions?

## FEMA

- **Amanda Siok, Risk Analyst, [amanda.siok@fema.dhs.gov](mailto:amanda.siok@fema.dhs.gov)**
- **Kristen Meyers, Mitigation Planner, [kristen.meyers@fema.dhs.gov](mailto:kristen.meyers@fema.dhs.gov)**
- **Ted Perkins, Regional Engineer, [dwight.perkins@fema.dhs.gov](mailto:dwight.perkins@fema.dhs.gov)**

## WASHINGTON

- **Jerry Franklin, State Risk MAP Coordinator, [jfra461@ecy.wa.gov](mailto:jfra461@ecy.wa.gov)**
- **Michelle Gilbert, Floodplain Management Specialist, [migi461@ecy.wa.gov](mailto:migi461@ecy.wa.gov)**

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