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Patricia Farrell, City of Salem

5TH ANNUAL NORTH SANTIAM WATERSHED SUMMIT

RAMBOLL ENVIRON

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Date **August 6, 2015**
Description **Final Report from Santiam Watershed Summit**

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1. INTRODUCTION

The 5th Annual North Santiam Basin Summit was held on May 7, 2015 at the Marion County Public Works Department. Sponsors of the workshop included the City of Salem, the North Santiam Watershed Council, and Marion County. Four previous Summits have occurred, starting in 2010. The general purpose of all of the Summits has been to bring together North Santiam Watershed stakeholder groups with the intent to strengthen communication and work toward common tools and strategies to protect the watershed.

The workshop was divided into two segments with the morning devoted to exploring tools for collaborative watershed emergency response, and the afternoon focused on planning activities. This year, the Summit was preceded by a tabletop spill planning exercise, held on March 19, 2015 in Stayton, Oregon. During this exercise, a hypothetical toxic spill occurred in the watershed, and the group simulated communication and response to the spill. To the extent possible, the 2015 Summit was intended to build on what was learned during the tabletop exercise.

The overall assessment of the Summit was positive and all participants expressed a continued desire to hold the now annual event. There were 28 attendees at the day-long workshop this year. A full list of participants is provided in Appendix 1. Lunch was provided by Trexler Farms. This report provides a synopsis of the planning process, a summary of the workshop itself, and recommendations for future activity.

2. PLANNING PROCESS

Planning for the Summit began in late January 2015. Key members of the planning team were: Patricia Farrell- City of Salem; Rebecca McCoun-North Santiam Watershed Coalition; Bea Covington- Ramboll Environ; Gretchen Greene- Ramboll Environ; Kerry Halligan- Mason Bruce & Girard and Tyler Bax- Mason Bruce and Girard. As the planning evolved, other individuals were brought into the process including Ed Flick- Marion County Emergency Manager.

The planning process began with a review of the outputs and recommendations from the 2014 event.

2.1 Tabletop Exercise

Planning for the 2015 Summit was also informed by the scheduled execution of the North Santiam River Unleaded Fuel Spill Response Tabletop Exercise, facilitated by Ecology and Environment and funded by the Environmental Protection Agency (EPA). The Tabletop Exercise (TTX) was a specific request/recommendation from the 2014 event and it was anticipated that the outcomes from that exercise would heavily inform the 2015 event.

The conclusions from the TTX identified two general areas of strength: first that the N. Santiam watershed emergency response community is engaged in collaborative solutions to hazardous materials response and second that the community has significant emergency response capacity.[1] The areas for improvement were threefold. First, the watershed community agreed that there is a clear need for a regional response plan. Second and related, was a need for improved emergency response notification protocols and systems to be built into planning processes, and third, a need to ensure that the National Response Center is notified. The Summit activities were designed at least in part to work toward these goals of regional response planning for the watershed.

2.2 Goals for the 2015 Summit

The goals for the 2015 Summit included:

1. To provide participants with an opportunity to build and strengthen relationships;

[1] 2015 North Santiam River Unleaded Fuel Response Tabletop Exercise After Action Report, Executive Summary

2. To communicate new and relevant information to participants;
3. To relay the results and recommendations from the TTX, and
4. To identify areas for continued and future collaboration within the watershed.

With these goals in mind, a Summit format was developed that allowed for a series of individual "tools" presentations in the morning, followed by interactive sessions focused on planning in the afternoon. The final schedule is provided in Appendix 2.

3. WORKSHOP OVERVIEW

There were four presentations during the morning phase of the workshop. Each is described below, along with comments on how the presentations fit into the overall goals of the Summit. Brief summaries of the content of the presentations can be found in Appendix 3.

3.1 Erik Peterson, US Army Corps of Engineers

The initial presentation by Eric Peterson of the US Army Corps of Engineers (USACOE) focused on informing participants of the status of legacy contamination at the Detroit and Big Cliff Dams. While downstream health risks are unlikely for the North Santiam, more funding and data is needed for the USACOE to complete their analysis of contamination risks. This presentation was highly regarded and well received by participants, largely because the information was immediately relevant and specifically germane to many in the room.

3.2 Daniel Stoelb, Oregon Office of Emergency Management

The second presentation, given by Daniel Stoelb of the Oregon Office of Emergency Management (OEM), was designed to introduce participants to the full range of capabilities associated with one of the more commonly used emergency response tools- Real Time Assessment and Planning Tool for Oregon (RAPTOR). Participants were able to see the capabilities of the system in real time, including its ability to pull in data from many public data resources, and were able to explore the components of the system as Mr. Stoelb conducted an impromptu analysis of the Nepal earthquake response.

The issue of which system and tool to use has been a long running theme of discussion across multiple Summits, with all participants having varying degrees of familiarity and experience with a number of different systems and tools. This session was particularly valuable as it ensured that all participants had a similar basic understanding about this specific tool, which facilitates increased communication between emergency response providers. Many participants highlighted this presentation as one of the most useful and educational components of the summit. Mr. Stoelb discussed plans to update RAPTOR for use on all devices, including mobile platforms.

3.3 Kerry Halligan and Tyler Bax, Mason Bruce and Girard

The third presentation, by Kerry Halligan and Tyler Bax of Mason Bruce and Girard, provided participants with an update on progress that has been made towards addressing a key area of concern from past summits- the creation of a single, common integrating "tool" that can be used at the watershed level to track and coordinate emergency responses. This initiative has been spearheaded by Mason Bruce and Girard, in conjunction the City of Salem.

At the Summit, participants learned about participants learned about potential funding towards developing a local application as a pilot for a statewide application. A funding proposal had recently been developed and submitted to the Oregon Geographic Information Council (OGIC). If funded, the project would begin with a prototype in the McKenzie watershed, followed by the North Santiam, after significant data had been collected. Once developed, this tool would allow for emergency response assistance and coordination, in addition to mobile data access and collection.

3.4 Group Discussion Facilitated by Don Pettit, Oregon Department of Environmental Quality (OR DEQ)

The fourth and final presentation of the morning focused on the pros and cons, strengths and weaknesses of the different GIS systems and on the challenges of using them. Participants steered the interactive discussion towards questions of emergency notification and data management. Participants requested an augmented system of notification that allows for distinguishing different tiers of notification and increased transparency in which parties have been notified during the course of an incident response.

In regards to data management, participants were concerned about the management and coordination between different local data sets including questions of: who builds the data sets, who can change the data sets, and how local data are updated in GIS systems. When building the data sets it is important to first ask "what are you trying to protect?" This can be used to figure out what data you need or lack.

3.5 Afternoon Planning Sessions

The sessions after lunch were forward-focused and designed to generate interest and support for the upcoming Marion County Natural Hazard Mitigation Plan (NHMP) development process. Roger Stevenson, from the City of Salem was unfortunately unable to attend due to illness. As a result, the Summit did not include a formal review of the lessons learned from the Table Top exercise. However, because many participants at the Summit had also attended the TTX, the learning from the exercise was evident in the discussions.

The presentations stressed that the NHMPs are intended to be mitigation plans, and not necessarily emergency response plans. Effective mitigation plans reduce the need for or magnitude of response. The presentations also reinforced the need for stakeholder engagement and participation in the process.

To start the afternoon session, participants were asked a few questions that had been part of a vulnerability assessment conducted in Linn County. The purpose of this exercise was to get the group re-focused on planning and needs. The results of the exercise are presented in Appendix 4.

3.6 Josh Bruce, University of Oregon

Participants first heard from Josh Bruce, who successfully facilitated a stakeholder driven process for natural hazard mitigation planning in Eugene/Springfield. He stressed that every $1 spent on mitigation planning saves, on average, $4 in disaster response and recovery. Because mitigation activities save money, many state and federal agencies award grants for mitigation activities. It is important to determine critical interdependencies and crucial vulnerabilities for all natural disaster impacts in the North Santiam (including impacts on drinking water) and from this, delineate action items for a NHMP.

3.7 David Sawyer, City of Turner

Next, David Sawyer of the City of Turner discussed Turner's work to develop a NHMP that met both FEMA's and the City's requirements. As a result of developing the NHMP, the City of Turner now has extensive stream flow data on water flow volume and water flow rate that have helped extensively in flood planning and damage mitigation.

3.8 Ed Flick, Marion County Emergency Response Coordinator

The last presentation was from Ed Flick, who will be responsible for coordinating the updates to the Marion County plan. He is interested in approaching a NHMP from a regional perspective, focusing on critical facilities. He acknowledged the possibility of including a watershed plan within the County's plan, and the further possibility of a multijurisdictional plan in coordination with Linn County.

4. SUMMARY AND NEXT STEPS

After the presentations were completed, Bea Covington, Ed Flick, and Josh Bruce co-facilitated a discussion of next steps for the group, with a particular focus on how the group might support the NHMP process that will soon be underway and coordinated by Ed. The NMHP needs to be completed by mid-2016. The summary themes are shown below, followed by recommended next steps.

4.1 Summary of Themes

1. In general, there is a need for more community engagement in support of the development of a National Hazards Mitigation Plan (NHMP); the last public mitigation plan for Marion County received zero public comments.

2. Other communities have successfully used a "lifeline" approach to structure the development of their plans. There are four major lifelines of concern: transportation, water, energy, and communications. Participants particularly noted that not all of them (energy and communication) were represented by the North Santiam Watershed Council or among Summit participants. This observation ties directly into the evaluation comment that specific efforts be made to broaden the participant pool for future Summits.

3. The issue of how to engage small cities in these processes was also a key point for discussion. It was noted that ¾ of all cities in Marion County do not have NHMPs. Not only are they key sources of information and input into the planning process itself, they have a significant contribution to make as the plan is scoped- in particular relative to the number and type of sub plans that should be developed. Developing a strategy to ensure their engagement was identified as a key priority going forward.

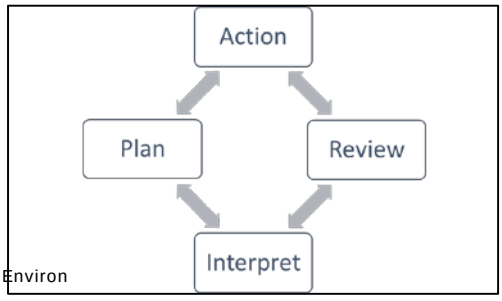
4. Not lost on the participants was the challenge associated with coordinating efforts across all the incorporated jurisdictions. While the challenge itself was identified, the group was not able to move into developing specific solutions or strategies to meet those challenges.

5. A key driver of success for the effort will be public outreach and engagement. Successful outreach and engagement will not only result in broader specific participation in the planning process, it will also increase awareness in general of the existence of this type of planning and the agencies and stakeholders who contribute to its success.

6. The Watershed Council was identified as a key player in the success of the effort going forward. The Council has regular meetings, has a broad and diverse stakeholder base (not just govt. agency representatives) and has already created tremendous social capital that can be used to support a natural hazard mitigation planning effort of this type.

4.2 Next Steps and Recommendation

The TTX took place only a few weeks before the Summit, and while the Summit planners were able to anticipate some of the outcomes of the exercise, and structure the Summit around those expected outcomes, the TTX occurred too close to the Summit for it to really "inform" Summit content.



Looking at response planning through the lens of the Adult Learning Cycle, the Table Top exercise represents the "action" phase of the cycle. While the TTX format offers some opportunity for immediate review and reflection- the effort was more focused on the action phase of the process. The Summit on the

others hand offered a unique opportunity to engage in a more comprehensive review of the Table Top process, leading to application and planning across a broader spectrum.

Unfortunately, because the planned review of the TTX did not occur at the Summit due to the fact that Roger Stevenson Given that the planning cycles for both types of events are typically six months in duration, in order to more closely coordinate the development of a series of related events, a recommendation going forward would be to more tightly integrate members of the two planning teams. For example, to attempt to get commitments from all of the participants in the TTX to also attend the Summit.

A second recommendation would be for the Summit planning team to research more deeply the expected outcomes from a particular type of TTX. Topics for TTX events are somewhat standard across events, and it is likely that there are patterns of lessons learned, failure and success points, and opportunities for improvement across previous iterations. The Summit planning group could perhaps draw on experiences from other iterations to identify likely issues and outcomes in advance, providing a "head start" on Summit planning.

Another final observation from both the Summit and the TTX was the identification of interest groups and sectors that were NOT present at either event (including members from the energy and communications sectors). This identification of the absence of key sectors of society along with the recognition that these sectors, while not directly tied to or associated with "watershed" work, have profound impacts on and connections to all things "watershed." This opens up a new avenue of opportunity and growth in terms of themes for future Summits.

Improved coordination between parties interested in natural hazard mitigation planning seemed to be a repeated theme in discussion. While the Summit highlighted the existence of opportunities for such communication, no concrete solutions for improved coordination were identified. Successful engagement is a key component of the process, and future Summits should consider how to engage different members of the community and coordinate planning across all interested parties. It is natural that sector leaders may emerge during this process, and this was highlighted by project participants as a way of strengthening future coordination.

It is clear that the tool information sessions in the morning were highly valuable to participants. Both learning about the tools for coordinated emergency response that already exist (RAPTOR) and those being developed specific to the watershed (team of Mason Bruce and Girard) provided key information about how existing data and data tools can improve emergency response. Future summits should provide similar updates about the "state of affairs" in regards to data tools for coordinated emergency response.

5. PARTICIPANT EVAULATIONS

Sixteen evaluation forms were completed and submitted. For a full presentation of evaluation comments see Appendix 5. Highlights are presented below.

5.1 Participant Profile

Participants signed in throughout the day as some were not able to attend the entire Summit. By the end of the day, 28 people had participated. Of these, ten were from city/county government offices; six from state agencies; four from federal agencies and three from the North Santiam Watershed Council. Five were classified as private sector or other.

5.2 Workshop Content

The RAPTOR presentation was universally well received, with almost all of the respondents commenting favorably on it. Favorable comments were also received for the USACE presentation and for the afternoon session.

A new strategy for this Summit was the use of "clicker voting". Two participants commented on the technology, one soundly supporting it and the other rejecting it.

Trexler Farms was, as always, a clear favorite and all participants recommended continued use of their catering services.

The idea of events and gatherings between Summits was raised (as a general concept, and perhaps associated with the suggestions to do more table top and drill-type exercises).

A new idea- identifying and strengthening “logical champions” (e.g. Marion County for NHMP; City of Salem for Water Protection) for specific sectors or topics was also raised by participants.

5.3 Conclusions and Recommendations for Future Efforts

Attendees had several recommendations for future Summits:

1. Using the Summit to conduct additional Table Top exercises;
2. Actual Watershed Drills during the Summit;
3. Allowing more time for sharing and updates about what’s going on in the watershed;
4. Expansion of participant pool (over half of the attendees were affiliated with government in some capacity); and
5. Deeper investigation into the relationships and partnerships between sectors (not just watershed health) and exploration of disaster impacts to those sectors (health, food security etc.)

While participants clearly enjoy the Summits and there is strong support for continuing them, there was also a tangible desire (reflected in the last two evaluation comments presented in section 5.2 and items 1, 2 and 5 above) both to return to more concrete, hands on, “practical” work and to perhaps meet more often than once a year.

APPENDIX 1 - ATTENDEE LIST

Name	Organization / Affiliation	E-Mail Address
Tyler Bax	Mason, Bruce & Girard	tbax@masonbruce.com
Kerry Halligan	Mason, Bruce & Girard	khalligan@masonbruce.com
Rebecca McCoun	North Santiam Watershed Council	council@northsantiam.org
Dave White	Federal Lakes Rec Committee – Detroit Lake	dvwhite@wvi.com
Skip Gosser	Beaver Creek Water Board	skipg26@hotmail.com
Susan Farris-Gossel		grams_94942@yahoo.com
Greg Ek-Collins	ODOT	greg.ek-collins@state.or.us
Jim Thompson	MCPW	JThompson@co.marion.or.us
Daniel Stoelb	OEM	daniel.stoelb@state.or.us
John Thompson	METCOM 911	john.thompson@ci.woodburn.or.us
Robert Chandler	Salem PW	rchandler@cityofsalem.net
Richard Sherman	Marion Co Health Department	rsherman@co.marion.or.us
Don Pettit	OR DEQ	pettit.dan@deq.state.or.us
Jamie Sheahan Alonso	USFS Detroit RD	jsheahanalonso@fs.fed.us
Debbie Paul	North Santiam WSC	debra.paul@or.nacdnet.net
Jan Irene Miller	NSWC	janirenemiller@mac.com
Philip Smith	ODOT	Philip.L.Smith@odot.state.or.us
Mike Gotterba	City of Salem	mgotterba@cityofsalem.net
Alex Farrand	ODFW	Alex.Farrand@state.or.us
Brenda Kviken	City of Stayton	bkviken@stayton.or.us
Erik Petersen	USACE	erik.s.petersen@usace.army.mil
Daniel Lokic	Marion County	dlokic@co.marion.or.us
Vijai Prammagnaanam	City of Salem	vpramm@cityofsalem.net
Chris Kowitz	City of Salem	ckowitz@cityofsalem.net
Terrence Conlon	USGS	tdcondlon@usgs.gov
Daineal Malone	Linn County	dmalone@co.linn.or.us
Brent Stevenson	Santiam Water Control District	brents.swed@wvi.com
Graham Hilson	USACE	Graham.P.Hilson@usace.army.mil
Josh Bruce	UO-OPDR	jdbruce@uoregon.edu

APPENDIX 2 – WORKSHOP SCHEDULE

North Santiam Watershed Summit #5

May 7, 2015 – 9:00 am – 3:00 pm

Marion County Public Works Department

5155 Silverton Road, NE

Salem, OR 97305

8:30	Sign In/ Breakfast refreshments available
9:00	Welcome (Robert Chandler, City of Salem)
	Introductions/Meeting Goals (Gretchen Greene, ENVIRON)
9:30	Preliminary Assessment Site Investigation (Erik Petersen, U.S. Army Corps of Engineers)
10:00	RAPTOR – Real Time Assessment and Planning Tool for Oregon (Daniel Stoelb, Office of Emergency Management)
10:30	Break
10:45	North Santiam Watershed Emergency Response System (Kerry Halligan, Mason Bruce and Girard)
11:15	How Can We Integrate Emergency Response Tools? Group Discussion (Moderated by Don Pettit, Dept. of Environmental Quality)
12:00	Lunch Break (Lunch and refreshments courtesy of City of Salem and Trexler Farm)
12:30	Lessons Learned from the Table Top Exercise (Roger Stevenson, City of Salem)
1:00	Coordinated Action for Collective Good - strengthening the systems that we all count on (Ed Flick, Marion County & Josh Bruce, U. of Oregon)
2:30	Discussion/Next Steps/Comment forms
3:00	Closing

NORTH SANTIAM watershed council

CITY OF Salem AT YOUR SERVICE

Marion County OREGON

APPENDIX 3 – SUMMARY OF KEY POINTS FROM SESSIONS

Preliminary Assessment Site Investigation – Erik Peterson (ACOE)

Key Info:

- ACOE in process of analyzing legacy contamination sites
- Did preliminary analysis for Big Cliff/Detroit, but need more exact data in terms of level of contamination
- Waiting for feedback from EPA before continuing with site investigations

Takeaways:

- ACOE is maintaining all responsibility for cleaning up any contamination at their legacy sites
- Downstream health risks to the North Santiam Drinking Water District are unlikely since the drinking water is always tested for quality
- Need planning and funding to complete process for all sites

RAPTOR – Daniel Stoelb

Key Info

- Has access to live info, but currently only usable on a desktop
- Can poll information from any public GIS server and include it in RAPTOR
- Can poll on different resources but also input data directly; for example, inputting evacuation zones, incident locations, road closures, etc.
- Allows for ease in functionality across a range of platforms, increasing means of communication between different emergency response systems and providers.

Takeaways

- RAPTOR will soon be able to be used on all devices (including mobile)
- Public/private data sharing is encouraged on the RAPTOR platform – makes maps better by increasing access to information
- Resources and information related to RAPTOR can be found on OEM website

Tyler Bax, Kerry Halligan: North Santiam Emergency Response System: Past, Present & Future

Key Info

- From interviews, determined priorities for a North Santiam Watershed Emergency Response System
- Chose to focus analysis on: Data problems, analysis concerns, and communications issues
- State-wide problem with watershed emergency response planning/response

Takeaways

- Submitted proposal to OGIC to build a watershed tool for data access/collection on mobile devices and offline to assist in emergency response
- McKenzie Watershed already has significant data and an existing desktop system so they will be the first test of the prototype if proposal is funded
- Assuming that project is funded, next year, once North Santiam Watershed data collection has finished, a prototype will be deployed to the North Santiam and the McKenzie prototype will be upgraded to a finer tuned product

Discussion, led by Don Petit

Key Info/Takeaways/Concerns

- Concerns about notifications and who assembles notification list – who uses the list? Where are the holes in the list?
- Important to distinguish the different tiers of notification and transparency in WHO is notified
- How are the datasets in these tools built? Who builds them? Who can change them?
- How is local data managed and coordinated? If the data is updated, the system that polls on that data needs to update as well
- Existing systems of data collection and notification need to be augmented

Natural Hazard Mitigation Plan Clicker Exercise

Takeaways

- Participants believe that both businesses and individuals in the community are least prepared for an earthquake
- Participants believe that cities should make flood mitigation planning their highest priority (given limited resources)
- In terms of mitigation activities, participants believe that critical facility protection (hospitals, fire stations) and utility protection (drinking water systems, electricity infrastructure) should be considered the highest priority
- In the future it may be useful to ask participants *why* they chose certain answers. Did they believe flood mitigation planning should be the highest priority because they believe floods to be the most likely natural disaster? Or because they believe floods cause the most damage? Or because they believe it's the most feasible for a city to mitigate?

Livability Lane – Vulnerability Assessment: Josh Bruce

Key Info

- Mitigation activities are important for economic reasons: on average, every $1 spent on mitigation planning saves $4 in disaster response/recovery
- Mitigation is accomplished through policy changes, education, outreach, capital projects, etc.
- Community partnerships are very important in determining mitigation activities

Takeaways

- Important to determine critical interdependencies and crucial vulnerabilities for all impacts in the North Santiam, including drinking water
- By determining these critical interdependencies and vulnerabilities, the action items can be delineated
- Mitigation saves money. Because of this, there are many state and federal agencies that award grants for mitigation actions.

City of Turner Experience: Importance of Planning: David Sawyer

Takeaways

- The City of Turner worked with outside help to develop a Natural Hazard Mitigation Plan (NHMP) that met both FEMA's and the City's requirements
- From the NHMP, identified 29 different mitigation action items
- Important to continually (twice a year) review the action items to keep the momentum
- As a result of developing the NHMP, the City of Turner now has extensive stream flow data on water flow volume and water flow rate that have really helped with flood mitigation

Ed Flick

Takeaways

- Interested in approaching NHMP from a regional perspective, focusing on critical facilities
- Considering doing a watershed plan within a county plan, as an addendum
- No community in Oregon has taken a watershed approach to NHMP, but that doesn't mean it can't be done
- Perhaps a multijurisdictional plan could be undertaken with Linn County and Marion County, but there issues with LEPC and smaller community planning

Summit Wrap-up – Bea, Ed, Bruce

Takeaways

- Need community support in development of NHMP; the last public mitigation plan for Marion County received zero public comments
- Four major lifelines of concern: transportation, water, energy, and communications. Not all of them (energy and communication) are represented by the North Santiam Watershed Council

- Water is one of the most critical vulnerabilities, so it is a common organizing base
- Important to meet with stakeholders in the area, particularly cities, to determine level of participation. It is important that small cities know there is an opportunity to be a part of the NHMP plan for Marion County. This will help scope the project and identify the number of sub-plans that will be included
- It will be challenging to coordinate across all the incorporated jurisdictions
- Public outreach and engagement is very important for this process. Perhaps developing a survey tool would be useful

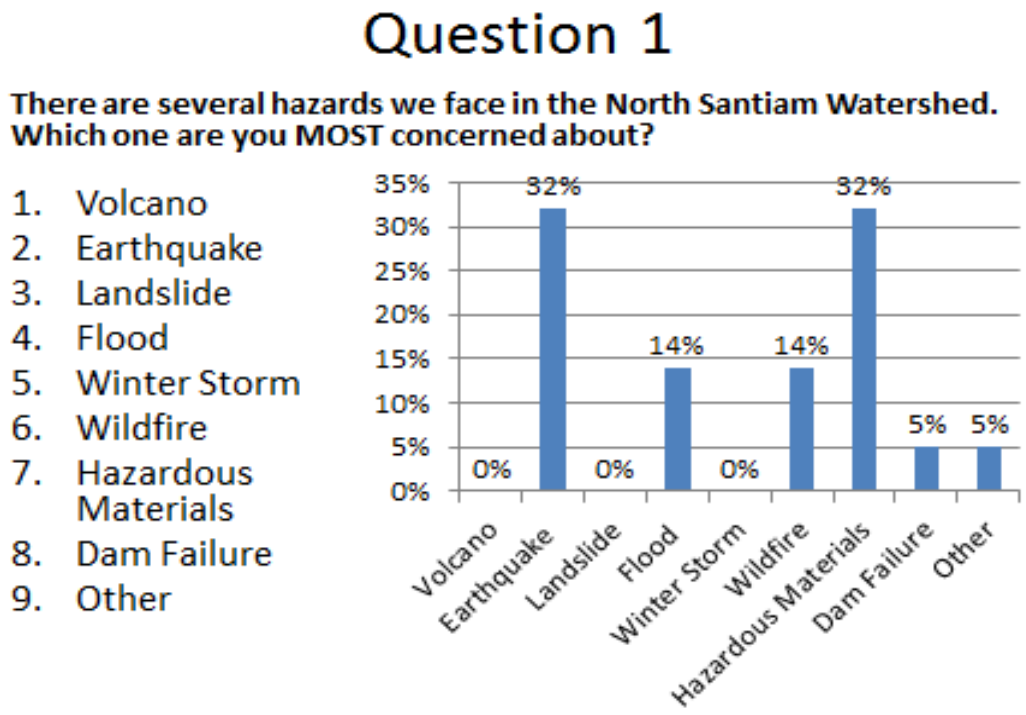
APPENDIX 4 – SUMMARY OF QUESTION AND ANSWER EXERCISE

A question and answer exercise regarding natural hazard mitigation planning was initiated that allowed participants to respond through the use of clickers. From the results, it is clear that participants believed both businesses and individuals in the community to be least prepared for an earthquake, but that cities should make flood mitigation planning their highest priority (given limited resources). In regards to mitigation activities, participants ranked utility protection (drinking water systems, electricity infrastructure) as one of the highest priorities. Some of the participants requested more follow-up on this activity.

Future summits may wish to ask participants why certain answers were chosen: Do participants believe floods are the most likely natural disaster and hence deserve the highest priority in mitigation planning? Or do they rate flood mitigation at high priority because they believe floods cause the most financial damage? Or do participants place flood mitigation at the highest priority because they believe it is the most feasible (financially or structurally) for a city to mitigate?

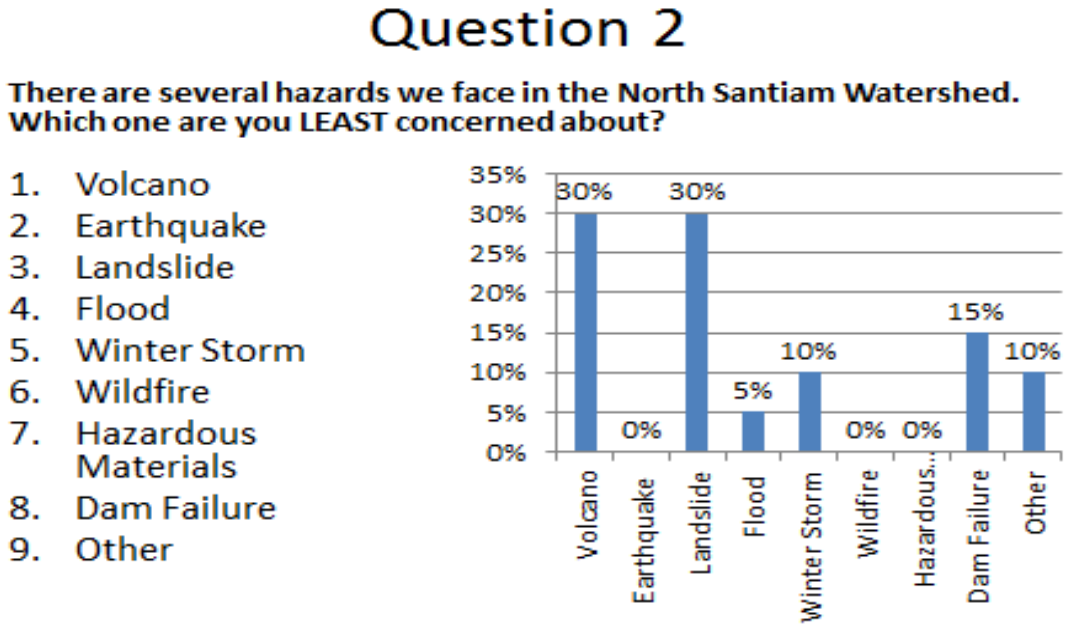
The results of this activity are included below for reference.

Question 1: There are several hazards faced by the North Santiam Watershed. Which is MOST concerning?



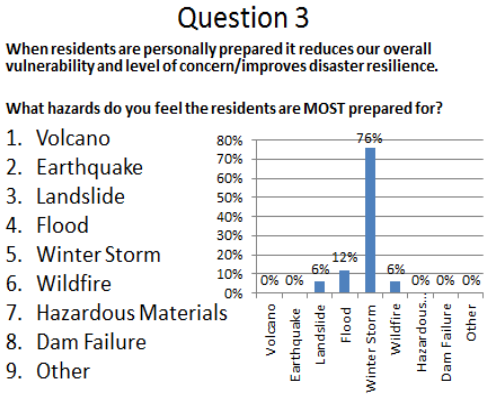
From the results, participants were most concerned with earthquakes and damage from hazardous materials. Follow-up questions could indicate why participants chose these particular disasters as the most concerning.

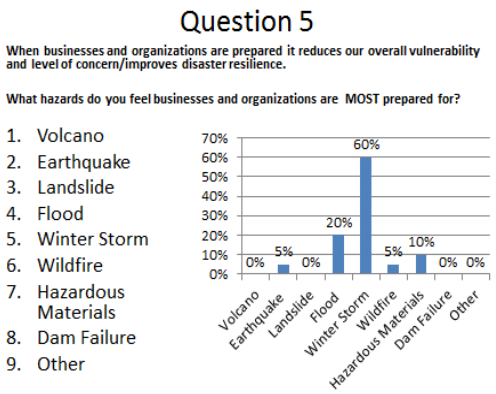
Question 2: There are several hazards faced by the North Santiam Watershed. Which is LEAST concerning?



From the results, participants were least concerned with volcanos and landslides. Follow-up questions could indicate why participants chose these particular disasters as the least concerning.

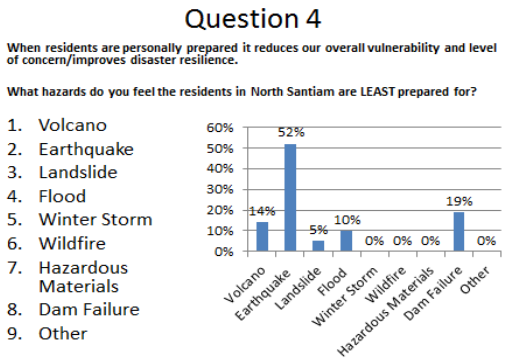
Questions 3 and 5: Which hazard do you believe the community is MOST prepared for?

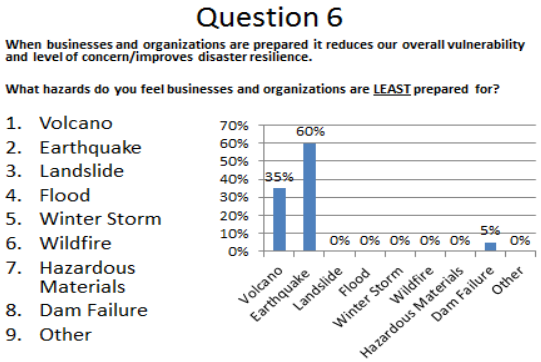




From the results, participants believed residents, local businesses, and organizations to be most prepared for a winter storm event. Follow-up questions could indicate why participants chose this particular event.

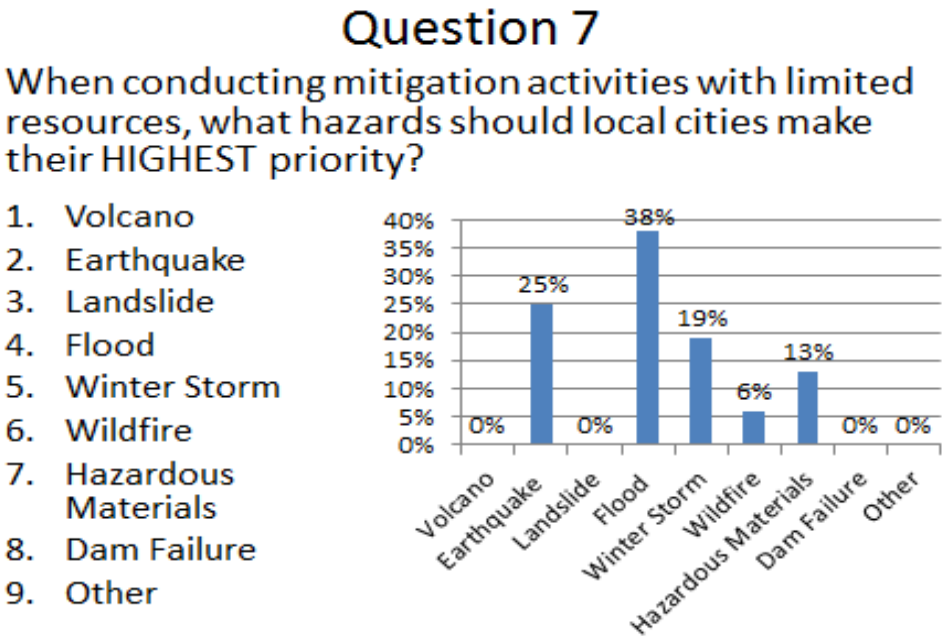
Questions 4 and 6: Which hazard do you believe the community is LEAST prepared for?





From the results, participants believed residents, local businesses, and organizations to be least prepared for an earthquake. Follow-up questions could indicate why participants chose this particular event.

Question 7: Which hazard should local cities make the HIGHEST priority when conducting mitigation activities?



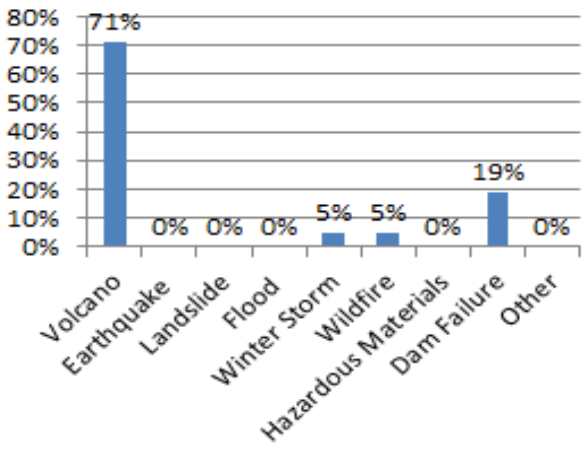
From the results, participants varied in responses, but considered flood hazard to be the highest priority for mitigation activity. Follow-up questions could indicate why participants chose this answer.

Question 8: Which hazard should local cities make the LOWEST priority when conducting mitigation activities?

Question 8

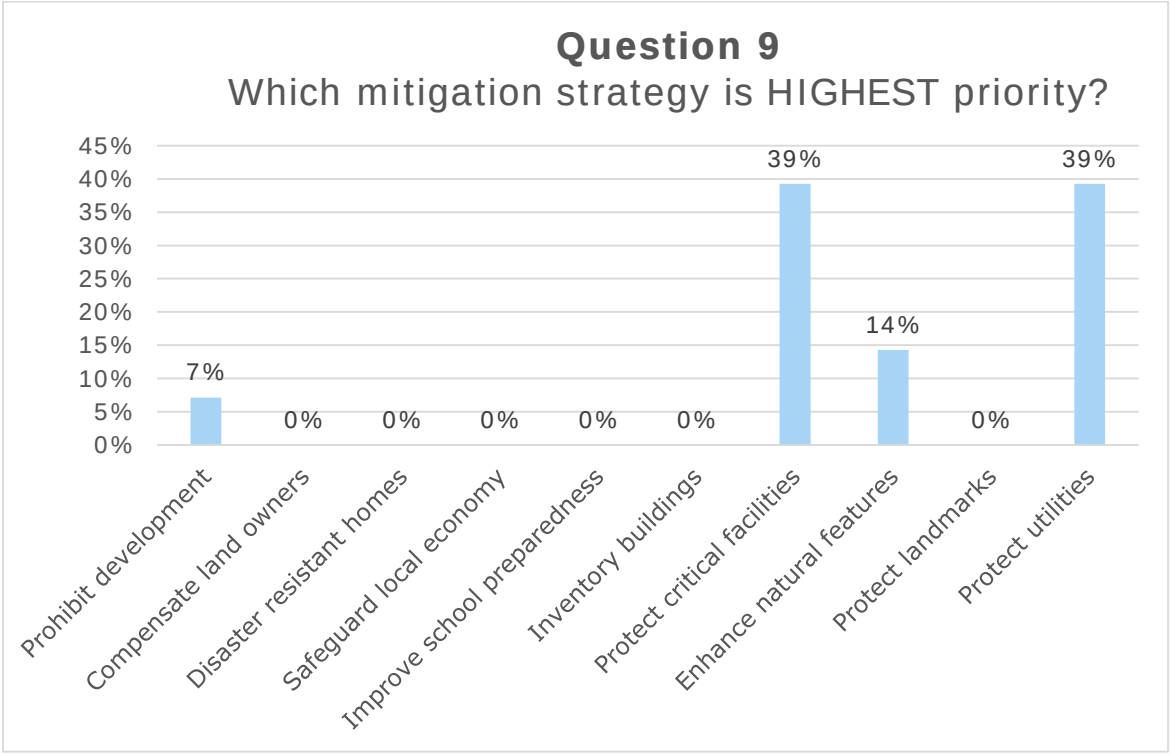
When conducting mitigation activities with limited resources, which hazards should local cities give the LOWEST Priority?

1. Volcano
2. Earthquake
3. Landslide
4. Flood
5. Winter Storm
6. Wildfire
7. Hazardous Materials
8. Dam Failure
9. Other



From the results, participants varied in responses, but considered volcano hazards to be the lowest priority for mitigation activity. Follow-up questions could indicate why participants chose this answer.

Question 9: Which mitigation strategy should be chosen as the HIGHEST priority?



A further description of mitigation strategies is included in the following table:

1. Prohibit development in areas subject to natural hazards

2. Use tax dollars to compensate land owners for not developing in areas subject to natural hazards
3. Make homes more disaster resistant
4. Adjust public policies to safeguard the local economy following a disaster event
5. Improve the disaster preparedness of local schools
6. Conduct an inventory of at-risk buildings and infrastructure
7. Protect critical facilities (hospitals, fire stations, etc.)
8. Enhance the functions of natural features (streams, wetlands, forests) to reduce risks like flooding and landslides
9. Protect historic and cultural landmarks
10. Protect utilities (drinking water systems, electricity infrastructure)

From the results, participants chose protection of critical facilities and utilities as highest priority for mitigation activities. Follow-up questions could indicate why participants chose these answers.

APPENDIX 5 – SUMMARY OF EVALUATIONS

Question 1: Overall impressions of today's summit.

The responses were very positive, highlighting the engagement from a wide variety of agencies and the quality of information and presentations.

Participant	Comment
1	Surprised to learn summit is about emergency preparedness and each year drives the next year's topics. Useful event for learning about current hazard mitigation efforts
2	Very valuable emphasis on watershed level issues and planning considerations with specific needs, but also their overlap and integration with broader county, region, and state needs and how to leverage the existing partnerships
3	Good group of people working together
4	Valuable
5	Excellent speakers
6	Good summit, great discussions, good relay of information, great participation
7	Very engaging summit with lots of good discussion
8	Great participation/interest from wide variety of agencies
9	Good opportunity to share/collaborate data/efforts/functionality
10	Great afternoon
11	Very positive
12	Very informative
13	Good county-wide background
14	Interesting and well thought-out meeting
15	Good communication/venue
16	Many thanks to the planners and presenters

Question 2: Do you feel that any aspects or portions of today's meeting went particularly well or poorly? Why?

Responses indicate that people enjoyed the RAPTOR presentation.

Participant	Comment
1	Prefers action, planned for effectiveness. Would have preferred less presentation/context and more discussion of previous commitments and current status of those projects.
2	Well run, well presented
4	RAPTOR presentation and county planning efforts were interesting
5	The last presentation seemed unprepared, but was ok
6	Enjoyed hearing about Marion Co's efforts and the process towards natural hazard mitigation
8	The RAPTOR presentation was excellent. Erik Petersen was very informative, and looking forward to hearing more!

9	Good to have definition of acronyms, good flow. Was upset to not hear about the table top exercise.
10	More info identifying next steps
13	RAPTOR info/presentation was good
15	Ed has a knack for putting issues in perspective
16	RAPTOR presentation was very good

Question 3: Was the information presented clear and easy to understand? (If no, please specify).

Most participants simply responded "yes", with a couple highlighting the helpfulness of the acronym collection cup.

Participant	Comment
2	Great job cutting through discipline-specific jargon and forcing participants to use plain language – very effective!
7	Yes – kudos to the acronym collection cup!
14	Information was very clear

Question 4: Is there a particular presentation or session that will be specifically relevant to you and your work? How do you expect to use it?

Responses were individualized, but seemed to highlight Erik Petersen's USACOE presentation and the RAPTOR presentation as particularly valuable.

Participant	Comment
1	Erik Petersen's presentation is immediately relevant as her well is close to the river. Will be learning if the Linn-Marion Co collaboration has completed a vulnerability assessment in the North Santiam Watershed
2	Technology and data
3	Not specific, but it is good to know the involvement of others, so information can be communicated
5	RAPTOR and Josh Bruce were excellent
6	Emergency Response "System" development
7	Not necessarily. Found the table top exercise to be more valuable. Not clear what the take home/next steps were from this meeting
8	RAPTOR tools and networking
10	Ed Flick was excellent
11	Enjoyed the RAPTOR presentation
13	FEMA flood map updates
14	Erik Petersen's presentation on hazardous waste near dams

Question 5: If there was something you could have changed about today's meeting, what would it have been?

Almost all participants left this blank or responded "no". Only one participant offered advice to "ditch the clickers".

Participant	Comment
16	Ditch the clickers

Question 6: What are your recommendations for future summit activities?

Responses varied, but there was agreement about continuing the existing process of table tops and summits.

Participant	Comment
2	Mechanisms for workgroup follow-ups in between large annual meetings to continue cohesion and engagement across the groups
5	Mapping exercise
6	Thinks watershed needs to identify champions and leaders for various aspects of its work. Example: Marion Co is a logical leader for natural hazards planning/mitigation. City of Salem (as largest water supplier) might be lead for water quality issues
7	Liked how conversation was so in-depth and moved forward on one specific topic/vision, but would also like to see the Summit be a forum for other basin-wide major info/news/updates. Maybe one day for each…
8	There was no discussion of impacts to community of natural disaster; i.e. healthcare, food security, etc. Are there partnerships/relationships with these entities?
10	Continue table tops and summits and be open to other opportunities
11	More table tops
12	Should continue this process
13	Communications integration county wide
14	Consider natural resource topics such as aquatic ecosystems, restoration, effect of fire on water and natural resources
16	Plan actual watershed drills

Question 7: Any other comments?

Comments were positive and mostly endorsed the catering service. Others complimented the agenda.

Participant	Comment
3	First summit – it was put together well and learned a lot!
7	Well coordinate agenda and facilitation
8	Enjoyed the interactive clicker. Refine questions to tease out more info. Nice venue.
15	These events run the risk of becoming a government agency echo-chamber. Need to communicate better to the local and business communities to improve their attendance.

Participant Info

Number	Name	Affiliation	Email	Phone
1	Jan Irene Miller	Landowner, North Santiam Watershed	janirenemiller@mac.com	715-937-4575
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4	Brent Stevenson	Santiam Water Control District	brents.swed@wvi.com	503-769-2669
5	Anonymous			
6	Don Pettit	ODEQ	pettit.don@deq.state.or.us	503-229-5373
7	Anonymous			
8	Anonymous			
9	Daniel Stoelb	OEM	daniel.stoelb@state.or.us	503-378-2911 x 22234
10	Mike Gotterba	City of Salem		
11	Jim Thompson	MCPW		
12	Anonymous			
13	Skip Gosser	Landowner/BCWCB	skipg26@hotmail.com	503-249-1601
14	Terrence Conlon	USGS	tdconlon@usgs.gov	503-251-3232
15	Anonymous			
16	Susan Farris-Gosser	Landowner	grams_94942@yahoo.com	445-518-7303