

Eugene Climate Action Plan 2.0

Urban Natural Resources and Emergency Preparedness Chapter

Meeting

Tuesday, July 17, 2018 • 9 am – 12 pm
EWEB Community Room
500 E 4th Ave, Eugene, OR 97401

Present: Therese Walch, Kevin Holman, Matt Rodrigues, Scott Altenhoff, Carolyn Burke, and Chris Heppel, City of Eugene; Nancy Toth and Jeannine Parisi, EWEB; Dan Hurley, Lane County; Sharon Olson and Josh Newman, MWMC; Becca Puleo, University of Oregon

Climate Action Plan 2.0 Project Team: Chelsea Clinton, City of Eugene; Brittany Judson, City of Eugene; Jessica Lisiewski, City of Eugene; Ethan Nelson, City of Eugene; Joshua Proudfoot, Good Company

Opening Remarks

Chelsea Clinton gave an overview of the project vision including a review of the core project commitments (Triple Bottom Line, Strategic Doing and Adding Value) and an overview of the project equity initiatives.

Introductions

Participants and community members introduced themselves and provided what they hoped to get out of the meeting or process. Common themes included connecting with each other and across organizations, learning about other endeavors and new ideas, sharing, looking to the future, partnership, best practices for reducing single occupancy vehicle travel, and mapping out our community investments.

CAP 2.0 project goals and process

Chelsea Clinton provided a more detailed overview of the CAP2.0 project including the CRO Goals, 2017 Mayor's CRO Ad Hoc Work Group, core project commitments, equity initiatives, Large Lever Shareholders, CAP2.0 project timeline, and project team.

Equity Discussion

Chelsea Clinton facilitated the discussion. The group discussed the difference between equality and equity. Then the group reviewed the project equity lens. Last, the larger group broke out into smaller groups to share their organization's equity framework.

Scope of Today's Meeting – Josh Proudfoot

The Climate Action Plan discussion has many different buckets, and there are overlaps between some chapters. Land Use and Transportation has some overlap and Community Health and Social Services has some overlap. We're combining urban natural resources with emergency preparedness today. Both conversations have always been difficult because reliant on each other. However, it means we'll be talking on two different time scales. Urban resources is long-term, and emergency preparedness is preparing for acute events. This discussion will bleed over into many other important things in our community.

Adaptation vs. Mitigation

In the Ad Hoc group there was strong support for looking at both mitigation and adaptation together, even though the Climate Recovery Ordinance is focused on mitigation. Adaptation is a different discussion with different agencies, and different parties. This discussion is heavily focused on adaptation piece and less on mitigation.

Discussion of Best Management Practices – facilitated by Josh Proudfoot

Josh presented some Best Management practices (page 3 of agenda).

Definition of **high impact practices vs. important triple bottom line practices**: High impact practices have system level impacts that have a very high impact on system-level preparedness. Important triple bottom line practices are climate related actions that have a variety of benefits across our community, but have a smaller impact on climate adaptation at the community scale. For example, protecting our water supply has a big impact across the community. Fire prevention in a city neighborhood would not be considered high impact, but fire-prevention city-wide would. Focus on the adaptation of the big system.

Jeannine Parisi, EWEB asked: How are we looking at emergency preparedness from a climate action plan perspective? Are we just raising awareness of what's already been prepared for and implemented?

Josh Proudfoot, project team gave some examples of what other communities are looking at under this topic:

- The drinking water supply and watershed changes over time due to climate change.
- If you try to preserve the Douglas fir forests to keep drinking water, will that Douglas fir forest survive under future climate conditions?
- There are some direct impacts from climate change on existing storm preparedness efforts. There will be a different storm regime, and an increase in summertime fires.

Additional high impact best management practices:

The group brainstormed additional best management practices, and those practices that should be reclassified as high impact practices or triple bottom line practices.

Josh Proudfoot: For example, we have warming centers in the winter. Do we have cooling centers in the summer? What about filtered air centers? The equity considerations of cooling centers include: location, transportation, budgeting for staffing and services associated with it, and serving vulnerable populations.

- Josh Newman, MWMC: Using recycled water rather than potable water. Aggregate water issues including water rights and drought. MWMC is moving forward with the recycled water project.
- Josh Proudfoot: Trees for adaptation are hugely important, as well as for sequestration, and the right trees.
 - Josh Proudfoot mentioned that with carbon sequestration of trees, it takes a lot more trees than you think it would. Milwaukee found that it would take 600 times the land mass of their city covered in forest to offset their emissions. They were not able to

offset much by planting 20,000 trees. In Portland with their focus of trees in parks they found that the vehicle use of just the parks department alone outweighs the carbon

- Josh Newman, MWMC: Mitigating the heat island effect – trees and building heights need to be considered. Shade on buildings has a large impact.
- Scott Altenhoff, City of Eugene: Water systems – soils. Healthy soils are the basis for food security and trees. The problem with infill development pressure is that we're losing physical space. Combined with drought and urbanization, it's making it problematic to grow long lasting trees and soils.
 - Josh Proudfoot, project team - Lowdermilk wrote about soil management around the world, if you're interested in learning more.
- Jeannine Parisi, EWEB: Actions around water quality may be more important - flooding and storm events, hazmat – how much is washed off into our water systems. Cool clean water is under threat a lot of different conditions.

Future Climate Conditions in Eugene – presented by Josh Proudfoot

Josh presented on the Future Climate Conditions whitepaper - what we can expect the future conditions in Eugene to be in the next 30 – 100 years from climate change. Some key anticipated changes included:

- Increase population - Increased economic activity in Oregon with decrease in the South and Midwest.
- Hotter and drier summers 10-12 degrees Fahrenheit warmer by 2100.
- Warmer winters with the same amount of precipitation, but less snow/more rain. Snowpack in Cascades nearly gone by 2040.
- Increased wildfires – 500-600 percent more surface area by 2040.
- Halved summer stream flows by 2040.
- Turnover of vegetation to a different vegetation regime by 2080.

Specific findings relevant to today's discussion:

- The McKenzie River has some storage in the lava sponge which provides some buffering protections against snowpack loss. However, dry year after dry year after dry year – we'll lose the benefit.
- Hydro dams- we need to see more storage.
- We've heard from other agencies that the FEMA maps (100 year flood plain) are incorrect and aren't updated with current information:
 - Shanna Brownstein: There are economic challenges and impacts in revising FEMA maps because the FEMA maps influence home value and influence federal insurance around floods. Houses in FEMA zones get FEMA funding. It has huge implications as to values of homes.

Adaptation Actions of Each Organization –Dry Season - Facilitated by Josh Proudfoot

City of Eugene – Scott Altenhoff

Actions

- We're working to increase the extent and general resilience of urban forest.

- We now are focusing on those areas that have been disadvantaged in Eugene. Historically the south hills received a greater amount of care from our organization – mainly because many knew how the system worked and that trees naturally grow better in those areas in contrast to west Eugene.
- Challenges with that are that west Eugene is more of a wetland environment. Expansive soils which can be challenging. Requires planting more trees and providing extended care.
- We're also focusing on planting more drought tolerant and fire resistant, and those that provide ecological services. Regarding the decline of the douglas fir forests, and not having a clear idea of what will replace the Doug firs - We're using adaptive management and active experimentation to see which cast of characters performs best over time.

City of Eugene – Kevin Holman

Actions

- Natural Hazards Mitigation Plan – recommendations need to be signed off by city council. Doesn't mean we can reach all our goals that we create.
- Working on mudslide project – shows us where the slide areas are and surrounding area zoning
 - Long-term planning function – can help influence development.
- Outreach for plan – public works. Moving the park, influence and help our community think around issues around climate change and prepare community to deal with the issues.
- Issues around water – flood prevention to water retention system. What happens once water gets released in to the river?

City of Eugene – Carolyn Burke

Actions

- Thinking about the dry season, we're actively doing fuels reduction especially in rural-urban interface and ridgeline area. Reduce the risk of wildfire close into town.
- We're doing fuels reduction categorically – thinning and reducing invasives. Not fire breaks.
- We're acquiring additional green spaces throughout the area. There's a strong equity focus – we've mapped out areas where parks are needed.
- Access to water (for cooling) is another issue we're focusing on.
 - We've done a study on where opportunities are along the Willamette.
 - We're building and maintaining swimming pools, which will have a ghg impact.
 - Renovations for Sheldon and Echo Hollow, new boiler systems, reduce emissions through boiler.
 - Spray play in neighborhood parks.
- In wet season, parks as flood retention.
- Planning acquisition areas. See some analysis there.
- Certified as salmon safe. We're using water saving techniques. We received funding in bond measure to look at irrigation systems of green efficiencies.
- Looking at more ways to ensure that water discharge is clean, not increasing flows.

- We're deliberately shading streams in order to keep the water we have knowing it will decrease – we're planting shade trees on the south side of streams and rivers. Green pipe strategy, vegetation that goes around the entire area.
- We're using TBL to determine where the investments are going to be made. We've mapped out where we currently don't have access to parks. Acquisition funding is being used to purchase land in those areas. We're looking for additional land around beltline, north of town. We're expanding our green spaces.
- We already have undeveloped land where we should be developing it based on TBL. The bond will support that work.
- We also did a lot of outreach to Latino community. We have a big list of opportunities where services can be improved to help make all people feel welcomed.
- There's a difference in operations within Parks and Open Space regarding alignment with green infrastructure. There's a new team reconfigured around green infrastructure – signaling a longer term investment management around infrastructure. Urban land management, stormwater, medians – were historically designated as parks in open space responsibility. Under that structure full resources were not invested because parks would take priority. Now with the new green infrastructure team the visibility and importance is elevated.
 - Scott Altenhoff – We're looking at it now with a more holistic approach. Street trees and park trees were treated separately before. By focusing more on green infrastructure, we're tipping to a livability perspective – investing where people live and bringing parks to their front door.

City of Eugene – Therese Walch

Actions

- Pilot project with Long Tom Watershed Council to incentivize private property riparian enhancements.
- We're working on a pilot project to develop and enhance maintenance plan for the East Santa Clara waterways by facilitating volunteer restoration projects involving property owners. By involving property owners, it brings up not only what we see as issues as flood conveyance and control, but also what do residents of that waterway see as potential water quality issues or flooding concerns.
- The Engineering Division of Public Works is involved in front end of green infrastructure and policy development. There are design standards have a limited standing water time and depending on the type of facilities, standing water is not allowed. I'm not sure what criteria is, but the intention is to avoid creating of mosquito habitat. If those problems come up, adaptive management comes into play.
- We need to do more work with in stream flow monitoring. We do some – but it's time for us to check where we are monitoring, what's the purpose, and looking ahead at climate change, what data do we need going into the future, and is our monitoring going to meet those needs? Our model now is based on historical rain flow data. We need to collect data to refine and update our models. It's on my list to talk about with my peers.

City of Eugene – Matt Rodrigues

Actions

- Capital improvement plan – Stormwater quality retrofits for streets. Capture in lieu of a fee for development. In areas where green infrastructure isn't possible, it's placed somewhere else in the system.
- Retrofit or expand the pipe management system as we get more flooding.

EWEB – Nancy Toth

Actions

- We're placing emergency wells within the city – source of water in the event of a big earthquake.
 - Equity consideration – Location. Are they spaced well throughout the city to serve different populations?
- Development of a second source of waters supply. We're currently operating solely on McKenzie.
- Pure Water Partners – Provides incentives to protect healthy riparian forest on private property.
- We're engaging with other landowners to restore riparian forest and stream side property.
 - Shade habitat, flood mitigation –we need a healthy riparian barrier to slow down the flood. On a longer term scale, we need more area to store water to keep it flowing during low flow seasons.

EWEB – Jeannine Parisi

Actions

- We manage 500 acres of EWEB forest – in a sustainable way. We are replanting species which are being selected for resiliency to fire and diversity.
- We have some treatment capacity for turbidity but it's not limitless. We're learning from other utilities that have dealt with more of it. Regarding fire –we're pulling directly from the river which somewhat mitigates for that.
- This season there were harmful algal blooms. There's usually enough dilution. This year with releasing the water at several times we saw it. It did not impact our drinking water but it could. We are more protected than Salem due to a different treatment process. We're not pulling directly out of the reservoir. But it will become more of a risk with climate change.

Discussion - Josh Proudfoot

MWMC – Josh Newman

Actions

- Pure Water Partners to mitigate the thermal load that we inherit from the communities we serve. It's a requirement.
 - Rather than build a chiller at the end of our wastewater pipe – the low cost high value option is out in the watershed, working with landowners. Pure Water has put together effective way to do outreach work once. Ecosystem service credits. Landowner wants to have an agreement where they get compensated for upgrading their land. Economic service for ecosystem services.
 - Pilot projects in Springfield and Cedar Creek, middle Willamette watershed. Plant trees.

- Pure Water partners – working with other groups. This allows them to work in tandem with other efforts that would maybe plant on other sides of the river, whereas our area is on the south side of the river.
- Poplar plantation.

MWMC – Sharon Olsen

Actions

- We're conducting monitoring for stormwater and wastewater. Ambient monitoring is part of the adaptation - preparing and planning for what needs to happen in the future.
- We reuse wastewater internally
- Todd Miller is looking at opportunities for reuse. If we can't put it into the river late summer, what can we do with it? Other agencies can use this water. Ambient monitoring helps determine what strategies are needed to meet need in future.
- Josh Newman: Urban tree watering pilot – using recycled water to water trees in Eugene. We are working on our outreach and education strategy. The conversation is one of the key elements. Getting these things implemented takes a lot of outreach due to the yuck factor. We need to get over the hump of how we talk about this with people.

Lane County – Dan Hurley

Actions

There aren't plans, but discussions:

- Air quality emergency shelters in the Health and Human Services department.
- Upgrading our radio systems for emergency management – plan. That's all that's in the works for hot season.
- Parks master plan will be released tomorrow, but it does not speak to water quality ecosystem management. The focus is more about infrastructure management and access to recreation. Some application to the wet season.

UO – Becca Puleo

Actions

We're working on two things:

- Create a continuity plan for central kitchen – addresses food security – hold enough food to feed 4000 people for 3 days. The power plant is the backup generator.
- Working on a ham radio project.

Josh Proudfoot – Are there any dry season impacts to transportation system?

- Matt Rodrigues – we're probably not as susceptible as other areas. Planned for how heat will effect pavements pretty proactively now. That's in the maintenance cycle. 15-20 year cycle on streets.

EWEB – Jeannine Parisi

Actions

- We're using satellite imagery to find where the leaks are in the system. Smart meters – effective in finding the leaks.
 - Big deal from equity issue – A rental may have an \$800 water bill from a leak. This allows us to catch it sooner.
- Low income replacement showerhead program
- With the understanding that drinking water is a small piece of what we use water for, it's on my wish list to do a better job on water conservation specifically around lawn replacement. Irrigation is the biggest use, but there's not much action.
 - As people who move into our community – the ethic around irrigation is going to change. More water sensitive than people who grew up here.
- We're looking at carbon offset program as part of the green power program.
 - Grant with friends of trees to do tree planting.
 - Forest initiative with the mayor.
 - Leverage partnerships in terms of urban forestry.
- We're rebuilding pump stations and reservoirs for energy savings and seismic capacities. We're putting smaller reservoirs in more parts of the community. We currently depend on 3 large reservoirs. With small reservoirs, there's less risk of failure. Moving next 20-30 years to smaller reservoirs.

Additional dry season impacts or actions

MWMC - Josh Newman:

Actions

- Flow augmentation. We've looked at it extensively but it's not a thing yet. It's on our wish list for Amazon creek and it keeps coming up – putting highly treated recycled water back into system in the summer.

Cooling centers and air quality

City of Eugene, Kevin Holman

Actions

- The Red Cross is working through the health department on this issue. We are working on signing an agreement about facilities – which are not meant to be shelters, but they could serve as such possibly. Community centers have served in past during heat waves. There's a need to connect them with the Red Cross.

Adaptation Actions of Each Organization –Wet Season - Facilitated by Josh Proudfoot

City of Eugene - Kevin Holman

Actions

- Evacuation planning (mudslides) – critical roads are a high priority. Currently the road system creates slow traffic – traffic jams – division – bridges. It also contributes to idling several hours every day.

EWEB – Jeannine Parisi

Actions

- We need to think about hydro impacts and our energy resource needs and think about how it changes the regime. We currently have through October – backfilling energy. Risk mitigation. Hydro is very snowpack oriented.

Josh Proudfoot, project team: Are there plans around data for flooding – 100 year, 500 year?

MWMC – Josh Newman and Sharon Olsen

Actions

- We're evaluating 2 scenarios around disaster mitigation – a quake event and a flooding event. Task is to consider the climate impacts on that – we're keeping it operational.
- MWMC resiliency study. 1 year from now complete.
- Inflow infiltration reduction – city is managing – conversation. We're seeing a 10-fold increase in flow. We're managing:
 - Accidental connections to stormwater.
 - Imperfections in piping.
 - Pumping 10 times more water than we need to be.
 - Dealing with all this dilution – not designed to operate like that. It's a public health issue.
 - What will come out of this will be adaptation and mitigation strategies, and how to increase our coordination.
- Also, our collection system – we're installing more variable frequency drive motors to deal with low and high flows. We can do pump arounds or controlled overflows in the worst case scenario to protect the community from wastewater.

City of Eugene – Therese Walch

Actions

- We're working on stormwater system plan updates. We model the public stormwater system of Eugene.
 - With the existing modeling, we identified capacity issues predicted and capital projects to address them. Is our model good enough, or do we need better rainfall or flow data? The update will address that – and include a closer look. It will include the Clear lake urban growth boundary expansion area to provide stormwater service delivery. We should complete the basin plan update within next 2-2.5 years.

Lane County – Dan Hurley

Actions

- In order to ensure future compliance with stormwater permits as the UGB develops, Lane County is setting up onsite monitoring system for stormwater retention. As the Urban Growth Boundary develops, we'll look at that in real time.

Discussion

Josh asked Kevin about landslides. How does that get shared out? Does it influence zoning stuff and/or transportation stuff?

- Kevin Holman, City of Eugene – Public Works was involved when the info was produced. There's a public document that should be readily available. Jeanine tested water modeling resilient to landslide. Slide prone areas. As we replace water management, we're looking for opportunities to map and determine where to put pipes.
- Matt Rodrigues, City of Eugene – It's similar to wastewater pipes.
- Josh Newman, MWMC – Both cities are doing good job at evaluating us. They help us identify where systems are most vulnerable. Both cities now are monitoring wastewater flows. COE has led on the model to be predictive.
- Jeannine Parisi, EWEB - Replace water main to be resilient to landslide. We're looking for opportunities to reduce impacts from landslide and we have new standards around landslide.

Josh Proudfoot, project team – Are there other flooding prevention efforts? We haven't heard anyone mention the banks in the adjacent parks of the river. Some of it may become default storage without any planning.

- Matt Rodrigues, City of Eugene– we've done bank stability studies. No model for flood zones, hard to understand full impact of changes in participation.

Carolyn Burke, City of Eugene – What's going on with the FEMA maps?

- Josh Proudfoot, project team – the common understanding is that FEMA maps aren't addressing climate change adequately. The federal government is not allowed to address climate change. Other agencies are pooling funds for independent study and not waiting for FEMA. These are important questions for infrastructure investment questions such as: where do we place that bridge, where does the bridge end? Some findings from these studies include:
 - Burnside Bridge will likely be underwater once every couple years.
 - Sea level rise every 100 years, those parks will be under water.
 - Riverfront park what does that mean? How often is the 100, 500 year event?
 - Multnomah county bridge department showed that Portland had four 400 year events in the last 5 years.

Josh Newman, MWMC – We're using the 500 year storm as starting point. It's not an extensive analyses – we don't have the money. But it will be high level based on studies that have already occurred.

- Matt Rodrigues, City of Eugene – What level of accuracy we can get out of that type of modeling? Is it close? Should we invest in it?
 - Regarding the ability of modeling – check in with OCRI at Oregon State – they have the best ability.
- What about rainfall data?
- Josh Proudfoot, project team – Portland is doing that. If you downscale Portland model you can feed it into the hydraulic wastewater model.

Adaptation Actions of Each Organization –Population Growth - Facilitated by Josh Proudfoot

Josh Proudfoot, project team - 5 minutes population growth – plans to deal with that?

Discussion of impacts and barriers

- Therese Walch, City of Eugene – There are stormwater implications to densification. How do we balance the green infrastructure to tradeoffs and impacts on densification? It doesn't benefit us from a stormwater perspective to densify. It gets more challenging because there's less permeable surface available. There are engineering ways to enhance infiltration – we need better subgrade while we're densifying.

Ethan Nelson, project team – In regards to long range planning what is the process to look at growth trends? Are any systems projecting what's 10 20 years and calibrating?

- Josh Newman, MWMC - We push out as we run out of buildable space. What we allow for growth is a policy measure, as we use up area of Urban Growth Boundary, if we're not saving the land for agriculture. What about allowing for more densification – height standard on buildings? Why do we have the standards we do? Is it a matter of aesthetics? Is aesthetics more important than allowing for densification?
- Ethan Nelson, City of Eugene: The City of Eugene has a growth monitoring program.
- Josh Newman, MWMC – It really comes down to land use code and building code– and those discussions take place in public venue, usually with heated discussion. The farther out you go with your infrastructure, it's exponentially expensive to maintain it. Envision Eugene has goals of organizing growth around native corridors, but when we try to implement it we get push back from the public. South Willamette is an example.
- Matt Rodrigues, City of Eugene - If we have an influx of population that's not predicted – we'll have some problem providing service. We're working on a model in a session that looks at property tax relative to cost of city service – to incentivize the more cost effective type of development.

Josh Proudfoot, The City of Hillsborough is building net zero buildings. The city passed a bunch of requirements necessary to build net zero buildings and using that to take big steps forward.

Jeannine Parisi, EWEB asked if the Millrace Knight Campus development had talked about stormwater treatment.

- Becca Puleo, University of Oregon – there have been conversations, but I don't know the status.
- Carolyn Burke, City of Eugene - With population growth, those green spaces become valuable. Regarding agriculture and food production, we have robust community garden program. There's potential to expand that into larger scale food production. Professor at U of O interested in exploring that.

Key Takeaways and Next Steps – Facilitated by Chelsea Clinton

Everyone shared what they learned or took away from the meeting today.

Themes: Interconnectedness. Challenging nature of the work and of equity considerations. There's opportunity to partner. Need updates to flood maps. Opportunities to pool resources around this work. Fear of future. Magnitude of task at hand. Future of our community is in our hands. Green infrastructure. Complex, difficult to implement, contentious. Thorny hard problems – a lot of partners that are trying to do the right thing. Sense of commitment. Information management systems are needed. North end of town needs shade and flood control. South end needs fire and retention.

Next steps: The City of Eugene will follow up on information you gave today.