

Pacific Northwest Garlic Mustard Working Group Meeting (Fall 2017)

Montgomery Park, Rooms 452 A/B, 2701 NW Vaughn St, Portland, OR 97210

Thursday, November 9, 2017, 10 am - 2:30 pm

*“The Pacific Northwest Garlic Mustard Working Group is a collaboration between invasive plant managers and field staff working on surveying and control of garlic mustard (*Alliaria petiolata*) in Oregon, Washington, British Columbia and Alaska. Together, by sharing observations, identifying challenges and discussing survey and treatment strategies, the working group enhances the collective understanding of garlic mustard impacts and solutions across the region. Developing a platform for collaboration promotes timely sharing of key information and supports a region-wide effort to contain and decrease garlic mustard presence in the Pacific Northwest.”*

Meeting Attendees:

Name	Organization	Name	Organization
Ari DeMarco	West Multnomah SWCD	Lindsey Karr	Clackamas SWCD
Blaine Kisler	Clark County Noxious Weed	Lindsey Wise	PSU/iMap Invasives Oregon
Brad Mead	Clark Public Utilities	Maria Winkler	King County Noxious Weed Program
Casey Gozart	Clark County Noxious Weed	Matt Vesh	City of Portland BES
Chris Aldassy	East Multnomah SWCD	Michael Crabtree	Yamhill SWCD
Cyndi Soliz	Skamania County Noxious Weed Control Program	Jon Wagner	East Multnomah SWCD
Denielle Cowley	Clark County Noxious Weed	Justin Bush	Washington Invasive Species Council
Emily Stevenson	Skamania County Noxious Weed Control Program	Michelle Delepine	West Multnomah SWCD
Esther Shin	Clark Public Utilities	Mitch Bixby	City of Portland Environmental Services
Jalene Littlejohn	Samara Group/Oregon Invasive Species Council	Nichole Linehan	Portland Parks & Rec
Jeff Lesh	Clackamas SWCD	Sanoe Keli'inoi	Clark County
Karen Peterson	King County Noxious Weed Program	Vern Holm	Western Invasives Network

Remote Attendees	
Beth Myers-Shenai	Oregon Dept of Agriculture
Chris Pirosko	Jackson CWMA/Southern Oregon contractor
Kris Schaedel	Hood River SWCD
Thera Lombardi	Rogue Basin Partnership

Introductions & Icebreaker (organization, role in garlic mustard mgmt, best/worst garlic mustard moment of past two years)

East Multnomah SWCD (Jon Wagner and Chris Aldassy) – Surprised to find no garlic mustard at all on an island in the Sandy River previously infested. The island was inundated this winter.

King County (Maria Winkler and Karen Peterson) – Noted an incident where garlic mustard was spread from a parent site (Golden Gardens Park) to a knotweed site they manage.

Regional Survey Strategies to Detect New Populations & Management Gaps

Part 1: Identify areas that aren't managed and where we need to look harder/ high-risk area for GM, known gaps.

Factors for getting all garlic mustard in a management area (or not): funds available, time, weather and crew availability

Chris Aldassy, EMSWCD- Their strategy is to contain garlic mustard to Corbett area, not treat within Corbett area (except for roadsides). It was decided several years ago not to treat in Corbett because of expense and difficulty in accessing (cliffs in gorge, etc). Also a biocontrol agent was looking promising at the time. They do perform vector control on the railroad, which is next to Hwy84. These tracks head east-west along the Columbia River Gorge on OR side area – a likely important vector.

ACTION (Jon/Chris): Will be expanding treatment area in coming years.

Jeff Lesh & Lindsey Karr, Clackamas SWCD- Lower Clackamas River islands were identified as a current gap. More work needed there, but they are catching up. ***ACTION (Jeff/Lindsey): Exploring options.***

Casey Gozart & Denielle Cowley, Clark County - 2 densely populated GM areas that they are trying to contain by treating public lands every year. The gaps include Lower Salmon Crk upstream of I-5 & City of Camas area. About 6 satellite populations that they also try to contain. Private props aren't getting done. ***ACTION (Casey & Denielle): Continue containment measures & evaluate.***

Jim Cathcart- reported a large patch at Lower Beaver Crk, Troutdale- feedback was that it wasn't in anyone's treatment plan (right behind Metros signs...) EMSWCD knows about it. Lower Beaver Crk Canyon has a lot of GM on really steep, unstable slopes. From Stark St to Sandy River. Probably City of Troutdale property. ***ACTION (Jon): Reach out to Metro to see if they plan on treating, at least partially.***

Jon Wagner-- EMSWCD knows about that patch. They couldn't take on that canyon patch and also get their other work done. Drew a line in the sand for Troutdale because they don't have the resources to treat it. Goal- to keep it out of Upper Sandy, National Forest, and Gorge. Some trails in Troutdale are managed.

Kris Schaedel, Hood River SWCD- 2 locations w/in Hood River County, they will expand surveys to try to capture that. **ACTION (Kris): Will expand surveys.**

Michelle Delepine- Umatilla is managing headwaters, eastern front of GM, and select areas along riparian area lower in watershed, but portions of the watershed are not being managed.

Jeff Lesh, Clackamas SWCD- Ladd Hill area, west of Wilsonville. At least 1 large property that we can't work on, and a lot left to be surveyed.

Michael Crabtree, Yamhill SWCD- NE Yamhill Co where it meets Clackamas- lots of questions about what the infestation there really is like. He knows of sites that probably aren't being managed enough.

Emily Stevenson, Skamania Co Noxious Weed Control Program- Spokane County has garlic mustard but don't know any details about it or treatment.

ACTION (WSDA?): Follow up with local Spokane contacts

Vern Holm, Western Invasives Network- 1, outside of Forest Grove, along Gales Creek- the new Tualatin weed folks will presumably be working on it? 2, along Scappoose River, intermittent work w/ Scappoose Bay watershed council, not sure how much work they're actually doing—very funding dependent.

ACTION (Michelle): Follow up with Clean Water Services and Scappoose Bay WC to discuss needs.

Lindsey Wise, PSU iMapInvasives- Outside Astoria, NCLC found a patch and think it's someone's garden dumping site. Unknown source, ongoing contributions. Lindsey got it from an iNaturalist report from Mel Reich and a parks person. She doesn't know who's treating it. Clatsop SWCD knows about it, unsure on what follow-up has been done. Lindsey Wise will send the report to Vern. Update: On ODA's radar and recommends OSWB funding request. Local entity (Clatsop SWCD) unable to control anything without dedicated funds for work. **ACTION (Beth Myers-Shenai): Follow up with local weed authority.**

Part 2: Barriers to treatment:

Jeff Lesh CSWCD- There's too much GM. Other weeds are more important and less abundant. However, garlic mustard surveys lead to finding other less abundant EDRR species.

Beth Myers-Shenai says the Astoria site would be a good candidate for a Weed Board grant, because it is an outlier site and they like to prioritize those.

East Multnomah SWCD- they figured out it would cost \$250,000/year - \$350,000 for 10+years of treatment to treat Troutdale sites. They're more concerned with vectoring, they treat trailside sites to try to prevent that. It's a funding and staff issue for them. They recently presented their cost analysis to the board at their strategic plan meeting, but they're not optimistic on the board prioritizing it. The Troutdale population is not in pristine natural areas, its urban, weedy sites that are low priority for EMSWCD's goals.

Michael Crabtree- "everything in Yamhill Co is limited by funding" - they couldn't do a county-wide survey for GM at this point. They know they have GM and a large vector that is spreading over the county, but they haven't surveyed the whole county and don't really know what's out there. They don't have a designated weed person on staff. Their current strategy has been to get a call, go out and do a survey, and then sometimes treat right at that point if they can.

ACTION (Vern/Michael/Beth): Discuss options, pursue funding.

Mitch Bixby- Creeks on west side of west hills of Portland. They prioritize streets over creeks because they are more likely to be vectors. The creeks are all in people's backyards. Time, weather, and crew factors have limited their treatments. Even if they had the \$, they'd have to spend it all in a 2-week time period- Mitch's paradigm is on spring treatment only.

Michelle- what could we do outside that 2wk window to increase treatments? Clark and Skamania Co have had success with fall treatments.

Maria Winkler, King Co- Pre-emergents Surflan and Gallery (4oz/acre max label rate, fairly safe, a low rate) are being experimented with/used and it looks promising. Timing of application is in fall, lasts about 3 months, then go back in late winter for 2nd treatment. Can be very effective in reducing amount of field work in spring. But, if you have mixed forbs it's not a good idea because it is a pre-emergent and will negatively affect seedling recruitment. It's good for ROW sites and they are experimenting with use on steep slopes. Also good on active restoration sites because they are going to be replanted /re-seeded anyways. **ACTION (Maria Winkler, Karen Peterson): Report back on pre-emergent trials this spring, etc.**

Chris Pirosko, Southern Or- Does fall rosette control really reduce spring work?

Blaine Kisler, Clark Co- Yes, it makes a big difference. Timing of fall triclopyr treatments- has to be after a good amt of rain to soften ground and before 1st hard frost.

Maria Winkler, King Co- Imazapyr in summer has been good because its so slow-acting.

Blaine- Couldn't convince state to give \$ King and Clark Co probably

WA Dept Ag has only about \$5000-7500/year (varies year to year) for all class A weeds for the entire state, they tend to give \$1500 grants... not worth the paperwork. New sites/populations would probably be more likely to get funding.

Danielle Cowley- Clark Co does not have an assessment (such as King Co). If it's a mandatory requirement, Clark Co can do it. But, the divisions only want to spend what they have.

Beth- ODA-Oregon State Weed Board likes to give funding to projects with a good track record and have made good progress, as well as outlying sites that are outside the main infestation area (like the aforementioned Astoria site) including outliers that are in the greater Portland Metro area. Contact her or Glen Miller. Offered to look at draft proposals before submitting to let you know if it's competitive.

ACTION (Oregon contacts): Explore OSWB funding options, if not already. Contact local ODA rep.

Carri Pirosko in SW Oregon would be the ODA contact to talk to for SW OR grant funding.

2009 Skamania GM work began

Improving Prevention Strategies

Lots of discussion on how to prevent us and contractors from vectoring.

Maria Winkler, King Co - They've been trying to get the word out to their partners who are working in those GM sites. They have a big boot-cleaning program. At a recent Parks pesticide recertification seminar, they did a 20-min presentation on how to clean gear! They used a video from Play Clean Go. The general public and volunteers in parks seem to be really excited about cleaning their boots. They're going to be changing their literature to reflect this paradigm. It's important to "deputize" the public to help out. Most people just don't even know that they could be a vector.

ACTION (All): Ensure prevention language is included in literature you develop and/or distribute. Consider developing catchy phrase(s) to add to brochures, etc.

Blaine Kisler, Clark Co- At an Earth Day event, he saw some organization doing the following for volunteers - before you could get a t-shirt, you had to wash your boots! They had their wristband marked if they washed boots.

Jeff Lesh, Clackamas SWCD- Explore other motivators for keeping boots clean. It's not just about boots, it's about keeping mud off if you walk inside (they have a water jet at their back door).

Maria Winkler, King Co - Encourage people to keep equipment clean, it tends to break less if its clean - outreach to crew bosses so they don't have to replace equipment as often.

Blaine Kisler - Outside of GM season, they forget that GM exists at a site! So, they often don't wash boots, even though the seeds are still there. Granted, it's usually not muddy then, but it's still good to keep it in mind.

Maria Winkler - Put a sign on the dash of contractor/staff trucks that says, "*Boots Brushed?*" They will be making stickers.

ACTION (Maria, Jon, others): Develop "Boots Brushed?" sticker and distribute

Mike Crabtree, Yamhill SWCD- How do you instruct crews w/ big machinery to clean? Pressure washer? Blower? Technically speaking, how do you physically do this?

Michelle, West Multnomah SWCD- Any mud can contain GM seeds, esp in clay soils

Maria Winkler- Contractors who work for the county are required to have a cleaning setup to get the bid. Or, just don't let contractors into really heavily infested areas, because you can't always trust them to clean.

ACTION (All): Explore requiring municipal maintenance and utility contractors to have a clean equipment protocol/clause in contracts. Don't allow them in infested areas when possible.

Jon Wagner, Chris Aldassy; East Multnomah SWCD- At first when GM hit the right-of-way, county mowers would mow it. But once it goes to seed, you really CANNOT mow it. That's the bigger risk than spreading it during the muddy season.

Mike Crabtree- instructing contractors on how to actually do it is hard.

Chris Aldassy, EMSWCD- Angie Kimpo (Portland Water Bureau) has a vehicle wash station at Bull Run, she might have some ideas for cleaning big equipment.

ACTION (Michelle): Follow-up with Angie Kimpo to discuss big equipment cleaning protocol, technology.

Mitch Bixby- BES requires wheel washes.

Lindsey Wise - NPS has protocols for washing big equipment, maybe their guidelines would be helpful.

ACTION (Lindsey): Follow-up with NPS staff to inquire on practices.

Mike Crabtree - Put a small gas or electric pressure-washer on nurse tank if they are set up for spraying?

Danielle Cowley, Clark Co -She's seen that on a lot of road construction projects, you might have it in the specs, but unless the inspector actually says something about cleaning rigs, it's not going to happen.

Lindsey Karr, Clackamas SWCD – Plug-in power sprayer without herbicide to trailer hookup or car battery (it's technologically possible!)

Michelle - Should we require contractors to have water-powered cleaning equipment if they're going to be working on important sites? Aldassy- worried they'd be limited by availability of crews. They had difficulty getting enough crew time booked in 2017.

No one has tried power blowers to clean equipment.

Mitch – It's a massive cultural shift to get people to clean before they leave a site rather than after.

Maria Winkler – It's easy to quarantine sites, but no one really respects the Keep Out tape. A massive fence works ok though.

Jeff Lesh, CSWCD- Be strategic about control. Do outreach and include "Play Clean Go" language in all public outreach, make it resonate in communities.

Michelle - Get a pressure washer for our truck, let contractors use it when we're at the same site.

Mike Crabtree - Use ATV sprayer? Runs off 12v battery. Or, use an old spray backpack.

Summary- There are physical and cultural limitations to cleaning gear before leaving a site. Technically speaking its difficult at best. Culturally speaking you've got to change the way people think.

Danielle Cowley - Skamania has boot brush stations, Parks Dept has Scout projects to put in boot brush stations. Locations are pre-determined, signs are already made. More community involvement this way.

Emily Stevenson, Skamania Co - Gorge CWMA started in 2015, during Earth Day weekend, doing outreach at trailheads in the Gorge that already have boot brush stations. Good way to get the word out, 2016 seemed to have good success.

Cyndi, Skamania Co - She manned one of the above stations. Got a comment from the public that the boot brush station was great for education, not just prevention. So, the effect of the boot brush station carries over even to places where there aren't boot brushes.

Michelle - New prevention practice competition proposed- lets work on it during the winter and let everyone else know about what we did, to increase momentum and pressure each other to do this.

ACTION (All): Explore how prevention can be better incorporated into your IPM plan. Brag about your prevention improvements to the list-serv.

Last questions from the folks on the phone:

Kris Schaedel, Hood River - Does anyone have experience using LO's as contractors, specifically LOs who have an organic orchard and have tillers, getting them to use it at the right time can be very helpful to their handpulling crews. So they are considering paying LOs to do treatments at very specific times.

Beth, ODA - weed board grants give cost-share to herb applications (a bit different than paying LOs to do the work themselves). Usually LOs don't get paid, just get the chemical cost paid for. Weed Board would probably not fund paying LO for their time/equipment use, because there are so many LOs who are "willing to step up and do the right thing without being paid for it"

BREAK

Working Lunch/ Partner Round Table Updates

West Multnomah SWCD (Michelle Delepine) - 2014 was 1st GM Working Group meeting. We are treating as much of our infestations as we can. West Multnomah SWCD- we target all known populations for control. Access has not been an issue. Mailings and door-to-door outreach has worked well. Highlighted our EDRR report and encouraged others to share their reports via the listserv. We treated the same overall area, but fewer plants within those. Fall control has begun in 2017.

Skamania County Noxious Weeds (Emily Stevenson) - 12-15 individual sites, almost all on private, biggest site is in forested area w/ vacation cabins (HOA- 2 HOAs with 1 shared infestation). That was 1st known site, working there since 2009. Biggest challenge there was... in the past they had grants to pay for it, thousands of \$, now they want the HOA to contribute funds or work... every year the HOAs have work parties and they pull GM. Now they have designated groups who treat the GM. Skamania strategy is to hand-pull flowering plants, spray rosettes in spring AND fall. HOA group took on hand pulling, they went out multiple times and Skamania went through after and for the most part they did a decent job. They missed some tough spots. Challenge - they've done a lot of good control work, and now what's left are the tiny plants hiding under the ferns - it still takes as long or longer to cover the same ground, but they have to go slow to find them all. There's institutional knowledge about where those individual populations are. Problem w/ hand pulling, esp for new crew members of volunteers, breaking off at the roots. Found 1 new site in 2017- possibly from someone who had called it in years ago? Down the street from their office. 1 park site found in 2008 is down to 3 rosettes! It was a windsurfing launch point (prob originated from OR side). They don't spray any 2nd year plants, just pull and bag, burn on site at the HOA. HOW doesn't want a weed pile laying around. The transition for the HOAs to take ownership of treatment was hard-won. Their anti-herbicide views helped energize them to pull. It took ~3 yrs of warning them that the funding would eventually go away and it would be their responsibility to control it. Goal is to get out every few weeks and cover the area at least twice per year. Usually treatment ends

by the beginning of June (when other weed treatments start and they run out of GM funding). Finding it blooms earlier every year... HOAs are finally starting to realize that what Skamania has been saying is true. Skamania had a state grant to treat GM. They had a Forest Health grant at some point- forest health is their big threat.

Clark County – Goal: contain 2 major infestations. (Justin does private lands.) 1. Salmon Creek 2. Justin is field inspector for this one. Surveys private properties from the public roads. Finds new pops away from heavily infested areas. One pop is "dangerously close" to Nat Forest and DNR lands on east side of Clark County. Working to continue to find satellite patches that are spreading. Found one just the other day. Discovered a 3rd really large, significant population in 2017. Have been doing outreach w/ City of Camas (now more on board than they have been regarding parks and ROWs) as well as private landowners. Containment in some areas has been good, reduced (Lower Salmon Creek) but not all. Camas area populations are not being reduced. Private LOs are upset that their neighbors don't treat it and it spreads to them. Some LOs are uninterested or can't ID GM. Quite a bit of GM in the Camas Parks. Volunteer GM Pull was fairly successful, doubles as ed/outreach. New big patch this year owned by Georgia Pacific, sprayed late this year so maybe not effective yet...Georgia Pacific will likely go on to continue treating.

Clark County lands - treat in spring and fall. Have already done fall treatment on majority of county lands. WA CC in spring. GM Pull know takes places in Camas to get Education going over there. Usually spraying, then handpulling once it flowers. They try to spray the majority if they can for time's sake. False Brome at Bonneville (class A) so they need to treat FB right after GM treatment. Timing is not ideal, that's always been a problem though. On parks properties, \$30k dollars/year (staff time + WCC). (WCC is 1k/day or 5k/week, can spray and handpull- they also do false brome.) Crew of 5 people plus crew lead. Only get them for a few weeks a year for GM control in Salmon Creek. [\$1600/day for King Co and Portland.] Goal is to be compliant and treat every single spot. Don't want to be hypocritical to LOs. Lots of education efforts. Put boot brushes in greenway.

Cindy - how are things looking on the greenway?

Denielle - the Greenway has seen a huge decrease! CPU used to do their own treatments, but now Clark County does them. Decrease is largely due to consistency. Seen some tiny flowering plants in the fall. Greenway is also full of blackberry and other species, try to kill blackberry and others to be able to see GM if its there. Access is an issue. The deer are moving it everywhere! Justin works w/ property owners on upper ridge. Seen a reduction in amount of bags they're pulling. Spray first, then handpull the rest once its flowering, ~3 wks later.

King Co has a WCC group centered there because of work availability.

Site-specific on spraying vs handpulling. Also weather dependent.

Clackamas SWCD (Lindsey Karr & Jeff Lesh) – Lindsey work in the Clackamas Basin area/river area. 317 new site surveys in 2017, found GM on 28% of those sites. Focused on sites already around known populations as well as in the river area. Surveyed a lot of the upper watershed of the Clackamas, Forest Service land, about half of Clackamas County, didn't find any GM! Yay. Crews pulled when it was raining, which extended the treatment season. Crews visited sites 2x. Lots of GM on islands, but too late to treat in 2017 due to crew availability. Planning on early Rd next spring Fall treatment attempted this year for first time - mainly tried it at sites getting fall KW treatment, too.

Jeff Lesh - working towards doing outreach earlier in the year and loosening up timelines for contractors to do more handpulling to be more flexible with the weather. Have to keep energy up for other weed species that might be more important... can't let GM take over your life. Better cleaning/hygiene. Focus on surveying. Haven't yet found the edges of their populations. Big picture...Jeff looks at GM as something that is probably here to stay, but has a lot of energy behind it already - he sees it as a vehicle to increase surveys for other species, as well. CSWCD has a lot of false brome. Also use GM as a vehicle to network with folks and be more effective at treating other weeds!

iMapInvasives Oregon (Lindsey Wise) - Working more closely with NatureServe now. They work mostly w/ rare species database, they have lots of taxonomic and database expertise. Will be working on improving iMap in the next year+.

City of Portland, Bureau of Environmental Services (Mitch Bixby) – The bulk of GM is on west side of town. 140 gross acres in 2017. Germantown rd from Skyline to Hwy30 used to take 6 hrs and now takes 1 hr and MUCH less herbicide. Mostly roadside work. Stream work is a sticky spot... 500-600 props they have POEs for, not all LOs are really on board. Finding some new patches on the edges. A couple between Portland and Washington County boundary that are pretty big, focused on those in 2018. Challenges: weather + crew availability. Almost lost their spray crew because no good weather. Mitch is resistant to hand pulling because the crews usually aren't very good at it... they want to go fast and often break off roots. He doesn't seem to think hand pulling is a good use of time. Did some fall spray work at Lewis & Clark College with WMSWCD. Surprising amount of plants at some sites, don't know why, can't really explain it.

WA Invasive Species Council (Justin Bush) - GM has been eradicated from one county. Which one? 8 counties have <10 gross acres, 3 co report 10-100 acres. Council adopted Play Clean Go initiative officially. Actively pushing to the public. Work with noxious weed control board last fall to promote it. In theory, outdoor retailers can sell them now. \$2k went to boot brushes - 1/2 went to Columbia Gorge. In collaboration with WA ODA, working on needs assessment for WA counties. A survey that goes to the county to determine level of priority for GM and what their needs are in terms of organizational support, priority level, technical knowledge, resources like staff and equipment. This survey could be extended to this group. WA State University and WA State Dept of Ag, created first detector network, in person workshops, webinars, trainings, handbooks, giving citizens info needed on how to ID and report target species. Also created posters, brochures, available for any cooperators. Willing to share that.

ACTION (Justin): To share county-level survey and other outreach materials with group.

Washington Summary:

28 counties have no infestations of GM

3 counties: 10-100

1 county: 0-10 acres, but now eradicated

East Multnomah SWCD – (Chris Aldassy, Jon Wagner) - 241 sites outside of "containment zone" - visit each site 2x in spring, 1x/fall for large infestations. 11 acres net was high point, now at 3 acres net. Now starting to think about how to chew away at the containment zone. Beginning trials with native grasses in heavily infested/treated areas. Had some bare areas after so much herbicide!

Had good success with blue wildrye growing in the shade, not much success with anything else.

Seeded it in fall 2016 and its looking good now. Now doing fall sprays with triclopyr in these wildrye areas, they'll see how it goes next year. Main idea is to provide some competition for rosettes, cover slope areas too.

Yamhill SWCD (Michael Crabtree) - 1 pop in NE corner of County (where meets Clackamas). Also a basin employee was tracking GM around to stream sites, they're treating those now... Very interested in fall applications. Michael is interested in getting more garlic mustard materials, information.

ACTION (Michelle): Follow up with Michael with materials, etc.

Clark Public Utilities (Brad Mead) - Wants to start including GM in EDRR program and surveys - right now focused mainly on KW and weeds in Restoration sites. People need more training on ID.

King County – Urban (Karen Petersen) - not finding many new sites, most existing sites are urban. Give noxious weed roadside sites to municipalities, tell them not to mow until they've gone through and inspected/treated. Seems to work pretty well. They do a lot of outreach. Sasha is outreach coordinator. The public calls in with GM infest reports, and more and more of them are actually accurate. Usually treat at least the bigger sites 2x/year. Wide range of blooming times covered in this way.

King County (Maria Winkler) - Just over 500 known GM sites. Site = parcel, so some are small, some large. 20 infested acres total. In 2016, got info on survey info. Used track logs from WCC crews. Have surveyed around 800 acres, mostly in riparian areas. In the city, it's pretty contained around its parks. And, it's getting harder to find plants in parks - volunteers aren't even helpful there, they rely on CC crews, parks staff, or doing it themselves. This is where their sniffer dog came in useful. Really good at finding germinating seedlings and tiny plants. The dog was not good at finding flowering plants until he learned them. (Training focused on the rosette scent). The dog also spent time finding other things that he'd been trained for in the past (like salamanders). They'll use the dog again in 2018 for difficult areas. Cost effectiveness... the dog has to be trained up for a few days, \$600 for a couple days, whereas crew is \$1600/day. Dog can't cover the same amt of area and won't work in a grid... had to work out a system for the handler to either take a point or leave a flag.

2016 program + contractors: \$95,000 for GM control of 20 acres (staff time, overhead, materials, crews, everything). Not sustainable! They have other weeds to treat, too, and if GM is eradicated other weeds just move in and they have to treat that! Shiny Geranium is new to WA/King Co.

Can't do much fall treatment once the big leaf maple leaves drop.

Oregon Department of Ag Noxious Weed Program (Beth Myers-Shenai) – ODA has hired new biocontrol entomologist, Joel Price, from Colorado Dept of Ag. Starting Dec 11. She'll make sure to get him up to speed on GM working group and GM in general. Also have new grant available this grant cycle, for a total of two types of grants (other is Oregon State Weed Board grants ~\$2 million available). New program is for County programs or any agency that is taking the lead on work for the county and has been designated by county as lead. Amount of competition for this new grant is tiny! Came from OWEB, so has to be on the ground projects, looking for new and innovative projects. Not for long-term projects. \$500,000 for biennium in the pot for County Weed Board funding. Attended Outdoor Summit, first time that different agencies promoting outdoor recreation got together. Put in Play Clean Go, boot brushes, really well received. Organizers will likely invite her to give a talk at the 2018 summit. Good place to get promoters of outdoor rec groups aware of prevention - they tend to have a stewardship focus, anyways.

IPM matrix reviewing/finalizing

- The IPM Matrix is a succinct guide for folks who haven't dealt with GM before.
- Not included in IPM matrix- clipping flower heads before spraying (King Co doesn't do it anymore, now that they use Garlon 3A). Most others don't practice this, but been discussed.
- Benefit of handpulling is that it opens up crew & treatment options during rainy weather.

- Treating siliques directly has been observed to be effective at reducing seed set. Mitch says Garlon 3A will affect plant within day if not hour, so he's confident that its effects on seeds are good.
- King Co - uses glyphosate if they're worried about other small forbs because glyphosate not as residual in the soil. Triclopyr is more residual, depending on how saturated the soil is. If soil is super saturated, shouldn't be spraying because of how things bind/don't bind
- Chris Pirosko from Southern Oregon - normally they spray to wet the plants. Anyone using general broadcast method? No... no one does broadcast spraying. (thread continued below)
- Blaine - surfactant really affects how effective things are. 0.5% agridex + 1% triclopyr in fall, won't get nearly amount of control as with 1% agridex + 1% triclopyr. Can get away with decreasing percent of herbicide by increasing percent of surfactant.
- Really need full coverage (Mitch Bixby) to be effective.

Fall Treatments: East Multnomah SWCD uses 1.5% Vastlan in fall. King Co uses imazapyr in conjunction with KW treatment. (1% Definitely works, even though they do it in the summer--aren't doing KW work in spring). They only use the aquatic label. Snowberry and willow are most fragile/harmed by imazapyr, but haven't had issues with other mature trees (with the aquatic formulation). Bleeding heart does not seem to care about imazapyr... there will be fields of bleeding heart in a place where treated wwith imazapyr.

- Corylus (hazelnut) also a robust native plant that will come back.
- Imazapyr soil active and residual.
- Fall spray is good for avoiding bleeding heart, some others, but it turns out that piggyback plant and others have the same life cycle as GM, so fall treatment isn't actually any better for those forbs.

Broadcast/Herbicide Coverage: Michael Crabtree- what about using broadcast rate and not needing to wet the entire plant? Spot spray rates require full coverage of plant (which is hard). He suggests that a broadcast herbicide rate would not need to be as careful because a few drops will kill it.

- Blaine - if its bolting or flowering, you def need full coverage.
- Maria - at higher rates that might be ok, but we don't use those
- Mike - uses backpack with broadcast rate and lightly sprays everything in some prairie sites.
- Mitch- spot spray rates are safer for non-target plants
- Michelle - if siliques aren't treated directly, seed production still happens. This might still be the case even at broadcast rate?
- Maria - Someone needs to do a plot study on this...
- Emily Stevenson - triclopyr label requires at least 80% coverage of plant? Broadcast says "ensure uniform coverage" - broadcast benefits might not be super great anyways, depending on chemical.

This conversation continued at the end of the day. See "IPM Matrix continued" below.

ACTION (All): Send edits to IPM Matrix to Michelle

Invasive Species Councils Collaboration

Justin Bush (Washington Invasive Species Council) - There's an initiative by western governors association (19 states and 3 islands) to query western jurisdictions to get top priority invasive species.

The call went out 2 months ago. End result will be top 100 species and a risk assessment for the top ones. Data initiative - wants to make a data portal for the west, will be compiling data and hosting it. TScope - Texas to Guam! Basically everything west of the Mississippi. NatureServe is in talks with this group. Bill Whittaker knows more - Jalene has talked to him. Will convene in March to talk about landscape scale initiatives and data management. Jalene will have follow up on this.

ACTION: Follow-up on Western Governor's List and assessment.

Jalene Littlejohn (Oregon Invasive Species Council) – OISC focuses on the collaboration, outreach engagement, collaboration between people, rather than implementation of management. Jalene is focused on passing on communications from managers to the state level. She has been reviewing structure of OISC, making sure it fits its function. Discussion on how to embed diverse participation. One idea - what would a regional advisory team look like? How to connect top down and button up efforts, is the goal. Also interested in telling of accomplishments, especially in regards to statewide plan. Some opportunities in which Jalene wants to foster more collaboration - Reporting on actions that you're taking. Use council website as platform for sharing resources. Give Jalene feedback about timing for good communication on a particular species or issue in real time. Elevate stories of the real impact of GM. How might we team up to collaborate? Where does it make sense to collaborate vs. get out of the way? Where would this seasonal outreach and messaging be?

Jeff - CWMA is already regional collaboration! Why not just empower CWMA thru OISC? iMapInvasives is already there to serve our purposes, too. Give Lindsey Wise interns from PSU! Jeff sees lack of capacity at ODA to coordinate A-list management as a barrier. They have lots of things distracting them from that. Follow through on regulating things that are already on the books doesn't happen. The laws are there, they need enforcing. They structure is there, lets give them more support.

Jalene - she can talk about specific stories and give specific examples, she can't lobby, but she's always asked for specific examples. Acknowledges that she's not trying to create something new.

ACTION: Follow up with OISC on elevating profile of garlic mustard & CWMA work. Find ways to collaborate with ODA on species management.

Data and Mapping Centralization

- Jeff Lesh: 2014 Biota of North America project has a really good map ("BONAP")
- Eddmaps is missing some stuff, has a lot of point data but in Portland area doesn't show outside of Multnomah County well.
- Why is Wallowa County on the map for GM? Beth thinks this is wrong. She will look into it.
- iMapInvasives is doing great at the state level.
- Jeff thinks we need to get better at vouchers for each county.
- Jeff has a Garlic Mustard Documentation Map to show when we document things. Turns out most of the GM extent has been known for a while.
- Contributions to iMap data set have increased at the 4-county CWMA level and for the state. It's important to reflect on our documentation priorities, put this into context. Thinks that we tend to focus on whatever's hot right now, but it's important to have perspective on weed documentation.
- We're not doing a great job, regionally, about collaborating and sharing point data. There's a big challenge r.e. OR and WA and what platform to use. Could iMap ever handle data outside of Oregon? Focus on sharing data with platforms that get most used in your area. Need to push for more open sharing of the data and support local mappers (iMap).
- WeedMapper lets you download all the data for the state, don't have to log in or anything.

- Eddmaps data was hard to download.
- If we share data, we need to push our agenda for more and better quality on their end. Cultivate and enforce minimum data standards. **ACTION: Share 4-County Data Collection Guidelines**
- UUID needed so that data aggregators know what they do and don't have. Need to use UUIDs for your data! Lots of online options for generating Universally Unique Identifiers (UUIDs)
- Goals - what are we going to do with this data to motivate sharing? Jeff uses the data for his own program. His position on the corner of the GM extent makes this important for him.
- Suitability analysis and future climate analysis to see if there are unexpected areas that knowing about them would help us prioritize control.
- Suspects that we're not being 100% honest when we say that we've treated everything, because we're not surveying everything.
- MD - if we could pool our data, could we use some modeling and vector analysis to focus our efforts?
- Vern - Beth with WeedMapper is aiming to do predictions, doesn't know if this has actually happened.
- Jeff - they only trained the model with state data, so the models didn't have complete data.
- Jeff used national data to do predictions for GM, Oregon looked pretty suitable. E OR and Coast Range were uncertain. Need to use North American data when training models, not just state data!
- Beth, ODA - problems with getting back in touch with the person and software who can do this....An update coming up this winter (to WeedMapper).
- Mike Crabtree - what would we really use this modeling for? How much does vectors influence population growth? How much does GM expand in areas that we don't have vectors?
- MD – GM seems to be vector-driven
- Jeff - vectors move it fast, but it'll move elsewhere, too
- Mitch - maybe we don't know all the vectors
- Jeff- modeling helps us quantify what is at risk and helps us quantify the benefits of what we are doing. Helps us to prioritize control near susceptible habitat.
- Jon Wagner - what would be unsuitable habitat? Valid question.
- Jeff - models are limited with user abilities and the data that we have. Wouldn't be useful in City of Portland, for example, but on a large level, maybe
- Beth - modeling is useful for focusing surveys. Also for showing that we've done well with prevention, because lots of habitat is suitable but not infested. She thinks it's because we've checked the spread of it.
- MD - modeling also will help us outreach to new counties or areas that have high-risk habitat and are geographically high-risk. What about all the folks who aren't here? OISC and WISC can have a broader impact in this regard.
- IPM matrix should hopefully help with that.
- Beth - most of the agencies who have data in the Gorge passed them on to Sarah Callahan for the BEHR report, Beth encourages getting any other data to her. Thinks that GM could be affected by the fire. If the data is in iMap or WeedMapper, they have it.
- Chris Aldassy - EMSWCD sent their data to Sarah. Columbia Gorge CWMA sent their data. The data should be pretty complete.

ACTION (All): Lots of potential follow-up here. In general, submit your data to respective statewide data collector for uploading updated state maps. Work on surveying areas (especially those that are high risk and) under-surveyed.

IPM matrix (Continued from earlier in the day)

Aminopyralid: Maria Winkler - Vastlan + Milestone for rosette treatments (tiny amount of Milestone, measured by a syringe) - seems to be very effective to use this tiny bit of aminopyralid. Effective until June, especially on rosettes. They don't ask the crews to mix that, though, because over-application can be really bad. Also they don't use Capstone because it's not on their list of allowed chemicals.

- Mike Crabtree - Capstone is already a pre-mixed, tiny amount of aminopyralid. It's easier to stay on-rate. Maybe better for crews to use it?

Pre-emergents: Maria – pre-emergents are widely used in some areas, we could include them on the matrix. Especially for xmas trees, other tree farmers. Mitch - reluctant to use pre-emergents because people are twitchy about its use. Post-emergents are an easier sell. Doesn't think the conversations will go well, doesn't want to have them. Even roads crews aren't using pre-emergents.

Grass Competition: Mike Crabtree and Blaine Kisler - Blue wildrye in the forest - super aggressive, cheapest native grass. Annual rye might work too. MD - will include seeding with blue wildrye. Maria - replanting in general seems to help. Jeff - they only use Garlon for that reason, to increase competition. We can't get rid of a heavily infested patch in a reasonable amount of time! Seed bank issues, flexibility of GM, all prevent that. He thinks the problem isn't the chemicals we use, but rather a combination of things. Mike Crabtree - how do you treat it in tall grass? - No good answer. WMSWCD - blue wildrye (in shade, so its not super tall) not a barrier to effectiveness of spraying. Fall spray, then seed w/ blue wildrye, then next fall spray.

Fall Treatments: Blaine Kisler (Clark County Noxious Weed) and Emily Stevenson (Skamania Noxious Weed)- October is usual time of fall treatments, maybe late Sept if there's a good saturating rain.

Early Spring Treatments: Maria - early spring treatments - 1st or 2nd wk of march - waste of time. Too cold, used glyphosate. Scaled back on early surveying, too, but only survey a couple sites to gauge development across the area.

EMSWCD - contractor claims there are surfactants you can use in the rain. Maria - the guys who work on the RR tell her about that sort of thing, it is probably nasty stuff. Blaine - "web oil" approved for forestry use would probably do it... wouldn't use it with many types of sites.

Competitor is what's mainly used. Syltac for upland sites, Dynamic is similar. Once Dynamic gets over 70 degrees it volatilizes and doesn't work. Agridex is not as widely used.

ACTION (All): Report results of fall sprays, seeding treatments to list-serv. MD will share photo points from chemical treatment trials. MD will revise IPM Matrix based on feedback and send back out.

Adjourn at 2:30