



OREGON INVASIVE SPECIES COUNCIL

Meeting Minutes

February 22-23, 2011

Salem, Oregon

The Council met February 22 at Winema and February 23 at ODFW (both in Salem, Oregon).

Council members present: All Council members were present.

The following is a summary of the meeting minutes and action items.

1. Minutes of the November 10, 2011 meeting of the Council were approved as printed and distributed to the members of the Council. Vote was unanimous with 1 abstention.

2. Council members reviewed the budget for the Council: There is \$348,068.93 in the Invasive Species Control Account, and the Council has received \$415, 443.75 in donations/grants this biennium.

ACTION ITEM: The Council voted unanimously to form an ad hoc audit committee comprised of Dan Hilburn, Mitch Nelson, and Rick Boatner to meet and discuss the financial bookkeeping of the Council and make a recommendation(s) to the Council regarding any changes in reporting or auditing of the Council budget.

3. The Council reviewed the 100 Worst List for 2011. ODA asked the Council to potentially take action on the 100 Worst List pending the outcome of the State Weed Board meeting on February 23-24, 2011.

ODA is asking the State Weed Board to remove both skeletonleaf bursage and Texas blueweed from the noxious weed list and add it to the ODA watch list. If the State Weed Board approves, ODA is requesting the Council remove both of these species from the 100 Worst List. ACTION ITEM: Shannon Brubaker will notify Lisa of the State Weed Board decision. The Council voted unanimously to:

- If the State Weed Board moves these species to the watch list, the Council will add *Alyssum* species (as a category) and an invasive kelp species (*Undaria pinnatifida*) to the 100 Worst List.
- Add 2 asterisks next to *Didemnum*
- Change the non-native crayfish species to other species ACTION ITEM: Robyn will provide names of other non-native crayfish species
- Add an asterisk to the club tunicate

ACTION ITEM: Lisa will do a crosswalk of the ODA noxious weed list with the 100 Worst List to ensure there is alignment.

4. Lisa reviewed the pesticide rule change with the Council – the rule would allow municipalities in Oregon to assist private landowners with control of invasive plants by spraying the infestation (with the permission of the landowner). Comments from the Council:

- Ensure “pest” is defined in OAR 603-057
- Should the term “public health concern” or “public nuisance” be used?
- Should there be a comma after “plant species” in line 8 of the rule?
- Do the species in question have to meet the status of a public health concern?
- The rule contains the words “addressing code violations.” Whose code violations? The city’s code violations?
- There was also discussion about whether the rule should indicate that the preference of first response is a local business – and that the municipality should respond when that option doesn’t exist – but then there was discussion that that might not be feasible, given how City staff “find” these species.
- Consider looking at language that talks about consultation and education of landowners (versus valid permit of entry and warrant language)

ACTION ITEM: Lisa will share the comments and questions from the Council with Janet Fults, Mitch Bixby, and Dominic Maze for their consideration and incorporation into the rule language.

5. PNWER invasive species meeting – The PNWER invasive species meeting is July 20, 2011 in Portland. Council members reviewed the agenda and provided some suggestions for people to invite to the meeting.

ACTION ITEM: Lisa will ensure National Invasive Species Council staff, economists, noxious weed boards, Mark Schwartzlaender (University of Idaho Cooperative Extension), the North American Weed Management Association (NAWMA) and other weed management associations, and teachers and students involved in invasive species activities receive invites.

6. County weed funding bill — Mark Porter discussed the county weed funding bill (HB 3358) and Emily Ackland from the Association of Oregon Counties talked about how she was working with numerous legislators to obtain support for the bill. Mark also discussed the creation of the Oregon Cooperative Weed Management Association, whose mission is to lessen the impact of invasive plant species and their threat to the economy, environment, and human health by working cooperatively to provide leadership, facilitate information development and exchange, and coordinate regional efforts.

ACTION ITEM: The Council voted unanimously to support the bill, including providing testimony during the 2011 legislative session.

7. Figure #52 from the statewide management assessment of invasive species – Percent expenditures in invasive species activities by all entities in Oregon in 2008 by implementation category. Council members discussed figure #52 from the assessment and made the following comments:

- now that Oregon has baseline information, perhaps a future survey could more narrowly focus on specific areas of interest (EDRR) and that it would be productive to track how this pie chart changes over time
- refinement of some of the categories (e.g., monitoring/surveillance, EDRR and effectiveness monitoring) creates a pie chart that could be divided into three pieces – 50% management and control, 25% EDRR, and 25% for all other categories.
- although some entities have the highest priority in the prevention arena (followed by EDRR and management/control), the greatest portion of actual dollars are expended in management and control
- the pie needs to grow larger, versus increasing competition for existing dollars
- increases in EDRR and prevention would minimize management and control over time, but this would require new dollars so that ground is not lot managing existing infestations
- creating a strategic plan that defines priorities would help grow the pie in specific areas, and performance measures would be critical to defining success
- restoration should be considered an important component of Oregon’s efforts to manage invasives.

8. Strategic Plan – The Council reviewed a draft outline of steps that have been completed to lead to the development of a strategic plan for Oregon, and noted that the Council is statutorily authorized to create such a plan.

ACTION ITEM: The Council voted unanimously to create an ad hoc strategic planning committee and complete it according to the timeline provided at the meeting (Finalize strategic plan by July 30, 2011). Robyn, Nancy, Vern, Mark, Tania, and Rick are on the committee. Lisa will convene the first meeting by April 15, 2011.

9. Damon Runberg from OSU provided an update on the firewood campaign and results from his pre- and post-awareness surveys. Lisa provided an update on remaining 2010 Farm Bill funds for the firewood campaign.

10. There was a discussion about whether the ex-officio members of the Council should meet separately from the rest of the Council. If they meet separately, the ex-officio members need to ensure that decisions made by ex-officios are shared with the rest of the Council. Further discussion, and possibly amendment of the bylaws, is needed to define instances when ex-officio members can meet independent of the rest of the Council.

11. The Council and the State Weed Board co-hosted a panel discussion on *Arundo donax*. The Council the met to discuss next steps:

ACTION ITEMS:

- No additional Risk Assessment will be done at this time
- OISC will be forming a Task Force/ Advisory Group consisting of Vanelle, Sam, Doug and Rian
- OISC would like to review the Mitigation Assessment and the Temporary Rule and give comments
- OISC would like to see the bond dollar amount raised

- OISC will be identifying and planning for critical points in the process where the Council should plan to interject key messaging points and concerns.

12. Next meeting of the Council is July 19, 2011 in Portland.

Arundo donax Panel held February 22, 2011

Introductory presentation by Tim Butler—ODA’s mission and the challenges associated with that mission.

The initial risk assessment (2001) on *Arundo donax* was reviewed in 2007. It was noted there are two small populations in southern Oregon and Lane County, and there have been unsuccessful efforts to grow it in Lane Co.

ODA’s listing process—Potential invaders are first put on a Watch List, then a risk assessment is conducted, then recommendations are made to the State Weed Board based on the risk assessment.

Covered current legal authority:

- ORS 569.180-195 – ODA Authority
- ORS 569.360-450 – Counties have the ability to form weed districts, create own priority lists.
- ORS 569.600-620 State weed board authority.
- Quarantine ORS provides more teeth in terms of enforcement.

2011 – ODA’s updated risk assessment scores *Arundo* as a noxious weed, but at present there is minimal evidence that *Arundo* will be invasive in the PNW. The recommendation at this point is to keep it on the Watch List so that PGE can be allowed to do the experimental plantings. Butler showed a USDA map of where *Arundo* will grow, and noted that USDA states that “just because it will grow does not mean it will become invasive.”

ODA plans to draft a Control Area Order for Risk Mitigation through the rule making process, so there will be opportunities for public to provide input. Key aspects: no planting in 100-year floodplain, within certain distance of a river, and ¼ mile of wetlands and ditches; cleaning equipment required; PGE will post a 1M bond for containment purposes. Butler suggested we can use this as an opportunity to evaluate the plantings and their invasiveness in the PNW (Morrow County has already signed an agreement with PGE including risk mitigation rules.

Butler noted that there is risk to conducting many activities, but that it is important to study the cost/benefits of that risk.

Panel Members:

- Shawna Bautista – US Forest Service
- Jay Burr – Scott’s Seed
- Tim Butler – Oregon Department of Agriculture
- Tom Kaye – Institute for Applied Ecology
- Wayne Lei – Portland General Electric

Facilitator — John Taylor, Oregon Department of Environmental Quality

PANEL DISCUSSION:

1. **Risk Assessments—Share your perspectives on the existing risk assessments that have been conducted for *Arundo donax* both inside and outside of Oregon. Do current risk assessments sufficiently address the concerns and risks of cultivating, transporting, and managing *Arundo* as a biofuel crop in Oregon? If not, what questions or areas of study deserve further attention?**

Tom Kaye—He reviewed ODA’s risk assessment and had a more conservative score (higher score of 62 instead of 41), but his score was mainly based on one question of the wild escaped populations—there was one escaped population. He noted much of the factual information was fair and accurate, but many answers were based on expert opinion and speculation.

Area of further study—Is the species capable of producing those second year canes? That is crucial. So far the answer is no. But, we need more information on different types of habitats, and over more years. How often will we have mild enough winters so that it will produce more canes? Also want to point out *Arundo* can produce locally through layering, so he would like to know if that is a pathway for the species to reproduce.

Seed production—It seems it does not produce seed because *Arundo* is just one genotype, which is why it doesn’t produce seed. However, if there is a new introduction of another genotype, it might sexually reproduce and produce seed.

Shawna Bautista—There are a couple of areas in the current ODA risk assessment are not covered, for example, the layering was not mentioned. It over emphasizes reproduction by roots, but underappreciated spread by cane layering and nodes. *Arundo* does spread readily by stem fragments and canes in riparian areas. It does not need to be buried to root and start growing if it is in a waterway. These are the areas lacking in the risk assessment, but it is addressed in the mitigation rules. The layering is an important issue because you can get many shoots from a single cane. *Arundo* can grow from a three-cane clump to a 20-ft wide clump in a matter of months. *Arundo* does grow and survive quite nicely on dry sites if is buried or gets moisture, but it does not thrive or spread rapidly. There is ample evidence it will survive, and thus serve as a source of spread into wet sites. The risk assessment mentions that humans are responsible for its spread. This is an important point. It is attractive. People often dig it up for various interests—wind screen, fishing rods,

decorative plant, etc. Cost estimates are another issue. The \$1 Million surety bond is not enough money to cover containment costs.

Jay Burr—It is almost unrealistic to expect that there won't be some escape. For Scott's, a wind event caused escape of genetically modified bent grass, but if we're managing 90,000 acres of *Arundo* in an area with many irrigation canals and the Columbia River nearby, the risk assessment needs to plan for the inevitable that it will move out of the area.

Tim Butler—The Risk Assessment Process tried to base everything on science and existing information, but is subjective and based on expertise of the people who conduct the risk assessment. They should be considered a tool, but it is not foolproof. Oregon was one of the first states to develop a risk assessment process, and it continues to refine the process over time. The risk assessment does not address some of the production issues. Concerns raised by Tom and Shawna on layering of stems is an issue, but ODA's understanding is that it is the 2 yr. canes that really have the ability to sprout and spread. In a production situation, canes will be harvested twice annually, so there will be no 2 yr. canes. The question is, what will *Arundo* do in this environment, and how invasive will it become? The test planting is a good opportunity to gain first-hand knowledge of what this plant will do in this environment and answer questions needed for a better risk assessment.

2. Energy alternatives—There have been numerous suggestions to consider other native and non-native plant options as biomass alternatives to *Arundo donax*. Describe the efficacy of assessments that have been performed to describe potential biomass alternatives. Are there other factors and species that should be considered that haven't been discussed?

Wayne Lei—PGE has been considering biomass as an energy sources for 20 years. Wood sources, such as slash, are not sustainable because of the fuel needed (Diesel) to get to the sites. Sixty-six percent of the cost is the diesel. To operate a power plant requires fuel. The Boardman plant is a large plant, (300 Mega Watts), and you need a lot of fuel. There are hundreds of sources of woody biomass. PGE has also other alternatives (e.g., weed straw, green pellets) in the past. But the tonnages don't exist to fuel 300MW. PGE seeks a biomass source that is robust.

Shawna Buatista—Stated she was curious about alternative crops that have a lower invasive threat. Based on a presentation at a WSSA meeting, *Miscanthus* appears to have less risk than *Arundo*, although she acknowledged that anything that can be grown as a biofuel likely has weedy tendencies.

Wayne Lei—What made *Arundo* attractive is that Washington has been growing it in a test plot. As soon as they had a successful crop (second attempt), the first thing they tried to do was kill it. The Washington study looked at the productivity (tons/acre/year) and *Arundo* far outscored the alternatives by an order of magnitude. PGE studied switchgrass and *Miscanthus*, but switchgrass produces seed and could become very invasive. The National Invasives species council put *Miscanthus* in the same category as *Arundo*. *Arundo* is being grown and produced in Great Britain.

Shawna Bautista—There is no evidence of escaped *Miscanthus*. Biologically speaking, there is a very large difference between *Miscanthus* and *Arundo*. Shawna wasn't certain about the fuel value, but the invasiveness would be useful information to have.

3. *Arundo* biology and Climate change— What aspects of *Arundo donax* biology remain unknown and deserve near term research attention (e.g., reproductive potential, ecological interactions, invasiveness, adaptive potential, etc.)? What do climate change models suggest relative to the possibility that *Arundo donax* could become more invasive to the Columbia Basin in the future? Do we know enough about *Arundo* biology to adequately predict its invasiveness relative to climate model projections for the region?

Shawna Bautista—One of the best indicators of invasiveness is that it can become invasive somewhere else. Humans have a poor track record of predicting whether an invasive species will become invasive in another climate that we feel it won't invade. Bentgrass and tamarisk in Canada, no one expected these outcomes. In addition, there are some nice new maps out about *Arundo* growth and spread in some counties in southern Oregon that seem to show a wider distribution of invasiveness than the current risk assessment. Biologically, there is a large body of evidence to support its invasiveness. The sample size in Oregon is of concern. Oregon has a variety of soils and ecological areas, and *Arundo* is very adaptable and robust. It can grow through asphalt. In addition, the recent research indicates that the nodes, once they become viable, remain viable all year long (even whether rest of the plant is dormant). Mild winters would predict *Arundo* would do better than we believe.

Tom Kaye—If we start with the premise that *Arundo* is limited by climate, and the climate changes, then the limit of the species will change. But, how much will climate change and will it be enough to allow *Arundo* to become invasive? Climate change models vary, but there is general agreement that there will be warming. A cursory review of climate data available on Climate Wizard shows that it is clear that the warming in the Boardman area will be on the order of 5-10 degrees F. That will be enough to put us on the edge of a climate that could support *Arundo*. Harsh freezing events are likely to decrease. Remember that the change is not going to be incremental, it will be stochastic, so there will be times when *Arundo* will be invasive, and other years it could be knocked back. We have to look at variability around key weather events, and it deserves more analysis. But looking on the 50–100 yr time-frame, *Arundo* may become invasive.

Tim Butler—We have seen stands of 85% crop damage. PGE needs to be concerned about keeping this plant alive. This is one of the most highly studied plants. There is a tremendous amount of information out there that was drawn on for the risk assessment. *Arundo* is not an aggressively spreading plant—root fragments and the possible sprouting of two-year cane. It is not a rapid mover, except for in riparian areas. It has become invasive in California in riparian areas because it was planted for erosion control. But there will be much tighter mitigation measures in the Boardman area. *Arundo* will be easy to find and control if it were to escape.

Wayne Lei—PGE is concerned about winter kill and whether the effects of climate change will exacerbate the impacts of *Arundo*. The fuel has to be reliable for PGE to make a commitment. PGE

would not scale up until it has a big enough supply of *Arundo* adjacent to the plant. Assuming *Arundo* can grow sufficiently, PGE would torrify, dewater and make it hydrophobic so that it has all the qualities that would be useful as a fuel. But PGE needs to ensure the source is reliable and there is a 2-3 year supply.

Question from audience—Does the freeze kill just take out above ground biomass?

Tim Butler—It impacted mostly above ground biomass, but also some of the below ground as well.

OSU Extension agronomist comment—If *Arundo* is harvested when dormant, that would have a different effect since the plant pulls the energy down into the roots.

- 2. Containment**—In other states, there are documented cases of *Arundo donax* appearing in locations a considerable distance from original plantings. Describe the safeguards you believe need to be in place to ensure full responsibility for containment of *Arundo* into the future. In what ways are you confident that Oregon has adequately addressed containment of *Arundo donax* beyond the potential site, in both the short and long term (perpetual)? In what ways are you less confident?

Tim Butler—This is exactly what ODA is addressing with strict mitigation measures; the control area order is discussed in this context. State statutes authorize ODA to perform control areas orders—in this case, they are mitigation measures to reduce risk. If this project moves forward and *Arundo* is not listed, an important component is to work diligently to develop the rules and address the factors to mitigate risk. This is a public process, and everyone will have a chance to have input.

Wayne Lei: There will be a limited 300 acres planted by the end of 2013, and many other specific mitigation measures related to avoiding flood plains will be in place. Also, there is an EDRR component by funding county weed staff (funded by PGE).

Wayne showed a slide titled “administrative controls and assurances”: Slide included: Field Eradication above usual and customary. PGE will do 5 years of monitoring post eradication, there is a surety bond of \$1M, and a phytosanitary certification for cross-border transport (ODA) is required.

Shawna Bautista—The Forest Service is concerned about containment and the ability to enforce containment and mitigation measures. It looks like the focus is within close proximity, and it needs to be broader. If, for example, a person transported some *Arundo* onto federal land, \$1M is not enough money to get started on eradication. It takes \$500,000 to create a NEPA document to address the weed, the NEPA takes 2-4 years to produce, which increases control costs. Current mitigation measures should think broader and further afield should it escape to a variety of ownerships.

Wayne Lei—PGE would be amenable to look at other containment/monitoring techniques (e.g., helicopters). When it comes to containment, PGE has perpetual thinking that addresses long-term concerns (PGE manages nuclear power plants and nuclear waste).

Tom Kaye—People who work with *Arundo* on a regular basis question this project. It is important to be respectful of that experience, but also acknowledge that this is a different climate. When it

comes to containment, what is likely is that someone will do something really stupid and we have to plan for the unmanaged stochastic process that is hard to predict. Kaye recommended annual surveys by air of all waterways and downstream to the mouth of the Columbia. Surveys should consider at least 10 years post treatment and should be conducted by trained professionals. There needs to be an effort to engage the public and use the eyes of the public as well. We are talking about 1) the probability of escape, as well as 2) the impact once it escapes. They need to be handled in different ways. The impacts if *Arundo* does become invasive is huge. We have to look at them all together when we evaluate risks.

Shawna Bautista—The smaller one-two cane new invader growths are actually hard to detect. Young *Arundo* can hide within dense riparian vegetation. Detectability of new infestations is not as easy as is often assumed.

Wayne Lei—PGE is aware of the issue and has some experience controlling invasives. He also noted that the state of Florida is permitting about 400 acres of giant cane to be grown for biomass.

Jay Burr—Plan ahead for whatever potential mistake might happen. When you do your scouting, you need to spread a wide swath. The pesticide laws are much stricter for aquatic weed control.

Tim Butler—Containment is more than just an Oregon Issue; Washington is concerned as well. It needs to be addressed from a regional perspective. Existing Washington plantings could come into Oregon.

Wayne Lei—There is a planting of Giant Cane on private land in Washington. It appears it is not spreading from that site.

3. Responsibility—How will Oregon ensure adequate funding for surveillance and monitoring and eradication of *Arundo donax* outside of the proposed Boardman site in perpetuity? Describe the extent of the geographic scope of the surveillance and eradication area.

Jay Burr—Financial responsibility of containment should be specified quite clearly with a realistic amount of dollars attached. When Scott's tried to contain bentgrass, it spent \$1M in the first year.

Shawna Bautista—The planning process before treatment can be very expensive.

Tim Butler—The current draft rule is for a \$1M bond. But if this moves forward, there would be a definite increase in the bond amount and we would work to insure there is adequate survey and detection funded.

Tom Kaye—It is easy to pick a number like \$1M, but it is harder to figure out what the costs would actually be. The scale should extend beyond the immediate area.

Question and Answer with the audience:

Q: I'd like to ask the Washington person to describe what is going on in Washington.

A: We do have a couple of known ornamental plantings. The State Weed Board is having conversations about how to address it. We are looking at quarantining and requiring a permitting process. But currently in Washington, *Arundo* is not quarantined.

Q: Is *Arundo* quarantined? We are struggling with what to do with the known populations out there. Are you going to do a control area order for everyone or just PGE?

A: Tim Butler—No, it is not quarantined. It is sold in the nursery trade. There are ornamental plantings scattered across Oregon. It will be up to the Oregon State Weed Board to determine whether it is listed. The control area would be listed primarily for agricultural production.

Q: What concerns me the most is monitoring—the regulatory aspects around moving the plant around. Who is going to be the person who checks it when it is being moved from California? How are we going to make sure that all of those things are handled well?

A: Wayne Lei—People get their giant cane from Walla Walla nursery. They transport little plugs created by planting nodes. They have something like 2,000 cut plugs at any given season. That happens in state now. The retail nursery said that you can also obtain the plant from Floria. So, *Arundo* is being moved around all the time. But, for the rhizomes being transported from California (for the Boardman plant), phytosanitary measures will be required. The contract requires a two-day transport. PGE will send someone to California to supervise. Rhizomes will be on a 4x4x4 box and sealed, and the truck will be sealed. So it will be sealed twice.

Q: The reason PGE is shutting down the plant by 2020 is due to air pollution. Is PGE planning to do an analysis of air pollution resulting from burning *Arundo*? Also, the rate of spread of *Arundo* varies widely by County.

A: Wayne Lei—The devices in place to remove pollutants from coal would also work on the *Arundo* discharge. But we need to do the test burn to know.

A: Shawna Bautista—An air quality specialist on our staff noted that particulate matter from *Arundo* is more than twice than coal (this is an estimate with assumptions).

Q: What about economics? If you are going to rely on growers growing this as a crop, what will be the economic impact of taking out of production the acres of potatoes and alfalfa for dairy cattle? Growers are not going to touch it unless it is profitable.

Wayne Lei—PGE assumes it will plant similar to corn in terms of water and fertilizer, and harvested like sugar beets. PGE conducted an analysis, and the numbers are “doable.” But, the odds of PGE beating potatoes are low. PGE doesn’t want to displace crops. PGE wants to make it an economically competitive crop to lure alfalfa growers. For this to happen, it needs to have a good growing season and irrigation.

Q: How soon will you plant?

A: Wayne Lei—If the stars align, by the end of March 2011.

Q: Arundo is a C3 plant. In general C4 plants far out yield C3 plants. Another way to look at it is we are domesticating a new plant.

Q: Has anyone looked at in the corn ethanol issue that increased food process. What about displacing alfalfa?

A: Wayne Lei—One negative may be increased food prices (displacing land currently producing food), but what PGE is trying to do at Boardman is a unique chance to move away from carbon-based fuels and address global warming.

Q; How is it harvested? Does it produce the nodes on the second year canes in the field?

A: Wayne Lei—PGE would harvest *Arundo* similar to sugar cane. The machinery takes it from the bottom—takes it whole. PGE would have to harvest twice, continue to water then take it out again. Anything PGE does would have to be approved by the Public Utility Commission. PGE will start briefing PUC staff and propose it as part of an integrated resource plan.