March 29, 2015

Testimony in support of HB 2183
House Committee on Agriculture and Natural Resources

Chair Witt and members of the committee,

Thank you for taking the time to schedule an additional public hearing for this important bill. I would like to provide a response to some of the testimony and scientific evidence presented at the original hearing.

At the original hearing Oregon Department of Agriculture Director Katy Coba presented a recent study of *Arundo donax* performed by members of the OSU Extension Center in Hermiston. This study mentioned in its executive summary that *Arundo* becoming established inadvertently is “unlikely”. I have had a chance to review this study and must strongly disagree with this conclusion because the study identifies multiple types of material by which *Arundo* can propagate and, critically, the study shows that *Arundo* can successfully survive the cold winter temperatures of north-central Oregon.

The Extension Center study identifies several forms by which *Arundo donax* might escape from cultivation and spread from feral populations. While stored or dried material may have reduced viability, this study demonstrates that nearly any fresh material, canes or rhizomes, has the potential to propagate:

- **Whole buried rhizomes:** It is, of course, known that whole rhizomes have a very high chance of sprouting as they were the means by which the test fields were planted.
- **Larger pieces of rhizome**: While the study did not find viability in very small pieces of rhizome, the authors caution that larger pieces, approximately two inches in diameter, could be viable.
- **Pieces of fresh cane:** The authors conclude “that planted fresh cane with nodes has a 100% chance of establishment when in contact with cool moist soil for 15 to 30 days." (p. A26)
- **Fresh whole cane** was also shown to sprout, even if it was only lying on the soil surface. "...the experiment does show that cane is viable at low percentages when covered with soil and may have limited viability when laying on the surface.... **all fresh cane should be regarded as having sprout potential** and treated accordingly." (p. A28, emphasis added)

This study did not investigate the effect of storage on rhizome viability, but the rhizome serves as a storage organ and other studies report that 50% of rhizomes stored for four months under moist conditions sprouted (Boose & Holt, 1999).

The cold winters of north-central Oregon have been listed as an environmental factor limiting the viability and spread of *A. donax*. However, this study demonstrates that cold winters only kill *A. donax* if the canes have been harvested before the plant has had time to enter dormancy, with little effect on plants where canes were harvested later.

> "The winter of 2013–2014 was one of the severest in a decade with temperatures dropping below 0° F several times without snow cover. Fields where the *Arundo donax* was harvested while dormant displayed **no significant winter kill**." (p. A33, emphasis added)

A feral population, of course, would not have any cane harvesting at all, allowing rhizomes to maximize their storage potential, resprout, and increase stand density.

Finally, the authors find that "plant survival was better with higher planting density. Survival increased at an increasing rate with higher plant density." This density-dependent survival implies that once *Arundo* gains a toehold in a new populations it may persist for some time while densities slowly increase, and then reach a point

where survivability is high and rapid expansion occurs.

Far from allaying concerns about *Arundo* becoming an invader within Oregon, this study has reinforced them. Portland General Electric has stated that their trials of *Arundo* may not work out for using it as a biofuel in Boardman. However, whether or not *Arundo* will grow sufficiently for PGE's needs, it is clear that it has the potential to grow and survive in a manner sufficient to become invasive.

Finally, whether or not the economics of planting *Arundo* works out for PGE, the threat of *Arundo* invasion in Oregon still remains. Under current ODA rules it is possible for anyone to grow *Arundo* at an insufficiently low bonding rate. Such a company may not perform the careful trials that PGE is performing, may not monitor fields at the level that is in place in the current test plots, and may not even remain solvent to clean up and remove *Arundo*, leaving the state responsible for cleanup. Such a scenario has already occurred in Oregon with yellow-tuft alyssum.

I urge the committee to pass HB 2183 to put in place some level of protection to mitigate the potential for *Arundo* invasion in Oregon.

Sincerely,

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References:

Bechtold, N., Hornbeck, D., and Wysocki, D. October 1, 2014. Agronomy of *Arundo donax* in North-Central Oregon. Oregon State University, Hermiston Agriculture Research and Extension Center.

Boose, A.B. and J.S. Holt. 1999. Environmental effects on asexual reproduction in *Arundo donax*. *Weed Research* 39:117-127.