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Dear House Committee on Agriculture and Natural Resources,

I am writing in full support of the proposed House Bill 2183, to require growers to file bond for the intentional planting of *Arundo donax* (giant reed) as a biofuel crop in Oregon. I am a scientist who has worked on invasive species issues for the past 15 years at both local and national scales, with an emphasis on invasive plant prevention and management in the western U.S. I have researched and advised extensively on invasive species management in Oregon, Washington and California, and have been proud to call Oregon home for the past 14 years.

While I support the intent of this bill, I also recommend that the Committee seriously consider two items:

1. Increasing the total amount of the bond. The state of Oregon loses over \$83.5 million per year in production losses and management costs from 25 selected invasive non-native plants (The Research Group 2014), and the intentional introduction of hundreds to thousands of acres of a well-documented invader of riparian systems should be an unacceptable risk for the state. It is notable that Oregon strives to be a leader in alternative energy sources, but the deliberate introduction and cultivation of any impactful invader of natural systems should be prohibited. According to a publication focused on the eradication of invasive plants by the California Department of Food and Agriculture (Rejmanek & Pitcairn 2002), total eradication for established plants is extremely difficult, especially when infestations become large. They found that even when eradicating smaller infestations (of up to 100 hectares), the average number of work hours needed to achieve eradication ranged from 103 to 648 hours. If we convert their numbers to acres and assume a \$15.00 per hour rate, this translates to a potential cost for eradication ranging from \$3,816.00 to \$24,008.00 per acre. At 400 acres, this would be a range of \$1,526,400 to \$9,600,000 for eradicating and managing infestations. Therefore, I strongly urge you to consider increasing the total bond amount several-fold, should *A. donax* escape cultivation and invade into nearby natural areas.
2. Reconsider the permitting to allow the commercial production of *A. donax* in the state of Oregon. The intentional planting of thousands of acres of a well-documented invader of natural and managed systems is an unacceptable risk to the health, production, and natural resources of Oregon. Peer-reviewed scientific articles indicate that:
 - a. *Arundo donax* has many of the characteristics of a highly invasive species, is able to reproduce quickly and in large quantities, and has many detrimental effects in natural areas, especially in riverine and floodplain systems (Bell 1997; Cushman & Gaffney 2010; Dudley 2000; Herrera & Dudley 2003; Lambert et al. 2010).

- b. *Arundo donax* is an ecosystem changer, able to alter wildfire frequency and intensity, soil nutrients, and is a prolific water user (Brooks 2004; Coffman et al. 2010; Watts & Moore 2011).
- c. The best predictor of invasiveness is if the species is invasive elsewhere (Reichard & Hamilton 1997). *Arundo donax* has damaging economic and ecosystem impacts in California, Texas, Nevada, and in several other western states. It is listed as a state noxious weed in California and Texas, and is on the Washington State Department of Agriculture's Prohibited Plant List. Why would *A. donax* not become a costly invader here, when our neighboring states acknowledge its detrimental environmental impacts? It has already been documented as invading sites in southern Oregon, and the expansion of its range from California is inevitable. There are *A. donax* infested sites in California that experience similar climate environments to those in Oregon, especially at higher elevations. With changing climate conditions, it is highly likely that *A. donax* will become a problem for Oregon production systems and natural resources.

Several recent studies have evaluated the invasive potential of *A. donax*, especially while assessing its use as a biofuel species (Barney & DiTomaso 2008; DiTomaso et al. 2007; Gordon et al. 2011; Mack 2008). In all cases, these studies recommend that the intentional planting of *A. donax* be rejected due to its propensity as a harmful invader of natural systems.

In conclusion, I endorse the proposed House Bill 2183 to require *A. donax* growers to file bond with the Oregon Invasive Species Council. I propose that the amount of required bond be increased substantially, and also strongly recommend that the House Committee review the scientific evidence of potential *A. donax* invasiveness in Oregon. The deliberate and purposeful planting of thousands of acres of *A. donax* is an unacceptable risk to the people and natural resources in the state of Oregon. Thank you.

Respectfully submitted,

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