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SANTA BARBARA • SANTA CRUZ

MARINE SCIENCE INSTITUTE
SANTA BARBARA, CALIFORNIA 93106-6150
PHONE: (805) 893-2911
FAX: (805) 893-8062

http://RIVRLab.msi.ucsb.edu

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Chuck Gallagher, Committee Administrator

Dear Mr. Gallagher & legislative committee-members;

We are Director and Co-Director of the Riparian Invasion Research Lab at the University of California, Santa Barbara, and are submitting this letter in support of HB 2183, which would increase the bonding rate associated with any proposed commercial production of *Arundo donax* (Giant reed) in Oregon. We have been involved in *Arundo* research since 1992, myself as a founding member of Team Arundo in California and Dr. Lambert since 2006 conducting research on the environmental impacts and potential for biological control of Arundo in the western U.S. In that regard, I wrote the chapter on *Arundo donax* for the key guidebook, Invasive Plants of California's Wildlands (2000), and we have jointly conducted two international symposia on Biology and Control of Arundo and other large-stature invasive grasses.

I have previously provided information to concerned organizations in Oregon regarding the potential damage that Arundo could do in your state, and reasons why large-scale operations in Boardman or elsewhere would be dangerous. In addition, I collaborate with Oregon Dept. of Agriculture and other agencies to conduct research in Oregon on invasive tamarisk (saltcedar) with study sites on the Owyhee, Snake, Columbia and Malheur Rivers, including near the Boardman site where large-scale *Arundo* production is proposed. Finally, I conducted my Master's research on aquatic biology & entomology at Oregon State University, so I am intimately familiar with Oregon's environments and resources, including its invasive non-native species.

Arundo/Giant reed is rightly considered one of the top 5 Invasive Plants of concern in California, and is also on the IUCN list of the World's 100 Worst Invasive Alien Species. It is documented to displace native riparian vegetation, provide very poor habitat for wildlife, exacerbate erosion and sedimentation and amplify the impacts of flooding, and the massive uprooted biomass causes damage to infrastructure (e.g. bridge destroyed on Santa Margarita River) and clean-up on beaches is another economic impact. *Arundo* is an extreme fire hazard and turns river corridors from barriers to wildfire into pathways for fire movement, including into urban areas.

Finally, we have documented major water wastage as *Arundo* uses approximately 4-times more water for transpiration as does other common vegetation along rivers in semi-arid regions. This is a key factor in eastern Oregon, in that massive quantities of water are necessary to sustain productivity; most riparian plants are similar in their water use per unit leaf area, but because leaf surface area of Arundo is much greater than any other vegetation present, this is a serious

resource conservation factor. In general, 150 m^3 of water loss is expected per hectare of *Arundo*-infested riparian area per warm, sunny day, or approximately 0.12 acre-feet per day.

We have fortuitously found that Arundo does not produce viable seed so that avenue of escape is unlikely. However, the rhizomes of Arundo are extremely tough and resilient, and are often torn out and displaced by erosion during high flows or other factors that cause soil erosion, including mechanical disruption by equipment or vehicle activity. Although the intended growth facilities are almost certainly proposed away from active stream channels, infrequent events such as severe flooding, cyclonic winds, and human activities can lead to transport of Arundo rhizomes to other sites where they have a high probability to establish and become invasive.

The larger the scale of growing operations, the greater the risk that invasive plant material will eventually get transported into areas where it would pose serious environmental and economic problems. This was true in California, as the huge problems caused by Arundo at the Santa Clara River in southern California, and the Russian River in northern California, were the unintended results of commercial production of Arundo for musical instrument reeds located near these rivers. The commercial producers have, however, moved their operations to other countries owing to the high cost of harvest and processing of this commodity.

We and others have spent upwards of $10 million on the Santa Clara River alone to control this invader and most of the work is still to be accomplished; similar or much greater sums are spent on Arundo control and mitigation in other systems. Based on our efforts and those of other weed control organizations, we estimate that Arundo removal costs roughly $5,000 to $30,000 per acre, depending on site conditions, while flood control agencies typically allocate over $100,000 per acre for managing and mitigating effects of Arundo invasion.

One additional factor that is of concern to us here in California, and in Arizona, Nevada and Texas where we are also involved in Arundo control technologies: Federal agencies and researchers have spent several million dollars developing biological control methods with specialist insects that feed on Arundo in its Eurasian origin. It would have severe repercussions for further development and implementation of our biocontrol program if private interest groups become financially dependent on Arundo production, and thereby would be in opposition to our efforts to control this invader using more environmentally benign biological methods.

Thus, we strongly urge the State of Oregon to pass HB 2183, which would put more realistic bonds on commercial Arundo production proposals, and furthermore we suggest that this extraordinarily problematic and dangerous plant not be commercially grown nor used in horticulture in Oregon. We would be glad to provide additional information about any aspect of these issue if desired.

Sincere,

Tom Dudley & Adam Lambert
Marine Science Institute - University of California, Santa Barbara
Affiliations: Cheadle Center for Biodiversity and Ecological Restoration;
Riparian Invasion Research Lab