LARGE-SCALE REINTRODUCTION OF ASH

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No strategies currently exist for reintroducing ash; progression of emerald ash borer (EAB) through the eastern United States is likely to be a decades-long process, and extirpation of ash from this area is likely to take even longer. Reintroduction of ash into areas where it has been extirpated by EAB will require addressing technical issues as well as social and political issues. Technical issues include what type of material will be introduced, for example, EAB-resistant (if any) or non-resistant native species, resistant interspecific hybrids, or resistant genetically modified material; and how and by whom the material will be produced for reintroduction. Social and political issues include how the development, production, and establishment of this material will be funded; and, perhaps, how this material will be accepted and used by public agencies, private landowners, and the general public.

Resistant ash developed by either standard breeding methods or genetic modification is likely to be used first by the ornamental horticulture industry, where small numbers of clonal varieties (relative to natural populations) are commonly deployed. Successful restoration of ash into natural ecosystems will require material with the capability of successfully competing and regenerating in perpetuity. These characteristics will require genetically diverse populations that are also genetically well-adapted to local climatic conditions. Availability of diverse sources of native ash germplasm will be essential for producing a genetically diverse and well-adapted population of material for reintroduction in both urban areas and natural ecosystems, so current germplasm conservation efforts need to be continued and expanded as EAB infestations spread.

Once suitable material has been developed, it will need to be increased before commercial production can begin. Both the reforestation and conservation nursery industry and the ornamental nursery industry have sufficient capacity to produce commercial amounts of material for deployment.

While there are several possible alternatives for reintroduction of ash, actual development and deployment of material will depend on the resources available. The most successful U.S. tree restoration programs to date involve American chestnut and the white pines in the western United States. Both of these programs feature tree species of significant economic, cultural, and ecological value, i.e, “charismatic megaflora.” Funding and support for these programs have been sufficient to maintain a moderate level of activity over several decades, resulting in slow but steady progress on resistance to diseases that were introduced more than 100 years ago.

Billions of ash trees in the eastern United States are likely to be killed by EAB. The value of street trees, the cost of removing them, and the timber value of ash likely to be killed in the eastern United States will amount to billions of dollars. However, it remains to be seen whether ash will have the “charisma” needed to generate public support for funding large-scale restoration programs. If it does, the germplasm conservation efforts now underway for ash will provide a more diverse and well-adapted source of material than has any other U.S. species restoration program to date.