After Action Review: Need for Immediate Post-Fire Invasive Weed Prevention

By Hannah Buehler with Rebecca McCoun and Jenny Meisel

Following the Beachie Creek fire, the trucks of linemen and loggers lined the Little North Fork. As the community began to rebuild, they were followed by the trucks of septic workers, homebuilders, electricians and cable installers. Invasive plant seeds and spores are often transported within the vegetation, dirt, and mud clinging to the undercarriage, wheels, wheel wells, and bumpers of emergency response, salvage logging and other vehicles and equipment (USDA FS, 2005).

Post-fire environments are particularly ripe for invasive species to become established and spread rapidly. Natural resource managers, watershed councils, state, federal, tribal and county officials, often siloed by jurisdiction, must spend valuable post-fire recovery time on Early Detection Rapid Response (EDRR) programs and long term invasive species assessments, removing invasives through chemical spraying, hand picking, and biological control. Accessing funds for invasive removal post-fire can also be a significant challenge to this work. Immediate post-fire preventative measures could make a big impact on the spread of invasive species post-fire.

Estimated cost of invasive removal post-fire:

Cost estimates from invasive removal following Beachie Creek highlight the role that immediate post-fire prevention could play in lowering costs and labor needed for invasive control. Costs for invasive species removal and control post-fire can vary greatly depending on the site and the entity who is conducting the work (Meisel & McCoun 2020). **In natural vegetation protection areas using integrated pest management for invasive control following Beachie Creek, the estimated cost of Spring combo spraying was $360 an acre (Meisel & McCoun 2020). For Fall spot spraying, the cost was an estimated $280 per acre. The cost estimate for surveying and monitoring was $62 an hour. Assuming 1-2 hours per acre for initial survey time, the cost estimate total for surveying and monitoring would be $46,500 a year, assuming 1.5 hours per acre. The survey time would remain about the same over 5 years as monitoring would continue to cover the same amount of ground to ensure that no new infestations occur.**

Prevention:

While the costs per site location and agency may vary significantly, in general, "The cost of eradicating or spraying established infestations exceeds the cost of prevention more than tenfold (USDA FS, 2005)".

One promising immediate invasive prevention method is setting up portable vehicle washing stations that use high-pressure wands to wash the sides, underbody, wheels and wheel wells of equipment entering and exiting the fire area (USDA FS, 2004). An industrial rubber mat with foam-filled barriers on all sides confines the wash water and pumps it into settling tanks. Large particulates sink to the bottom of the tanks and water passes through a series of filters. Most vehicles are able to be washed in only about 2 to 3 minutes, depending on the vehicle's size and the amount of dirt (Buehler & Lasley, 2021). The average rental pricing for these devices is $2,000-$3,000 a day (USDA FS, 2005, Meisel & McCoun 2020). Working with local contractors, setting up check stations post-fire for equipment entering and exiting the fire area could be a critical and cost effective method to slow the spread of invasive plant species in post-fire environments.

Resources:

Buehler, H., & Lasley, C. (2021, September 25). Interview with Waste 2 Water. personal.

Meisel, J., & McCoun, R. (2020). (rep.). *Beachie Creek Botany ETART.*

United States Department of Agriculture, Forest Service. (2005, October). *Vehicle Cleaning Technology for Controlling the Spread of Noxious Weeds and Invasive Species.* **https://www.fs.fed.us/eng/pubs/pdf/05511203.pdf**.

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