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Investigating the role of soil legacy effects and community engagement in the management of *Lespedeza cuneata*, an invasive legume

Invasive species are an increasing threat to biodiversity. This study investigated the plant-soil interactions of Chinese lespedeza (*Lespedeza cuneata*) and how such interactions impact the success of management and of native flora. Soils of three different histories were collected to be utilized in experiments: soil with no history of lespedeza invasion, soil with an ongoing invasion of lespedeza, and soil where herbicide had been used to control lespedeza. Experiments were designed to analyze the impact of invasion and herbicide on the success of lespedeza, the success of three native species, and the naturally occurring seedbank. Lespedeza formed more root nodules and grew to a larger size in soils previously occupied by lespedeza and sprayed with herbicide. Data also showed that the naturally occurring seedbank was less diverse and bountiful in sprayed soils. Results from these experiments identified possible contenders for the restoration, including *Solidago altissima*.

As an offshoot of this research, an event was designed and executed to assess the impact of outreach events on the attitudes of undergraduate students towards conservation. At the event, students assisted in the manual removal of lespedeza from local greenways. Twenty-seven undergraduate students including freshman, sophomores, juniors, and seniors participated in the event. Survey responses reflected that participants enjoyed the event, felt more connected to nature, and felt more equipped to help the environment because of the event. Even more promising, surveys reflected that participants were likely to seek out similar events in the future and would recommend others to attend a similar event. However, while survey responses illustrated that participants understood the underlying concepts that cause invasive species to threaten local flora or fauna, responses suggested event participants were not aware of ongoing invasions that surround them. Thank you to the NCNPS for your support of this research!