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Committee: Environment and Transportation
Testimony on: HB979 "Agriculture-Invasive Plant Species-Regulation (Biodiversity and Agriculture Protection Act)"
Position: Favorable
Hearing Date: February 28, 2024

Dear Members of the Environmental and Transportation Committee:

I am writing to request your support of HB979. I will be speaking specifically to the provision to establish protocols for assessing the invasion status or risk of nonnative plants to facilitate the proper listing of species for prevention, management, and regulation.

I am an invasion ecologist who specializes in invasive species prevention and management prioritization. I have over 11 years of experience working on risk assessment and invasion status determination. I have worked with state (Florida and Pennsylvania) and federal agencies (USDA, USGS, US DOI) with the development of invasiveness screening tools, updating a widely-used invasive plant status assessment, and leading the nation's first horizon scan for invasive species threats (Lieurance et al., 2023). I am contributing as a subject matter expert.

It is well established that invasive species are damaging ecosystems, reducing biodiversity, impacting health, and causing annual economic costs in the billions of dollars. In fact, a recent international assessment determined invasive species have contributed to approximately 60% of recorded extinctions, caused approximately $423B in economic losses in just one year, and

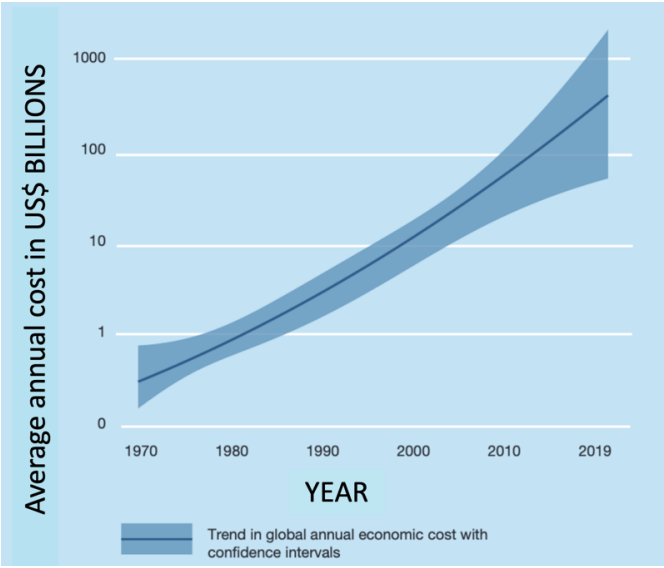

Figure 1. Growth of the documented average annual economic cost of biological invasions (Roy et al., 2023).

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the trajectory of costs will continue to rise (Fig. 1; Roy et al., 2023). In the US, annual invasion costs were $21B from 2010 to 2020 (Fantle-Lepczyk, et al., 2022). Proper identification using the appropriate decision support tools of which species are likely to be invasive and the status of species that are already in the US provide effective guidance for management action and regulation, thus reducing impacts and losses to agriculture, forestry, and the environment.

I have identified two different approaches above—an invasion/weed risk assessment to identify species *at risk to become invasive* (e.g., USDA APHIS PPQ WRA; Koop et al., 2012) and invasive plant status assessment to identify species that are *currently invading* and *causing negative impacts* (e.g., the Natureserve model; Morse et al., 2004). It is crucial to use the correct tool for the task. If the goal is to prevent the introduction of a high-risk species or to identify risk as early as possible for new arrivals, a risk assessment is the proper approach. This can be used to blacklist species from introduction or to make species watch lists. Where a *risk assessment* **is a prediction**, a *status assessment* **is a diagnosis**. It is used for species already in the region to assist with regulation and management prioritization. Status Assessments are designed to be objective and systematic by using specified sets of questions and requiring documentation of the scientific information used to determine each species' rank. **In short, the results provide a transparent, objective, and evidence-based justification for categorizing nonnative plants**.

To my knowledge, the majority of status assessment protocols used in the US are based on the Natureserve model, including the protocol I am developing to be used by 7 invasive plant councils in the Southeastern US. The National Association of Invasive Plant Councils created a checklist for the development and updating of invasive plant lists to include:

- the highest standards for objectivity, scientific rigor, and ecological expertise
- transparent procedures and clear documentation
- consistent methodology to assure comparability across state lists.

While their guidance is directed towards non-regulatory lists, this checklist provides targets to meet when developing a regulatory listing protocol. The Natureserve tool hits the majority of these targets.

The Natureserve tool is comprised of 4 sections with prescreening questions to determine if this is the correct approach. For example, if the plant is not present in the region outside of cultivation, this is not the correct tool, and a risk assessment is the proper approach. The 4 sections are as follows:

- current distribution and abundance
- spread potential[1]
- ecological impacts
- management difficulty.

[1] The only component that is a prediction is the spread potential.

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The questions can be tailored to address impacts to agriculture and urban systems and questions can be included to determine any compounding effects of climate change. The results from this tool are easy to understand and provide a comprehensive snapshot of the species status including documenting where the plant is, the biological traits contributing to the 'invasiveness' of the plant, impacts to threatened and endangered species, and information about current management techniques.

In summation

1. I encourage the development and adoption of a status assessment protocol to determine the invasion status of plants in Maryland that are under consideration for plant listing.

2. I recommend continued use of an invasion/weed risk assessment tool to assess species that are not yet in Maryland or for those in the state that have not escaped cultivation.

3. I recommend using the Naturserve status assessment tool as a backbone. In doing this, Maryland's assessment process will align with many other regulatory and non-regulatory listing bodies. This can facilitate data sharing and implementing consistent regulation (banning an invasive plant species across state lines) across the region.

4. I would like to emphasize that invasive plant status assessments provide **robust, evidence-based results with greater transparency and objectivity** to support regulatory decisions.

I strongly encourage the committee to submit a favorable report on HB979.

Thank you for your consideration.

Sincerely,
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Citations

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