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Testimony of
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On
Fiscal Year 2022 Appropriations for the U.S. Forest Service, the U.S. Environmental Protection Agency, and the U.S. Department of Interior
Submitted to the
Appropriations Subcommittee on Interior, Environment, and Related Agencies
United States House of Representatives

April xx, 2021

The Entomological Society of America (ESA) respectfully submits this statement for the official record in support of funding for entomology-related activities at the U.S. Environmental Protection Agency (EPA), the U.S. Department of Agriculture (USDA) Forest Service, and the U.S. Department of Interior (DOI). For fiscal year (FY) 2022, ESA recommends **$773 million for EPA Science and Technology**, as well as **strong support for programs across the agency that advance the safe application of pesticides**. ESA strongly supports EPA's commitment to work with other federal agencies to monitor and improve pollinator health. In addition, ESA requests the **Forest Service be funded at no less than $8.17 billion in discretionary funds.** Within the Forest Service, ESA requests the **Forest and Rangeland Research budget be supported at $285 million** to preserve valuable invasive species research and development. The Society also supports continued investment in **Forest Health Management programs across the Forest Service at no less than the FY 2020 enacted level of $100 million.** ESA also recommends that DOI continue to support the important work of the **National Invasive Species Council (NISC), to be funded at no less than $2 million** for its critical coordination of efforts across agencies to respond to the threats posed by invasive species.

Advances in forestry and environmental sciences, including the field of entomology, help to protect our ecosystems and communities from threats to our nation's economy, public health, and agricultural productivity and safety. Through improved understanding of invasive insect pests and the development of biological approaches to pest management, entomology plays a critical role in reducing and preventing the spread of infestation and diseases harmful to national forests and grasslands. The study of entomology also contributes to the development of Integrated Pest Management (IPM) techniques, which use science-based, environmentally conscious, comprehensive methods to take effective management action against pests, often resulting in lower costs and a more judicious use of pesticides. In addition, entomology improves our knowledge of pollinators and factors affecting pollinator health and populations, helping to ensure safe, reliable crop production that meets the needs of a growing world population.

EPA carries out its mission of protecting human health and the environment by developing and enforcing regulations, awarding grants for research and other projects, conducting studies on environmental issues, facilitating partnerships, and providing information through public outreach. Through these efforts, EPA strives to ensure that our nation enjoys clean water, clean air, a safe food supply, and communities free from pollution and harmful exposures to chemicals.

EPA's Pesticides Licensing Program Area, supported by EPA's Science & Technology and Environmental Program & Management budgets, serves to evaluate and regulate new pesticides to ensure safe and proper usage by consumers. Through the mandate of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), EPA uses scientific expertise and data, including knowledge gained from entomological sciences, to set maximum tolerated residue levels and to register pesticide products as effective and safe. By controlling insects that carry diseases of humans and domesticated animals, and invasive insect species that endanger our environment, pesticides registered by EPA help protect public health and the nation's food supply.

Although pesticide registrations and regulations are the purview of the EPA, the agency has not traditionally been a major sponsor of entomology research. However, EPA has recently announced its intention to provide up to $2 million for projects that promote IPM adoption while promoting pollinator protection and addressing major challenges such as citrus greening disease. These Pesticide Environmental Stewardship Program (PESP) grants will enable grantees to "implement sustainable pest management practices that reduce unnecessary risks from pests and pesticides."[1] While IPM is a long-standing and well-researched paradigm for mitigating pests, relatively few focused funding sources are available for entomologists focused on this subject. As such, ESA encourages you to **enable EPA to continue expanding its investment in IPM and other innovative programs for safely managing the use of pesticides** through increased funding for such activities across the agency's research and regulatory portfolios**.**

ESA is in favor of **increased funding for scientific studies of pollinator populations and health**. Pollinators play a vital role in our nation's agriculture industry. Honey bees alone pollinate more than 90 crops in the U.S. and are essential to produce an estimated one-third of all the food we eat or export, contributing over $17 billion in annual crop and seed production in the U.S. alone. To ensure a healthy bee population, more research is needed to fully understand the diverse factors that endanger bee health. Pesticides represent just one potential risk to bees, but both the risks and benefits must be balanced, and they will vary between different crops and different crop-producing regions of the U.S. EPA is well-positioned to help identify methods for protecting bee health. The agency has previously awarded agricultural grants to three universities to aid in the development of IPM practices that lower pesticide risks to bees while protecting valuable crops from pests. For this reason, ESA supports EPA's participation in **multi-agency efforts to investigate pollinator health and implement plans to prevent pollinator population decline.**

The U.S. Forest Service sustains the health, diversity, and productivity of 193 million acres of public lands in national forests and grasslands across 44 states and territories. Serving as the largest supporter of forestry research in the world, the agency employs approximately 30,000 scientists, administrators, and land managers. In addition to activities at the federal level, the

[1] https://www.epa.gov/pesp/pesticide-environmental-stewardship-program-grants

Forest Service provides technical expertise and financial assistance to state and private forestry agency partners.

The Forest Service's Forest and Rangeland Research budget supports the development and delivery of scientific data and innovative technological tools to improve the health, use, and management of the nation's forests and rangelands. Programs within Forest and Rangeland Research provide science-based approaches to reduce and prevent the spread of destructive insects, plants, and diseases that can have serious economic and environmental consequences for our nation. For example, Forest Service scientists are working to understand the impact of the mountain pine beetle (MPB) on U.S. forests. Since 2000, outbreaks of MPB have affected more than 10 million hectares of lodgepole pine forests, compromising long-term forest health while creating the potential for more dangerous wildfires, loss of wildlife habitat, poorer water quality, and soil erosion.[2] Such outbreaks are predicted to continue in the face of increased temperatures and drought associated with climate change. Funding for such studies will enable land managers to better predict and respond to ecosystem changes that occur following such outbreaks. ESA requests that **Forest and Rangeland Research be funded at $285 million** for FY 2022.

Also under the purview of the Forest Service is the Forest Health Management program, which conducts mapping and surveys on public and private lands to monitor and assess risks from potentially harmful insects, diseases, and invasive plants. The program also provides assistance to state and local partners to help prevent and control outbreaks that threaten forest health. According to a 2011 study, invasive forest insects cost local governments alone an average of over $2 billion per year; direct costs to homeowners from property loss, tree removal, and treatment averages $1.5 billion per year.[3] Initiatives within the Forest Health Management program can help control these costly pests. The program's "Slow the Spread" activities, for example, have led to a 60 percent reduction in the rate of the spread of the gypsy moth, another invasive species, resulting in an estimated benefit-to-cost ratio of 3:1. Without the program, it is estimated that 50 million additional acres would have been infested by the moth.[4] Additionally, the southern pine beetle is the most destructive pest of pine trees from New Jersey to Florida and west to Texas. This beetle caused an estimated $1 billion in damage during an outbreak across the southern U.S., and it has since rapidly moved far further northward than previously thought possible[5]. The new northeast range of the southern pine beetle includes threatened and rare pine ecosystems, such as the pine barrens of New Jersey[6]. Funding for the Forest Health Management Program will support detection, monitoring, prevention, and management of this pest and slow its spread and limit its damage as it affects more and more of our country's forests.

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[2] Fettig, C.J., R.A. Progar, J. Paschke, F.J. Sapio. Forest insects. G. Robertson, T. Barrett (Eds.), Implications of Forest Disturbance Processes for Sustainability in the Western US. PNW-GTR-XX. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Portland, OR (2020). *In press*.

[3] Aukema, J.E.; Leung, B.; Kovacs, K.; [et al.]. 2011. Economic impacts of non-native forest insects in the continental United States. PLoS ONE 6(9): e24587.

[4] Forest Service FY 2017 Budget Overview: http://www.fs.fed.us/sites/default/files/FY-2017-FS%20-budget-overview.pdf.

[5] Nowak, J.; Asaro, C.; Klepzig, K.; [et al.]. 2008. The southern pine beetle prevention initiative: working for healthier forests. J. For. 106(5): 261-267.

[6] Dodds, K. J.; Aoki, C. F.; Arango-Velez, A.; [et al.]. 2018. Expansion of southern pine beetle in northeastern forests: management and impact of a primary bark beetle in a new region. J. For. 116(2): 178-191.

To support these important functions, ESA requests that the subcommittee provide no less than the FY 2020 enacted level of **$100 million for Forest Health Management.**

The National Invasive Species Council (NISC) coordinates policy, communication, and technology applications among 16 federal agencies involved in the shared task of invasive species control. NISC serves a vital function since the impact of invasive species is felt across a variety of sectors (agriculture, environmental protection, public health, etc.) that are not under the jurisdiction of one single agency. As an example, since 2014 spotted lanternfly has become established in Pennsylvania, Virginia, New Jersey, and Delaware. Its ability to disperse over broad geographic areas presents a particularly challenging problem to growers, homeowners, and forest managers, as does its unusually broad host range. It has been recorded feeding on more than 100 plants, including commercial crops such as hops, grapes, apples, and cherries.[7] In addition to damage caused directly by feeding, the spotted lanternfly inflicts indirect damage via coating plants and other surfaces in "honeydew" (urine), which encourages the growth of mold and fungi. To respond to such threats, NISC recently helped coordinate the development of a comprehensive system of environmental DNA (eDNA) Rapid Response, whereby cutting-edge molecular surveillance tools are used to detect invasive insects before they establish to minimize control and damage costs. Such methods can enable more effective early detection of invasive species and rapid response, potentially saving billions of dollars' worth of crops, safeguarding native ecosystems, and preventing the destruction of private property. As such, ESA requests that **NISC be funded at no less than $2 million** in FY 2022.

ESA, headquartered in Annapolis, Maryland, is the largest organization in the world serving the professional and scientific needs of entomologists and individuals in related disciplines. Founded in 1889, ESA has more than 7,000 members affiliated with educational institutions, health agencies, private industry, and government. Members are researchers, teachers, extension service personnel, administrators, marketing representatives, research technicians, consultants, students, pest management professionals, and hobbyists. Thank you for the opportunity to offer the Entomological Society of America's support for Forest Service and EPA programs.

[7] https://entomologytoday.org/2020/09/10/list-known-host-plants-grows-invasive-spotted-lanternfly/