

## **Invasive Species Advisory Committee Underserved Communities Subcommittee**

### **Introduction**

Executive Orders 13985 and 14008, and several additional Executive Orders call on federal agencies to “pursue a comprehensive approach to advancing equity for all”. The Justice 40 initiative referenced in E.O. 14008 expressly set a goal for 40% of overall benefits from certain federal investments to benefit underserved communities in seven areas related to climate and infrastructure, though not expressly including invasive species. In addition, unprecedented levels of new federal funding have become available through the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA). While agencies have made some progress in identifying “underserved communities” through national datasets, this paper seeks to 1) summarize some ways that invasive species impact underserved communities; 2) identify ways in which these new data mapping tools meet or do not adequately meet the needs of underserved communities related to invasive species; and 3) provide some best practices and recommendations that can help guide agencies in best meeting the directives and the needs of underserved communities affected by invasive species.

Invasive species can have negative economic, agricultural, ecologic, public health, social, and cultural impacts. While there are many documented examples of negative impacts and costs so some of these values, the impacts of invasive species on community wellness, cultural and indigenous practices, and social traditions are notoriously difficult to quantify or document.

Executive Order 13985 calls on agencies to identify how they will equitably support underserved communities through their mandates, and agencies have responded by identifying and describing the underserved communities they serve, leading to a variety of similar terms and confusing descriptions of programs to serve these groups. For the purpose of this paper, we focus on the definitions in E.O. 13985 which describes the term "equity" to mean the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. The term "underserved communities" refers to populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by the list in the preceding definition of "equity". The terms “underserved” and “disadvantaged” communities appear in different federal documents and appear to be used interchangeably. In this paper, they are treated as synonyms.

The Environmental Protection Agency (EPA) and Council on Environmental Quality (CEQ) have constructed publicly available portals with map interfaces (e.g. [Climate and Economic Justice Screening Tool](#)) that use a variety of national datasets that aims to identify geographic areas where income and availability of services are lacking. These tools are intended to help federal agencies to identify underserved communities and apply funding, programs, and other support in an equitable way. The following case studies provide examples of how invasive species may affect different underserved communities, where existing map-based data tools may help guide federal support programs, and where they are inadequate or not appropriate.

An example of how some invasive species affect underserved communities can be seen with the emerald ash beetle, Asian longhorn beetle, invasive shot hole borers, and other invasive tree pests which bore into and kill trees in natural and urban areas. Invasive shothole borers have infested and killed thousands of trees in urban landscapes and adjacent natural areas throughout southern California and have the potential to cause more damage if left unchecked. Emerald ash beetles have killed tens of millions of trees in the U.S. since their introduction in 2002, and they continue to spread through neighborhoods and forests. There is a projected loss of 30% of urban forests and incalculable losses to natural areas if the Asian longhorned beetle continues to spread. A loss of urban trees can result in the loss of community-wide environmental benefits such as local cooling and sun protection, increased energy needs, a loss of ecosystem services such as carbon sequestration, air pollution removal, and avoided flooding and stormwater runoff. Loss of urban trees has also been linked to lower property values, an increase in crime, and higher stress. The loss of tree canopy particularly affects historically marginalized communities who disproportionately live in urban environments where green spaces are already limited. On one hand, map-based data programs may be able to accurately identify the types of communities that live in a large enough per-capita block to be measured, e.g. it may help identify geographic communities that are underserved because of a measurable characteristic such as poverty, but not for those communities that share other non-geographic characteristics. An additional challenge is in how agencies can incorporate equity into invasive species strategy, where the best, most strategic locations to apply prevention or mitigation policies, programs, funding, or services may fall outside of those geographies identified as underserved on a map.

Pathogens such as West Nile virus have impacts on human health that can be amplified within minority and low-income communities (Kollars). West Nile virus is a non-native pathogen that was first detected in the U.S. in 1999 and within a three-year period it had extended its range to the West Coast. The disease is spread when mosquitoes (multiple species of *Culex* are the most effective vectors) bite infected birds, then uninfected birds or humans. In addition to its lethal and sub-lethal effects on birds and horses, West Nile virus can cause flu-like symptoms, and severe illness in 1 in 150 people, such as encephalitis or meningitis and even death. Since its introduction into the United States, researchers have worked on predictive mapping for human risk. In Orange County, California prevalence in both vectors and humans was best explained by

economic variables, specifically per low income, high population density, and other factors associated with urban underserved communities (Harrigan). When comparing human cases of arboviral disease in the counties of Alabama from 2007-2017, researchers found a significant convergence between the incidence of WNV and poverty rate clustered in the southern part of the state (Bisanzio). Additionally, researchers in Chatham County, Georgia found that those living in minority and indigent communities were 4.5 and 5.5 times more likely to be at risk of West Nile virus than predominately white and wealthy communities (Kollars). The economic impact of the virus on the individual households in these communities can be significant with medical costs varying from \$7,500 to \$25,000 and an overall cumulative cost to the United States of \$778 million in healthcare expenditures and lost productivity from 1999 to 2014 (ScienceDaily). Climate change has and will continue to increase the spread and impacts of pathogenic diseases of people and wildlife, in large part due to the expansion and new movements of the vectors of diseases, e.g. mosquitoes, ticks, and others, (Seebens et al. 2019) and an increase in suitable environmental conditions and habitat of the vectors of these diseases, many of which are non-native invasive species in the United States (Mora et al. 2022).

A third case study can be seen with the invasion of coconut rhinoceros beetles which are native to Southeast Asia but have invaded several Pacific islands including Hawaii, Guam, American Samoa, and others. The coconut tree is the tree of life to people of many Pacific islands. Islanders derive food, shelter, tools and medicine from every part of the plant. In addition to its role as an island cultural icon, the coconut tree is of economic importance providing aesthetic value in the tourism industry and material for local craftsmen. Coconut palms also function as natural infrastructure, by buffering storms, and holding shorelines and soil. The beetles damage and kill coconut palms, resulting in the loss of their modern and the loss of traditional cultural knowledge and practices which may be lost forever. There is no way to quantify the value of the losses, or magnitude of the impacts from invasive species like this. For Hawaii, the advance of these beetles is affecting some underserved communities that are not accurately reflected in either mapping tool.

Like all federal agencies, USDA has been charged with developing and implementing comprehensive equity strategies which includes identifying their underserved communities. One of these communities is the more than 65,000 underserved producers in Oklahoma, according to the 2017 National Agriculture Statistical Survey. One of the more aggressive invasive weeds impacting production is the musk thistle which was introduced to the United States over 150 years ago and has since spread to 40 states. Musk thistle impacts grazing lands in a short amount of time because of its prolific seed production, wind-dispersal, and its spiny stems and leaves which significantly reduces the amount of grazable land, resulting in an economic impact. There is Federal funding specific to Noxious Weeds for Tribes in Oklahoma, however, this process is nationally competitive, resulting in very limited funding awards. In addition, there are no programs available for other underserved communities to address musk thistle, which results in a patchwork of control efforts, rapid reinvasion from neighboring

properties not under control, an inability to plan from year to year, and inefficient use of resources in the short and long term. For many underserved communities, there is a significant education deficit on the impacts of invasive weeds, the direct impacts to agricultural production, and a lack of awareness of how to effectively manage invasive species.

Unlike national datasets on income, poverty, or availability of broadband, there is no national dataset for invasive species, and it is highly unlikely that existing datasets can be combined for the uncountable numbers of invasive pathogens, fungi, plants, and animals, and additional challenges exist. Some, like musk thistle, are too widespread to map, while others like West Nile virus, emerge and recede annually with their vectors, data which may be collected by counties or states for some species and not others. The invasive shothole borer currently occupies a relatively small area, although that doesn't accurately convey the need for prevention in surrounding areas. And then there are underserved communities that use or rely on a resource that is being decimated by an invasive species, yet that resource is most abundant outside of their urban area or neighborhoods, as is the case with coconut rhinoceros beetles in Hawaii. Unfortunately, with countless non-native pathogens, fungi, plants, and animals, many thousands of which become invasive, there are too many invasive species to map or to keep updated as they spread and new ones arrive daily.

Federal agencies are relying on existing data, programs, and experience to identify how to meet the needs of underserved communities, yet from the examples in this paper, the only consistent lesson is that each community will need to be met where they are so that federal agencies may best understand local needs and barriers, and to find culturally-informed, mutually acceptable ways to address them. One example of an agency meeting underserved communities where they are is DOI's direct engagement with territories and relevant federal agency representatives to plan and gather at annual Territorial Climate and Infrastructure meetings in 2022 and 2023. Planning calls were held to meet the needs of Pacific territories' time zones, resulting in multiple late evening meeting times for federal agency leaders. After listening to purchasing and shipping challenges in remote Pacific island territories in 2022, DOI sought approval for a temporary waiver from the Buy America requirement of the Infrastructure Investment and Jobs Act. Federal agencies are applauded for these and similar efforts, and urged to further explore and implement ways to directly and meaningfully engage with and support underserved communities.

The following areas are highlighted as particular needs common to many underserved communities.

### **1. Grants & Grant Processes**

Successful invasive species programs are often determined by the availability of grants and the local capacity to organize, plan, apply for, fiscally administer, manage, and implement a grant and project or program, all of which ends when the grant terms unless additional funding is

received. Grants tend to be awarded to those communities that have a good track record with federal grants, that employ professional grant writers, or that have local capacity to write and administer federal grants according to federal guidelines. This can lead to prioritizing projects based on submitted proposals and can exclude or perpetuate the exclusion of other communities that lack these capacities.

An example of the value of technical assistance and outreach can be seen in the Native American Fish & Wildlife Society's (NAFWS) work. In 2002, NAFWS identified a need within Tribal governmental/natural resource programs to provide technical assistance for the "America the Beautiful Challenge" (ATBC) grant. The need arose out of the complexity of the grant portal and application process and the quick turnaround necessary for drafting a fundable proposal and submitting all of the documents to apply for funding. The NAFWS provided a 7-part ATBC webinar/workshop series that resulted in over 100 participants and 62 Tribes, overall. This outreach resulted in Tribes submitting 31% of the total ATBC funding proposals, and of the 14 Tribes that were awarded funding, 11 had attended and participated in the NAFWS webinar series.

Recommendations include the following:

1. Simplify and clarify grant applications and any online submittal portals
2. Provide materials in the preferred languages of the underserved communities
3. Always provide an alternate submittal option such as secure email for those areas with low bandwidth
4. Stagger the timing of due dates for different grant applications and deliverables.
5. Clarify eligibility requirements including the underserved communities that are being prioritized.
6. Agencies should consider waiving match requirements or allowing in-kind or "earnest effort" documentation in lieu of match requirements wherever possible.
7. Ensure writing assistance is available by providing funding for grant writers or personnel to provide technical writing assistance.
8. Support outreach to, and possibly embedded within, underserved communities to bring their attention to invasive species issues and opportunities, and to listen to the needs and priorities of the community. Local liaisons are key.
9. For a number of underserved communities, there is not enough local capacity for the fiscal administration of federal grants for invasive species-related projects.

As an example of what has been working is USDA's grant opportunities administered through the NRCS with programs such as EQUIP, CSP, RCPP, that can provide assistance to underserved farmers, ranchers, urban agriculture, and tribal lands. Continuing to improve these connections and expanding outreach about other government, corporate, and private grants can help. Without the knowledge that they even exist, these grants are useless.

### **Planning & Programatic Needs**

Although currently prioritized as underserved communities, Native Hawaiians, Pacific islanders, and some others are not federally recognized tribes, which has compounding parity implications. Agencies should consider how equity goals will be met when prioritizing some but not all indigenous tribes. In addition, historic equity disparities continue with women, yet this is not clearly articulated as a priority in the definition.

Separately, climate change and invasive species have direct and indirect negative impacts, and can combine to have synergistic effects on **food security, trade, ecosystem function, public health, natural and cultural resources**, and local and regional **economies**. In most cases, the impacts and effects of these two change-drivers will worsen in the coming years, and will likely be compounded for underserved communities. Planning projects to address either of these issues is difficult, but planning projects to best address a compounding or synergistic issue is well beyond what many underserved communities are used to. Further, the grant opportunities do not encourage or facilitate proposals and projects that work to address both invasive species and climate issues or resilience work.

1. The Council on Environmental Quality and other NISC member agencies should work together to provide materials and tools that can help federal agencies and communities understand these individual and combined effects so that some invasive species or natural resource projects can more clearly be seen as climate or infrastructure projects, or as necessary components of meeting resilience goals.
2. Agencies should focus on supporting and conducting research and actions that recognize and address potential introduction points for invasives species that could have future impacts to underserved communities.

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