

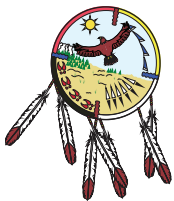
Status of Pesticides in Indian Country Report



October 2020

Tribal Pesticide Program Council

This report was developed under cooperative agreement No. X8-83590701 awarded by the U.S. Environmental Protection Agency to the University of California, Davis Extension.



**Status of Pesticides in
Indian Country Report**

October 2020 FINAL

Developed By The Tribal
Pesticide Program Council



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Status of Pesticides

in Indian

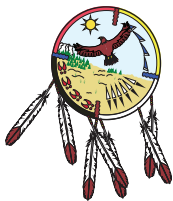
Country Report

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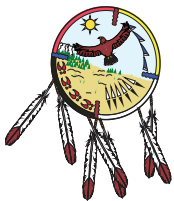
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DISCLAIMER

The Status of Pesticides in Indian Country Report (Report) has been written as part of the activities of the Tribal Pesticide Program Council (TPPC), a tribal partnership group that works with the United States Environmental Protection Agency's (EPA) Office of Pesticide Programs to provide tribes with an opportunity for greater input on issues related to pesticides in Indian country. This Report has not been reviewed for approval by the EPA, and hence, its contents and recommendations do not necessarily represent the views, laws, policies, or positions of the EPA. The views and recommendations expressed in this Report are solely those of the TPPC.



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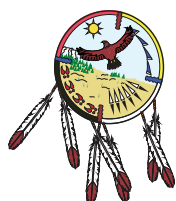


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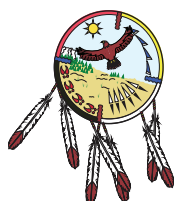
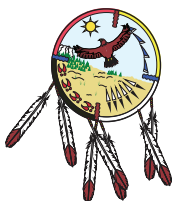


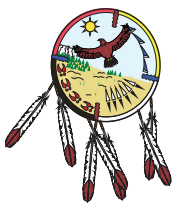
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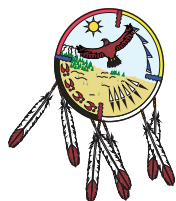
Developed By The Tribal
Pesticide Program Council

THE TRIBAL PESTICIDE PROGRAM COUNCIL AND THE STATUS OF PESTICIDES IN INDIAN COUNTRY REPORT

The Tribal Pesticide Program Council (TPPC) is a member-based organization with more than 66 members and 44 tribes and tribal organizations as of September 2020, whose activities are funded through a cooperative agreement between the U.S. Environmental Protection Agency (EPA) and the University of California-Davis. The TPPC is a tribal technical resource, and program and policy development dialogue group, focused on pesticides issues and concerns. The TPPC assists tribes in building tribal pesticide programs; providing pesticide education and training; researching, developing, and presenting a broad range of tribal pesticide-related issues and concerns; and serving as a resource for tribes interested in specialized issues such as Integrated Pesticide Management and pollinators. It is important to note that the views expressed by the TPPC may not be agreed upon by all tribes. There are 574 federally-recognized tribes whose views and circumstances are unique. Hence, “one size does not fit all.” As such, it is important that EPA and other federal agencies understand interactions with the TPPC do not substitute for government-to-government consultation, which can only be achieved through direct communication between the federal government and tribes.

The TPPC has developed the Status of Pesticides in Indian Country Report for the following reasons:

1. Compile in one place a periodic list of the major pesticide-related issues and concerns that affect Indian country;
2. Educate tribal leadership and the people whom they serve about pesticide-related issues and concerns that may be impacting their individual communities, and what actions might be taken to address these issues and concerns;
3. Educate EPA and other federal agencies about pesticide-related issues and concerns that affect Indian country, and how EPA and these agencies might assist in helping address these issues and concerns in partnership with tribes and the TPPC;
4. Serve as an advocacy tool to be used by tribes, the TPPC, and other individuals and entities wishing to provide justifications for federal budget requests and other related requests on behalf of tribes as they pertain to pesticide-related issues and concerns; and
5. Anyone else who has a genuine interest in Indian country and how pesticide use impacts tribal communities and the environments in which they are located.



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EXECUTIVE SUMMARY

Pesticides play different roles in Indian country such as protecting agricultural crops from pests and diseases, and controlling germs and fungal problems within structural facilities; EPA and tribes each play integral roles in ensuring that pesticides are used properly.

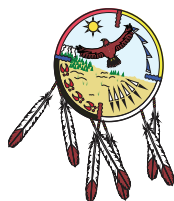
The implementation of federal environmental statutes in Indian country is the responsibility of EPA with program implementation authority retained by EPA in the absence of a federally-approved tribal program. As a means to help fulfill its direct implementation responsibilities, EPA should develop a well-defined communications strategy with tribes to help in relation to direct implementation; establish best management practices for GAP to help tribes use GAP funds more effectively in addressing pesticide-related issues; and provide tribes with discretionary funding and technical resources to engage in direct implementation activities on behalf of EPA.

Risk assessment models are unable to account for unique tribal activities that inadvertently expose tribes to pesticides. These models must be modified to account for tribal exposure scenario pathways, and a tribal partnership with federal agencies must be established to compile the data necessary to run such models.

Funding is an issue EPA and tribes regularly face in support of their efforts to manage pesticide use in Indian country. Tribes, in particular, are constrained financially in what they can do with respect to pesticides, and are often forced to make difficult decisions as a result. Steps that EPA and other federal agencies could take to improve the pesticide-related funding situation include making additional grant funding competitively available to tribes; considering a decrease in the number of required inspections under tribal-EPA cooperative agreements; and assisting tribes in gaining access to other funding sources.

Appropriate pesticide education and training courses are needed for tribes to ensure proper pesticide use on their lands. The effectiveness of these pesticide education and training courses is dependent on the course types, locations, scheduling, notifications, and funding, which necessitate a change to the processes involved for each, and an expansion of the number and types of tribes able to participate in EPA-sponsored training opportunities.

Enforcement and compliance activities are also integral to managing pesticide use in Indian country. Problematic issues involving enforcement and compliance include enforcement referrals, which necessitate a public EPA document that identifies a feedback mechanism regarding tribal enforcement referrals and established timelines for responding to various types of referrals; enforcement measures, which necessitate consideration of complicating factors that can affect a tribe's ability to meet them, and a determination about whether other criteria should be equally accepted with such enforcement measures used by OECA; and jurisdictional issues, which necessitate EPA to identify in the next FIFRA Cooperative Agreement Guidance, and in state cooperative agreements, that state inspectors are prohibited from conducting inspections on tribal lands except under limited circumstances, and working closely with states and tribes to prevent unauthorized inspections on tribal lands and working with tribes to develop guidance on what consideration should be given for treaty-protected resources located on state and federal lands in relation to the pesticides found on or near them.



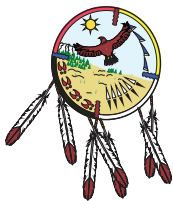
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ACRONYMS USED IN THIS REPORT

AAPCO	Association of American Pesticide Control Officials
BIA	Bureau of Indian Affairs
BMP	Best Management Practice
EPA	U.S. Environmental Protection Agency
ETEP	EPA-Tribal Environmental Plan
FFDCA	Federal Food, Drug, and Cosmetic Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FY	Fiscal Year
GAP	Indian Environmental General Assistance Program
IPM	Integrated Pest Management
MOU	Memorandum of Understanding
OECA	Office of Enforcement and Compliance Assurance
OPP	Office of Pesticide Programs
PREP	Pesticide Regulatory Education Program
PIRT	Pesticide Inspector Residential Training
STAG	State and Tribal Assistance Grants
TPPC	Tribal Pesticide Program Council
USDA	U.S. Department of Agriculture
WPS	Worker Protection Standard



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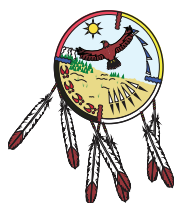
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INTRODUCTION

Pesticides have become a part of everyday life for many of the Nation's 574 federally-recognized tribes and the lands on which they reside and/or depend for safety and protection, economic well-being, common food sources, cultural and subsistence practices, and other purposes. Pesticides serve a very important role in Indian country,¹ although not every tribe subscribes to their use. Pesticide use must be properly managed in order to ensure that tribal communities are not unduly harmed. This necessitates a shared partnership between the U.S. Environmental Protection Agency (EPA), which has direct implementation responsibilities for federal statutes specific to pesticides and tribes. Tribes can enter into cooperative agreements² with EPA to implement a portion of the Federal Insecticide, Fungicide, and Rodenticide Act which allows tribes to enact their own pesticide codes and ordinances to manage pesticide use on their lands. Pesticide use and its impacts vary considerably across Indian country. Unfortunately, the risk assessment models used by federal agencies are limited in how they quantitatively and qualitatively assess the real pesticide exposures and effects to which tribal communities are subjected, particularly with respect to cultural and subsistence activities. Funding is a critical component in helping tribes fund the implementation of pesticide-related activities and programs on their lands. Tribes also require educational and training resources to enable them to effectively implement these activities and programs to the benefit of tribes. To this end, EPA and other federal agencies and tribes will need to work together to ensure that enforcement and compliance activities under federal and tribal law are properly carried out in order to protect the health and safety of tribal communities. This Status of Pesticides in Indian Country Report (Report) identifies the current problematic issues that tribes are facing with respect to direct implementation, risk assessments, funding, education and training, and enforcement and compliance, and correspondingly provides recommended ways to help overcome or mitigate these issues in order to provide the most optimal protection of Indian country from pesticide exposures and their effects.

The Report is imperfect, meaning it is a living document that it is not all-inclusive, and will necessitate periodic updates to include additional pesticide-related topics, and revisions to existing Report sections based on changing circumstances and data. As part of this effort, future versions of the Report will go into more depth about the powerful EPA-TPPC partnership that addresses a myriad of tribal pesticide-related issues and concerns, and the many results-oriented outcomes of this partnership, which include:

- Compilation of a Bed Bug issue paper followed up with a Bed Bug Educational Package including a primer about bed bug biology, a checklist regarding bed bugs for housing residents, top ten bed bug tips, and cost-effective and money-wasting bed bug control methods;



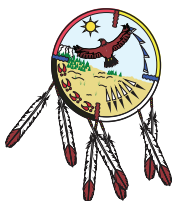
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- Establishment of a Pollinator Protection workgroup to take actions to protect pollinators, to develop guidelines or a template for a tribal pollinator protection plan; and to raise the visibility of the challenges that tribes face as they work to protect pollinators;
- Establishment of a Risk Assessment Workgroup to coordinate with the National Tribal Toxics Council to better understand tribal exposures, to understand the Office of Pesticide Programs risk assessment process and identify the status of inclusion of tribal lifeway exposure scenarios and data, and to educate Office of Pesticide Programs risk assessors about tribal lifeways;
- Establishment of a Direct Implementation Workgroup to learn and understand about EPA’s direct implementation responsibilities under the Federal Insecticide, Fungicide, and Rodenticide Act as well as current EPA happenings, and to identify the current baseline of activities (e.g, enforcement, number of tribes with cooperative agreements with coverage, number of tribes interested in obtaining cooperative agreements); and
- Development of a first-class website that serves as a comprehensive clearinghouse for tribal pesticide-related issues.

The TPPC hopes that the reader finds this Report to be beneficial, and that this Report accurately conveys the issues contained herein that tribes are currently facing with respect to pesticides.



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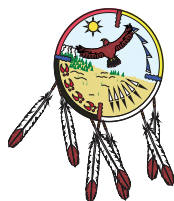
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SECTION 1. DIRECT IMPLEMENTATION FOR PESTICIDES

1.1 Introduction for Direct Implementation for Pesticides

There are over 300 Indian reservations in the United States whose total land area is approximately 55 million acres.³ These reservations range in size from less than one acre for some California Rancherias up to 17 million acres for the Navajo Nation.⁴ In addition, some tribes also co-manage off-reservation lands with other tribes and public agencies, which lands are more commonly known as “Ceded Territories” and “Usual and Accustomed Areas” and comprise more than 38 million acres.⁵ Tribal lands also consist of sizable amounts of agricultural, forested, and range and grazing lands; contain over 10,000 miles of streams and rivers and more than 730,000 acres of lakes and impoundments; and provide vital habitats for more than 525 federally listed animals and plants and animals, many which are ecologically and culturally significant to tribes.⁶

The implementation of federal environmental statutes in Indian country is the responsibility of EPA with program implementation authority retained by EPA in the absence of a federally-approved tribal program.⁷ The TPPC has concerns about EPA’s ability to meet these direct implementation responsibilities with EPA having limited resources to do so, but also understands that EPA has an obligation to protect human health and the environment. It is because of this that this section seeks to more clearly identify the pesticide-related statutes for which EPA has direct implementation responsibilities, the problematic issues that may be preventing EPA from wholly meeting these direct implementation responsibilities, and several recommendations to better help EPA meet its direct implementation responsibilities regarding pesticides.



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1.2 Overview of Direct Implementation for Pesticides

1.2.1 Federal Statutes and Corresponding Requirements

Two primary statutes under which EPA has direct implementation responsibilities for pesticides are the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and the Federal Food, Drug, and Cosmetic Act (FFDCA).

The direct implementation responsibilities of EPA under FIFRA include:

- Pesticide registration and use;
- Registration of pesticide producing establishments;
- Compliance assurance and enforcement; and
- Certification of restricted use pesticide applicators.

The direct implementation responsibilities of EPA under FFDCA include:

- Establishment of tolerances and exemptions of pesticide chemical residues used in or on food and animal feed.

However, compliance assurance and enforcement are the focus of this section regarding EPA's direct implementation responsibilities.

Under FIFRA, EPA is responsible for conducting inspections and taking appropriate enforcement actions. EPA is responsible for enforcing when pesticides are not used in accordance with their labels. If states have adopted adequate pesticide use laws and regulations, FIFRA gives primary enforcement responsibility to states for such use violations (this is known as primacy) if they:

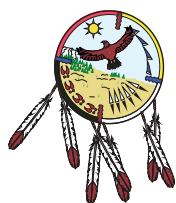
- Have adopted adequate pesticides use laws and regulations;
- Have adopted and are implementing adequate enforcement procedures for such laws and regulations; and
- Keep records that show compliance with these pesticides use laws and regulations and corresponding enforcement procedures.

Every state has retained this primacy except for the State of Wyoming with which EPA has entered into a partnership to meet its direct enforcement responsibilities. Tribes, on the other hand, do not have primacy under FIFRA. In Indian country, EPA has pesticide program implementation and enforcement authority, and partners with tribes to support this authority.

1.2.2 EPA Approach to Direct Implementation

The activities in which EPA engages to meet its direct implementation responsibilities regarding pesticides are based on a number of factors including national and regional EPA program priorities and commitments as prescribed by its National Program Guidances,⁸ various EPA documents such as the 2015 Compliance Monitoring Strategy,⁹ current and ongoing obligations of EPA, and

In Indian country, EPA has pesticide program implementation and enforcement authority, and partners with tribes to support such authority



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specific requirements attached to funding. However, EPA also uses several other vehicles to help meet its direct implementation responsibilities, which vehicles include EPA-Tribal Environmental Plans (ETEPs), the Indian Environmental General Assistance Program (GAP), and the EPA National Pesticide Program.

An ETEP is jointly developed by EPA and a tribe and outlines how both parties will work together to identify and develop a plan to support a tribe's environmental goals within the context of all EPA tribal programs. ETEPs institutionalize a joint EPA-tribal strategic planning process to identify each tribe's intermediate and long-term program development goals, including a tribe's plan to administer EPA-authorized environmental regulatory programs for addressing the issues being faced by the tribe. The ETEP, which is intended to support the "Enhance Shared Accountability" objective of the current EPA Strategic Plan,¹⁰ also helps the parties make informed decisions on how to best allocate the financial and technical resources available to address these priorities and issues.

ETEPs also help to support a tribe's environmental goals under GAP. GAP is intended to help a tribe build capacity for environmental activities and programs, which activities and programs, if implemented, directs funds toward building environmental program capacities consistent with those priorities and goals. As noted elsewhere in the Report, the limited amount of GAP monies available should cause tribes to be very purposeful for what they use their GAP funds, since these funds must be divided among a number of environmental needs including those specific to pesticides.

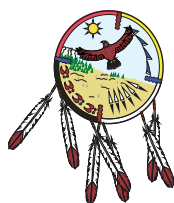
The EPA National Pesticide Program protects human health and the environment susceptible to pesticide exposure through outreach, technical assistance, pesticide product registration and registration review programs, and compliance and enforcement programs.¹¹ It is through this program that both the efforts of EPA and tribes are incorporated. Tribes have sovereign inherent authority to establish pesticide codes and ordinances under which they are authorized to take appropriate enforcement action against individuals or entities failing to comply with such codes and ordinances. An Enforcement Cooperative Agreement may be used to support all activities that are included in tribal pesticide codes, including those not specifically supporting FIFRA requirements, so long as these activities have a clear connection to pesticide management. A number of tribes have adopted pesticide codes and ordinances, but some of these and other tribes have also entered into FIFRA cooperative agreements with their respective EPA regional offices, which agreements serve as a means to help EPA fulfill its direct implementation responsibilities regarding pesticides.

The EPA National Pesticide Program protects human health and the environment susceptible to pesticide exposure through outreach, technical assistance, pesticide product registration and registration review program, and compliance and enforcement programs

1.2.3 Supportive EPA Activities

EPA also engages in number of activities with tribes, which activities are supportive of EPA's direct implementation responsibilities regarding pesticides. These activities include:

- Education and outreach on such topics as pesticide safety and control and pesticide alternatives;
- General and specific pesticide-related training (e.g., bed bugs, pollinator plans);



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- Answering tribal questions on various pesticide-related issues;
- Helping develop tribal pesticide codes and pesticide-related plans;
- Providing tribes with pesticide-related technical assistance on such matters as evaluating analytical results from water samples;
- Exploring unique pesticide exposure concerns for tribes; and
- Responding to tribal requests for assistance.

Further, for some of these activities, such as education and outreach and general and specific training, EPA has regularly provided tribes with the financial and technical resources to lead the activities themselves.

1.3 Problematic Direct Implementation Issues for Pesticides

Federal funding and the size and expanse of Indian country are arguably two of the more problematic issues with which EPA must contend in meeting its direct implementation responsibilities regarding pesticides. They are also issues not easily overcome.

Federal funding or the lack thereof is a regular topic of concern for tribes which are expected to do much in addressing their pesticide-related needs and concerns with very little corresponding funding support. Unfortunately, EPA finds itself in the same proverbial boat. The Congressional appropriations made available to EPA for its pesticide program pales in comparison to EPA's other environmental program counterparts (e.g., air, water). This also cannot be overcome by the GAP funding provided to tribes, which funding is specific to capacity building and not implementation of pesticide programs or activities. As such, absent a sudden and surprising influx of funding, which funding helps EPA to hire staff to support direct implementation, the EPA pesticide program will be constrained by what it can accomplish in meeting its direct implementation responsibilities regarding pesticides.

EPA's ability to fulfill its direct implementation responsibilities regarding pesticides is complicated by the size and expanse of Indian country and several related factors. First, as noted earlier, the land area size of tribes varies greatly throughout Indian country. This can make it difficult for EPA to come up with a uniform approach to follow in meeting its direct implementation responsibilities, understanding that the means to meet these responsibilities for a reservation of less than five acres will greatly differ for another reservation many thousands of acres in size. Second, and by extension, each tribe has its own unique needs and concerns based on such factors as land size, population, location, geography, and land use. In particular, the means for fulfilling these direct implementation responsibilities of EPA for a tribe whose lands are primarily agriculture will likely be a lot different than a tribe with little to no agriculture present on its lands. Third, the federal funds apportioned to each EPA region for pesticides unlikely account for the number of tribes located therein and their specific needs related to direct implementation. More specifically, an EPA region with more than 100 tribes is likely to have a disproportionately smaller amount of financial and technical resources available to it for direct im-

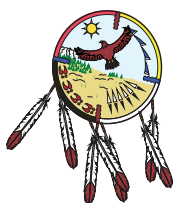




Photo: Dusan Kostic / Adobe Stock

plementation activities regarding pesticides compared to an EPA region with less than ten tribes. Fourth, the majority of tribal pesticide programs or environmental programs with pesticide components are likely to find themselves unable to enter into cooperative agreements or other agreements to assist EPA in meeting its direct implementation responsibilities regarding pesticides due to their size and limited resources. As such, EPA is forced to bare these responsibilities largely on its own. Fifth and final, there are other tribal lands outside of reservations, such as the Ceded Territories and Usual and Accustomed Areas referenced earlier, in addition to other tribal treaty rights giving tribal members access to certain federal lands,

which lands are exposed to pesticides, but still necessitate that EPA meet its direct implementation responsibilities regarding pesticides for these lands.

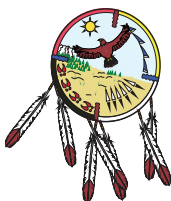
1.4 Recommended Actions to Help Overcome Problematic Direct Implementation Issues for Pesticides

The aforementioned problematic issues regarding direct implementation cause the TPPC to conclude that no particular uniform approach exists that EPA can use to wholly meet its direct implementation responsibilities regarding pesticides within Indian country, particularly when faced with federal funding constraints. Instead, the TPPC recommends several approaches that EPA can use in partnership with tribes to better meet, but unlikely fully achieve, its direct implementation responsibilities. These recommended approaches include development of a well-defined communications strategy between EPA and tribes; the establishment of best management practices by EPA for GAP; and the transferring of discretionary EPA monies to tribes to allow them to engage in direct implementation activities on behalf of EPA.

1.4.1 Communications Strategy

As noted above, EPA’s ability to meet its direct implementation responsibilities in Indian country is complicated by several factors beyond the general size and expanse of Indian country, including:

- Variations in land area size of each tribe;
- Unique needs and concerns of each tribe and its environment based on land size, population, location, geography, and land use;
- Disproportionate tribal funding for each EPA region;
- Limited ability of individual tribes to enter into cooperative agreements with EPA based on their size and resources; and
- Tribal lands outside of reservations.



Each of these factors have their own nuances which further complicates EPA's ability to meet its direct implementation responsibilities regarding pesticides. A first and substantive step in helping address these factors in the context of its direct implementation responsibilities would be EPA's development of a well-defined communications strategy between EPA and tribes. Such a strategy would encompass some of the following expectations:

- Identify appropriate contacts with whom to communicate;
- Build a level of trust and understanding;
- Collect feedback from tribes;
- Share knowledge and resources;
- Build partnerships between EPA and tribes and tribal consortia;
- Connect with other EPA media programs and university extension agents;
- Tour reservations and other tribal lands;
- Provide training on compliance and other pesticide-related topics; and
- Participate in routine compliance assistance and inspections.

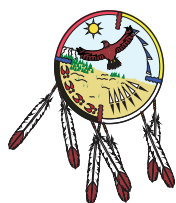
Further, this communications strategy and its expectations would need to be tailored to each EPA region since the pesticide-related issues contained therein will vary.

1.4.2 Best Management Practices for GAP

Given federal funding constraints, the establishment of best management practices (BMPs) by EPA for GAP would help tribes to better use GAP funds to address pesticide-related issues and correspondingly help EPA meet its direct implementation responsibilities regarding pesticides. The BMPs would help increase efficiency for tribes with the inclusion of new tools, databases to better target inspections, and recommended offsite activities to help supplement inspections (e.g., record reviews); and promote partnerships with other EPA



Photo: cherryandbees / Adobestock



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sections and federal agencies (e.g., Bureau of Indian Affairs (BIA), U.S. Department of Agriculture (USDA)) and organizations (e.g., university extensions) to engage in direct implementation activities and provide related support. Further, the BMPs would account for various pesticide-related scenarios such as tribes with lands heavily laden in agricultural lands and other tribes with a landscape largely consisting of structural facilities. These BMPs would also be timely as EPA is working on a revision to its current GAP Guidance,¹² which revision the TPPC finds must include measures for programs and successes.

1.4.3 Additional Resources for Tribes

Several tribal pesticide staff members have communicated to the TPPC that the tribes they serve do not want EPA on their lands to engage in any pesticide-related activities, direct implementation or otherwise. However, these same tribes would be willing to accept discretionary financial and technical resources from EPA, if such resources exist, to allow their tribal pesticide staff members to develop activities and programs to engage in direct implementation activities on behalf of EPA regarding pesticides. Further, these tribal pesticide staff members would likely know better than EPA staff on how to carry out such activities in a manner that does not adversely impact or expose the historical and cultural aspects of their tribes. Alternatively, EPA could seek out cooperative agreements with tribes willing to serve as hosts for circuit riders with each circuit rider serving several tribes in carrying out direct implementation activities regarding pesticides. Fortunately, there are several circuit riders in Indian country whose operational framework could serve as the model for additional circuit riders.

1.5 Conclusion for Direct Implementation for Pesticides

Direct implementation of federal environmental laws in Indian country regarding pesticides is the responsibility of EPA. The effort to ensure that EPA is meeting this responsibility must be increased more rapidly to better protect the health of tribal members. In meeting its direct implementation obligations, EPA must account for the various size and types of tribal lands and the number of tribes and natural resources located thereon, and avoid a “one size fits all” approach. In reality, EPA and tribes must think “outside the box” with respect to direct implementation, understanding that they are constrained by a limited amount of funds to conduct such implementation. Recommendations made herein by the TPPC about EPA’s direct implementation responsibilities regarding pesticides, such as development of a well-defined communications strategy and establishment of BMPs for the use of GAP funds regarding activities that support direct implementation, can help EPA to better meet its direct implementation responsibilities, even with no changes in the amount of the financial resources available to it.

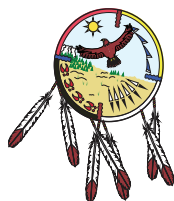




Photo: John Pinson / California Indian Basketweavers' Association

SECTION 2. RISK ASSESSMENTS FOR PESTICIDES

2.1 Introduction for Risk Assessments for Pesticides

The risk of pesticide exposures and their effects on tribes and its members is a real and serious issue as Lydia of the San Luis Rey Luiseno – Mission Indians describes:

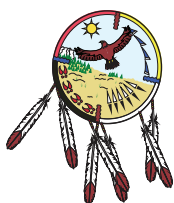
“I was gathering sedge in Fallbrook (San Diego County, California) about 10 years ago, in an area where spraying was done on poison oak approximately three years prior. I had my eyes swollen shut by 6 pm, and major facial swelling for approximately five days. I went to the emergency room for immediate treatment with steroids. The sedge I had gathered was trashed and juncus has since grown over the area, but we do not gather juncus in that area anymore.”

Lydia is part of a larger community of tribal basketweavers who gather basket materials on a regular basis. These basketweavers are concerned that they could be exposed to agricultural pesticides and sterilants through runoff and roadsides near gathering places, which products are of a higher toxicity than home, lawn, and garden products. Basketweavers prepare basket materials for weaving by peeling the bark from shoots or roots with their teeth, and use these same teeth as a third hand, chewing the ends of sticks as they are added to a basket. Through these activities, basketweavers could unknowingly be exposed to pesticides applied to the bark, and could be at increased risk of ingesting them. The baskets themselves are used for ceremonial purposes, cooking, eating, hats, and baby carriers and rattles, further increasing the potential pesticide exposure pathways for tribal members. In turn, these members have experienced such reactions as breathing difficulty, dizziness, nausea, and skin swelling, in addition to losing parts of their tongues, throats, and teeth,¹³ from an activity in which they have engaged their entire lives.

Pesticides can and do have deleterious effects on tribal communities. Tribes oftentimes face disproportionate health and environmental effects from pesticide exposures through cultural and subsistence activities. Cultural activ-

[B]asketweavers are concerned that they could be exposed to agricultural pesticides and sterilants through runoff and roadsides near gathering places, which products are of a higher toxicity than home, lawn, and garden products

Tribes oftentimes face disproportionate health and environmental effects from pesticide exposures through cultural and subsistence activities



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Photo: John Pinson / California Indian Basketweavers' Association

ities may depend on the purity of waters, plants, and other resources, much of which have become tainted by pesticides. Subsistence activities such as the gathering of plants and fishing, and big game hunts for religious, cultural, or spiritual purposes, have also been impacted by the deposition of pesticides onto tribal lands and into water bodies. Not only are these activities highly sensitive to pesticide applications, but tribal members are often exposed at a rate higher than that found in the general U.S. population.¹⁴

The cultural and subsistence activities of many tribes which have existed since time immemorial are integral to their existence as a people. Risk assessment models should be clear about what pesticide risks that tribes may be facing as a result of these activities so they can act accordingly. This is not the case. In this section, the TPPC identifies certain problems with current risk assessment models that cause them to be unrepresentative to what is happening in Indian country regarding pesticide exposures and effects; and offers several recommendations to help overcome these problems in order to more accurately assess the pesticide exposures and effects to which tribal members are subjected based on the particular activities in which they are involved at any given time, including cultural and subsistence activities. These are also items that have been and continue to be a significant focus of a Risk Assessment Workgroup which consists of both TPPC members and EPA staff.

2.2 Overview of Risk Assessments for Pesticides

A risk assessment is a particular process whose intent is to estimate the risk to a target human population or ecological resource (e.g., animal, plant, water) based on exposure to a specific pesticide. The purpose of the risk assessment is to determine the exposure level of a pesticide that can be tolerated by a human being, for example, before his or her health is harmed, and serves as the basis for setting an allowable tolerance level for the pesticide if approved for registration. Much of the focus of a risk assessment is on quantitative data, i.e., numeric, with relatively little attention given to qualitative data, i.e., non-numeric.

Risk assessments typically fall into one of two categories - human health or ecological.

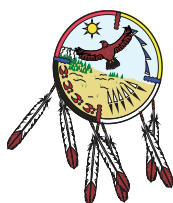
Key elements for development of an EPA risk assessment to inform decision making regarding human health are as follows:

Planning and scoping

A process for conducting the risk assessment where its general scope is defined. This activity contributes to the development of a sound risk assessment in understanding the context of the risk assessment and the intended use of its results.

Problem formulation

The analytical considerations of the issue being assessed identifies the



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major factors to be considered in a specific assessment, thus informing the technical approach. The outcome includes conceptual model(s) that describe the linkages between stressors and adverse human health effects, including exposure pathway(s), exposed lifestage(s), population(s), and endpoints that will be addressed in the risk assessment.

Risk assessment

1. Exposure and effects of assessment

This is a core component of a risk assessment that reflects the considerations identified in the problem formulation. The parallel core component, effects assessment, includes hazard identification and dose-response assessment. Susceptible or more highly exposed populations may be identified in these assessments, when relevant information is available.

2. Risk characterization

This step of the risk assessment, in which the exposure and effects assessments are integrated, provides risk managers with risk estimates and a useful, synthesized set of conclusions about the risk. It is intended to adhere to four principles: transparency, clarity, consistency, and reasonableness.

Public, stakeholder, and community involvement

Input from the public is sought and considered at various stages throughout the process. Such input is essential to EPA in fulfilling its mission to protect human health and the environment.

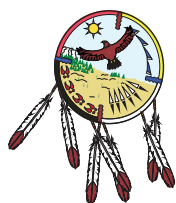
Information decisions

The goal of the risk assessment team is to provide a comprehensive assessment for a range of possible risk management options. The description of the decision should clarify how the risk assessment and other factors informed the decision.

Ecological risk assessments evaluate the ecological effects caused by human activities such as draining wetlands or the release of chemicals. The framework is conceptually similar to the approach used for the human health risk assessment, but it is distinctive in its emphasis in three areas. First, an ecological risk assessment can consider effects beyond the individuals of a single species and may examine a population, community, or ecosystem. Second, there is no single set of ecological values to be protected that can be generally applied. Rather, these values are selected from a number of possibilities based on both scientific and policy considerations. Finally, there is an increasing awareness of the need for ecological risk assessments to consider nonchemical as well as chemical stressors.



Photo: Graham Forrester / Adobe Stock



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2.3 Problematic Risk Assessment Issues for Pesticides

Pesticide exposures and their effects are a growing problem in Indian country and are often related to the cultural and subsistence practices that the current risk assessment models used by federal agencies do not always consider.

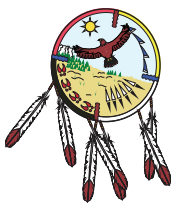
Culturally relevant plants are being lost by tribal communities for various reasons with pesticides playing a key role. Many of these plants cannot withstand the toxicity levels of pesticides products, such as glyphosate, that are applied to agricultural and other lands for pest and weed control, and reach the plants through drift and runoff. Further, the lands on which these culturally relevant plants have been typically found are being replaced by pesticide-resistant crops, such as genetically modified organic corn, soy, and beans; and weeds and other invasive species such as Kochia,¹⁵ leading to an increase in pesticide applications on these lands. In addition, a number of tribes and their members are engaged in such subsistence activities as hunting by which the wild animals (e.g., deer, elk, moose) that they harvest may have likely entered onto agricultural or other lands to eat forbs and grasses that have been treated with pesticides. Once eaten, the pesticides in these animals' systems may likely be enhanced by bioaccumulation and biomagnification, which animals are subsequently ingested by tribal members.

2.3.1 Failure of Risk Assessment Models to Consider Tribal Pesticide Exposure Scenario Pathways

The pesticide exposure scenario pathways specific to tribes must be understood in order to complete risk assessments that more accurately show how tribal members are exposed to pesticides and to what degree. Tribal pesticide exposure scenario pathways include economic, recreational, cultural, and subsistence activities. Cultural and subsistence pathways, in particular, are not well-recognized or accounted for in risk assessments models. Example of the activities associated with these pathways include:

- Hunting and fishing;
- Gathering of materials for making baskets and other weaving, arts, tools, clothes (using feathers, skin, bones, hides, oils, antlers, wood or stone carvings);
- Collection and use of edible and medicinal resources;
- Preparation of traditional materials, including cleaning in surface water and other activities such as chewing sinew and fish skins for additional uses;
- Consumption of plants gathered and animals collected locally, including non-standard consumption such as fish skins, fats, and other parts of animals not readily available in the supermarket;
- Smoking of hides, burning out canoes, and cultural burning to stimulate material production; and

Cultural and subsistence pathways, in particular, are not well-recognized or accounted for in risk assessments models



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- Engaging in ceremonial activities that generate smoke (e.g., fire, sage).

The extent of pesticide exposures involved with these activities is further accentuated by their location and intensity. The gathering of wild foods, medicine, and materials can occur in such places as marshes, public lands, streambeds, and utility rights-of-way where pesticide applications are likely to have occurred, and which places unlikely contain signage about reentry times after pesticide applications. These are also places that federal agencies would unlikely be aware of the edible and/or useful resources of tribes contained therein or how they might be culturally important to tribes. Further, not every tribe is inclined to share information with federal agencies about the activities that occur in certain places based on their cultural sensitivity. In addition, tribal gatherers likely spend longer or more frequent periods of times in these locations which ultimately expose them to pesticides in greater amounts than the general population.

As a result, the current risk assessment models used by federal agencies do not account for tribal pesticide exposure pathways and their related effects. More specifically, these risk assessment models fail to account for the various cultural and subsistence activities in which tribes engage that can cause a higher level of pesticide exposure compared to the general population.

Federal agencies should consider pesticide exposures and how their effects are a growing problem in Indian country

2.3.2 Lack of Tribal Data Concerning Pesticide Exposures and Effects

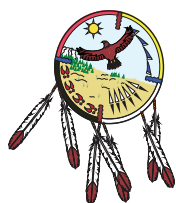
The success of risk assessment models, in general, is also impacted by the data to which they have access. Unfortunately, there is a substantial data gap in Indian country with respect to pesticide exposures and effects. This data gap cannot be filled by extrapolating tribal data from the general population since the general population does not engage in the type of cultural and subsistence activities in which many tribes engage and at varying levels. As such, the ability of risk assessment models to determine pesticide exposures and effects in Indian country, even if they are improved to consider tribal cultural and subsistence activities, will fall short until they have sufficient data on which to base their assessments.

2.4 Recommended Actions to Help Address Problematic Risk Assessment Issues for Pesticides

The TPPC finds that current risk assessment models must be updated to account for tribal pesticide exposure scenario pathways, and that a partnership between federal agencies and tribes to secure data input for these models is a necessity in order to better understand the exposures and effects of pesticides on tribes and their environment.

2.4.1 Integrate Tribal Pesticide Exposure Scenario Pathways into Federal Risk Assessment Policies and Procedures and Risk Assessment Models

Federal agencies should consider pesticide exposures and how their effects are a growing problem in Indian country. In addition, risk assessors should work to better understand cultural and subsistence practices that may be impacted by pesticides, and work towards more inclusion of tribally rele-



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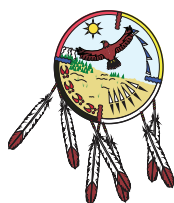
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vant information in current risk assessment models. To this effect, the TPPC recommends that the following tribal exposure scenario pathways (examples of activities under each pathway),¹⁶ previously identified by the National Tribal Toxics Council with which the TPPC has a productive working relationship on such matters, should be considered in ascertaining the effects of pesticides on tribal communities:

- Tribal Lifeways
 - Hunting and fishing;
 - Farming and ranching;
 - Gathering activities;
 - Preparation of traditional materials including mouthing of such materials;
 - Collection and use of edible and medicinal resources;
 - Consumption of plants gathered and animal collected locally; and
 - Ceremonial activities.
- Exposure Scenarios (e.g., inhalation, oral, and/or dermal)
 - Contaminated air;
 - Contaminate water; and
 - Contaminated soil.
- Geographic, Economic, and Technological Characteristics
 - Occupation;
 - Housing;
 - Waste management; and
 - Commercial product use.

The TPPC also recommends that the risk assessment models be modified further to enable the use of qualitative data, which data will help to paint a better picture of the pesticide exposures and corresponding effects that a tribe and its environment could be subject.

Finally, federal agencies should work with tribes to identify specific case studies against which the modified risk assessment models containing tribal pesticide exposure scenario pathways can be tested. Fortunately, such an effort is already underway by the TPPC-EPA Risk Assessment Workgroup that has identified several case studies with corresponding data that it will likely use in testing these models.



2.4.2 Compile Tribal Data for Risk Assessments of Tribal Pesticide Exposure Scenario Pathways

As noted above, risk assessment models, even if they are revised to incorporate tribal pesticide exposure scenario pathways, will fail without adequate data. As such, the TPPC recommends that federal agencies and tribes establish a partnership for the purpose of obtaining and making use of available quantitative and qualitative data for these risk assessment models. Further, this partnership should put certain safeguards in place to ensure that a tribe's data shared with federal agencies remains confidential if the tribe so wishes, i.e., the data must not be made publicly available nor subject to Freedom of Information Act requests by third parties.

In addition, the TPPC understands there are some tribes that would prefer to conduct their own risk assessments for various reasons including the desire to keep certain cultural activities and locations private. However, these tribes would likely require training in the risk assessments to be used and additional financial and technical resources to complete the actual risk assessments. The TPPC therefore recommends that federal agencies work with such tribes in finding them the requisite resources to support this training and the actual risk assessments.

2.5 Conclusion for Risk Assessments for Pesticides

The risk at which tribes and their communities are placed with respect to pesticide exposures and effects must not be taken lightly. Cultural and subsistence activities in which tribes have engaged for centuries could currently be exposing tribal members to pesticides at levels hazardous to their health. Unfortunately, the current risk assessment models used by federal agencies, i.e., human health and ecological models, do not consider the pesticide exposure scenario pathways of tribes, which can vary greatly among the Nation's 574 federally-recognized tribes, particularly with respect to cultural and subsistence activities. Further, these risk assessment models require sufficient input data in order to help prove what is or is not occurring with respect to pesticide exposures and effects on human beings and the environment, which data exists to only a limited degree for Indian country. Nevertheless, the TPPC finds that the shortcomings of the current risk assessment models with respect to Indian country can be overcome by specific integration of tribal pesticide exposure scenario pathways, and establishment of a tribal partnership with federal agencies that is focused on compiling quantitative and qualitative data for these models. This, in turn, will help federal agencies and tribes to identify and implement optimal approaches for eliminating or mitigating the exposure and effects of pesticide on Indian country and its tribes.

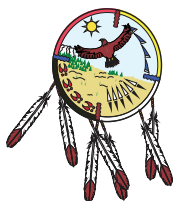




Photo: Elena Digilevich / Adobe Stock

SECTION 3. PESTICIDE FUNDING

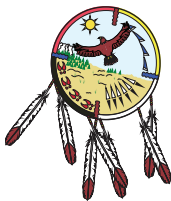
3.1 Introduction for Pesticide Funding

Funding for assessing the need and implementation of pesticide activities and programs is a critical concern for tribes. A number of tribes require or desire the establishment of pesticide programs, and funding is necessary for tribal programs to be fully successful. Absent funding, tribes can find themselves in a precarious situation where they do not have a clear understanding about the pesticides in and near their communities, and the adverse impacts that such pesticides may be having on tribal members and the environment in which they reside, because they are unable to fund a pesticide use assessment to determine how pesticides are being used, handled, stored, and disposed of within their communities. However, with funding, tribes can be proactive in helping to mitigate and prevent these impacts. As such, it is important to understand the current funding situation for tribes with respect to pesticide-related activities and programs, identify problematic funding issues for tribes, and recommend actions to help overcome these problematic funding issues.

3.2 Overview of Pesticide Funding

Funding support for tribal pesticide-related activities and programs is provided by tribes, state entities, and several federal agencies. However, the primary source of this funding comes from EPA, which is the focus of the TPPC in this Report. Further, states and tribes share in the effort of addressing pesticide-related issues that have cross-border impacts, such as agricultural runoff and spray drift. Nevertheless, there is a real disparity between what funding that states and tribes receive to support their pesticide-related activities and programs, with states receiving a larger allocation of funding due to having primacy which allows them to have expanded enforcement authority.

A number of tribes require or desire the establishment of pesticide programs, and funding is necessary for tribal programs to be fully successful



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3.2.1 EPA Funding

Under FIFRA, there are two primary EPA funding sources for tribal pesticide-related activities and programs managed by the Office of Pesticide Programs (OPP) and Office of Enforcement and Compliance Assurance (OECA). GAP, managed by the Office of International and Tribal Affairs with EPA Regions, provides grants to tribes to build their capacity to plan, develop, and establish environmental protection programs, including those specific to pesticides. For example, several tribes have conducted pesticide use assessments paid with GAP funds.

FIFRA programs seek to assist tribes in developing and maintaining comprehensive pesticide programs that address all aspects of pesticide enforcement and special pesticide initiatives with funding provided through OPP and OECA. OPP provides funds to tribes for administration and program management activities such as pesticide education, training, and technical assistance, with Table 1 representing a typical funding year for OPP; Table 1 also includes funding for the TPPC Cooperative Agreement which is described in a preceding section of this Report titled, “The Tribal Pesticide Program Council and the Status of Pesticides in Indian Country Report.” In addition, EPA provides State and Tribal Assistance Grants (STAG) funds to and through EPA regions to tribes for the development and implementation of pesticide programs under tribal law and for pesticide enforcement and compliance assistance activities.

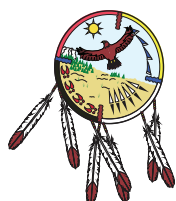
OPP provides funds to tribes for administration and program management activities such as pesticide education, training, and technical assistance

EPA provides State and Tribal Assistance Grants funds to and through EPA regions to tribes for the development and implementation of pesticide programs under tribal law and for pesticide enforcement and compliance assistance activities

Table 1. OPP Tribal Funds for Fiscal Year 2019

Funding Type	Administered By	Funding Amount
TPPC Cooperative Agreement	OPP	\$195,000
Tribal Cooperative Agreement Funds	EPA Regions	\$908,000
Training Funds for PREP Attendance	OPP	\$35,000
Total		\$1,138,000

In May 2019, OECA staff informed the TPPC that EPA had provided \$1,290,000 each year for the preceding three years to fund tribal cooperative agreements in EPA Regions 5, 8, 9, and 10. Table 2 below shows the current number of tribes and tribal consortia with FIFRA cooperative agreements with EPA, and the number of tribes served by each of these agreements.



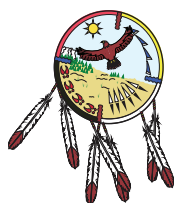
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Table 2. List of EPA/Tribal FIFRA Cooperative Agreements

EPA Region	Tribal Grantee	Number of Tribes Covered
2	Saint Regis Mohawk Tribe	1
5	White Earth Band of the Minnesota Chippewa Tribe	1
6	Inter-Tribal Environmental Council/Cherokee Nation	43
6	Eight Northern Indian Pueblos Council	22
8	Cheyenne River Sioux Tribe - Lower Brule Sioux Tribe of the Lower Brule Reservation, South Dakota - Crow Creek Sioux Tribe of the Crow Creek Reservation, South Dakota - Turtle Mountain Band of Chippewa Indians of North Dakota - Spirit Lake Tribe, North Dakota - Flandreau Santee Sioux Tribe of South Dakota - Sisseton-Wahpeton Oyate of the Lake Traverse Reservation, South Dakota - Yankton Sioux Tribe of South Dakota	8
8	Confederated Salish and Kootenai Tribes of the Flathead Reservation - Blackfeet Tribe of the Blackfeet Indian Reservation of Montana - Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation, Montana - Crow Tribe of Montana	4
8	Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation, Montana	1
8	Oglala Sioux Tribe	1
8	Rosebud Sioux Tribe of the Rosebud Indian Reservation, South Dakota	1
8	Standing Rock Sioux Tribe of North & South Dakota	1
8	Three Affiliated Tribes of the Fort Berthold Reservation, North Dakota	1
9	Navajo Nation, Arizona, New Mexico & Utah	1
9	Cocopah Tribe of Arizona	1
9	Colorado River Indian Tribes of the Colorado River Indian Reservation, Arizona and California	1
9	Ak-Chin Indian Community	1
9	Shoshone-Paiute Tribes of the Duck Valley Reservation, Nevada	1
9	Gila River Indian Community of the Gila River Indian Reservation, Arizona	1
9	Quechan Tribe of the Fort Yuma Indian Reservation, California & Arizona	1
9	Inter Tribal Council of Arizona	21
9	Salt River Pima-Maricopa Indian Community of the Salt River Reservation, Arizona	1
10	Confederated Tribes and Bands of the Yakama Nation	1
10	Coeur d'Alene Tribe - Spokane Tribe of the Spokane Reservation - Kalispel Indian Community of the Kalispel Reservation - Nez Perce Tribe - Kootenai Tribe of Idaho - Confederated Tribes of the Colville Reservation	6
Total	22	120



The funds available under FIFRA and GAP are set by annual Congressional appropriation levels. In fiscal year (FY) 2020, the federal budget for GAP was \$65.476 million dollars (Table 3), which is hardly enough to build capacity or open opportunities for tribes if they are interested in developing new pesticide programs.

Table 3. Indian Environmental General Assistance Program Appropriations: 2016-2020

Fiscal Year	Funding Amount
2016	\$64,880,000
2017	\$64,340,000
2018	\$63,981,000
2019	\$63,343,000
2020	\$65,476,000

Further, most tribes include cost of living adjustments and indirect cost rates in the budgets that they develop for their respective pesticide activities and programs in order to help pay tribal staff a living wage and to provide sufficient administrative support for these activities and programs. However, neither FIFRA nor GAP funds appropriated by Congress specifically account for cost of living adjustments and indirect cost rates, meaning that tribes must divert programmatic funding for pesticide activities and programs to cover these adjustments and rates. This can cause tribes to make difficult choices such as having to significantly reduce the number of staff members or hours devoted to pesticide-related issues.

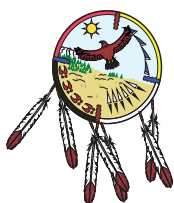
In addition, funding levels for current tribal programs having EPA cooperative agreements under FIFRA remained static from FY 2007 to FY 2012, with funding reductions beginning in FY 2013. Part of these funding reductions may be attributable a decrease in Congressional appropriations. However, the TPPC finds that increased funding in general for EPA cooperative agreements is necessary, particularly based on comments that it has heard from tribal inspectors who find themselves hard-pressed to fulfill their EPA-assigned inspection duties, often traveling vast miles in doing so, while also providing other essential environmental and public health protection services to tribal communities; and to cover travel expenses to attend annual trainings required under their cooperative agreements.

3.2.2 Other Funding Inaccessible to Tribes

There is an obvious funding disparity between what states and tribes are able to access for pesticide-related activities and programs. The reasons for this disparity are many which, if they could be overcome, would have a positive impact on the efforts of tribes to address pesticide-related issues within their communities.

In general, there is a significant inequity between the amount of financial resources made available to states and tribes for pesticide-related activities and programs. Most notable is that states receive more pesticide-related funding from EPA than tribes. One could argue that this difference in EPA funding is justified based on every state except Wyoming having primacy and most state activities and programs being comparatively larger than those of tribes. However, there are 574 federally-recognized tribes, most which receive little to no pesticide-related funding from EPA, meaning that there is also limited if any pesticide activities or programs located within the communities of these tribes.

Neither FIFRA nor GAP funds appropriated by Congress account for cost of living adjustments and indirect cost rates, meaning that tribes must divert programmatic funding for pesticide activities and programs to cover these adjustments and rates



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In addition, states have access to tax revenues to help support their pesticide-related activities and programs; most tribes do not have comparable tax revenues from which to obtain similar support. However, if any such tax revenues exist for a tribe, the revenues will likely be apportioned among several tribal priorities such as education and law enforcement. As a result, the revenues apportioned to pesticide-related activities and programs by the tribe may be so limited or inconsequential that the needs intended to be addressed by these activities and programs may go unmet.

Further, states are able to legally tax the manufacture and/or sale of pesticides within their jurisdiction, which taxes are not made available to the tribes within the state's borders. The same is true for any fees that a state receives from pesticide companies for registering pesticide products within its borders; and pesticide dealer licensing fees and pesticide applicator fees that state agriculture and pesticide programs collect for their programs' uses. This is particularly problematic for tribes that do not share in any of these fees, but whose communities and natural resources are impacted by the state-registered pesticides sold and applied on their lands.

In addition, civil penalties are assessed by states for pesticide violations with the collected penalties used to further support the operation of state programs. While tribes may have the legal authority to do so, most tribes have neither the institutional infrastructure nor the monies to build that infrastructure to make the collection of fees and fines for pesticide violations sustainable. Tribes would also have difficulty in collecting fees and fines, in particular, from unaffiliated tribal entities or individuals which could choose to ignore the fees and fines and subsequent tribal court rulings in support of the fees and fines, finding that the courts have no jurisdiction over them based on their lack of tribal affiliation.

Finally, a number of state pesticide programs have lengthy histories and experiences with a myriad of regulatory activities, and can access well-established and extensive institutional infrastructures to support their pesticide programs. Tribes are much newer governmental partners with EPA, and as a result, have greater startup needs and costs than states.

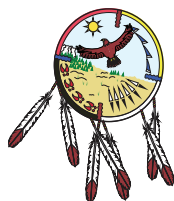
3.3 Problematic Pesticide Funding Issues

There are a number of problematic issues for tribes associated with limited funding for pesticide-related activities and programs with several of these issues identified below. However, the TPPC would be remiss in not identifying some of the pesticide-related accomplishments that tribes have achieved with access to limited funding, understanding that additional funding would help to increase such accomplishments and their positive impacts on tribal communities.

3.3.1 Accomplishments with Limited Funding

The accomplishments of some tribes with limited funding in addressing pesticide-related issues successfully and innovatively on and near their lands has been extraordinary. For example, the Inter Tribal Council of Arizona pesticide program, established in 1982, has a Pesticide Worker Safety Program under which it provides compliance assistance to agricultural workers, growers, and handlers on

[S]tates are able to legally tax the manufacture and/or sale of pesticides within their jurisdiction, which taxes are not made available to the tribes within the state's borders



tribal lands regarding Worker Protection Standard (WPS) requirements with which they must comply. In addition, the Gila River Indian Community of the Gila River Indian Reservation, Arizona, uses permitting, registration, and certification mechanisms to monitor regulated pesticide activities and managed apiaries. Further, a majority of tribal programs funded by EPA have been in existence less than ten years compared to the nearly 30 plus years that EPA has funded state programs. These tribal programs have addressed pesticide-related issues with limited financial resources available to do so, and many have been able to leverage these resources to obtain financial assistance from other sources. Other examples of tribal accomplishments in recent years related to pesticides include:

- Widespread education and outreach activities;
- Completion of several pesticide use assessments to identify the needs for pesticide activities and programs;
- Increased capacity to establish pesticide programs;
- Establishment of circuit rider programs that have filled pesticide compliance assistance, monitoring, and enforcement limitations in numerous parts of Indian country; and
- Several enforcement actions including a significant Fumitoxin/Fumigate enforcement action.

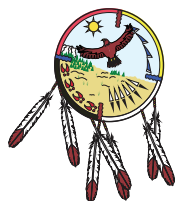
3.3.2 Consequences of Limited Funding

These accomplishments are not widespread, however, and a significant need remains for funding support of tribal pesticide-related activities and programs in order to increase the number and breadth of such accomplishments.

Overall, tribes have been forced to face the harsh realities of engaging in pesticide-related activities and programs with limited funding resources. Most tribes have a tribal environmental agency (e.g., tribal pesticide program, tribal department of environmental quality, or environmental protection office) that assists with the management and regulation of the application, use, transport, storage, and disposal of pesticides on their lands. This pesticide-related assistance is often provided by one or two tribal staff members who, in turn, must meet their other day-to-day work responsibilities which may span multiple environmental media. The TPPC has heard of several instances where tribes have been forced into the unenviable position of having to reduce the pesticide-related services provided to their communities by tribal staff members based on the lack of sufficient funding to support such services.

Further, tribal pesticide staff members with limited funding resources often have to make difficult decisions regarding where to provide pesticide-related coverage and enforcement. As a result, there is no coverage in many tribal areas, and where there is coverage, it is limited, thereby leaving tribal populations and the environments in which they live vulnerable to pesticide exposure, misuse, and other related dangers.

[T]ribal pesticide staff members with limited funding resources often have to make difficult decisions regarding where to provide pesticide-related coverage and enforcement



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Finally, TPPC members report a high turnover of tribal pesticide staff members, many who are highly trained, for various reasons such as burnout from work, transfer to other tribal departments, and opportunities with state pesticide programs that are able to pay higher wages and make more resources available to their pesticide staff (e.g., not all such programs are able to pay more than tribal programs). Institutional knowledge about pesticides is lost through staff turnover, and retraining new staff is costly and further erodes the limited funding resources available to tribes to address pesticide-related issues. One might argue that states also have high staff turnovers, but a large number of tribes are dependent on one or two staff members to manage and operate their pesticide-related activities and programs, meaning such activities and programs can come to an immediate halt upon the departure of a staff member.

Institutional knowledge about pesticides is lost through staff turnover, and retraining new staff is costly and further erodes the limited funding resources available to tribes to address pesticide-related issues

Congressional appropriations place limits on the funding resources that EPA and other federal agencies can provide regarding pesticide-related activities and programs

3.4 Recommended Actions to Help Overcome Problematic Pesticide Funding Issues

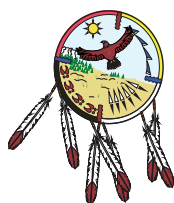
There are a number of recommendations that, if implemented, could help to begin to overcome many of the problematic funding issues referenced above that tribes face on a daily basis. With respect to EPA, an increase in its funding to tribes could help support a number of current and new efforts such as:

- Creating more guidance for pesticide programs and other pesticide-related activities such as pesticide sampling, equipment, and laboratory fees;
- Establishing and enhancing the sustainability of pesticide programs;
- Increasing tribal-specific training on FIFRA (which training is provided to some degree by such organizations as the Inter Tribal Council of Arizona), conducting inspections, and addressing tribal issues and challenges; and
- Developing new technologies that will enable tribes and their pesticide staff to address pesticide-related issues more effectively and efficiently.

The TPPC understands that Congressional appropriations place limits on the funding resources that EPA and other federal agencies can provide regarding pesticide-related activities and programs. As such, the TPPC offers the following recommendations to federal agencies, and particularly EPA as the primary financial supporter of tribal pesticide-related activities and programs, to help address the limitations that place constraints on such activities and programs.

3.4.1 Make Grant Funding Competitively Available

EPA and other federal agencies should make additional STAG and other federal funding competitively available to tribes to address pesticide-related issues on their lands. For example, competitive grants funded by EPA discretionary monies were made available to tribes several years ago that allowed the recipients of this funding to engage in such activities as the development of pesticide use assessments and integrated pest management (IPM) programs.



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3.4.2 Consider a Change in the Number of Required Inspections

OECA, in consultation and coordination with tribes, should consider a reduction in the number of inspections that it currently requires tribal pesticide staff members to complete, based on existing tribal budgets, i.e., consider requiring a lesser number of inspections below the current 25-inspection minimum prescribed by OECA.¹⁷

3.4.3 Obtain Assistance in Gaining Access to Other Funding Sources

Federal, state, and local agencies, and public and private entities should work with tribes to help them gain access to other funding sources for pesticide-related activities and/or programs. As one example, EPA could enter into memorandums of understanding (MOUs) with other federal agencies (e.g., BIA, USDA) for the purpose of sharing the costs of a tribal pesticide program or pilot project, or helping provide financial and technical support for pesticide-related internships and summer youth workers.

3.5 Conclusion for Pesticide Funding

The extent of pesticide activities and programs on tribal lands is limited, in part, by the funding that is available to tribes. Unfortunately, most tribes have little if any funding of their own for such activities and programs, and do not have access to many of the types of funding sources available to states. As such, tribes are forced to look elsewhere for funding and often rely on EPA which, unfortunately, has limited funding resources itself. Tribes have done a lot to address pesticide-related issues in their communities with limited funds, but more funds are necessary if only to help tribes avoid making such difficult decision as to what parts of their lands that they should provide pesticide-related coverage. The recommendations contained herein with respect



Photo: Olivier Le Moal / Adobe Stock

to competitive grant funding, a reduction in the number of required inspections under EPA cooperative agreements, and the assistance of federal agencies in finding other funding sources for tribes could help reverse the current funding tide and increase the breadth of pesticide-related coverage in Indian country.

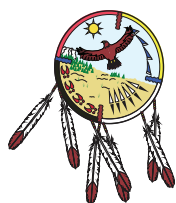




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SECTION 4. PESTICIDE EDUCATION AND TRAINING

4.1 Introduction for Pesticide Education and Training

Education and training for tribal pesticide staff members is imperative in helping provide tribes with the resources that they need to ensure that pesticides are used on and near their lands in a safe and responsible manner, and do not cause any undue negative impacts to tribal communities. There are a number of problematic issues that tribes face with respect to pesticide education and training courses that they need or in which they have interest. However, there are some recommendations, if implemented, that could help overcome partially, if not wholly, these problematic issues.

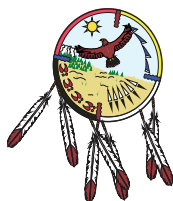
4.2 Overview of Pesticide Education and Training

Tribes and their pesticide staff members as a whole have general education and training needs and interests, while other tribes and staff members also require other types of specialized training provided through EPA-specific programs.

4.2.1 Pesticides Education and Training in General

Tribal pesticide staff members require a vast array of education and training courses to meet the needs and interests of the tribal communities that they serve. These education and training courses include:

- Pesticide program development and management;
- Basic and advanced inspector training covering such specialized subject matters as soil and water sampling and analysis, and the development of quality assurance project plans;



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The Pesticide Regulatory Education Program and Pesticide Inspector Residential Training programs are two EPA programs through which specialized pesticide-related training is provided to tribes

PREP courses are designed to provide practical, up-to-date information on management, policy, and technical related issues, as well as a wide array of cutting-edge pesticide topics

- Inspector report writing;
- Training for specific use inspections (agricultural and structural);
- Enforcement and jurisdictional issues;
- Basic incident response training for dealing with accidental pesticide exposures to humans and the environment;
- Certification and training;
- Worker Protection Standard; and
- Grant writing training to help tribes secure funding to address pesticide-related issues.

These education and training courses, when available, are offered by a number of entities including EPA, state agencies, and university extension programs.

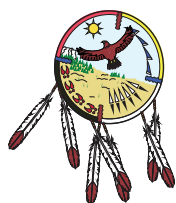
4.2.2 EPA-Specific Programs

The Pesticide Regulatory Education Program and Pesticide Inspector Residential Training programs are two EPA programs through which specialized pesticide-related training is provided to tribes, states, and other governmental entities.

4.2.2.1 Pesticide Regulatory Education Program

The Pesticide Regulatory Education Program (PREP) is an educational program funded by EPA for senior management, senior scientists, managers, and supervisors of field enforcement and compliance assurance programs, and those designated for management positions of pesticide regulatory and environmental management programs throughout the United States, who are responsible for FIFRA regulatory programs. PREP courses are designed to provide practical, up-to-date information on management, policy, and technical related issues, as well as a wide array of cutting-edge pesticide topics. PREP relies upon the expertise of both private and public sector individuals to offer course participants current perspectives on issues relevant to the regulation of pesticides.

The PREP Steering Committee, comprised of eight state Association of American Pesticide Control Official (AAPCO) board members, one tribal representative, four EPA members, the PREP administrator, and the PREP coordinator, is responsible for developing the final goals, objectives, and work plan for PREP. The Planning Group for each course is comprised of EPA representatives, state regulatory officials, university staff, and tribal representatives (except for courses that are not applicable to tribes such as pesticide registration). This group is responsible for developing specific topic areas, providing contact information for potential speakers, and making recommendations for course development consistent with the Steering Committee's vision.



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Tribes with active FIFRA cooperative agreements encourage their staff to attend most PREP courses as funding and spaces allow. Table 4 provides a summary of the number of seats reserved for tribal attendance at PREP courses from 2015 through 2019:

Table 4. Tribal Seats Appropriated for PREP Courses 2015-2019

Fiscal Year	Tribal Seats
2015*	7
2016	4
2017	4
2018*	6
2019*	5
* Fewer tribes applied to attend a PREP course than tribal seats set aside	

The PREP Coordinator has advised the TPPC that, for the 2015-2019 period, at least one tribal staff member for each tribal nomination for a PREP course that had met the target audience criteria had been accepted into the course.

4.2.2.2 Pesticide Inspector Residential Training Program

The Pesticide Inspector Residential Training (PIRT) program provides education and training to state and tribal pesticide regulatory inspectors. PIRT courses are designed to provide the latest information on regulations, technologies, and tools to improve the efficiency and effectiveness of pesticide inspections; and cover such topics as agricultural use, fumigation, product-related training, and structural training.

The PIRT Steering Committee is comprised of representatives from states, tribes, and EPA; a minimum of five individuals employed by state agencies, tribal governments, and territories representing a minimum of three EPA regions; and one representative each from AAPCO, PREP, and the Association of Structural Pest Control Officials. The PIRT Steering Committee helps identify and establish strategic direction and priorities for PIRT, and recommends specific training topics for pesticide inspectors. There is also a bi-annual Tribal PIRT that is coordinated by a small tribal planning committee.

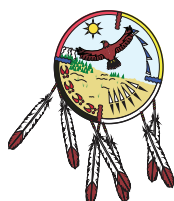
The PIRT Coordinator has advised the TPPC that, for over 10 national PIRTs held from 2015 to 2019, there were 34 tribal participants. In addition, Tribal PIRTs held in 2016 and 2018 had a combined total of 49 tribal participants.

4.3 Problematic Pesticide Education and Training Issues

4.3.1 General

Tribes struggle on a regular basis to identify and obtain pesticide education and training resources to address their particular needs and challeng-

The Pesticide Inspector Residential Training program provides education and training to state and tribal pesticide regulatory inspectors



es. This struggle is accentuated by problematic issues involving the types, locations, scheduling, notifications, and funding for pesticide education and training courses. There are also unique concerns with one of EPA's specialized education and training programs, i.e., PREP.

4.3.1.1 Types of Pesticide Education and Training Courses

There is an overall lack of pesticide education and training courses available to tribes, particularly those tribes that do not have cooperative agreements with EPA. Further, not all the pesticide education and training courses and topic areas required by tribal pesticide staff members can be offered in sufficient numbers due to various issues such as instructor availability. In addition, still other pesticide education and training courses are typically limited to tribal pesticide staff members whose tribes have cooperative enforcement agreements with EPA, even though the TPPC is unaware of any EPA regulations or guidance documents that would prohibit other tribes from participating in these courses, particularly if they were able to provide their own funding. Finally, most pesticide education and training courses fail to account for the unique cultural and other characteristics of tribes and their respective communities.

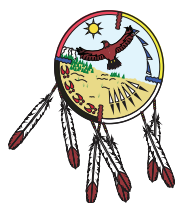
The problems concerning the type of pesticide and training courses offered is also dependent on the audience types involved. Two such audiences are WPS workers and handlers, and FIFRA-credentialed inspectors.

4.3.1.1.1 WPS Workers and Handlers

Web-based and online education and training courses are regularly used by tribes and other entities to educate WPS workers and handlers. Most notable of these web-based and online education and training courses has been the EPA National Agricultural Center's CD-ROM with self-training for WPS, "How to Comply with the Worker Protection Standard for Agricultural Pesticides: What Employers Need to Know and Additional Resources."¹⁸ With the November 2015 revision of WPS, the Pesticide Educational Resources Collaborative has replaced this CD-ROM with a website of updated resources.¹⁹ Further, many of these EPA-approved training videos can be found on YouTube. These courses have received positive reviews from a number of tribes and other entities, but some tribes would like assurances from EPA that these courses will be regularly updated and made easily accessible to ensure that the WPS workers and handlers in which they engage will be operating with the most up-to-date information.

Some tribal pesticide staff members associated with the TPPC have also elicited their concerns with web-based training materials which they find are unable to fully inform WPS workers and handlers. Specifically, it is not unusual for 30 or more workers and/or handlers to simultaneously gather around one small computer screen to watch a training video, physically making it difficult, if not impossible, for most of them to watch the video and receive proper training.

[M]ost pesticide education and training courses fail to account for the unique cultural and other characteristics of tribes and their respective communities



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4.3.1.2 FIFRA-Credentialed Inspectors

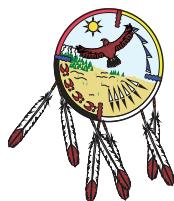
Tribal inspectors, in particular, lack limited opportunities for professional development regarding issues related to their specific subject matter of enforcement, beyond the mandatory education and training courses that they take to obtain and retain their inspection credentials. More education and training courses are needed on overviews of state (and federal) licensure in specialized applicator categories such as ornamental and aquatic; “Where does the Pesticide Go?;” “The Top Environmental & Public Health Threats of Pesticide Toxicants;” and human dimensions/indicator training. Such courses help equip tribal inspectors with the resources necessary to perform their jobs more efficiently and effectively. The seemingly complicated web of governmental enforcement authority on reservations also necessitates specialized training for tribal inspectors. Specifically, tribal inspectors are in a particularly vulnerable position in regards to scrutinizing the actions of tribal members applying federal rules as opposed to tribal rules, and the actions of another tribe’s members and non-Natives applying federal (not their tribe’s or state’s) rules.

In addition, not all tribal pesticide staff members find other technology-based online education and training programs, like NETI-ONLINE, to be very user-friendly. If paper copies are provided, this also causes a hardship for any employer having more than five employees. Finally, internet and cell phone coverage in Indian country and rural communities is often unreliable, even being nonexistent in some areas.

4.3.1.2 Pesticide Education and Training Course Locations

Pesticide education and training courses that are not conducted online are typically held in urban areas based on better availability and cost of lodging and transportation options. However, most tribes are located in rural areas where travel to and from urban areas can be difficult. Further, participating in a pesticide education and training course, which can involve multiple travel days for course participants, is time-consuming and can cause tribal pesticide staff members to be away from their work stations for up to a week. States are more likely than most tribes to have personnel to serve in the absence of staff members attending pesticide education and training courses. Many tribes have one or two individuals charged with managing pesticide issues within their communities, which, if they participate in pesticide education and training course offsite, can cause pesticide work in such communities to come to a halt until they return.

Also problematic is that many of the rural areas in which tribes are located have limited resources and venues to host pesticide education and training courses, and also lack the lodging necessary to accommodate the overnight housing needs of tribal pesticide staff members and other tribal professionals wishing to participate in the courses. A few TPPC members have suggested the use of webinars to help meet the pesticide education and training course



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needs of tribes located in rural areas, but other TPPC members have indicated that the internet connection within their communities can be intermittent, making such webinars impracticable for them; and that in-person pesticide education and training courses are more beneficial, allowing pesticide staff members from other tribes to more easily interact about various pesticide-related issues.

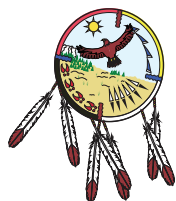
4.3.1.3 Pesticide Education and Training Course Scheduling

Pesticide education and training course schedules are not always conveniently timed to accommodate the growing seasons and land and agricultural operations of tribes. Some tribal pesticide staff members can wait until their busy seasons are complete to attend pesticide education and training courses, but such courses are often scheduled when the volume of field work for tribal pesticide staff members is at its highest, such as during the application of pesticides. In addition, the Inter Tribal Council of Arizona, tribal consortia, and individual tribes offer ongoing tribal-specific training whose scheduling is often intentional to accommodate the seasonal demands of tribal pesticide staff members. However, there are other tribal pesticide staff members, such as those charged with implementing tribal pesticide inspection and enforcement programs, who have limited education and training course opportunities that are not necessarily available outside their busy seasons. As such, these tribal pesticide staff members are required to forego their day-to-day work responsibilities to obtain important education and training in order to keep their inspection credentials current. This can cause a strain on tribes required to have a requisite number of inspections completed within a prescribed period of time.

4.3.1.4 Pesticide Education and Training Course Notifications

Several tribal pesticide staff members have communicated that, on a number of occasions, they have been invited by states on very short notice to participate in pesticide education and training courses. For these particular occasions, notice was anywhere from a week to a single day before the courses were held. This is impracticable if the entity extending the invitation to the tribal pesticide staff member truly wants the member to attend.

There is a FIFRA Calendar of Events that is circulated, and some TPPC members have indicated that their EPA project officers regularly communicate with them about upcoming training dates, trainings, workshops, etc. Unfortunately, this calendar is often absent of important information such as how to register for specific trainings or workshops. Further, not every tribal pesticide staff member in Indian country has an EPA project officer because the tribe for whom they work either does not accept EPA funding for their pesticide-related activities or programs, or the tribe does not have a cooperative program with EPA. Hence, the tribal pesticide staff members are unlikely to receive notifications regarding upcoming pesticide education and training courses.



4.3.1.5 Pesticide Education and Training Course Funding

There is a significant inequity between the amount of financial resources available to state and tribal pesticide programs to support pesticide education and training courses, with states receiving a significant amount of their funding through tax revenues, pesticide registration fee revenue, and civil penalties for pesticide use violations. Most tribes receive little if any funding through similar means. Instead, these tribes are forced to rely on EPA funding and funding from other federal agencies to support their participation in pesticide education and training courses. States tend to also receive the majority of this funding.

EPA has provided additional funds for PREP to support tribal participation in an effort to foster greater state and tribal communication and cooperation

4.3.2 EPA-Specific Programs

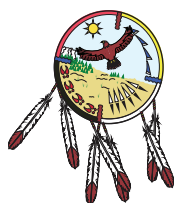
The TPPC has no immediate concerns with the PIRT program, but does have concerns with PREP.

Between 2014 and 2017, tribal representation on the Planning Group was conspicuously absent and not necessarily for any specific reason. However, the absence of tribal representation on the Planning Group can impact the inclusion of tribally-relevant sessions at PREP courses. As a result, these courses can appear “state centric” to tribal participants and inapplicable to their specific circumstances.

OPP has worked successfully to increase the number of tribal slots for PREP courses by contributing funding to PREP

PREP is primarily financed by STAG. OECA and OPP together provide \$250,000 annually to support PREP courses. Because these funds were originally part of the state STAG allocation, PREP courses are designed for states and focus on state issues. However, when possible, EPA has provided additional funds for PREP to support tribal participation in an effort to foster greater state and tribal communication and cooperation. Unfortunately, there is no guarantee that this allocation for tribal participation, most recently funded at \$35,000, will continue be made available to tribes annually.

Because states have opted to have some of the cooperative agreement monies held back in order for EPA to fund PREP, most of the PREP course slots are reserved for state, and not tribal, participants. OPP has worked successfully to increase the number of tribal slots for PREP courses by contributing funding to PREP, i.e., the \$35,000 annual funding allocation identified above, but more slots are needed to accommodate a larger and growing universe of potential tribal participants. PREP courses are generally limited to pesticide staff members of tribes that have cooperative agreements with EPA. To this effect, the TPPC expects that the number of tribes with cooperative agreements will increase which, in turn, will necessitate an increase of their tribal pesticide staff members who must attend PREP courses. In addition, other tribes without cooperative agreements have communicated to the TPPC that they wish to have their tribal pesticide staff members participate in PREP courses. This participation would provide several benefits to a tribe without a cooperative agreement such as giving the tribe a general overview of what is covered under cooperative agreements; helping the tribe to determine whether a cooperative agreement is appropriate for it, either as an individual tribe or part



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of a tribal consortium; and educating the tribe as to the standard to which a neighboring jurisdiction with a cooperative agreement must be held so as not to negatively impact the tribe and its environment.

4.4 Recommended Actions to Help Overcome Problematic Pesticide Education and Training Issues

The TPPC firmly believes that, based on the recommendations identified below for general and specialized education and training courses, many of the aforementioned problematic issues can be overcome or mitigated.

4.4.1 General

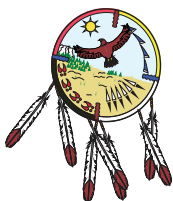
4.4.1.1 Types of Pesticide Education and Training Courses

EPA and other federal agencies should allocate sufficient funding annually for various tribal-specific pesticide education and training courses, such as pesticide code courses for tribes having or wanting codes, with these courses to be held at either a regional or national level and led by subject matter experts. Such pesticide education and training should also be made available for tribes with and without EPA cooperative agreements. Further, this education and training should be hosted and coordinated by tribal entities or consortia with the assistance of EPA regional project and/or enforcement officers. In addition, EPA and other federal agencies and tribes should focus on building relationships with state and cooperative extension trainers in order to utilize pesticide-related resources often unavailable to smaller and rural tribes.

EPA and other federal agencies and tribes should also work with trainers, including those associated with cooperative extensions, to add tribal-specific information to their pesticide education and training courses, such as including unique tribal restrictions, and working with the American Association of Pesticide Safety Educators to equip such trainers and cooperative extensions with curricula and materials specific to tribes. Further, EPA and other federal agencies should help locate the necessary resources to allow tribal-specific training or programs whereby the tribal pesticide staff members of one tribe could shadow similar pesticide staff of other tribes engaged in any number of activities including inspections and enforcement, i.e., learn through hands-on training. Finally, any pesticide education and training course made available to tribes and other entities such as states should provide for cultural sensitivity in the information shared with audiences, i.e., the way that such information is delivered (e.g., do not say “you must do . . .”); how instructors present themselves to create a personal connection with their audiences; and incorporation of traditional elements (e.g., open pesticide education and training courses with cleansing sage, smudging).

Further, EPA should provide sufficient funding and training for “Train the Trainers” for WPS certification training so that tribal programs have designated WPS trainers to provide in-person education and training for pesticide workers and handlers, instead of having to rely on the current self-training WPS program. These “Train the Trainer” courses should be established for providing

[A]ny pesticide education and training course made available to tribes and other entities such as states should provide for cultural sensitivity in the information shared with audiences



in-person education and training on other pesticide-related issues, such as certification and training of pesticide applicators. In addition, EPA and other federal agencies should allocate funding for one or more circuit riders whose primary role would be to travel to the lands of tribes to train their tribal pesticide staff members and other related staff on any number of pesticide-related issues.

Finally, EPA and other federal agencies should make specialized education and training courses available that equips tribal inspectors with the ability to address situations involving multijurisdictional enforcement (e.g., federal, state, tribal). This education and training should also be no less than one week to ensure that tribal inspectors receive their credentials, while obtaining a comprehensive understanding about the potential situations that they may face as inspectors.

4.4.1.2 Pesticide Education and Training Course Locations

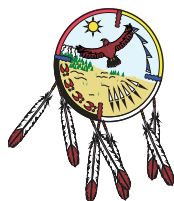
EPA and other federal agencies should work with tribes to establish in-person pesticide education and training course locations that accommodate tribes in rural locations. These locations could be on a specific tribe's land, the offices of a university, a federal or state office, or cooperative extension equipped with the resources necessary to provide regional training to a particular area's tribes.

EPA and other federal agencies should also develop and conduct in-person "regional" pesticide education and training courses in conjunction with other tribal meetings and activities such as those of the TPPC. This would provide a cost savings to tribal participants who would already be onsite with EPA and other federal agencies, and avoid having to fund travel for a separate pesticide education and training course. Further, this could provide an opportunity for EPA and other federal agencies and tribal participants to plan for pesticide education and training courses specific to the circumstances of the tribes involved. Finally, these pesticide education and training courses would provide tribal pesticide staff members from a number of different tribes an opportunity to share their common pesticide-related concerns, thereby promoting and improving the overall development of tribal pesticide programs' expertise throughout Indian country.

4.4.1.3 Pesticide Education and Training Course Scheduling

EPA and other federal agencies should work with tribes to establish a year-round, flexible pesticide education and training course schedule that allows tribal pesticide staff members to attend the courses necessary to meet the requirements of their job, while accounting for their various busy seasons for addressing pesticide-related issues. Further, where applicable, EPA and other federal agencies should work with such tribes to identify pesticide education and training courses that can be presented in regular and compressed formats to better accommodate the various time availabilities of tribal pesticide staff members to attend these courses.

EPA and other federal agencies should make specialized education and training courses available that equips tribal inspectors with the ability to address situations involving multijurisdictional enforcement



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4.4.1.4 Pesticide Education and Training Course Notifications

EPA and other federal agencies should ensure, and work with states to ensure that, for each pesticide education and training course, tribes are provided with at least one to two months advance notice to allow them to plan for the participation of their tribal pesticide staff members. Further, EPA and other federal agencies should develop and send out a calendar of events to all tribes, regardless of whether a tribe's pesticide-related activities or programs are funded by EPA or other federal agency, or a tribe has an EPA project officer specific to pesticides, which calendar should include detailed information on such items as event contacts and registration.

4.4.1.5 Pesticide Education and Training Course Funding

EPA should give a high priority to tribes in addressing the underdevelopment and unmet funding needs of tribal pesticide programs which, in turn, will help tribal pesticide staff members to obtain course-appropriate pesticide education and training. Further, EPA and other federal agencies should increase funding to tribes, with and without pesticide programs, to help them address the pesticide issues within their communities and to obtain the necessary education and training to do so, and also fairly compensate the presenters of this education and training.

4.4.2 EPA-Specific Programs

EPA should continue to encourage the PREP Steering Committee and Planning Groups to have tribal participation, and to equally encourage tribal representatives to participate in these groups, in order to improve the relevance of PREP courses to tribes and their specific circumstances, and to schedule courses that do not conflict with the times when most tribal participants have their busiest workloads.

Further, EPA should explore opportunities to facilitate tribal cost-sharing for PREP planning, development, and implementation in order to help increase the number of PREP course slots guaranteed to tribal participants, which participants should represent tribes with and without enforcement cooperative agreements.

4.5 Conclusion for Pesticide Education and Training

The ability of a tribe to ensure that pesticides are being safely and responsibly used on and near its lands, and that there are not any adverse impacts to its members and environment, is highly dependent on the pesticide-related education and training courses that their tribal staff members are able to obtain. Pesticide education and training courses are widely available, but as noted above, there are several problematic issues for tribes related to course types, locations, schedules, notifications, and funding, and specifically PREP, that interfere with the ability of tribal pesticide staff members to effectively take advantage of these education and training courses. However, these issues are not insurmountable and have a good chance of being overcome, in whole or in part, if the preceding recommendations are implemented.

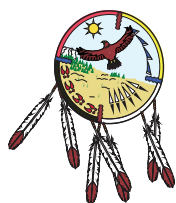




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SECTION 5. PESTICIDE ENFORCEMENT AND COMPLIANCE

5.1 Introduction for Pesticide Enforcement and Compliance

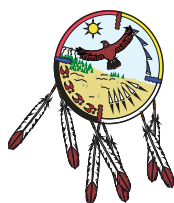
There are many different types of pesticides, each intended to eradicate, control, suppress, or otherwise mitigate particular perceived and target pests. These pesticides consist of toxins and poisons which cause human health and the environment to be subject to serious risks if they are not sufficiently controlled. One means to mitigate this risk is to establish regulatory requirements with which individuals and entities must comply and be subject to enforcement actions for their failure to comply.

Pesticide enforcement and compliance under federal regulatory regimes cover a full gamut of issues including the manufacture, distribution, use, storage, and container recycling and disposal of pesticides. These issues are not to be taken lightly, but none of them are the particular focus of this section. Instead, this section focuses more broadly on the enforcement and compliance regulatory structure, and various issues identified by tribes that have arisen in the face of this structure and how such issues might be best addressed.

5.2 Overview of Pesticide Enforcement and Compliance

FIFRA is the primary pesticide regulatory standard to be followed in Indian country. However, a tribe, much like the Gila River Indian Community of the Gila River Indian Reservation, Arizona,²⁰ The Leech Lake Bank of the Minnesota Chippewa Tribe, Minnesota,²¹ or Yurok Tribe of the Yurok Reservation, California,²² can establish its own pesticide code or ordinance which offers several benefits. First, a tribe can choose to make its pesticide code or ordinance

[A] tribe, much like the Gila River Indian Community, Leech Lake Band of Chippewa Indians, or Yurok Indian Tribe, can establish its own pesticide code or ordinance which offers several benefits



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more stringent than FIFRA based on its particular circumstances. Second, a tribal pesticide code or ordinance may be the best means available to a tribe to manage pesticides on its lands, understanding that EPA lacks the resources necessary to enforce FIFRA across the entirety of Indian country. Finally, a tribe can benefit monetarily under its own pesticide code or ordinance by establishing penalties and fines to be collected by and kept internal to the tribe.

In addition, tribes can enter into cooperative agreements with EPA in order to help EPA meet its direct implementation responsibility requirements under FIFRA, and to have some control over the regulatory actions taken on their lands. Section 23(a)(1) of FIFRA (Section 23(a)(1)) authorizes EPA to enter into cooperative agreements with tribes to engage in such activities as conducting inspections and recommending enforcement actions to EPA related to these inspections. There are also number of inspection types,²³ which include:

➤ **Use Inspection**

Inspection that includes various aspects of pesticide use such as storage, handling, mixing, loading, and disposal; and observation of a pesticide application or inspection following an application

➤ **Marketplace Inspection**

Inspection that is conducted at the retail, distribution, wholesale, or user level; and for the purpose of determining product registration status, proper display and storage, labeling violations, product decomposition, and sample collection

➤ **Producer Establishment Inspection**

Inspection of a facility where pesticides or devices are produced and held for distribution or sale

➤ **Restricted-Use Pesticide Dealer Inspection**

Inspection of a dealer that sells restricted-use pesticides; and for the purpose of determining whether the dealer is properly licensed or certified and maintaining proper records, and whether restricted-use pesticides are only being sold to certified applicators or other properly authorized persons

➤ **Certified Applicator Inspection**

Inspection to determine if an applicator is properly certified and/or licensed and whether required records are being maintained

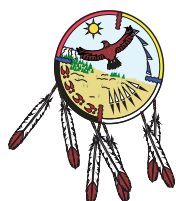
➤ **Import Inspection**

Inspection of a pesticide product imported into the United States to ensure its compliance with FIFRA; inspection may occur pre- or post-entry into the United States

Examples of tribes and tribal organizations having this type of cooperative agreement, which tribes and tribal organizations are also hosts to circuit riders that serve several tribes, include:

- Cheyenne River Sioux Tribe of the Cheyenne River Reservation, South Dakota;

Section 23(a)(1) of FIFRA authorizes EPA to enter into cooperative agreements with tribes to engage in such activities as conducting inspections and recommending enforcement actions to EPA related to these inspections



- Confederated Salish and Kootenai Tribes of the Flathead Reservation;
- Inter Tribal Council of Arizona; and
- Coeur d’Alene Tribe.²⁴

Section 23(a)(2) of FIFRA authorizes EPA to enter into cooperative agreements with tribes for certification and training programs under which pesticide applicators must be trained and certified as competent in accordance with national standards. Tribes covered by an EPA-approved certification plan include:

- Cheyenne River Sioux Tribe of the Cheyenne River Reservation, South Dakota;
- Navajo Nation, Arizona, New Mexico & Utah;
- Prairie Band Potawatomi Nation;
- Santee Sioux Nation, Nebraska;
- Shoshone-Bannock Tribes of the Fort Hall Reservation;
- Three Affiliated Tribes of the Fort Berthold Reservation, North Dakota; and
- White Earth Band of the Minnesota Chippewa Tribe, Minnesota.²⁵

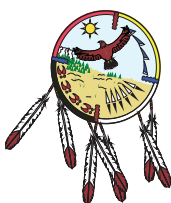
5.3 Problematic Pesticide Enforcement and Compliance Issues

Most tribes would be able to identify particular pesticide enforcement and compliance issues under their respective regulatory regimes that could be addressed better. However, most of these issues are not universal in Indian country, unlike the issues that several tribes have identified with respect to Section 23(a)(1) cooperative agreements under FIFRA.

Tribes that operate under Section 23(a)(1) cooperative agreements have performed admirably, even with a limited number of inspectors and resources available to fulfill their inspection duties, in addition to providing other essential environmental and public health protection services to tribal communities, such as IPM and outreach activities. Nevertheless, tribes have experienced problematic enforcement and compliance issues with many such issues still unresolved. These problematic issues are identified below as well as recommendations for overcoming them or mitigating their impacts.

5.3.1 Enforcement Referrals

Tribes devote considerable resources to collect evidence, perform interviews, and engage in related activities for enforcement cases regarding



high-level pesticide exposure episodes that they refer to EPA. In general, EPA does a good job in following up on these referrals. However, there have been occasional circumstances where tribal pesticides staff members have reported that some enforcement responses from EPA have been known to take more than two years, and an EPA response to tips and complaints provided by tribes can have a much longer response time. Some tribes have also indicated to the TPPC that they have never received a response from EPA regarding several of their complaints. Other tribes that have received a response from EPA regarding their complaints have communicated their frustration that the response took several weeks by which time the evidence had deteriorated.

5.3.2 Enforcement Measures

The TPPC understands that, for Section 23(a)(1) cooperative agreements, EPA project officers annually negotiate inspection commitments with tribes based on the financial resources and tribal capacity available to meet the commitments. However, tribes under such cooperative agreements are still required to complete a minimum of 25 inspections,²⁶ whose successful completion is dependent on overcoming several complicating factors including:

- Few tribal pesticide staff members and support staff being available to conduct inspections and write reports;
- Some inspection sites requiring more time to inspect than others (e.g., container/containerment and fumigation);
- The vast number of miles between inspection sites, sometimes across several Indian reservations; and
- The rising cost of gas that affects the distances tribal pesticide staff members can reasonably travel to conduct inspections within their budgets.

Several tribal pesticides staff members with whom the TPPC has communicated have concerns that these complicating factors are not given sufficient consideration by some EPA project officers during their negotiations with tribes, thereby leading to unreasonable expectations placed on the tribes to meet their inspection commitments.

Further, the TPPC is aware of other tribal pesticide staff members who have conveyed, that, at times, their tribes seem pressured by their EPA regional staff to focus more on taking enforcement actions and less on compliance assistance and monitoring, even though compliance assistance and monitoring help to eliminate the need for enforcement actions.

5.3.3 Jurisdictional Issues

OECA has communicated to tribes, in general, that its policies are based on clear boundaries for compliance monitoring and enforcement actions (e.g.,

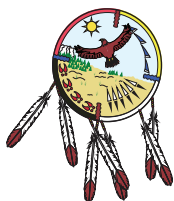




Photo: cheryrandbees / Adobe Stock

EPA should create a public document that identifies a feedback mechanism regarding tribal enforcement referrals, and the time period by which EPA must provide an update to a tribe regarding a referral submission to EPA

state within a state, tribe within a reservation). Several elements of the inspection process are different or unique when working in Indian country based on the legal and political relationship between the United States and federally recognized tribes, jurisdiction, and EPA's Indian country tribal-specific policies and guidelines. However, in practice, some states fail to acknowledge this inspection process and respect political boundaries. Some TPPC members indicate that state inspectors have come onto tribal lands without a tribe's permission (e.g., not having permission based on an MOU between the tribe and state,

or other authority such as the state acting on behalf of EPA for emergency situations, i.e., for cause), or have failed to provide tribes with advance notification of authorized inspections. This is a violation of tribal sovereignty and self-determination which are protected by the U.S. Constitution, treaties, and case law. Compounding the problem of state inspectors coming onto tribal lands is a regular finding by tribal pesticide staff members that pesticide applicators are often confused or unaware that they only need to abide by FIFRA and tribal pesticides regulations if they are applying pesticides within the exterior boundaries of a reservation, i.e., state pesticide laws are inapplicable to these applicators.

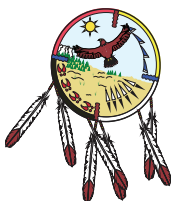
Further, there are state and federal lands to which a number of tribes hold hunting, fishing, and gathering rights. These lands have rich sacred and cultural value to tribes. However, state and federal inspections conducted on such lands may fall short if they fail to account for the treaty-protected resources which necessitate additional and unique protections against pesticides.

5.4 Recommended Actions to Help Overcome Pesticide Enforcement and Compliance Issues

The TPPC makes the following recommendations about how the problematic enforcement and compliance issues identified above could be addressed and likely overcome.

5.4.1 Enforcement Referrals

EPA should create a public document that identifies a feedback mechanism regarding tribal enforcement referrals, and establishes timelines for each type of possible tribal enforcement referral and the time period by which EPA must provide an update to a tribe regarding a referral submission to EPA, including any action taken. This should help eliminate the aforementioned occasional circumstances that EPA has not provided updates, timely or otherwise, regarding enforcement referrals made by tribes. Further, EPA should be held



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accountable to adhere to specific timelines identified in the public document. Finally, tribes should make a concerted effort to use their mid-year and end-of-year reports to follow up with their EPA project officers regarding enforcement referrals that they have made.

5.4.2 Enforcement Measures

EPA project officers, if they are not doing so already when negotiating inspection commitments with tribes, should consider the aforementioned complicating factors alongside available financial resources and tribal capacity to better determine the inspection commitments that tribes can reasonably meet.

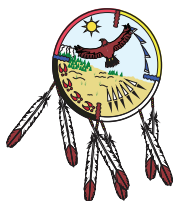
OECA should also work closely with tribes to determine whether other criteria should be equally accepted with the pesticide enforcement performance measures used by OECA, when evaluating the performance of an enforcement program. Specifically, OECA and tribes should determine whether compliance assistance should be viewed as a measure of success equal to pesticide use inspections and enforcement actions, which are considered enforcement performance measures. Compliance assistance that is provided prior to regulated pesticide activities is part of an effective way to obtain the overall desired outcome of compliance, while still having the tools of enforcement available when necessary. This allows for a proactive approach in achieving compliance, rather than solely reacting to compliance issues identified during inspections that may result in environmental or human harm.



Photo: Anna Katrina Hunter / UC PSEP Program

5.4.3 Jurisdictional Issues

OECA should include in the next FIFRA Cooperative Agreement Guidance that a state inspector may not conduct an inspection on a tribe's land unless his or her state has an MOU with the tribe on whose land that he or she wishes to inspect, or an emergency exists that necessitates the state inspector to conduct an inspection on behalf of EPA. Further, EPA should communicate this prohibition of state inspections on tribal lands, except under the preceding limited circumstances, under each state cooperative agreement with EPA; and, when a state inspector is authorized to enter onto a tribe's land, the inspector must provide notification to the tribe in advance of his or her inspection.



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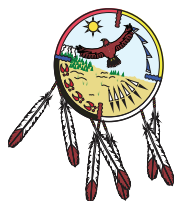
EPA and other federal agencies should develop written guidance on

how treaty-protect resources located on state and federal lands should be taken into consideration with respect to pesticides found on or near these lands. This guidance would serve as a complement to a 2016 EPA guidance document that discusses tribal treaty rights.²⁷ Further, this written guidance should serve as an impetus for fostering agreements with states and EPA and other federal agencies to adequately protect the human health and environment of these lands based on the value afforded by tribes with respect to these treaty-protected resources.

5.5 Conclusion for Pesticide Enforcement and Compliance

Regulatory requirements are one of the tools in the proverbial toolbox that EPA and other federal agencies, tribes, and states uses to ensure that the manufacture, distribution, use, storage, and recycling and disposal of pesticides is occurring so as not to place human health and the environment at undue risk. A failure to adhere to these requirements can subject a violator to various enforcement actions including penalties and fines. A number of tribes have adopted pesticides codes or ordinances to enforce pesticide-related activities on their lands, and still others have entered into cooperative agreements with EPA to help ensure compliance with FIFRA. Nevertheless, tribes must cope with several occasional problematic issues as they relate to enforcement and compliance, such as the feedback that they receive or do not receive when making enforcement referrals; the inspection targets that they must meet under Section 23(a)(1) cooperative agreements, which targets many tribal pesticide staff members find to be unreasonable; and state inspectors coming onto their lands for pesticide-related enforcement actions without tribal approval, and inspectors not sufficiently considering the treaty-protected resources on state and federal lands. The TPPC finds that such issues can be overcome, assuming that there is a willingness to consider and adopt the recommendations contained herein in response to these issues.

EPA and other federal agencies should develop written guidance on how treaty-protect resources located on state and federal lands should be taken into consideration with respect to pesticides found on or near these lands



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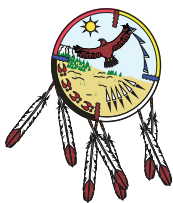
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Photo: David Moreno Hernandez / Shutterstock

CONCLUSION

The exposure and effects of pesticides on Indian country is widespread. EPA has sole responsibility for direct implementation of the pesticide-related federal statutes intended to protect tribes and their communities from pesticide use and its impacts. Under Enforcement Cooperative Agreements, tribes may initiate the development of pesticide codes. Tribal pesticide codes may vary widely, and a tribe has the right to determine the content of its code. An Enforcement Cooperative Agreement may be used to support all activities that are included in tribal pesticide codes, including those not specifically supporting FIFRA requirements, so long as such activities have a clear connection to pesticide management. There is a great degree of uncertainty as to the effects that pesticides are having on tribal communities and their environment, largely due to the inadequacies of the current risk assessment models to fully recognize or account for tribal pesticide exposure scenario pathways. Improvements to these risk assessment models to account for such pathways and the compilation of sufficient data to run them, and to support other pesticide-related activities and programs of tribes, will necessitate a significant influx of funds from the federal government. Such funds are also needed to help support the education and training course needs of tribes, providing them with the tools necessary to implement activities and programs that are most effective and protective of their members and environment from pesticide use and its impacts. This education and training and corresponding activities and programs will most likely involve, whole or in part, enforcement and compliance whose implementation is critical in order to help protect Indian country from pesticide exposures and their effects. The problematic issues applicable to direct implementation, risk assessments, funding, education and training, and enforcement and compliance identified in this Report are real, but they can be overcome, at least to some degree, if the recommendations contained herein are implemented and done so in partnership between EPA, other federal agencies, and tribes.

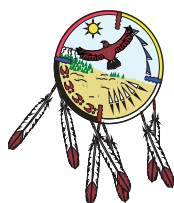


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- 1 18 U.S.C. § 1151 (“‘Indian country’ . . . means (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same).
- 2 “Cooperative agreement” means an agreement intended to “accomplish a public purpose or to stimulate a particular area of interest authorized by law” that anticipates substantial programmatic involvement between EPA and the recipient during the performance of the activities established under the agreement. See “EPA Funding Instruments and Authorities: Grants and Cooperative Agreements,” U.S. Environmental Protection Agency at <https://www.epa.gov/grants/epa-funding-instruments-and-authorities#grants> (retrieved on July 19, 2020).
- 3 Forest Service National Resources Guide to American Indian and Alaska Native Relations, State and Private Forestry FS-600, Appendix D: Indian Nations 1 (April 1997), at <https://www.fs.fed.us/spf/tribalrelations/documents/publications/NtlResourceGuide/tribexd.pdf> (retrieved on February 29, 2020).
- 4 Id.
- 5 See “Tribal Climate Change Principles: Responding to Federal Policies and Actions to Address Climate Change” Gruenig, B, Lynn K., Voggesser, G., Whyte, P. (2015), at <https://trib-climateguide.uoregon.edu/literature/gruenig-b-lynn-k-voggesser-g-whyte-p-2015-tribal-climate-change-principles-responding> (retrieved on January 27, 2020).
- 6 Id.
- 7 See “Direct Implementation in Indian Country,” U.S. Environmental Protection Agency, at <https://www.epa.gov/tribal/direct-implementation-indian-country> (retrieved on September 26, 2020).]
- 8 See “National Program Guidances,” U.S. Environmental Protection Agency, at <https://www.epa.gov/planandbudget/national-program-guidances> (retrieved on July 4, 2020).
- 9 See “Compliance Monitoring Strategy for Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) 2015” U.S. Environmental Protection Agency, Office of Enforcement and Compliance Assurance, at <https://www.epa.gov/sites/production/files/2015-09/documents/fifra-cms.pdf> (retrieved on July 5, 2020).
- 10 See “FY 2018-2022 U.S. EPA Strategic Plan,” U.S. Environmental Protection Agency 26-29, at <https://www.epa.gov/sites/production/files/2019-09/documents/fy-2018-2022-epa-strategic-plan.pdf> (retrieved on January 27, 2020).
- 11 See “2018-2021 FIFRA Cooperative Agreement Guidance,” U.S. Environmental Protection Agency, Office of Pesticide Programs, Office of Enforcement and Compliance Assurance 1 (February 14, 2017), at <https://www.epa.gov/sites/production/files/2017-03/documents/18-21guidance.pdf> (retrieved on July 5, 2020).
- 12 “Indian Environmental General Assistance Program: Guidance on the Award and Management of General Assistance Agreements for Tribes and Intertribal Consortia.” U.S. Environmental Protection Agency (May, 15, 2013), at <https://www.epa.gov/sites/production/files/2017-05/documents/2013-gap-guidance-final.pdf> (retrieved on January 27, 2020).
- 13 The solvent Naphtha Benzene, an inert ingredient in most pesticides, has been linked to cancer in California, a state in which there is a large population of basketweavers. See also



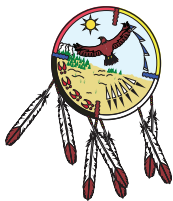
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Tanya Lee, "Poisoned Lands: San Carlos Apache Indian Reservation Steeped in Dioxin." Indian Country Today, March 1, 2017, at <https://newsmaven.io/indiancountrytoday/archive/poisoned-lands-san-carlos-apache-indian-reservation-steeped-in-dioxin-ICSCFZkJxEeNP-CV0RdDthQ> (retrieved on February 9, 2020). See further "Report of the International Indigenous Women's Environmental and Reproductive Health Symposium." April 27-29, 2012, Chickaloon Native Village, Alaska. Submitted to the 11th Session of the United Nations Permanent Forum on Indigenous Issues as a Conference Room Paper by the International Indian Treaty Council, Indigenous Non-Governmental Organization in General Consultative Status to the United Nations Economic and Social Council, May 5, 2012.

- 14 See "Indigenous Peoples of North America: Environmental Exposures and Reproductive Justice." Environmental Health Perspectives. 2012 Dec; 120(12): 1645–1649.
- 15 Kochia, also known as Kochia scoparia, is highly invasive and can be toxic. Alternate names include burningbush; Mexican fireweed; mock cypress; fireweed; mirabel; summer cypress; common kochia; Mexican summercypress; railroad weed; belvedere; firebush; poor man's alfalfa; and common red sage.
- 16 See "Understanding Tribal Exposures to Toxics," National Tribal Toxics Council (June 2015) concerning tribal exposure scenario pathways, at http://www.zendergroup.org/docs/NTTC-Understanding_Tribal_Exposures_to-Toxics-2015-06-19.pdf (retrieved on February 22, 2020).
- 17 See "Guidance for Funding Development and Administration of Tribal Pesticide Field Program and Enforcement Cooperative Agreements," Office of Pesticide Programs and Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency at 6 (January 2011) (Guidance for Funding Development and Administration), at <https://www.epa.gov/sites/production/files/2017-04/documents/tribalagreementguidance.pdf> (retrieved on July 5, 2020) ("single tribe and circuit rider pesticide enforcement grant programs should maintain sufficient inspection targets to support at least one half-time FTE and 25 inspections per year"). See also "Tribal Pesticide Enforcement Comes Close to Achieving EPA Goals, but "Circuit Rider" Inspector Guidance Needed," U.S. Environmental Protection Agency, Office of Inspector General (OIG Report) at 2 (quoting EPA guidance, "the tribe must have enough targets to ensure a minimum of 25 inspections of a mix and workload commensurate with the financial resources and tribal capacity provided each year"), at epa.gov/sites/production/files/2019-10/documents/_epaig_20191029-20-p-0012.pdf (retrieved on January 4, 2020).
- 18 How to Comply with the Worker Protection Standard for Agricultural Pesticides: What Employers Need to Know and Additional Resources." EPA 305-C-05-001; Ag Center publication number 53000 (a 2005 CD).
- 19 See Training Resources for the Worker Protection Standard 2016," Pesticide Educational Resources Collaborative at <http://pesticideresources.org/wps/inventory.html> (retrieved on December 15, 2019).
- 20 Pesticide Code Title 18, Chapter 3, Ordinance GR-05-14, Gila River Indian Community, at gricdeq.org/view/download.php/pesticide-control-office/regulatory/user_file_19 (retrieved on January 4, 2020).
- 21 Pesticide Control Ordinance, Ordinance No. 96-05, Leech Lake Band of Chippewa Indians, at llojibwe.org/court/tcCodes/tc_coPesticideControlOrd.pdf (retrieved on January 4, 2020).
- 22 Chapter 21.45 Pesticide, Yurok Indian Tribe, at yurok.tribal.codes/YTC/21.45 (retrieved on January 4, 2020).



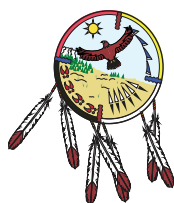
23 See FIFRA Cooperative Agreement Guidance, Appendix 1: Supplemental Information for Program Areas, at 25, 65-67.

24 See OIG Report at 6.

25 See “Areas of Indian Country Covered by the EPA Plan,” U.S. Environmental Protection Agency at [epa.gov/pesticide-applicator-certification-indian-country/areas-indian-country-covered-epa-plan](https://www.epa.gov/pesticide-applicator-certification-indian-country/areas-indian-country-covered-epa-plan) (retrieved on January 4, 2020).

26 See Guidance for Funding Development and Administration at 6 (“tribe must have enough targets to ensure a minimum of 25 inspections of a mix and workload commensurate with the financial resources and tribal capacity provided each year”), at <https://www.epa.gov/sites/production/files/2017-04/documents/tribalagreementguidance.pdf> (retrieved on January 7, 2020).

27 See “EPA Policy on Consultation and Coordination with Indian Tribes: Guidance for Discussing Tribal Treaty Rights.” U.S. Environmental Protection Agency (February 2016), at [epa.gov/tribal/epa-policy-consultation-and-coordination-indian-tribes-guidance-discussing-tribal-treaty](https://www.epa.gov/tribal/epa-policy-consultation-and-coordination-indian-tribes-guidance-discussing-tribal-treaty) (retrieved on January 7, 2020).



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APPENDIX A

Summary of Recommendations

Direct Implementation:

1. **Communications Strategy.** EPA should develop a well-defined communications strategy between EPA and tribes to be followed by each EPA region that would help EPA better meet its direct implementation responsibilities regarding pesticides for Indian country, particularly with tribes having no cooperative agreements with EPA or pesticide-related activities or programs on their lands.
2. **Best Management Practices.** EPA should establish best management practices for the Indian Environmental General Assistance Program (GAP), which practices would help tribes better use GAP funds to address pesticide-related issues and correspondingly help EPA meet its direct implementation responsibilities.
3. **Specific Resources for Tribes.** EPA should provide its discretionary financial and technical resources to tribes for direct implementation, if such resources exist, to allow them to develop activities and programs for the purpose of engaging in direct implementation activities related to pesticides.

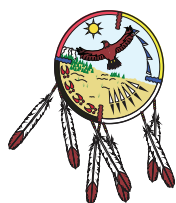
Risk Assessment:

1. **Tribal Exposure Scenario Pathways.**

- a. Federal agencies should consider pesticide exposures and how their effects are a growing problem in Indian country.
- b. Risk assessors should work to better understand cultural and subsistence practices that may be impacted by pesticides, and work towards more inclusion of tribal relevant information in current risk assessment models.
- c. Federal agencies should work with tribes to identify specific case studies against which the modified risk assessment models containing tribal pesticide exposure scenario pathways can be tested.
- d. Federal agencies should work with tribes to identify specific case studies against which the modified risk assessment models containing tribal pesticide exposure scenario pathways can be tested.

2. **Data.**

- a. Federal agencies and tribes should establish a partnership for the purpose of obtaining and making use of available quantitative and qualitative data for the risk assessment models with certain safeguards put in place to ensure the protection of this data.



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b. Federal agencies should work with tribes to find for them the requisite resources to support their training in the use of the risk assessment models and the actual risk assessments themselves.

Funding:

1. **Make grant funding competitively available.** EPA and other federal agencies should make additional State and Tribal Assistance Grants and other federal funding specifically and competitively available to tribes to address pesticide-related issues on their lands.
2. **Explore reprioritizing inspections required by EPA.** EPA should consider a change in the number of required inspections under EPA cooperative agreements with tribes.
3. **Help gain access to other funding sources.** Federal, state, and local agencies, and public and private entities should work with tribes to help them gain access to other funding sources for pesticide-related activities and/or programs.

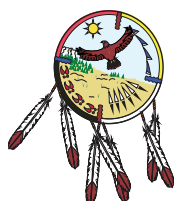
Education and Training:

1. Types of Pesticide Education and Training Courses.

- a. EPA should allocate sufficient funding annually for various tribal-specific education and training such as pesticide code courses.
- b. EPA and tribes should work with trainers to add tribal-specific information to their pesticide education and training courses.
- c. EPA should encourage and help locate the necessary resources to allow tribal-specific training whereby the tribal pesticide personnel of one tribe could shadow similar personnel of other tribes.
- d. Cultural sensitivity elements should be provided in any pesticide education and training courses made available to tribes.
- e. EPA should provide sufficient funding and training for “Train the Trainers” for Worker Protection Standard certification training for tribes.
- f. EPA should allocate funding for one or more circuit riders to train tribal pesticide staff members and other related staff on pesticide-related issues.
- g. EPA and other federal agencies should make specialized education and training available that equips tribal inspectors with the ability to address situations involving multijurisdictional enforcement (e.g., federal, state, tribal).

2. Location of Pesticide Education and Training Courses.

- a. EPA should work with tribes to establish in-person pesticide education and training locations that accommodate tribes in rural locations.



b. EPA should develop and conduct in-person “regional” pesticide education and training courses in conjunction with other tribal meetings and activities.

3. Scheduling of Pesticide Education and Training Course Scheduling.

a. EPA should work with tribes to establish a year-round, flexible pesticide education and training course schedule.

b. EPA should work with tribes to identify pesticide education and training courses that can be presented in regular and compressed formats.

4. Notifications for Pesticide Education and Training Courses.

a. EPA should work to ensure that tribes are provided with at least one to two months advance notice regarding pesticide education and training courses.

b. EPA should send out a calendar of events to all tribes, regardless of whether a tribe’s pesticide-related activities and programs are funded by EPA, or a tribe has an EPA project officer specific to pesticides, which calendar should also include detailed information on such items as event contacts and registration.

5. Pesticide Education and Training Course Funding.

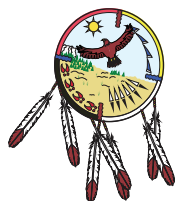
a. EPA should give a high priority to tribes in addressing the underdevelopment and unmet funding needs of tribal pesticide programs.

6. Pesticide Regulatory Education Program (PREP) Courses and Training Slots.

a. EPA should continue to encourage the PREP Steering Committee and Planning Groups to have tribal participation, and to equally encourage tribal representatives to participate in these groups.

b. EPA should help to ensure to schedule PREP courses that do not conflict with the times when most tribal participants have their busiest workloads.

c. EPA should explore opportunities to facilitate tribal cost-sharing for PREP planning, development, and implementation, in order to help increase the number of PREP course slots guaranteed to tribal participants, which participants should represent tribes with and without enforcement cooperative agreements.



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Enforcement and Compliance:

1. Enforcement referrals.

a. EPA should create a public document that identifies a feedback mechanism regarding tribal enforcement referrals, and establishes

timelines for each type of possible tribal enforcement referral and the time period by which EPA must provide an update to a tribe regarding a referral submission to EPA, including any action taken.

b. EPA should be held accountable to adhere to specific timelines identified in the public document.

c. Tribes should make a concerted effort to use their mid-year and end-of-year reports to follow up with their EPA project officers regarding enforcement referrals that they have made.

2. Enforcement Measures.

a. EPA regional project officers, if they are not doing also already when negotiating inspection commitment with tribes, should consider complicating factors identified by such tribes alongside available financial resources and tribal capacity to better determine the inspection commitments that tribes can reasonably meet.

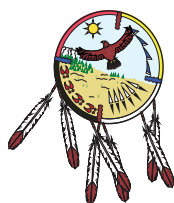
b. OECA should work closely with tribes to determine whether other criteria should be equally accepted with the pesticide enforcement performance measures used by OECA, when evaluating the performance of an enforcement program. Specifically, OECA and tribes should determine whether compliance assistance should be viewed as a measure of success equal to pesticide use inspections and enforcement actions, which are considered enforcement performance measures.

3. Jurisdictional and sovereignty issues.

a. OECA should include in the next FIFRA Cooperative Agreement Guidance that a state inspector may not conduct an inspection on a tribe's land unless his or her state has an MOU with the tribe on whose land that he or she wishes to inspect, or an emergency exists that necessitates the state inspector to conduct an inspection on behalf of EPA.

b. EPA should communicate the prohibition of state inspections on tribal lands, except under the preceding limited circumstances, under each state cooperative agreement with EPA; and, when a state inspector is authorized onto a tribe's land, the inspector must provide notification to the tribe in advance of his or her inspection.

c. EPA and other federal agencies should develop written guidance on how treaty-protect resources located on state and federal lands should be taken into consideration with respect to pesticides found on or near these lands.



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