

TSC ACCOMPLISHMENTS REPORT: 2017–2022



December 2022

National EPA-Tribal Science Council (TSC)

The TSC is excited to release highlights of its accomplishments from 2017 to 2022. The report provides a timeline of how the TSC has advanced in its mission to meet Tribal science needs and how EPA leadership and management support has been instrumental in the Council's accomplishments. The report also will outline the TSC's ongoing and future priorities and projects that will require the continued support of Agency leadership.

BACKGROUND

One of the important ways that EPA accomplishes its objective of strengthening relationships with Tribes is through constructive dialogues and priority setting between EPA and Tribes through the various EPA-Tribal Partnership Groups, including the TSC. In May 1999, under the auspices of 1984's *EPA Policy for the Administration of Environmental Programs on Indian Reservations* (commonly known as the 1984 EPA Indian Policy) and at the request of the National Tribal Caucus, the Office of Research and Development (ORD) Assistant Administrator called for the formation of a "Tribal Science Council" to provide a forum for interaction between Tribal and EPA representatives to work collaboratively on environmental science issues. The TSC is a partnership between EPA and Tribal Nations that seeks to increase Tribal involvement in EPA's scientific activities—building bridges between Tribal and EPA programs by focusing on priority Tribal science issues. The Council comprises EPA Representatives from program offices and regions, a Tribal Representative from each region, and a Tribal Representative of the Alaska Native communities.



TSC members in June 2022 at the Eastern Band of Cherokee Indians in Cherokee, North Carolina.

TSC TIMELINE OF ACCOMPLISHMENTS

2017 | Connections and Collaborations

In 2017, the TSC sought to strengthen its ties with regions, program offices, Tribes and the National Tribal Operations Committee (NTOC). The TSC strengthened its ties to Tribes throughout the country at its two face-to-face meetings in 2017. In June, the Council co-located its spring meeting with the Region 8 Regional Tribal Operations Committee (RTOC) meeting in Rapid City, South Dakota. During this meeting, the TSC heard about Tribal concerns in Region 8, including uranium mining contamination and solid waste issues. In December, the TSC fall meeting was hosted by the Salt River Pima Tribe in Phoenix, Arizona. The TSC listened to case studies from Tribes from several regions highlighting Tribal science and research, including Tribal issues related to the Salt and Verde Rivers, Penobscot Nation anadromous fish studies, and the use of traditional ecological knowledge and vegetative islands by the Colorado River Indian Tribes.

In August, the TSC formally established its collaboration with the EPA Office of Chemical Safety and Pollution Prevention (OCSP) and the National Tribal Toxics Council (NTTC) to develop a lead curriculum for Tribal communities to use to raise awareness about childhood lead exposure and implement actions to reduce or prevent childhood lead exposure. The TSC focused on this collaboration during both of its 2017 face-to-face meetings.

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During the spring meeting in South Dakota, the TSC members received an overview of lead exposure in children and heard from several lead programs, including EPA, the Oneida Nation and Region 8. During the fall meeting in Phoenix, Arizona, the TSC members were given a preview of the draft Tribal lead curriculum—*Lead Awareness in Indian Country: Keeping our Children Healthy!*—and participated in a working session to provide input to improve the curriculum modules. During this meeting, the TSC also heard about childhood lead efforts being undertaken in the Seneca-Cayuga Nation and in Region 9.

In October, the TSC Tribal Co-Chair attended the NTOC face-to-face meeting, strengthening the TSC’s relationship with the NTOC and National Tribal Caucus and establishing stronger partnerships with other EPA-Tribal Partnership Groups. Taking the opportunity to make more connections and collaborations, the TSC developed outreach materials, including a poster and brochure, to distribute at Tribal meetings, workshops and forums.

The work accomplished by the TSC in 2017 exemplifies how EPA is working to establish Tribal partnerships that empower Tribes to be able to address scientific needs in Indian country.

2017 SPECIFIC ACCOMPLISHMENTS

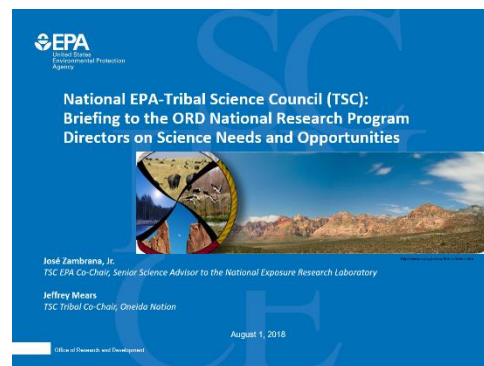
- Collaborated with the Region 8 RTOC and Tribes to hear about Tribal issues of concern in the region
- Established a partnership with OCSPP and NTTC to develop a Tribal children’s lead curriculum
- Strengthened ties with the NTOC, National Tribal Caucus and EPA-Tribal Partnership Groups
- Connected with Tribes around the country to hear about case studies in Tribal science and research
- Developed outreach materials to educate attendees at Tribal meetings, workshops and forums about the TSC

2018 | Tribal Lead Curriculum and ORD Research Input

In 2018, the TSC continued to inform the development of the Tribal lead curriculum. The TSC Co-Chair presented at several national Tribal forums throughout the year about the lead curriculum to obtain additional Tribal input on the curriculum modules. The five modules were built to allow Tribal instructors to tailor the curriculum for their communities; the modules include Tribal case studies and information about various lead sources, including those specific to Indian country.

The TSC also helped ORD ensure that Tribally relevant research was included in the six ORD National Research Programs’ Strategic Research Action Plans (StRAPs) for fiscal years (FY) 2019–2022. The TSC received an overview of the six National Research Programs by the six National Program Directors (NPDs) at its spring meeting in Cincinnati, Ohio. At this meeting, TSC members also received training on ORD’s implementation of the Tribal consultation process and learned about Tribal opportunities to participate in consultation. To assist ORD in identifying Tribal science and research concerns, the TSC utilized its connections with RTOCs and EPA-Tribal Partnership Groups to gather information about Tribal issues of concern to present to the NPDs. The NPDs used the information to guide its formal consultation with Tribes about the StRAPs.

The TSC also worked with the NTTC on a risk assessment collaboration in response to the amended Toxic Substances Control Act (TSCA) requiring EPA to perform risk evaluations of chemicals. The TSC and NTTC worked together to develop Tribal exposure scenarios to inform the evaluations.



The TSC Co-Chairs briefed National Program Directors to ensure that Tribes’ needs were included in ORD research planning and implementation.

The work accomplished by the TSC in 2018 exemplifies how EPA is working to support science needs on the ground in Indian country.

2018 SPECIFIC ACCOMPLISHMENTS

- Informed development of the Tribal children's lead curriculum
- Worked with the six ORD National Research Programs to ensure Tribal input into the research portfolios
- Collaborated with the NTTC to develop Tribal exposure scenarios to inform the new TSCA
- Connected with Tribes around the country to hear about case studies in Tribal science and research

2019 | Indigenous Research Frameworks

During its Winter 2018 Face-to-Face Meeting, the TSC participated in a training devoted to Indigenous research frameworks, resulting in the TSC's effort to collect examples of Indigenous research frameworks, protocols and methodologies to build national and international awareness about Indigenous science approaches. The TSC identified an approach to collect Tribal research protocol case studies and best practices and participated in a symposium devoted to Indigenous research at the Society for Environmental Toxicology and Chemistry (SETAC) 40th North American Meeting in Toronto, Canada, in November.

The Council also continued its efforts to ensure Tribal-relevant research was included in ORD's StRAPs, examining the identified Tribal science needs and draft StRAP research outputs to determine "cross-walk" areas in which the TSC could help make connections between ORD scientists and Tribes. The TSC also provided input on the draft *EPA Vision for Citizen Science*.

The TSC continued its NTTC collaborations, working to develop Tribal exposure scenarios to inform EPA's risk evaluations under the amended TSCA; the TSC presented about this effort at the SETAC 40th North American Meeting. The TSC also worked with the NTTC and OCSP to support a pilot of the childhood lead curriculum at Oneida Nation in Wisconsin in July. Finally, the TSC provided input on how to support EPA's *Federal Action Plan to Reduce Childhood Lead Exposure*, particularly in building capacity in Tribes.

The work accomplished by the TSC in 2019 exemplifies how EPA is committed to supporting Tribes in their efforts to protect their communities.

2019 SPECIFIC ACCOMPLISHMENTS

- Initiated an effort to identify and share Indigenous research frameworks, protocols and methodologies
- Supported a pilot of the Tribal lead curriculum
- Identified ORD research areas in which the TSC could connect Tribes to ORD scientists
- Provided input on EPA's citizen science and lead action plans

2020 | Indigenous Research Frameworks and Lead Curriculum Efforts Come to Fruition

The TSC continued its successes despite the COVID-19 pandemic, seeing several of its efforts come to fruition. The TSC met virtually with each of the RTOCs to gather case studies and examples of Tribal research protocols and policies that address engagement with non-Tribal scientists. This effort culminated in the TSC-sponsored *Incorporating Indigenous/Traditional Knowledge and Values in Environmental Management—Strengthening Decision*

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Making in a Modern World Symposium at the SETAC 41st North America Meeting. The symposium advanced the cooperation of Western and Indigenous science approaches in the United States

Lead Awareness in Indian Country: Keeping our Children Healthy! was formally published in November, and the TSC supported a virtual roundtable highlighting the curriculum. The TSC, NTTC and OCSPP obtained input from more than 200 Tribal representatives from 80 different Tribes to ensure that the curriculum was Tribally driven and relevant. Since 2020, more than 1,600 individuals have attended sessions devoted to the curriculum, and the entire curriculum has been translated into Spanish, which will allow more communities to take advantage of this valuable resource for Indian country.



Launching the lead curriculum pilot at the Oneida Nation.

In 2020, the TSC connected with the NTTC and led a systemic literature review of subsistence aquatic food consumption and an effort to identify and address Tribal needs related to PFAS. TSC members were instrumental in the establishment of the national Tribal PFAS Working Group. The Council also helped Region 10 share its updated web-based, user-friendly EPA-Tribal Environmental Plan (ETEP) database.



The TSC hosted three successful Virtual Science Meetings in Spring and Fall 2020 and Spring 2021.

Facing unprecedented challenges, the TSC successfully transitioned its semiannual meetings from a face-to-face format to a virtual platform at the beginning of the COVID-19 pandemic. Ultimately, the TSC held three Virtual Science Meetings, including two meetings in the spring and fall of 2020. TSC members heard from national experts about Indigenous research frameworks, culturally sensitive and appropriate protocols for Tribal historic preservation and Tribal consultation, and environmental justice and Tribal rights issues. TSC members also learned about the Rights of Nature Legal Framework, which describes the inherent rights associated with ecosystems and species in a manner similar to the concept of fundamental human rights.

The work accomplished by the TSC in 2020 exemplifies how EPA is committed to addressing the Tribal science issues identified by Tribes.

2020 SPECIFIC ACCOMPLISHMENTS

- Gathered case studies of Indigenous research frameworks and built national and international awareness
- Released *Lead Awareness in Indian Country: Keeping our Children Healthy!* curriculum and supported a roundtable to help Tribes adopt the curriculum in their communities
- Performed a systemic literature review of subsistence aquatic food consumption
- Helped address Tribal PFAS concerns, providing representation on the newly established Tribal PFAS Working Group
- Disseminated information about Region 10's revised ETEP database
- Hosted two successful Virtual Science Meetings during the pandemic

2021 | Tribal-Relevant Research and Tools

The TSC once again is working to assist ORD in determining its research portfolio for FY 2023–2026, meeting with the six NPDs to discuss the next round of StRAPs. The TSC also sponsored six virtual Tribal listening sessions throughout 2021 to obtain input about wildland fire research, climate change and related equity concerns, and cumulative impact assessments. The Council began to reach out to the RTOC and EPA-Tribal Partnership Groups to receive feedback about Tribal science needs and concerns that could be addressed in ORD’s FY 2023–2026 research portfolio.

The TSC hosted four lead curriculum train-the-trainer sessions to educate Tribal community members on how to implement the curriculum in their communities. The TSC continued its successful virtual meeting model as the pandemic continued, hosting a successful Spring 2021 Virtual Science Meeting in May, hearing from national experts about Indigenous research frameworks, Tribal lifeways and Tribal values in risk assessment. Additional regions reported instituting the ETEP database publicized through the TSC to support their Tribal programs.

The work accomplished by the TSC in 2021 exemplifies how EPA is committed to including Tribes in the research planning process and supporting Tribal communities to build capacity.

2021 SPECIFIC ACCOMPLISHMENTS

- Assisted ORD in obtaining Tribal input to inform its research portfolio
- Supported train-the-trainer sessions to enable Tribal communities to implement the Tribal lead curriculum
- Hosted a successful Virtual Science Meeting as the pandemic continued

2022 | Reconnecting

In 2022, the TSC reconnected in person, hosting the first face-to-face meeting since November 2019. The meeting was held in June at the Eastern Band of Cherokee Indians (EBCI) in Cherokee, North Carolina. The TSC’s continued efforts on Indigenous research methodologies and the recent White House memorandum committing to elevating Indigenous TEK in federal scientific and policy processes informed the theme of the meeting: “Traditional Knowledge.” This is a topic that the TSC has led the way on since publishing its 2011 white paper on TEK and holding its 2013 TEK Training Workshop in Haudenosaunee territory.

During the TSC Summer 2022 Face-to-Face Meeting, the group held a robust working session on Tribal knowledge, research protocols and data sovereignty, led by an EBCI researcher and the EPA representative on the White House’s Interagency Working Group on Indigenous TEK. Attendees also heard from EBCI researchers working to restore Cherokee natural and cultural resources and received a reservation tour of some of these resources, also visiting the Ela Dam, which the Tribe is working on removing to help restore fish habitat.



The Ela Dam on the Oconaluftee River near Cherokee, North Carolina.

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The TSC continued its theme of reconnecting during the TSC Fall 2022 Face-to-Face Meeting at EPA’s facility in Research Triangle Park, North Carolina. The theme was “Science Connectedness and Collaboration: Walking the Path Together.” The TSC’s Tribal Caucus conducted a “Tribal Civics 101: Understanding the Tribal–Federal Relationship” session to educate EPA staff about the historical and legal basis for inherent sovereignty, Tribal consultation and engaging with Tribes. The TSC also engaged in a working session devoted to co-production of research that focused on what co-production looks like from a Tribal perspective, including protection of Tribal knowledge. Presentations, tours and discussions at the meeting advanced the TSC’s understanding of key science topics of interest to Tribes, including 6PPD/6PPD-quinone, pollinators, harmful algal blooms and wildfire smoke. The Tribal keynote plenary focused on climate adaptation and Indigenous knowledge perspectives.



TSC members receive a tour of EPA’s Research Triangle Park facility in North Carolina.

The work accomplished by the TSC exemplifies how EPA is committed to connecting with Tribes and partnering with them to make connections that allow better understanding of the environmental and science issues that Tribes face.

2022 SPECIFIC ACCOMPLISHMENTS

- Held two successful face-to-face meetings, one on Tribal lands and one at an EPA research facility after 3 years of separation
- Planning another face-to-face meeting to emphasize the theme of connections and connectedness
- Continuing its groundbreaking work on Indigenous knowledge that it started more than a decade ago

NEXT STEPS AND DIRECTION OF THE TSC

The TSC is poised to continue supporting its successful efforts. The Council will continue to learn about Indigenous research protocols and frameworks and publicize best practices for non-Tribal scientists working with Tribal communities to ensure that the Tribal community benefits directly from the research. This includes exploring the co-production of research and what it means to Tribes and what success looks like from Tribal and EPA perspectives, as well as helping develop research protocols for EPA researchers. The TSC will continue to support the lead curriculum, cumulative impacts, risk assessment, Tribal exposure and PFAS efforts so that Tribal communities have safe environments in which to practice their cultural and subsistence activities with less risk of exposure to harmful contaminants. Finally, as it has always done, the TSC will be responsive to future requests from Tribes to explore emerging areas of concern.