U.S. Department of the Interior

INLAND OIL SPILL PREPAREDNESS PROGRAM

10-Year Anniversary Report

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ACRONYM GLOSSARY

- ACP – Area Contingency Plan
- BIA – Bureau of Indian Affairs
- BLM – Bureau of Land Management
- CAP – Central Arizona Project
- EPA – U.S. Environmental Protection Agency
- ESA – Endangered Species Act
- FWS – U.S. Fish and Wildlife Service
- GAO – Government Accountability Office
- GRP – Geographic Response Plan
- HAZWOPER – Hazardous Waste Operations and Emergency Response
- HCRTS – Historical/Cultural Resources Technical Specialist
- HPS – Historic Properties Specialist
- ICS – Incident Command System
- IPaC – Information for Planning and Consultation
- IOSPP – Inland Oil Spill Preparedness Program
- LAND – Land Area and Name Directory
- LEPC – Local Emergency Planning Committee
- NAGPRA – Native American Graves Protection and Repatriation Act of 1990
- NCPTT – National Center for Preservation Technology and Training
- NRDAR – Natural Resource Damage Assessment and Restoration
- NPS – National Park Service
- NRT – National Response Team
- NWIS – National Water Information System
- NWS – National Weather Service
- OPA – Oil Pollution Act of 1990
- OSC – On-Scene Coordinator
- OSHA – Occupational Safety and Health Administration
- OEPC – Office of Environmental Policy and Compliance
- ORDA – Office of Restoration and Damage Assessment
- POA – Plan of Action
- PNW – Pacific Northwest
- RCP – Regional Contingency Plan
- RRT – Regional Response Team
- Reclamation or BOR – Bureau of Reclamation
- SCAT – Shoreline Clean-Up Assessment Technique
- SHPO – State Historic Preservation Officer
- THPO – Tribal Historic Preservation Officer
- THRO – Theodore Roosevelt National Park
- TTX – Tabletop Exercise
- TWG – Tribal Working Group
- UPRR – Union Pacific Railroad
- UC – Unified Command
- USCG – U.S. Coast Guard
- USIBWC – United States International Boundary and Water Commission
- USGS – U.S. Geological Survey
- YAO – Yuma Area Office

ABOUT THE PROGRAM

On behalf of the public, the Department of the Interior (the Department or Interior) manages the multiple uses of one-fifth of the land in the United States, including national parks, wildlife refuges, and other public lands. Because energy resource development and transportation present the potential for accidental releases, the Department developed and implemented the Inland Oil Spill Preparedness Program (IOSPP) in 2015.

Led by the Office of Restoration and Damage Assessment (ORDA) and the Office of Environmental Policy and Compliance (OEPC), the IOSPP facilitates wider participation and input across the Department by providing resources to support nation-wide oil spill contingency planning and response activities across four key focus areas.

In the last decade, the IOSPP has provided ~$9.5 million, through congressional appropriations, to seven Interior Department bureaus and offices. Our innovative and forward-leaning projects have led to an improved ability to prepare for and respond to inland oil spills. This leads to increased efficiency and efficacy during response operations, as well as decreased response-related costs to industries that develop and transport oil.

PROGRAM PARTICIPANTS

Bureau of Indian Affairs

Bureau of Land Management

Bureau of Reclamation

National Park Service

U.S. Fish and Wildlife Service

U.S. Geological Survey

CO-CHAIRS

Office of Restoration and Damage Assessment

Office of Environmental Policy and Compliance

CO-CHAIRS' MESSAGE

The Department's mission to manage natural resources includes water and mineral resources that contribute to conventional energy supplies in supporting a vibrant U.S. economy and critical national security. Of the resources managed by the Department, petroleum oil continues as the preferred solution to meeting U.S. energy demands. The IOSP Program originally began in 2015 when oil demand and transportation volume were quite high, and spills and risks to DOI resources were frequent due to aging infrastructure.

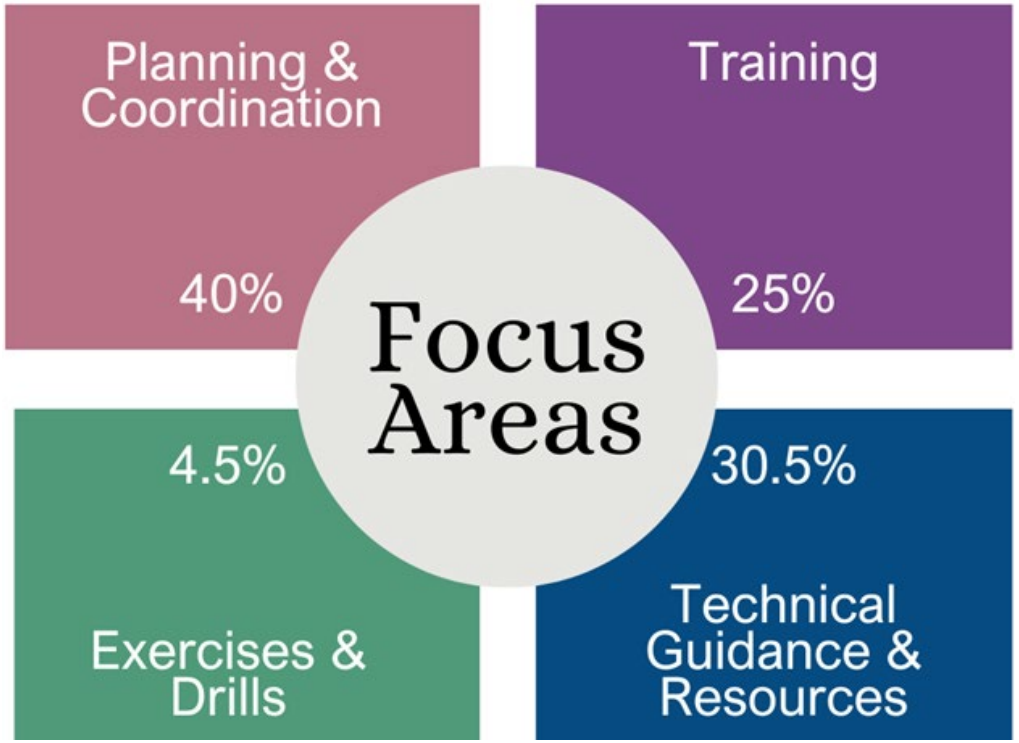
The U.S. is currently experiencing rapid escalation of energy demands to maintain its economy and national security, requiring the development and delivery of American energy reserves to meet these needs. Spills to our inland and coastal waterways are typically commensurate with greater delivery frequencies, quantities, and transport distance – and necessitate continued training and certification of staff, partner agencies and industry. These spill response preparedness efforts must continue, that all may proceed safely with their duties and to better protect our resources in coordination with the nation's primary response agencies. We also must maintain a system of readiness, complete with effective leadership, efficient response tools, and expert teams who can cycle through longer duration incidents while maintaining continuity of operations.

To date we have funded over 150 unique projects - many are so innovative and interesting that we wish we had room to share them all! Please reach out to your respective Bureau Representatives, OEPC Regional Environmental Officer, or to the Co-Chairs listed in this Report. We are happy to share more about past and ongoing projects, potential future collaborative projects, including multi-agency/industry training, spill exercise opportunities, and the various levels of contingency planning and coordination. Our mantra hasn't changed since we started this Program – "Coordinate, train, and practice with all who we may be responding with in the event of an oil spill or hazardous substance release."

PROGRAM OBJECTIVES

Projects may encompass more than one Focus Area but, for this report, were categorized by the Focus Area most prominent in the proposal. Of IOSPP-funded projects in the last 10 years, 40% facilitated planning and coordination activities, 25% facilitated training, 4.5% facilitated exercises and drills, and 30.5% facilitated the development or advancement of technical resources and guidance.

All IOSPP funded projects must be designed to accomplish one or more of the following priorities of the four Focus Areas as they relate to Departmental mission-related responsibilities under the Oil Pollution Act of 1990 (OPA):



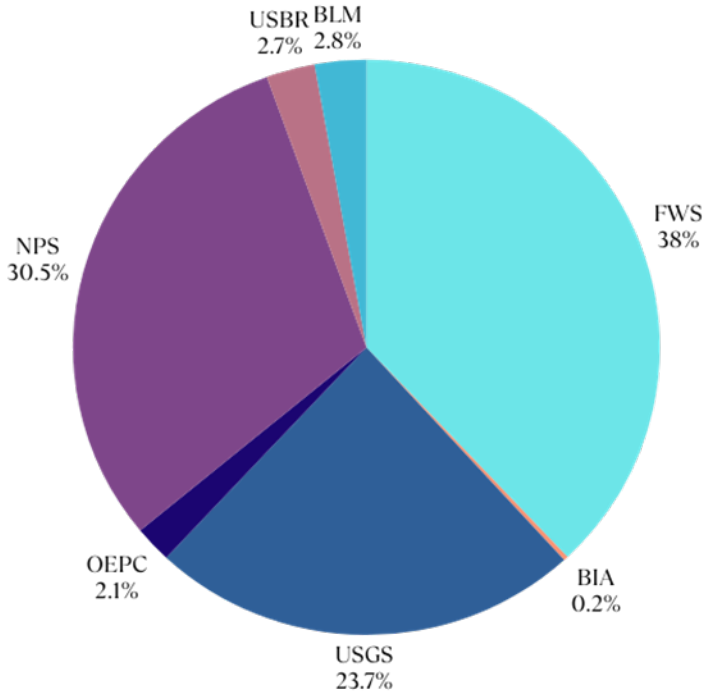
- Assessment of inland oil spill vulnerabilities for Interior lands and resources
- Coordination of updates to the Departmental spill response and preparedness framework
- Enhance bureau and office participation in contingency planning
- Enhance the Department's training for inland oil spill preparedness and response
- Provide education and outreach to intergovernmental partners and the public
- Provide scientific support for inland oil spill preparedness and response
- Enhance the Department's participation in inland oil spill exercises and drills

FUNDING OVERVIEW

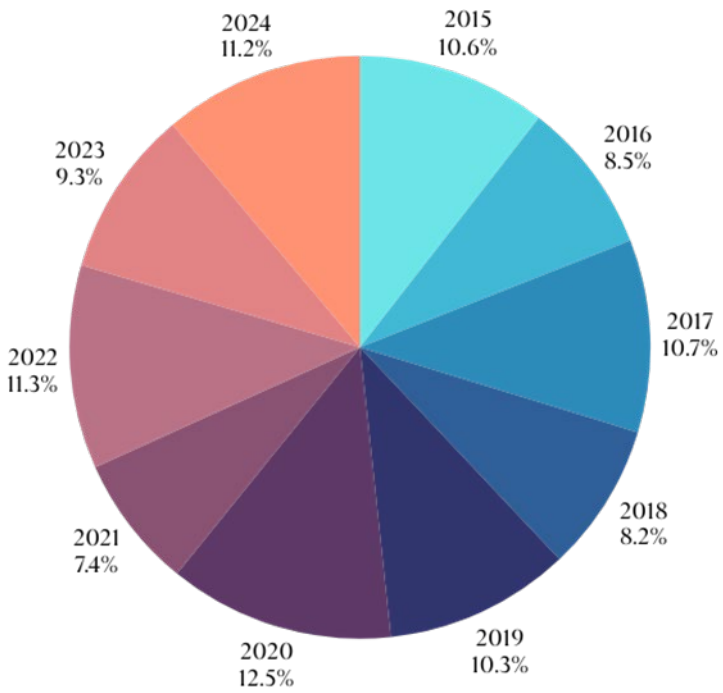
The IOSPP is funded through Congressional appropriations deposited into the Department's Natural Resource Damage Assessment and Restoration (NRDAR) Fund, a revolving fund which enables IOSPP funds to be managed as "no-year" dollars, available until expended.

The IOSPP Work Group is responsible for recommending priorities for annual allocations. Each year, bureau and office reps submit project proposals, including a budget outline, for review and group vote to approve or disapprove for funding. That recommendation goes to the ORDA and OEPC Directors for final funding approval. As indicated in the charts below, annual funding amounts (percent of 10-year total received) remain generally consistent from year to year.

10-year Cumulative Proportions, by Bureau



Annual Allocations, Percent of Total



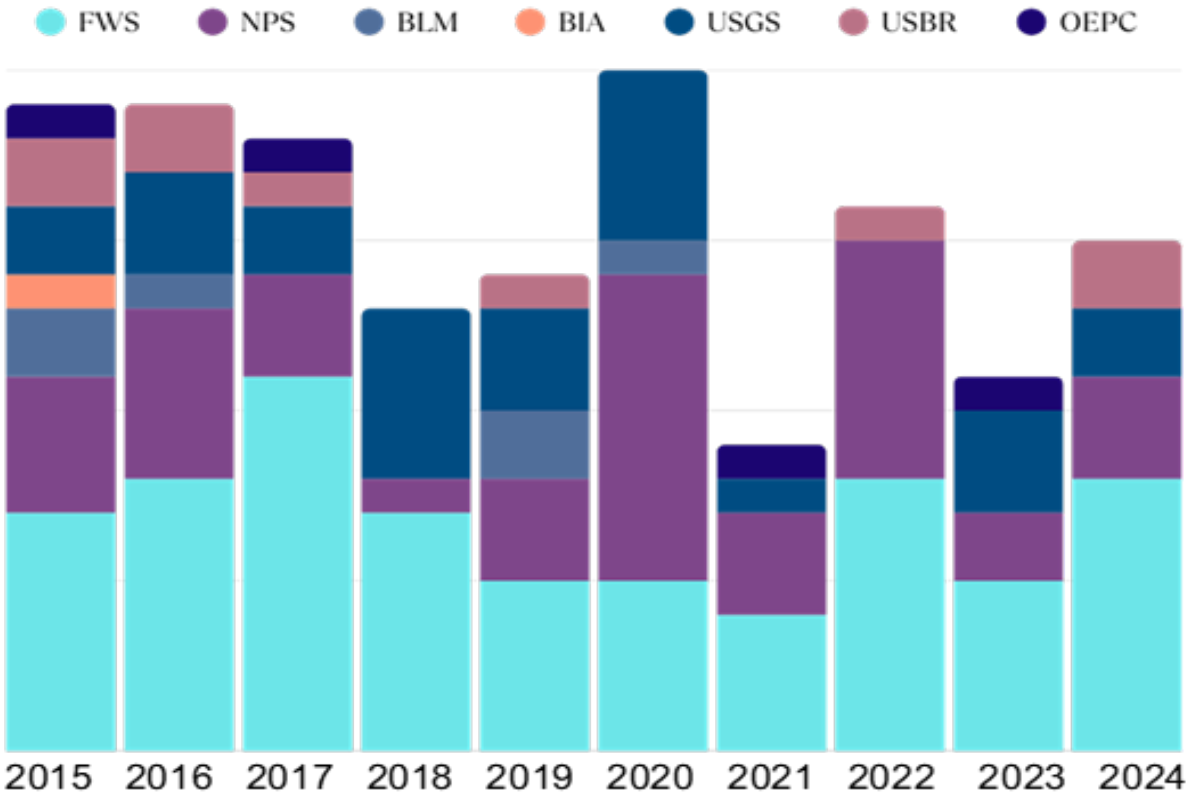
ANNUAL DISTRIBUTIONS

This bar chart qualitatively represents the project allocation amounts approved for each bureau or office in each year from 2015-2024. Not all bureaus or offices submitted proposals every year. While seven bureaus and offices received funding in the last decade, most were led by FWS, NPS, and USGS.

It is important to note that this graph shows the relative dollar amounts approved for *new* projects in a given year and does not account for multi-year projects continuing to be managed from a prior year.

Annual Projects

(by bureau/office per year)



PLANNING & COORDINATION

The IOSPP promotes coordination and participation of bureaus and offices in all levels of spill contingency planning activities. These include support for the development of Area Contingency Plans (ACPs), Regional Contingency Plans (RCPs) and Geographic Response Plans (GRPs) with federal, state, and local government; non-governmental organization; and private sector industry partners, as well as participation in Regional Response Team (RRT) meetings and associated planning and preparedness efforts.

The RRTs are composed of representatives from state and federal agencies and are responsible for spill response, planning, training, and coordination for their geographic region. RRT meetings are crucial for identifying members' abilities to respond to requests for assistance with technical resources or expertise, equipment, or manpower and are the foundation for planning and coordination at the regional level. The RRT develops RCPs to ensure that roles for all entities during an incident are clearly outlined. Federal agencies that are members of the RRT also provide inputs for exercises of regional plans. These exercises test the ability of federal, state, and local agencies to coordinate emergency response activities and provide critical lessons learned to revise and refine plans. RCPs are reviewed and improved upon, as necessary, following training or real-world incidents.

$3.39 million funded 61 projects related to Planning and Coordination over the last decade including:

- Conducting surveys of State Historic Preservation Officers (SHPOs) and Tribal Historic Preservation Officers (THPOs) to document their level of preparedness and ability to provide support in the event of an oil spill and develop recommendations that can advance engagement and data sharing during pre-planning processes.
- Updating the Best Practices for Migratory Bird Care During Oil Spill Response document. Originally developed in 2003, FWS staff was able to evaluate comments from experts in the field, revise the document, and distribute across the National Response Team (NRT) and RRTs.
- Using FluOil models through the USGS to improve understanding of how spilled or released oil moves and changes with the environment in the vicinity of the lower St. Croix River and enhance the NPS' planning capabilities for potential spills within the St. Croix River National Scenic Riverway.

PROJECT SHOWCASE – LAND AREA AND NAME DIRECTORY

On-Scene Coordinators (OSCs) are required by statutory authority, executive order, and policy to consult with Tribal governments and state historic preservation offices (SHPOs) when federal actions have the potential to affect historic or cultural resources that are of concern to the Tribes and states. Federal staff tasked with emergency planning and response often struggle to effectively identify and contact Tribes. The Government Accountability Office's (GAO) 2019 report "Tribal Consultation: Additional Federal Actions Needed for Infrastructure Projects" identified that the lack of accessible, accurate, relevant, and current contact information for federal agencies and Native Nations was the weakest link for both project managers and Tribal governance. In 2019, the IOSPP provided the NPS with over $200,000 to develop a geospatially enabled web-based application, initially known as "Horizons", to enable rapid updating of contact and geographic area of interest information and documentation of workflows that would enable future expansion of the application.

What is NATHPO?

The National Association of Tribal Historic Preservation Officers (NATHPO) is a 501(c)(3) non-profit organization that supports and encourages Tribal historic preservation programs. They provide guidance to preservation officials, elected representatives, and the public about national historic preservation legislation, policies, and regulations. NATHPO promotes Tribal sovereignty, develops partnerships, and advocates for Tribes in governmental activities on preservation issues.

What is LAND and how will it work?

The Land Area and Name Directory (LAND) will become a robust, intuitive, web-based geospatial mapping application incorporating data provided by Tribes, including contact information and data that is publicly available, on Tribal areas of interest within the U.S. It will allow Native Nations to indicate how they would like to be contacted when local, state, and federal emergencies have the power to impact or are impacting Tribal areas of interest. The goal is to empower Tribal Nations and facilitate engagement and communication during emergency incident response. LAND could become a first-of-its-kind Tribal geospatial, emergency response, communication tool implemented by Tribal Nations for Tribal Nations and others. This platform is designed to place control of the data shared and methods of contact in the hands of individual Tribes; each Tribal Nation controls the security/sharing of their own data and can directly update their information to ensure continued accuracy.

The original impetus of this project was to give responders quick access to contact information during a time-sensitive emergency response. The intention has grown to include using LAND to foster meaningful, proactive Tribal communications with NATHPO, a tribal non-government organization, housing and launching the application. The information Tribal Nations provide will be used by other Native Nations, state and federal agencies, and other organizations who may need to contact Tribes regarding emergency response or project work in areas of Tribal interest.

What is the relationship between NATHPO and LAND?

NATHPO will bridge the gap between federal agencies and Tribal Nations and will be responsible for maintaining and updating LAND to keep it a current, relevant resource. Based on its scope and status as a trusted NGO Tribal organization, NATHPO is uniquely positioned to promote and build trust in the initiative among the Tribes. NATHPO will house the LAND database, ensure the database's security, and provide communications and training on data population and the use of the LAND database. All involved hold a mutual understanding that teamwork, trust, and support between Tribal and federal partners is essential for the successful development and launch of this initiative.

NATHPO Executive Director, Dr. Valerie Grussing, presenting LAND at the 2023 NATHPO Conference.

Desiring to address challenges that similar tools have historically faced and understanding the need for the data to remain Tribally anchored, in 2022 the project was transitioned to the National Association of Tribal Historic Preservation Officers (NATHPO) and rebranded as the Land Area and Name Directory (LAND) through additional funding by the IOSPP ($530,000), along with other Department of the Interior entities and the Department of Agriculture. As a Native-led, Native-focused organization with mutual interests, NATHPO will engage Native Nations on crucial conversations regarding the applications implementation and ongoing improvement.

Why is LAND different from other databases?

The primary objective of this project is to establish this database under the premise that ownership and control of Tribal Nation data must be anchored with the individual Tribes. While there are significant improvements in functionality from other databases, the most important difference is that the contact database and map information will be provided and managed by Tribal Nations through NATHPO. No federal agency or organization will have ownership or control of information that is shared.

What's next?

There is still much to be done before this premier tool is ready for implementation, but the project continues to make great progress. The framework of the app is currently under construction, and in January 2025, NATHPO hired a GIS Specialist to work with the LAND Tribal Working Group (TWG) to continue development. The TWG is comprised of Tribal Historic Preservation Officers (THPOs) and Tribal staff from across the country. Next steps involve direct Tribal outreach, beginning to upload data into the database, and working to establish operational funding to sustain LAND.

NATHPO GIS Specialist, John Swigart, working on the GIS application.

TRAINING

IOSPP funding is used to facilitate the development and delivery of targeted training. This training is primarily intended for the Department, but local, state, and regional partners are also invited to participate. Training is critical for supporting effective engagement, planning, and response for inland oil spills. Special emphasis is placed on highlighting protective measures for natural and cultural resources and Tribal lands.

$2.67 million funded 38 projects supporting the development and delivery of training and workshops and travel for attendance by Interior personnel. Courses rely on the expertise of instructors from within the Department but also may include instructors from state and local agencies; IOSPP funding is used pay for travel and lodging for these instructors. Some of these projects include:

- Hazardous Waste Operations and Emergency Response (HAZWOPER) training for Interior responders. All field responders to oil or hazardous material spills must maintain a 40-hour or 24-hour HAZWOPER certification (depending on job duties). While there are several options available privately or through government-sponsored vendors for obtaining on-line or in-person HAZWOPER training, those courses generally lack information specific to oil or hazardous material response for natural resources. These IOSPP-funded courses have provided training that satisfies Occupational Safety and Health Administration (OSHA) requirements while tailoring the course to the unique job duties of Interior responders. To date, over 150 personnel have received this training and certification.

- Historic Properties Specialist (HPS) (or Historical/Cultural Resources Technical Specialist (HCRTS)) training for Interior responders. This training increases the capacity of cultural resource specialists who can respond to inland oil spills that may affect federal and Tribal lands and interests. The course addresses the protection and stabilization of archaeological sites, cultural landscape features, and historic structures that may be affected by an inland oil spill.

- Immersive, experiential-based visual training modules designed to provide enhanced training on written spill-response protocols for waterbodies where freshwater mussels occur. An interdisciplinary production team from Virginia Tech was contracted to work in collaboration with a team of conservation biologists from FWS to produce this training.

PROJECT SHOWCASE – INLAND OIL SPILL RESPONSE COURSE

Since the first year of the IOSPP in 2015, the IOSPP has provided $698,000 to the FWS National Conservation Training Center (NCTC) to develop and host the Inland Oil Spill Response course. To date, this course has trained 769 potential responders, both from within the Department and from other federal, state, tribal, and local agencies, and industry. High-quality formal instructional design and training materials are presented in hands-on learning exercises, case studies, and field labs. Instructors from the Department and the Environmental Protection Agency (EPA) facilitate the course. Tuition for Interior attendees has thus far been 100% covered through IOSPP funding.

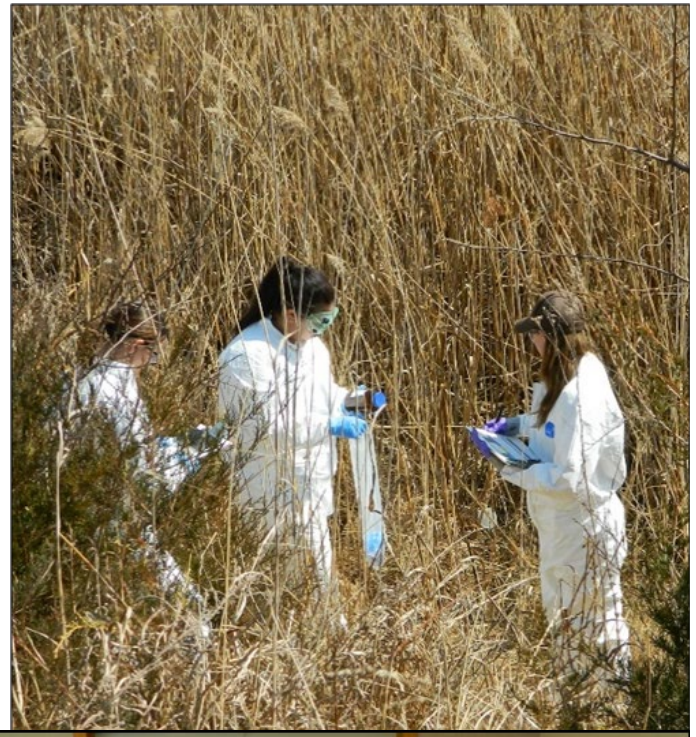
Participants in this course learn about agency roles in responding to inland oil spills affecting resources under the trusteeship of the Department. Response procedures are described for both inland and freshwater environments. Emphasis is placed on planning for emergency response roles and coordinating the multi-agency response from within the Incident Command System (ICS) as led by the EPA.

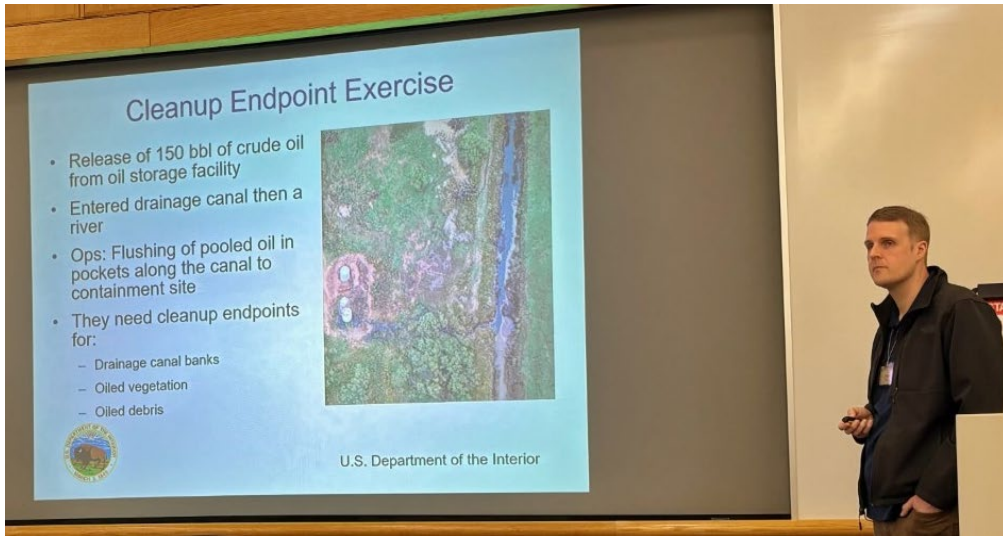
The CSP3129 course group photo from the March 2025 course held at the National Conservation Training Center in Shepherdstown, WV.

Topics covered include:

- Departmental roles and responsibilities during spill response
- Regulatory guidance
- Principles and basic structure of the ICS and Unified Command (UC)
- Safety and personal protective equipment requirements
- The science of oil spills: oil properties, behavior, and environmental effects
- Shoreline Clean-up Assessment Technique (SCAT) assessments
- Identification of on-water response strategies and environmental protection, clean-up methods and endpoints
- Developing sampling plans and collecting samples
- Oiled wildlife response

The course culminates with two field labs in SCAT and sampling procedures, followed by an ICS exercise to give participants hands-on planning experience using a real-world case study.





(Top Right) Students dressed in protective gear participating in the SCAT portion of the field lab. (Right) A break-out group participates in a case study performing the role of the Resources at Risk section during an ICS exercise. (Left) John Nelson (OEPC) facilitates a class discussion on clean-up endpoints.

EXERCISES AND DRILLS

In addition to training, the IOSPP provides project funding to the bureaus and offices in support of the development of and/or the travel costs for participation in oil spill response exercises and drills held by Interior, the EPA, U.S. Coast Guard (USCG), the NRT, or the RRT(s). Exercises and drills are crucial to testing preparedness and response plans and coordination requirements, and for identifying gaps, weaknesses, or lessons-learned that can then be used to improve those plans.

Over the last 10 years, over $195,000 in funding has allowed for Interior to host several exercises including:

- In 2022, Interior held a tabletop exercise (TTX) for a portion of the Green River within the Uinta Basin of northeastern UT. The Green River provides and supports important biological and economic natural resources that are managed by five Interior bureaus. This exercise focused on notification and mobilization, resources at risk, immediate response needs, staffing, oil assessment and clean-up decision making, and NRDAR. Participants included staff from the Department (including FWS, NPS, Reclamation, BLM, BIA, and USGS), EPA, National Weather Service (NWS), the state of UT, petroleum industry representatives and other first responders. This exercise contributed to better coordination and identification of lessons-learned to improve contingency plans and coordination roles moving forward. Additional information on this exercise can be accessed at this hyperlink.
- In 2023, NPS hosted a TTX to test the Siouxland Sub-ACP. The Missouri National Recreational River protects nearly 100 miles of the Missouri River on the border of SD and NE. This area of river is a nationally significant resource with unique cultural, ecological, fish and wildlife, geological, recreational, and scenic resources. The lower river district is threatened by an active petroleum pipeline; a spill could impact over half of the park including sensitive habitat of threatened and endangered species, as well as natural and cultural resources. An increased emphasis on the protection of cultural resources has stemmed from concerns of local Tribal leadership. Areas of fossils, human remains, bison bones, or other sensitive cultural artifacts have become exposed in recent years. This TTX was used to analyze existing planning documents and supplement them to ensure adequate protection of cultural resources.

PROJECT SHOWCASE – BOOM DEPLOYMENT TRAINING AND EXERCISE

The Interstate 8 and Ocean to Ocean Bridge crosses the Colorado River at Yuma, AZ, as does the Union Pacific Railroad (UPRR), providing the potential for release of hazardous substances or oil spills into the Colorado River. An incident in July 2021 on the Interstate 8 Bridge raised local awareness that highway and railway accidents could easily allow pollutants to enter the river. In 2022, the Reclamation Yuma Area Office (YAO) contracted with Elastec, a world leader in oil spill clean-up equipment, to train 44 personnel from Reclamation, BLM, USGS, Yuma and Rural Metro Fire Departments, Cocopah and Quechan Indian Tribes, Central Arizona Project (CAP), UPRR and other State and Local stakeholders.

Training on oil boom deployment methods and strategies for oil spill response on the Lower Colorado River at Yuma, AZ spanned two days:

- Day 1 – Individuals received classroom instruction, where UPRR provided information on the various hazardous materials transported through the area, as well as notification and response procedures and local capabilities. Elastec then provided an overview of response materials and supplies, and boom deployment methods and strategies for boom deployment from both the shoreline and a boat. Elastec also provided personnel with the opportunity to learn about their response trailer and the purposes and capabilities of the response equipment they bring to each incident.

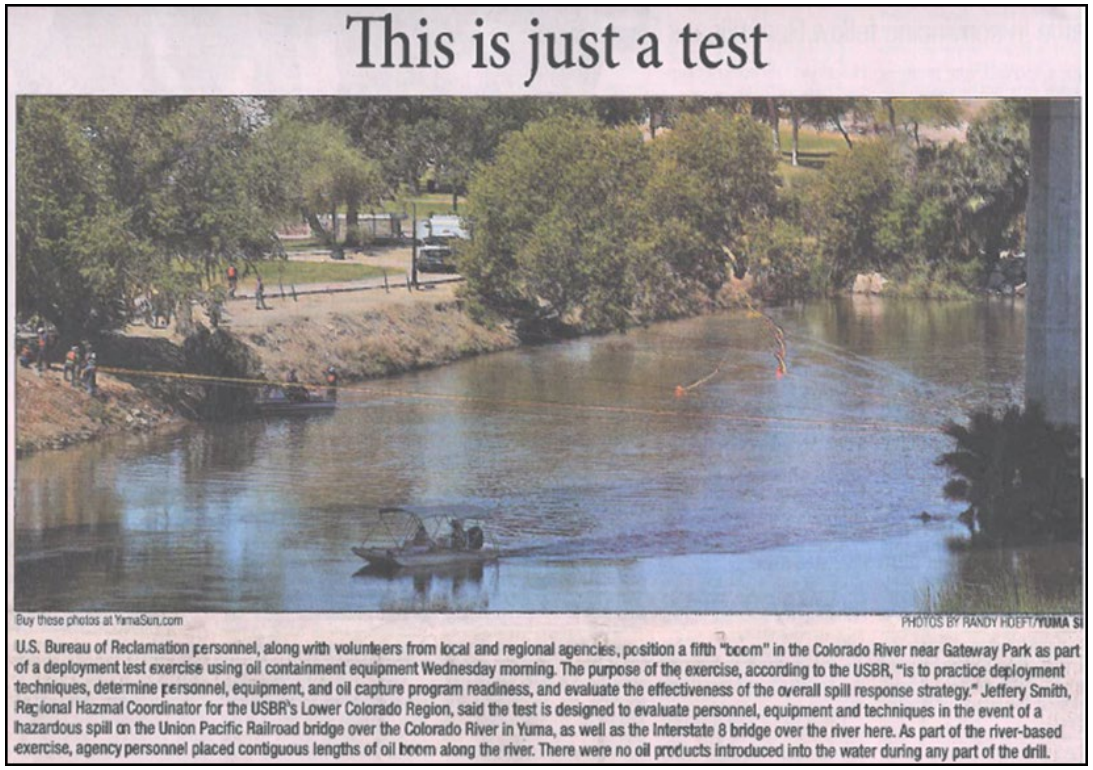
- Day 2 – A hands-on boom deployment exercise and notification drill took place on the Lower Colorado River, during which, personnel were able to practice boom deployment techniques, personnel position assignments, equipment use, program readiness, and evaluation of spill response strategies effectiveness.

Photos: Day 1 classroom training (left photo) and equipment familiarization (right photo).

The IOSPP provided Reclamation with over $19,000 for this project, that funded the Elastec contract, travel for multiple government employees to attend this training, and tuition and travel to send YAO Reclamation employees to Elastec's River Spill Fall Workshop. In-Kind support was provided by UPRR, who funded instructors from Whitewater Rescue Institute and provided the response trailer and equipment.

Outcomes from this training and exercise were used to assist with future response planning by the Local Emergency Planning Committee (LEPC), which includes members of Yuma City and County Emergency, Fire, and HAZMAT personnel, Quechan and Cocopah Indian Tribes' emergency response, Reclamation, UPRR, local businesses involved with chemical storage and use, and AZ State Emergency Management.

The YAO is responsible for meeting water delivery treaty requirements for the Colorado River water flow into Mexico. During the notification drill the Department of State – United States International Boundary and Water Commission (USIBWC) participated in the exercise and was responsible for notifying Mexican Officials.



This is just a test

Buy these photos at YumaSun.com

PHOTOS BY RANDY HOEFT/YUMA SU

U.S. Bureau of Reclamation personnel, along with volunteers from local and regional agencies, position a fifth "boom" in the Colorado River near Gateway Park as part of a deployment test exercise using oil containment equipment Wednesday morning. The purpose of the exercise, according to the USBR, "is to practice deployment techniques, determine personnel, equipment, and oil capture program readiness, and evaluate the effectiveness of the overall spill response strategy." Jeffery Smith, Regional Hazmat Coordinator for the USBR's Lower Colorado Region, said the test is designed to evaluate personnel, equipment and techniques in the event of a hazardous spill on the Union Pacific Railroad bridge over the Colorado River in Yuma, as well as the Interstate 8 bridge over the river here. As part of the river-based exercise, agency personnel placed contiguous lengths of oil boom along the river. There were no oil products introduced into the water during any part of the drill.

Above: Participants deploy boom across the Colorado River in an oil spill exercise. Left: The exercise was featured in the Yuma Sun on April 26, 2022.

TECHNICAL RESOURCES & GUIDANCE

With ongoing advancements in technology and the ever-changing landscape of resources at risk, it is imperative that planning and response processes continue to evolve. New technical resources, methods, and information aid responders in revising planning, coordination, and response strategies to better address the complexities of oil behavior, resources at risk, or when initiating consultation with Tribal partners. New guidance, standardized templates, and best practices are continually being developed to conserve and protect the unique scope of Interior's managed resources.

The IOSPP has provided $3.8 million in funding across 47 projects to support the development and advancement of technical resources, guidance, and templates. Some of these projects include:

- Incorporation of an Endangered Species Act (ESA) Matrix tool and best management practices into the FWS Information for Planning and Consultation (IPaC) web-based consultation system. The IPaC system allows for a quick identification of threatened and endangered species within the area of a potential or active spill and facilitates planning through their Consultation Package Builder.
- Identification and evaluation of commercially available Surface Washing Agents and the effectiveness of various application techniques for removing crude oil from historic architectural substrates. Because historic buildings are built from porous materials, they are particularly vulnerable to the impacts of oil. The NPS National Center for Preservation Technology and Training (NCPTT) conducted advanced research to gently remove oil from such substrates on irreplaceable historic objects and cultural artifacts. Additionally, best practices were developed to provide responders with science-based data during spill response at cultural sites.
- Development of a GIS-based tool to support risk assessment of oil and gas activities occurring outside the boundaries of Theodore Roosevelt National Park (THRO). This data was identified as one of THRO's top five information needs in 2017, and the development of this tool by USGS improved the Park's ability to plan for and respond to spills in ways to ensure the protection of the Park's natural and cultural resources and historic properties.

PROJECT SHOWCASE – HUMAN REMAINS AND SPILL RESPONSE

Human remains are among the most politically, culturally, and legally sensitive resources one may encounter during a spill response. The laws governing human remains vary depending on land status (federal, Tribal, state, private) and whether the remains are Native American. The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) affords protection for Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony found on federal or Tribal lands.

NAGPRA sets out a process when human remains or funerary objects are discovered, including a maximum 30-day work stoppage. As part of pre-incident planning, or no later than the early stages of response for a large or complicated spill, On-Scene Coordinators (OSC) are encouraged to work with land managers to ensure that a NAGPRA Plan of Action (POA) for federal/Tribal lands, or the equivalent for state or private lands, is in place. A POA governs how human remains will be treated in the event of discovery during emergency response. This may avoid or shorten a work stoppage; however, it is not possible to develop a nation- or region-wide POA or their equivalents as these are specific to individual units of land. Tribes vary in their religious and cultural preferences for the treatment of human remains and funerary objects. While NAGPRA only applies on federal and Tribal lands, most states have laws that stipulate how any human remains are to be protected.

Better understanding and awareness of the regulatory environment and appropriate planning, including consultation with federally recognized Tribes, are essential to ensuring that discovery of human remains does not result in mistreatment, impede spill response, or create legal jeopardy for the OSC. The IOSPP has provided $85,000 to fund this National Park Service (NPS) - Alaska Region project to provide responders with tools and guidance for a better understanding of the legal framework governing their actions, as they relate to human remains on federal, Tribal, state, and private lands.

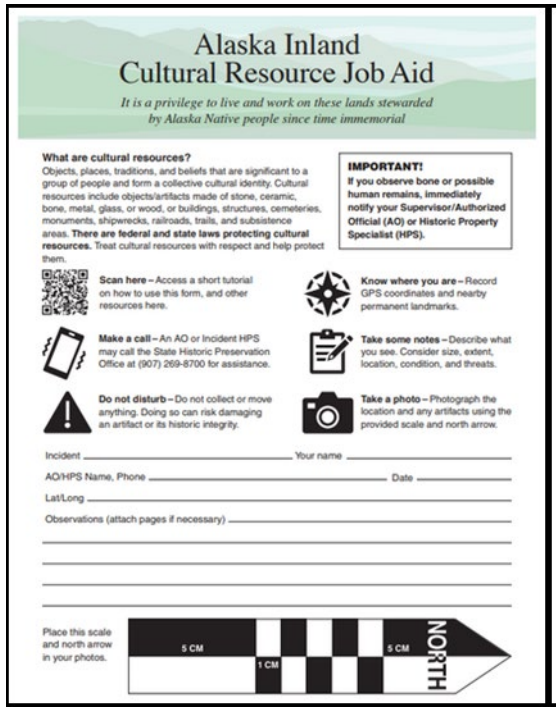
Since the project's inception, the team has been working on four initiatives:

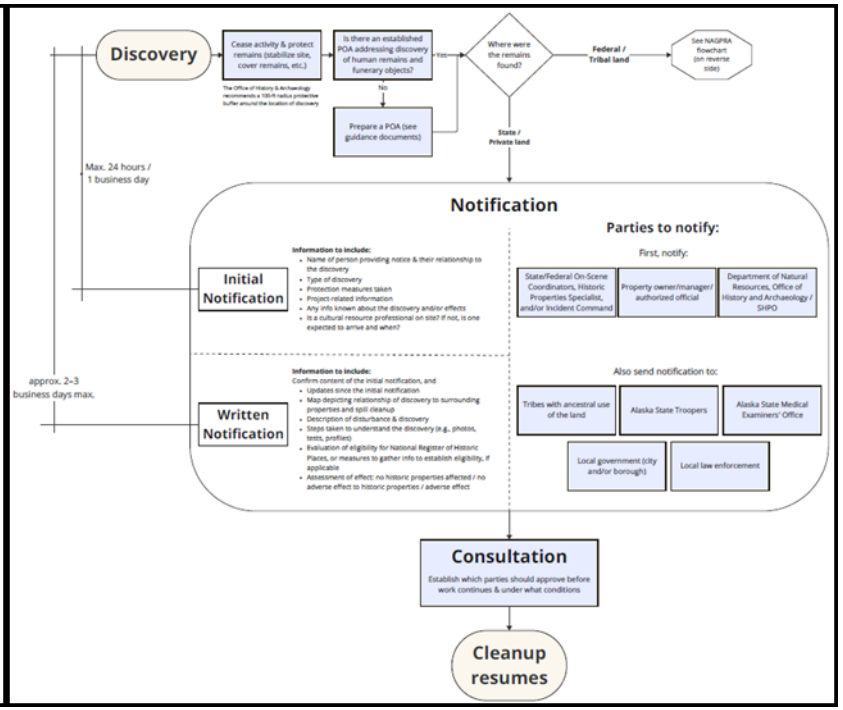
1. Development of a database of state-by-state information on burial laws and requirements as a reference tool for OSCs and Regional Response Teams (RRTs).

2. Preparation of prototype POAs for OSCs and RRTS to customize and use in pre-incident planning for Federal/ Tribal lands and during Tribal consultations. Drafts are currently undergoing review ahead of dissemination.

3. Training is being developed on best practices concerning human remains during planning and response, including NAGPRA. This effort is in its beginning phase and will be ongoing.

4. Creation of job aids to assist responders with identification and recording of potential cultural resources. A job aid tutorial is included below, with prompts on what critical information to record and photo examples of cultural resource types. The team also developed a tutorial on how to customize these job aids for use in other states. Additionally, flow charts were prepared to guide actions that are required upon discovery of potential human remains, or associated objects, for both state land and federal/Tribal lands (NAGPRA).





Left and Center: A cultural resource job aid for inland AK. Customizable for others, it is critical for assisting responders in identifying and reporting cultural resources and potential human remains. Right: An example of a flow chart to guide actions when potential human remains are found. This chart is for the state of AK but is customizable to other states or regions. A similar flow chart was developed to aid in discovery of potential human remains on federal/Tribal lands (NAGPRA).

NAGPRA PLAN OF ACTION FOR THE INADVERTENT DISCOVERY OF NATIVE AMERICAN HUMAN REMAINS, FUNERARY OBJECTS, SACRED OBJECTS, OR OBJECTS OF CULTURAL PATRIMONY ENCOUNTERED DURING OIL SPILL RESPONSE AT [INSERT SITE NAME/DESCRIPTION AND LOCATION]

[Date]

Part I. Background / Purpose

This purpose of this Plan of Action (POA) is to describe the procedures that will be followed by [relevant parties] in the event of an inadvertent discovery of human remains and other cultural items subject to the Native American Graves Protection and Repatriation Act (43 CFR Part 10) and [State-specific regulations/statutes] encountered at [site] during oil spill response.

1) Description of Site
    a. Ownership and management: *The [list applicable land manager(s)] administers [site].*
    b. General geographical location (including county and State)
2) Proposed Activity
    a. Description of planned activity / activity leading to discovery:
        i. Brief background on spill or reason for developing this POA
            1. *Inadvertent discoveries resulting from any or all of the activities identified below will follow the procedures described in this POA. These include, but are not limited to, the following: [intended oil spill response/recovery measures]*
        ii. Time frame for activity
        iii. Map of planned response area and extent of overlap with known archaeological or historical sites, cemeteries, or burials.
    b. Potential risk to Native American human remains due to planned activity: *[Land manager] has determined that [response and cleanup activities] by [parties executing activities] in the [site / vicinity of site] has the potential to disturb Native American human remains and cultural items. If present, Native American human remains and associated items may be vulnerable to the following:*
        i. Exposure to oil or other contaminants: *Direct physical contact of human remains, funerary objects, sacred objects, objects of cultural patrimony or other objects of cultural significance, including but not limited to historic properties, with released or spilled substances may result in one or more of the following: 1) accelerated deterioration/degradation; 2) interference with establishing chronological age or the accuracy of other identification methodologies; or 3) generalized loss of important scientific, historic, and cultural information.*
        ii. Significant physical disturbance resulting from the response activities following the spill, including but not limited to: *[list ground disturbing activities, including movement of personnel and equipment, needed for response actions].*
3) Responsibility for Consultation: *[Landowner/manager] recognizes the responsibility under NAGPRA and [applicable State/municipal statute(s)] to [responsibilities, e.g., consult with federally recognized Indian Tribes that are potentially affiliated with human remains and associated cultural items] discovered on [site] regarding their treatment and disposition.*

Part II. Appropriate Official

To ensure NAGPRA compliance, [land manager(s)] has designated the following appropriate officials to carry out the requirements in 43 CFR Subpart B-Protection of Human Remains or Cultural Items on Federal or Tribal Lands.

[Name, professional title, and contact information of official]

Part III. Consultation

This plan of action was developed in consultation with [consulting parties].

Appendix A contains the record of consultation.

Part IV. Plan of Action

The [landowner/manager] and the Tribes agree to adhere to the following procedures regarding consultation, treatment, excavation (if necessary), custody, and disposition of all human remains and cultural items [subject to NAGPRA/other regulations] that may be inadvertently discovered within [site] boundaries.

The planned treatment, care, and handling of NAGPRA remains and items recovered will be carried out in a respectful manner. If burials or human remains are encountered on surface, the area shall be avoided and excluded from any archeological survey and testing activities.

Components to consider:
1) Pre-incident specifications
2) Immediate response upon discovery
    a) Cessation of activity and stabilization measures:
        i) When Native American human skeletal remains are discovered as a result of the response and cleanup activity, [landowner/manager] will cease activity in the immediate area of the human remains and associated objects and protect them from further disturbance.
        ii) Human remains will not be photographed or displayed to the public or media.
    b) Notification

A portion of the Plan of Action template that is customizable for states and regions. It is intended to be adapted to specific scenarios as needed, in conjunction with appropriate consultation with lineal descendants, Indian Tribes, or Native Hawaiian organizations, per NAGPRA regulations.

PROJECT SHOWCASE – DEVELOPMENT OF WEB SERVICES & FRONT-END INTERFACE

Each year, thousands of emergencies involving inland oil spills on rivers are reported in the U.S., ranging in size from minor spills to large-scale events. Likewise, these spills happen on a range of river sizes and over highly variable flow conditions, from babbling brooks to flood-ravaged rivers. When an event occurs, emergency responders, including those from Interior, need to know when, where, and what threats are posed to public drinking water intakes, power utilities, agricultural water supplies, federal lands, sensitive industries, biological communities, recreational areas, and other water uses, as well as who should be informed downstream from the spill. Enabling public access to plume travel time estimates, with real-time flow conditions over a range of stream sizes through a map-based web application, would make it much easier for spill planning and response.

An application for time-of-travel analysis previously existed but was only available upon request to users with proper security credentials, making it difficult for responders to quickly access the data. Additionally, the application relied upon national data from only 20 rivers and pulled past/current readings from the nearest streamgage to estimate the flow at a spill site, which likely contributes much error. For example, if a spill occurs in a large river, and the nearest streamgage is on a small tributary, the data does not provide an accurate representation of the large river.

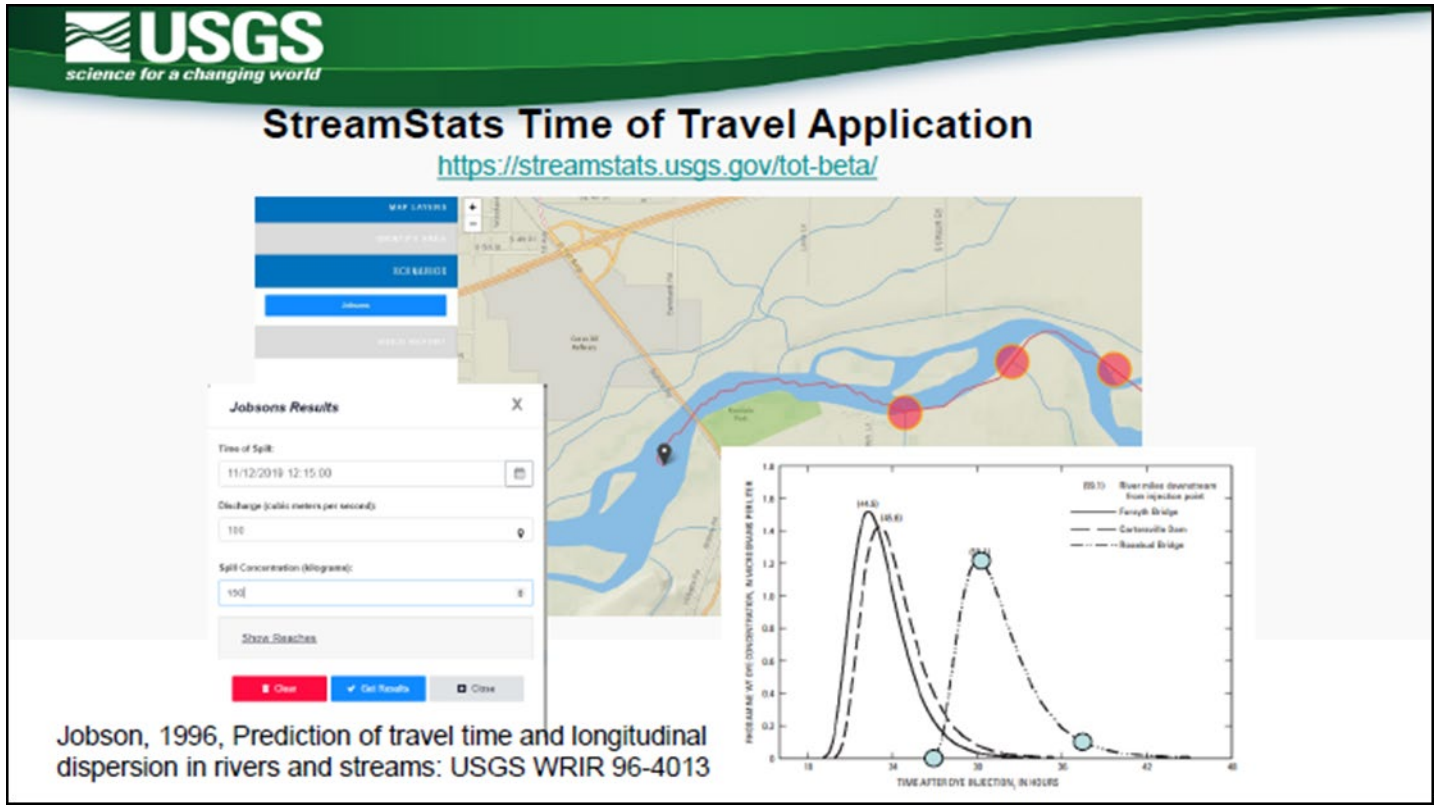
The U.S. Geological Survey (USGS) provides near real-time, publicly accessible streamflow conditions and flood frequency statistics for gaged and ungaged streams across the U.S. *via* its StreamStats Tool. Additionally, the USGS has conducted thousands of travel time and dispersion studies for chemical contaminants throughout the U.S., and information from these studies is contained in more than 150 separate reports. In 1996, Jobson compiled empirical relations for estimating the transport and mixing of chemical pollutants in rivers that improved accuracy in modeling travel-time and concentration in rivers *without* individual studies. These relations rely on estimates of mean stream velocity that can be derived from streamflow measurements by nearby gages that are applied to the subject drainage area and channel slope. The USGS StreamStats is a publicly accessible GIS-based web application that calculates transport and chemical mixing estimates with relatively simple inputs. Even though the equations are based on contaminants that dissolve into the water column, they provide estimates of when the leading edge of an oil spill plume arrives at a downstream location. This readily available information will provide emergency and resource managers information for spill planning and rapid response.

In 2016 and 2017, the IOSPP provided a combined $150,000 to fund two phases of the project to develop StreamStats-based web services and front-end web application for Interior spill responders, hydrologists, and others to estimate plume fate and transport. The project developed four web services and the associated web application.

1. Estimate travel time and concentrations between an actual or hypothetical spill location and a downstream location.
2. Search upstream within a specified distance or travel time from a selected location to back calculate and identify potential source locations of spills, such as pipelines, railroads, bridges, or storage depots.
3. Estimate the real-time flow at a spill site based on the flow per unit area at a nearby real-time streamgage, that is selected based on whether the streamgage is on the same stream as the spill site, and the proximity and difference in drainage area between the spill site and the streamgage.
4. Display the locations of previous USGS travel time studies on a map and retrieve the data generated by those studies.

The USGS StreamStats Time of Travel models were used in the situation manual for the EPA Region 5 and Little Traverse Bay Bands of Odawa Indians French Farm Lake Tabletop Exercise in 2024.

In 2021, the beta version of the application was released, which provided functionality for users to estimate travel times in both downstream (spill response scenario) and upstream (spill planning scenario) directions. An additional $154,000 was awarded to the USGS Oregon Water Science Center and StreamStats team in 2024 to expand the database for the Pacific Northwest (PNW) with more recent travel time studies and, for the first time, include data from the USGS National Water Information System (NWIS) and other USGS databases. The inclusion of these data points will provide discrete streamflow measurements, acoustic-doppler data, and in-situ (on site) velocity sensors, significantly improving velocity estimates. The project also will continue research to integrate machine-learning analysis to improve predictive accuracy, applicability, utility, and ease of operation of the tool for all U.S inland waters. Additionally, the current version of the web application will receive additional features, based largely on feedback from the spill response community. The project began in the fall of 2024 and is estimated to be completed within 24 months. To date, the StreamStats Time of Travel tool has been used in spill planning across multiple regions and been used in situational manuals and tabletop exercises in Great Lakes tributaries with pipeline crossings.



The beta version of the StreamStats Time of Travel application released in 2021 and this screen shot was from demo was presented to the IOSPP Work Group.

REFERENCES

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Performance and Accountability Report. 2019. U.S. Government Accountability Office, Washington, DC. Publication Number: GAO-20-1SP. URL: https://www.gao.gov/assets/gao-20-1sp.pdf

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Additional Online Resources

- FWS IOSPP SharePoint (internal DOI)
- OEM/USGS SHIRA SharePoint (internal DOI)
- USGS IOSPP SharePoint (internal DOI)
- DOI IOSPP SharePoint (internal DOI)
- NPS Spill Response Website
- OEM Website
- OEPC IOSPP Webpage
- ORDA Website
- NCTC Spill Response Webinar Series
- BLM/BOR NTC 8hr HAZWOPER Refresher