

Fiscal Year 2023 Hanford Natural Resource Damage Assessment Activity and Accomplishment Report

Prepared by the Hanford Natural Resource Trustee Council, March 2024

Summary

This report provides a summary of the Hanford Natural Resource Damage Assessment (NRDA) activities and accomplishments during fiscal year (FY) 2023. The Hanford Natural Resource Trustee Council (HNRTC or Council), composed of the State of Oregon, State of Washington, Nez Perce Tribe, Yakama Nation, Confederated Tribes of the Umatilla Indian Reservation (CTUIR), U.S. Fish and Wildlife Service, NOAA, and U.S. Department of Energy (DOE), is implementing the NRDA process at Hanford.

Council work in FY 2023 is focused on continuing the injury determination phase of the assessment process. Most of the ongoing or newly-implemented studies are based on the Injury Assessment Plan (IAP), approved by the HNRTC in 2013.

Trustee organizations established three distinct teams, which have submitted reports (below): 1) Terrestrial Working Group coordinates and advances injury assessment in upland habitats; 2) Aquatic Working Group coordinates and advances the injury assessment in riparian and aquatic habitats; and 3) Other technical trustee teams meet as needed, such as the Data Management Team and teams working on individual scopes of work, studies, or administrative tasks. In addition, trustee attorneys convene as an Attorney Working Group, and senior-level decision makers meet as a Senior Trustee Council.

In FY 2023, HNRTC made progress in these major areas:

- Drafted and approved the Terrestrial Baseline scope of work, this SOW will help the HNRTC in moving forward in the terrestrial injury assessment.
- Continued work on the Terrestrial Disturbance Injury Scope of Work and made decisions to focus on the 1100 area.
- Updated and adopted HNRTC operational agreements to reflect current workflow of the council.
- Approved the development of the Groundwater restoration workplan to help further discussion on the important resource type.
- Continued to work with DOE on obtaining NRDA expertise support.

The accomplishments report is organized by the technical working groups and major scopes of work. The project execution plan (PEP) is the document the HNRTC has utilized for long term planning and baselining. The document contains study numbers that are references for certain pieces of work for the readers conveyance. This type of cross reference is also used in the Terrestrial and Aquatic workplans.

Terrestrial Working Group: coordinates and advances injury assessment in upland habitats, including upland aquatic habitats. coordinators: **Stacy James/Wanda Elliott**

A Terrestrial Working Group (aka Terrestrial Team) formed in February 2020 to focus on a strategic and cohesive approach to assessing terrestrial injury. The working group meets approximately monthly to review information and make decisions needed for execution of injury assessment studies. The working group operated in accordance with its work plan, which was approved in March 2023.

Terrestrial Data Compilation (Studies 55 and 56)

The purpose of this work is to evaluate and compile existing Hanford soil and tissue data and to upload NRDA-relevant, quality data into the HNRTC database, Project Portal. The HNRTC has been uploading data into the database off and on for several years, but the HNRTC database has a fraction of the data in Hanford databases and reports and therefore efforts continue to identify and acquire existing, NRDA-relevant data. Additional data compilation work is necessary to accomplish the wider NRDA objective of determining baseline and measureable injury in terrestrial habitats. A new, one-year contract was awarded to Alta Science & Engineering in May of 2022 and implemented in FYs 2022 and 2023. Alta Science & Engineering was provided with a list of reports/data sources that the Terrestrial Working Group had identified for Data Utility Assessments. Contractor was expected to address the formal acquisition process to search for, obtain, or extract original sources of analytical data; including GIS layers, project metadata, maps, images, and other information, that will require any form of manipulation and configuration management to be submitted to the HNRTC data management system in Project Portal.

Council Resolution

The 2023-R-03 was approved to provide \$89,000 to extend the data compilation contract for Alta Science & Engineering to continue terrestrial compilation work beyond the initial year.

FY 2023 Accomplishments

Alta Science & Engineering completed or updated Data Utility Assessments for priority data sources identified by the HNRTC. However, there was inadequate time/funding for all identified data sources, so the HNRTC approved another \$89,000 to extend the data compilation contract for Alta Science & Engineering to continue the terrestrial compilation work. Concurrently, there were two other efforts related to data compilation. A HNRTC subgroup produced a white paper entitled “Review of Hanford Waste Site Data with Recommendations for Data Compilation.” This paper was presented to the HNRTC at a special data workshop in May 2023. It will be used in the future when HNRTC makes decisions about additional data compilation from waste sites. The second effort was the creation and population of a spreadsheet that identifies and prioritizes reports with data for potential future data compilation; this spreadsheet is maintained in coordination with the HNRTC’s data management team. In addition, a terrestrial data gaps document was produced that identifies the major terrestrial data collection programs at Hanford; this document will be used to populate the spreadsheet further. In FY 2023, a number of decisions were made about which additional data to evaluate and potentially acquire.

Remaining Work, Deliverables, Milestones for FY 2024

Work under the extension will be started in FY 2024. In addition, the HNRTC has had discussions on various potential additional data collection efforts. In FY 2024, HNRTC will try to make significant progress on compilation and acquisition decisions for the following types of data:

- Biological condition
- Radiological control
- Orchard lands, upland aquatic habitat, and other non-waste sites
- Waste site soil (including missing RI/FS samples)
- Data needed for Studies 40 and 42, Residual Contamination/Human Use Evaluation.

Terrestrial Disturbance (Study 18a)

Evaluation of terrestrial disturbance associated with remedial activities was identified as a needed assessment activity in the Hanford Injury Assessment Plan. The purpose of this study is to assess the nature and extent of injury caused by remedial activities at Hanford Site. This is a complex, multi-year study to assess when and where physical disturbance of terrestrial habitat occurred as a result of cleanup, and to evaluate how long there will be effects into the future where baseline services have not been restored.

Council Resolution

There were no resolutions in FY 2023

FY 2023 Accomplishments

A draft scope of work for this study was started in FY2022 and drafting continued into FY 2023. Specifically, the scope will have the contractor evaluate the range of CERCLA terrestrial disturbance injuries at agreed upon areas in order to calculate natural resource service losses in discounted terms. There are several important tasks associated with this effort that include geographic and temporal coverage of disturbances, ecological benefits of response or response like actions, current service levels, baseline service levels, and future service levels. This effort will inform inputs for the broader assessment of injuries across the Site. The analysis methodology shall be consistent with the law, industry standards, and the results will be documented in terms of a range of service losses, based upon uncertainties in the technical inputs.

In FY 2023, discussions at the HNRTC's attorney workgroup resulted in development of a CERCLA injury screening tool. This tool will be used by the contractor to sort out compensable from non-compensable disturbance injury. It will also help formulate conditions expected at the site absent hazardous substance releases (i.e., "baseline"), including the expected conditions of natural habitats taking into consideration changes that have occurred over time.

In addition, the HNRTC decided on the following in FY 2023:

- A Habitat Equivalency Analysis (HEA) will be used to equate measureable injuries with potential restoration project types, and other injury assessment methods will be evaluated by the contractor
- The 1100 Area will be the area the scope of work focuses on; other Hanford areas will be worked on later.

Remaining Work, Deliverables, Milestones for FY 2024

The 1100 Area HEA work may be a multi-year contract because of the number of inputs involved and the need for Council input and consensus on those inputs. As the scope of work drafting continues, Trustees will need to discuss approaches for addressing parameters such as:

- Disturbance footprint
- Recovery trajectories
- Baseline and integration of work products from the baseline conditions contract
- Other HEA inputs, particularly injury duration and spatial extent of injuries from specific disturbances.

Terrestrial Baseline Scope of Work

The terrestrial environment is a dynamic system that is always changing and so are baseline conditions within it. Characterization of baseline is an essential part of conducting a NRDA. However, at this point the HNRTC does not have a synthesis of how much and how often baseline conditions change on the Hanford Site and similar, adjacent lands. For example, fire and invasive plants have changed the landscape and receptor uses of that landscape over time.

Council Resolution

2023-R-02 was approved by HNRTC. This resolution recommends the US Department of Energy spend up to \$395,000 for the base period to contract the implementation of the Terrestrial Baseline Conditions scope of work.

FY 2023 Accomplishments

A scope of work was approved for procurement. This scope of work focuses on outlining the Columbia Basin terrestrial ecosystem in Washington State, including receptors, landscape-level changes, point and non-point source pollution, and other NRDA baseline issues. Many existing summaries of the ecological setting in the vicinity of Hanford have been compiled by the HNRTC and can be incorporated by reference. Subcontractor will be provided relevant information and an initial list of relevant documents and other resources.

There are 4 main objectives:

1. Describing changes in the terrestrial conditions at the Hanford Site and expected receptor distributions during 1944 - 2020. The evaluated area will include the upland aquatic portions of the Hanford Site but not the Columbia River or its riverine islands and riparian shoreline
2. Describing conditions of possible terrestrial reference or control areas
3. Outlining species-specific factors affecting the terrestrial community
4. Developing a decision framework for defining Hanford baseline terrestrial conditions

The scope intends that the work product clearly distinguish Hanford operational-related impacts from other major changes affecting the terrestrial ecosystem. The level of detail in the written product shall be similar to a robust background conditions chapter in an Environmental Assessment or Environmental Impact Statement, and the written product should include key graphics, maps, and data tables.

Remaining Work, Deliverables, Milestones for FY 2024

The scope of work is waiting for funding from DOE so it can move on to procurement and implementation.

Terrestrial Habitat Restoration Planning (Study 18b)

Study 18b was paused in FY 2023 so that trustees could focus on injury assessment. Work may resume in FY 2024 after receiving recommendations from its NRDA Consultant.

Aquatic Work Group: coordinates and advances injury assessment in riparian and aquatic habitats along the Columbia River. coordinators: **McClure Tosch/Sara Lovtang**

The Aquatic Team focuses on a strategic and cohesive approach to assessing aquatic injury. The team met approximately monthly for discussion of progress and to make decisions needed for the execution of injury assessment studies. As part of the Council's work planning effort, a new Aquatic Work Plan was finalized in FY 2023 and incorporated NOAA's Hanford Aquatic Administrative Record Structure (HAARS) document for near term and short term planning. The structure of the aquatic workplan was revamped in FY 2021 and has carried over to the FY 2023 aquatic workplan.

The major aquatic work items for FY 2023 included:

- Work on the Groundwater to Surface Water Evaluation Report
- Continue work on aquatic data acquisition (Hard Copy data digitization for SESP)
- Development of a 3 session aquatic workshop
- Work on the Aquatic Baseline Conditions Reports
- Draft of the Nearshore Habitat (formerly Chinook Spawning Habitat) Evaluation SOW

Aquatic Data Compilation (Study 51)

The Council initially approved funding for Aquatic Data Compilation in 2017 (Resolution 2017-R-02). Since the completion of Phase 1 of the aquatic data compilation project in FY 2019, work has continued with identification and compilation of data through continued funding of contractors. The purpose of this work was to compile and review analytical data for their utility, quality, and relevance to injury assessment questions. Initial work resulted in the compilation and review of 19 data packages (or data utility assessments) that represent the most significant analytical data sets available for the Columbia River.

The second phase of the Aquatic Data Compilation continued into FY 2020. The objective of Phase 2 of this work was to address the formal acquisition process to search for, obtain, or extract original sources of analytical data; including GIS layers, project metadata, maps, images, and other information, that required any form of manipulation and configuration management to be submitted to the HNRTC data management system in Project Portal.

The HNRTC lost the support of its data compilation contractor at the beginning of FY 2021, which was a significant setback for the completion of this task. The HNRTC developed a new scope of work to go out for bids to complete additional data compilation. In resolution 2022-R-02, the HNRTC increased the not to exceed funding amount from \$220,000 (2021-R-03) to \$315,000 in order to adjust to responses from the procurement process. Alta Sciences and Engineering Inc. was selected as the data compilation contractor for the Council in Spring FY 2022.

Two major aquatic-related tasks included compiling specific pre-1980 site environmental surveillance (SESP) data and following up on open actions identified in the original data utility assessments already completed. In 2022, older SESP radiation concentration data in air, soil, water, and biota were sorted so Trustees could decide which parcels of hardcopy data should be digitized and added to the HNRTC electronic database. This effort is nearly complete and critical for performing time-series analyses on available data at sampling stations and in selected geographic areas.

Council Resolution

2022-R-02 The HNRTC increased the not to exceed funding amount from \$220,000 (2021-R-03) to \$315,000 in order to adjust to responses from the procurement process. 2023-R-03 the HNRTC added an additional \$89,000 to Alta's contract to finalize the work on the existing scope of work. However, the funded has not been added to Alta's subcontract from HMIS yet.

FY 2023 Accomplishments

The aquatic team helped resolve numerous question from our data management team regarding the data from SESP pre-1980, which has been digitized and almost uploaded into the Project Portal environmental database.

Remaining Work, Deliverables, Milestones for FY 2024

The current data contract runs through FY 2024 and the work to finish the acquisition and uploading of data will continue through then. The work remaining on this contract requires the additional funding the HNRTC approved to be added to Alta's subcontract with HMIS.

Groundwater to Surface Water Evaluation (Study 32)

The groundwater to surface water evaluation SOW tasks include:

1. Develop a range of analyses to extrapolate size and concentration of contaminants in the river based on shoreline data.
2. Identify the spatial extent of the river that is expected to have concentrations in the benthic zone pore water above the threshold levels.
3. Map the area relative to multiple scenarios for thresholds, background, regulatory contaminant cleanup levels.
4. Evaluate concentrations relative to time-series events, such as known or suspected contaminant releases, releases during remediation, or seasonal river fluctuations.
5. Include extrapolated future impacts where supported data is available.

The funding for the scope of work was approved in FY2021. 2022-R-07 The HNRTC increased the not to exceed amount from \$225,000 (2021-R-05) to \$487,000 based on the results of the procurement process.

Council Resolution

There were no resolutions in FY 2023.

FY 2023 Accomplishments

A kick-off meeting with the selected contractor, S.S. Papadopoulos & Associates, Inc., occurred in October, 2022. Council met with S.S. Papadopoulos & Associates, Inc., monthly throughout FY 2023 to provide information and clarify the desired deliverables.

Remaining Work, Deliverables, Milestones for FY 2024

The Council provided comments on draft work products for this contract in FY 2023 and final deliverables with response to comments will be provided by the contractor in early FY 2024. Ways to incorporate the work into future HNRTC injury determination and quantification activities will be an on-going discussion at the aquatic workgroup.

Aquatic Baseline Conditions (Study 7)

During the course of a year and a half, the goal of the aquatic baseline SOW is to help develop a framework for determining baseline in the aquatic environment. Due to the large timespan of releases, there is a wide range of physical, chemical, or biological conditions that would have, or potentially will, exist at the site but for the release of hazardous substances. Baseline is an integral piece to conducting a natural resource damages assessment. This scope of work can also serve as a model for the terrestrial team to consider. In FY 2022, the HNRTC recommend that DOE fund the procurement of the Aquatic Baseline SOW with a not to exceed limit of \$150,000 (2022-R-01). Later HNRTC passed resolution

2022-R-05, which increased the not to exceed funding limit from \$150,000 to \$295,000 based on results from the procurement.

Council Resolution

There were no resolutions in FY 2023.

FY 2023 Accomplishments

A kickoff meeting with the selected contractor, Abt Associates, occurred in September, 2022. A small group of trustees met with Abt Associates monthly to provide information and clarify the desired deliverables.

Remaining Work, Deliverables, Milestones for FY 2024

In FY 2023, Abt Associates gave several 1-hour presentations to the full Council. Abt Associates also provided proposed outlines and requested council feedback on the first three task reports in May, 2023. Drafts of the reports were provided early in FY2024 and final versions with response to comments are expected to be completed by mid FY 2024.

Aquatic Workshop Focused on Benthic Habitats & Resources

The HNRTC approved funding for an aquatic workshop in FY2021 (2021-R-01) with a focus on benthic habitat. The work was given a lower priority than the Aquatic Baseline and GW/SW SOWs, however a focused effort began in the second quarter of FY 2022 to begin planning. By the end of FY2023 a small group of trustees developed summary slides, an agenda for one virtual session and two in-person sessions, and secured four experts to participate in the workshop. In the beginning of FY 2024, the workshop was held virtually (October) and in-person in Seattle (December).

Council Resolution

No resolutions in FY 2023

FY 2023 Accomplishments

A small group of trustees developed slides summarizing information and data regarding different parts of Hanford benthic habitat. In addition, a 3-session agenda was developed and four experts in the field of benthic habitat health were identified to join the council to discuss the use of benthic invertebrates in the Hanford NRDA at the workshop.

Remaining Work, Deliverables, Milestones for FY 2024

Drafting and finalizing workshop meeting notes and recommendations will continue in FY 2024. Ways to incorporate the key findings and recommendations for the workshop will be an on-going discussion at the aquatic workgroup and with the NRDA expertise contractor.

Nearshore Habitat (formerly Chinook Spawning Habitat) Evaluation SOW

The HNRTC remains concerned about the harmful effects from Hanford-sourced pollution to benthic macroinvertebrate communities, Chinook salmon presmolts, and other fishes and lamprey. These animals use nearshore habitats in the Hanford Reach of the Columbia River. Nearshore habitats are important to the NRDA because contamination exposure routes to this zone are well-established for fishes, lamprey, and benthic macroinvertebrates, and there is evidence of species extirpation or near-extirpation that may have to be accounted for in the HNRTC's injury determination. The HNRTC will have to distinguish between harmful effects from Hanford releases, and other impacts, such as hydropower operations at the upstream Priest Rapids dam.

Previous NRDA assessment activities have focused on life history characteristics and field-collected data of five adult aquatic species (Pacific lamprey, steelhead, prickly sculpin, white sturgeon, and Chinook

salmon). New technical activities in this SOW are focused on building on previously completed work, such as providing clear documentation and summaries of juvenile chinook life stages, benthic macroinvertebrate communities, and other fishes and lamprey not addressed in detail during earlier NRDA work. These species are all important to understanding the quality and availability of nearshore habitat and implementing a holistic NRDA evaluation in the river corridor. The proposed activities are not duplicative of concurrent assessment work because the new deliverables are focused on collating and reporting on detailed scientific information in narrow technical areas to support HNRTC planning. In the same way that the work Dr. Dennis Dauble performed aided understanding of five adult fish species and Hanford reach-wide ecological characteristics (2015-2017), this work will aid understanding of habitat function and species use patterns in the narrow band along either shore of the Columbia River and similar habitat near islands.

Council Resolution

No resolutions for FY2023.

FY 2023 Accomplishments

In the fall of 2022, a small group of Trustees began working on revising the juvenile chinook habitat scope of work from FY2020 to create a nearshore habitat scope of work. The HNRTC had concerns that the focus on juvenile Chinook would miss other key elements of the aquatic injury assessment. The SOW was revised to include benthic macroinvertebrates, lamprey, and other fish. A draft of the document was completed by the end of FY2023.

Remaining Work, Deliverables, Milestones for FY 2024

The draft of the nearshore SOW needs to be reviewed by the full HNRTC and a procurement draft needs to be created. After this has been completed the HNRTC can consider a funding resolution for the SOW.

Tribal Lost Service (TLS) Studies

The three Hanford Tribal trustees [Yakama Nation (YN), Nez Perce (NPT) and Confederated Tribes of the Umatilla Indian Reservation (CTUIR)] have each continued studies to determine the nature and extent of potential impacts of Hanford releases on the cultural services provided to tribal communities by natural resources. These services may have been diminished in quality and/or are no longer present and are in need of restoration efforts, or were interrupted by the presence of contaminants released by Hanford operations.

Yakama Nation McClure Tosch

The Yakama Nation began work on the update of the TLS workplan in fiscal year 2021. Major revisions are being pursued for some sections while others remain as originally drafted. Remaining clarity on how the work fits into the rest of the ongoing assessment is being evaluated. The Yakama Nation is working on a process to carry over funding originally approved for TLS to our new cooperative agreement.

Nez Perce Tribe **Tony Smith**

A Restoration Plan for Tribal service losses was approved by the Council in February 2019. The project was approved for funding in the 4th quarter of FY 2020 and NPT received funding for one year of the 3 year project. NPT approved the contract for an Economist by resolution signed August 26, 2022.

The Team hosted several meetings, in October and November and December of 2022, with the three contractors to discuss implementing measures needed to bring the contractors up to speed to adequately have discussions regarding the development of strategies for the NPT Restoration Plan. ” In February through June of 2023, strategic discussion meetings were held in regard to clarify roles and responsibilities of the contractors in developing a Restoration Plan for the NPT. In the later part of FY23, discussion continued a draft plan was developed and currently in internal review. This Plan is in regard to the Data Gaps and what measures would be needed for the development of the NPT Restoration Plan.

Confederated Tribes of the Umatilla Indian Reservation **Alex Nazarali/Althea Wolf**

The CTUIR TLS report is tasked under the CTUIR Department of Natural Resources (DNR), First Foods Policy Program (FFPP). The intent is to ensure the safety of CTUIR tribal members who will practice their treaty rights at Hanford as a part of the NRDA settlement.

The CTUIR model, created by their contractor, Alta Science and Engineering Inc. (Alta), holds thousands of data layers, and was applied to Risk Calculator Tool (Tool) in FY 2021 to generate the risk layers and overlaying of the results of cultural activities and other areas of concern to calculate risk. Alta and their subcontractor, Innovate!, worked with the CTUIR GIS to conduct additional runs of the Tool in FY 2022. In FY 2023, FFPP staff and Alta continued to incorporate edits the TLS narrative in the 100-F Project, including upwelling data. The DNR Umatilla River Vision and Upland Vision, as well as the Tribal Ecological Knowledge management practices were applied to the TLS 100-F report.

Also in 2023, work on the CTUIR Threshold Opinion began, as well as a Harvester Inventory. The Harvester Inventory is meant to assist staff and contractors with restoration options. In fall of 2023 the CTUIR FFPP staff reported back to tribal harvesters.

Project Management coordinators: all Trustees working together

Trustee Council Operations McClure Tosch

McClure Tosch (Yakama Nation) was Chair of the Council for FY 2023, and Troy Baker (NOAA) was Vice-Chair. For FY 2024, Troy Baker (NOAA) will serve as Chair and Althea Wolf (CTUIR) will be Vice-Chair. The full Council generally met on a monthly basis in FY 2023, to plan and oversee Hanford NRDA activities. The council has been focused on procuring scopes of work approved in FY2022 and implement work that was already procured. The council is still working to finalize a successful procurement for NRDA expertise. However, significant progress was made on the Aquatic Baseline and GW/SW scopes of work. In addition, the terrestrial baseline scope of work was approved for procurement by the HNRTC.

The FY 2025 budget request was formulated around HNRTC's PEP and team workplans. The submission of the budget request to DOE was completed in April 2023 with consensus among all trustees.

Advanced Data Analysis to Support Injury Determination (Studies 1, 2, 3, 14, 15a, 16, 17, and 50)

The Council approved funding in FY 2021 for a task order in which PNNL assisted with technical refinements and methods of a data analysis SOW. This SOW combined several PEP studies and touches on terrestrial and aquatic habitats for the assessment (additional information later in the Project Management section of this report). After Council approved the SOW, PNNL began the work in January, 2022. It is estimated that work will be completed by 2025.

Since that time there have been delays in tasking caused at first by delays in acquiring data (HNRTC lost the support of its data compilation contractor at the beginning of FY 2021 which was a significant setback for several projects), and then by medical leave and retirement of PNNL staff. PNNL began with tasks 10, 9, and 1, and will move through the rest of the tasks systematically throughout 2025 (see list of tasks below).

Major tasks for the SOW include:

1. Identify additional background data and gage suitability of thresholds;
2. Media threshold selection by graphing distribution of Site data for COC/media combinations;
3. Compare site data to thresholds and identify provisional assessment areas;
4. Compare screened Site data to background data;
5. Receptor selection for tissue threshold development;
6. Develop tissue thresholds for selected receptors;
7. Model doses and tissue concentrations for selected receptors for which there is no tissue data;
8. Compare thresholds to actual and modelled receptor tissue concentrations;
9. Differentiate background and Hanford Site anthropogenic radionuclides;
10. Analysis of data from previous bioassays conducted on the Hanford Site.

These tasks were informed by studies listed in the Injury Assessment Plan, and referred to in Council's PEP.

In FY2022, PNNL drafted and finalized the "NRDA Database Development and Data Acquisition Plan," performed a search of Hanford data within PNNL requested by the Council, and drafted and finalized the Task-10 task work plan. Data for Task-1 and Task-10 were acquired (following DUAs). PNNL is formally drafting data and work plans for each task so their technical evaluations may be replicated by the Trustees at a future date, if necessary, and to satisfy their internal quality management guidelines.

Council Resolution

There were no resolutions in FY 2023

FY 2023 Accomplishments

A revised timeline for the data analysis tasks was provided by PNNL, which reflected the delays in starting the work and the rearrangement of the order of the tasking. PNNL drafted and finalized the Task 9-task plan and Task-1 task plan.

Remaining Work, Deliverables, Milestones for FY 2024

PNNL will focus on Task 10 (analysis of data from previous bioassays), and also begin Task 1 (identify additional background data and gage suitability of thresholds), Task 4 (compare screened Site data to background data), and Task 9 (differentiate background and Hanford Site anthropogenic radionuclides) in FY 2024. They are reorganizing the very linear progression of work in the original SOW and will be pursuing several lines of inquiry at once in FY 2024 in an effort to complete the work by 2025.

Data Management and Data Compilation

Data management is essential to the injury assessment process. As such, the HNRTC operates and maintains a data management system as outlined in the Data Management Plan approved by the Council. Data management activities performed during 2023 included: 1) implementing, operating and maintaining a data management system; 2) providing data and document management; 3) GIS data stewardship; 4) quality assurance; and 5) data access coordination.

Council Resolutions

Resolution 2023-R-03, Extension of Data Compilation Contract: Council recommends DOE expend on behalf of the Council a not-to-exceed amount of \$89,000 to complete these tasks as part of an extension to HMIS Contract #80061.

FY 2023 Data Management Accomplishments

Notable HNRTC Data Management and GIS activities in 2023 included formal acquisition of historical analytical data and upload to the Project Portal Environmental Data module, continual updates to critical data/GIS tracking tables, revisions to the Data Management and Quality Management Plans, development and presentation of data and GIS figures for the Terrestrial Data Workshop, and project-specific data exploration and data visualization support. All of the data work supports multiple technical teams implementing resource studies and the larger NRDA objective of preparing a rigorous assessment and restoration claim for lost natural resources and services, human uses, and cultural losses. The Trustees will have to present a full, transparent evaluation to the Public and the Court (e.g., during lodging of Consent Decree).

HNRTC Data Management-oriented work products included:

- Revised the Data Management Plan, Quality Management Plan, and Content Submission SOP documents for Council review and comment, with the goal of Council approval and adoption;
- Improved Project Portal organization (organizing loose files) and updated tracking spreadsheets;
- Updated tracking table on various datasets (e.g., RCBRA not-usable, RCBRA tox, etc.) saved in the Project Portal Workspace that are not loaded in the Environmental Data module, added in additional information, presented the information at Council meetings;
- Provided recommendations and presented information at Council meetings about various Council data management actions;
- Assigning location group (Facility Name) information and coordinates to numerous records in Project Portal manually and using GIS. Presented methodology and information at Council meetings;

- Automated many of the data management checks required to migrate Council-approved data to the Project Portal Data module;
- Prepared formally acquired DUA data, as approved by the Council, for migration to Project Portal Data module, which also included organizing and documenting the digitized old SESP data for ddms to transform the 400+ tables into a usable flat file for migration to the Data module;
- Completed all post upload checks and published completed data to the Data module for two DUAs, and completed data manager post-upload data checks and provided ddms with resolutions to complete final publication of four DUAs (final publication expected in early 2024);
- Prepared recommendations and presented information at Council meetings about the spatial precision of Project Portal data;
- Summarized the prior work done on missing soil depths and presented information at Council meetings;
- Coordinated and maintained Project Portal user and user group management with the Facilitation team;

HNRTC Project Team-Specific data management/GIS support and work products included:

- Data, documentation, graphic, and GIS support for numerous meetings and presentations;
- Prepared various data summary tables, plots, and figures of data in Project Portal versus HEIS;
- Conducted data checks for the Terrestrial work group to determine if data are already in Project Portal or not;
- Uploaded various cleared GIS data to Project Portal Documents module and Map module;
- Various exploratory data visualization and summary tables for various WIDS sample types (sample collection purpose), including Characterization, Vertical Profile, Variance, and Confirmatory. Uploaded figures and data tables to Project Portal (Terrestrial Data Task Team);
- Created a summary spreadsheet of all available GIS aerial imagery, including screenshots and information on each file, and uploaded to Project Portal;
- Prepared recommendations in regards to DUAs for GIS data and presented information at Council meetings;
- Reviewed all GIS files in Project Portal for sufficient metadata, extracting PDF metadata files where applicable;
- Prepared figures of various SESP data location specificity examples, presented information at Council meetings;
- Data visualization support for the Radiological Data Task Team, including GIS visualization/mapping of Tumbleweed data;
- Provided comment/direction regarding data management in contractor work plans (e.g., PNNL and SS. Papadopulos work plan products);
- Assisted with preparation of Terrestrial Data Workshop materials held in May 2023 by the Terrestrial Task Team (e.g., various exploratory data visualization and summary tables/figures, and MS PowerPoint slides).

Remaining Data Management Work, Deliverables, Milestones for FY 2024

Trustees will continue to support the implementation, operation and maintenance of the Council's data management system (i.e., Project Portal). This includes hiring contractors to provide management of data, documents and GIS data layers; quality assurance; and data access coordination. Data management activities for FY 2024 are expected to involve technical coordination between the Trustees, maintaining data sets and data quality, coordination with ddms to finish publication of DUA data including old SESP data digitized under the Data Compilation contract, updating critical data management system

documentation, supporting Terrestrial and Aquatic work groups as needed to identify data either in Project Portal or not, and supporting PNNL and other consultants on study-specific projects as contracted data analysis work continues. FY 2024 data management activities will also include the final revision of the HNRTC NRDA Data Management Plan and Quality Management Plan documents, including appendices.

FY2023 Data Compilation Accomplishments

Multiple data packages were acquired and numerous NRDA data actions were completed. Additionally, a total of 434 tables of 1959-1979 SESP data were digitized, resulting in electronic data files that are being processed for migration to the Project Portal Data module under the Data Management contract.

Remaining Work, Deliverables, Milestones for FY 2024

Trustees will continue to support the implementation, operation and maintenance of the Council's data management system. This includes hiring contractors to provide management of data, documents and GIS data layers; quality assurance; and data access coordination. Data management activities for FY 2024 are expected to involve technical coordination between the Trustees, maintaining data sets and data quality, coordination with Data Management Solutions (DDMS), updating critical data management system documentation, and supporting PNNL and other consultants on study-specific projects as contracted data analysis work begins. FY 2024 data management activities will also include finalizing the revision of the HNRTC NRDA Data Management Plan, Quality Management Plan, and Content Submission Standard Operating Procedure documents, including appendices.

Facilitation Services coordinator: **Tom Post**

Facilitation services were procured at the end FY 2021 with the selection of Ross Strategic. Facilitation services helps the HNRTC conduct the natural resource damage assessment by shouldering a large part of the administrative burden such as meeting scheduling, agenda development, tracking decisions/actions, and following operating procedures.

Council Resolution

2023-R-06: Trustees approved an amount not to exceed \$159,340 for facilitation services for Council activities throughout FY 2023.

FY 2023 Accomplishments

Facilitation services were provided for all full Council meetings in FY 2023 and for several Senior Trustee meetings. The facilitation team assisted the Council in coordinating and conducting Council meetings and maintaining Council records. Specific tasks included scheduling meetings, preparing agendas, tracking action items and maintaining logs, issuing meeting materials, facilitating meetings, preparing meeting summaries, and supporting the Council in issue resolution.

Administrative record batches 1 and 2 were complete and uploaded to Project Portal and batch 3 was in progress with signature decisions from all but two trustees. The public website for the trustee council was updated to ensure accurate listing of trustee organizations and work completed. A facilitated process for trustee review of website content and related updates to content was developed. Operational agreements were revised and circulated for trustee review and decision making.

Remaining Work, Deliverables, Milestones for FY 2024

In FY 2024, the facilitation team will provide facilitation services to the HNRTC and the Senior Trustees. The existing contract for facilitation services is concluding in FY2024, and a new procurement will be completed in the May 2024 timeframe.

NRDA Expertise Support Contract coordinator: **Tom Post**

Since completion of the Injury Assessment Plan in 2013 Trustees have discussed the need for NRDA expertise. In FY2020 the non-federal trustees proposed the idea of DOE funding a NRDA expertise contractor working exclusively for the non-federal trustees. In FY2022 the trustees agreed to retain a NRDA expertise contractor representing the entire Trustee council. The goal of the NRDA expertise SOW is to provide the HNRTC ready access to a contractor with experience in injury assessment and to help provide ideas and input into the assessment. Ultimately, the HNRTC will make final decisions on how to proceed with the work but expert advice and access to experts will help expedite the process.

Council Resolution

2022-R-08 The HNRTC approved the NRDA expertise SOW and authorized DOE spending up to \$500,000 on procurement for a NRDA expertise contractor.

FY 2023 Accomplishments

The NRDA expertise SOW was finalized in FY2023. DOE completed the procurement package and began the solicitation process. A contractor was not selected during the initial FY2023 procurement process.

Remaining Work, Deliverables, Milestones for FY 2024

In FY 2024, DOE will begin a new procurement process for the NRDA expertise SOW. Once bidders have responded, members of the HNRTC will be allowed to review the bids as long as federal procurement laws are followed. Once procurement is completed, the NRDA contractor will be integrated into the HNRTC's work.

Attorney Working Group coordinators: **McClure Tosch/Pat Spurgin**

The implementation of a NRDA requires that the trustees consider the interplay of legal and technical issues in injury determination and quantification and in developing restoration plans for the injured resources. In order to facilitate discussions and address complex legal issues important to advancing the assessment process, the HNRTC agreed in FY 2018 to establish an Attorney Working Group.

Council Resolution

There were no resolutions in FY 2023. DOE provided funding for the startup of the working group in FY 2019 and FY 2020 in accordance with the HNRTC budget. Subsequently, attorney expenses are being included in individual trustee participation agreements with DOE.

FY 2023 Accomplishments

Department of Justice (DOJ) and trustee attorneys convened in virtual meetings to continue discussions of broad legal principles bearing on the assessment process. The discussions focused on (1) Approval of the CERCLA injury screening tool and using borrow pits as a test case, (2) Discussion revisions to the HNRTC's Administrative Record procedure, (3) Gaining clarity of the implementation of the settlement agreement and how to update the PEP (potentially renaming the document), and (4) assisting the HNRTC including senior trustees on legal questions such as early restoration.

Remaining Work, Deliverables, Milestones for FY 2024

Attorneys will continue to work with the HNRTC on all priority issues and gain better understanding on what is required to accomplish some of them. For example, the workgroup is still investigating what sources of data DOE may have compiled on borrow pits for the CERCLA injury screening tool. We continue discussion on finalizing revisions to the HNRTC administrative record and implementation of the PEP. We anticipated new items will be brought to the workgroup in FY2024.

Problems/Challenges in FY 2023

The HNRTC attempted several different methods of procurement for contractors in FY2022 and FY2023. We have yet to identify one that works the best for our needs because they all have different pros and cons. However, we have been able to get work accomplished eventually whatever method is used but it adds significant delays to the assessment.

The HNRTC is working to move on to major milestones in the assessment where complex decisions will need to be made over the coming years. It is important for the trustees to have the resources required to accomplish these tasks, injury determination will be the first phase before getting into complex decisions on quantification. Adding the NRDA expertise will be a giant step in aiding the HNRTC.