All for One, and One P4 for All: Centralizing P4 for Nez Perce Tribe Fisheries

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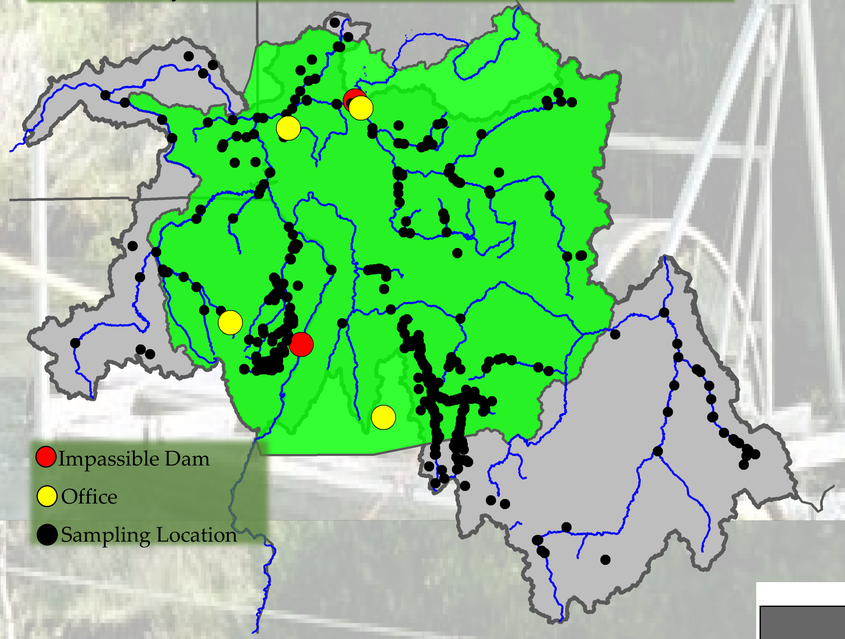
Introduction

The Nez Perce Tribe Department of Fisheries Resources Management – Research Division manages data resources for several research, monitoring, and evaluation (RM&E) projects within the Nez Perce Tribe's (Tribe) usual and accustomed hunting and fishing lands located throughout the greater Snake Basin. The area encompassed by these lands includes present day Washington, Oregon, and Idaho; states with which the Tribe currently co-manages fisheries and other resources. The scope and scale of this vast area presents challenges to programs monitoring fisheries for different anadromous fish species and runs at specific life stages.

DFRM Operates in areas within Idaho, Washington, and Oregon-these cover much of the known usual and accustomed tribal homelands of the Nez Perce Tribe. Green area indicates the Indian Claims Commission (ICC) Boundary established in 1967.

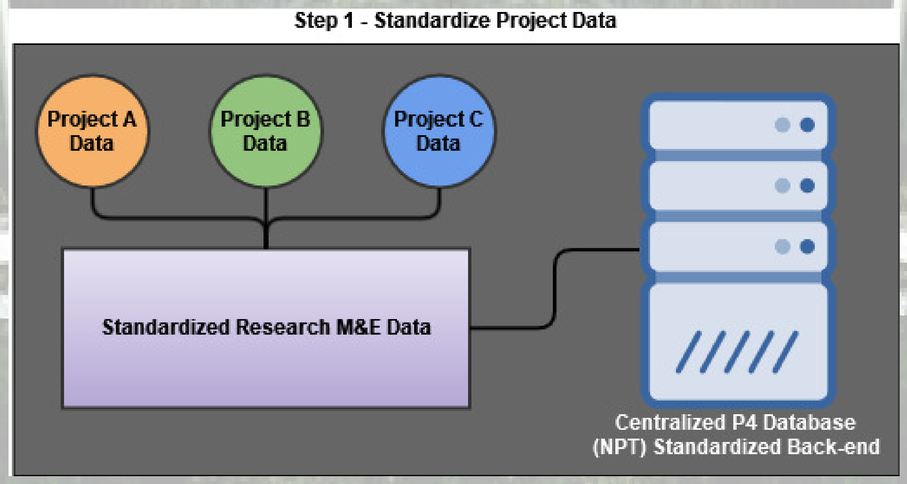


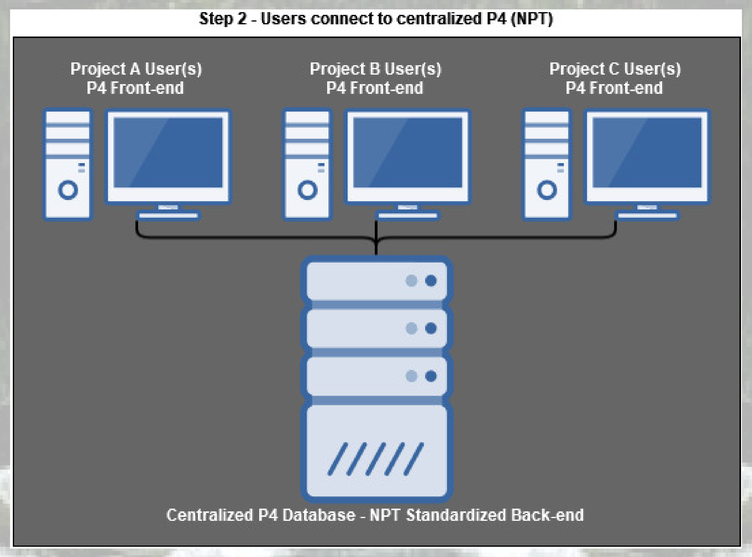
Problem

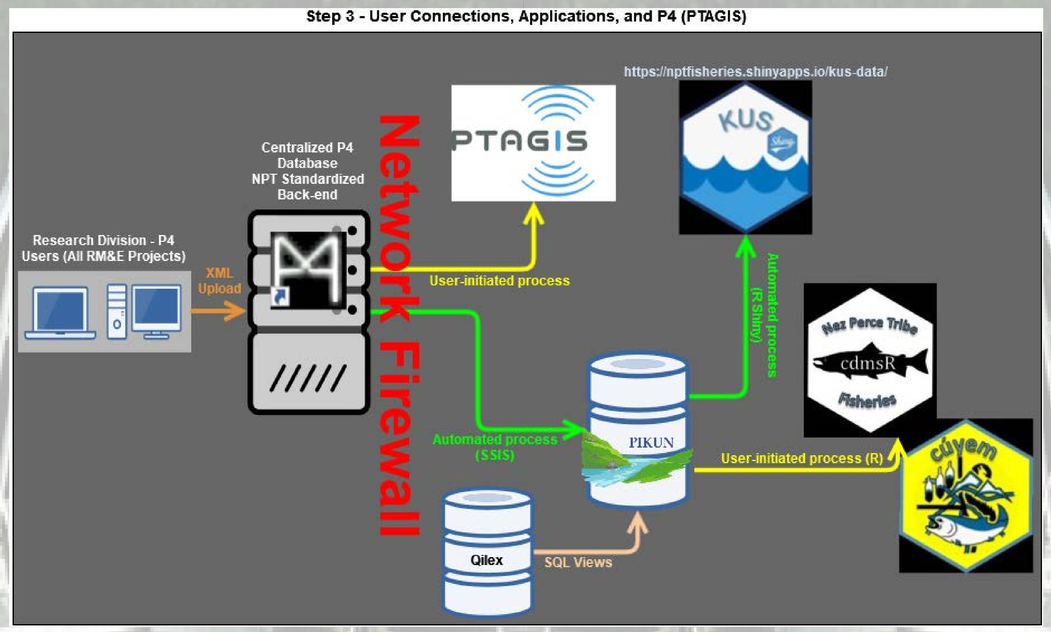
In the past, Research Division projects operated in a 'siloed' environment to meet contractual obligations, but sharing information in a timely manner to department staff and managers was complicated by the broad extent of the Tribe's monitoring area. Information sharing depended on the project staff who assembled data and results to meet annual reporting requirements. Without a cohesive approach to manage all this data in an efficient manner, the fisheries program found it difficult to take a big-picture approach to integrated fisheries management.

Solution

In order to simplify this complex issue and improve the flow of information within the department and to the general public, we centralized the P4 application for juvenile fish data. This allowed us to provide access to raw and summarized data collected by multiple projects across the landscape.







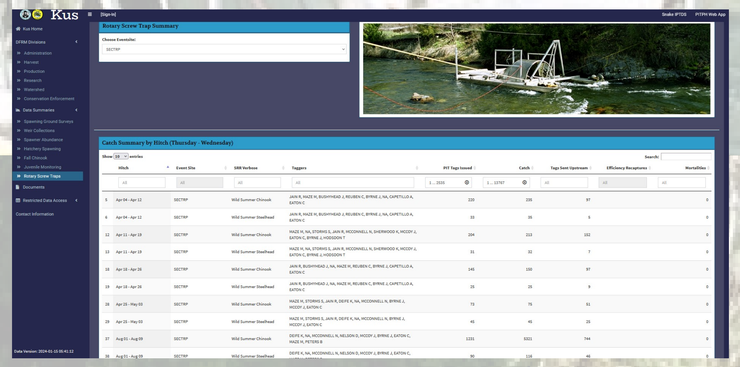
How?

1. Standardized individual project data, including protocols, by applying custom validation rules using the tools in the P4 application.
2. Users changed the connection string for their locally installed P4 front-end to point to the centralized back-end database located on the network.
   - This was a one-time minor change that did not affect P4 functionality or data flows to PTAGIS.
3. Using the same front-end P4 user interface, data can now be managed/organized, edited/validated, and exported to PTAGIS as before, without any additional steps or changes to workflow processes.

Project Benefits

- Development of different data flows for integrated data analysis and reporting.
- Public access to summarized juvenile trap data for tagged/untagged fish.
- Restricted access to raw juvenile fish data.
- Integrated applications (e.g., R Studio, R Shiny, and eventually a web application) for staff to access raw juvenile fish data.
- Promotes cross-project data analysis - comprehensive observations of differences, similarities, and temporal changes of juvenile fish metrics.

Lower Secesh River summarized trap data including PIT tags issued, catch, tags sent upstream, efficiency recaptures, & mortalities.
https://nptfisheries.shinyapps.io/kus-data/



Johnson Creek (a) Natural Origin Smolt Abundance, (b) Natural and Hatchery Origin Smolt Survival to Lower Granite Dam by Release Site, and (c) Natural Origin Smolt Equivalents at Lower Granite Dam.