



2018 Project Performance Report for PSMFC Data Management

F16AC00046
October 1, 2017 – September 30, 2018
Tara Garrison

2018 Summary of Accomplishments

Many new features and enhancements were produced in 2018 as well as all planned development. The FINS team was able to prioritize new work requests and discovered use cases as presented at a quick rate of turn around to deliver maximum value to FINS Users.

New development and proofs for future features as well as new project use cases and bringing in an additional domain to the FINS user base were successfully delivered in addition to several user tools from menus and workflows to ensure that FINS continues to serve users as an indispensable tool in managing their data needs.

In addition to enhancements, feature expansions, the planned, regular expected updates, upgrades and hardware replacements, maintenance involved a substantial upgrade to the existing web site. The upgrade was incrementally executed via componentization and a separate Hybrid Application construction which was a constant work and testing in progress once determined the enormity and possible changes/bugs that could occur. The unplanned amount of work necessary was fit in and applied throughout the year working towards a fully realized upgrade to our website from AngularJS now planned in early 2019.

Integration and automated tests were also initiated as a maintenance effort to build up regression testing and code coverage to support the quality assurance level.

Training was performed by our FINS expert Support and Training Specialist as planned and by request via several methods including online, on site, over the phone and via email with ancillary documentation and receipt support tickets for future reference/record.

Hatchery Database Staff Addition in 2018

Employee	Full Time Date	Status
Andrew David Albertson, Software Developer	Feb 26, 2018	Resigned 11/26/2018 – Last Day 12/7/2018

Hatchery Database Staff Role Change in 2018

Employee	Date	Status
Marc Stromberg, Software Developer	Oct 2018	Additional Role – Supervisory Database Management Specialist

Hatchery Database Status of Deliverables for 2018

(Red Indicates Deliverables Added per Priority & Scope Changes throughout the Budget Year)

Milestone	Projected Completion Date	Status
Maintain Production Included – FINSNet.org, FINS Online and FINS Offline Major/ Minor Bug fixes as well as prioritized enhancements to Trapping/Holding/Spawning/Inbox /Incubation/Rearing/Release for existing Production Data Entry functionality Bug Tracking CRS report task/item management OS Update Compatibility for Client Applications Manufacturer recommended and available Upgrades Manufacturer Bug Fixes and Changes as made available Code Coverage Integration Tests User Training and Training Tools	ONGOING	Complete for 2018
Added: New Production Database The existing physical Production Database server has been replaced with a new physical server		Complete
Added: New Stage Database & Web Server The existing physical Stage Database server used for Beta testing and training practice has been replaced with the previous production physical server		Complete
Added: New Production Web Server The existing virtual Web Server used for Production Web pages has been replaced with a new virtual server configuration		Complete

Added: Web Server CPU Increased Upgraded CPU processing power to assist in more rapid 'Saves' (of Moves) and 'Load Times' (loading Hierarchies/Arrays) for users		Complete for 2018
Added: Hybrid Application for managed Maintenance Upgrade Changes to the prebuild for the hybrid app; Ensure Continuous Build Server accurately reports compilation errors		Complete for 2018
Added: Single AngularJS Application for managed Maintenance Upgrade Changes to the Hybrid to enable Angular >=2→AngularJS bootstrap and downgrades		Complete for 2018
Added: Automated & Integration Tests Automated Testing Tool implemented to begin creating and managing Automated Tests for regression testing coverage as well as received training and commenced identifying and creating full Integration Tests to automate for expanded Code test coverage		Complete for 2018
FINS Online/FINSNet.org/FINS Offline-OnSite Training Event Second Annual - On Site - Training Event covering all aspects of FINS Online/Offline and FINSNet.org for existing Users at Boise, FINS Office in Classroom setting	10/2017	Complete; <i>Mix of On-Site at Hatcheries & at FINS Office</i>
FINSNet.org - Training Tools - Video On Demand Learning Tool Includes FINS Video Learning Library available on FINSNet.org for users to have access to On Demand Video Training Content	11/2017	Complete for 2018
Added: Training Calendar Published Training Schedule viewable for FINS Users on FINSNet.org		Complete for 2018
FINSNet.org-FINS Online Egg/Fry/Juvenile (Sub Adult) Import Tool (for Existing and Additional Agencies/Programs) To Allow CTUIR/ODFW/WDFW and Lyons Ferry, as well as current FINS users that have missing Incubation, Rearing, Release Data in FINS, the opportunity to Import their existing Incubation, Rearing, Release Data into FINS Online as to prevent additional Manual Data Entry Requirements for past and/or received data from non FINS Facilities.	11/2017	Complete
Added: FINSNet.org-FINS Online Trapping (Adult) Import Tool Expanded functionality of the FINS Import Tool to allow approved Trapping Data Files to be imported into the FINS Database. This tool provides the opportunity to Import Historical Trapping Data that is properly mapped, to be included in FINS. The Sessions & associated records imported are stored, backed up and can then be queried, edited, as well as exported on demand like standard FINS data.		Complete
Added: Custom Import Query Column Functionality to allow custom non standardized data to be imported, stored and queried within FINS database		Complete
Added: Domain Name Validation for Imports Domain is now referenced in determining the uniqueness of Facility Name in the Validation Rule to allow the Import; In cases where there are more than one Facility with the same name between Domains		Complete
FINSNet.org-FINS Online (Sub Adult) Import Tool Training Train each hatchery (as they are ready to utilize Sub Adult Import Tool) on the Sub Adult business rules and functionality within FINS Online	12/2017	Complete
OFFLINE FINS Application – Spawning (BETA) Capability to view, create and import all determined, prioritized Spawning data from the simplified, Offline Installed Application version of FINS, for users that don't have Online capabilities	3/2018	Complete
Added: Offline FINS Application Troubleshooting Tool An internal tool to assist FINS Offline troubleshooting		Complete
Added: Offline FINS Application - Automatic Update When opening FINS Offline with an Internet Connection the screen will notify users when applicable that an Automatic Update is occurring with a progress bar on Log In		Complete
Added: Offline FINS Application – Offsite Locations Offsite Locations are now included in the Database Update call for Locations in the Offline Application		Complete
FINSNet.org-FINS Online Spawning Group Entry Update Spawning process within FINS to allow for a streamlined User Interface and Group Entry for Facilities that do not collect unique individual data on each cross	4/2018	Complete for 2018; <i>Limited Beta Release</i>

FINSNet.org-FINS Online Spawning Group Entry Training Train each hatchery (as they are ready to utilize Rearing) on the Rearing business rules and functionality within FINS Online	5/2018	Complete for 2018
FINSNet.org-FINS Online Spawning Group Entry Queries Update Spawning Query format within FINS to allow for Group Entry data to be easily queried for Facilities that do not collect unique individual data on each cross	5/2018	Complete for 2018; <i>Determined larger deliverable throughout Incubation/Rearing/Transfers / Release TBD</i>
FINSNet.org-FINS Online Spawning Group Entry Query Training Train each hatchery (as they are ready to utilize Group Spawning Entry) on the Group Spawning Entry and 'Mega' Cross business rules and functionality within FINS Online	6/2018	Complete for 2018
Added: Handling of Group Spawn Data Entered within Incubation Hierarchies, Rearing Arrays, Transfers to/from Inboxes, Juvenile Releases Group Spawning Entry is currently in a limited release for feedback to determine actual deliverables necessary for Incubation/Rearing/Transfers/Releases of 'Mega Crosses' created from Group Spawning Entry		Complete for 2018
Added: Upload Spawn Sample Data Files Excel file format upload capability that associates the data uploaded to a Group Spawning Session		Complete for 2018
Added: View Spawn Sample Data Files Uploaded View/Display an Excel file format uploaded to a Group Spawning Session in Spawning Query and as Uploaded		Complete for 2018
Added: Rearing Production Summary Enhancement (Additional Metrics) Expanded RPS Management Metric Inputs to include: Days on Feed (Requested when collecting Pounds Fed data); Condition Factor (to calculate Length using Fish per Pound by Container by Month); Dissolved Oxygen Levels for Monthly Inputs (Calculating Min/Max and Avg by Container by Month); Temperature (Calculating the Min/Max and Avg by Container by Month)		Complete
Added: Rearing Production Summary Input/Display Option Enhancements Expanded RPS to allow inputs to be entered in English or Metric units of measurement and also provides Metric Conversions to allow users to view Management Rearing Metrics in both English and Metric units of measurement		Complete
OFFLINE FINS Application – Spawning (PRODUCTION) Capability to view, create and import all determined, prioritized Spawning data from the simplified, Offline Installed Application version of FINS, for users that don't have Online capabilities	6/2018	Complete
OFFLINE FINS Application – Spawning Training Train each hatchery (as they are ready to utilize OFFLINE FINS Spawning Application) on the features and functionality available in the application including the import process to get offline Spawning Data available online	7/2018	Complete
Added: OFFLINE FINS Application – Trapping (Beta Quick Form) Preliminary quick data entry form designed and deployed for focused testing specifically to meet the ODFW Imnaha Weir touchscreen Use Case		Complete for 2018
User Interface Refactor–Spawning Update the User Interface to use current and more efficient tools to allow users data entry to be quicker and more consistent user experience	7/2018	In Process; <i>Not Completed due to priority of Unplanned Maintenance Items; New Planned (Beta) Delivery 12/2018</i>
User Interface Refactor–Spawning Training Train each Hatchery (as they are ready to use the new Spawning Interface) on the new functionality and improved user experience for Spawning Data Entry	9/2018	Dropped; <i>Due to Incomplete Deliverable above</i>
FINSNet.org-Sunset Locations (aka Archived) Capability to view, create and retain all determined data for Locations that are no longer being used (sunset/archive), having Data Created at them; Includes the capability to Un-Sunset/Un-Archive Locations as necessary	9/2018	Complete

Added: Stock Workflow Agency and/or Facility Workflow for Stock by Species		Complete
Added: Stock Column in existing Sub Adult Queries Query Column with Stock and associated metadata added to Spawning and Sub Adult Queries		Complete
Added: Metadata Columns pertaining to Sunset Locations (aka Archived) Work done to provide query users with Auditing data regarding Sunset Locations		Complete for 2018
Added: Metadata Columns pertaining to Release Locations Work done to provide query users with additional information (Lat/Long/Desc) regarding Releases		Complete
Added: Release Summary PBT Option Release Summaries now provide a 'Include PBT Data' checkbox option to download associated release PBT data and displayed as a separate sheet		Complete
Added: Origin Workflow Enhanced Data Officials can now Create Origins that have the same Name but different Runs at the same Trap & Delete existing Origins		Complete
Added: Origin Requirement Enforcement Requiring Marks and/or Tags is now an option when Creating an Origin Expression to assist in the creation of more robust Origins. Marks/Tags can also now be multi selected for quicker expression building		Complete
Added: Fish Inbox Origin Origin Groups, Identifier Groups, Source Trap Facility and Source Trap are now all included in the view of the Fish Inbox and selecting the specific group of fish being Received will now auto populate the Move Fish form with applicable Identifiers (Marks/Tags) and Source Trap as well as display the Received Origin as defined by the Sender Agency Origin Expression (since it is the Sender's Source Trap and Origins are calculated by Trap) in the Receivers Holding Location/Queries		Complete
Added: Fish Inbox Count Correct IDs Since Origins now display in the Fish Inbox, applicable Identifiers (Marks/Tags) can be Count Corrected just like in the Holding Locations of the Holding Inventory grid		Complete
Added: Origin Holding Inventory Run Holding Location ID Groups now display Run if they are moved in or out of Holding via a Trap Fish/Move Fish/Spawn Fish action. Count Correction form also allows the Run to be specified if the Species is Chinook. This enhancement was made to allow more accurate tracking for Origins in Holding Locations		Complete
Added: Negatives (Holding/Inbox) Negatives no longer pertain to Inbox Locations or Holding Locations If an Inbox and/or Holding container is emptied by a move or count correction, no negative will be generated; Identifiers that are emptied via a move or count correction are now emptied		Complete
Added: Holding Inventory Visual Age Age sub-grid added to the Holding Inventory grid to meet use cases at USFWS Region 1 Facilities. The new optional sub-grid contains the count of Chinook by Sex divided up into Visual Age Designations (Adult, Jack/Jill, Mini-Jack) and unassigned Visual Ages as 'Blank'. The Age Grid view is hidden by default		Complete
Added: Holding Inventory Count Correction To accommodate the above use case for Visual Age Designation displaying in the Holding Inventory grid, the Count Correction form was enhanced to allow Chinook to be Count Corrected by Visual Age Designation. The Age functionality in the Count Correction form is default hidden		Complete
Added: Offsite Columns in existing Holding Queries Move To/Move From Offsite related columns added to existing Move Fish, Receipt and Count Correction Queries		Complete
Added: Offsite Spawning Capabilities Allow Offsite Spawning Location Owners to place Eggs directly into the Owner's Hierarchy: from the Spawning Session's Container Menu in the Current Spawn Event; from the Spawned Eggs grid; from the Edit Spawn Cross form		Complete
Added: Offsite Incubation Capabilities Continued Offsite functionality needed as time permitted for Sub Adults in Incubation and Releases from Incubation as well as updated the notify for Eggs/Fry/Juvenile Mort Query and the Release Query for Facilities that have Offsite Location relationships		Complete for 2018

Added: Move Transaction Audits Started adding detailed move transaction information for bread crumb reference on deletions of sub adults		Complete for 2018
Added: Egg Auditing Added Auditing of: Deletion and Restoration of Morts in Incubation, Splits that have been moved and Auto Generated Split Morts		Complete for 2018
Added: Release Green Eggs Enhanced Release from Incubation to allow for New Use Case of Green Egg Releases		Complete
Added: Release Type/Strategy Workflows Data Officials are able to Create & Manage Agency wide and/or Facility specific Release Types and Strategies		Complete
Added: Saturation <i>*Priority per Steering Committee</i> The new percent saturation tool allows Facility Admins to enter, at specified increments, and edit percent saturations (xxxxxxxxx.xxx) of gasses by entire Rearing Array or per Rearing Container, so that they can then be queried within FINS. Inputs include: Total Dissolved Gasses (TDG% Saturation); Total Dissolved Oxygen (O2% Saturation); Total Dissolved Nitrogen (N% Saturation)		Complete
Added: Saturation Query <i>*Priority per Steering Committee</i> The new Saturation Summary Download allows quick access to all percent saturations input, by Date, by Facility and displayed in the file grouped by Rearing Array and/or Rearing Container, for quick access within FINS		Complete
Added: Saturation Training & Training Tools Training Webinar, Query Documentation and Glossary Updates		Complete
Added: Trapped Total Tab has been added to display and export a tally of the Trapped Fish by Species/Sex/Age/Disposition for quick reference while Trapping Fish to assist in management decisions		Complete
Added: Custom Serial Port Test Application Created application to diagnose and rebuild the existing PIT Tag Client to operate with custom Biomark reader device		Complete
Added: PIT Tag Client Version 2.0 New robust Client built & deployed to operate with custom Biomark reader device		Complete
Added: Private Seasons Personal 'Private' Seasons only the user that created it can view/manage, so that Queries don't display repetitive excessive 'Seasons' in the FINS Online view for Data Entry users		Complete
Added: Age Designation Workflow Enhanced To add copy options when managing new and existing Age Designations		Complete
Added: Preferred User Interface Workflow Trapping/Holding/Spawning The Preferred User Interface (UI) Workflow is managed by Facility Admins and/or Data Officials allowing the customization of input fields shown on a Trap/Move/Spawn Fish form by Location/Species, when entering data. This Workflow can be set at both Facility and Agency levels		Complete for 2018
Added: Preferred Identifier Workflow Trapping/Holding/Spawning/Rearing Preferred Identifiers (Marks/Tags/Samples/Conditions) Workflow by Facility and Species to be created and edited by a Facility Admin to assist in the Data Entry process by limiting the default Identifier list that displays when Trapping/Holding/Receiving/Transferring Fish. *Pre Existing Preferred Identifier Workflows that were setup in the original FINS Desktop Application were copied to the FINSNet.org Admin as the 'current' Preferred Identifier Workflow		Complete
Added: Historical Query Proof Preliminary proof in Query Tool for a 'Historical Query' to received initial feedback regarding 'Historical' Summary Trapping, Spawning and Rearing data points needed after Inventory is Empty and/or post Release		Complete for 2018
Added: Shed Rate Proof Preliminary shed rate input for custom mort removal calculation		Complete for 2018
Added: Custom Search Proof Preliminary custom search/query, specifically a filtered search for trapping, holding, spawning, incubation and rearing records that is then processed by numerous existing queries		Complete for 2018

<p>Added: Form User Interface Enhancements (Trapping/Holding/Spawning) The Adult Fish forms were enhanced in an effort to utilize screen space more efficiently. This is especially important for users that have smaller laptop displays. To make all forms consistent, all aspects of entering Adult Fish data into FINS is now done from a single page (Trap Fish/Move Fish/Spawn Fish Forms)</p>		Complete
<p>Added: Disposition/Purpose file has been updated with a new Adult Release Purpose added per Region 1 Use Case Disposition – Released; New Purpose – Outplant New Purpose Description/Definition – Fish released alive into the natural environment for the purpose of contributing to natural production</p>		Complete
<p>Added: Purpose>Stray Removal Distribution A Trapping/Holding/Spawning Purpose has been added to the available Purposes in the Database for the specific use case at some programs (NPT JCAPE) where Strays are removed and then Killed for the purpose of Distribution to Nez Perce Tribe</p>		Complete
<p>Added: New Agency – NOAA Fisheries The NOAA Fisheries Agency has been added to Snake Basin Domain in preparation for NMFS FINS Data Collection via Imports and/or Manual Entry</p>		Complete
<p>Added: New Domain – Region 1 Region 1 Domain has been added to the FINS Database to separate the Data from Snake Basin and USFWS Region 1</p>		Complete