MEMORANDUM

TO: Fish Passage Center Oversight Board
    Jann Eckman, CBFWA
    Randy Fisher, PSMFC

FROM: Michele DeHart

DATE: November 14, 2013

RE: Quarterly Fish Passage Center Report for July–September 2013

Following is the Quarterly Report for the Fish Passage Center (FPC) for the third quarter of 2013. This report follows the format and content agreed upon by the Fish Passage Center Oversight Board.

Pisces System Work Elements

Produce Environmental Compliance Documentation
During the third quarter of 2013 the FPC monitored the environmental compliance reporting for the 2013 Smolt Monitoring Program (SMP) and the Comparative Survival Study (CSS) consistent with reporting conditions in the NOAA Letter of Determination for sampling, marking, and handling for the SMP and the CSS.

Provide Technical Review
FPC staff facilitated FPAC conference calls once a week throughout the quarter and attended monthly meetings of FPAC through the quarter. FPC provided technical support to facilitate FPAC discussions as requested by the FPAC members, and provided technical assistance to FPAC for in-season management of juvenile salmonid migration during the spring of 2013. In addition FPC provided technical support to the COE Fish Passage Operation and Maintenance Committee.
The FPC staff in conjunction with USFWS technical staff, provided a technical briefing to Northwest Power and Conservation Council regarding results of analysis related to the potential benefits of increasing spill and experimental spill management to increase smolt-to-adult return rates.

**Analyze/Interpret Data**

The FPC staff devoted the majority of staff time in the third quarter of 2013 to completion of the FPC Annual Report for 2012. The final FPC Annual Report was posted on the FPC web site on August 1, following a 45 day regional review period. The FPC staff, in conjunction with the CSS Oversight Committee, completed analyses for the CSS Draft Annual Report for 2013. The draft report was posted on the FPC web site for regional review on August 31. In addition the FPC staff continued final bootstrap runs and data summaries in preparation for analyses for the CSS Final Annual Report. During the third quarter of 2013, the FPC responded to 12 requests for data compilations and summaries and 7 of those requests required analyses. These were completed in memorandum form and posted on the FPC web site. Those responses are listed below:

2. Survival Testing at Wanapum and Priest Rapids Dams - August 2, 2013
3. Review of Adult Sockeye Passage Data and Ladder Temperatures at Lower Granite Dam - July 30, 2013
4. Lower Granite Dam Ladder Update - July 25, 2013
5. Meeting with DOE on June 27, 2013 - July 18, 2013
7. Estimated Change in Proportion Transported with April 21 Transport Start Date - July 1, 2013

**Develop RME Methods and Designs**

FPC staff reviewed the March Experimental Management workshop proceedings document, which will be posted on the FPC website as soon as all of the review comments are addressed. The FPC reviewed COE proposals to modify sampling regimes at McNary Dam and provided input to FPAC.
Data Management

Software Development
Website, Daily Reports, Database and Data Updates

- Regular website maintenance and updates.
- Completed technical support provided to State of Idaho on interactive web page queries, maps, temporal map queries, data tables and metadata. These pages utilized our updated software stack (Dojo 1.9, Geoext/Openlayers 2.12 (and plugins), Leaflet (and plugins), Highcharts 3.0, Jquery 1.8 tools, Qtip 2.0, Weave, Postgresql/PostGis 9.1, Mapserver 6.0, GeoServer 2.2, p.mapper 5.0, php 5.4.9 using new Microsoft PDO drivers to connect to databases).
- Developed “include files” for menus, database connections, headers, footers, metadata and other design components for new FPC website design.
- Developed automated queries for adult graph which automatically changes years and date ranges for each site.
- Completed adult query graph using the new software stack, automated queries and “include files” in FPC website design.

Software Updates

- New software and procedures to populate Brown Lee and Hells Canyon flow data were developed.

Infrastructure Updates

- Researched the cost of replacing our current phone system since BPA requested that due to our moving and them wanting to go to VOIP next year that we have our own system as opposed to being on theirs.
- Researched the cost of replacing our existing T-1 lines with fiber optic to facilitate better access to our website and the collection of data from outside sources.
- Received proposals for several companies to replace our phone system, with the final decision to go with an Adtran system from CenturyLink.
- Received proposals from several companies on upgrading to fiber optic internet service, again the contract went to CenturyLink based on the lowest cost for the fastest service.
- Researched the cost of wiring the new office for both phone and data cabling; this contract was awarded to Christensen Electric. They ran all new Cat-6 cabling throughout the office, had it tested, and made sure it meets or exceeds industry standards. It is guaranteed against any failures for 25 years.
Technical support provided for (Follow Idaho Salmon Home) F.I.S.H. interactive map and data queries for State of Idaho
Technical support provided for (Follow Idaho Salmon Home) F.I.S.H. interactive map and data queries for State of Idaho (contd.)
Technical support provided for (Follow Idaho Salmon Home) F.I.S.H. interactive map and data queries for State of Idaho (contd.)
Completed Adult Query using new software stack, automated queries and include files.
Completed Adult Query using new software stack, automated queries and include files (contd.)
Disseminate raw data and analytical result

Software Development

• New procedure to simplify end of the year procedure for adult dam counts has been developed.
• New star schema to accommodate new PITAGIS database structure has been deployed on FPC SQL server.
• 21 new CTL tasks to collect Dimensions PITAGIS database data have been developed.
• 4 CTL tasks have been developed and deployed to collect on daily basis Dimensions PITAGIS database data.
• New application to accommodate new TDG source files format has been developed and deployed.

Website, Daily Reports, Database and Data Updates

• The beginning of year website maintenance was completed.
• Daily SMP reports, scripts, and databases were updated for 2013.
• Regular website maintenance and updates, including updating some SMP queries and graphs for the new season (e.g., Fish Condition graph and query; Population index data and graphs; and the passage index graphs and data queries).
• Updated CSS queries and graphs to incorporate data from CSS 2012 Annual report including:
  o CSS SR, TIR, and D Data; CSS Overall Annual SARs for the Snake and Columbia Rivers; CSS Returning Adult Age Composition; CSS SARs by Study Category; Number of Smolts and Returning Adults by CSS Study Category; CSS annual in-river survival estimates query; and CSS number of PIT-tagged fish released by site query.
• Installed new version of spatial database software and began moving data to the new database. This new version of the software will be used to set up replication of our spatial databases to web and backup servers.
• Continued development of preliminary map queries, data queries, and graphs using new website components including: Dojo JavaScript toolkit, Geoext/Openlayers, Highcharts, Jquery tools, weave and others.
• Continued development of preliminary temporal mapping and graphing web components. Data used on the queries included: hatchery releases, estimated spawner escapement to watersheds, and other data sets.
• Developed process for adding new data to hatchery release mapping application and linking this data to website queries with data download and graphing components. Began adding this data to the spatial databases. Includes: linking SARs to CSS release sites, redd counts, and transects.
• Researched and tried out various CMS software packages. Found several scripting tools to use to develop a FPC CMS.
• Updated draft template for a new FPC website design. Updates included:
  o New look to front page, including better fonts and page structure
  o New draft FPC accordion menu
• Installed newest version of our hatchery web app software stack, including new spatial database as mentioned above (beginning to migrate application to new software stack).
• FPC updated the process for collecting and storing adult dam count data (removed historical and traditional count date schedules: we now collect data throughout the year with no date constraints at all dams, except in regard to the dates used for Chinook race).
• Developed adult count dynamic views and updated web queries to reflect this new process and storage system. Query updates include: Adult Salmon Dam Count Graphs Comparing 2013, 2012, and 10-year average (2003 to 2012); Adult Salmon Return Comparison Report for 2013 (Comprises 2013, 2012, and 10-year average); and 2013 Daily Adult Salmon Dam Counts Query and Download Data (updated throughout the day).
• Updated website metadata for current year. Updates include: SMP metadata; GBT metadata; Adults metadata; 2013–2014 Adult Salmon Dam Count Monitoring Dates; 2012–2013 Columbia and Snake River Fishway Outages; Summary of 2012 Actual and 2013 Preseason Forecasts of Spring Chinook, Summer Chinook, Sockeye and Steelhead Returns to the Columbia River; Summary of Salmon and Steelhead Estimated Returns to the Columbia River Mouth by Year, etc.
• One of our main database servers began to have replication issues at the end of March. We had current backups. In addition staff, copied the databases, views and storage procedures to an additional server.

Procedure to Simplify End of the Year Procedure for Adult Dam Counts
New Star Schema to Accommodate New PITAGIS Database Structure on FPC SQL Server
21 New CTL Tasks to Collect Dimensions PITAGIS Database Data
4 CTL Tasks to Collect Dimensions PITAGIS Data on Daily Basis
After 03/02/2013

Before 03/02/2013

Application to Accommodate New TDG Source Files Format
Adult Count Dynamic Views and Updated Web Queries to Reflect New Process and Storage System
Updated CSS Queries and Graphs Incorporating Data from CSS 2012 Annual Report

Updated SMP 2013 Season Queries and Graphs
Updated 2013 Metadata and Forecasts
Preliminary Temporal Mapping and Graphing Queries

Updating and Adding New Searches to Hatchery Map App
FPC.ORG WEBSITE STATISTICS

2013 – THIRD QUARTER July through September

The FPC website is the primary vehicle for data distribution. During the third quarter of 2013, FPC.org had 9,449,782 hits. There were a total of 2,423,023 pages viewed and 807,594 visits to the website. The average hits per day in the third quarter were 102,715. The number of unique page views was 1,071,114. The average number of page views was 26,337 with an average staying time of 2:40 minutes. About 96% of the visits were from the United States. Of the U.S. visits, 40% were from Washington, 21.6% were from Oregon, 8.6% were from California, 4.8% were from Idaho, and 25% were from other states. About 6% of the visits from the U.S. were from commercial organizations, 90% were from network/individuals, and 4% were from government and education.
The most active day of the week was Tuesday, while the least active day of the week was Sunday. The busiest hour of the day was 3:00–4:00 PM. September was the busiest month with 42% of the visits, followed by August with 32%, and July with 26%. The top platform (operating system) used to hit the site during the third quarter of 2013 was Windows 7 with about 51% of the hits, followed by Windows XP (16%), Android OS (9%), Windows NT/2003 (9%), Windows Vista (6%), Mac OS (7%), Unix/Linux (1%) and iOS (1%). The top browser used to visit the site was Internet Explorer (42%) followed by Safari (24%), Chrome (24%), Firefox (8%) and other various browsers (2%). A total of 12% of the visits during the third quarter were from mobile devices. Of the 12% mobile visits, 63% were from iPhones, 32% were from iPads, 4% were from various Android devices, and 1% were from iPods.

The top requested page was the Daily Adult Salmon Dam Count Report. Of the top 50 requested pages and queries, 75% were about adult salmon, 9% were about FPC and the website (includes FPC homepage, contact, site map, FAQ, FPAC links, etc.), 9% were about river queries (flow/spill report, temperature graphs, spill update, etc.), 2% were about smolt data, 2% were about FPC documents (memorandums and daily/weekly reports), 2% were about PIT-tag queries and graphs, and 1% were about CSS queries and graphs. We track the number of page views on the dynamic web queries which are a measure of the data requests via the website (i.e., .asp, .aspx, .php, etc.). During the third quarter of 2013, there were 539,277 total data requests.
Hits by Domain, FPC.ORG, 3rd Quarter 2013

- Network / Individual: 90%
- Commercial / Organization: 6%
- Government / Education: 4%
Hits by Platform, FPC.ORG, 3rd Quarter 2013

- Windows 7: 51%
- Windows XP: 16%
- Windows Vista: 6%
- Windows NT/2003: 9%
- Android OS: 9%
- Mac OS: 7%
- iOS: 1%
- Unix/Linux: 1%
Manage and Administer Projects

During the third quarter of 2013 FPC staff worked with state and federal subcontractors, and PSMFC to track budget expenditures. In addition FPC staff continued to work on meeting the new RPA reporting requirements on the cbfish.org website for the CSS, SMP and FPC. This continues to be a work-in-progress as these are new reporting requirements that involve a significant learning curve.

In order to facilitate improved faster data access to the region the FPC relocated to establish fiber optic data service. Working with staff at PSMFC the FPC negotiated internet service and voice over IP phone service for the new FPC location. The new optic fiber service will improve speed for data downloading for the FPC staff as well as regional users. FPC data staff members and other FPC staff invested a considerable amount of time in the third quarter in planning, organizing and preparing for the move of the FPC office.

During the third quarter, FPC staff began developing draft budget proposals for the Comparative Survival Study and the Fish Passage Center projects for 2014.

Produce Status Reports

All Pisces status report requirements were met for the SMP, CSS and FPC projects for this quarter. Files and reports were uploaded into the Pisces system to Bonneville where required.
Produce Annual Progress Reports
All Pisces progress reports were completed successfully for the CSS, the SMP, and the FPC projects.

Regional Coordination, Fishway Inspections/FPAC

Between July and September of 2013, fishway inspections were conducted at all Columbia and Snake River Dams fitted with adult fish passage structures. Monthly FPOM meetings were attended and in-season issues at COE dams were coordinated as were issues with PUD Dams. The 2012 Fishway Report was completed by June 1, 2013.