MEMORANDUM

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

FROM: Michele DeHart

DATE: May 9, 2013

RE: Quarterly Fish Passage Center Report for January–March 2013

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

Pisces System Work Elements

Produce environmental compliance documentation
During the first quarter of 2013 the FPC completed the reporting for the 2012 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. In addition the FPC completed and submitted the application process and requirements for a NOAA Letter of Determination for the 2013 Smolt Monitoring Program and Comparative Survival Study marking.

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. In addition FPC staff provided technical support to the COE Fish Passage Operation and Maintenance Committee.

### Analyze/Interpret data
The FPC staff devoted the majority of staff time in the first quarter of 2013 to data preparation and analyses for the FPC Annual Report and the Comparative Survival study. During the first quarter of 2013, the FPC responded to 20 requests for data compilations and summaries and 14 requests that required analyses. These were completed in memorandum form and posted on the FPC web site. Those responses are listed below.

1. Permission to Radio Tag (Previously PIT-tagged) Adult Chinook at Ice Harbor Dam, Spring 2013 – March 27, 2013
5. Re-evaluation of winter 2012/2013 operations at Grand Coulee and Bonneville – February 27, 2013
7. Estimates of adult timing and smolt-to-adult returns (SARs) of PIT-tagged Hanford Reach wild fall Chinook – January 30, 2013
9. Factors that could have affected the return of migration year 2011 A-Run Steelhead – January 10, 2013
12. Use of Monitoring Methods by the Fish Passage Center – January 4, 2013

### Develop RME methods and designs
The FPC staff worked in conjunction with the Comparative Survival Study Oversight Committee to develop and conduct an experimental management workshop. The workshop was held on March 7, at the Oregon Gardens Resort in Salem, Oregon. The purpose of the workshop was to review a draft design for a management experiment to increase the amount of voluntary spill at FCRPS projects. This is based upon data and analyses covering several decades which indicate that smolt-to-adult return rates could be increased with slight increases in voluntary spill. However since actual empirical data have not been collected to this point, experimental management is required to test the predictions based upon historical data. The purpose of the
workshop was to provide recommendations to strengthen the proposed experiment. An additional objective of the workshop was to provide an opportunity for leading researchers and professionals involved in the assessment of dam operations on various components of salmon and steelhead survival rates to share and compare recent results. Twenty attendees from agencies and universities attended and provided technical input on the implementation of the experimental approach, consistent with adaptive management. The workshop was facilitated by ESSA Technologies Ltd. who will complete a workshop report which will be provided to the region.

**Data Management**

**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 PTGAIS database structure has been deployed on FPC SQL server.
- 21 new CTL tasks to collect Dimensions PTGAIS database data have been developed.
- 4 CTL tasks have been developed and deployed to collect on daily basis Dimensions PTGAIS 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 (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:
  - 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 our 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 (Compares 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 PTGAIS Database Structure on FPC SQL Server
21 New CTL Tasks to Collect Dimensions PTGAIS Database Data
4 CTL Tasks to Collect Dimensions PTGAIS Data on Daily Basis
After 03/02/2013

Before 03/02/2013

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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
The FPC website is the primary vehicle for data distribution. During the first quarter of 2013, FPC.org had 3,121,263 hits. There were a total of 546,234 pages viewed and 325,397 visits to the website. The total number of unique visitors to the website in the first quarter was 53,451. The average hits per day in the first quarter were 34,680. The numbers of unique page views were 416,430. The average number of page views was 6,069 with an average staying time of 3:10 minutes. About 92% of the visits were from the United States. Of the U.S. visits, 32% were from Washington, 19% were from Oregon, 5% were from California, 4% were from Idaho, and 39% were from other states. About 21% of the visits from the U.S. were from commercial organizations, 60% were from network / individuals, and 19% were from government and education.
The most active day of the week was Wednesday, while the least active day of the week was Sunday. The busiest hour of the day was around 3:30 PM. March was the busiest month with 46.3% of the visits, followed by February with 28.3%, and January with 25.4%. The top platform (operating system) used to hit the site during the first quarter of 2013 was Windows 7 with about 40.3% of the hits, followed by Windows XP (19.4%), Windows Vista (8%), AndroidOS (6.5%), Mac OS (5.7%), iOS (0.5%), Unix/Linux (0.6%) and other platforms (19%). The top browser used to hit the site was Internet Explorer (48.4%) followed by Safari (17.1%), Firefox (6.8%), Chrome (7.3%), and other various browsers (20.4%). A total of 7.9% of the hits during the first quarter were from mobile devices. Of the 7.9% mobile hits, 60.8% were from iPhones, 32.1% were from iPads, 4.9% were from various Android devices, 2.2% were from iPods.

The top requested page was the Daily Adult Salmon Dam Count Report. Of the top 100 requested pages and queries, 79.3% were about adult salmon, 11% were about FPC and the website (includes FPC homepage, contact, site map, FAQ, FPAC links, etc.), 4.9% were about river queries (flow / spill report, temperature graphs, spill update, etc.), 1.8% were about smolt data, 0.9% were about FPC documents, 1.1% were about CSS, hatchery and other data queries. 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 first quarter of 2013, there were 247,449 total data requests.
Visits per Month, FPC.ORG, 1st Quarter 2013

- January: 26%
- February: 28%
- March: 46%
Visits by Domain, FPC.ORG, 1st Quarter 2013

- Government / Education: 19%
- Commercial / Organization: 21%
- Network / Individual: 60%

Most Active U.S. States

- Washington
- Oregon
- California
- Pennsylvania
- Idaho
- Arizona
- Virginia
- Maryland
- Texas
- Florida
- Mississippi
- New York
- Montana
- New Jersey
- Colorado
- Hawaii
- Utah
- Indiana
- Georgia
- Illinois

Visits
Daily Platforms

Hits by Platform, FPC.ORG, 1st Quarter 2013

- Windows 7: 40%
- Windows XP: 19%
- Windows Vista: 8%
- Mac OS: 6%
- AndroidOS: 6%
- Unix/Linux: 1%
- Other: 19%
- iOS: 1%
Manage and Administer Projects
During the first quarter of 2013 FPC staff worked with BPA, state and federal subcontractors, and PSMFC to prepare and finalize budgets for the SMP for 2013, which has a contract schedule of February 28 to March 1. FPC staff met with our BPA COTR and Monitoring.org staff to discuss Monitoring.org requirements and difficulties experienced by FPC staff in fitting CSS and SMP monitoring projects into the templates developed for the Monitoring.org web site. After spending significant staff time trying to fit CSS and SMP projects into the Monitoring.org templates, it was apparent that Monitoring.org was not amenable to large regional projects such as CSS or SMP. BPA staff was extremely helpful in developing work-arounds and solutions. In addition FPC staff began to work to meet new RPA reporting requirements for the cbfish.org website for BPA funded projects. This continues to be a work-in-progress as these are new reporting requirements.

Produce Status Reports
All Pisces status report requirements were met for the SMP, CSS and FPC projects for this quarter. 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
In the first quarter of this year FPC staff completed the draft Fish Facilities Inspection Program Annual Report for 2012. The draft report was circulated to the region and posted on the FPC web site for regional review and comments. FPC staff attended monthly Fish Passage Operation and Maintenance Committee meetings to maintain collaboration and communication regarding issues that arose at Public Utility District and Federal mainstem hydroelectric projects.