MEMORANDUM

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

FROM: Michele DeHart

DATE: July 24, 2013

RE: Quarterly Fish Passage Center Report for April–June 2013

Following is the Quarterly Report for the Fish Passage Center (FPC) for the second 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 second quarter of 2013 the FPC completed the environmental compliance 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, 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. FPC responded to requests to review a journal article entitled “Influence of Multiple Dam Passage on Survival of Juvenile Chinook Salmon in the Columbia River Estuary and Coastal Ocean”, by Rechisky et al. In addition FPC staff continued to review analyses and reports regarding tests of project survival at Columbia River hydroelectric projects for performance standards.

In response to requests from FPAC, FPC staff developed draft System Operation Requests for the operation of Bonneville Dam, Dworshak Dam, and the termination of transportation at McNary Dam during the summer period. These drafts are reviewed and modified by FPAC for development of the final requests.

The FPC staff provided a technical briefing to USFWS policy staff regarding the CSS prospective analyses results and potential experimental spill management study designs.

In response to a request from the state water quality agencies for technical review of juvenile fish passage data, gas bubble trauma monitoring data, and the CSS prospective analyses, FPC met with water quality agency staff from Oregon Department of Environmental Quality and the Washington Department of Ecology to review technical aspects of the spill analyses related to the development of the spill experimental design.

**Analyze/Interpret Data**

The FPC staff devoted the majority of staff time in the second quarter of 2013 to completion of data analyses for and writing the draft FPC Annual Report. The draft FPC Annual Report was posted on the FPC web site on May 29 for regional review. In addition the FPC staff continued bootstrap runs and data summaries in preparation for analyses for the CSS draft Annual Report. During the second 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:

1. Review of NOAA Proposal for Estimating 95% Passage Date at Lower Monumental Dam – May 28, 2013
3. BON Operations Task Group – Comments on Proposed Fish Passage Plan Change Form and Supporting Memorandum – May 7, 2013
4. Transportation Start Date – April 23, 2013
5. Spread the Risk Data Request – April 23, 2013
6. Summer spill initiation under 2008 BiOp and subyearling fall Chinook timing at LMN – April 22, 2013
7. Operation of the Ice Harbor Adult Trap (Spring 2013) – April 12, 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**
- Developed new procedures to populate MCN_temps table. The procedure gets data from an Excel e-mail attachment and posts it on the SQL Server.
- New tables were created to transfer new star schema PITAGIS approach to FPC traditional data storage on SQL server
- Four new CTL tasks were developed to collect extra-large cumulation of historical data from PITAGIS database
- Developed new task to update traditional PITAGIS database data. Storage procedures were created to populate traditional tables from new star schema tables. These procedures are running from SQL server scheduler.

**Website, Daily Reports, Database and Data Updates**
- Regular website maintenance and updates.
- Completed installation of spatial database software on development server and completed moving data to the new database.
- Updated software stack for new prototype web-site design. Updated components include: Dojo 1.9, Geoext / Openlayers 2.12 (and plugins), Leaflet (and plugins), Highcharts 3.0, Jquery 1.8 tools, Qtip 2.0, Weave, 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
- Continued development of preliminary temporal mapping and graphing web components using updated components
- Updated template for a new FPC website design using new components
- Developed a draft adult query graph using the new components and the new FPC website design
- Developed graphs / maps for FPC annual report for the adult and hatchery sections
- Continued development of updated hatchery web app using new software stack. Pointed data in app to the updated spatial database.
## MCN Temperature SQL Server tables

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## PITAGIS SQL Database
FTP directory /DataExtract/Mark/Cumulation/ at ptagisbi.psmfc.org

To view this FTP site in Windows Explorer, click Page, and then click Open FTP Site in Windows Explorer.

Historical PITAGIS data download and input into FPC PIT-tag DB

CTL tasks to collect historical data from PITAGIS database data has been developed
Tasks to update traditional PITAGIS database data. Scheduled storage procedures populate traditional tables from new star schema tables.

Completed installation spatial database software and data – Postgresql 9.1 / PostGis 2.0
Draft adult query graph using updated FPC website design

Draft adult query/graph code using updated FPC website design
Preliminary queries using updated software stack

Updated 2012 FPC annual report hatchery release and adult dam count maps

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 (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 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:
  - New look to front page, including better fonts and page structure
  - 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 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
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 – SECOND QUARTER April through June
The FPC website is the primary vehicle for data distribution. During the second quarter of 2013, FPC.org had 7,607,258 hits. There were a total of 1,297,504 pages viewed and 759,343 visits to the website. The total number of unique visitors to the website in the second quarter was 53,451. The average hits per day in the first quarter were 83,596. The number of unique page views was 990,265. The average number of page views was 14,258 with an average staying time of 1.91 minutes. About 95.6% of the visits were from the United States. Of the U.S. visits, 39% were from Washington, 22.7% were from Oregon, 9.7% were from California, 5.7% were from Idaho, and 22.9% were from other states. About 10% of the visits from the U.S. were from commercial organizations, 85% were from network / individuals, and 5% were from government and educational institutions.
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. May was the busiest month with 38.1% of the visits, followed by April with 31.3%, and June with 30.6%. The top platform (operating system) used to hit the site during the second quarter of 2013 was Windows 7 with about 37.6% of the visits, followed by Windows XP (19.1%), Android OS (21.8%), Windows Vista (9%), Mac OS (6.3%), Unix/Linux (1.7%), iOS (0.7%) and other platforms (3.8%). The top browser used to visit the site was Internet Explorer (34%) followed by Safari (33.7%), Chrome (15.2%), Firefox (7.6%) and other various browsers (9.5%). A total of 15.6% of the visits during the second quarter were from mobile devices. Of the 15.6% mobile visits, 72.2% were from iPhones, 22.4% were from iPads, 3.6% were from various Android devices, and 1.8% were from iPods.

The top requested page was the Daily Adult Salmon Dam Count Report. Of the top 50 requested pages and queries, 84% were about adult salmon, 6.4% were about FPC and the website (includes FPC homepage, contact, site map, FAQ, FPAC links, etc.), 7.5% were about river queries (flow / spill report, temperature graphs, spill update, etc.), 1.5% were about smolt data, 0.6% were about FPC daily / weekly reports. 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 second quarter of 2013, there were 346,450 total data requests.
Manage and Administer Projects

During the second 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.

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

In the second quarter of 2013, on June 1, FPC staff completed the final Fish Facilities Inspection Program Annual Report for 2012. Review comments were addressed and the final report was posted on the FPC website. Between April and June of 2013, fishway inspections were conducted at all Columbia and Snake River Dams fitted with adult fish passage structures. FPC staff attended monthly FPOM meetings. Adult passage issues, including operations of adult passage facilities were discussed with the COE and PUDs as they arose during the quarter.